THE INFLUENCE OF BUILDING REGULATIONS ON URBAN DWELLING IN JEDDAH

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ABSTRACT

Jeddah City is one of the largest cities in Saudi Arabia. It is not a new city, but is a result of a long period of history in which many experiences and regulations of urban dwelling were practised, based on trial and error.

Jeddah's society has its own cultural values,traditions, systems, laws, and way of life, based on Islamic beliefs, which form its identity. It is a known fact that Islam does not prevent the benefit and adaptation of systems from other societies, through cross culture, but rather encourages this, with the stipulation that no harm will come to the Muslim socio-culture, and that there is no conflict with Islamic Shari'ah (law).

Jeddah, through its long life, has experienced many regulations applied to its built environment. Some conformed with its socio-culture, but were abandoned one way or another, and new policies and regulations were substituted. It was thought that they would be suitable because they had succeeded in other societies, or it was thought that they would lead to urbanisation or that they would be easy to apply. Thus they were adopted, without being analysed against the need of Jeddah's Muslim society and its micro climate, to establish their suitability. Consequently, many problems occurred in the built environment.

The main goal of this thesis is to analyse the regulations that have been applied in Jeddah City through it's long life by identifying their nature, their positive and negative impact on the urban dwelling and their conformity with Islamic Shari'ah (law). Based on the analysis, solutions and regulations, recommendations are suggested, aiming to be suitable for Jeddah's inhabitants and environment.

To achieve this goal, the thesis is designed to have two main parts, each with chapters. Each chapter represents a distinctive stage in the planning of Jeddah City. The first part deals with evolution and analysis of Jeddah's urban dwelling components, urban fabric, building form, and typology, with a concentration on the influential factors that caused the evolutions. The second part deals with evolution and analysis of the influential regulation on Jeddah's urban dwelling, with concentration on the conformity with socio-culture and values of the inhabitants. Thus, the background of Islam and it's legal system is included in this second part as a prerequisite for the analysis.

The study revealed that two distinctive factors regulate Jeddah's urban dwelling. The first is characterised by

tradition and has great conformity with socio-culture with the effect of creating architecture suitable and fit for Jeddah's society and environment. The second is characterised by contemporary design and greatly conflicts with the society and environment of Jeddah.

From the analysis of the causes and effects of the traditions and contemporary regulation on the urban dwelling, proposed solutions and recommendations of regulations and method of enforcement are drawn in the thesis conclusion to overcome the deficiency and conflict of the present applied regulations with Jeddah's socio-culture and environment.

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CHAPTER 1

CHAPTER ONE

1. INTRODUCTION

1.1 THESIS GOAL AND METHODOLOGY

Generally, this thesis will concentrate - with the help of Allah - on the analysis of regulations that affect Jeddah's urban housing. In fact, the main goal of this study is to reach solutions and recommendations for regulations for urban dwellings suitable for Jeddah's inhabitants.

This can be achieved by benefiting from the regulations that have applied in Jeddah through its long life, and suggesting the modification of unsuitable regulations for the public and individual interest, according to the social values and cultural needs of the inhabitants and the prevailing economy and technology.

Jeddah city is not newborn of today, having only a short experience of built environment, rather it is the result of a long period of history in which many experiences and regulations of urban dwelling were practised, based on trial and error. Some of these experiences and policies were practised and still apply, and others were abandoned but their traces were very clear. Many of them which were practised and had positive influences on Jeddah's society, could be used today and in the future, either totally or partially. Others need to be modified to match with the change of time and need.

Unfortunately many of these regulations and policies which were practised were abandoned one way or another, and new policies and regulations were substituted from far away from Jeddah's Muslim society. It was thought that they would be suitable for this society because they had succeeded in other societies, or it was thought by others that they would lead to urbanism, or that they were the urbanism per se, or that they would be easy to apply. Thus, they were

adopted, as they are, without question, and without being analysed under the microscope against the needs of Jeddah's Muslim society and its micro-climate, to establish their suitability.

However, these policies and experiences which were in practice in the past or in the present - either correct or faulty - are in fact lessons on the carpet of reality. The wise, who have benefited from these lessons to widen sight and perception, to form a solid foundation of knowledge and perception, when proposing architectural and planning solutions, or adapting new policies and regulations prevalent in other societies, will do so with careful understanding and foresight.

On the other hand, it is not considered wisdom to build in a similar way to our forefathers, who did not apply the same techniques, as there was no legislation. The means to achieve certain goals according to the available techniques and circumstances are completely different in the present. Thus it is compulsory for us, as Dr. Hassan al-Shashtawy states:

> "... to endeavour as those before us endeavoured and it will not harm us to copy some of what they did and left to others. It is not completely right to turn our back totally from our architectural heritage and lean toward the imported from environments strange to us, in which their theories and standards, which were born in atmospheres, and standards completely different from our reality. In the same time our architecture was born and developed through trial and error in the period of our ancestors, until the standards, the ideas and a suitable solution to satisfy these functions and the aesthetic needs socially and environmentally were completed. And in the same time not to be directed toward the false architecture, or 'facade' architecture as a fast solution but false, only to call them Islamic or traditional revival. Also it is not right to forget modern technology, such as cars, trains and modern communication, the great numbers of population and the fundamental environmental services for the inhabitants. All are new and complicated and we must include them in our consideration. Any attempt to escape from this situation by initiating Islamic building will lead to Islamic building characteristics and no new techniques...." (1).

Thus, the main direction of this study is to create the ties between the past and the present and the future because "the existing present is a circle of continuous current not cut off" (2). Our culture is part of us and it is a mistake to plan for the present and the future without a continuous culture that forms the characteristics and determines the identification. Thus, the tie between the past, the present and the future needs two things, modernisation and original identity. There is no doubt that changes and modernisation are needed because "...the adherence to the past and refusal of the new are surrendered to slow death..."(3) and the origination is also needed because "...modernisation without origination leads to haphazard action..." (4).

To achieve the original in the built environment, Dr.Abdul-Bag Ibrahim states:

> "The original will be by attempting to balance between the materialistic and emotional needs of the inhabitant's life which is always encouraged by Islamic religion..." (5)

From the above logical and philosophical discussion, it is important to benefit from the influential regulation that have applied in Jeddah city through its long life. In order to reach solutions and recommendations suitable for Jeddah's inhabitants characterised by modernisation and the original, there also needs to be a balance between the materialistic and the spiritual needs. This could be achieved only by identifying the nature of these influential regulations which applied in Jeddah through its long life, and by knowing their positive and negative impact on the urban dwelling, and how people react to them. At the same time, it is very essential for the purpose of the analysis, and as background for the subject, to identify the matters that accompanied these regulations, such as the nature of values, customs, and traditions, and the changes in the economical, political, technological and sociological structures which had great effect on the formation of Jeddah city's urban fabric, building form and typologies.

Thus, to reach the proposed goal, the analysis study of the influential regulations on the Jeddah urban dwelling must cover two aspects:

1. Evolution and analysis of Jeddah's urban dwelling components, urban fabric, building form, and building typology, with concentration on the influential factors that caused the evolution.

2. Evolution and analysis of the influential regulations on Jeddah's urban dwelling, with concentration on conformity with the value and needs of the inhabitants.

In fact, any study needs to determine a very distinctive time and characteristic for each development stage. Actually, in the case of Jeddah's built environment, its chronological development could be characterised by the mature planning evolution of the city which could be identified by three stages.

1. The first stage: old Jeddah, from the beginning of erecting its city wall, until it was demolished in 1367, 1947.

2. The second stage: pre the Master Plan, starting from the beginning of the demolition of the city wall in 1947 to the first Master Plan by Dr. Abdul-Rahman Makhlof in 1383, 1963

3. The Third stage: The Master Plans, start from the beginning of the first Master Plan in 1383, 1963 until now.

Thus, according to the above requirements and discussion, this thesis (by the help of Allah) will cover two parts, and a conclusion, with this introduction of the purpose and the research methodology for this thesis. The first part will be as background for the main subject and to enable the reader to know about Jeddah city and its evolution. Part One will cover the topic of "The Influencing Factors on the

Evolution of Jeddah's Urban Dwelling" and will consist of four chapters. Chapters Two to Four are divided according to the chronology of Jeddah's planning development; Old Jeddah; Period before the Master Plan; and Master Plan period to-date. Chapter Five will be a summary for Part One of this Thesis.

Part Two will cover the main subject, "The Analysis Study of the Influential Regulation Applied on Jeddah's Urban Dwelling". Part Two will consist of three chapters, chapters Seven to Nine. Since this study will be an analysis of these regulations applied to the Muslim Community, the regulations must conform to the Islamic belief and teaching.

Thus, for the purposes of the analysis, to know whether these applied regulations conform with Islamic concepts or not and as background for the reader, Chapter Six will be about "The Background of Islam and its Legal System".

Chapters Seven to Nine will be a detailed analysis of the influential regulations applied in Jeddah, and each chapter will cover certain planning stages: "Old Jeddah" for Chapter Seven; "Pre Master Plans" and "Master Plans" for Chapters Eight and Nine.

Finally, - by the help of Allah - the conclusions will be drawn from the previous chapters to reach solutions and recommendations for regulations appropriate to Jeddah's inhabitants, and characterised by origination and modernisation, and well balanced between the materialistic and spiritual needs.

1.2 HISTORICAL BACKGROUND

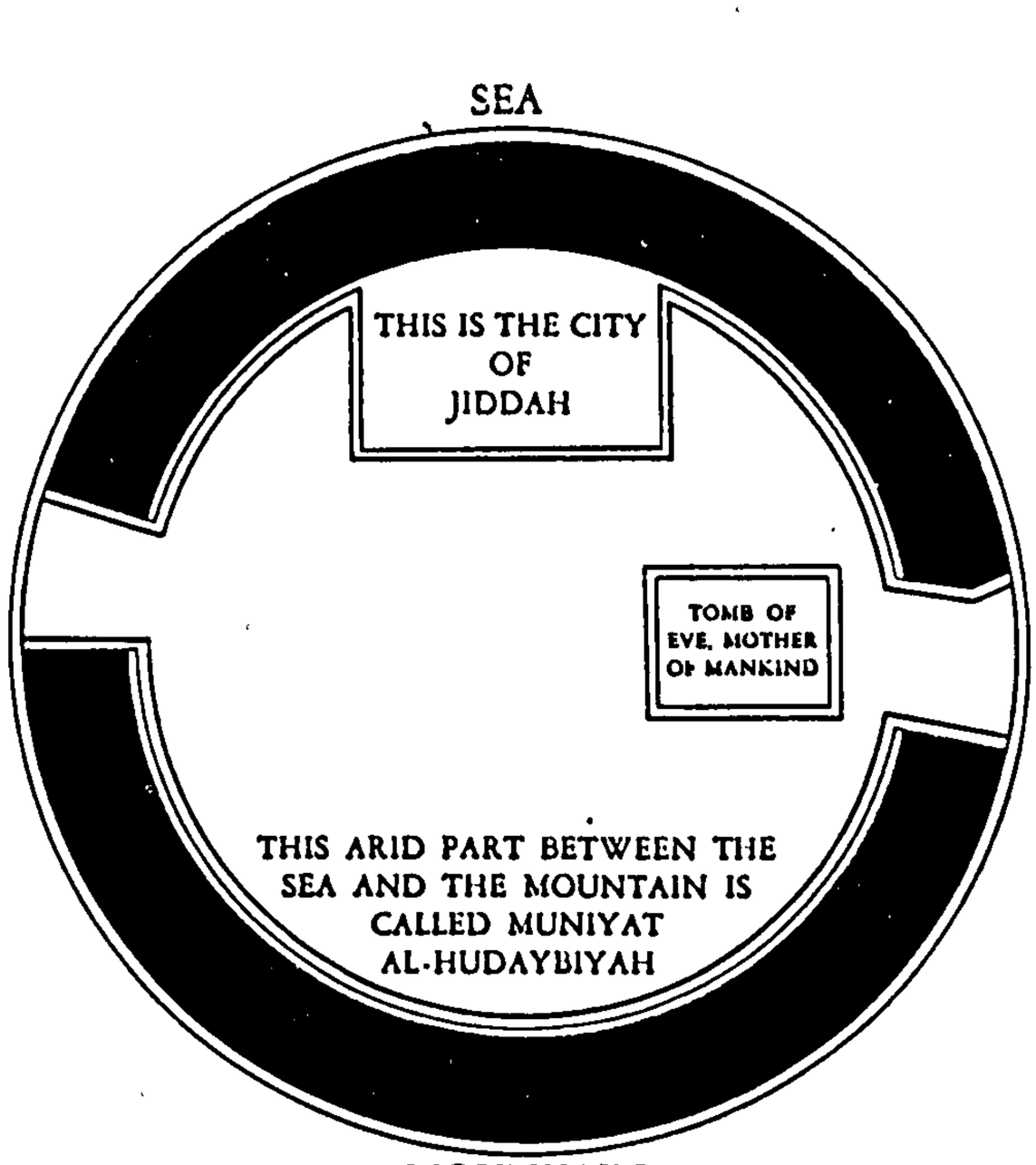
As recorded in history, more than 2500 years ago, Jeddah was occupied by the Qwd^{c}ah tribe and it was believed that this tribe lived in a small fishing village. This village gradually grew to become an important caravan station on the old trade route between the cultures of the Mediterranean Sea and the East. (6)

In the Sixth Century AD this village attracted some Persian traders who built the port-city and encircled it with a wall of Kashur blocks of Mangabi stone (coral lime stone cut from its shores) for defence purposes. Around the wall reservoirs were dug to store fresh rainwater for the city. (7) In fact, there are no clear ruins to indicate this period, and the place is assumed to be near the Al-Falah school.

Jeddah's history is connected with the Islamic period at the time of the Third Muslim Caliphat Ottomen bin ᶜfan, about half a century after the death of Prophet Mohammed (peace be upon him). In 52H, 632AD he ordered the transfer of the main port of entry to Makkah from al-Shᶜibah (150 Km from Makkah) to Jeddah (73 Km from Makkah). (8) From this period Jeddah became the gate of Makkah and the main sea-port in which to enter goods for the other Hejazy cities. This produced a flourishing economy but also caused friction between Jeddah society and other Muslim communities, who came for pilgrimage, and with the Western society, after the opening of the Suez Canal.

However, as in any traditional city, fortification of the city with a wall was the one way to safeguard the inhabitants and properties from any outside hostility. Through history, Jeddah's city wall has been built twice. The first time, as Ibn al-Mujawer mentioned in the 7th Century H, the Jeddah wall had been built by Persian Sirafis who left the town presumably in 977. (9) (See Figure 1.1)

The second time the wall was built by the Mamluk Sultan Qanswah al-Ghory (1501-1517) who was ruler of Hajaz, when the Portuguese became increasingly interested in the Eastern trade and in the land of spices. The continual Portuguese assaults on the Red Sea ships, and the humiliation of pilgrims crossing to Jeddah, worried the Muslim leaders. The ruler of Hejaz, Sultan Qanswah al-Ghory, ordered Hussain al-Kurdy to organise a command fleet to be based in Jeddah port. Following a few encounters with the Portuguese in Indian waters between 1508-1509, al-Kurdy became the governor of Jeddah and issued



5. Map of Jeddah by Ibn Al-Mujawer 7th Century H

Figure 1.1 Map of Jeddah by Ibn Al-Mujawer 7th Century H

Source Abdul-Qadus al-Ansary 'History of Jeddah' p.12

an order to surround Jeddah with a wall which was completed in 915H,1509AD. (10) This was obviously the second wall to be built around Jeddah, as mentioned, the first being built by Persians in 977.

However, in 937,1517, the Mamulk dynasty was wiped out, when Cairo came under the Ottoman Sultan, Salim I. Consequently, the Jeddah city, which was under the administration of the Sharifs of Makkah, also came under Ottoman rule. The Ottoman Sultan, Salim I, retained the Sharif's rule over the Hejaz region, but under the umbrella of the Ottoman Caliphate. (11)

The Ottoman occupation of Jeddah and the Hejaz region extended over four centuries and terminated in 1334,1914, as a result of the British assisting the Hashemit Sharif of Makkah, Hussain Bin Ali, who had become excessively disturbed by intolerable increased Turkish control over Hejaz. (12)

When Sharif Hussain called himself 'King of Hejaz' in 1338,1918, and the 'Caliph of Muslims' in 1343,1924, this last title, as the highest authority in Islam, was not acknowledged or accepted by King Abdulaziz Al-Saud, who had already established his rule over Najdand al-Hassa by 1915. His army known as al-Akhwan (the Brethren) went to Hejaz taking Taif first, then Makkah, which forced Sharif Hussain to escape to Jeddah. There, Sharif Hussain was forced to resign in favour of his son Ali in 1343,1924. Jeddah then became the governing seat for Hejaz of King Ali. (13)

In 1343,1924 the army of King Abdulaziz forced Jeddah to surrender, and here the Jeddah wall again played a major role as a fortification, extending the siege to nearly one year. (14) Only the lack of water and food forced King Ali to leave Jeddah for Basrah in Iraq. This was considered the end of the Hashemite rule of Hejaz region and the beginning of the Saudi rule.

Sultan Abdulaziz entered Jeddah in 1343,1924, and proclaimed himself 'King of Hejaz and Sultan of Najd and its Dependencies'. Later, in 1351,1932 the country was named the 'Kingdom of Saudi Arabia' headed by the King Abdulaziz Bin Saud as its first King. (15).

In fact, after the end of the Second World War, the economic and political conditions in the world were stabilised, and the sea routes became safe. Thus the numbers of pilgrims to Makkah through Jeddah Port increased, improving the economy of Jeddah, and bringing about unity in the country under the Kingdom of Saudi Arabia which contributed to the safety and benefit of the country, and led to cooperation between the regions and the Saudi cities.

The modern history of Jeddah is closely linked to the discovery of oil in the Eastern province in the latter half of the 14th Century AH, 20th Century AD which brought about an increase of wealth in Jeddah and all the Saudi cities. This resulted in the expansion of Jeddah from a limited area of only one kilometre within the city wall to more than 1215 Km^2 (See Figure 1.2 Jeddah's Historical Growth) and the increase of population to more than one-million (See Table 1.1). The praise to Allah in the beginning and at the end.

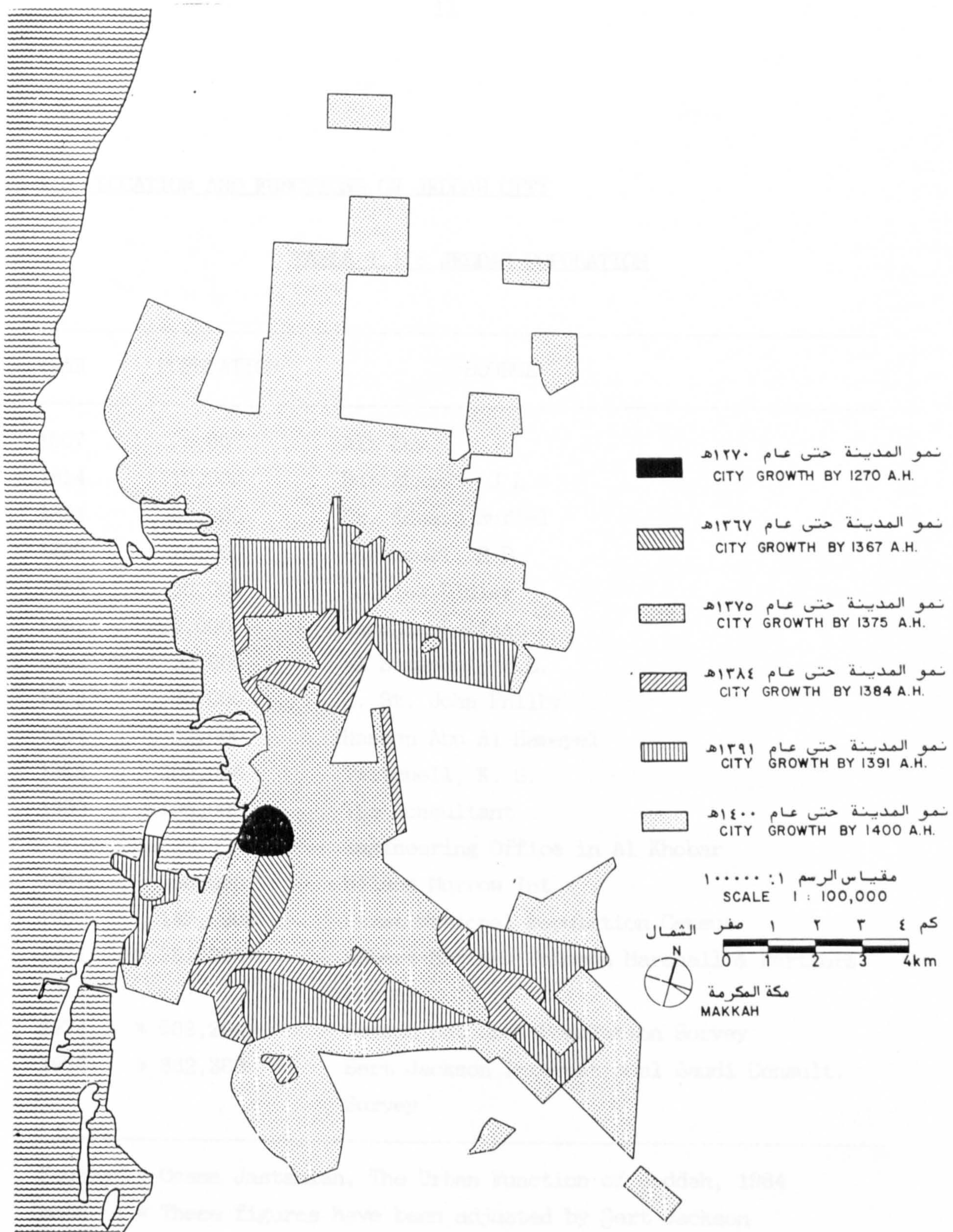


Figure 1.2: Historical Growth of Jeddah

Source: SJI/SC, Jeddah Action Master Plan Technical Report No.5, 1978

1.3 LOCATION AND FUNCTIONS OF JEDDAH CITY

TABLE 1.1 : JEDDAH POPULATION

YEAR	POPULATION	SOURCE
1807	5,000	Ali Bey
1814	12,000	Burckhardt, J L
1831	22,000	Dr. Edward Ruffel
1839	15,000	Hericourt, R D
1854	30,000	Charles Didier
1901	25,000	Ibrahim Reffaat
1909	50,000	Al Batanuni, M.L.
1933	30,000	H. St. John Philby
1934	60,000	Hassan Abu Al Hameyel
1958	200,000	Twitchell, K. S.
1959	106,000	The Consultant Engineering Office in Al Khobar
1961	150,000	Wilson Murrow Int.
1962	147, 900	First National Population Census
1971	* 381,000	Robert Matthew Johnson Marshall & Partners Survey
1974	* 569,204	Second National Population Survey
1978	* 862,363	Sert Jackson International Saudi Consult. Survey

Source: Osama Jastaniah, The Urban Function of Jeddah, 1984

Note : * These figures have been adjusted by Sert Jackson International Saudi Consult in 1978 as follows: 381,000 to 404,000; 569,204 to 595,900; and 862,362 to 915,800.

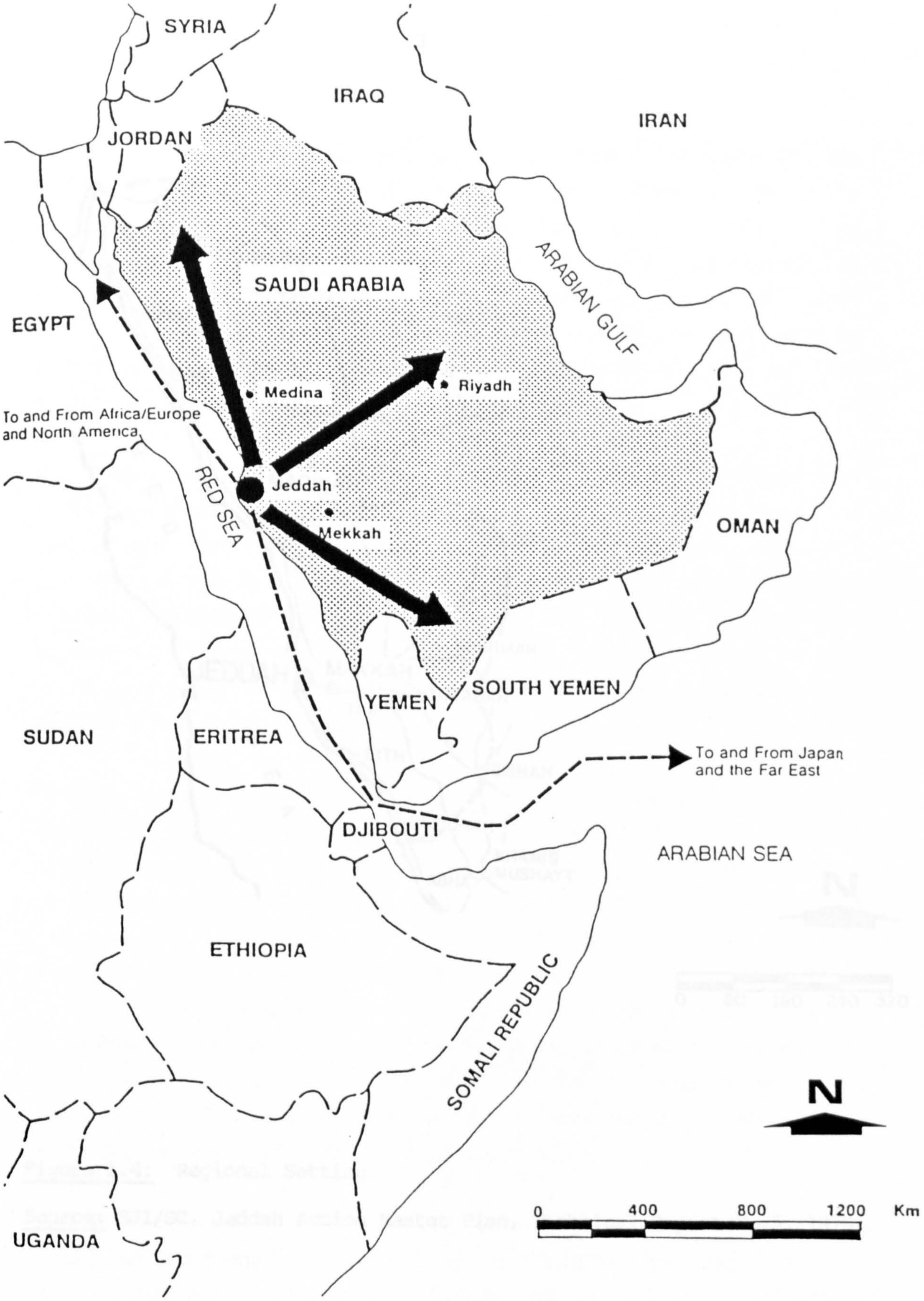


Figure 1.3: National Setting

Source: SJI/SC, Jeddah Action Master Plan, Technical Report No.5, 1978

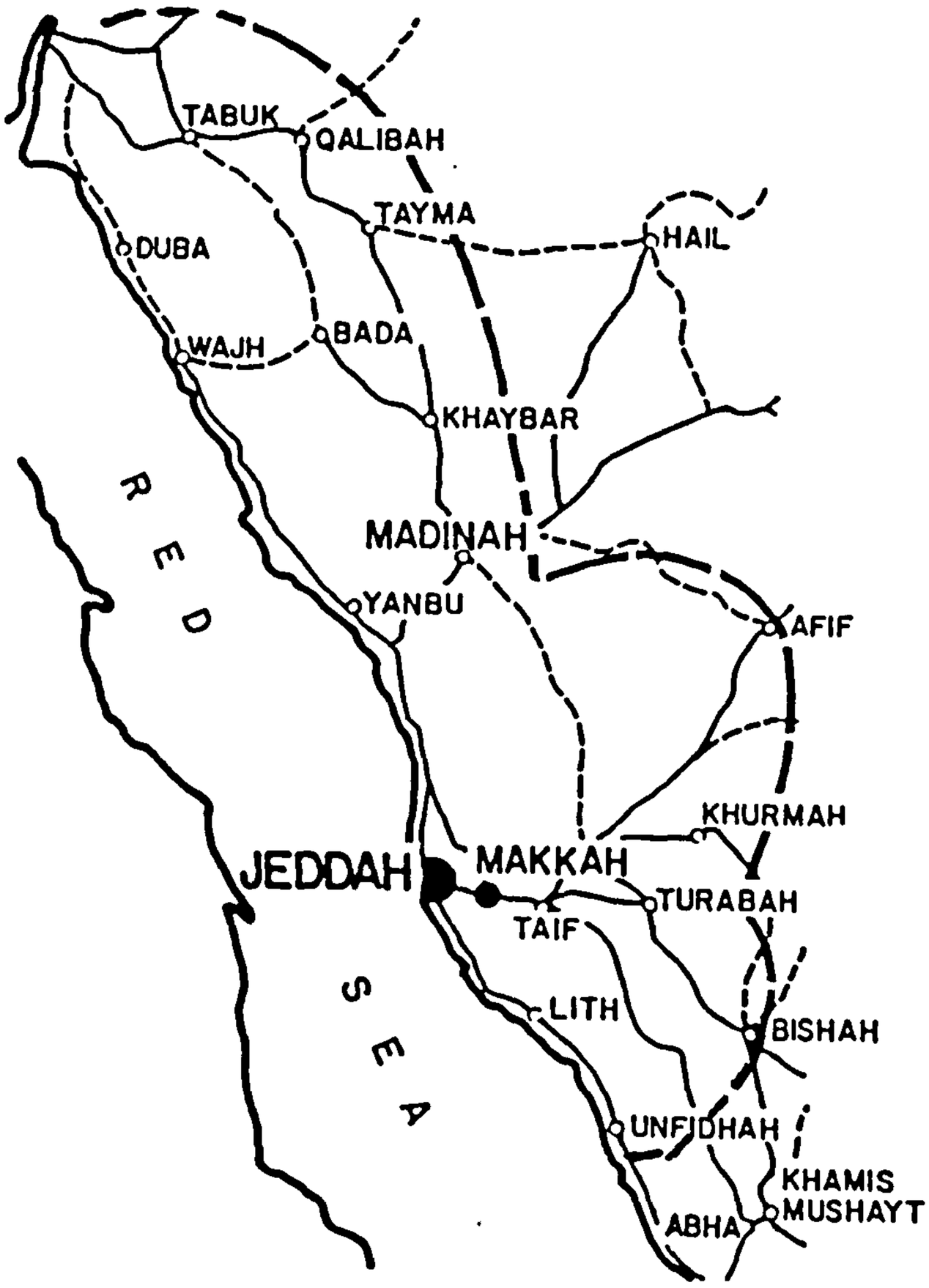


Figure 1.4: Regional Setting

Source: SJI/SC, Jeddah Action Master Plan, Technical Report No.5, 1978

Jeddah is the largest principal city in the Western province of the Kingdom of Saudi Arabia, followed by Makkah, Madinah (the holy cities), Taiéf, Yanbu and Tabuk (see Figures 1.3, 1.4). Its population is more than one-million, equal to Riyadh (the capital of the Kingdom) in terms of numbers of inhabitants and in physical size. Jeddah is situated in the Eastern plain of the Red Sea and extends approximately from 28° 21¯ to 30° longitudinal North and from 16° 30¯ to 45° latitude East. (16),

The location of Jeddah on the Red Sea and its proximity in distance of 73 Km from Makkah (the Muslim holy place) has made Jeddah, from the time of the third Muslim Orthodox Caliph ᶜUthoman Bin ᶜafan, (52H, 682 AD), who ordered the transfer of the port of Makkah from al-Shuibah (152 Km from Makkah) to Jeddah, (17) until now, known as the main gate to the Holy Place to receive Muslims from different parts of the world, who intend to perform Hajj and ᶜumrah in Makkah and visit the Prophet's Mosque in Madinah.

With the existence of the international airport, especially with the opening of the new King Abdulaziz International Airport in 1980, Jeddah's importance has increased. This new airport is used, instead of the old one in the town, in order to accommodate the high demand of air travel as a preferable mode of internal and external transportation. Coupled with the extension of Jeddah's Islamic Seaport, these strengthen the city's function as the main gate for the Holy Places, and increase its importance as a commercial centre for the Kingdom. About half of the total imports to Saudi Arabia comes via Jeddah, (18), as a consequence of the improvement in communication networks between different parts of the Kingdom.

Jeddah functioned as the diplomatic centre for the Kingdom, but, as a result of the transfer in 1986/87 of the Ministry of Foreign Affairs, and foreign country embassies to Riyadh (the capital of Saudi Arabia), Jeddah gradually lost its diplomatic function. In spite of this, some representatives for Hajj and for businesses for some countries

remained in Jeddah because of the city's function as a commercial centre and the gate to the holy places.

As a result of Jeddah's communication with the Islamic and the external world, through the Hajj, trade and the foreign employees, who came to work on the huge projects that exist in the City, the spending on which reached, in the second Master Plan, (1975-1980) about 30% of the total government expenditure, (19), there were great effects on the exchange (either positive or negative) of culture, experience and technology, which consequently affected Jeddah's built environment.

Owing to this increase in Jeddah's importance, as a gateway to the sacred places and as a commercial centre, it has increasingly acquired the role of the principal importing, distributing and administative centre for the western region and the Kingdom as a whole.

1.4 CLIMATE

Climatically, Jeddah is directly affected by its location in the arid zone between the Mediterranean Basin and the monsoon climate of the Indian Ocean.

1.4.1 Relative Humidity

Being a coastal city on the Red Sea, the relative humidity is generally high most of the year, especially in the summer, when it falls under the effect of the extended Indian monsoon (hot, moist wind). The highest relative humidity occurs in the summer (late August and early September) when the temperature of the Red Sea reaches its maximum limit, and the lowest relative humidity generally occurs in the winter owing to the effect of the cold winds from Siberia (see Figure 1.5)

1.4.2 Temperature

Generally speaking, Jeddah being a coastal city in an arid zone, the temperature is modified by the proximity of the Red Sea. The average monthly temperature is between 25°C and 30°C. Minimal temperatures reached between December and January are as low as 14°C, this as a result of cold fronts accompanied with cold Polar air mass.

The highest temperatures are in June, reaching as high as 47°C, when the sun is perpendicular to the region, as shown in Figure 1.6. At times sudden changes in temperature occur in June and approach 50°C - returning back to normal level. This is due to the effect of the climatic phenomenon known as al-Samoum (characterised by hot and dry climate), as a result of the presence of the mountain range to the East of the city. This phenomenon sometimes occurs in September and October when effects and temperatures approach below that in June, and sometimes continue for up to three consecutive days.

1.4.3 Winds

The prevailing winds over the city of Jeddah are from the north and north-west. They are characterised by light to normal speed during most of the year, but may be active after passing cold air in the winter. These winds bring sea breezes to the built area, thus the preferable building orientation for catching air is north and west.

The southerly winds are fairly common in Jeddah. During the winter they are accompanied by rises in temperature and relative humidity. They become active at times, gaining high speed and causing sand storms and rainfall. During the summer the wind may become active, giving rise to sand storms accompanied by low cumuli-nimbus clouds, and causing thunder storms.

Finally, the easterly dry winds usually blow in June, accompanying the phenomenon of 'Samoum'. These winds are sometimes active, raising dust, sand-storms and blowing sand.

1.4.4 Rainfall

Rainfall is rare in Jeddah, usually occurring in winter, spring and summer as 'sudden showers' accompanied by thunder storms. The average annual rainfall is very low around 40mm (see Figure 1.8). Sometimes, however, there are torrential bursts of rain lasting for a few hours. This creates dangers and problems of flooding in the city. (21).

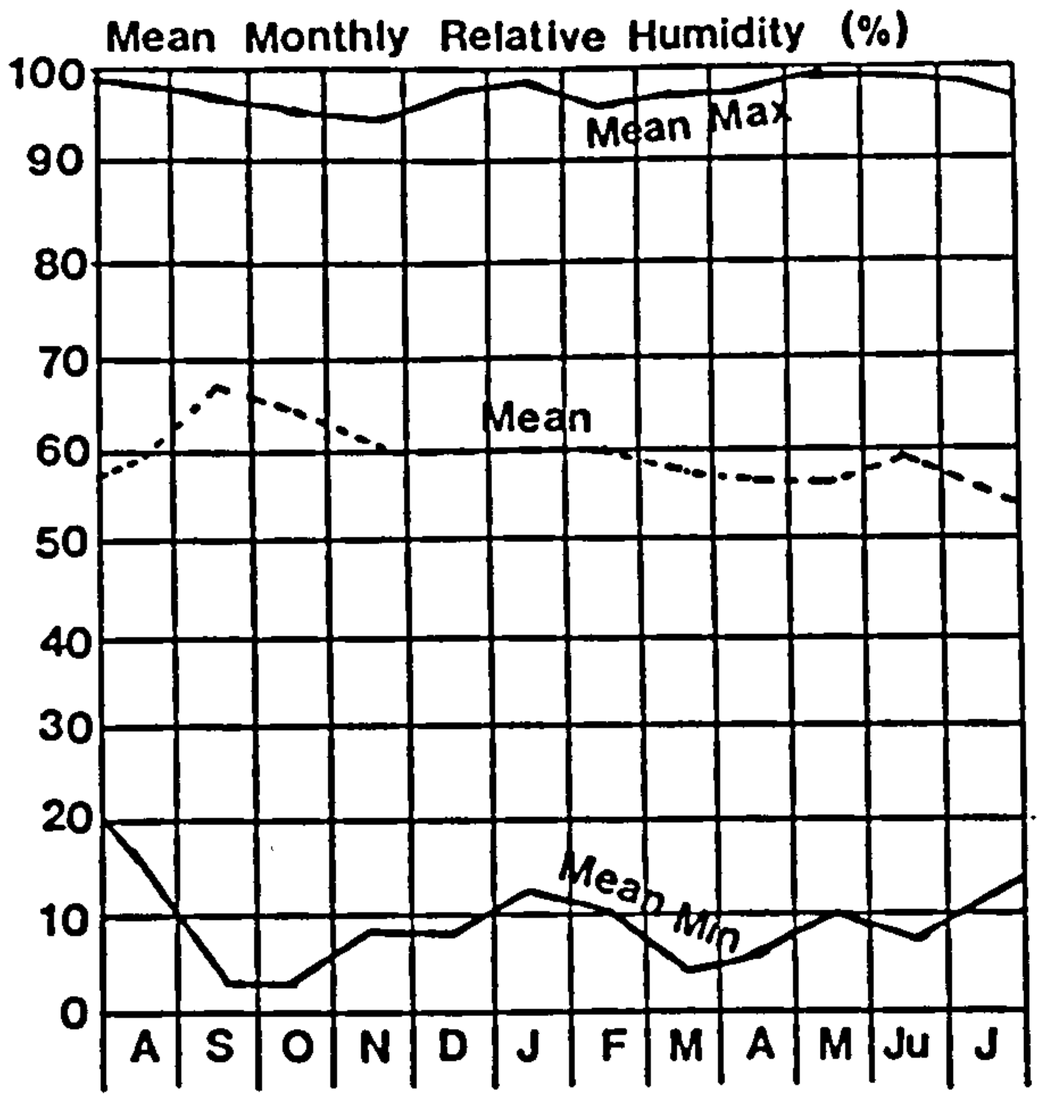


Figure 1.5: Relative Humidity

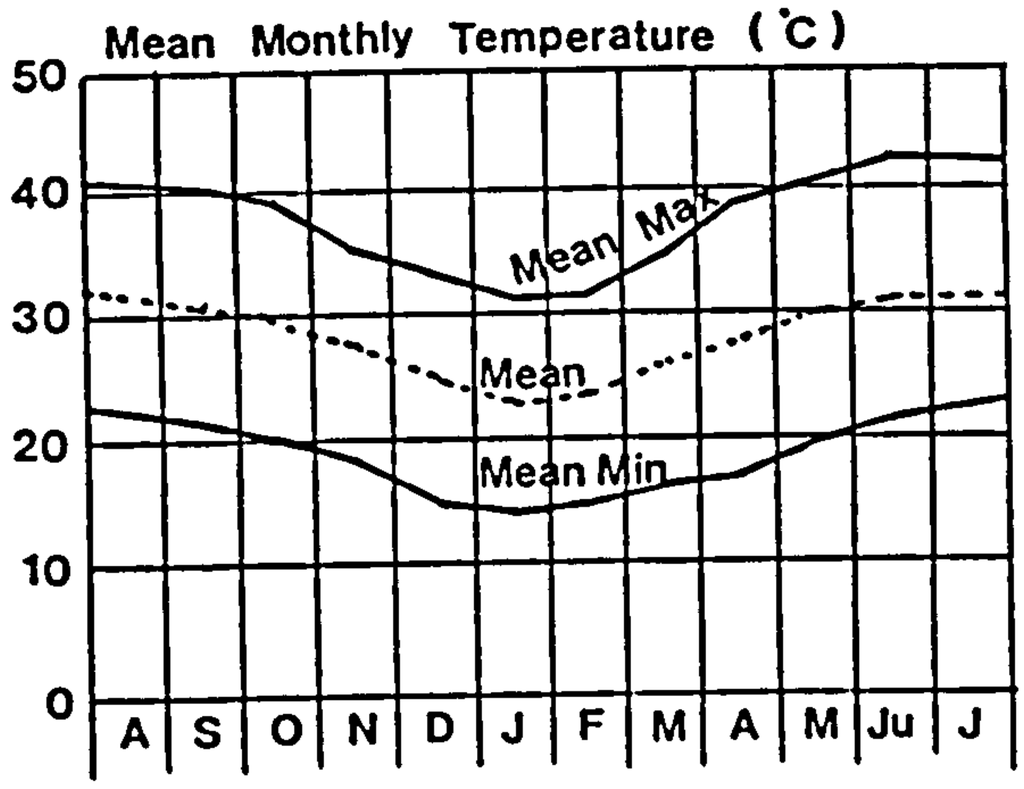


Figure 1.6: Temperature

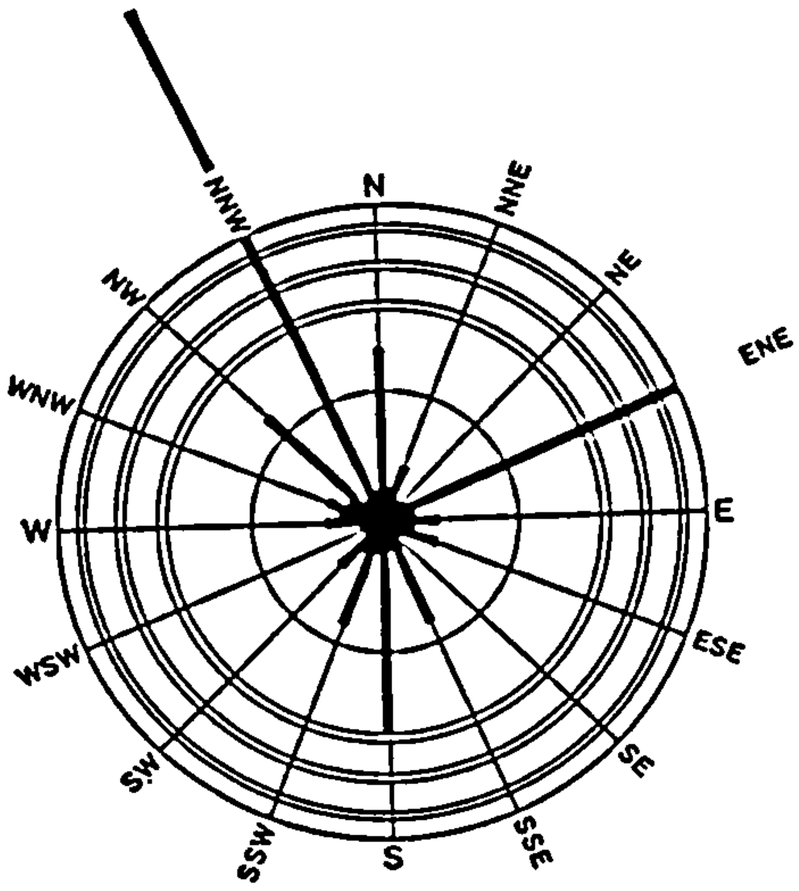


Figure 1.7: Wind Directional Chart

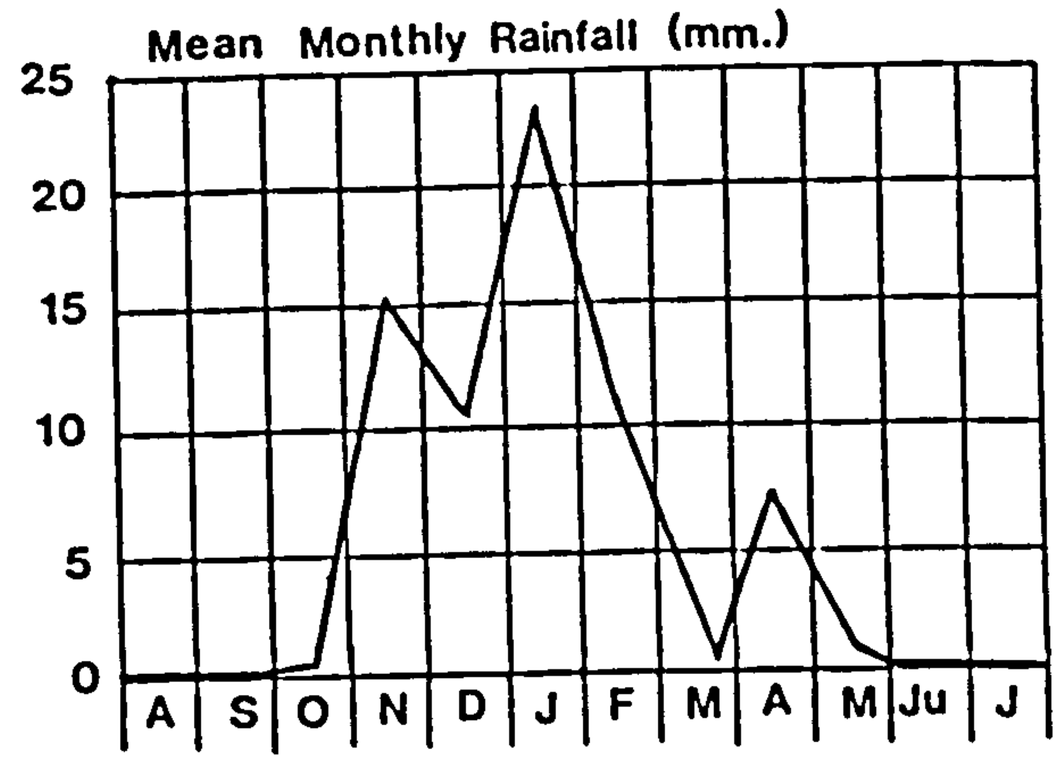


Figure 1.8: Rainfall

Source: Meterological Station, Jeddah from (1966-1980)

Footnotes - Chapter 1

1. Hassan al-Shashstawy, "al-Madinah al-ᶜArabiah Byna al-Daᶜwat al-Thalath: al-Salafiah wa al-Muᶜasarah wa al-Motahfizah", in I. Serageldin and S. al-Sadek (eds), The Arab City, The Arab Urban Development Institute, Riyadh, 1982, p.27.

2. Ismail Serageldin, "al-Madinah al-ᶜArabiah wa al-Toroth al-Hadary al-Islamy Byna al-Modwnat al-Madiyyah wa al-Moqwmat al-Maᶜnawiyyah", Ibid, p.21.

3. Ibid, p.21.

4. Ibid, p.21.

5. Abdul-Baq Ibrahim, "Tasil al-qyam al-Hadaryah Fi Bina al-Madinah al-Islamiah al-Muᶜasarah" (Deep-rootedness the Cultural Values in Building the Islamic Contemporary City), the Centre for Planning and Architectural Study, March 1982, p.17.

6. Abdul-qadus al-Ansary, "Tarikh Jeddah" (The History of Jeddah), Cairo, Second Edition 1982, p.15.

7. The Historian says that al-shᶜybah was the Makkah Seaport until the beginning of Islam, and Qurish (name of tribe in Makkah) requested from the third Muslim Orthordox Caliph ᶜthman Bin ᶜfan to change the sea port of Makkah to Jeddah, the Caliph accepted the request of the Makkah inhabitants to satisfy their economic interest, Ibid, p.57.

8. Ministry of Planning, "The Second Development Plan 1957-1980". Unpublished Report, Riyadh, Saudi Arabia, 1975, p.441.

9. Abdul-qadus al-Ansary, op.cit, p.65.

10. Ibid, p.89.

11. Ibid, p.91.

12. Ibid, p.96.

13. Ibid, p.98.

14. Ibid, p.106.

15. Ibid, p.98.

16. Ibid, p.15, quoted from Dart al-Mᶜarf al-Britaniah.

17. Ibid, p.57.

18. Ministry of Planning, "The Second Development Plan 1957-1980". Unpublished Report, Riyadh, Saudi Arabia, 1975, p.441.

19. Sert Jackson International/Saudiconsultant (1), "Jeddah Master Plan", Technical Report No.9. Revision and Updating of the Existing Master Plan. Unpublished Report, Ministry of Municipal and Rural Affairs, Jeddah, 1975, p.8.

20. Ibid, p.22.

21. Municipality of Jeddah, "Jeddah, A Changing Eco-system", supervised by M.S. Faris, Municipality of Jeddah, Research Department, Publication No.4, Dar al-Asfhany Press, Jeddah, 1973, p.17-18.

PART I

PART ONE

THE INFLUENTIAL FACTORS ON THE EVOLUTION OF JEDDAH'S URBAN DWELLING

This Part of the thesis will discuss the evolution of Jeddah's Urban Dwelling and the different factors that caused the evolution. The main purpose of this part is to have full knowledge and comprehensive background about Jeddah's urban dwelling, which will help - if Allah wants - to analyse the influential regulations that applied to the Jeddah urban dwelling through its long life, and consequently to draw solutions and recommendations for urban dwelling regulations suitable for Jeddah's society.

The evolution of Jeddah's Urban Dwelling can be divided into three stages according to the chronology of planning development:

First Stage - Old Jeddah: This stage can be recognised from when Jeddah was confined by the second fortification wall, until it was demolished in 1947. This wall had a great effect on determining the old town urban fabric in terms of building height, city expansion and land use distribution. At the same time, the prevailing social life, the mode of transportation and the way of living, also had a great effect on the formation of the built environment.

In this stage, because of the existence of the city wall and the restricted space, the political change, by becoming Jeddah under Saudi rule in 1343,1924, and an increase in job opportunities in the oil industry in the Eastern provinces, new dwelling quarters appeared outside the city wall.

Stage Two, Pre-Master Plans: This stage began after the demolition of the city wall in 1367,1947 and continued until the enforcement of the first Master Plan by the United Nation's expert, Dr. Abdul Rahman Makhlof, in 1962. This stage is recognised by the plentiful supply of water to Jeddah from the waters of ᶜAin al-cAziziah, and also by the

first oil boom, which led to a flourishing economy. This in turn attracted employees and professionals, eg in medicine, engineering, teachers, etc., who met the country's needs for these new specialist occupations.

A large number of professionals came from Egypt, Syria, and Jordan, countries which had already been affected by the Western cultures. Because of a shortage of housing, this led to new types of buildings with new building materials, differing from the traditional architecture and Jeddah's social requirements.

Stage Three, The Master Plans: This stage begins with the enforcement of the first Master Plan in 1962.

The Kingdom, urged by the Ministry of the Interior, sought help from the United Nations to create the first Master Plan for Jeddah, for which comprehensive studies had been started in 1379,1959.

However, there are three Master Plans which have been applied to Jeddah, characterised by the continuity, change and modification on the city physical structure, according to the changes in the socio-economic structure which have direct effects on urban dwelling.

These Master Plans are:

(1) The first Master Plan; 1382,1962 by Dr. Abdul-Rahman Makhlof, the United Nation's expert.

(2) The second Master Plan; 1393,1973 by Robert Matthew, Johnson Marshall & Partners

(3) The third master Plan; 1400,1980 by Sert Jackson International.

This Part, "The Evolution of Jeddah's Urban Dwelling" will consist of three chapters and each planning stage will represent a chapter itself.

CHAPTER 2

CHAPTER TWO

THE URBAN DWELLING OF OLD JEDDAH

2.1 INTRODUCTION

In this chapter, the study will investigate the urban dwelling of old Jeddah, when it was contained within its wall, until the wall was demolished in 1367,1947. Here, the study will try to identify the physical components of old Jeddah's urban dwelling: the circulation; the dwelling; the open spaces; the places of worship; the living quarters; the Suq (market); etc. It will try to establish the relationships between these components and to what extent they conform with the socio-culture of the society, the limitation of technology and materials and the prevailing physical environment.

Prior to its being demolished in 1367,1947, there were a number of settlements, scattered outside the city wall. The study will investigate these settlements, how they emerged, and will identify their physical and social structure.

2.2 PHYSICAL STRUCTURE OF OLD JEDDAH

The old town of Jeddah was developed on a raised hill of earlier settlements, until the intervention of the Turks (Mamluk and Ottomans). From the early 16th century to the middle of the 19th century, the Turks assisted in building the fortification wall which functioned until 1947. The wall encircled the old town, restricting its area to approximately 0.81 km^2, compared to approx. 240 Km at present. (1).

Towards the beginning of the 1940s, the wall was in relatively good condition, built with large coral blocks and raised to a height of three to four metres. The Jeddah city wall had an even D-shape with four main gates, plus two more gates added later. The four main gates were located on the North, South, East and West points of the wall:

- Medina gate - to the North of the town;
- Makkah gate - to the East;
- Sharif gate - to the South; and
- al-Bunt gate - to the West;

the western gate being on the sea side of the town and leading to the Suq (market) area. All these gates were reserved for the transit beast of burden animals and for pedestrians. (See Figure 2.1 and 2.2).

With the advent of cars at the beginning of this century, new gates were designed, which had to be large enough to allow cars to enter and leave the city; the existing gates were too small for this purpose. All gates were closed at night to restrict and control entering or leaving. (3).

Before the introduction of the machine and the impact of oil wealth, the basic physical structure of old Jeddah was simple, resembling, to a certain degree, the Islamic Medieval city. The urban fabric and components of the old town, characterised by organic pattern, were of a compact and human scale, with a strong correlation between social space and functional space. The urban fabric of old Jeddah can be broadly divided into four major elements: the residential quarters; the Suq; the harbour; the pedestrian and traffic network.

2.2.1 Circulation and Open Spaces

The old town of Jeddah covered an area of less than one square kilometre, and, until 1940, it was considered a pedestrian town. The proximity of distance from the residential area and places of work and shopping, which were mainly concentrated in the Suq area, encouraged people to walk rather than to ride their animals.

Animals and drawn vehicles, as traditional modes of transportation, were mainly used within the town to carry loads rather than humans, though a man could pull and guide his loaded donkey or camel. Thus,

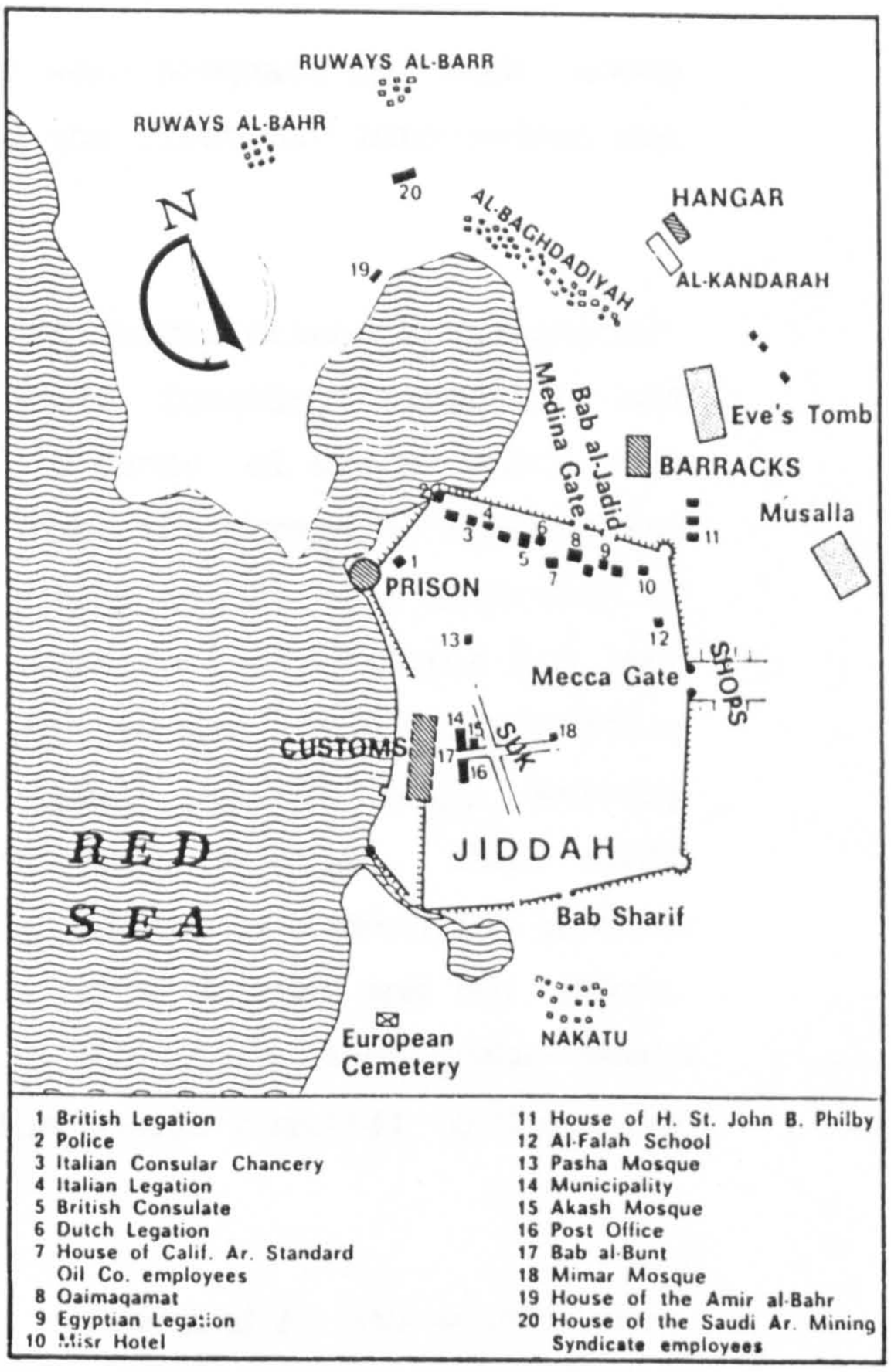


Figure 2.1: Aerial Photograph of Old Jeddah, 1948

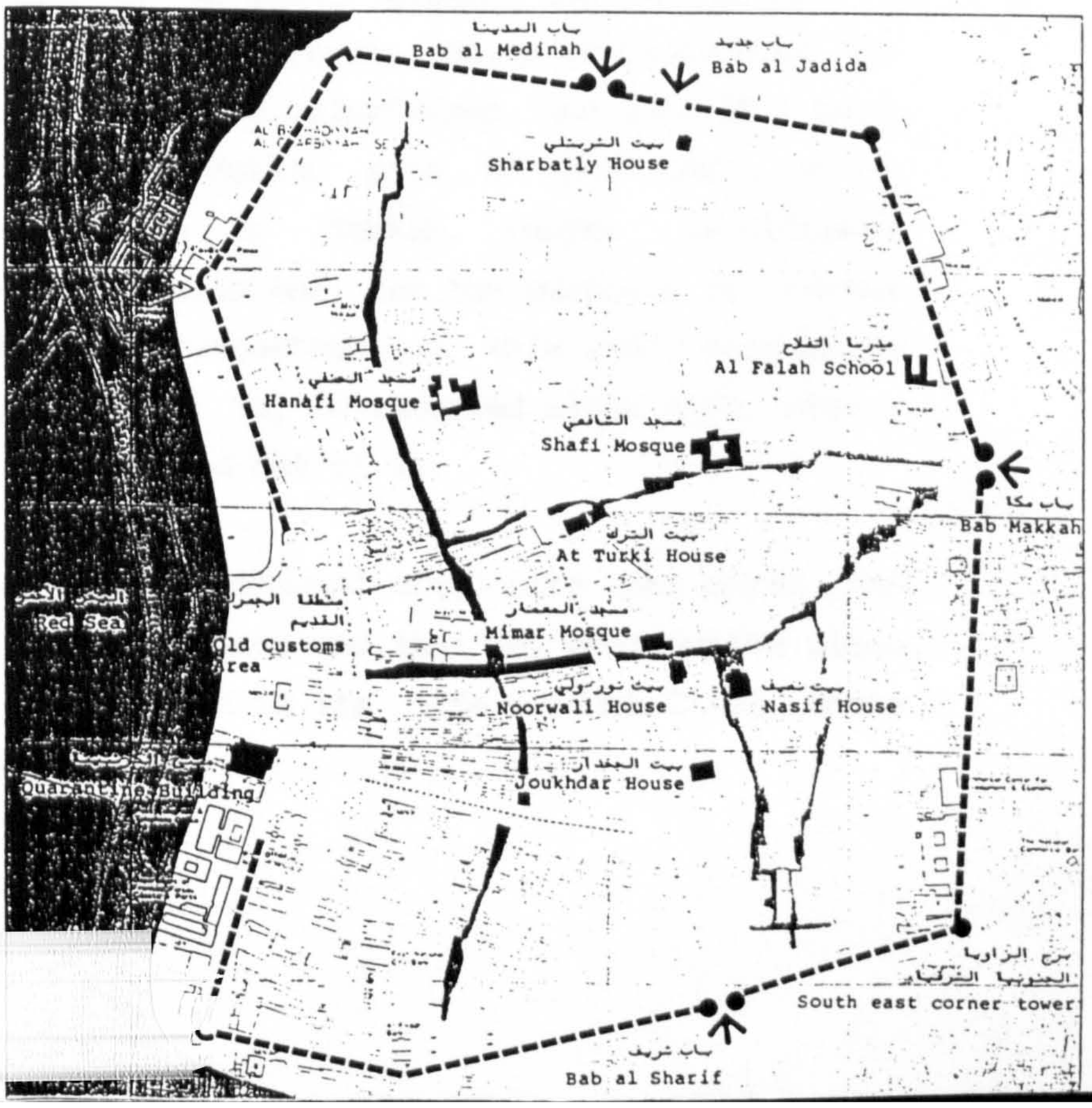
Source: Jeddah Municipality, Planning Dept.

Figure 2.2:

Physical Structure of Old Jeddah showing the boundary of the old town, public pedestrian streets, main gates and location of Friday mosques.



Source: Angelo Pesce, Jeddah, Portrait of an Arabian City, 1976



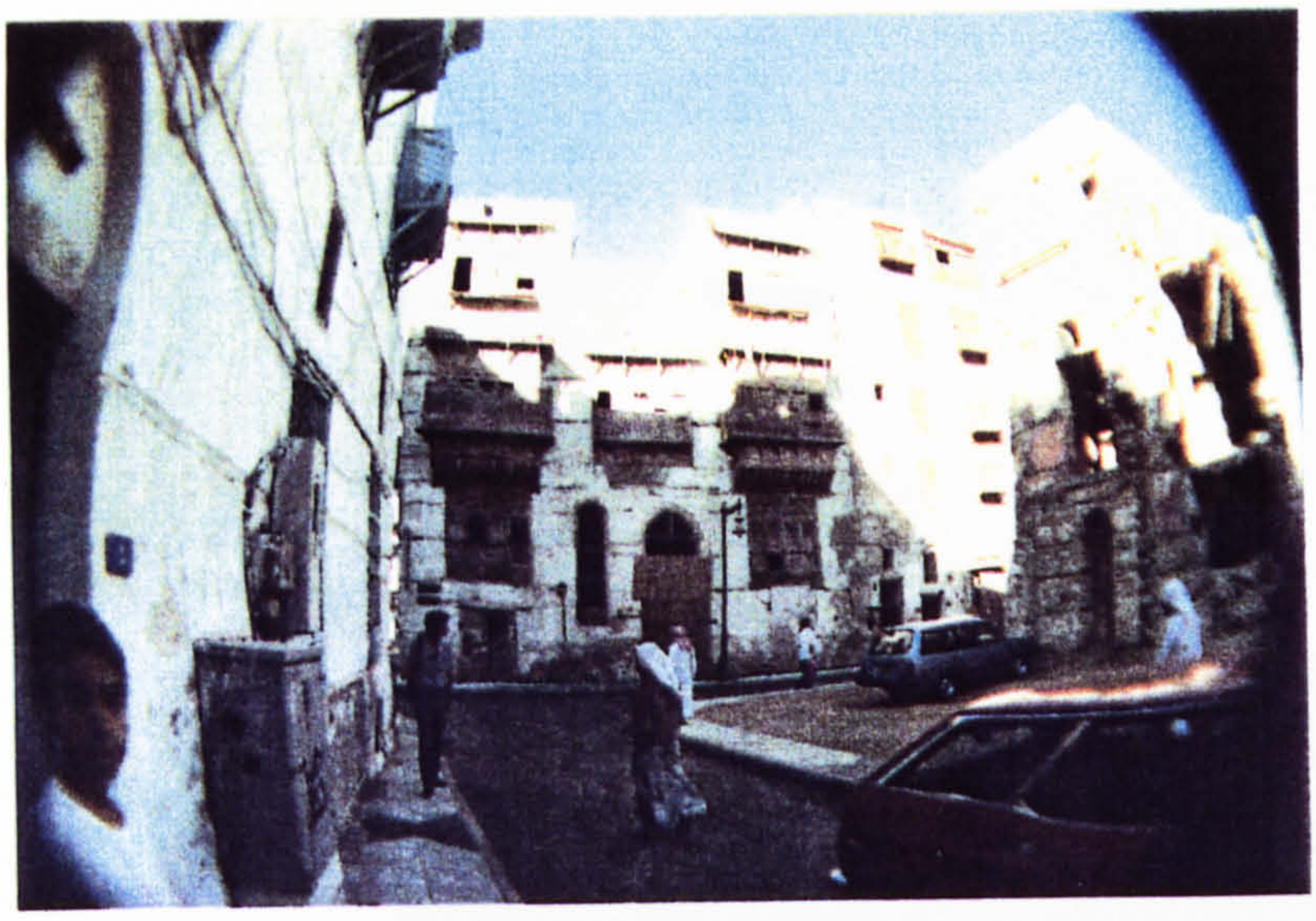
Source: Maktab Itahad al-Astsharyn L-Alastsharat Al-Handsiah, Mantkat Jeddah Al-Tarikhiah, (Jeddah Historical Area) 1404-1399

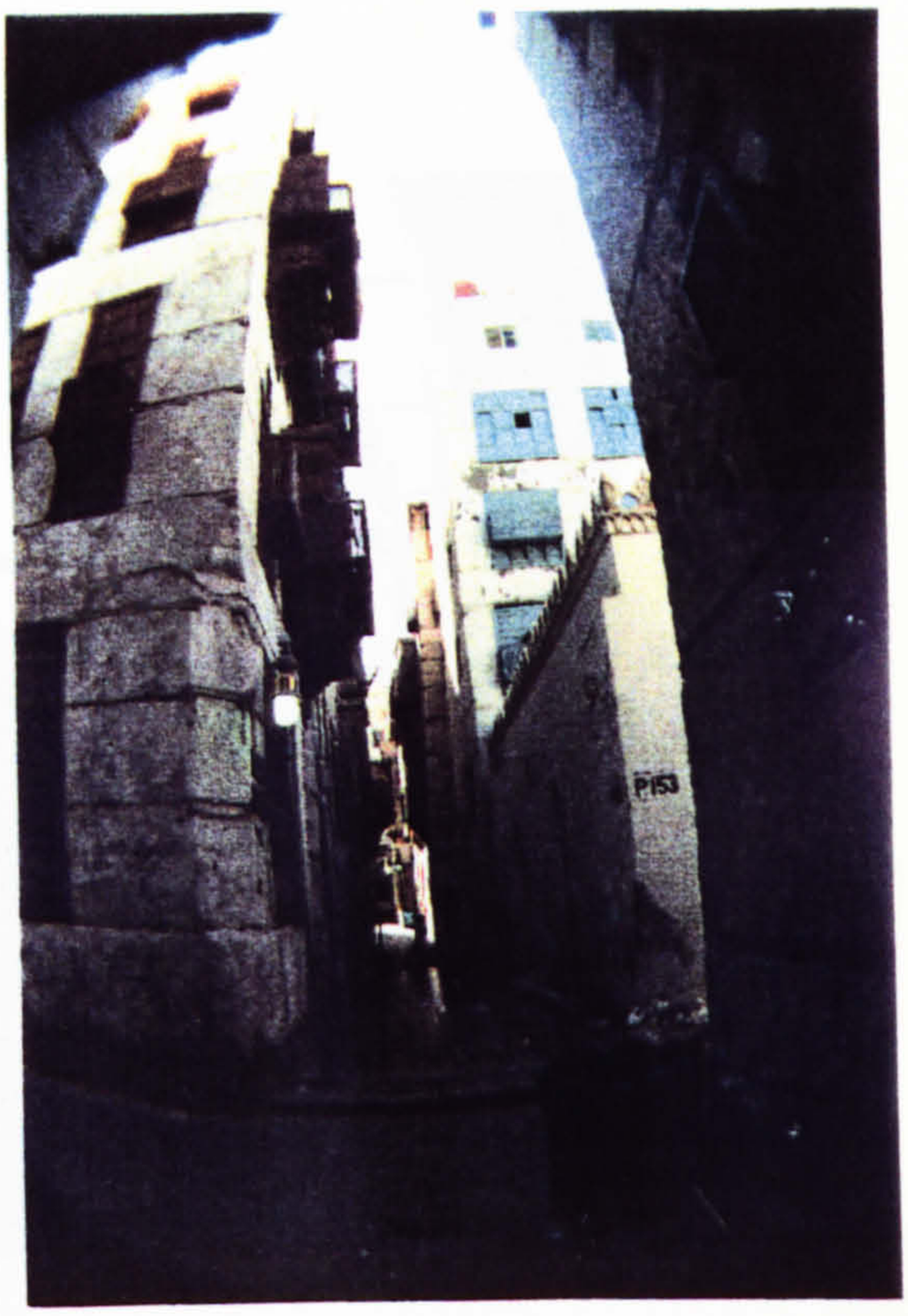
the narrow and irregular winding streets were adequate for such modes of transportation. (The introduction of the first car into Jeddah was in the 1920s by Sharif Hussain). (3)

The network of streets in the old town was characterised by hierarchy. They varied in width according to their function, location and direction, and followed the concept of "a sense of space" which was graded from public to private spaces. Thus, the irregular streets and their meandering direction ranged from public street to a labyrinth of narrow alleys, to different sizes of squares (see Figures 2.3 and 2.4). This created a kind of 'tension and release' in the residential quarter. The public roads were called Shwar^{c} pl. af Shar^{c}, meaning the streets were correlated with movement and activities. Their width varied from 15-30 metres, and usually functioned as a boundary between quarters, or as a connection between the urban element and two gates, or between a school and a hospital. Al Shar^{c} Al-Sahiaha means 'Hospital Street' which extended from the public hospital in the south to Al-Falah school in the north.

The major public road in the town was considered as its spine road. This extended from the west to the east, between the two gates: - Al-Bount gate to the west by the sea harbour, (which is considered the reception or welcoming gates to Makkah pilgrimages, and used as a port for exporting goods); and the Makkah gate to the east, which functions as a departure gate to Makkah, (where traditional transportation waits outside the city wall for the purposes of taking pilgrims to Makkah). Thus, the importance of this road encouraged different speciallty Suqs (markets) to be situated along both sides, and along the branches coming in and out of it.

Suqs in Jeddah, as in any Arab traditional city, were considered the heart of the town. Angelo Pesce determined that the most active place in Jeddah was the Suq. "The pulse in its life (Jeddah City) beats most distinctly in the Suq". (5).







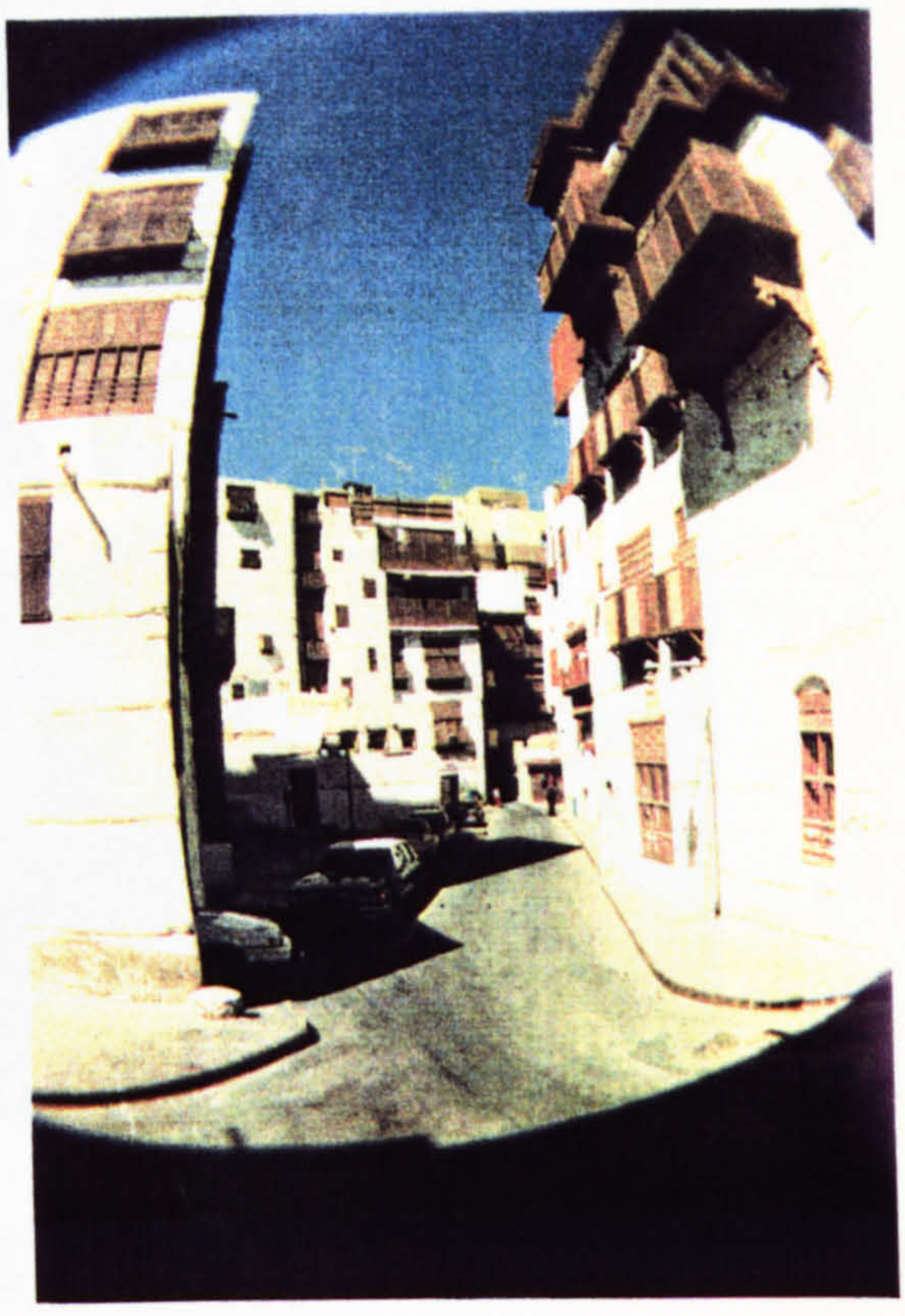




Figure 2.3: Street Pattern of Old Jeddah, 1988





Figure 2.4: Different Sizes of Squares within the Residential Quarters Functioning as Open Space, 1988



Figure 2.5:
Projections are on the same level as the street, because the street is wide enough for two persons to easily pass by. 1988



Figure 2.6:

Projections are raised from street level to give room for passing underneath. Because the street is narrow there would not be enough room for two persons to pass unless the projections are raised. 1988

The Suq area in Jeddah Old Town was the centre for most public activities; business, commercial, education, religion and administration. Along the spine road, one found different specialised Suqs and light industry (arts and crafts) which expressed the commercial and business activities.

Congregational mosques, with high minarets, were located in a series of intervals from the west to the east, starting with Bash Mosque, followed with al-M^{c}mar Mosque and the al-Shaf^{c}y Mosque which was hidden a little from the spine road, though not far away (see Figure 2.2). These mosques signified the religious and educational activities. The harbour at the beginning of the spine road in the west, and the big square in front of the harbour were used for public announcement; the municipality was near the ^{c}Bash Mosque and coffee shops were distributed along the spine road. All these comprised the town and services administration. Obviously then, the spine road, which divided the town between the southern and northern parts, functioned as the heart of places for public activities.

After engagement and participation in public activities, one then had to return, walking, to more private and quiet places. Gradually there was a change in spaces from public, to more private. Semi-public and semi-private spaces were important in order to give some release from tension in the public spaces. Narrow shady and winding alleys (Zugag) which did not exceed more than 2.50 metres, were connected to public roads. These alleys were considered to be transitional space, or semi-public space, and led to semi-private spaces which were exhibited in the form of small squares, or cul-de-sacs, or as narrow alleys which did not exceed 1.20 metres in width.

2.2.2 Building vs. Open Space and Streets

As mentioned before, open spaces and streets were characterised by hierarchy, in terms of concept, meaning and sense of open space. Here, in this section, the discussion will extend to the relationship between buildings and open space in terms of form and use.

The traditional houses of Jeddah were built as attached houses arranged along streets or alleys, or clustered around squares. Mostly the common small squares were a result of widening in some parts of the street. The buildings were sometimes set back from the street or were at the junction of some alley. Unlike contemporary buildings, which, by virtue of the regulations, must be set back some metres from the street, with only a high wall being allowed to abut the edge of the street, the traditional buildings were built directly on the edge of the streets and squares. (6)

Traditional buildings were not built in a straight line, but rather in irregular building lines, which were developed naturally and in stages, according to specific needs and necessity. The buildings did not limit themselves to the edge of the streets and squares, but were also extended beyond the edge with a fine projection into the street. These projections were called "Rawashin" in Arabic. Mostly they were some metres above the street level, enough for a pedestrian carrying a load on his head to pass easily underneath. In some cases the projections were at the same level as the street, but these conditions existed only in relatively wide streets and these needed permission from the ruler, proving that they would not hinder pedestrians. (7) (See Figures 2.5 and 2.6). It was only in rare cases in Jeddah that the height projection covered the width of a street, creating a kind of building bridge - called in Arabic 'Mastabh' - and connecting buildings from either side (see Figure 2.7).

Although, in general, the traditional buildings were known for their height, which reached a maximum of six storeys, the height in the whole town varied from one storey up to five storeys. The narrow irregular alleys, coupled with relatively tall buildings, especially inside the quarters, created a kind of winding, shady, humane, interesting atmosphere in a labyrinth of alleys. Consequently, the synthesis of all elements of the street gave a passive solution to the severe weather and created a kind of social interaction between residents and, moreover, created a feeling of security and a sense of community.



Figure 2.7: Mastabh, Building Bridge connected between two buildings mainly owned by the same owner. The Bridge is raised from street level giving enough room for persons carrying a load on his head to pass underneath the Mastabh. These are rarely found in Old Jeddah. 1988.

The projections formed the street elevation of the building. By adapting and constructing "Rwshan" and "Shish" on the projection, there was an increased interaction with the street, for example, cold air circulated from the street into the buildings, where the women stayed in their homes, and children could play unobserved from the street. The streets were considered as part of the building. Thus, people cleaned and sprinkled water on the the portion of the street in front of their buildings and shops to keep the place tidy and cool, (8) and to get a reward from Allah, because cleaning and getting rid of obstacles from the street is considered charity in Islamic, as the Messenger of Allah said:

> "Each person's every joint must perform a charity every day the sun comes up: to act justly between two people is a charity; to help a man with his mount, lifting him onto it, or hoisting up his belongings onto it, is a charity; a good word is a charity; every step you take to prayers is a charity; and removing a harmful thing from the road is a charity." (9).

2.2.3 Quarters (Harat) of Old Jeddah

The old town of Jeddah consists of four Harat (pl. of harh or harat means 'quarters'); Harat al-Madlum, Harat al-Bahr, Harat al-Yamin, Harat al-Sham, as shown in Figure 2.8. As the nominal division of these residential quarters had no physical boundaries between them, only public pedestrian streets, the whole city resembled one large residential district. (10).

Actually, the form of these quarters was mainly affected by the prevailing family concept and the Islamic family which encourages the good neighbour relationship. (11). The traditional families in the old town of Jeddah were large, multi-generation, and composed of several related nuclear families, all of whom lived in one house. Thus, the various old quarters consisted of numbers of multi-storey, attached, traditional houses (about 500-800 houses) to accommodate these extended families. (12) The social relationship, as mentioned by older people, who lived in these quarters, was very high, and the

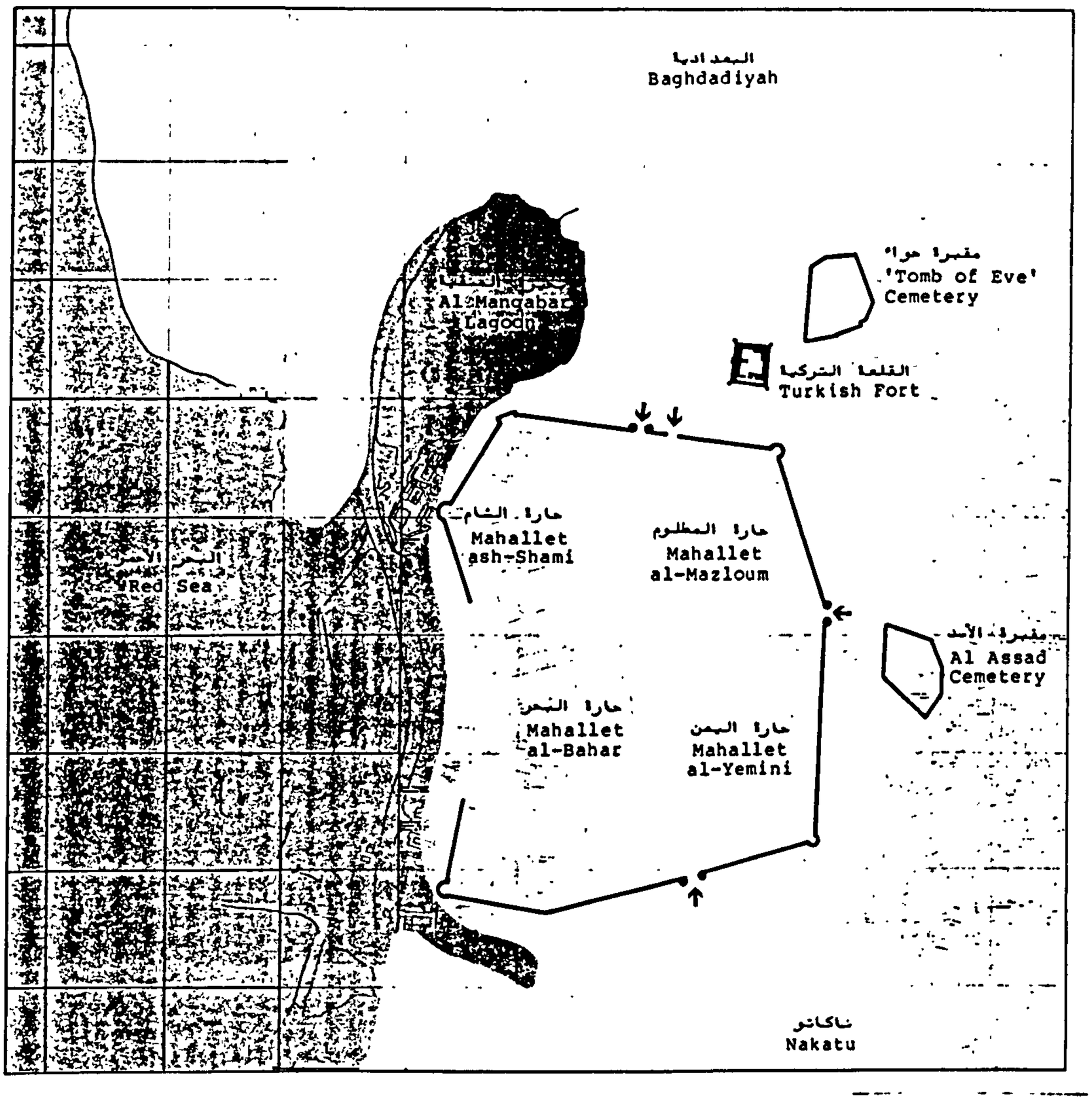


Figure 2.8: Quarters (Harat) of Old Jeddah

Source: Maktab Itahad al-Astsharyn ll-Astsharat al-Handasiah, "Mantigat Jeddah al-Tarikhyah 1399-1404H". (The Historical Area for Jeddah 1979-1984), Jeddah Municipality, p.8.

respect of a neighbour's right, as taught by the Islamic religion, prevailed between them, even to the point of putting the needs of the neighbours before their own needs. (13).

It seems that the urban fabric of these quarters played a major role in the increase of this strong social relationship. The compactness of the houses and the small area of the quarter helped to increase daily visits between neighbours. The narrow, shaded, winding pedestrian streets helped with social interaction and meetings between the inhabitants in the street, which, no doubt, led to social relationship. Thus, the inhabitants of the quarters, despite their different income, occupation and ethnic background, were considered as one large family. The women and children were protected by their men, and, if any dispute arose between them, it was solved internally in front of the Cummdah (a wise man selected among them to administer the quarter). (14).

Each residential quarter possessed one or more large mosque in addition to smaller mosques, called locally Zawyah. The concept of distribution between the mosques and the Zawyah depended upon the concept of proximity to public and semi-public assembly, or Friday and non-Friday mosques. The Zawyah, the small size mosque, mainly served groups of houses within walking distance, to be easily reached by the older people, conducting the obligatory daily five-prayer in the mosque.

Consequently, the Zawyah played a very major role in strengthening the social relationship and creating a kind of semi-family amongst the inhabitants by being together. The heads and the younger members of the families would perform the prayers, and learn from each other's Quran (the holy book) and Islamic teaching and social behaviour. Thus the Zawyah in the quarter was functional as a place of worship, a social meting place and a school. (See Figure 2.9).

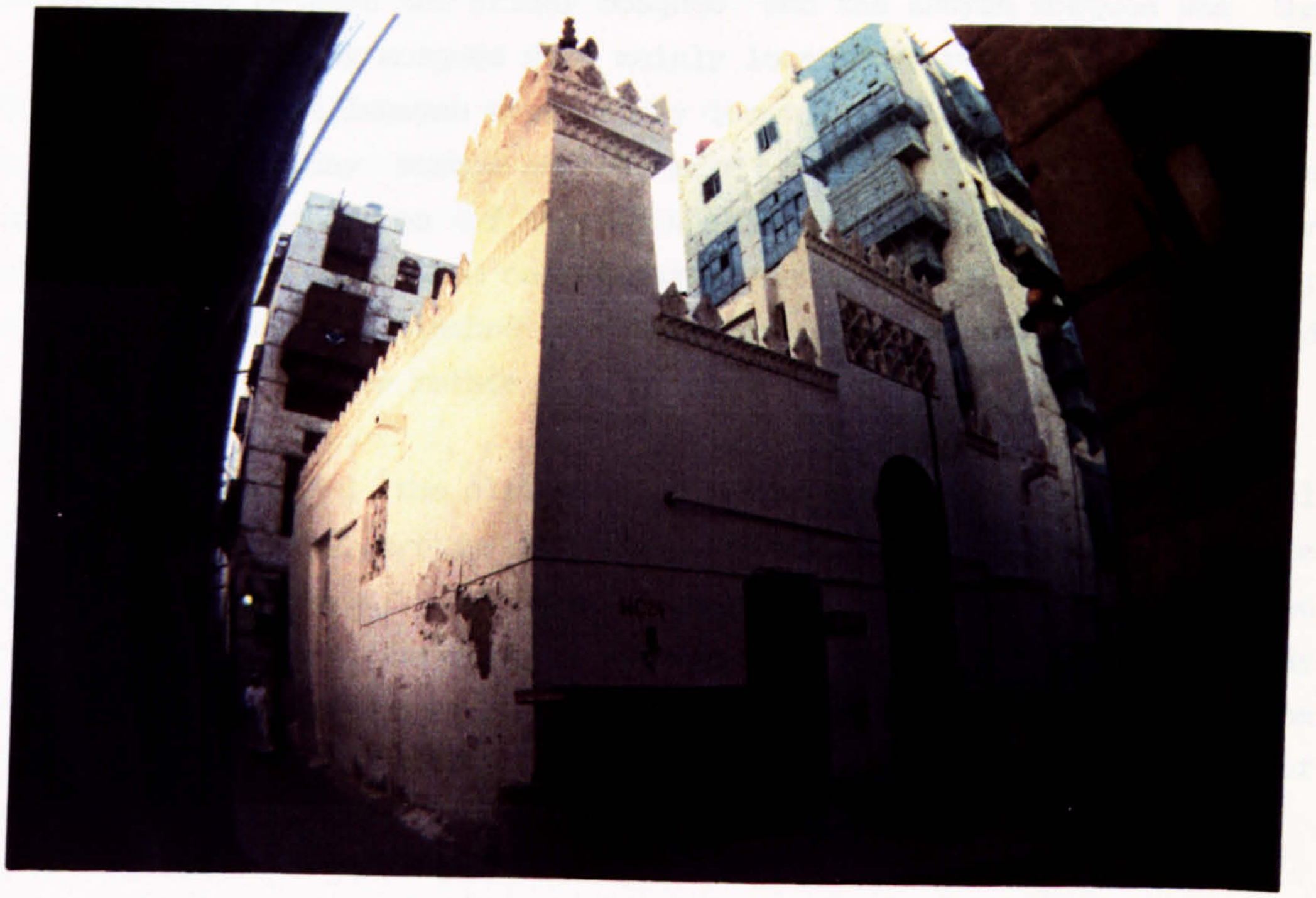


Figure 2.9: Zawyah (Small Mosque) Located inside the Quarter, serving groups of people within walking distance, and usually attached to adjoining houses.

On the other hand the large mosque (Friday Mosque), in addition to its functions as Zawyah, but on a large scale, functioned as a congregational mosque, where Friday prayers were held. Thus the proximity of walking distance for the older people was not the most important factor. Mostly the distance did not exceed 600m - because they would only attend the minimum one-time each week. A recognised difference between the Friday mosques and the Zawyah mosques was the location. Friday mosques were mainly located on public streets in the Suq area, while Zawayah were mainly located within the quarter itself. Thus, the Friday mosque served more than one quarter, while the Zawayah served groups of houses within a quarter, and each quarter would contain more than one Zawayah. Mosques did not stand alone; they were always attached to other buildings, making them a united part of the quarter rather than separate.

Having identified the different physical components and the social life in the old quarters, the remainder of the study will concentrate on the traditional dwellings, their form, components, and the relationship with their surroundings. At the same time, the study will identify how they conform to the social values and life of the society in the prevailing climate, bearing in mind the limitation of materials.

2.3 RESIDENTIAL ARCHITECTURE OF OLD JEDDAH

When investigating the style of the residential architecture of old Jeddah, one recognises common features with that of other cities in the Western province of the Kingdom, such as Makkah, Madinah and Taif. The prevailing form and the layout of this traditional residential architecture were developed over a long process of trial and error, in order to satisfy the social values of the inhabitants, which were affected by Islamic perspective, the harsh environment and the limited local construction materials.

Local master builders, who were raised in Jeddah's society, played a major role in balancing the social requirements of Jeddah's extended families with the respect, honour and rights of neighbours and passers-by on the abutting road. At the same time, they balanced the social requirements with the constraint of providing light and air, taking into consideration the harsh climate, confined or limited land, and availability of local construction materials.

The importance of Jeddah as a seaport, and the gate of Makkah, is seen in the influence on its traditional architecture of other styles, such as Turkish, Indian, Egyptian, etc. However the 'borrowed' architectural elements were carefully adapted and localised to match with the social and environmental needs.

2.3.1 Form and Layout

The residential buildings of old Jeddah were characterised by three to five-storey buildings, which satisfied the need of the extended family. The traditional family in Jeddah was often large, multi-generation, and composed of several related nuclear families. They were moulded by Islam and Arab heritage and often lived in one house, with ultimate authority and control by the head of the family. This tendency of the extended family living together, coupled with limited land inside the old town within the town's wall, was the main reason for the high, large traditional houses.

The layout of the traditional residential houses was affected by the location, shape and area of land. In addition, providing light and air had to be an important consideration of the owners, who had to bear in mind the neighbour's needs and requirements.

The owners, who knew exactly the needs of his extended families, usually participated with the local master builders to help with the layout and design for the house. The owner had full right to utilise the whole property, the only stipulation being not to harm the

neighbours, or passers-by. (15). These proscribed (not prescribed) social codes gave the builders flexibility to invest a suitable design solution with consideration of all constraints, as per the following discussions. (16).

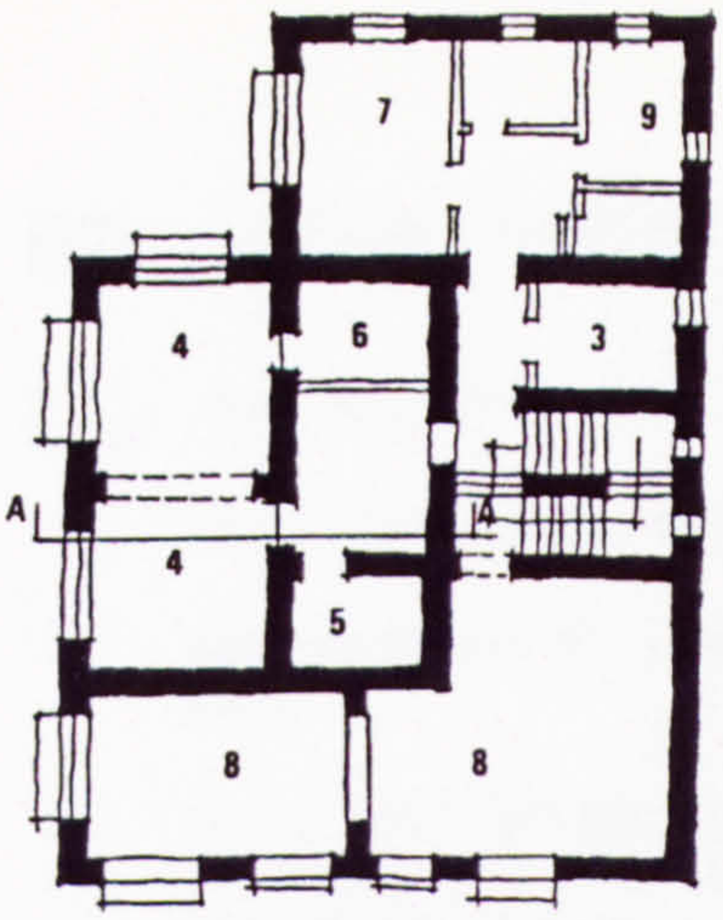
2.3.2 Entrance

Two entrances were usually preferred in the building; one for the female members of the family, the other for the males and male guests. This always occurred, if the land was abutted by two streets, or had good width, otherwise only one entrance was provided. The main consideration was that entrances should not be located directly opposite the neighbour's entrances, for the purposes stated.

2.3.3 Light and Air versus Activities Distribution

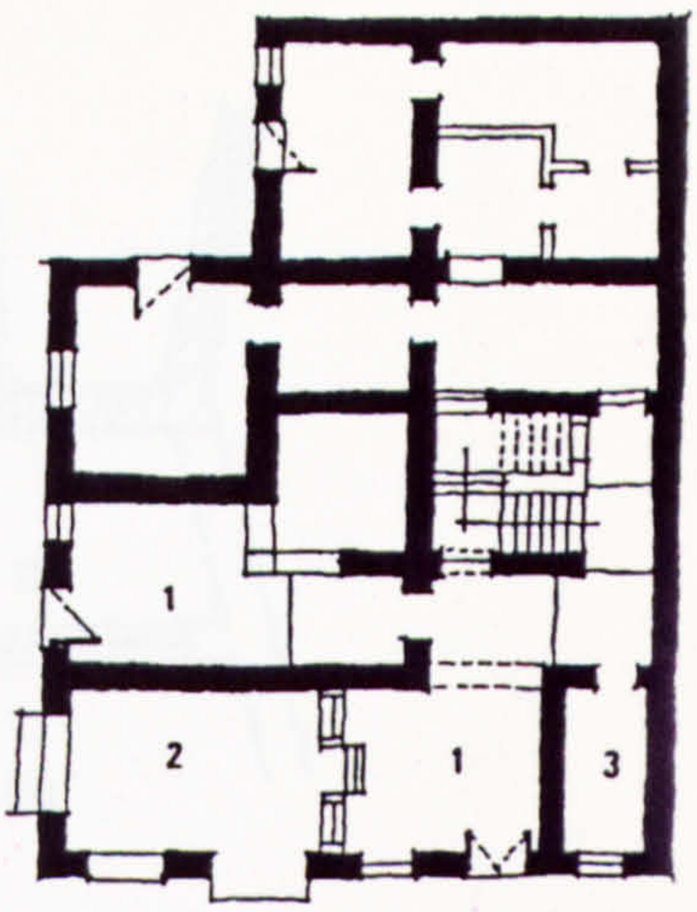
The shape and location of the land played a major role in determining the general layout and activities distribution with the insurance of providing light and air. Light and air were usually provided from the detached side of the building, which was usually faced by a street or square. This side was usually in the front. (Al-Mugdmah), where the more important living areas such as the sitting room (Al-Mailis) were situated. The service rooms, such as storage, toilet and kitchen (Al-Koznah, Al-Hamam, Al-Murkab) were usually located in the back of the house (Al-Muakhirah) where the house adjoined the neighbour's walls (see Figure 2.10). Here, at the back, light and air would be provided either through the staircase (Bait-Al-Darag), or by providing a lightwell (Manwar) in the middle, or in one of the corners. This way they avoided constructing a lightwell, giving them sight of the neighbour's lightwell and rooms, while, at the same time, they protected their lightwell and room from the neighbour's sight. (See Figures 2.11 and 2.12)

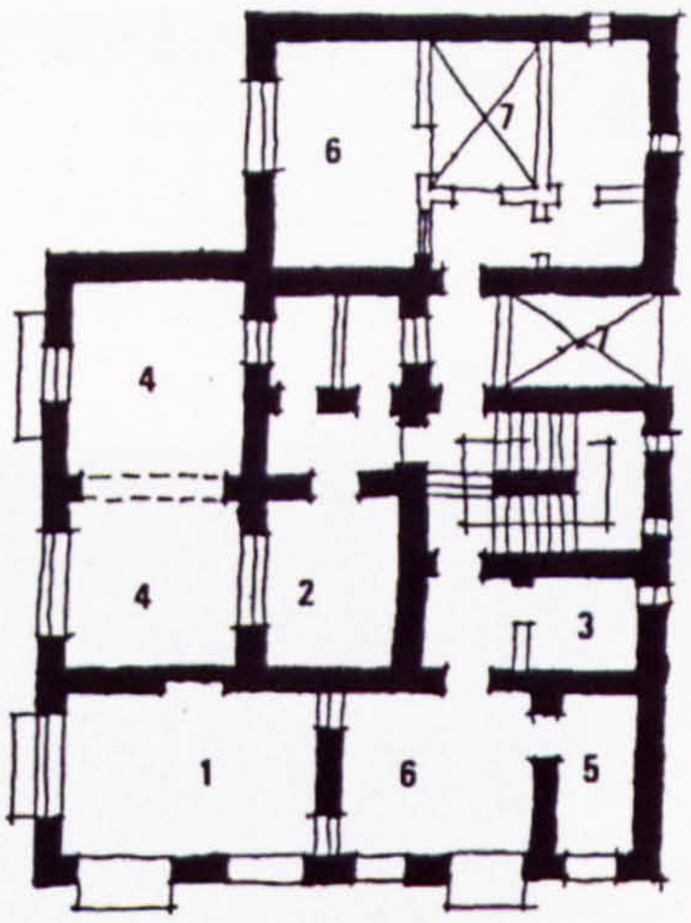
Some houses in Jeddah had a courtyard in the middle of the building to provide light and air. These were usually for the main activities in



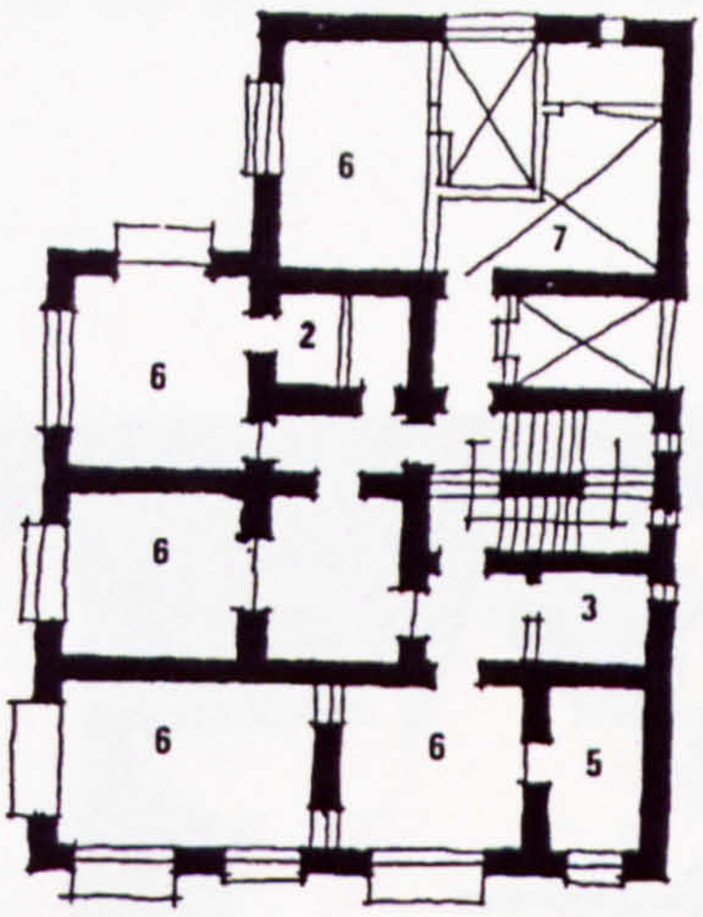
1 Dahleez
2 Al Maqad
3 Toilet
4 Majlis
5 store
6 Coffee/Tea room
7 Room
8 Suffah
9 Kitchen

Ground and First floor plan of al Shafiay house

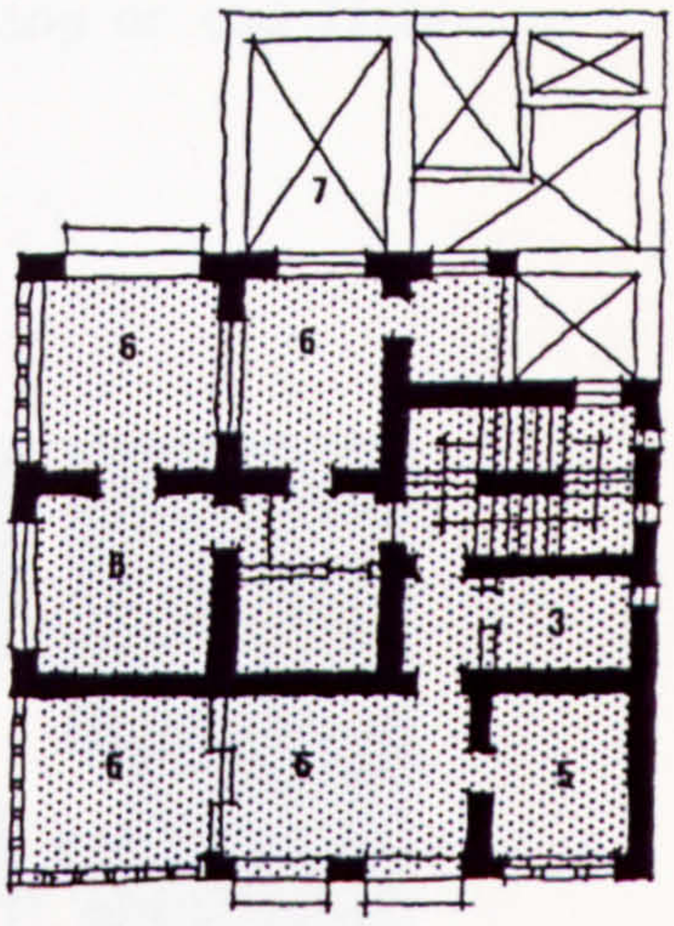




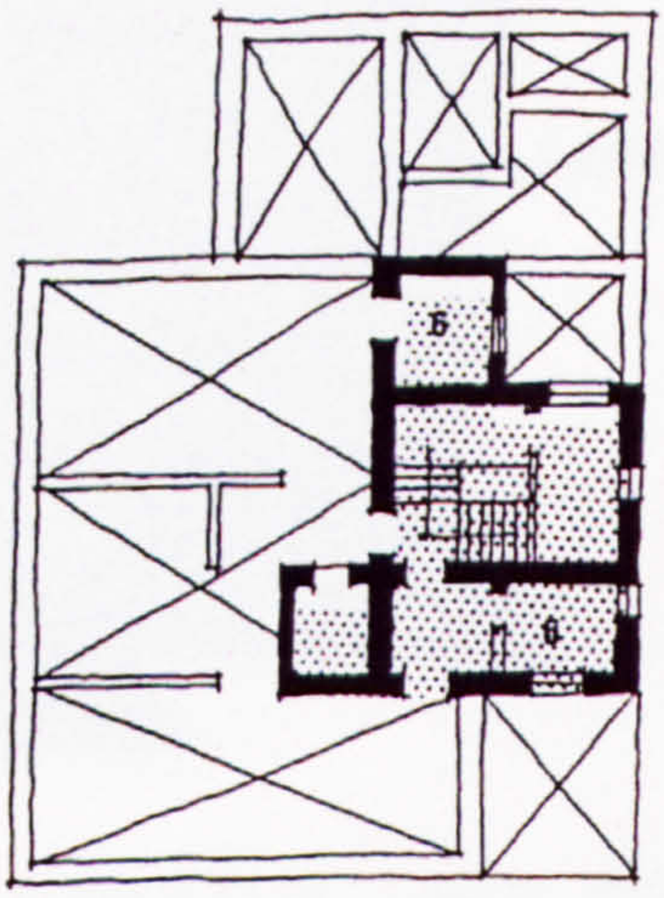
Second floor plan



Third floor plan



Fourth floor plan



Roof plan

Key : 1 Suffah
2 Khazana
3 Toilet
4 Majlis
5 Kitchen
6 Room
7 Kharja

N

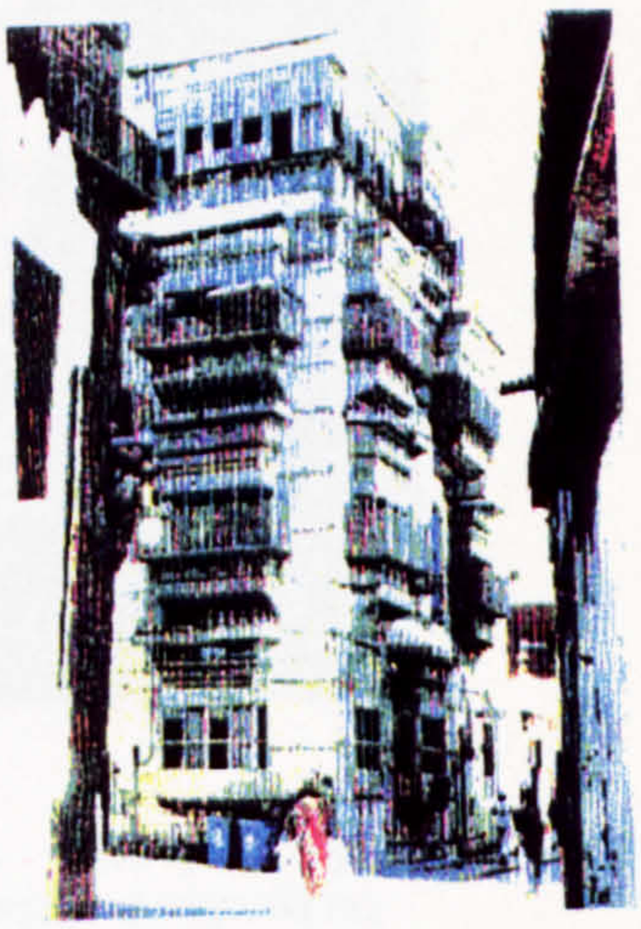


Figure 2.10: Plan of al-Shafy house

Source: T.H.Alharbi, The Development of Housing in Jeddah. Unpublished Ph.D Thesis, University of Newcastle upon Tyne, 1989, p.231, 232, 234.

Existing Building

New Building

(1) Existing Light Well

(2) New Location of Light Well

(3) Party Wall to be built by the owner of new building to safeguard the existing or old light well from intruding vision

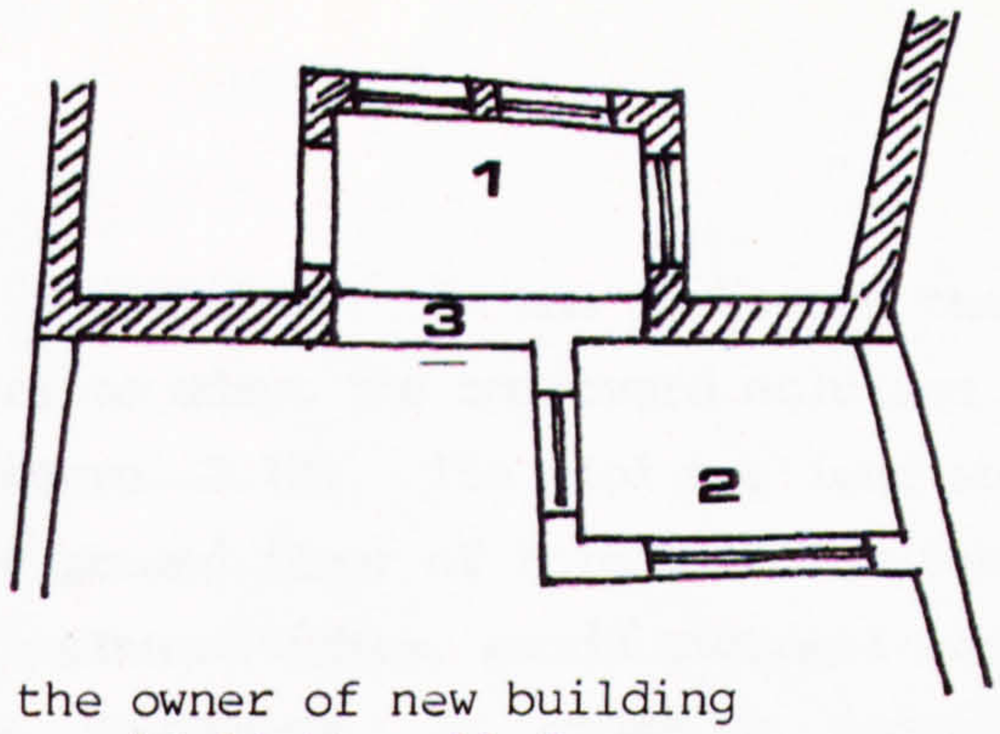


Figure 2.11: Illustration of how to respect the existing or old light well

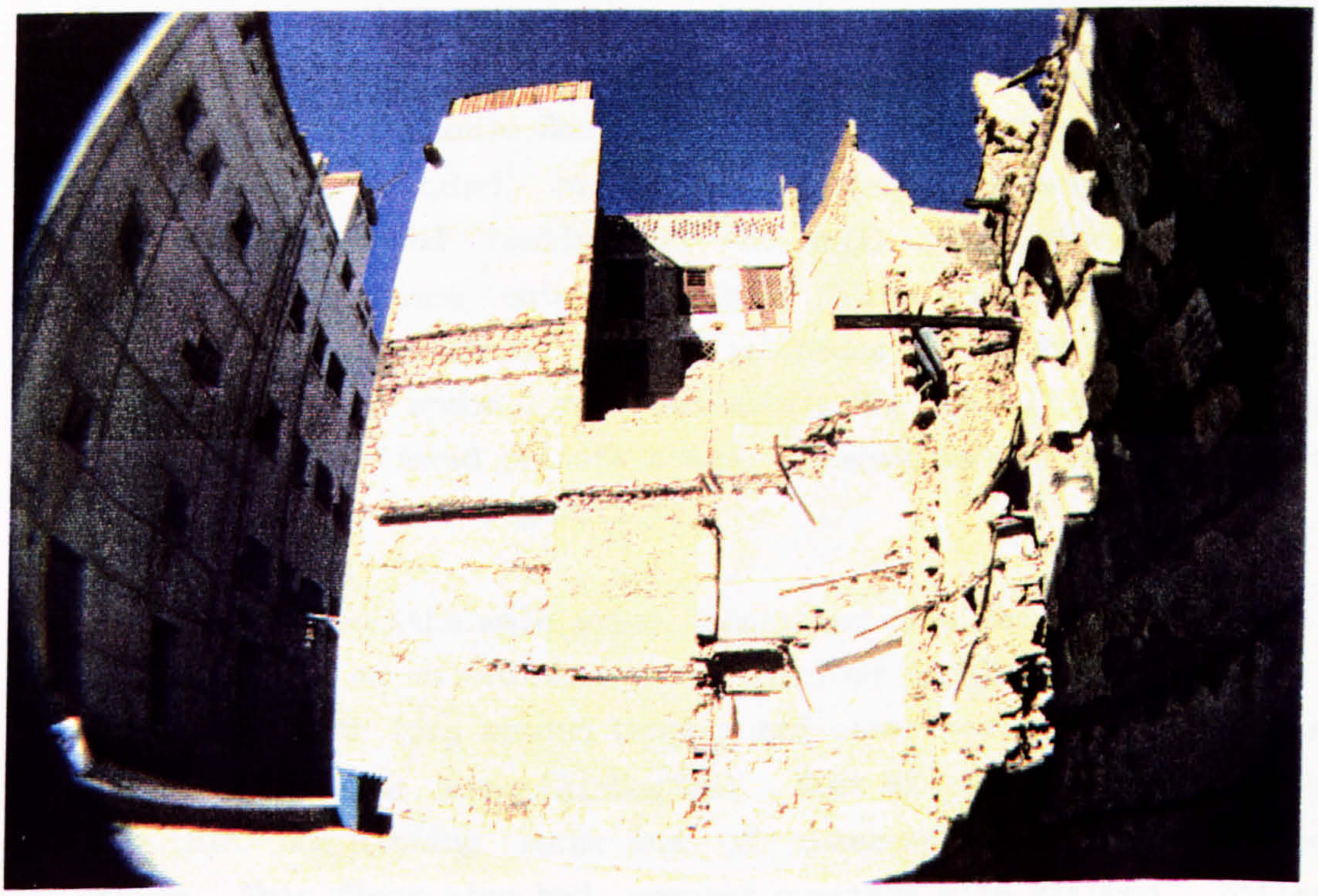


Figure 2.12: After demolition of the joint buildings. The photograph shows solid party wall between the two buildings to avoid intruding vision.

the building (not for service activities). In one such case the shape of the land forced the builders to adapt the courtyard solution in the middle of the building (~~see Figure 2.13~~). The plot was long and was surrounded by neighbours. The ground floor of this building was used for male rooms (guest room, business office, goods storage) and male strangers passed through this courtyard. In order to protect the female section in the upper floors, the opening, which gave sight of the courtyard, was covered by mashribiah for privacy purposes. (Figure 2.13/4).

2.3.4 Activities Distribution versus the Concept of Private and Public Spaces

The activities distribution, in addition to constraints of providing light and air, followed the concept of male and female relationship, according to the Islamic Shri^{c}ah (Mahram and non-Mahram concept). (17) This concept, coupled with the activity requirements of the traditional extended family and the small plot size, forced the distribution of space onto a vertical rather than horizontal scale. Thus, in the traditional residential houses, the ground floor was considered public space, reserved mainly for males, while the upper floors were considered private space, reserved mainly for females and family living area. (Figure 2.11).

The ground floor (the male area) consisted of a main entrance with a spacious hall, or an ordinary-sized corridor (dahleez) (furnished in some houses with long wooden benches and other seating arrangements), and a male seating area (Al-Maq^{c}ad). Most of the trader houses had more than one sitting room; one of these was used as a business office. This floor also had servant quarters with kitchen, toilets, storage, etc.

The upper floors provided living quarters for the master of the house and the rest of the extended family. As previously mentioned, the extended family consisted of many nuclear families living together in



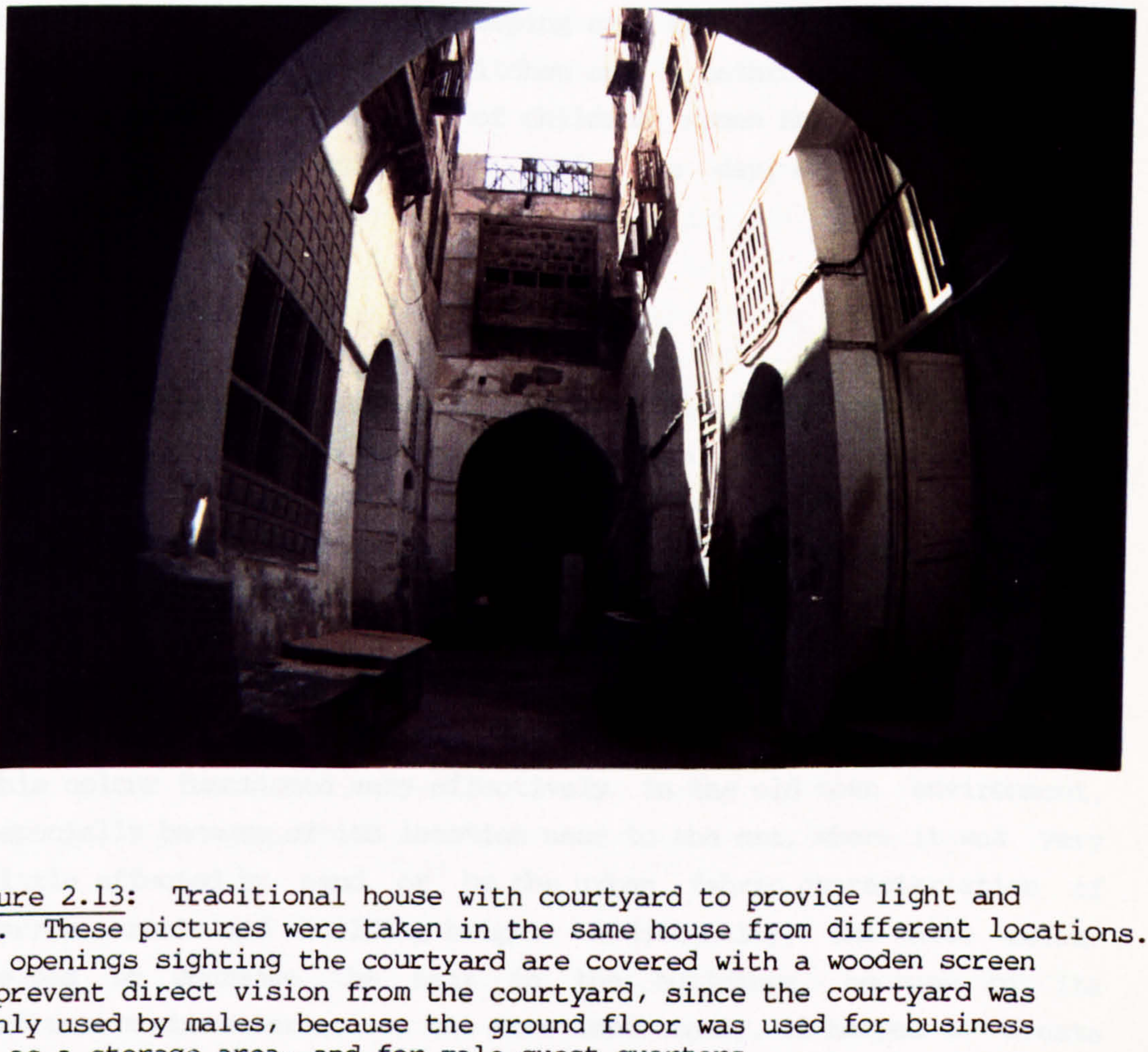


Figure 2.13: Traditional house with courtyard to provide light and air. These pictures were taken in the same house from different locations. The openings sighting the courtyard are covered with a wooden screen to prevent direct vision from the courtyard, since the courtyard was mainly used by males, because the ground floor was used for business and as a storage area, and for male guest quarters.

one house. These were the married sons, each of them living in a separate apartment. This way they enjoyed privacy, whilst at the same time, living with strong family ties with their extended family.

The entire private quarters served as a multi-functional living space and had no special place serving as sleeping rooms. To help in such a situation, the furniture was of simple character and was portable, for example, mattresses for sleeping that could be folded and stored after use. However, some rooms or spaces in the house were preferred for some functions more than others, though this preference did not completely exclude other activities. For example, the front side of the building in the main facade was the most airy and the coolest room because of the latticed balconies projecting over the street, and this room was used mainly as a sleeping area for the whole family. The back of the house, near the kitchen and a bathroom, used for eating and the general entertainment of children, women and their guests, was often used as a sleeping area during the day, or for the popular afternoon naps.

2.3.5 The Facade

The exterior of the traditional houses of old Jeddah was dominated by whitewash, and fine woodwork on windows, doors, and projecting balconies. This prevailing exterior feature no doubt reflected the personal taste and desired assurances of social values and traditions, and urban quality and environment.

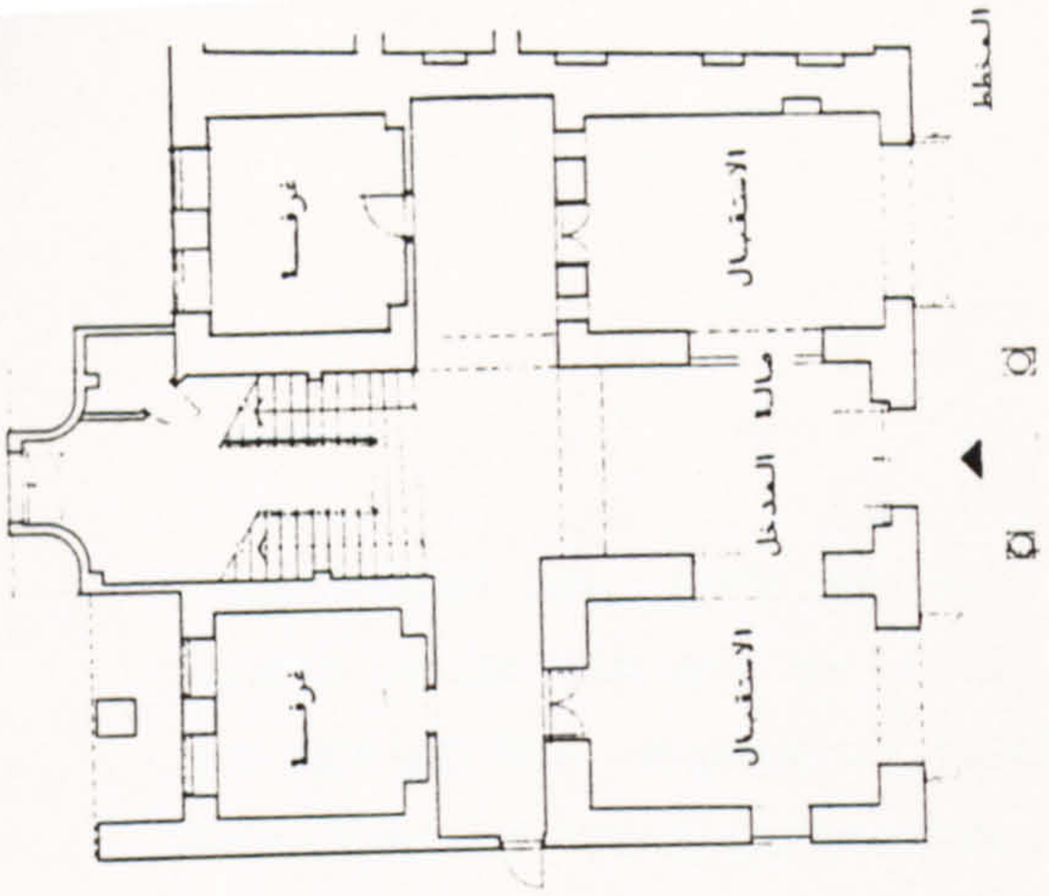
The local availability of whitewash was one of the main reasons for the prevailing white colour on the traditional houses of old Jeddah. This colour functioned very effectively in the old town environment, especially because of its location near to the sea, where it was very little affected by sand, or by the urban fabric characteristics of narrow streets and building height. Additionally, the white colour helped to decrease the heat in the buildings, because of its reflective characteristics, but more importantly, it helped to create

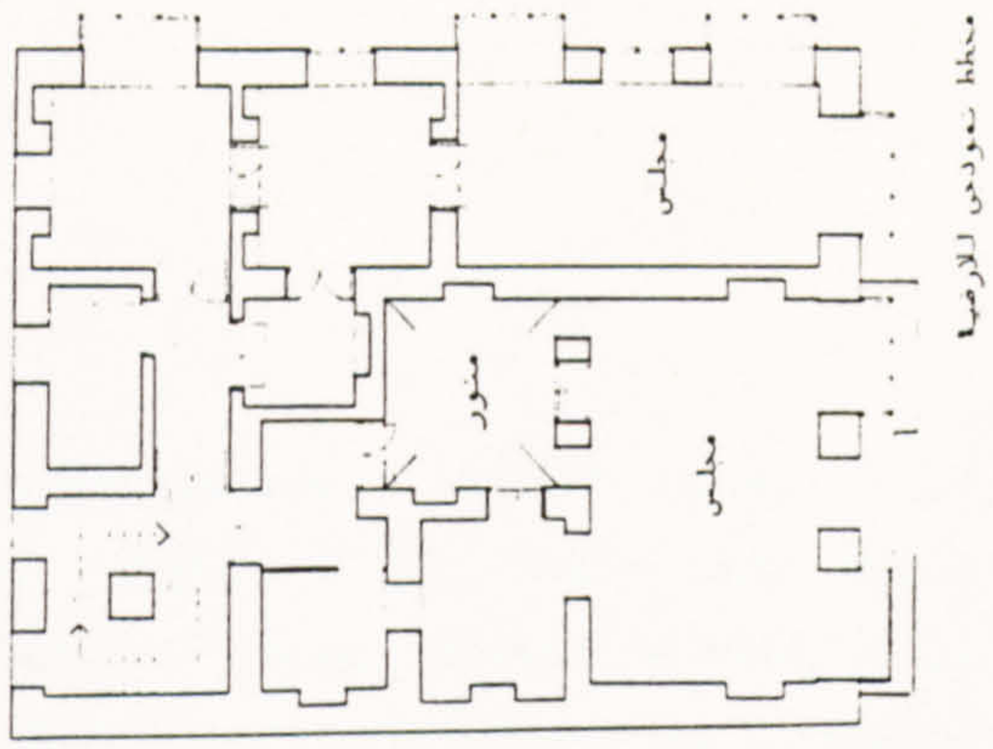
the feeling of spacious streets, in spite of their narrowness, and in contrast with the dark colours, gave reflected light to the place.

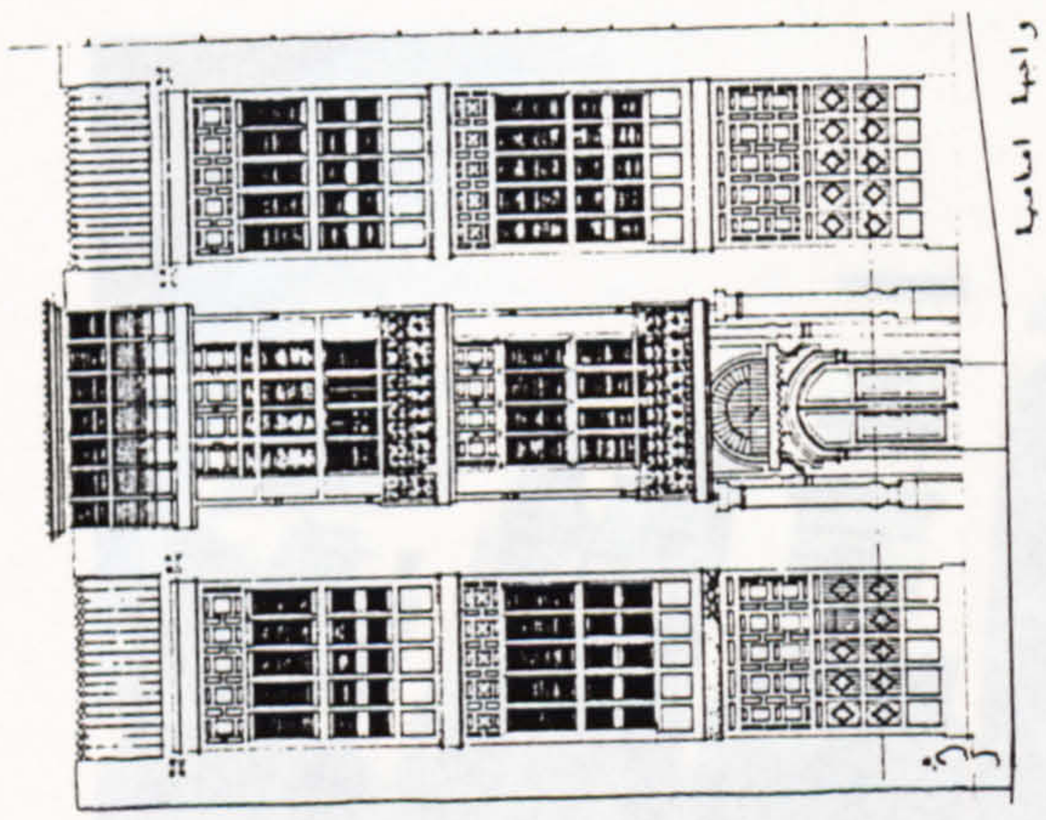
The whitewash did not cause too much reflection to cause harm to people, because the sun's rays were not projected on to the exterior walls of the houses owing to the building height and narrow streets. A high percentage of the traditional house facades was of wood, which had very little reflection. Thus, the whitewash and wooden facades, coupled with the urban fabric, caused no conflict with the total urban environment, but rather confirmed it, in contrast to the new urban area, where the municipality forced the people to whitewash their houses. This will be discussed later in following chapters. (18).

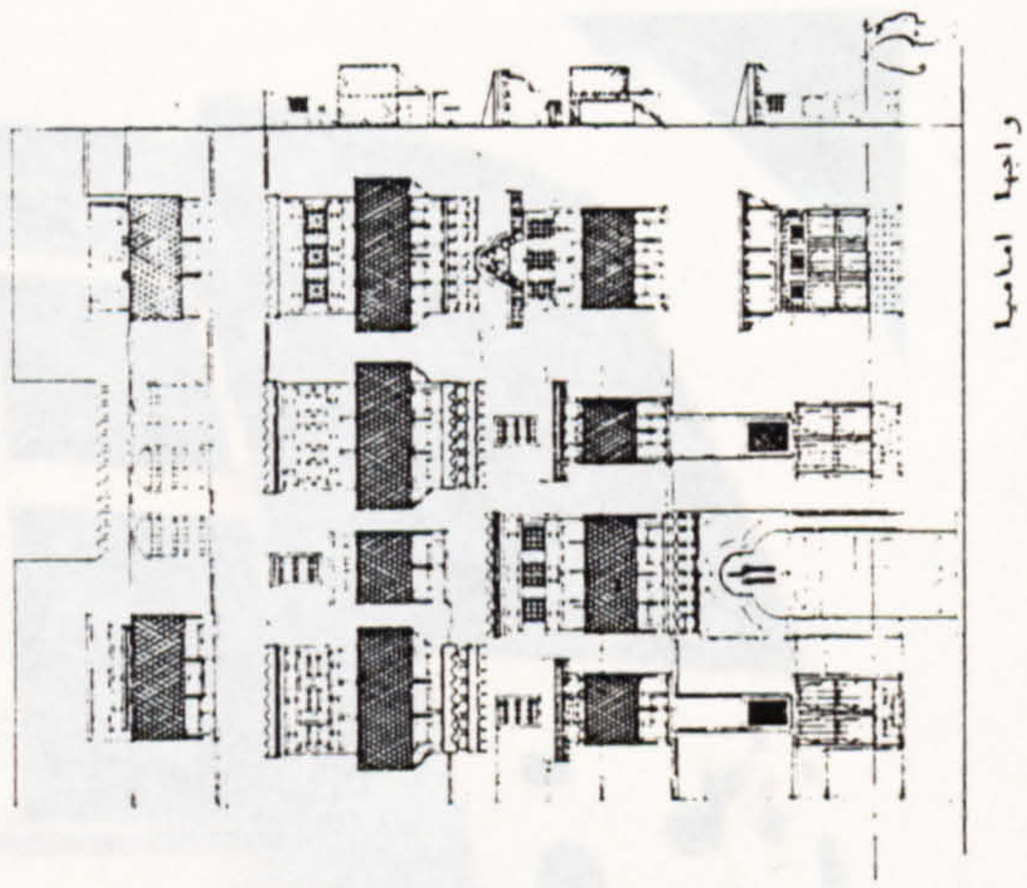
As mentioned, the wooden windows, doors and projecting balconies (Rwshan) were a dominant exterior feature of the traditional houses. Investigating these elements one must recognise that wood, as a material, was not locally available. These wooden features have been influenced by other cultures (eg Turkish, Egyptian, Indian, etc.), but, in spite of this, they reflect the local identity of the traditional houses of old Jeddah. Also, with careful investigation, one could find that these influences, through cross-culture, did not conflict with the traditions and values of Jeddah's society, but rather confirmed them. Moreover, these wooden features were carefully developed and adapted by local carpenters to satisfy the owner's personal desires, according to their different taste and wealth (as variable factors), while at the same time satisfying the fixed social codes of values and tradition and prevailing environment and micro-climate. This occurred as a result of the owner's free choice and taste to have his own house facade influenced by Turkish or Egyptian style, or mixed influences of both styles, and his ability to select the wooden elements according to his wealth. (See Figures 2.14 and 2.15)

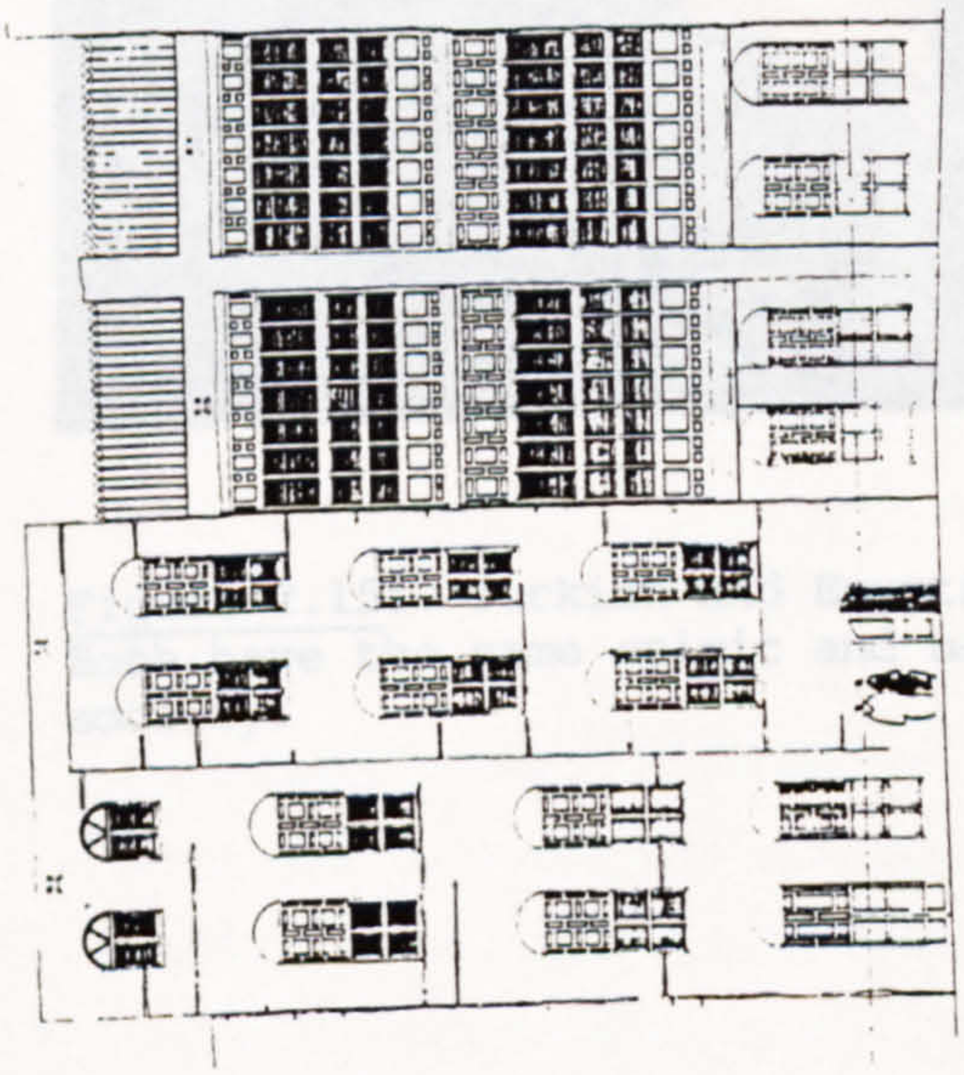
Thus, wealthy people selected teakwood for the most expensive element on the traditional facades, that was salient rawshan and bay window.

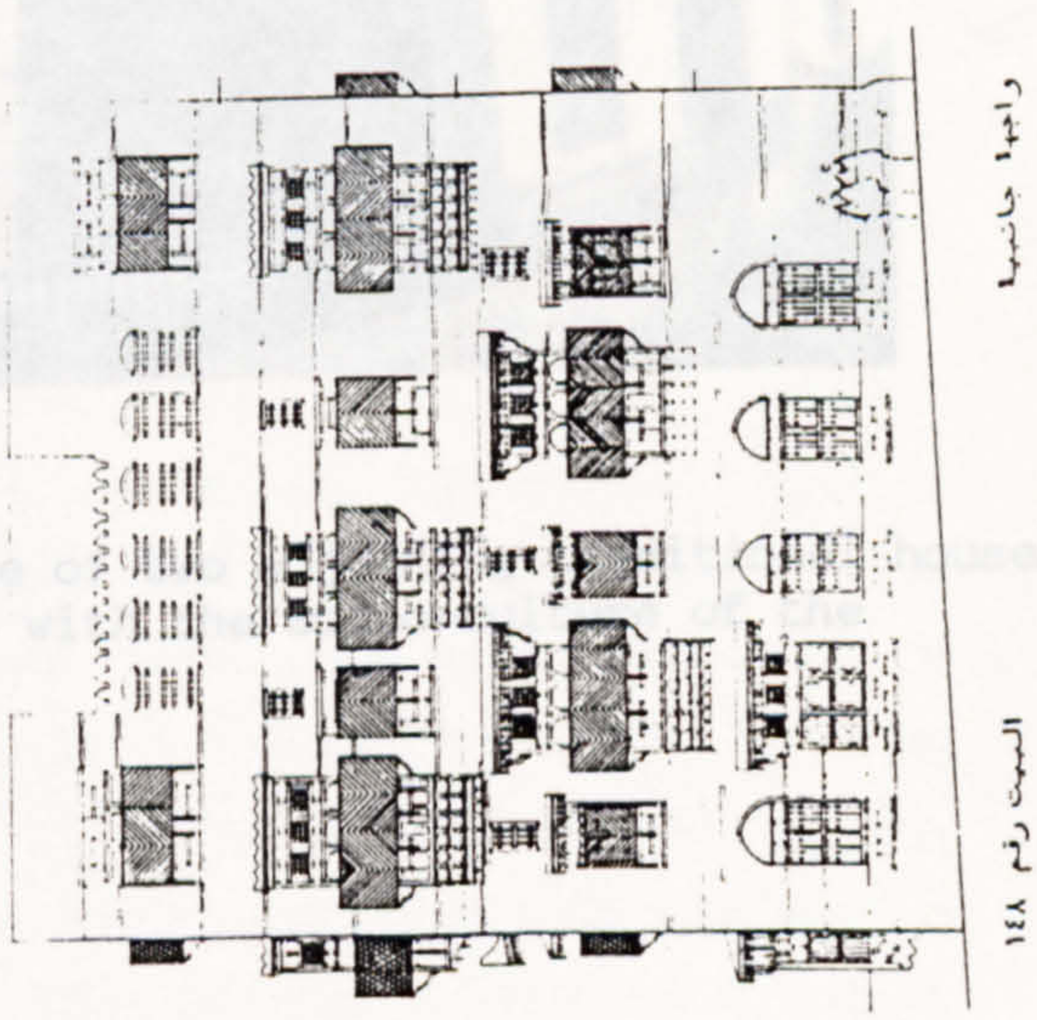












Egyptian Style, from 1865

Turkish Style until 1947

Figure 2.14: The Egyption style is rich with fine wooden work, and the rwshans are connected as one piece from upper to lower floor, with moveable parts, in contrast to the Turkish style.

Source: Maktab Athad al-Astsharyn ll-Astsharat al-Handsiah, "Mantgat Jeddah al-Tarikhyah 1399-1404". (The Historical Area of Jeddah 1979-1984), Jeddah Municipality, p.13 and 14.

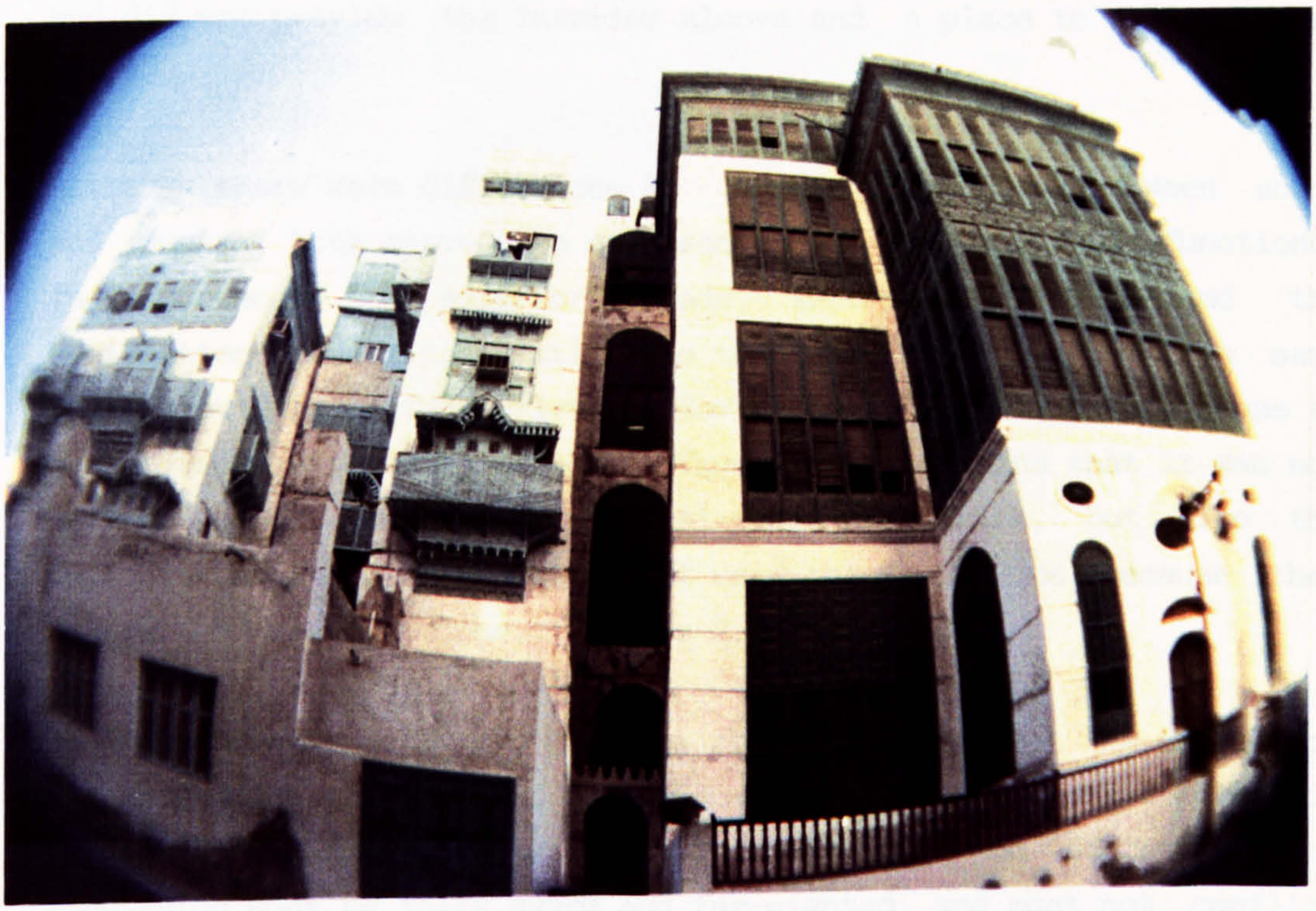


Figure 2.15: Turkish and Egyptian style of two adjoining traditional houses. Both have the same spirit and harmonise with the socio-culture of the society.

This jutted out from the wall on a cantilevered wooden corbel, and people could sit and entertain on it. (Figure 2.16) Those who could not afford the expensive rawshan selected cheap, simple wooden work developed by local carpenters, which had the same function as rawshan but was known as shish. The Shish was a small wooden balcony with a lattice screen. It was only attached to the facade from the exterior and did not provide the interior alcove and a place to sit. (Figure 2.17).

Although there were differences in cost and techniques between shish and rawshan, both served the same social and environmental functions. They enhanced the exterior facade, improved and augmented the ventilation and air circulation to the interior, while, at the same time, providing maximum privacy allowing the occupants of the house to look outside without being seen. Thus, one could find that it was not only the poor houses with the simple cheap shish, but also the wealthier houses with rawshan, that used this technique, because they served the same functions. (Figure 2.18),

One could draw conclusions from the above analysis that the derivation and adaptation of ideas and techniques from other societies were not new to Jeddah's well-established society, but the derivation and adaptation must be fully aware and far-sighted, and must not conflict with fixed social codes of values and traditions, but rather confirm them. Also, the analysis proved that the freedom of choice and flexibility of expressing the personal taste and needs were not a forbidden thing in Jeddah's society, but rather preferred, because they led to a variety and development of techniques, according to the needs of the owner, with a stipulation not to conflict with the social codes of values and tradition, especially in the matters that dealt with "concept of harm". (19) This will be discussed in following chapters.

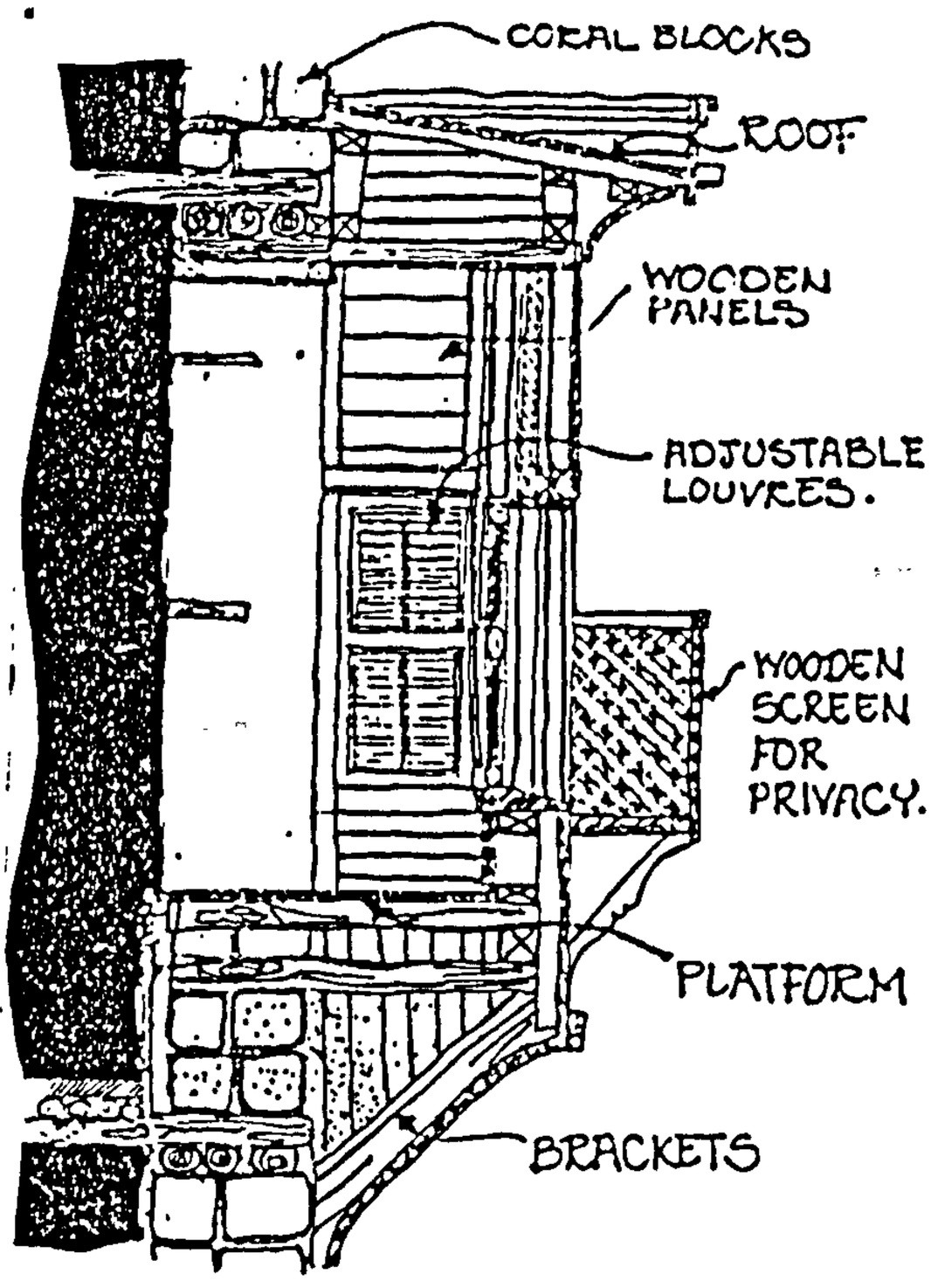
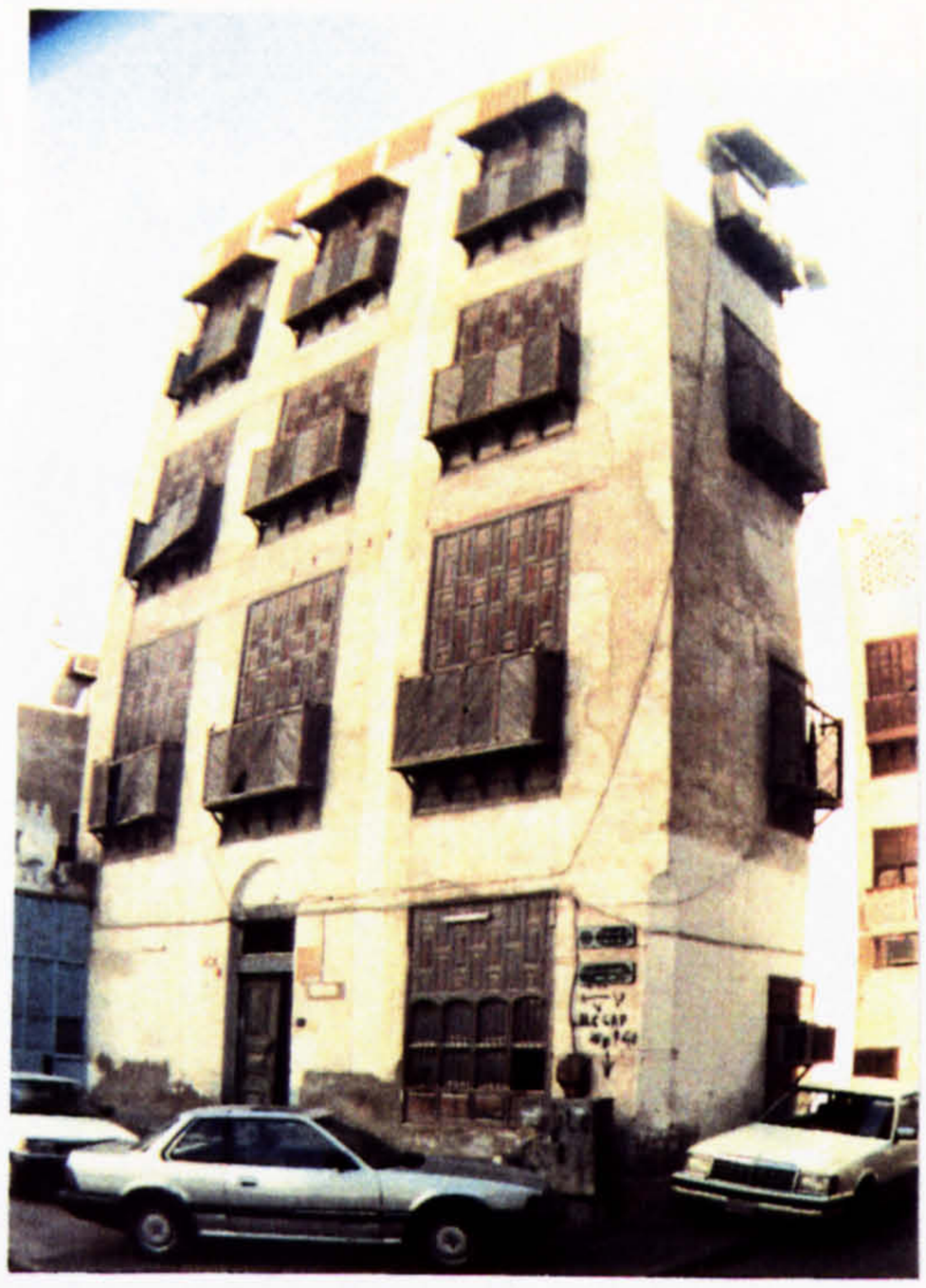
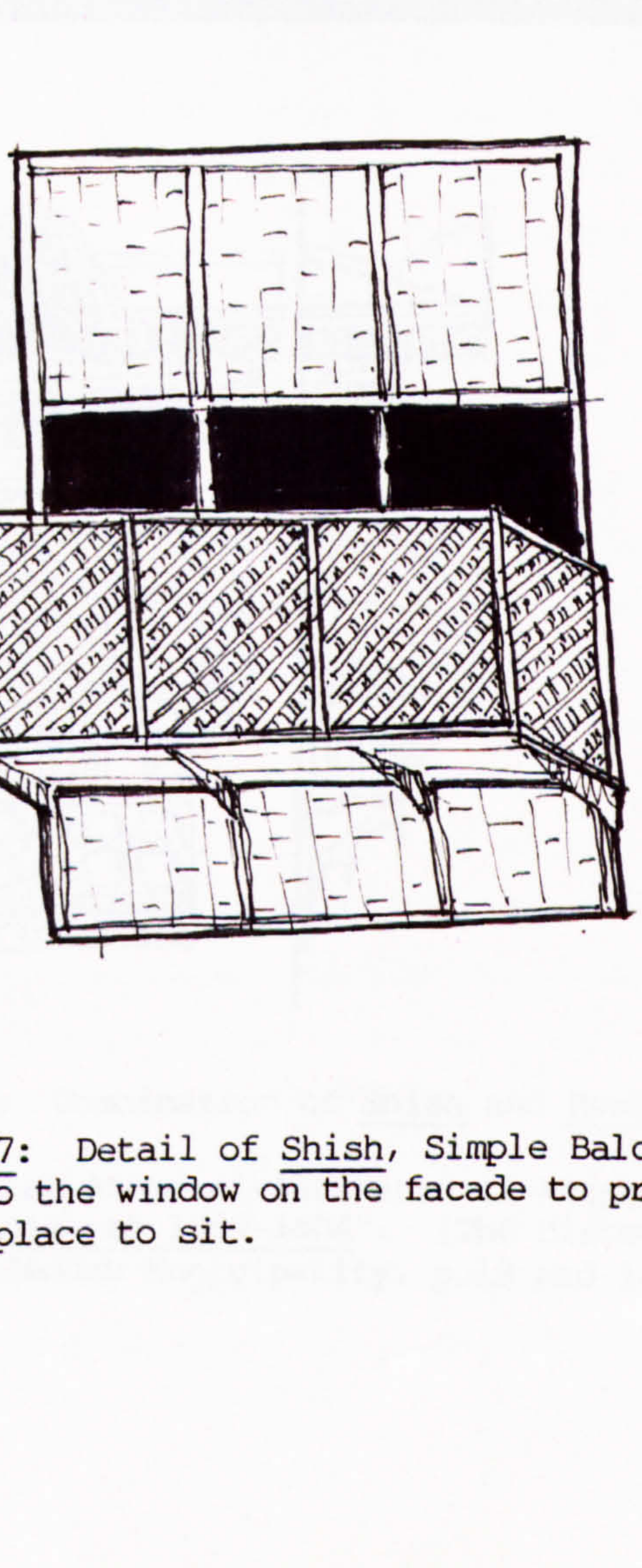


Figure 2.16: Detail of Rwshan

Source: Ashraf, S., 1983





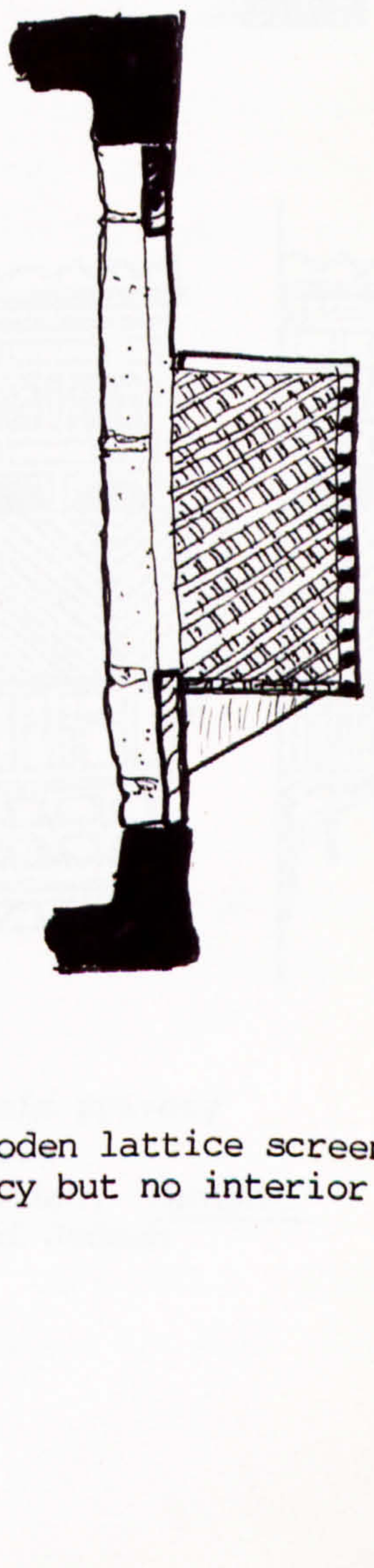
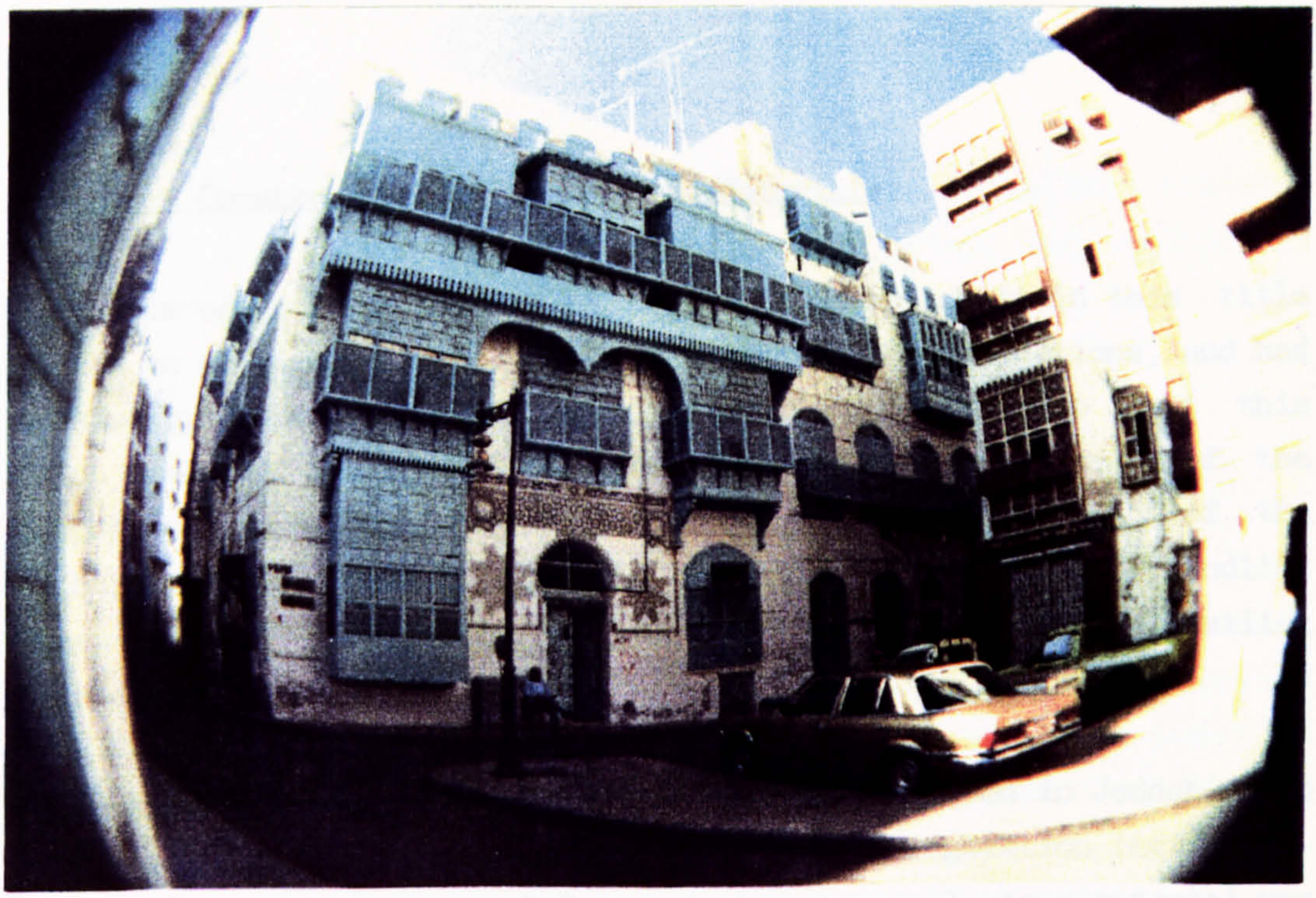


Figure 2.17: Detail of Shish, Simple Balcony with wooden lattice screen attached to the window on the facade to provide privacy but no interior alcove or place to sit.



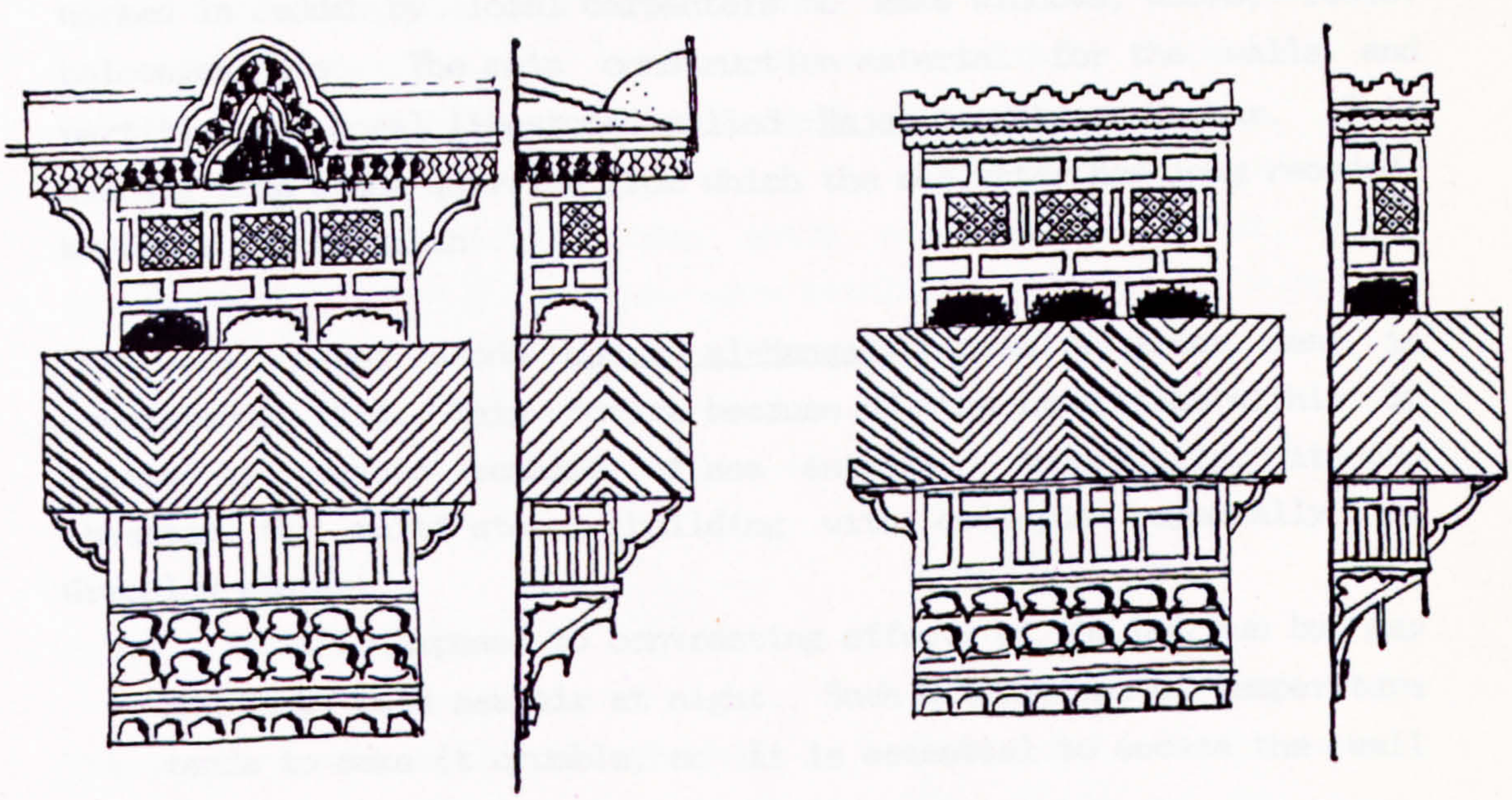


Figure 2.18: Combination of Shish and Rwshan to maintain privacy

Source: Maktab Athad al-Astsharyn ll-Astsharat al-Handsiah, "Mantkat Jeddah al-Tarikhyah 1399-1404". (The Historical Area of Jeddah 1979-1984), Jeddah Municipality, p.13 and 14.

2.3.6 Construction Techniques and Materials

Al-Mu^{c}ilm was a local Master Builder. In order to attain this title he had to go through many stages of learning and examinations, and had to have practised in Jeddah for many years. (20). It is no doubt this which qualified him as a native to understand the social needs of the people, while, at the same time, giving him an understanding of the construction materials in the area and the best techniques of handling these materials according to the constraints of the prevailing technology and climate.

Local natural construction materials were very limited in Jeddah's old town owing to its coastal location and lack of vegetation (eg wood). Although the main structural Hajar al-Mangaby coral stone material was found locally, wood had to be imported from Java and India. This was worked in Jeddah by local carpenters to make windows, doors, roofs, balconies, etc. The main construction material for the walls and partition was coral limestone, called Hajar mangaby or Kashur. This was dug from stone quarries from which the sea water has long receded, known as 'al-Mangabah'.

This local coral stone Hajar al-Mangaby varies a great deal in consistency. (21). This occurs because of the impurities within it created by organic remains of sea animals. Accordingly, it can threaten the multi-storey building with collapse especially as Greenlaw states:

> "..if it is exposed to contrasting effects of the hot sun by day and damp, cold sea air at night. Such alterations of temperature tends to make it crumble, so it is essential to encase the wall in plaster" (22),

At the same time, the stone had a tendency toward erosion, owing to the existence of lime Ca Co_3 in its chemical composition, which interacted with atmospheric carbon dioxide when rain fell, thus causing the erosion. (23). On the other hand, the local stone was

suitable for hot humid climate conditions as it does not transmit heat, thus preserving coolness inside a building and then tending to absorb moisture.

2.3.6.1 Walls

To benefit from the use of this available stone for bearing walls, the local master builders developed a technique to strengthen the stone and to overcome the deficiencies of its characteristic. Horizontal wooden beams were added over each five block course, and keying cross-pieces (Figure 2.19 and 2.20), to guarantee an equal balance of load distribution over the wooden beam. (This system is known loosely as tagaliat, and means 'to carry load', and wood called gandal which was imported from India) (24). Using this system, if there are any blocks showing erosion, these can be easily replaced with new ones, without affecting the structure. In addition, in order to protect the vulnerable lime-stone, the walls were coated with a thick layer of lime-based plaster known locally as nurah. (25).

Although the horizontal wooden beams over each 5 block course (approximately every 1 - 1.20m) were mainly for structural purposes, they consequently added more beauty to the traditional building by breaking the smooth white wall surface, and balancing the building height with a fine appearance of a clear wooden textured horizontal line.

2.3.6.2 Foundations

The local master builders, who had no background in architectural drawing, drew the house plans - which were decided by the size, position and orientation of the site - directly on the site with the existing owner, and any change in plans was done immediately on the site.

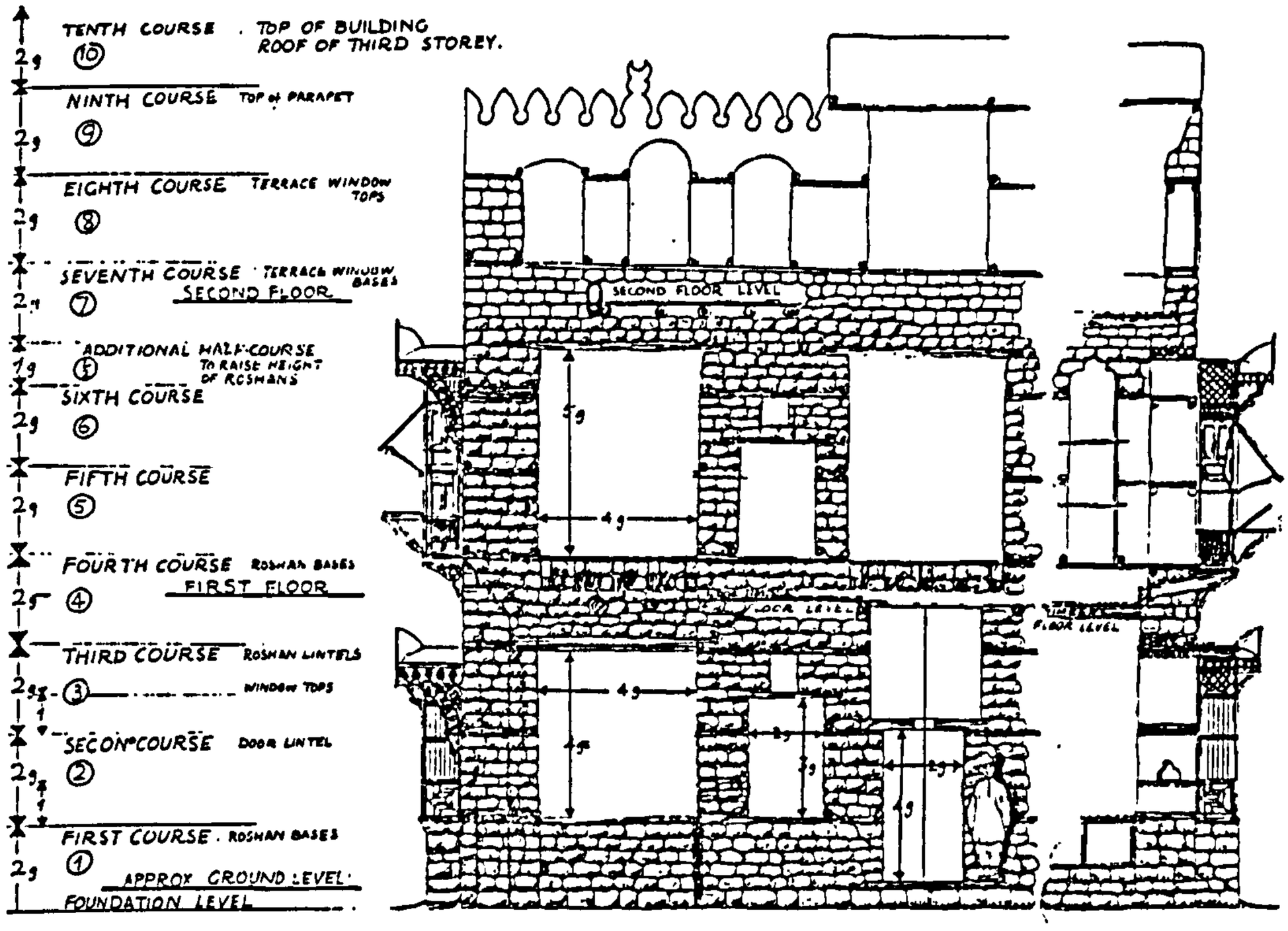


Figure 2.19: Method of building Suakin house in Sudan, similar to the method of building Jeddah traditional houses

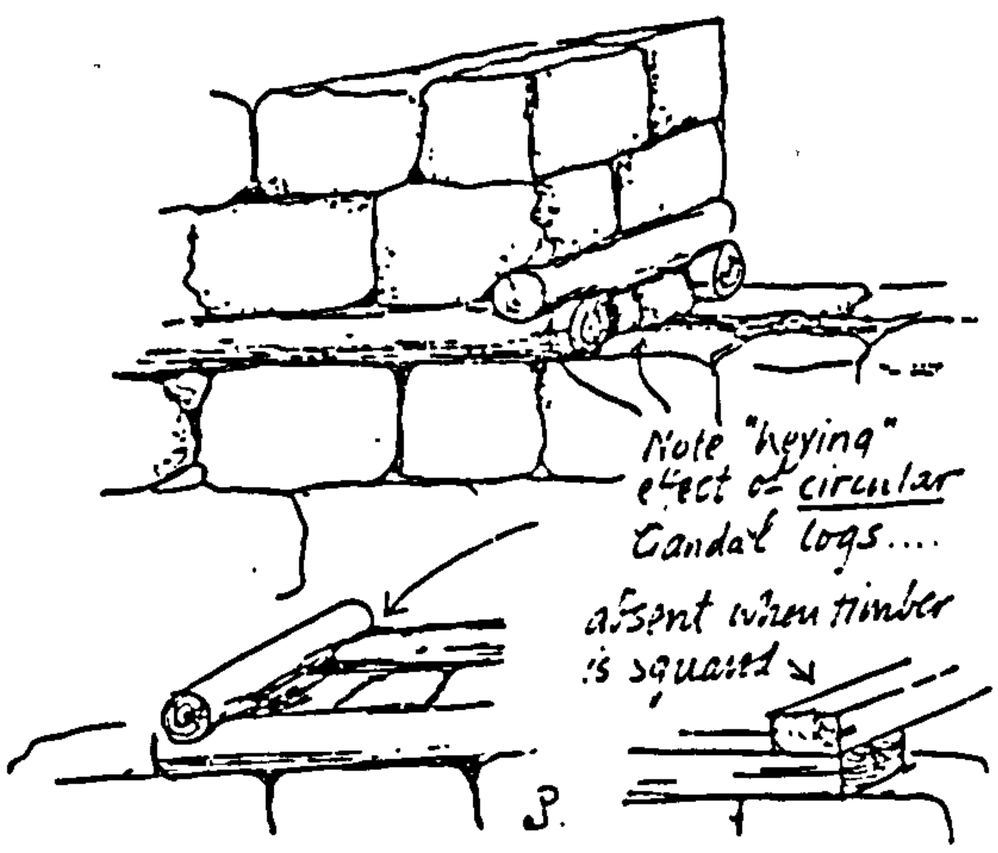


Figure 2.20: Detail of Tagliat

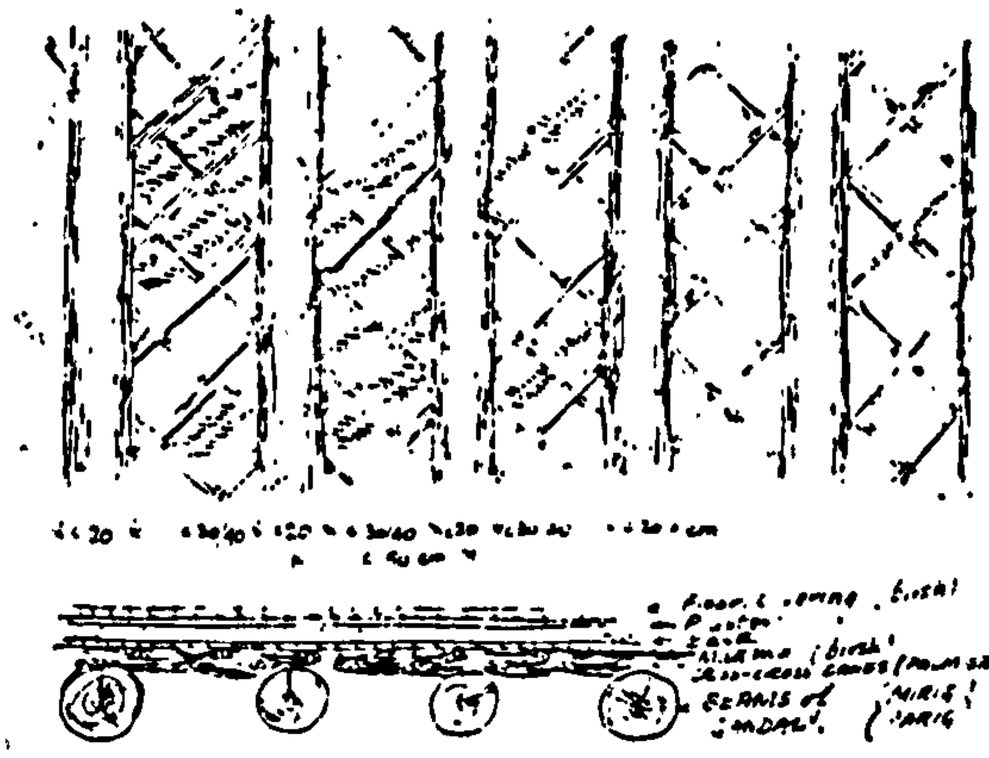


Figure 2.21: Detail of floor and roof construction

Source: J.P. Greenlaw, "The Coral Building of Suakin". Oriel Press, Stocksfield, London, Boston, 1976, p.89,90

First, the building foundations of the bearing walls of different rooms and staircase(s) were drawn on the site, then the digging would start to reach to the rough surface of coral-rock, usually to a depth of 1.50m. The strip foundations were constructed from the local solid rock or flattened coral stone and the foundations excavation filled with one or two courses of masonry of this material.

2.3.6.3 Roof and Floors

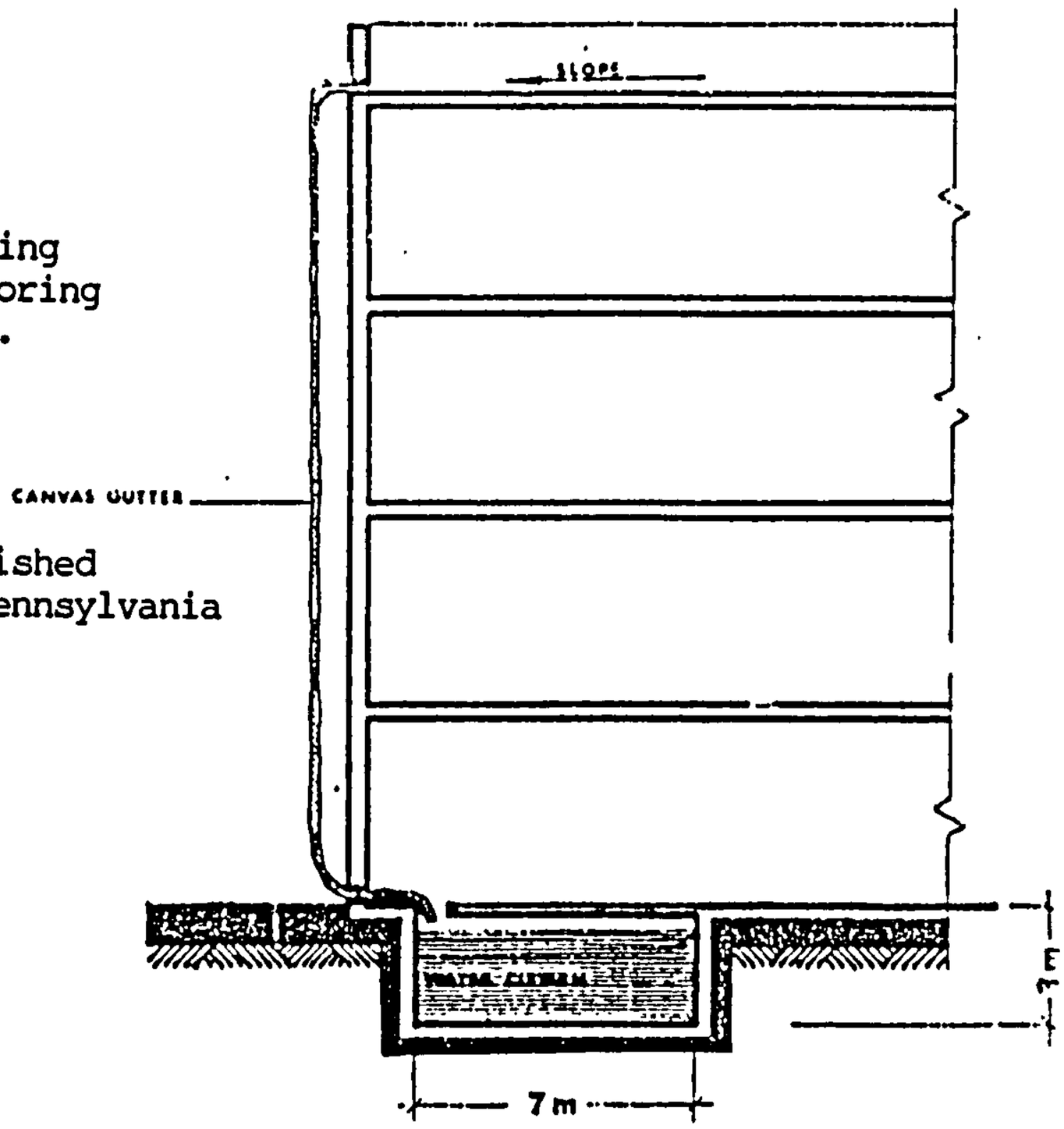
The bearing walls, as described previously, were built directly over the foundations to carry the roof and flooring load. The floors were constructed from wooden beams, thus the room sizes were limited by the length of available timber to span a room. The floor beams were laid about 30-40cm apart and were let into half the thickness of the wall, which reduced the thickness on the inside by about 15cm. A layer of thin canes or sticks 2-4cm thick was laid diagonally across the beams, in threes and fours, and crossed by another layer laid across them, forming a diamond pattern between the beams as shown in Figure 2.21. Then a layer of closely-woven palm matting was laid over the sticks and covered with sandy earth, on top of which a flooring cement about 15 cm was applied. The roof was built with the same method as the floors but with thicker layers of plaster-cement and sloped slightly outwards to drain off any rainwater.

The master builders invented a system to utilise the rainwater on the roof, especially with the small amount of rain in the region. The rainwater was collected at a certain point in the roof by means of a sloping system. The collection point was connected by a down pipe to a Sahrig (water tank) - built from coral masonry and well placed for keeping the water - beneath the building; the water is used for drinking, cooking and washing. (25). (See Figure 2.22).

The roof was to be used for social activity, sleeping area and playground for the children or as mainly open space on the building, owing to the rarity of a courtyard in the traditional houses. The

Figure 2.22:

Traditional System of utilising rainwater on the roof and storing it in an underground cistern.

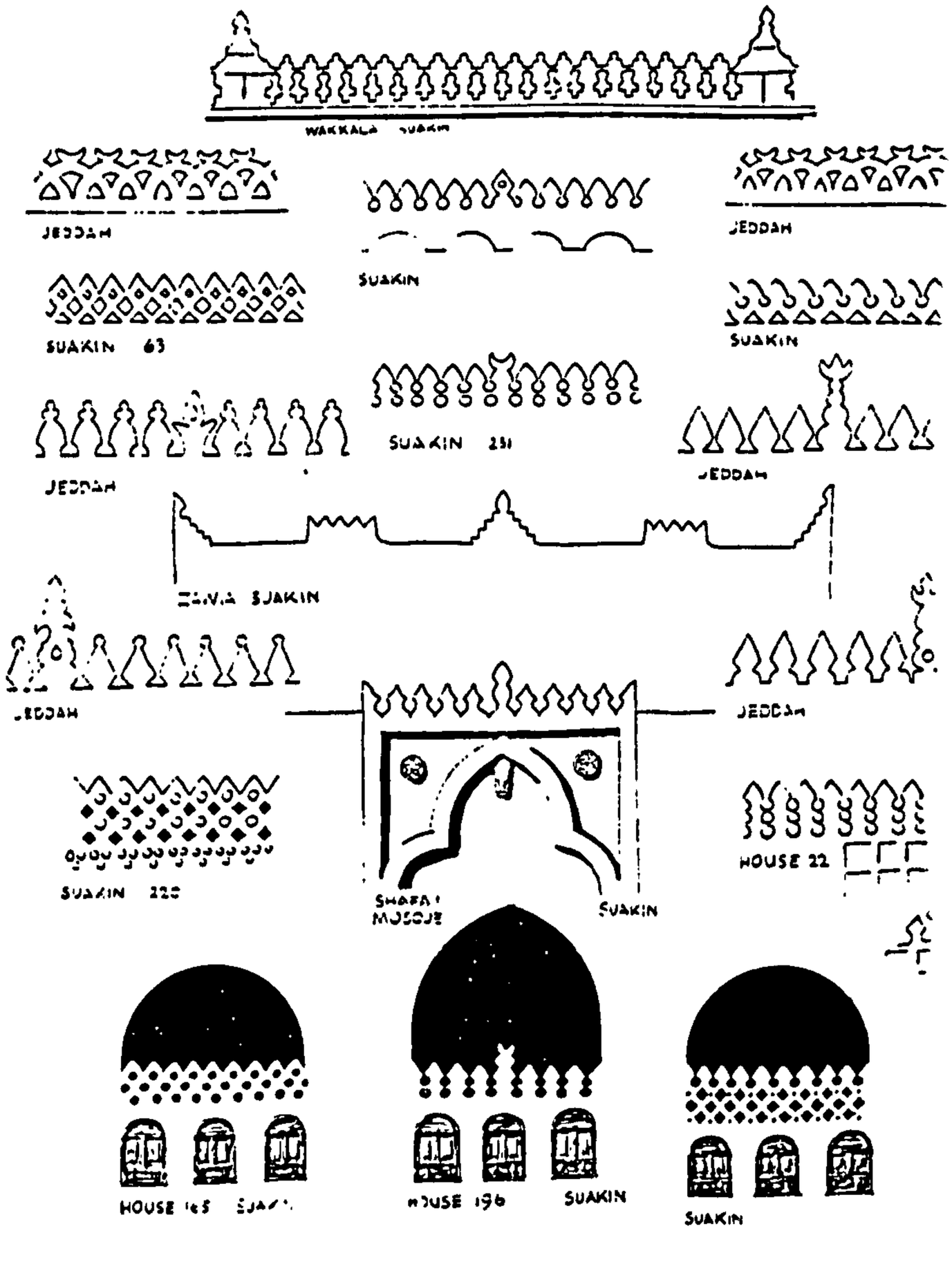


Source:

A. Bokhary, Jeddah: Study of Urban Formation". Unpublished Ph.D Thesis, University of Pennsylvania 1978, p.184

Figure 2.23:

Different intricate patterns on top of the roof parapet.



Source:

J.P. Greenlaw, op.cit p.93

roof parapet was raised to human height with openings covered by a wooden lattice for privacy and ventilation. In some houses, the parapet was covered by different intricate patterns and built of carved coral blocks. (See Figure 2.23).

2.3.6.4 Staircase(s)

The staircase(s) as a necessary element in the multi-storey building, was constructed in an ingenious and simple way to serve both functionally and climatically. Mainly the staircase was located at the back, in the southern side of the building, where it would act as a ventilating shaft for the whole building, and was designed in a certain way to maintain maximum privacy for the inhabitants. (26). The staircase was built around a rectangular masonry column of 1.5m length and 60cm width. The steps were constructed from unplaned round gandel log and placed side by side and embedded in one side to exterior or internal walls and the other sides on the central column. Then the wooden steps were covered with a layer of mortar (see Figure 2.24). The stairs were lit in the day through strong grilles half way up each floor, and at night from lamps placed in little niches in the middle of each flight. (27).

2.3.6.5 Sanitary or Hygienic System

The sanitary system was simple, but economic functional design and a similar concept is still applied today. All the toilets on each floor were located on the back side of the building, on top of each other. The waste was discharged into a vertical shaft of masonry, smoothly plastered and connected with the toilets. This vertical shaft locally known as gasabah was extended up above the roof and was opened for ventilation to dispose of bad smells, and down to the biarh (septic tank) near to the house and away from the sahrig the (water tank). The vertical plastic or clay pipes are used today to function as the gasabah (see Figure 2.25).

Figure 2.24:

Building system of staircase in Suakin houses in Sudan, similar to those in Jeddah.

Source:

J.P. Greenlaw, op.cit p. 91

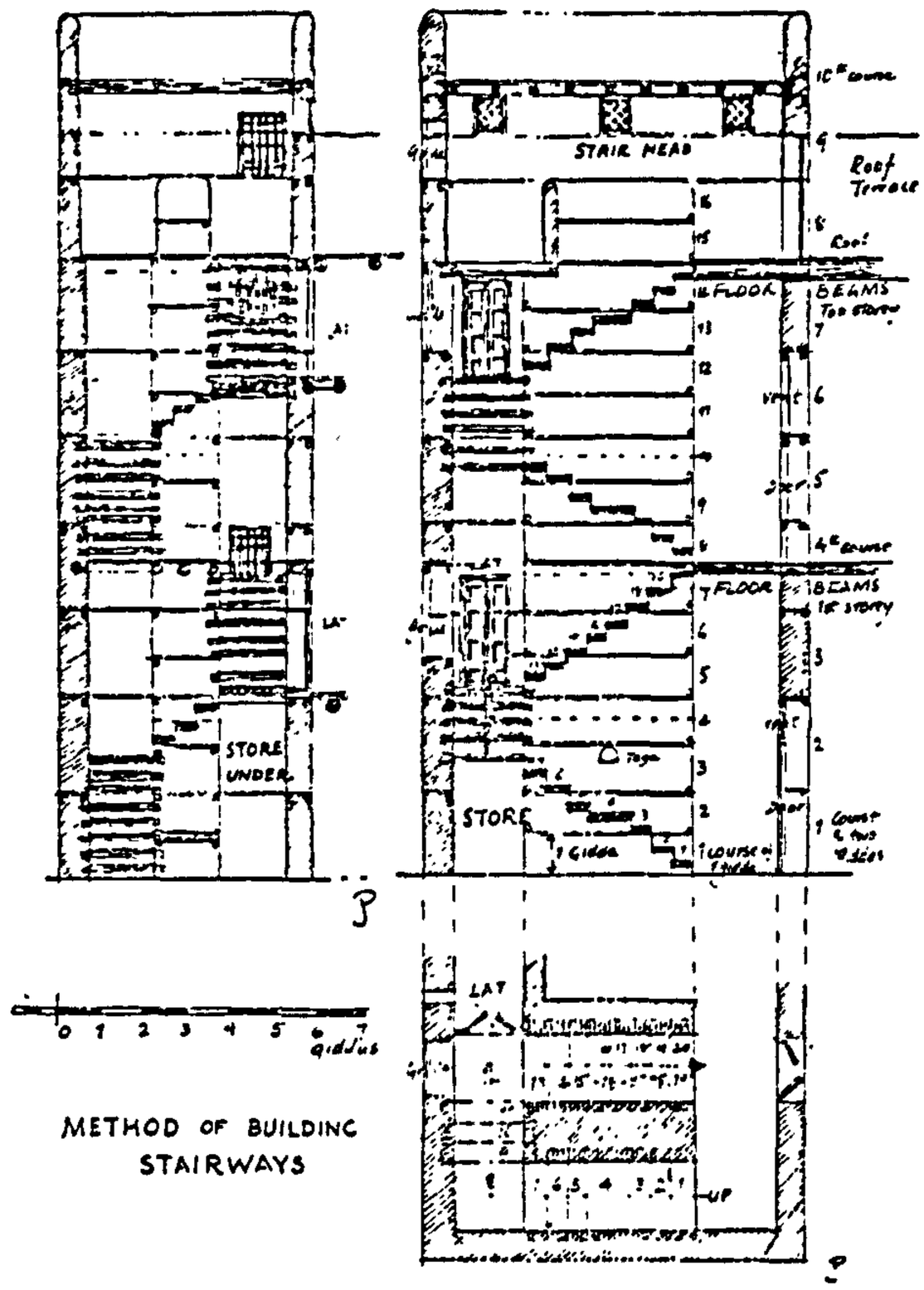
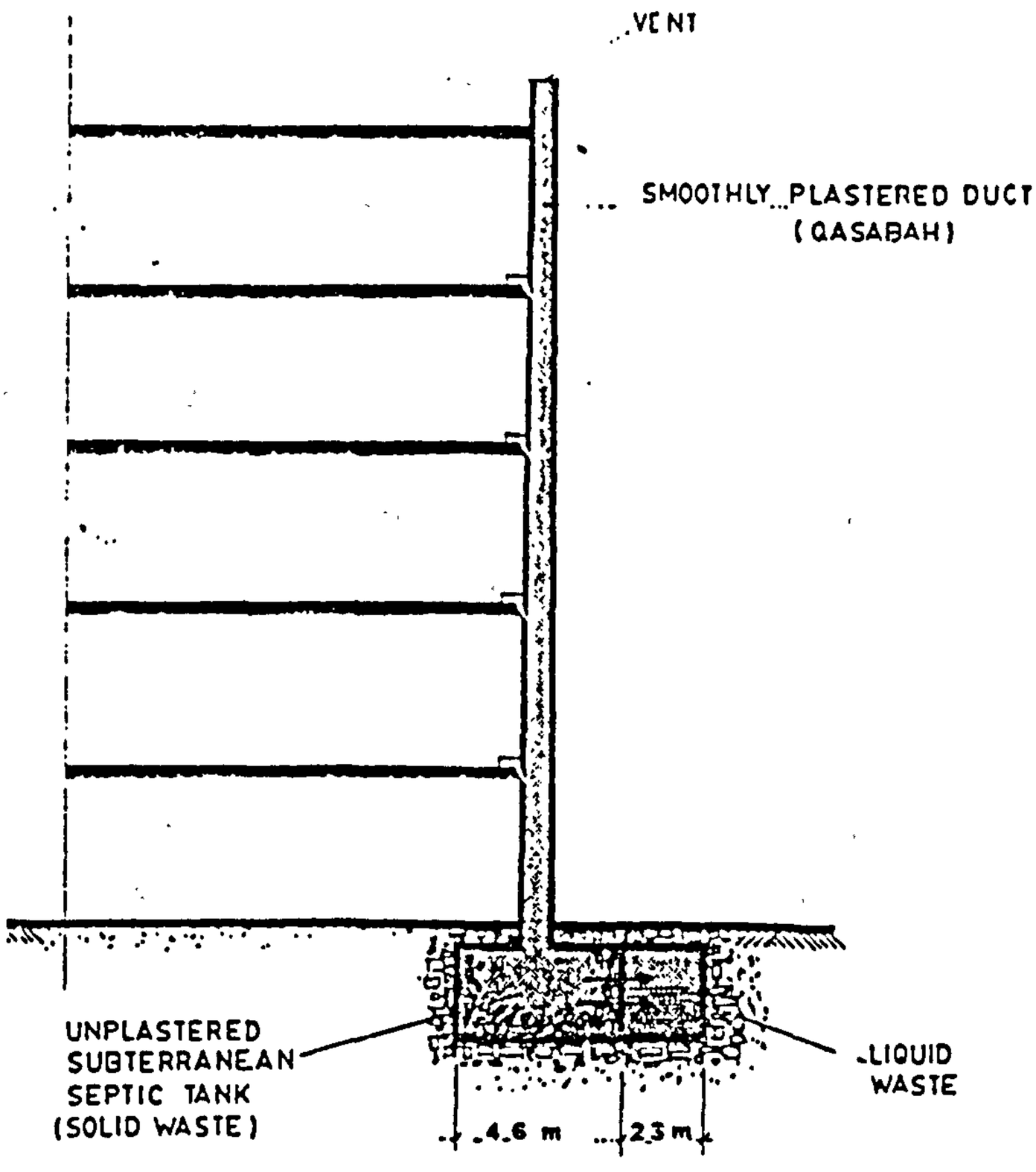


Figure 2.25:

Diagram of the bathroom and sewage facilities in the traditional houses, showing plastered sewage shaft (gasabah), the vent and the subterranean septic tank.

Source:

A. Bokhary, op.cit, p.258



However, from the above discussion, one can recognise lessons from the past. The surrounding environment can and must be utilised to the maximum benefit of the human being,even if the local materials are limited, or even if there are deficiencies in the quality of these materials. These must not discourage or stop the human minds - as a gift from Allah Almighty to the human being - to think deeply of how to utilise the surrounding elements to the maximum. It is most important to know the environmental characteristics of the surroundings and at the same time feel deeply the need to utilise them.

This will help the human mind to operate correctly and wisely to invent techniques for the maximum benefit of the surroundings as the local master builders proved to us. The saying "the need is the mother of invention" is true.

2.3.7 Traditional Houses: A Response to Climate

The prevailing climate of Jeddah is harsh, being generally characterised by heat, humidity and a scarcity of rainfall. In order to cope with the climate, and to provide a balance with the socio-cultural requirements of the inhabitants, certain measures were developed in the traditional houses of Jeddah.

2.3.7.1 The Grouping of the /Buildings

The height and compactness of the buildings, together with a minimum of one party wall, and narrow irregular streets between the buildings, decrease the amount of the sun's rays shed over the building envelope, at the same time creating reciprocating shade between the buildings. Also, the narrow, irregular streets help to decrease the solar air temperature surrounding the building envelope, owing to the penetration and infiltration of sea breeze through these streets. Thus, mashrabiyah, which covered wide windows, were projected into the street to catch the sea breezes.

2.3.7.2 Building orientation

The winds prevailing in Jeddah played a major role in determining the preferable building orientation. As discussed in Chapter 1, the prevailing north-westerly, winds which blow from the sea, bring the sea breeze into the built area, while the southerly, south-westerly and south-easterly winds are usually accompanied by a rise in temperature and humidity, which causes occasional sand storms and rainfall owing to the effect of the hot Sudan land northwards to the region. Thus the preferable traditional house orientation was to the west and to the north. Accordingly, most of the rooms, the building's facades of wide windows covered with mashrabiyah, the openings of the staircase on the roof, and the kharajah (open terrace to the sky surrounded by wooden lattice), all preferred to be oriented to the north and the west in order to catch the sea breeze. The services, including kitchen, toilets, storage, staircase, party wall were preferred to be oriented to the south and east directions.

The central courtyard was also used in Jeddah's traditional houses, but they were very rare. In addition, to its function of maintaining privacy in the building, the courtyard also functioned as a temperature regulator, especially when it had a fountain and trees in the court, offering a tranquil and cool atmosphere that contrasted sharply with the hot, burning outside environment in the sun. (See Figure 2.26). Thus some rooms surrounded the courtyard to gain coolness from it.

2.3.7.3. Building Materials

Using a coral stone material for the building envelope helped to minimise the heat transfer to the building, owing to its thickness and porosity. Also coral stone helps to minimise the relative humidity, characteristic of Jeddah's climate as a coastal city, because of its capacity to absorb the excessive air moisture which helps to minimise relative humidity.

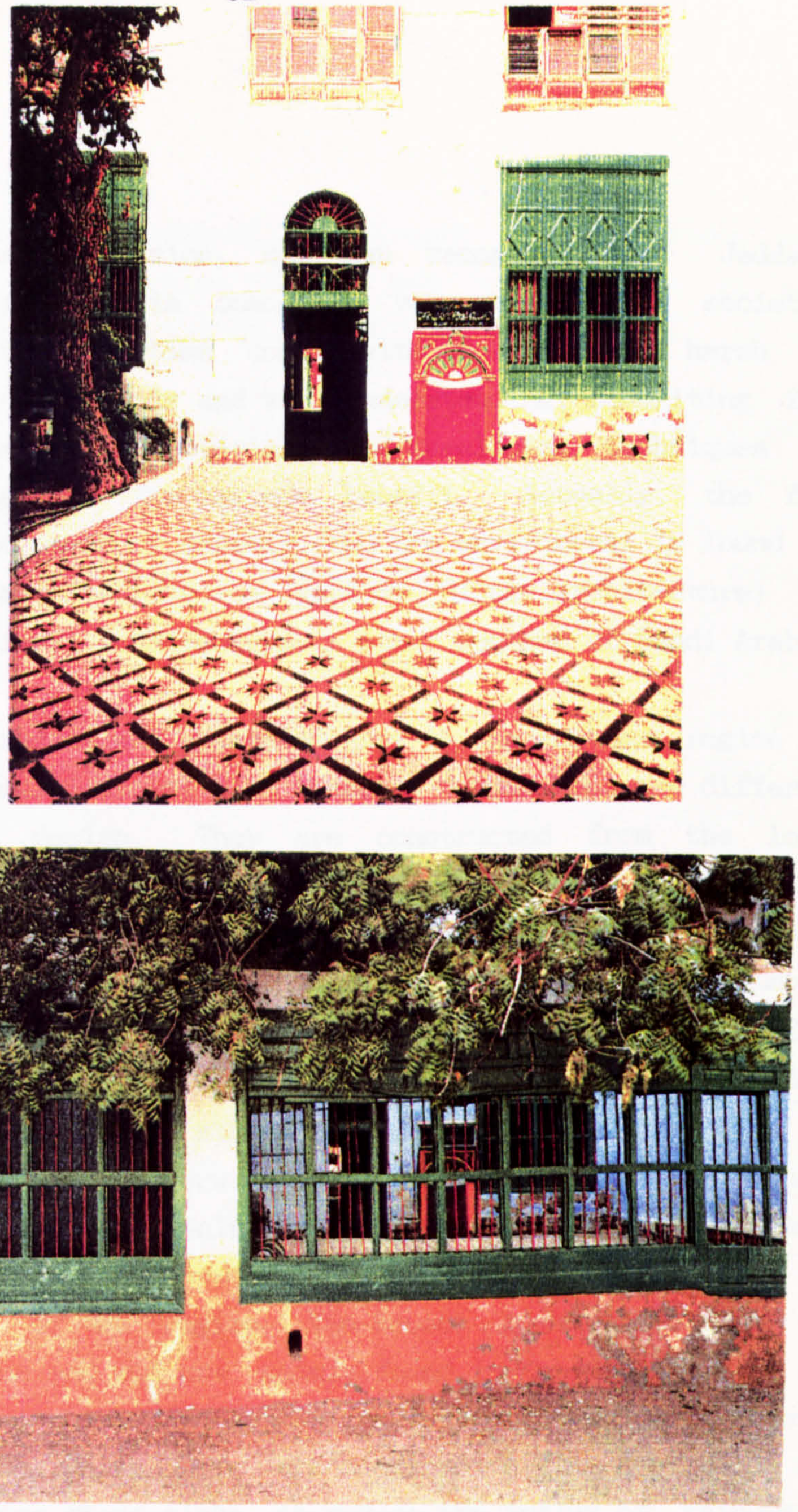


Figure 2.26: Charming, cool courtyard in a traditional house in Jeddah. This courtyard is customarily used for prayer.

Source: Stacy International, "Jeddah Old and New". London, 1980, p.44-45

From the previous discussion, one can recognise that Jeddah's traditional architecture is concerned very much with society's socio-culture, at the same time coping with the prevailing harsh hot and humid climate very wisely and with understanding, benefiting from the available construction material, and developing techniques for using this material to its maximum benefit. Actually, the fine balance between the needs of society, and the environment is found not only in Jeddah's architecture (as part of Hijazy architecture) but also in all traditional architecture in other regions of Saudi Arabia.

For example, the traditional houses of Asir in the southern region of Saudi Arabia, are multi-storey like those of Jeddah, but are different in character and design. They are constructed from the local material, stone, mud, or a combination of the two. To cope with the prevailing cold climate with heavy rain, the walls are thick, with limited openings and gradual inward-sloping walls that impart stability (see Figure 2.27). In the houses, which are built from sun-dried mud, a horizontal row of protruding stone slabs is added between each layer. These 'string courses' break up the flow of rainwater, which would otherwise dissolve the mud. The houses constructed from stone are mainly found in the high mountains, where they were built to resist the violent winds which frequently occur in the high mountains of the region. The houses constructed from the combination of stone and mud are mainly found in the foothills; the ground floor is constructed from stone to sustain the downhill flow of rainwater, while the floors above are constructed from sun-dried mud brick with protruding stone slabs to reduce the influx of rainwater. (29).

On the other hand, in the inland areas such, as Najd in the centre of Saudi Arabia, most of the traditional houses are low rise, (two to three storeys) with a central courtyard, or courtyards, to maintain privacy and to function as a temperature regulator. The heavy walls are constructed from mud, with small limited openings, so that the building functions as a thermal mass to cope with sand storms and hot

winds. Surrounding the courtyard, a semi-open shaded corridor runs along the second floor to allow the dust and hot air to be filtered and cooled off, before entering the rooms (see Figure 2.28).

Also the courtyard houses are predominantly used along the coastal plain in cities like Dammam and al-Khobar, and are rarely used in Jeddah; they are different in character from the houses in Najd owing to the difference in climate. The courtyard houses in the coastal areas are built from coral stone, which is found in the coastal plain and off-shore, and helps to absorb the excessive air moisture prevalent in these areas. Unlike Najd courtyard houses, the cross ventilation is concerned with minimising humidity. Thus construction techniques were developed for the external wall and roof parapet (as shown in Figure 2.29) to allow and provide cross ventilation, while, at the same time, being able to prevent dust and sand from entering during times of high wind or sand storms. (30).

As has been shown, the traditional houses in different parts of Saudi Arabia have their own characteristics and design to balance the socio-culture of the society and the environment. In contrast to this, contemporary housing is all the same, and bears no relationship to the socio-culture, or the environment, as will be discussed in the following chapters.

2.4 SUMMARY

This chapter dealt with the urban dwelling of old Jeddah in terms of its urban fabric which was characterised by organic growth, with narrow, shaded, human-scale pedestrian streets, compatible with the prevailing climate, mode of transportation and social integration.

Also in this study, the discussion was extended to identify the traditional dwelling, its relationship to the outdoor space and abutting neighbour, which was based on the concept of "not to harm". At the same time the study clarified the internal spatial organisation of the dwelling and how it conformed with Muslim local family needs.

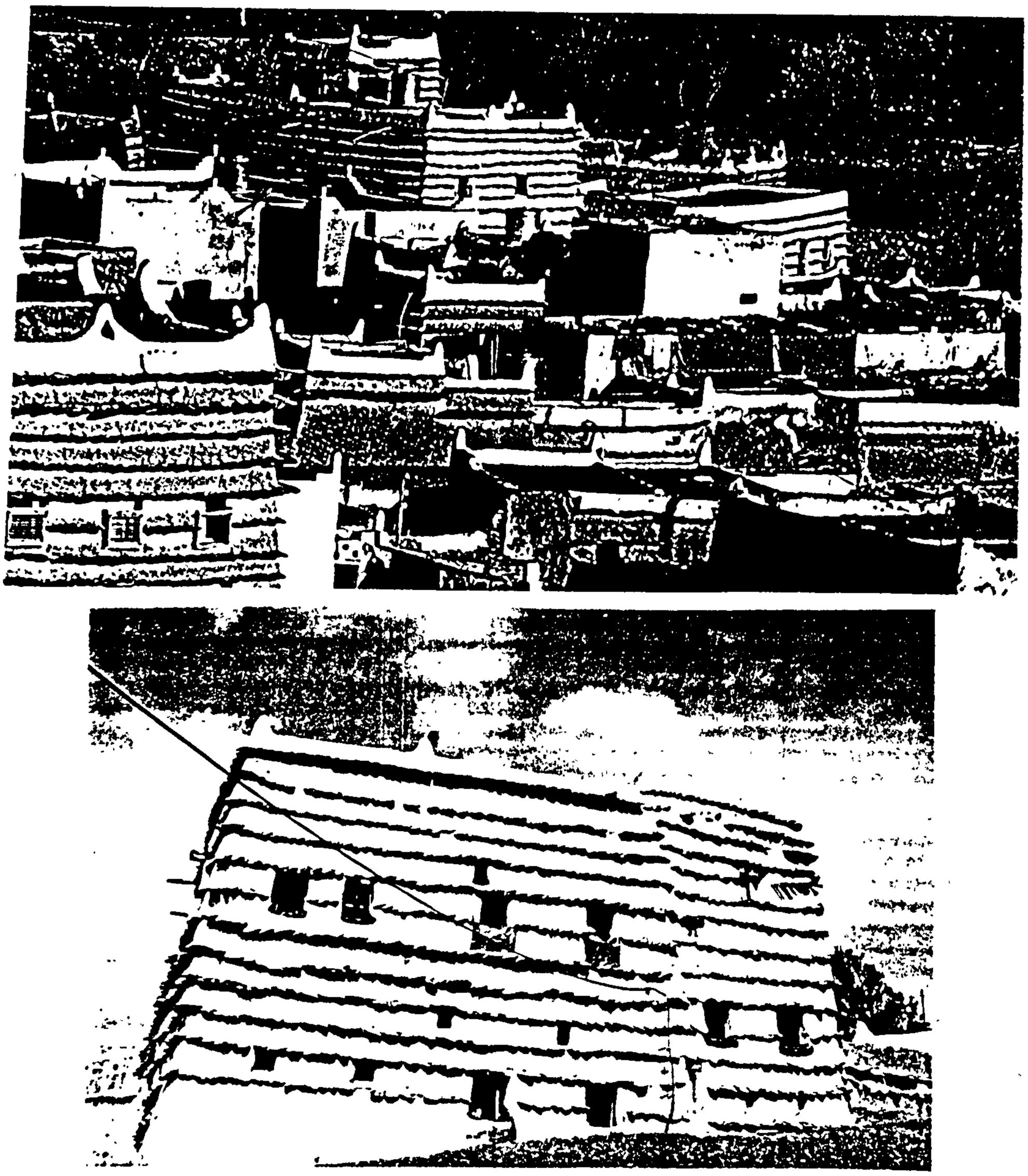


Figure 2.27: Traditional Houses of Asir, inward sloping walls with a horizontal row of protruding stone slab is added between each layer on houses built from sun dried mud to cope with prevailing heavy rain.

Source: Kaizer Talib, "Shelter in Saudia Arabia", St. Martin's Press, New York, 1984, p.104.

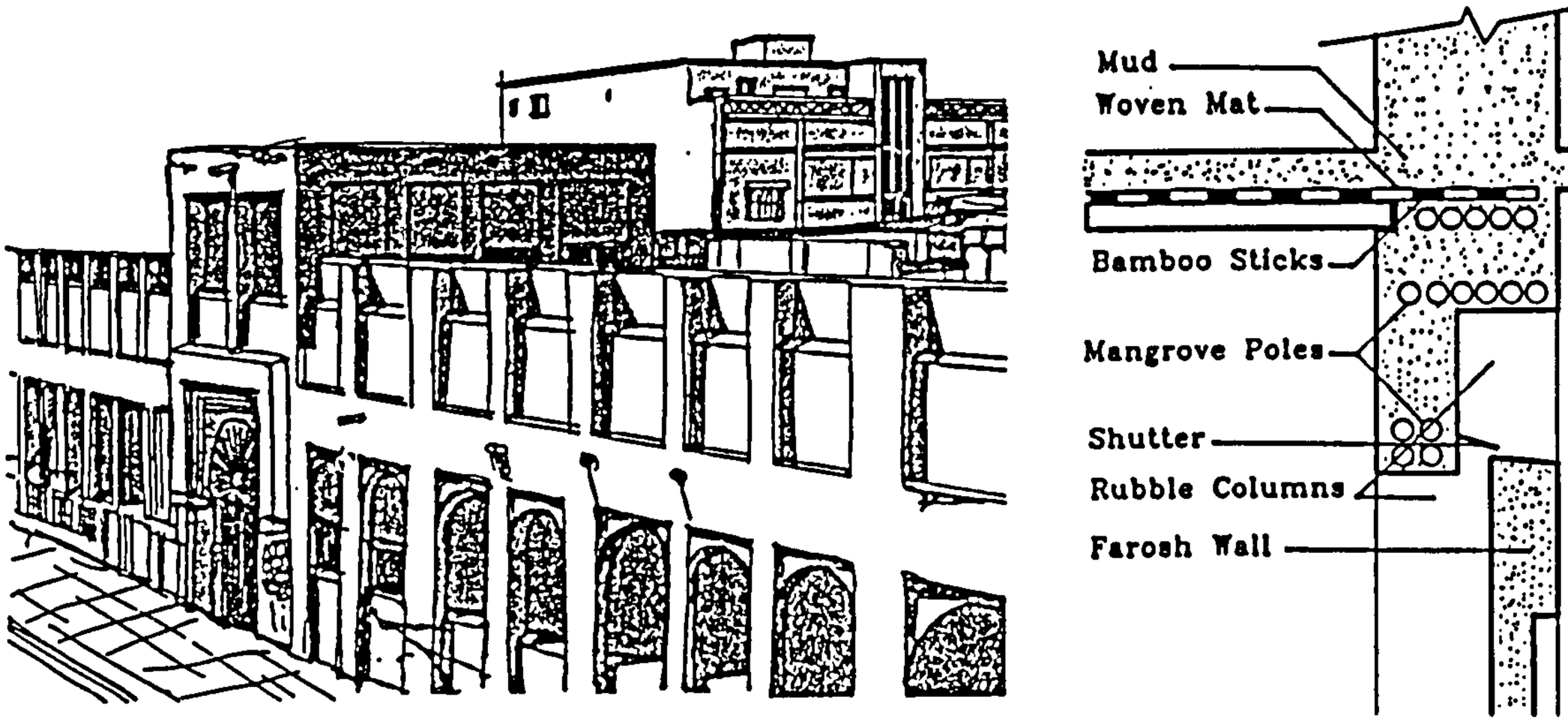


Figure 2.29: Traditional House in the Eastern Province. Section in the wall shows the Badgir system to control the air flow by using a sliding wooden shutter, which can be closed during sand storms.

Source: Ibrahim al-Naimi, The Potential for Energy Conservation in Residential Building in Dammam Region, Saudi Arabia (unpublished Ph.D Thesis, University of Newcastle, 1989) p.65



Figure 2.28: Traditional House of Najd, surrounding the courtyard, a semi-shaded corridor runs along the second floor to allow the dust and hot air to be filtered and cooled off before entering the room.

Source: Fadan Y.M., The Development of Contemporary Housing in Saudi Arabia. (Unpublished Ph.D Thesis, MIT, 1983).

The study also manifested that "necessity is the mother of invention". Thus while the local construction material had some deficiency in quality, it was suitable for the prevailing climate, and the local master builders developed a construction technique and were able to benefit from the local materials. Additionally, the study demonstrated that borrowing construction techniques from other countries did not harm the society, but, in fact, enhanced it, especially where the techniques borrowed were far-sighted and did not conflict with the socio-culture of the society.

The built environment of old Jeddah demonstrates the wealth of experience of our fore-fathers, based on trial and error. It is an open book from which we should benefit in future.

In the following chapter, the study will concentrate on the urban dwelling outside the city wall, up to the time of the enforcement of the Master Plan of 1962. We will learn about the urban fabrics and the dwelling types which appeared in this area, concentrating on identifying the influential factors, their emergence, and to what extent they affected or conformed with the socio-culture of the society.

Footnotes - Chapter 2

1. A.Y. Bokhary (1), "Jeddah: A Study of Urban Formation". Unpublished Ph.D Thesis, University of Pennsylvania, p.157.

2. Angelo Pesce, "Jeddah: Portrait of an Arabian City". Falcon Press, 1976, p.107-108.

3. The Muhtasib of Jeddah (see Chapter 8 of this Thesis to recognise the differences between the position of Muhtasib and Mayor in administrating the built environment) had keys for the City gates, and he was responsible for controlling these gates in terms of their opening and closing etc, as mentioned by Abdul-qadus al-Ansary, History of Jeddah, p.407.

4. A.Y. Bokhary (1), op.cit, p.173).

5. Angelo Pesce, op.cit, p.107.

6. See Chapter 9 of this Thesis for more details about the set-backs and their effect on the urban housing.

7. The rules of extending the projections into the streets are discussed in detail in Chapters (6 and 8) of this Thesis.

8. An interview with the Deputy Mayor of Jeddah City, in special edition for Jeddah, Iqra Magazine, 1981, p. 130. He mentioned that respecting the neighbour's feeling made the inhabitants of Old Jeddah collecting the rubbish in certain places by themselves and every person was responsible for cleaning and sprinkling water on the street in front of his house. Thus, one could not find any rubbish thrown from windows as what frequently happens today. The author of this thesis finds that the carelessness of today's inhabitants for making their streets tidy and clean because the responsibility of cleaning the streets is lifted totally from the inhabitants to the municipality. For more detail of the effects of shifting the responsibility in the built environment see, Jamel Akbar, Responsibility and the Traditional Muslim Built environment. Unpublished Ph.D Thesis, M.I.T., Cambridge, Massachusetts, February 1984.

9. Reported by Bokhary and Muslim, See 'Nozht al-Motgeen bi Sharh Riyad al-Salheen', p.260.

10. A.Y. Bokhary (2) "Cimaret Jeddah al-Qadinah : al-Khasas wa al-Tatwar" (Old Jeddah's Architecture: the Characteristic and the Development). Published in Iqra Magazine, The Special Edition about Jeddah, 1981, p.44.

11. Islam encourages the good neighbour relationship; Prophet Mohammed, peace be upon him, says: "To God, the best friends are those who are good to each other and the best neighbours are those who are good to each other". al-Termedhi via Abdullah Ibn ʿumar, Fazlul Karim, "Al-Hadith (The Prophet Tradition): an English translation and Commentary of Mishkat-ul-Masabih". Vol.1, p.249.

12. A.Y. Bokhary (2), op.cit, p.28.

13. See, the interview with older people in Jeddah about the past, "al-Mainah Newspaper, especially edition about Jeddah Bwabat Al-Haramin al-Sharifan", (Jeddah the gate for the two Sacred Places), 1408,1988, p.33-35.

14. Interview with Sheikh Saleh Kyal, "Iqra Magazine, The Special Edition about Jeddah", 1401H, 1981AD, p.175.

15. See Chapter 7 of this Thesis for more detail about the stipulation not to harm the neighbour or passers-by. Also, see the Land Deed of plots in the old town of Jeddah, Appendix 1.

16. See Part II of this Thesis for more detail about the differentiation between Prescribe and Proscribe regulations and their effect on the urban housing.

17. See Chapter 6 of this Thesis for more detail about the Islamic concept of "Mahram and non-Mahrm".

18. See Chapter 10 "The Conclusion" about the effect of the colour white on the built environment.

19. More detail about 'concept of harm' in Chapter 7 of this Thesis.

20. More detail about the stages of learning until to be Muʿalim Master Builders, see A.Y. Bokhary "Jeddah: A Study of Urban Formation". Op.cit, p.245.

21. Jean-Pierre Greenlaw, "The Coral Buildings of Suakin", Oriel Press, Stocksfield, London,Boston, p.87.

22. Ibid, p.87.

23. A.Y. Bokhary (1), op.cit, p.245.

24. Jean-Pierre Greenlaw, op.cit, p.88-89. He describes the building methods of the Coral houses in Suakin, Sudan, which were the same building methods used in Jeddah owing to their close proximity and the same climatical conditions. Jeddah is located on the East side of the Red Sea, while Suakin on the West side of the Red Sea.

25. A.Y. Bokhary (1), op.cit, p.183. Also see same author in Igra Magazine, op.cit, p.48.

26. Yousef Fadan, "Traditional Houses of Makkah: The Influence of Socio-Cultural Themes upon Arab-Muslim Dwellings". Paper presented on the book of the Symposium on Islamic Architecture and Urbanism, Damman, January 5-10, 1980, p.318. Also see J.P. Greenlaw, op.cit, p.91.

27. J.P. Greenlaw, Ibid, p.93.

28. A.Y. Bokhary (2), op.cit, p.48.

29. Yousef Fadan, op.cit, p.52.

30. Ibid, p.50.

CHAPTER 3

CHAPTER THREE
JEDDAH'S URBAN DWELLING OUTSIDE THE CITY WALL BEFORE THE MASTER PLANS

3.1 INTRODUCTION

In order to determine the characteristics of the physical and social qualities of the urban dwelling outside the city wall up to the present time, the writer seeks to classify the urban dwelling, according to its planning features, which consequently reflect the chronological order of the originality and changes of each planning feature.

Jeddah's urban dwelling in terms of its planning features can be classified into three types:

1. Unplanned, or organic, urban dwelling;
2. Permissive or tentative planning - pre the Master Plans;
3. Comprehensive planning.

In this chapter, the study will concentrate on the organic, or unplanned, urban dwelling, and tentative planning which occurred before the Master Plans. Here the study will determine the factors that affected the emergence of the exotic planning of the grid-iron system and dwelling types of villas and apartments.

3.2 UNPLANNED URBAN DWELLING (QUARTERS), OUTSIDE THE CITY WALL - PRE DEMOLITION OF THE WALL

Before the city wall was demolished in 1947, there were some settlements scattered in various locations outside the wall. These were characterised by organic and uncontrolled development which is why it is characterised as 'unplanned urban dwelling'. Such settlements came into existence before demolition of the city wall, and especially after the exploration of oil in the eastern province,

which brought an increase of revenue after World War II. They have remained with the existence of the Master Plan and the instruments of urban control. These recent unplanned settlements are known as T'^cdiat squatters'. This will be discussed in Chapter 5 in more detail as to how, why and where the squatters exist in the present, in spite of the planning controls according to the Master Plan.

According to the aerial photograph of 1948 (Figure 3.1), immediately after the demolition of the city wall, there were seven nuclei or complete forms of quarters outside the wall:

1) Settlements in the southern part of the city: The aerial photograph shows the complete form of three quarters: Harat Barah, Al-Hindawiah and Al-Bukhariyah.

Harat Barah means 'outside quarter', and is considered to be the oldest quarter outside the city wall. It was first occupied by people originally from Africa, who settled in Jeddah after pilgrimage, or came as migrants in search of a living. Mainly the men, because of their strength, worked in very-hard working industries, such as water porters in the old town, stevedores in the port, or as workers in construction, (in which some were graded, gradually becoming local master builders).

Hart Al-Bukhariyah quarter was originally occupied by immigrants from Burkhara in Russia, and it seemed to be that King Abdulaziz granted a parcel of land to be divided between them under the supervision of their leader. (1). Because of their commercial skills in handicrafts such as leather work, tailoring etc., most of them had shops in the Suq bazaar of the old town.

Al-Hindawiah was first occupied by Indian people.

The aerial photograph of 1948 shows these three quarters. In spite of the different origins of the inhabitants and their income, they were considered as one solid mass, blended and integrated. Later,

immigrants from different parts of Saudi Arabia and elsewhere came to live side by side in these quarters. This homogeneous interaction between the inhabitants is what Islam encourages, as stated in the Quran by Allah.

> "O mankind! We created you from a single (pair) of a male and a female, and made you into nations and tribes, that you may know each other (not that ye may despise each other)...". (2).

2) Al-Nuzlah Al-Yamaniah quarter: This quarter is in the south-east, remote from the old town and south of Qasar Khozam. The Palace of Khozam was first used as a residence by King Abdulaziz. It was later demolished and a new one built in the early 1950s, with a large garden (approx. 1 km^2). The wall around the garden was torn down in 1964, at the orders of King Faisal, and now functions as a public park. This quarter's first function was to serve the palace and was inhabited by the soldiers of King Abdulaziz. At present this quarter extends to the east to form Al-Nuzlah Al-Shargiah, the eastern settlement.

3) Al-Kandarah: is to the north-east, remote from the old town, near to the old airport. Originally it was a Bedouin village and had yards for animals.

4) To the north of the old town, prior to the wall being demolished, there was the nucleus of Al-Baghdadiyah to the north of Al-Ghashalah, and a nucleus of Al-ʿmariyah quarters, where the buildings scattered to the east of the tomb of 'Our Mother's Eve'. The original centres for these quarters were Bedouin villages.

5) Far away to the north of the old town there was Al-Rwais quarter, which consisted of cottages for fishermen. To the east of Al-Rwais, Bani Malik quarter, consisting of some mud houses for Bedouins, who travelled the caravans from Qaism in the east, carrying agricultural products. They sold these goods in the old town.

QUARTERS OF OLD JEDDAH, 1948

1. Old Jeddah
2. Hart Barah
3. Hart al-Hindawiyah
4. Hart al-Boukhariyah
5. Al-Nuzlah
6. Al-Kandarah
7. Al-ᶜMariyah
8. Al-Baghdadiyah
9. Bani Malik
10. Al-Ruwaiys



Figure 3.1: Aerial Photograph of Jeddah, 1948

Source: Jeddah Municipality, Planning Dept.



Figure 3.1: Aerial Photograph of Jeddah, 1948

Source: Jeddah Municipality, Planning Dept.

From the above descriptions of the existing quarters outside the city wall before demolition, one can conclude that these quarters were scattered and detached from the old town.

At the emergence of the quarters, the inhabitants were of different backgrounds, origins and income, which would seem natural, as most of them were migrants. Thus, as each ethnic group came together, they became accustomed to the location and environment, the quarters grew, and the people blended together homogeneously. (This was discussed between the quarters of Al-Handawiah, Al-Bukhariah and Harat Barah). They also merged between the Khozam Palace and Al-Nuzlah Al-Shargiah in spite of different income. As a result, the total urban area in 1947 reached as high as 180 ha. (3).

3.3 THE INFLUENTIAL FACTORS ON THE FORMATION OF JEDDAH'S URBAN DWELLING - AFTER THE DEMOLITION OF THE CITY WALL

The Jeddah city wall, built in 1509 by Qanswah Al Ghory, functioned for more than four centuries as protection from outside attackers. In 1947 it was ordered to be demolished, in order to let Jeddah free to set its development course towards modern urbanisation. Al-Bokhary claims that demolishing the city wall was not the result of the actual urbanisation pressure and growth necessity, as much as insight to meet future expansion and objectives, with regard to the city's role. "The demolition of the wall did not result in the immediate sudden explosion of the basic anatomy of the old town. It took native inhabitants of Jeddah a few years to leave their inner town in favour of the outlying suburbs". (4). However, the wall of Jeddah lost its important function as a protective element, especially after the invention of high technology military weapons, as a result of World War II.

This, coupled with the stabilised conditions and the security achieved under the reign of King Abdulaziz, meant that the wall ceased to play its historical role as a protective element. From stones left after

the demolition by dynamite, a great portion was used in establishing the first port beyond the coral reefs. They were also used to level the ditch around the city forming the first ring road around old Jeddah. This road was in the location of the Jeddah wall. The stones were also used to fill in holes that were used for collecting rain water in the area of Al-Sharfiah, and in some walls east of the city. (5).

Many coincidental events, which had a great effect on the urban growth and the formation of new urban dwelling and exotic architecture and planning, occurred within the period from demolition of the Jeddah wall in 1947 and the enforcement of the first Master Plan in 1962 by the UN expert Dr. Abdul-Rahman Makhlof.

3.3.1 ᶜAin al-ᶜAziziah and Water Supply

Coincidental with demolishing the city wall was the project of supplying Jeddah with water by ᶜAin Al-ᶜAziziah in 1947. (6). This was done by transferring the fresh water through pipes from some wells in Wadi Fatimah (Fatimah valley). The length of the pipe line from one of the wells (ᶜain Abi-Shᶜaib) to Jeddah is about 65 kilometres. Water is stored in seven provisional storage tanks in (Kilo 14) at Makkah road. (6).

This event happened after King Abdulaziz bought some wells in Wadi Fatimah from their owners and assigned the company of Gellatly Hankey & Company to carry out the project in 18 Muharam 1366H, 1946. The water reached Jeddah in the 5th of Muharam 1367, 1947, and the project cost about six million riyals. (7). Thus, the project is known as 'ᶜAin al-ᶜaziziah' after King Abdulaziz.

Historically, the inhabitants of Jeddah have suffered from the scarcity of water caused by lack of rainfall. Digging wells only produced salty water, in spite of the dependence on the rain, as a source of supply of fresh water. Water was collected by directing it

from the roof to a reservoir underneath the houses. This was mentioned previously in Chapter 2 in the description of the traditional houses. Rain water was also caught by making ditches outside the city at the end of the rain water streams (called saharig). Additionally, there were about seven wells outside Jeddah, which had a great affect on the emergence of the old quarters. There were also some efforts to bring the water from Wadi Qwas north of al-Raghamh, 12 kilometres from Jeddah. (8)

By 1905, the Ottomans brought in the first water desalination plant, known as 'Al-Kindasah'. (9). (See Figure 3.2). However, the production of the plant was not enough to supply all the inhabitants; thus Al-Saharig were considered the main source of supply for most of the inhabitants of Jeddah.

In the beginning of the Saudi Government, two desalination machines were bought to supply Jeddah in 1346,1926. (10). Due to the failure of one of these machines, as a result of heavy use and great demand, and as a consequence of the increase in inhabitants and immigrants, the situation became worse between the years 1945 and 1946. Abdul Qadues Al-Ansary describes the situation at that time, "What has been seen is one barrel of water, and walking behind it tens of children, women and men, in order to get one zafah of water". (11) Thus, the government enforced the project of ᶜAin Al-ᶜAziziah which effectively eliminated the worry about the scarcity of water, and this assisted in providing water for the increasing numbers of immigrants from within and outside Saudi Arabia, leading to the growth of the old quarters and emergence of new quarters like Al-Sabeel, Al-Sohiafah, etc. This was coupled with the gradual introduction of concrete, which needs a large amount of water for mixing, rather than the use of traditional material. Using concrete in construction accelerated the extension of the built area in a very short time.

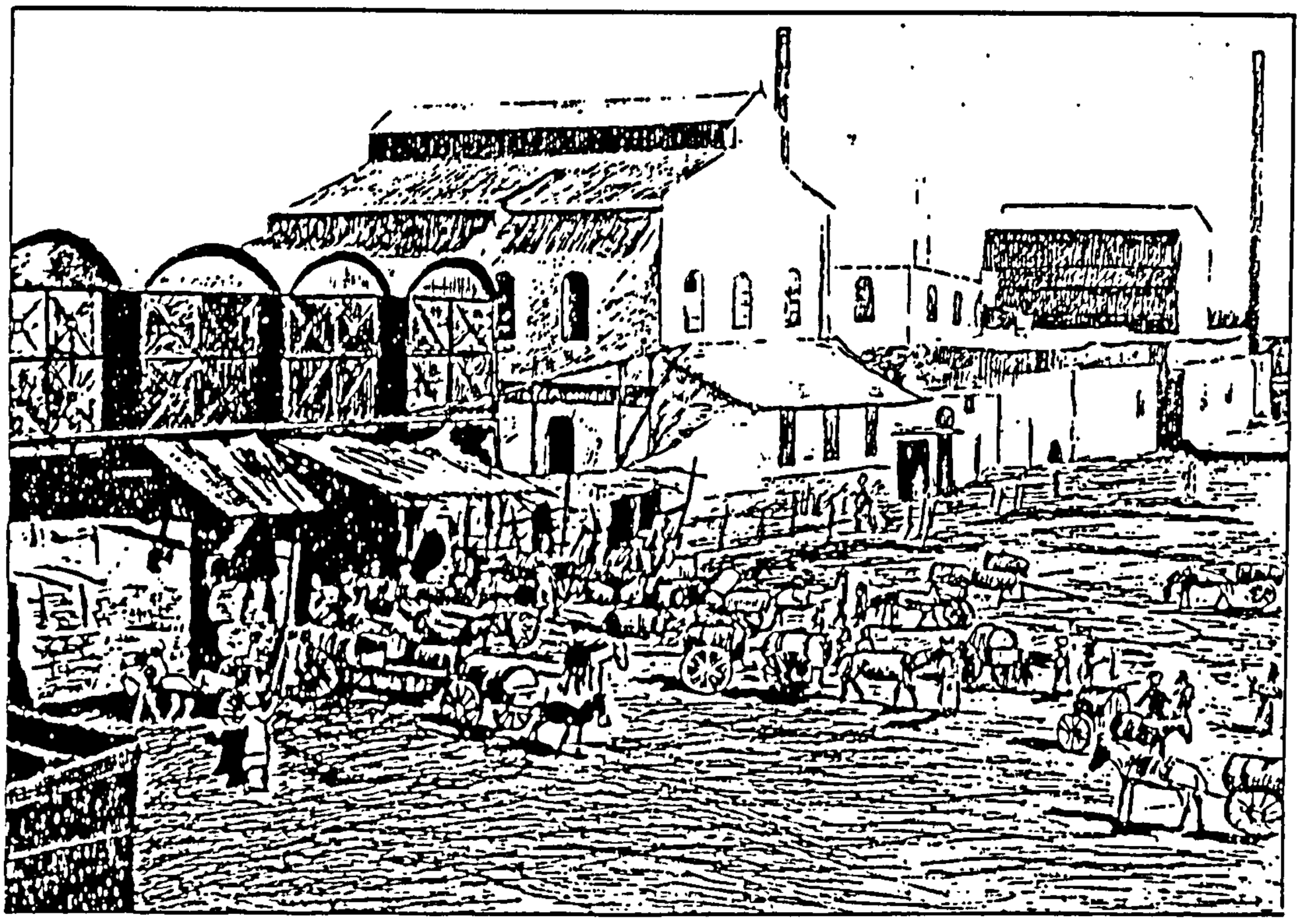


Figure 3.2: al-Kindasah (water desalination plant) provided Jeddah with a modest amount of drinking water for several decades through distillation of sea water

Source: Angelo Pesce, Jeddah, Portrait of an Arabian City, Falcon Press, 1976, p.138

3.3.2 First Oil Boom

Allah almighty, blessed Saudi Arabia with a bounty of oil (all praise to Allah). Without oil, Saudi Arabia might have remained a predominantly harsh and barren country, a vast area with a scattered population. Exploitation of oil generated tremendous revenues, inducing a sudden economic boom of exceptional dimensions, and also giving rise to the starting of a metropolis, which could never have grown so rapidly under normal circumstances.

The first oil boom occurred in 1950, when the world demand for petroleum suddenly took an upward curve, owing to an increase in post-war international industrial reconstruction and growth, and also as an outcome of the Korean war. (12).

This demand increased the average oil production from 20,000 barrels per day to 400,000 barrels per day in 1948 and to 576,703 barrels per day in 1950, giving a total income amounting to SR 56,000,000. (13). This first economic boom, coupled with a governmental decision to diversify the economy through modernisation and industrialisation processes (14), resulted in a vast influx of aliens. Expertise, both Arab and non-Arab, had to be attracted into the country in general, and into Jeddah in particular. This led to a sudden population explosion. The population of Jeddah in 1948 was 24,000; this increased to 94,000 in 1956, approximately four times that of 1948. In 1960 the number of inhabitants had reached a total of 110,000. (15).

The immense increase of inhabitants compelled the authorities to face the fact that Jeddah was not ready to receive such a large number of incoming aliens, either in terms of housing or basic services. The newcomers had to be settled partly inside the old town, but mostly in the adjoining suburbs, in some of the first erected mass-housing and multi-family buildings. However, this still was not enough.

3.3.3 The role of Professionals in the Emergence of Exotic Architecture

The severe situation caused by the increase in population, and shortage of housing, led to the construction of new buildings to accommodate families and to construct them in rapid time. These urgent needs and requirements led to the adaptation and introduction for the first time, of the walk-up apartments in Jeddah. These were of a western style, with balconies, and neglected all the social values and architectural techniques, which had been practised in Jeddah for many generations. (See Figure 3.3).

This sharp transformation to the new building typology, introduced from abroad, and exotic to the Jeddah society and environment, was caused by outside architects, with mediocre and unsound architectural training, or by outside experts, who practised the role of creative architects, not to mention civil engineers, electricians, mechanical engineers, surveyors and draftsmen. They copied a ready-made design and solution used in their own countries, which were transplanted without question of the suitability and adaptation to the requirements of the society's values and traditions. This problem occurred because these experts were considered to be of higher education and knowledge than the Master builders who had acquired their professions through practice and not through formal education. Thus, the public looked to these professionals, as being of higher quality than the local master builders. In addition, according to al-Bokhary, this problem existed in the absence of a professional regulatory and supervisory body. "... This absence has existed until now; thus they created a cacophony of architectural styles oblivious to the social value as well as to the principles of functional aesthetics and climatic requirements". (16).

3.3.4. New Construction Material and Techniques

The introduction of apartments conforming to the new building typology in order to maintain the great demand of housing caused by the first

oil boom, was assisted by the excessive use of reinforced concrete as a new technique for rapid construction. In fact, reinforced concrete was not used for the first time in Jeddah in the mid-1950s, it was used before in 1925 by the Zainal family (a wealthy Jeddah family) to build a large three-storey house in the north of Old Jeddah, to the east of Al-Jadid gate, as mentioned by Abdul Qadus Al-Ansary in his book 'The History of Jeddah'. (17).

Although reinforced concrete was used in 1925, it was not widely used and possibly was only used in construction of the Zainal family house. It did not become popular until a quarter of a century later, probably due to a return to scarcity of water, and the fact that it was not a local material to be found in Jeddah. From the time of establishing ᶜAin al-ᶜAzizah, after 20 years from the first experience of building with concrete, the water needed for constructing this material became plentiful. With the gradual increase in importing cement and steel from Europe and Egypt, people became used to this material with the help of foreign engineering. Also due to the concrete's capability of being formed in different shapes and to its construction speed, Abdul-qadus al-Ansary states that the use of concrete became popular after the establishment of the public electricity supply in 1370,1950 in Jeddah. (18).

The excessive use of reinforced concrete in the middle of the 1950s was a major factor in the decline of the local master builder's standing. Those who knew the requirements of buildings, in context of the environment, through their own such experience in the locality, and because of the existence of the builder's guild, felt that their contributions of craftsmanship were dying out, after having contributed to the built environment for many centuries. This occurred because they were not used to reinforced concrete and the techniques behind it, coupled with the appearance of the foreign construction experts in the early 1950s, who were enticed and employed because of their education and who tended to look on the master builders as being inferior to themselves.

In fact the old techniques of construction were very slow. It took a long time to build one house, in a time when rapidity was very important to meet the enormous demand for housing. This did not mean that they were forgotten; they at least were able to act as consultants and participated in design solutions. Recently, when the Jeddah municipality started to renovate the traditional housing in the old town, they sought help and advice from the local master builder, the Mayor of Baldiat Al-Balad (old town municipality). The architect S^{c}aud al-Qaifaidy, describing the cleverness and awareness of those master builders, in recognising the problems in construction and knowing how to solve them, said, ".... there were some problems in the construction and the local master builders told us about them, and after a while these happened". (19).

Cement and steel (as main materials for reinforced concrete) were not the only new materials introduced by the alien professionals. Other materials and building equipment appeared, which were ready-made and well finished, such as; standard wooden doors and windows, flush toilets, tiles, electrical wire and appliances, different types of paint, etc. Most of these new materials were imported from different parts of the world, especially after an improvement in shipping lines due to the stabilisation and security achieved after World War II. These construction materials reached the consumer at a very high cost, as G. Frank indicates:

> "... most of these materials were brought in at the cost of a high import duty, 25 percent for example on the toilets. These duties inflated total house prices greatly". (20)

Undoubtedly, this variety of materials in the market brought a wider choice than was ever possible before. These new materials and innovations have, in many cases, justified their importance by essentially improving the quality of the residential environment, for example, with electricity, sewage systems, insulation materials, control devices, etc. However, the critical point about the new building materials, in addition to a drastic change in local

characteristics of the built environment (either positive or negative), is that they were responsible for the abundant use of the natural local materials, which had proved their suitability and appropriateness to Jeddah's local environment. This rapid and total change to the new materials did not offer a chance to test the characteristics of the local natural materials, in order to improve their quality and techniques of construction to the level that they could compete with imported materials.

In fact, the task of improving traditional materials is a new current trend, by concerned institutions and researchers. For example, mud is one of the traditional materials, which has been tested and even recently practised in some countries such as Egypt and in certain arid states in the USA, eg Arizona, California and New Mexico. Some studies have proved the durability of the mud by using some types of stabiliser. This improved its techniques of construction and a complete building could be built with high efficiency in energy conservation and durability, and with a good finish, in less than a week at very low cost. The experiment of improving the mud is still in the process of development before it reaches the level of competing with existing materials.

The writer hopes that such experiments in improving and upgrading the local natural materials should be conducted in Saudi Arabia by the concerned agencies (universities, postgraduates, etc.).

Since different local materials and techniques have been used in different regions of Saudi Arabia, such as mud in the central, southern and eastern regions, coral in eastern and western regions, rocks in different regions, according to the availability of the materials, the regulations that discourage indirect use of the local materials should be modified. (21). This encouragement should come from the government (ie municipalities and planning offices) to those who are concerned to conduct such research, and to the public to use the traditional materials. It is very essential to revive the

characteristics and identification of this built environment, not only in terms of beautification and prestige, but also, more importantly in terms of functional and environmental needs.

3.3.5 The Psychological Influence on Creating the Image of Contemporary Urban Dwellings

Some agencies placed an indirect psychological influence on all levels of the Government and the public. Through mass media, publications and press they campaigned for their large-scale housing projects in the late 1360s, 1940s and early 1370s, 1950s, and played a major role in introducing and creating the image of contemporary urbanisation and modernisation of the Saudi built environment, which was intended to improve living standards. This image undoubtedly was responsible for the eagerness to institutionalise the system in the late 1960s, especially the regulation that dealt with 'the way of building in the plot' by Ministry of Interior (See Chapter 8). This was issued in the form of a circular by the Deputy Minister of the Interior for municipalities and Planning. (22).

Aramco was one of the agencies that promoted the image of modernisation in the Saudi-built environment. This differed from the traditional Arab Muslim cities of narrow and irregular streets, with compact, attached houses with full privacy. This occurred through its participation in planning the cities of Dammam and al-Khober in the grid-iron system in 1366/1947 (see Figures 3.4 and 3.5, when the Governor of the Eastern province asked Aramco to help in producing plans for these two cities.

With the introduction of the detached house in the middle of a plot (villa type) (Figure 3.6), the Aramco home-ownership plan (a loan programme for oil company employees) was first initiated, to resettle Saudi Arabian employees in surrounding communities, rather than having them stay in oil camps, by forming the cities known as Madint al-ᶜumal (labour city), one north of al-ᶜagrabiah in al-Khober city and the

other one in the south of Dammam city (see Figure 3.4, 3.5). Besides these labour cities, Aramco had a special camp for senior employees, and another one for intermediate employees (see Figure 3.7). This way Aramco introduced a new concept of segregation in the neighbourhood, according to income and working grade.

The other early project, which created such an image of modernisation and urbanisation, was the large-scale housing programme for government employees in al-Malaz at Riyad (the capital city of Saudi Arabia). This project was constructed to house government employees from Makkah and Jeddah, as a result of the government's decree in 1373/1953 to transfer all government offices from Makkah and Jeddah to the Capital Riyad. This project was done to attract the Makkah and Jeddah employees, and, because of the shortage of housing in Riyadh, it was necessary to establish the Government's large-scale housing programme near to the employment centre. (23).

However, this government project was designed by the US Corps of Engineers, who submitted a complete housing project to al-Maktab al-Handasi, a newly-established engineering office, supervised by the director of Maslahat Amlak al-Dawlah (the Department of the Government Properties) under the Ministry of Finance and National Economy. Thus, the plan of this project was based on the western planning concept of grid-iron pattern, and provided new types of housing different from the local ones. For example, villas of different sizes for single families, apartments as multi-family units, and also bachelor units. Each type and size had its own zone separated according to the occupant's income and social status, (see Figures 3.8, 3.9, 3.10, 3.11).

In fact, the information generally played a major role in planting and fixing in the public's minds that the above-mentioned early, large housing projects were a sign and mark of urbanisation, modernisation and a better living standard. For example, Aramco, through its private TV station and the Company's magazines ('Oil Caravan', 'The

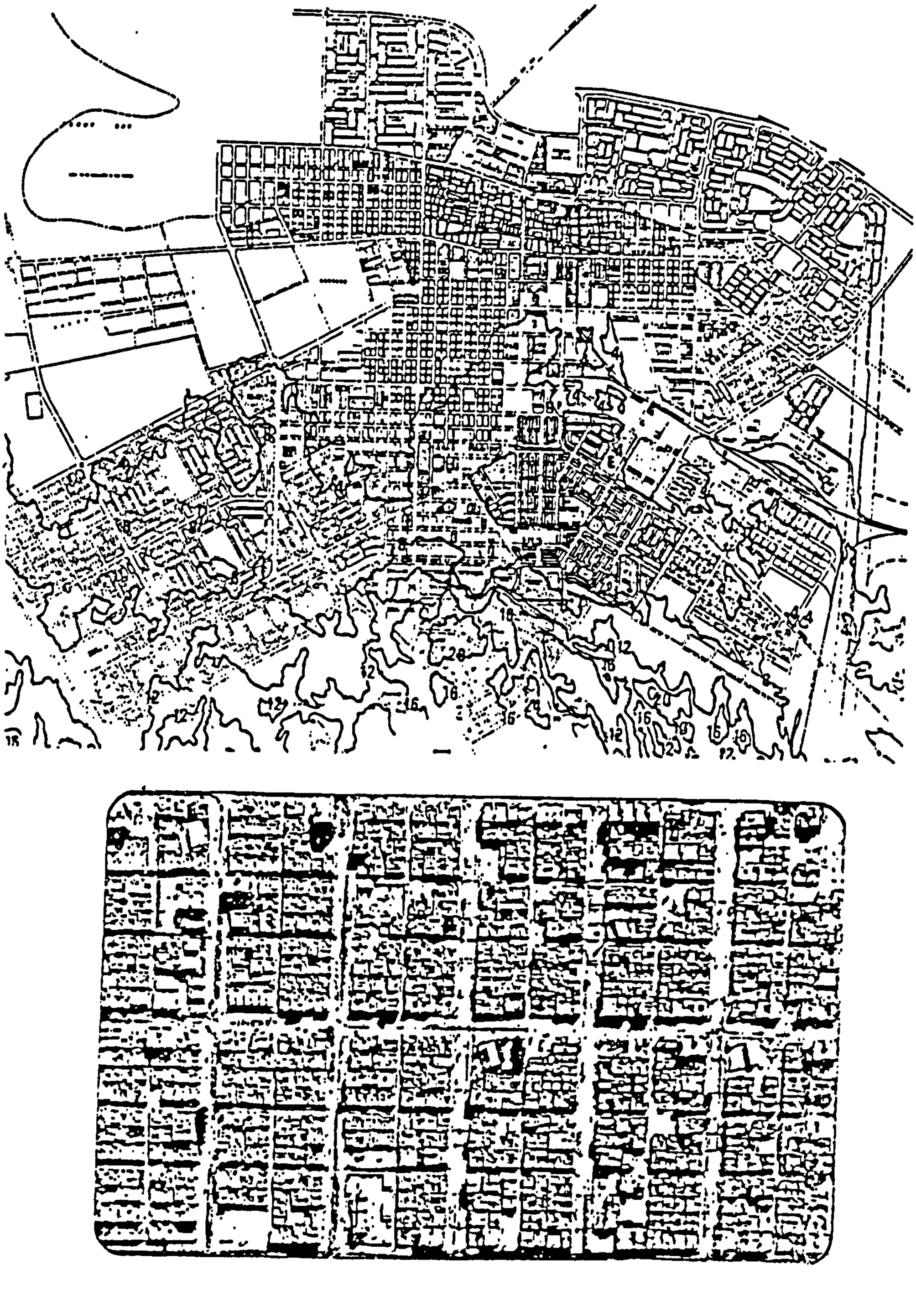


Figure 3.4: Dammam 1947, the first grid-iron pattern plan introduced in Saudi Arabia. The dark line indicates the first grid iron plan laid out by Aramco in the 1940s.

Source: Candilis, Eastern Region Plan, Dammam Existing Condition, 1974

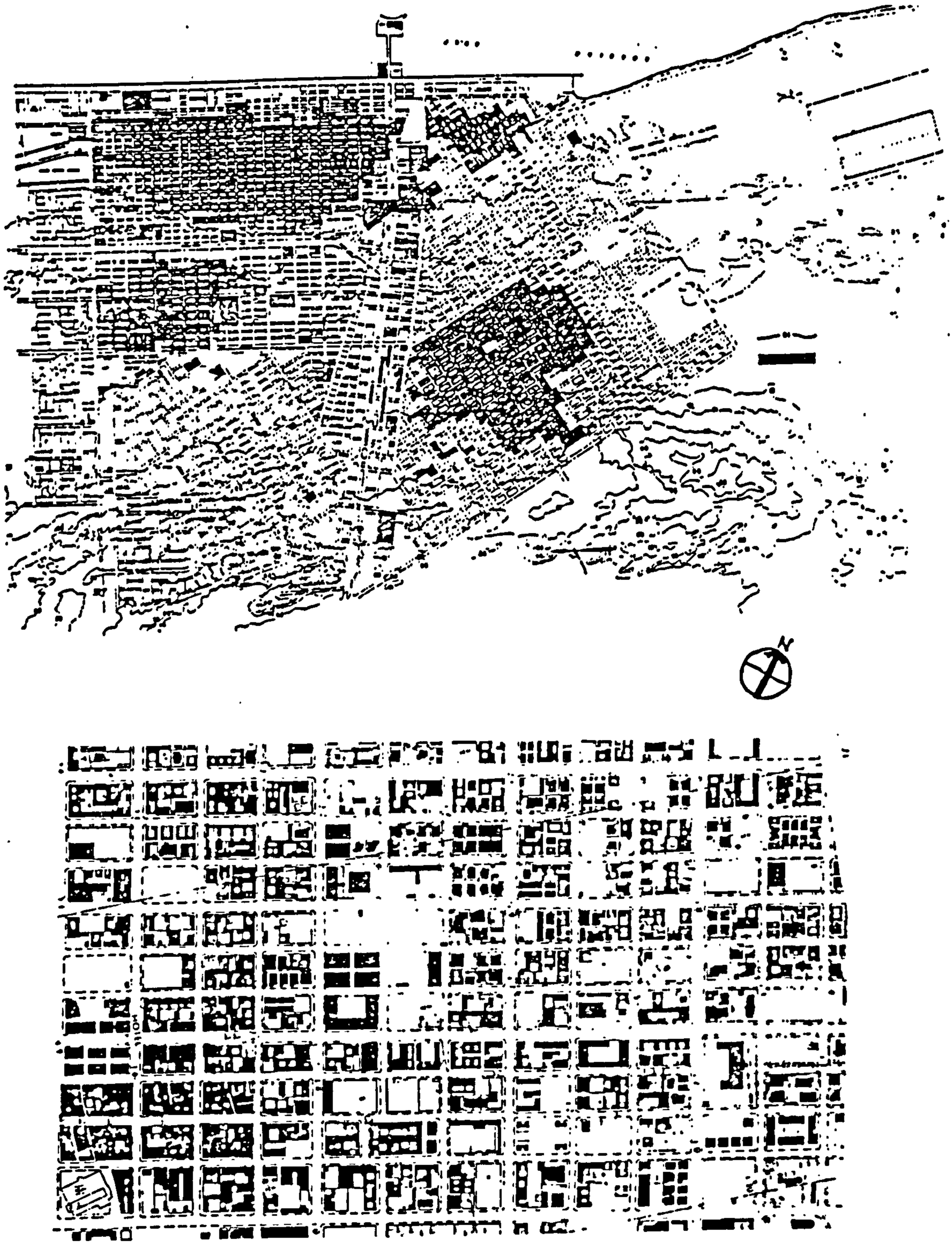
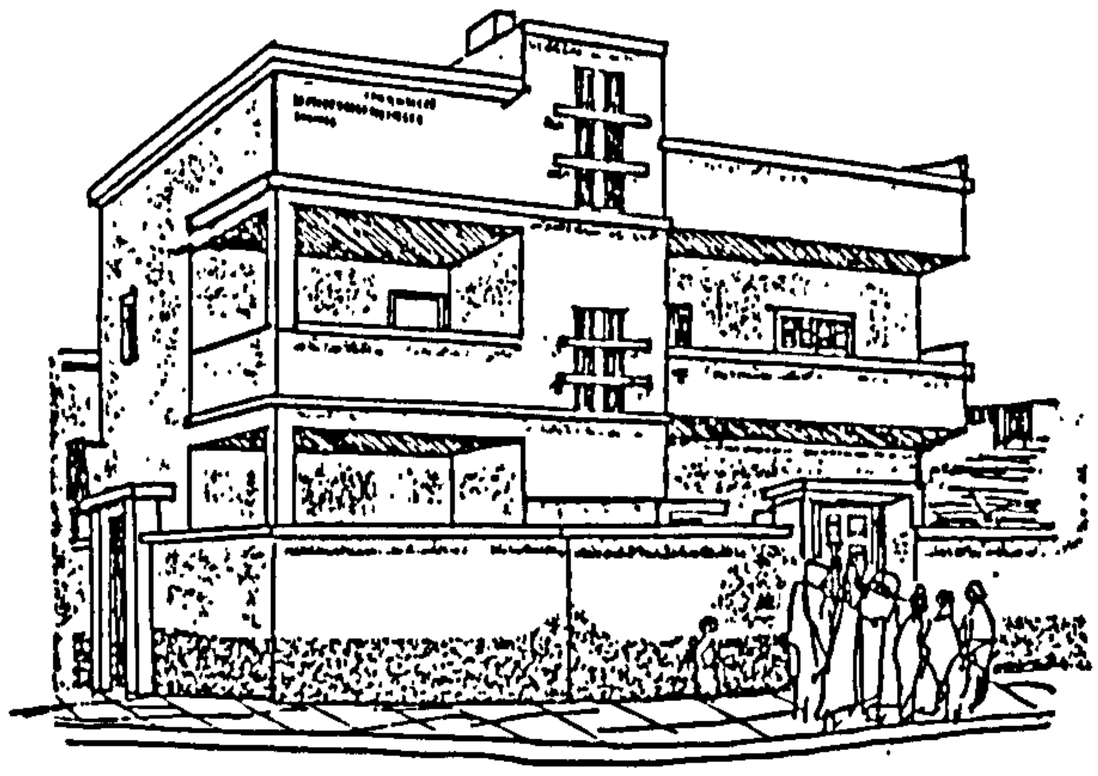
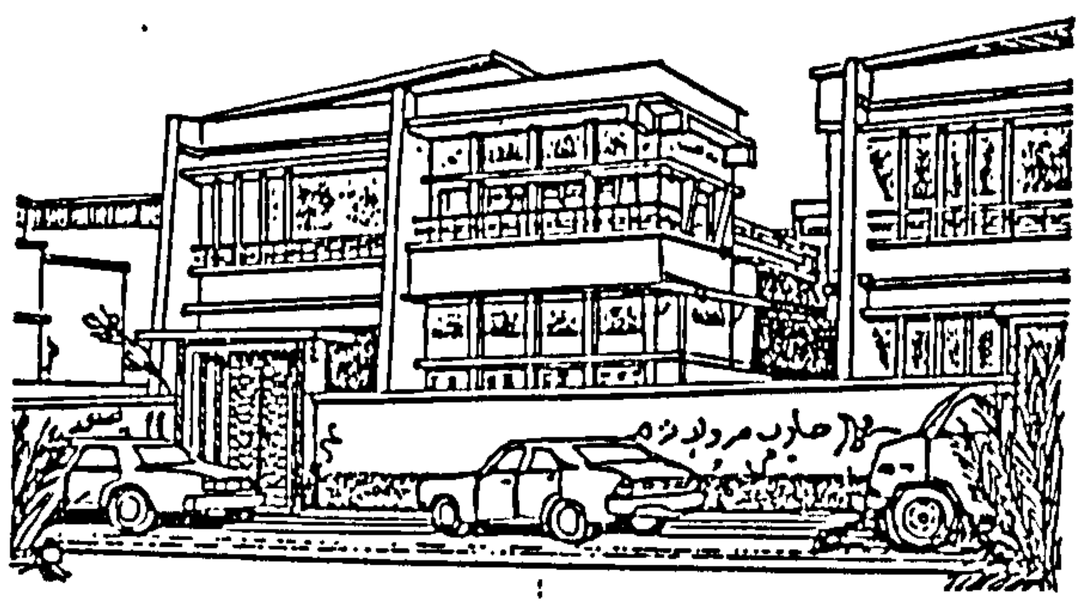


Figure 3.5 Al-Khobar Plan in 1947. The dark line indicates the early grid iron plan laid out by Aramco in the 1940s.

Source: Candilis, Draft Master Plan, al-Khobar 1976, p.9 and 45





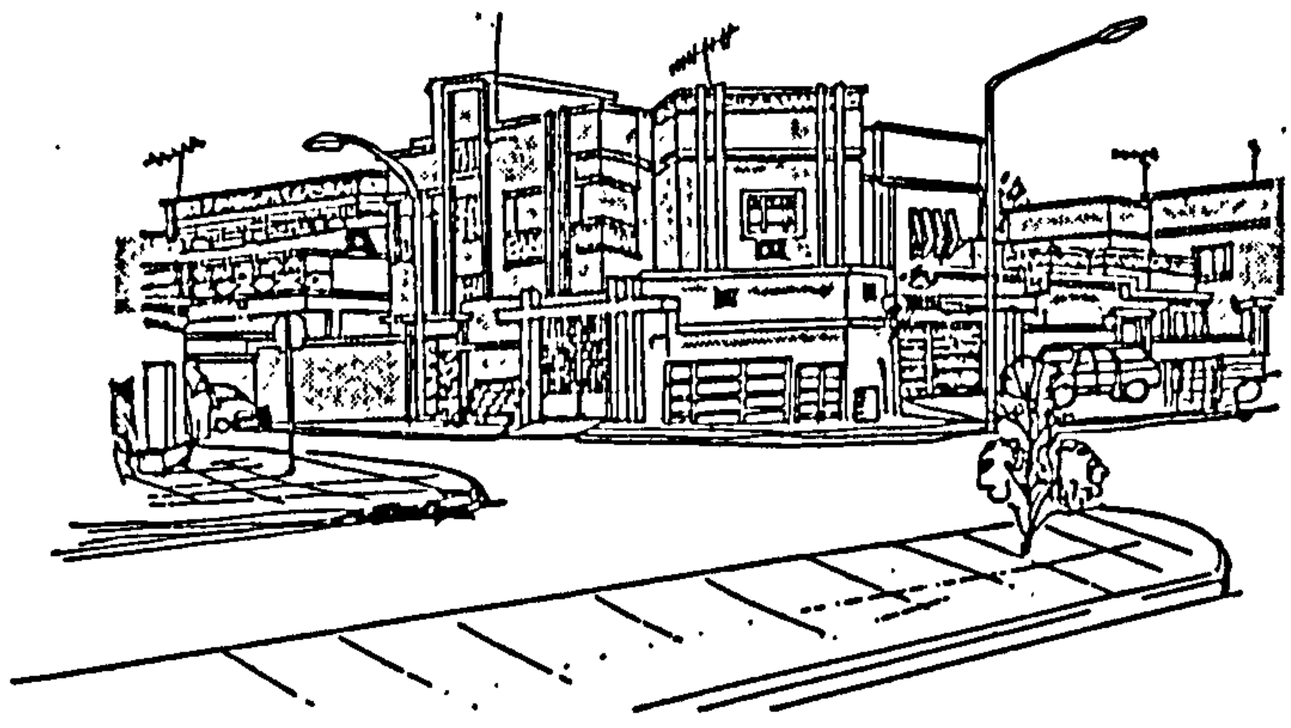


Figure 3.6: Villa type introduced by Aramco through home ownership programme.

Source: Fadan, Y.M. The Development of Contemporary Housing in Saudi Arabia. (Unpublished Ph.D Thesis, MIT, 1983).

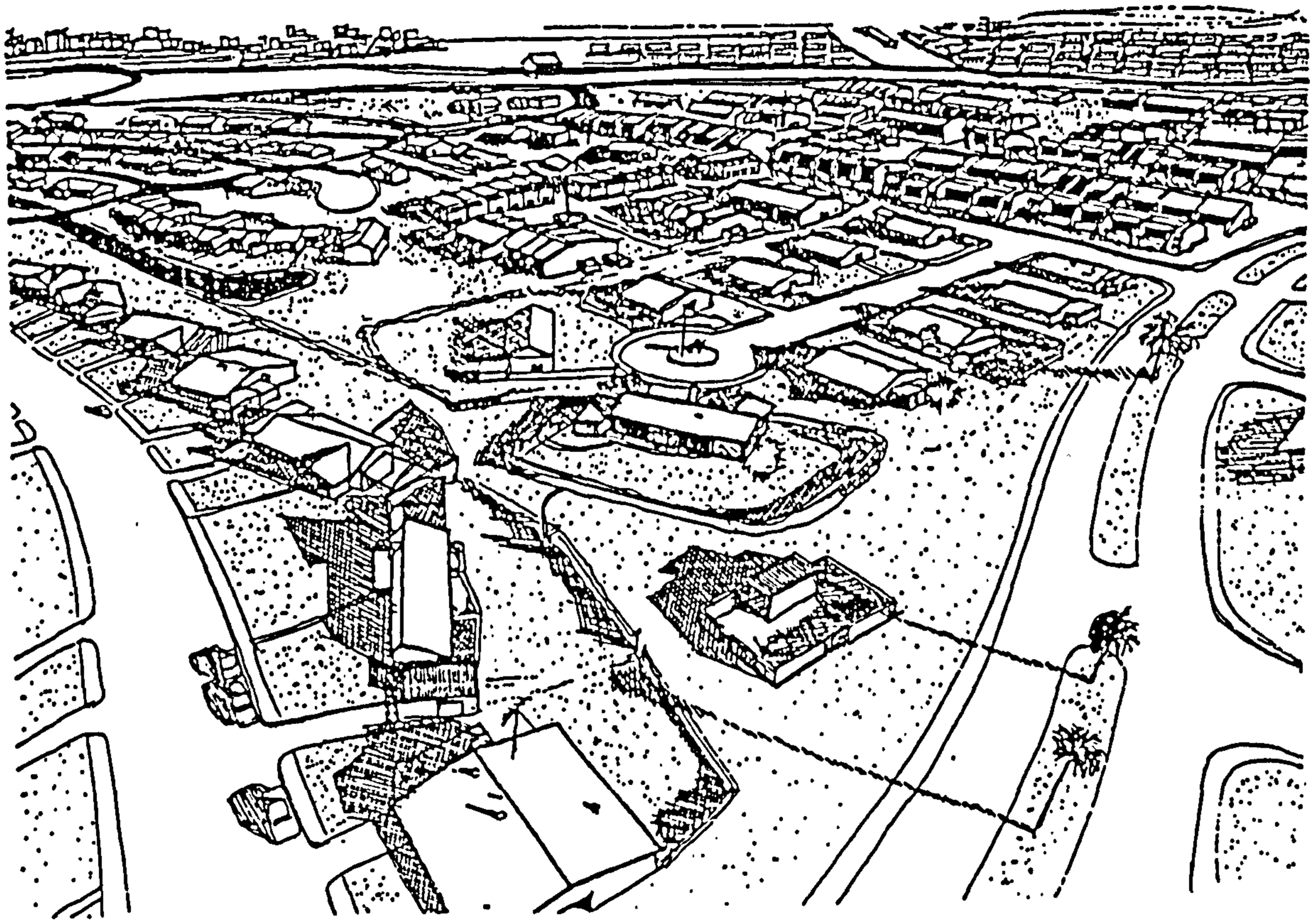


Figure 3.7: Aerial view of Aramco senior staff camp.

Source: "Saudi Arabia: The Kingdom and its Power", in National Geographic September, 1980

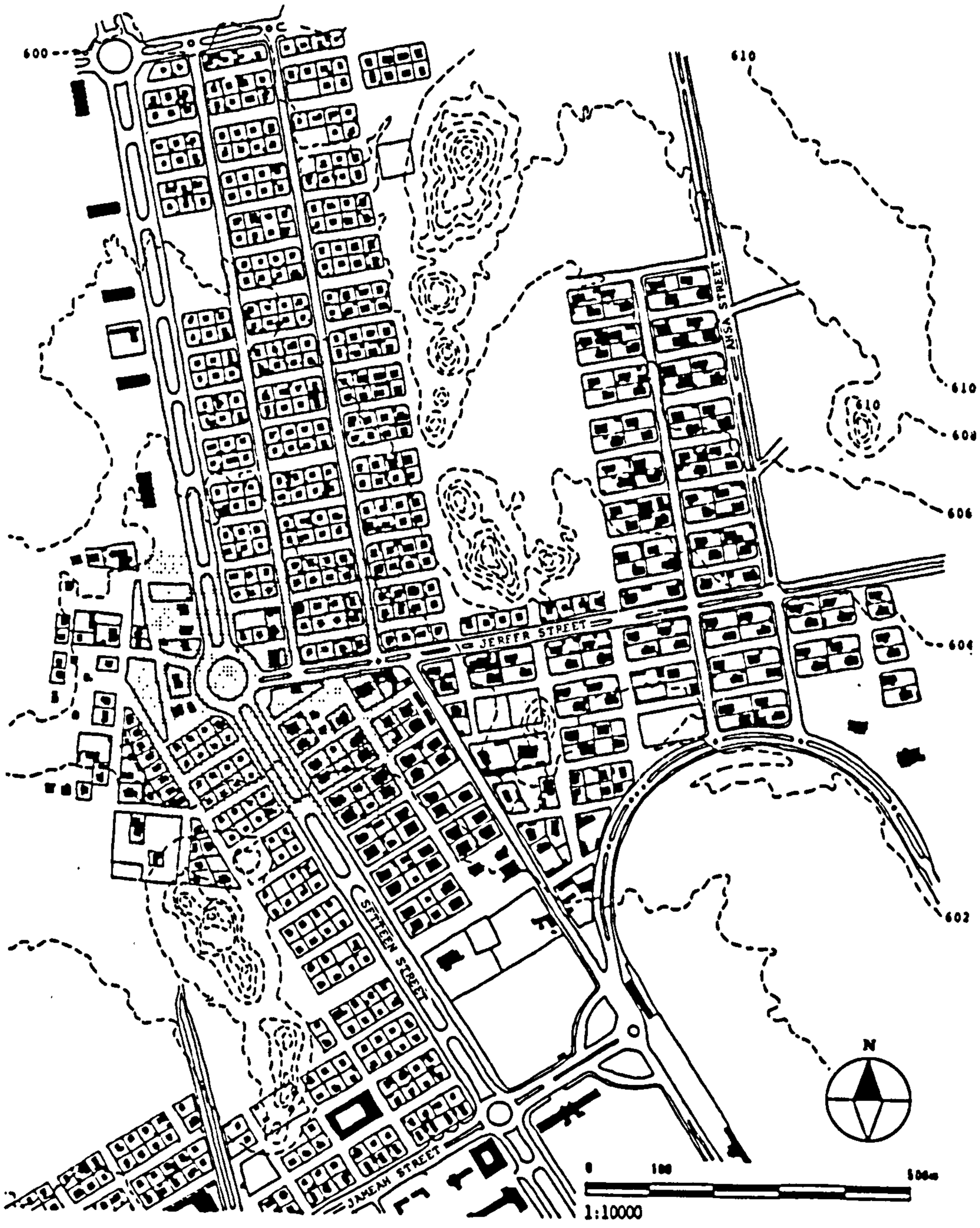


Figure 3.8: Riyadh Al-Malaz, 1953.
Government Housing Project, using the grid iron pattern with new type of dwelling (villa and apartment in the middle plot).

Source: Saleh al-Hathloul, Traditions, Continuity and Change in the physical environment: The Arab Muslim City. Unpublished Ph.D Thesis, MIT, 1980, p.164

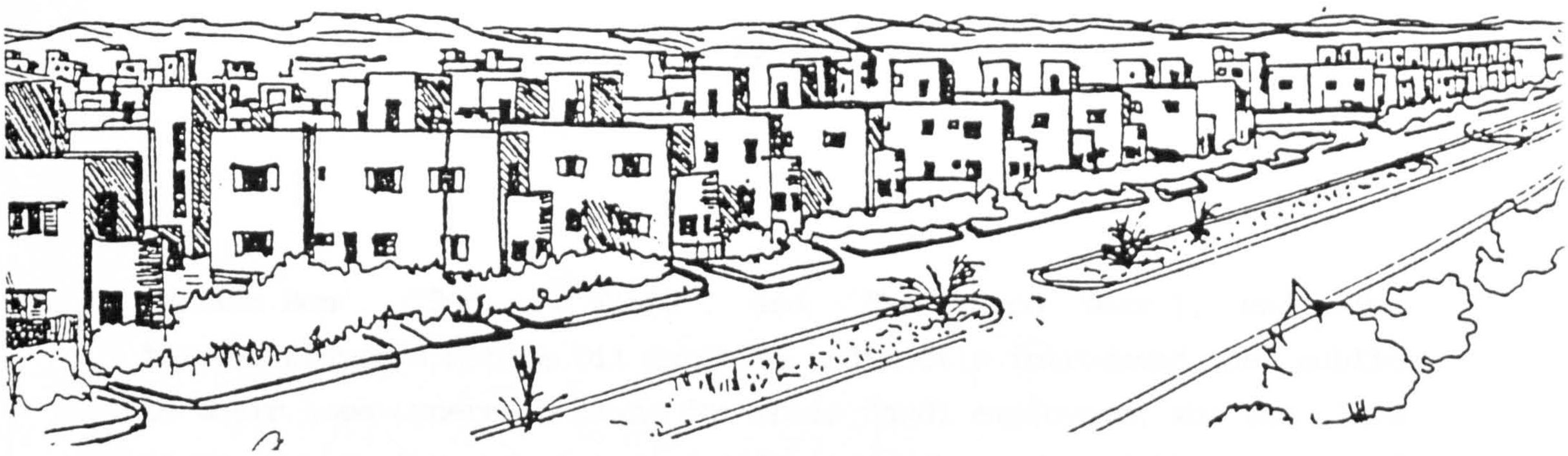


Figure 3.9: General view of al-Malaz Government Housing Project

Source: Fadan Y.M., op.cit

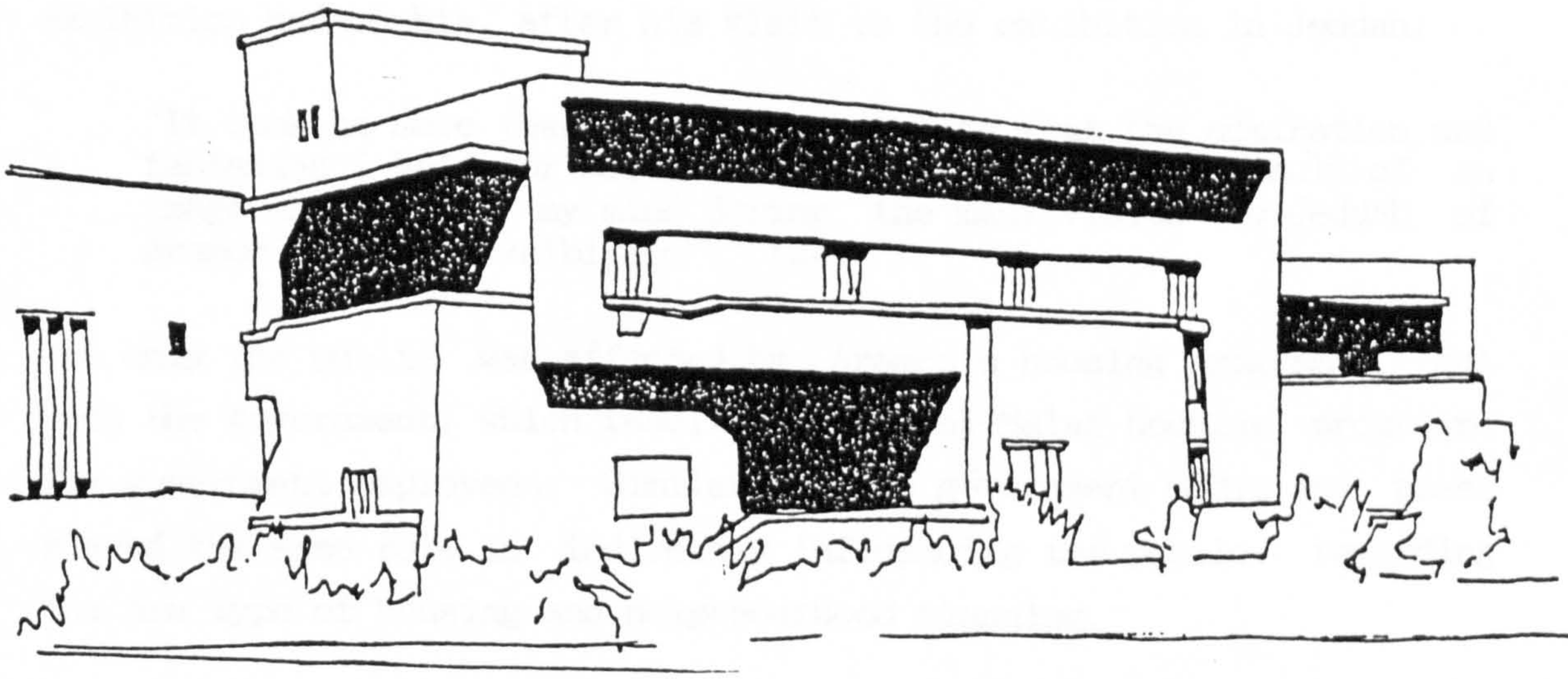


Figure 3.10: Villa Type built in al-Malaz Housing Project

Source: Fadan Y.M., op.cit



Figure 3.11: Apartment type built in al-Malaz Housing Project

Source: Saleh al-Hathloul, op.cit.

Arabian Sun', 'Sun and Flare', and 'The Aramco Year'), and also through Aramco's Mobile Oil exhibit, indirectly introduced the public to their home-ownership plans for their Saudi employees, who now live in these new type of houses (villas) in the new neighbourhoods of grid-iron pattern (see Figure 3.12).

Yousef Fadan in his Ph.D. Thesis "The Development of the Contemporary Housing in Saudi Arabia" states what effect the Aramco Mobile Oil exhibition had on him, after his visit to the exhibition in Jeddah:

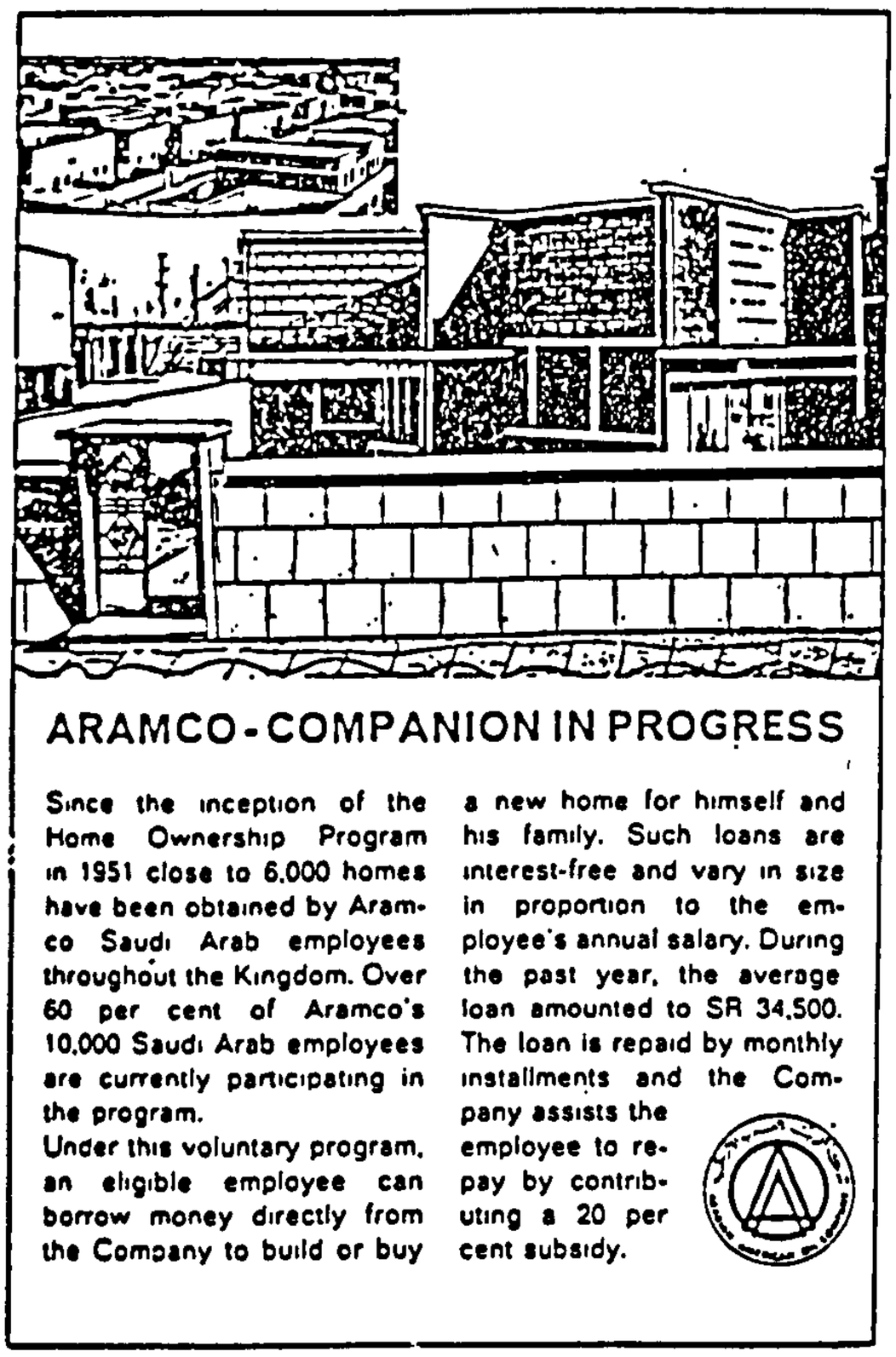
> "It took me more than a decade to realise that the admiration and fantasies I held for modern villas were partly the result of an image engraved on my mind during the many visits to Jeddah of Aramco's mobile exhibition". (24).

Not only the public was affected by Aramco's housing programme, but also the government, which resulted in the al-Malaz housing programme for government employees. Similarly, the government media and press played the same role in indirectly influencing the public, regarding the new type of housing and neighbourhood planning.

Finally, one can conclude that the indirect psychological effect of the media and the press made the villa type and the planning grid-iron pattern a sign of modernisation, giving a better living standard. This psychological effect made this type of building and planning the dream of the Saudi people, among them the people of Jeddah. Thus implementing the grid-iron planning in Jeddah, and enforcing the regulation that dealt with 'the way of building on the plot' by the Ministry of the Interior/Municipal Affairs, which regulated building in the middle of the plot, (see Chapter 8), were welcomed, and considered high achievement, in spite of the fact that they did not fit the socio-culture of the society and environment.

3.4 THE FIRST PLANNING ENDEAVOURS: PRE THE COMPREHENSIVE PLANNING

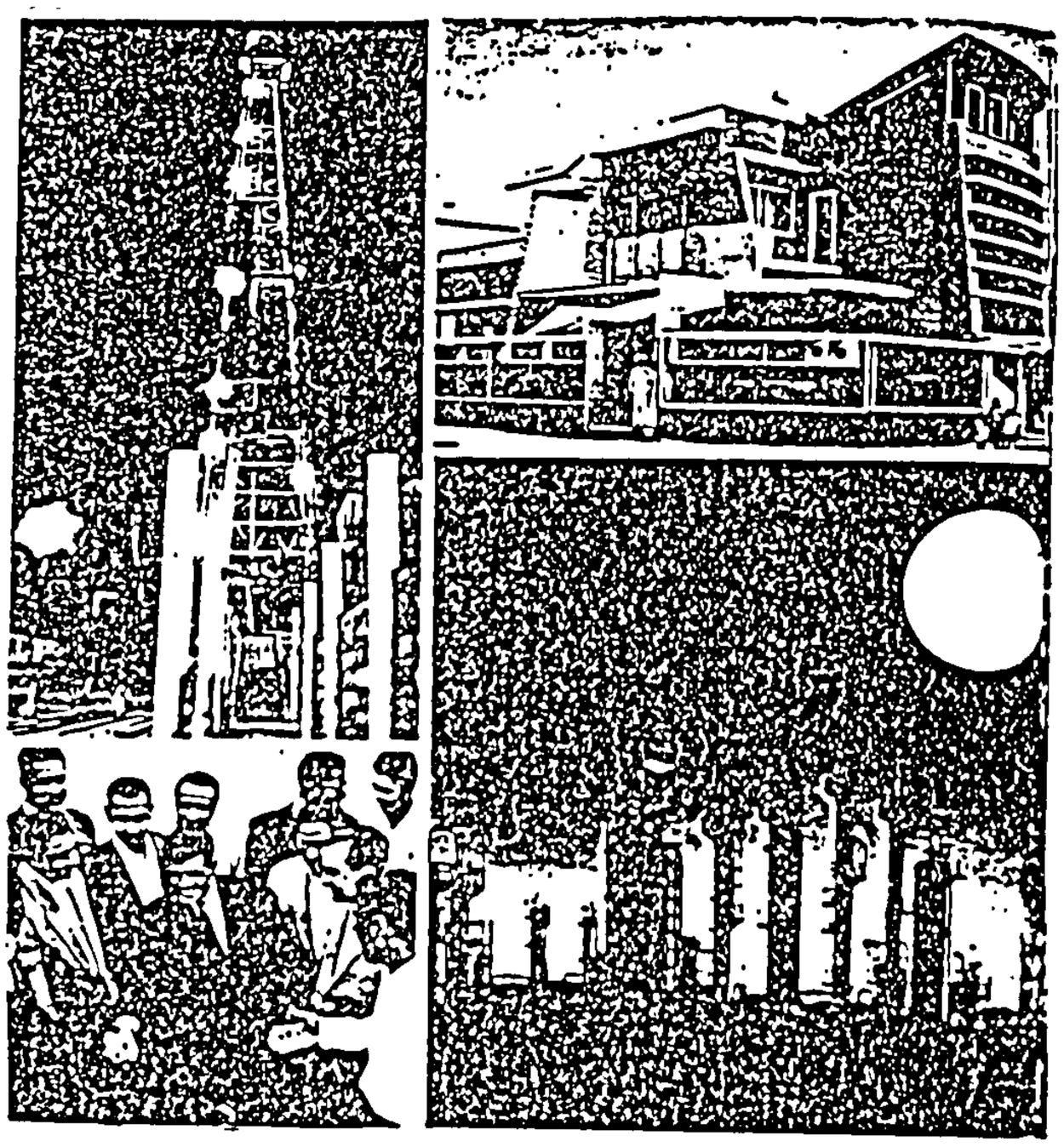
Throughout Jeddah's extended history, three comprehensive plans were prepared and implemented. The first in 1962 by Dr. Abdul-Rahman



Advertisment for the company by using the home ownership programme

Figure 3.12:

The psychological influence of creating the image of urbanization and modernisation through publications and exhibitions.





Source: Fadan Y.M., op.cit, p.176

Makhlof, an expert from the United Nations, the second in 1973 by Robert Matthew, Johnson-Marshall and Partners, and the third in 1980 by Sert Jackson International.

In this section the study will be directed to investigate the first attempt to plan Jeddah City prior to the comprehensive plans. It will look at the nature and process of this planning, when it emerged, and to what extent the planning influenced Jeddah's urban dwelling.

The first planning endeavours were mainly in conjunction with government intervention in planning the city to avoid organic development. In fact, there were many attempts to control and regulate the city's urban development. These were in the form of Royal decrees, statutes and regulations, for example the royal decree establishing municipalities in Saudi Arabia 1358/1938, and the statute of roads and buildings in the 1360s/1940s (see Chapter 8). However, most of these endeavours had no great influence on the Jeddah built environment. This might have been due to the weakness of the municipality, although not in terms of mandatory power, since the royal decree for establishing the municipalities in Saudi Arabia gave the municipalities full power and authority to regulate, control and plan the city. It seems that the main reasons were shortage of manpower, especially in the technical department, and the low income of the municipality. (25).

The royal decree issued 25.8.1367/1947, had a great influence on the emergence of contemporary planning with a grid-iron system in Jeddah city. This occurred when this royal decree gave control of unowned, vacant land in the city to the responsibility of government agencies, according to the division mentioned below. In order to cover the required expenditure to maintain the old and the new streets, the royal decree states:

> First - the vacant land situated inside the town within its old wall will belong to the municipality;

Second - all the vacant lands situated outside the town, either the current one or the one to be planned later, to belong to the Ministry of Finance.

Third - all the vacant lands situated on both sides of Jeddah's streets, starting from the sixth kilo to the beginning of the wells in which the water for Jeddah is taken, to belong to ᶜAin al-ᶜAziziah. (26)

Accordingly, this decree gave the authority to those government agencies to plan and to sell their acquired land, each in his area. The more attractive lands went to the public authority. Those adjoining the built area went to the Ministry of Finance. This situation induced the Ministry of Finance to establish its own technical department and cooperate with some consulting companies to plan their acquired vacant lands, in order to avoid the traditional acquiring of land ownership by Ahya revivification. Ahya is the Islamic traditional mechanism to create land ownership by giving life to Ard.Mwat dead land (vacant and un-owned land) either by cultivation or building. (27). It is reported that the prophet said, "The people are God's people, the land is God's land, he who revives a piece of dead land will own it, and the unjust root has no right". (28).

Thus, the first attempt at planning Jeddah city, based only on land sub-division and not on comprehensive planning, was done by the Baker Consulting Company, which belonged to the Ministry of Finance. The first plan by this company in 1371/1951 only covered the area to the first ring road (before Makkah and Madinah road). (29). In 1952, Jeddah Municipality (as the executing government agency) executed part of this plan - but not the similar plan that was prepared by the Baker Consulting Company. As mentioned by Dr. Abdul-Rahman Makhlof, the north of the al-Bagdadiah Quarter (Figure 3.13) shows that the planning of the area north of al Bokdadish is based on the grid-iron system. This might be the first influence of grid-iron pattern in Jeddah city, which became the most popular and practised type of planning in Jeddah. (30)

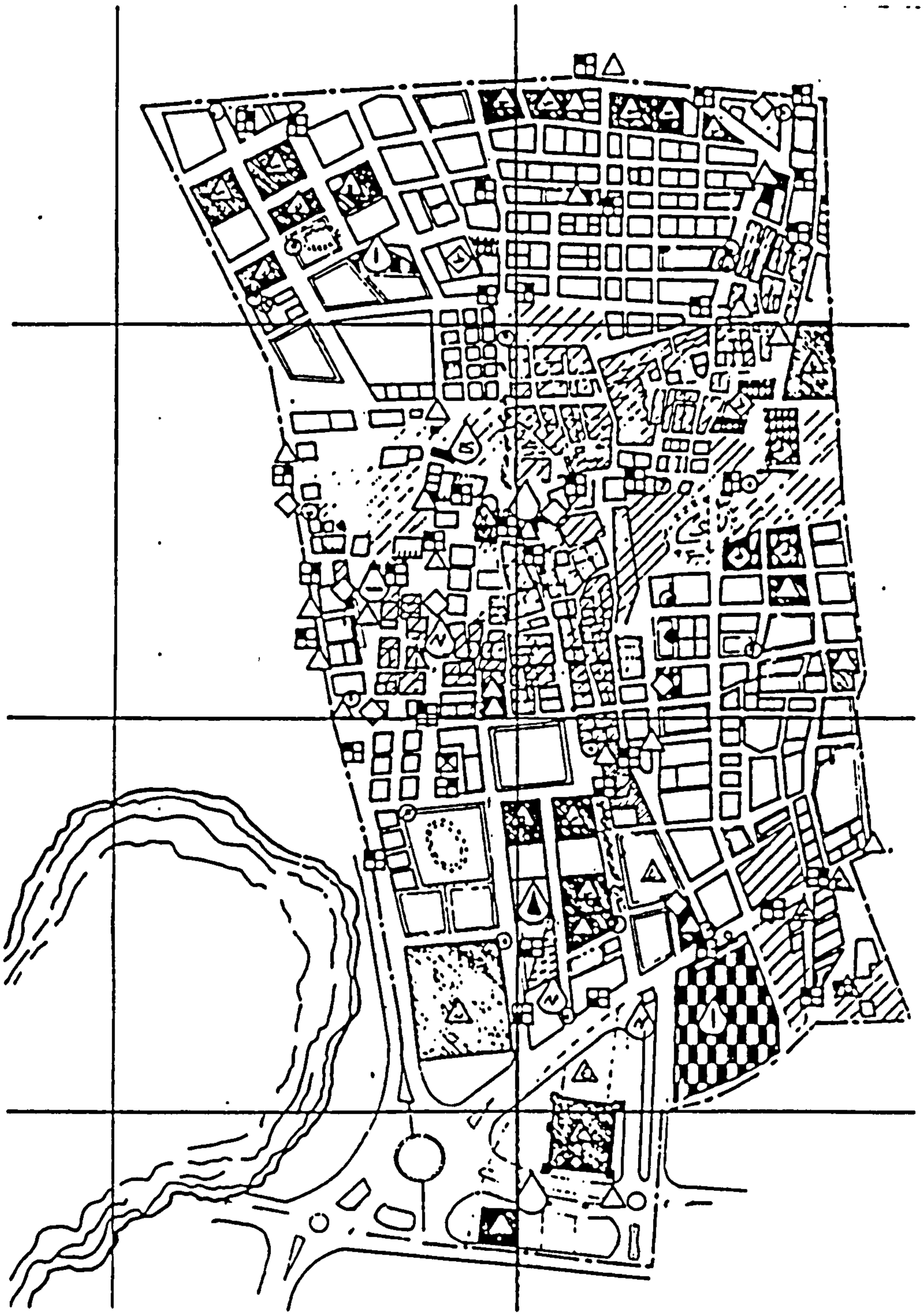


Figure 3.13 Grid Iron Pattern on the north side of al-Baghadadiah

Source: Abdul-Rahman Makhlof, "al-Tatwr al-ᶜomrany L-Madinat Jeddah", Vol.1, p.139

The Baker Consulting Company tried to obtain a contract with the government to make a comprehensive plan for Jeddah, but the government refused. Thus, the technical department of the Ministry of Finance continued the job, and achieved the land sub-division projects in the northern area, the southern area, and on the Makkah Road. These sub-divisions are all based on the grid iron pattern. (See Figure 3.14, 3.15).

Actually, this technical department did not continue for long; it was dispersed and not replaced by an office concerned with city planning only, in 1375/1955. (31).

The dispersal of the technical department of the Ministry of Finance occurred, because all the land belonged to the Ministry of Finance and its land employee was transferred to Jeddah Municipality, according to the circulation number 7140 in 19/18.9.1374/1954, which states:

> "The Municipality of Jeddah has receipt of the land in Jeddah, and the land employee is transferred from the Ministry of Finance and has to arrange the work according to the interest and regulation". (32)

The author believes that the establishment of the technical department in 1375/1955 in Jeddah, under the Ministry of the Interior, is considered to have been the real effective start of the planning control for Jeddah city.

The first step, to form and strengthen this office, was by accumulating and transferring some engineers and official employees from the land department of Jeddah and Makkah municipalities. It seemed that this planning office gave an effective power to the roads and building statutes 1360/1940, by following their measures, especially the regulation that related to the city planning (see Chapter 7). Actually, the function of this office was different from that of the former technical department of the Ministry of Finance.

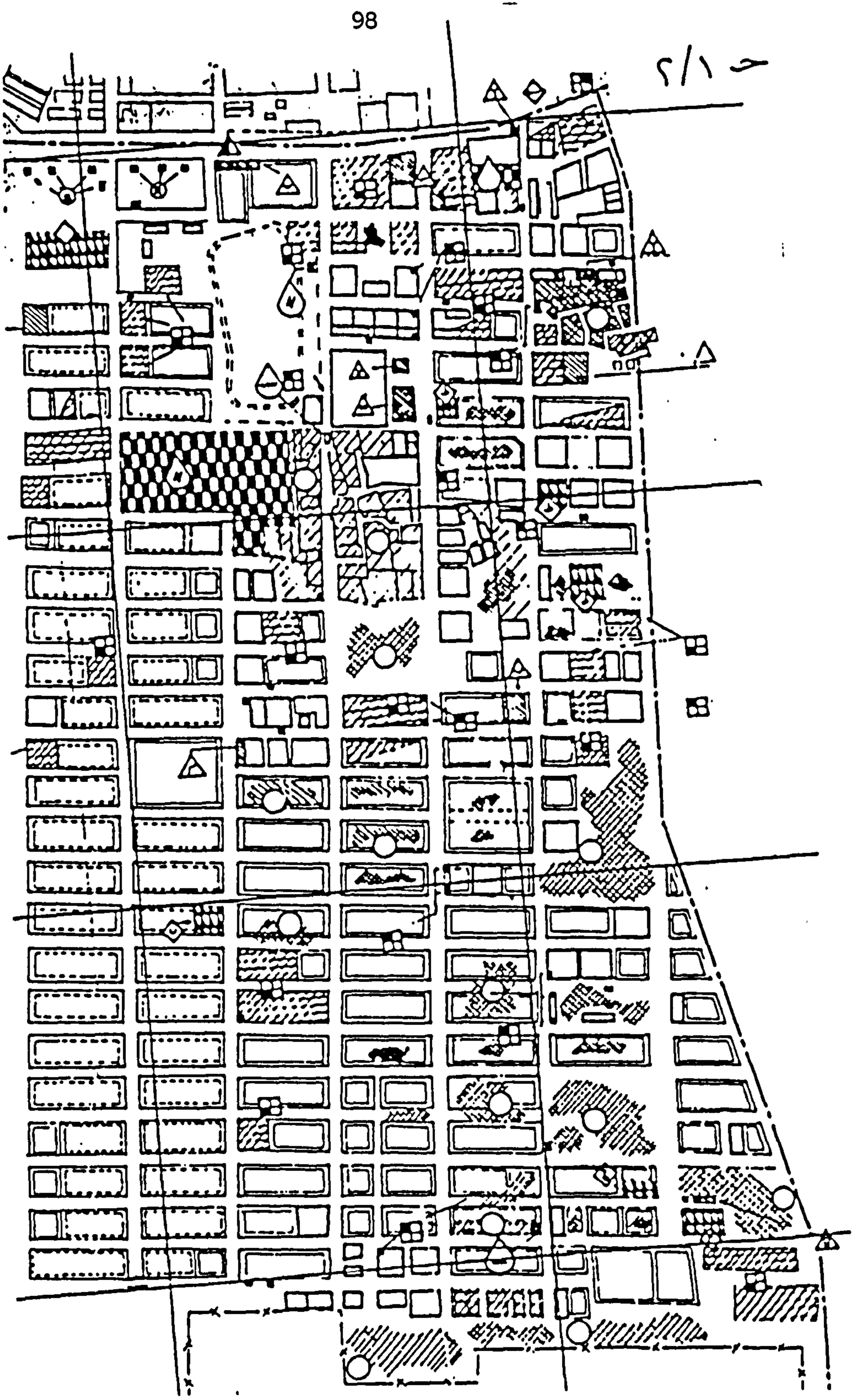


Figure 3.14: The Grid Iron Pattern in the South-Western part of the City

Source: Abdul-Rahman Makhlof, op.cit, Vol.1, p.149

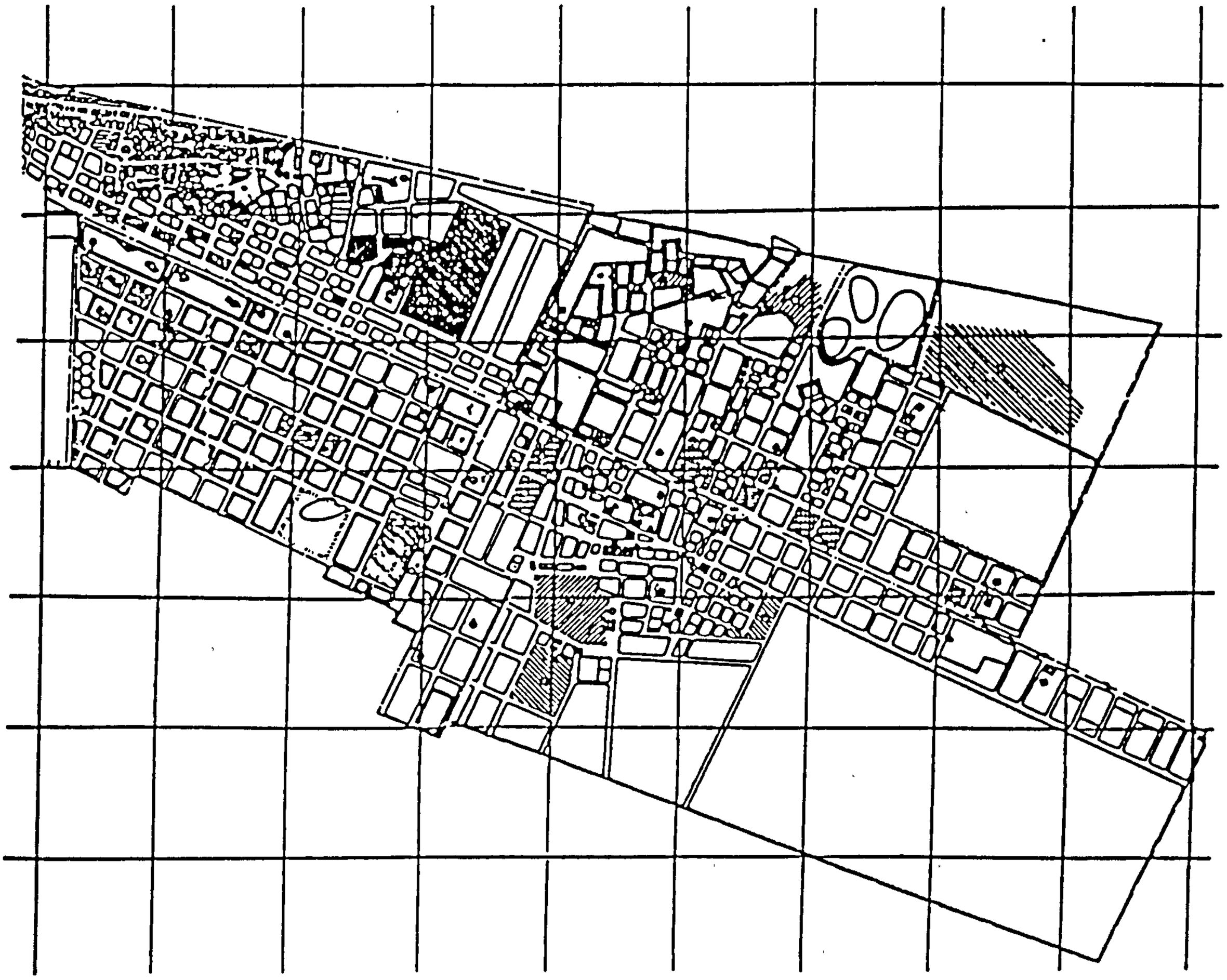


Figure 3.15: The Grid Iron Pattern in the Eastern Part of the City, along Makkah Road

Source: Abdul-Rahman Makhlof, op.cit, vol.3, p.74

The Ministry of the Interior was responsible for controlling the developments and making it compulsory for citizens to plan their plots, while the technical department for the Ministry of Finance was responsible for planning the land that belonged to them, in preparation for its sale.

However, the planning control only concentrated on land sub-division which was mainly based on the grid-iron pattern. It was then that the villa and apartment type became the popular type in these sub-divisions.

Later, in 1958, the United Nations sent Dr. Sayyd Karim to Saudi Arabia, as a visiting expert, to see its situation and needs, following which, the UN elected to supply Saudi Arabia with technical assistance for a long period. Dr. Abdul-Rahman Makhlof was appointed resident expert for city planning in 1379/1959, and Dr. Omar ᶜAzam in 1380/1960 as housing expert. (33) Undoubtedly, the UN experts had a significant influence on the guidance and direction, and strengthened the technical department of the Ministry of Interior, until the Ministry of the Interior issued an order to establish the technical office for the city planning projects in 15 Ramadan, 1379/1959, with a budget of approx. 180,000 RLS. However, the experts of the UN adopted some new planning's concept and regulations, related to the built environment. At the same time they changed the prevalent concept of planning, which was formerly only confined to land sub-division, to more advanced concepts of comprehensive planning. Thus, the first comprehensive plan for Jeddah was done by Dr. Abdul-Rahman Makhlof, as an experiment for the other Saudi cities. (34).

Finally, the above was the source of influential factors on the contemporary planning which affects the appearance of the urban dwelling.

3.5 THE CHARACTERISTICS OF URBAN DWELLING IN JEDDAH BETWEEN 1947-1962

This section will discuss the different factors that affect, directly or indirectly, the formation of urban dwelling between the period of 1947 (after the demolition of the city wall) to 1962 (before implementing the first Jeddah Master Plan).

Here, the study will investigate the characteristics of the urban dwelling, as a result of the effects of the previously mentioned factors. To achieve this goal, a comparison will be made between the aerial photograph of 1947, and the Jeddah survey map of 1962, which was produced by the Office of City Planning, in order to see the amount and direction of the growth, and characteristics of the urban fabric's layout. (Figure 3.1 and 3.16).

The sudden increase of population from about 24,000 inhabitants in 1946 to 94,000 in 1955, and 106,000 in 1959, led to a growth of the city of about six times the size in 1947.

The growth was either a natural growth of old quarters, such as al-Aamariah, al-Kandarah, al-Baghdadiyah, or totally new quarters, such as al-Sabeel, al-Sohifah, kilo (Km) three Makkah Road, etc. The city at that period was mainly extended along the Makkah road to the east, along Madina road, and covered the area between the first ring-road and the second ring-road.

One can recognise in the map of 1962 the types of urban fabric layout; one is an organic layout of narrow, irregular streets, and the second one is in an orderly grid-iron pattern layout.

3.5.1 The Continuity of the Appearance of the Organic Quarters

It is a natural and psychological tendency of immigrants in a new place to want to live near to relatives, or other people from their place of origin. In this period, between 1367-1382/1947-1962, the

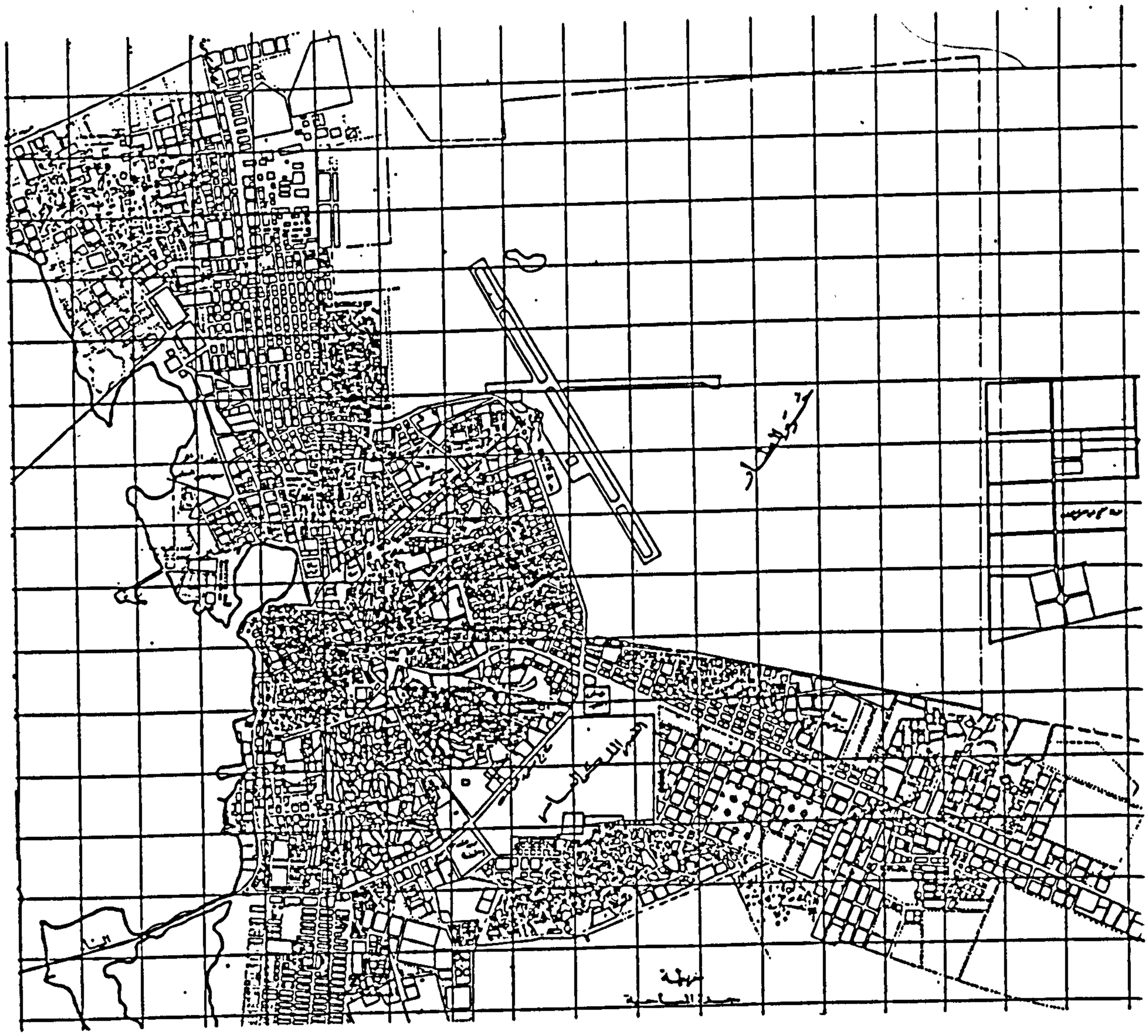


Figure 3.16: Survey Map of Jeddah, 1962.

The figure shows the emergence of the Grid-Iron Pattern in the North and Eastern part of the city.

Source: Abdul-Rahman Makhlof, op.cit, Vol.2. p.23

percentage of immigrants from the south of the Arabian Peninsula was very high. Next came the Bedouins from neighbouring tribes, and then from Palestine. This led to some quarters being mostly residents from the Yemen, as in al-Sabeel quarter, and in others most of the residents were from the Bedouins, such as in the Kilo Thlath (the third kilo in the Makkah Road) Al Nazlah Al-Shargiah, while in al-sohifah quarter most of the residents were from Palestine. At the same time, there were small numbers of immigrants from South Asia, India, and from central Saudi Arabia and other places.

These immigrants in small numbers took their place within these quarters, in order to be near to the water source provided by ᶜAin al-ᶜAzizh, which is known as al-Bazan. Thus one could find inside al-Sabeel quarters, in which most of its residents were from the Yemen, some inhabitants from the centre of the Arabian Peninsula (Hart al-Shorq) and some whose origins were from Africa, South Asia and India. In fact, within a quarter, no one could differentiate between the sectors, in spite of the different backgrounds of the residents. This seemed to be due to the compactness, the juxtaposition of the houses, the correlations and inter-marriage with party walls. With time and settling, came social interaction while going to the mosque, or the Suq area through the narrow, irregular, but human-scale streets and squares between the houses. This situation increased the neighbourhood relationship and the reciprocal respect between the residents, each not harming the others, but rather hurrying to help neighbours.

3.5.2 The Evolution and Formation of the Organic Fabrics

The sudden increase in the population was not totally due to an increase in Jeddah's native inhabitants, but rather to the internal (other areas in Saudi Arabia) and external migration to Jeddah, in search for jobs offered by the city, resulting from the oil revenue, and the government's intention to disperse the wealth, to assist areas (rural and urban) with modernisation. Coinciding with the increase in

immigrants, was a shortage of dwellings and less control of urban development. This led to the development of new neighbourhoods in organic ways, in addition to neighbourhoods already existing before the wall was torn down.

Observing the urban fabrics of these quarters, a similarity can be seen with the urban fabrics of old Jeddah, especially in terms of the narrow and irregular pattern of streets and their easy connection with the Suq area. Similar also are the compactness and correlation of the houses with party walls and the different heights and size of the houses which were built on irregular shape plots. Most of these houses had interior courtyards with wooden shuttered windows, with the rare use of Rawshan (See Figure 3.17).

Recognising the evolution and formation of the organic fabric, it could be found that the origin of this fabric was the plot shape and area. Most of the land plots were irregular in shape and of different sizes. At least one side faced onto the street or cul-de-sac, or on open space, which was usually connected with pedestrian streets, leading to the Suq area or to the mosque.

In the beginning, the vacant, un-owned land outside the city wall of the old town was considered legally Ard Mwat (dead land). Land ownership was acquired by wat^{c} al-yad (putting hand) on any dead land, which was revived land either by digging saharig (water reservoir) or by building shelter for living. (35).

After revival, with three witnesses to prove it, one could easily and legally acquire the title of ownership. This easy method of acquiring land ownership created no problems of high prices of plots. This, coupled with an easy way of building, without intervention and control from the State of how to build, enabled everyone to have his own house; consequently there was no shortage of housing.

The size and shape of the plot was determined by the reviver, according to his need for shelter, by surrounding the dead land first







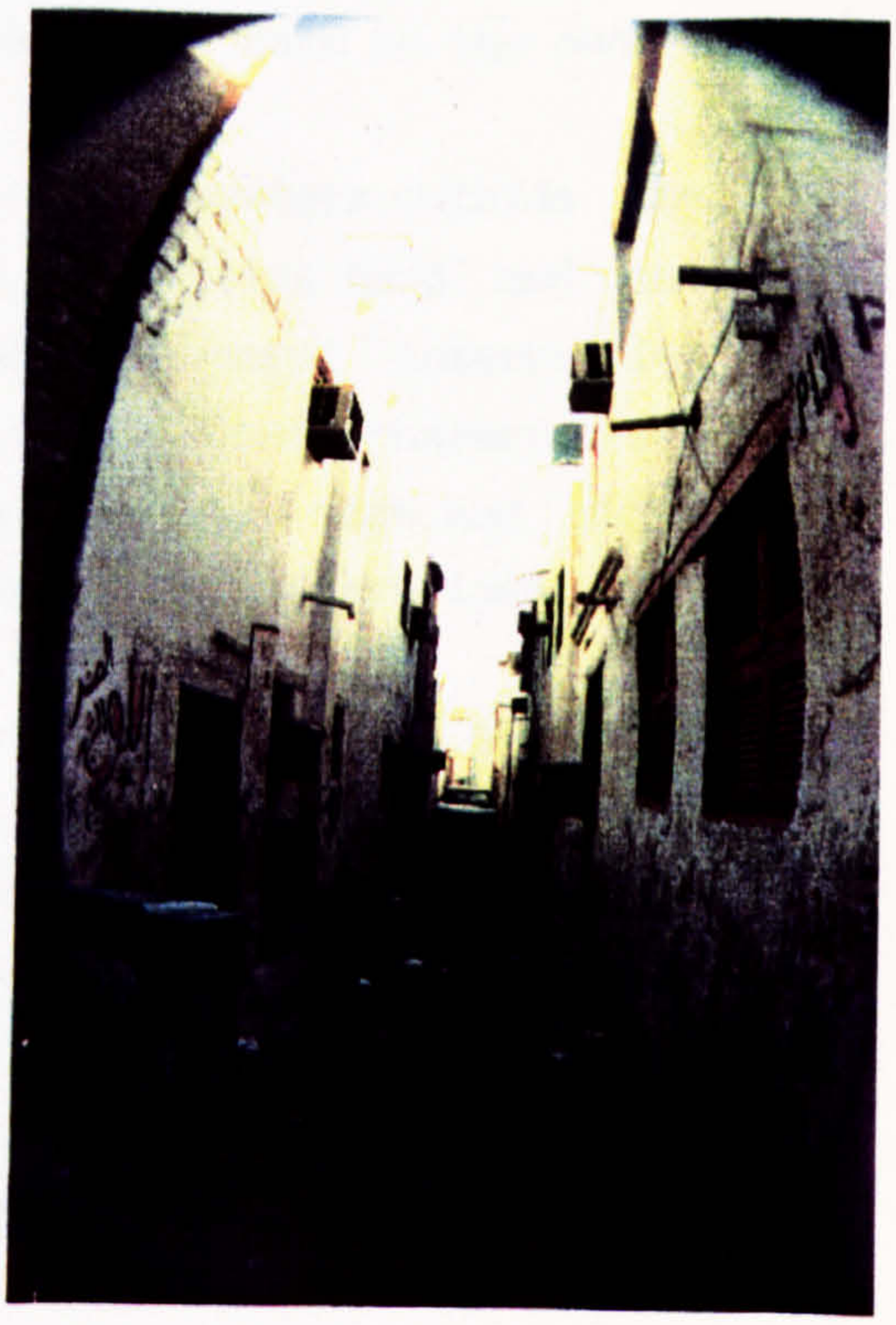




Figure 3.17 Housing Style, Buat Sh^{c}abiah (Arabic Traditional House), Street pattern within the old quarters outside the city wall

with a wall or pile of sand known by ʿuqam to prevent anyone else attempting to revive it. This action in the Islamic law is known as Ihtijar demarcation. (37). Then it would be revived by building shelter gradually.

In some cases relatively large irregular land was surrounded by a wall, and then divided into small plots of different size and shape, leaving between them irregular streets for reaching different plots (see Figure 3.18). These plots were sold very cheaply to anyone, but mostly to relatives. Thus relatives, or people from the same tribes, lived near to each other. However, those who wished to revive near, or adjacent to, the previously-revived land had to consider the rights of passage and servitude, and to guarantee not to block the entrance of the previously-revived land and not to cause any harm to the owner.

Thus, since most of the development in the old quarters outside the old town occurred according to the process of 'putting hand' and the revivification Ahya of the dead land, without government intervention in planning, the urban fabric of these old quarters was characterised by spontaneous and organic tissue of irregular plot size and shape with a labyrinth of narrow, shady streets mainly for pedestrians.

Although some land ownership was acquired through the Royal Grant or through land purchasing from some government agencies, the output of the urban fabric of these quarters was also spontaneous and organic. For example in al-Bukhariah quarter the ownership was acquired through the Royal Grant, when King Abdulaziz granted a large parcel to the Bokhary immigrants from Russia. This had to be sub-divided among them under the supervision of their leaders. Its final form became organic urban fabric.

It seemed that after the Royal decree to regulate the physical structure of Jeddah in 1367/1947, the vacant land, which was not under ownership could be acquired by means of sale from the assigned government agency by decree. For example, the land outside the city



Figure 3.18: Aerial Photograph of Organic Fabric, 1972

Source: RMJM, op.cit

beyond Kilo '6' of Makkah Road should be acquired from the Ministry of Finance. Until the early 1300s/1960s, owing to the lack of an effective technical department, the land in the markets were irregular in shape and different sizes according to the need.

3.5.3 Dwelling Types in the Organic Fabric Quarters

The above discussion explains how the organic fabric outside the city wall was formed and how land ownership was acquired. The land was then built on by the owner, or rented to the immigrants for a specific amount.

Generally, inside the quarters of organic fabric, two dwelling types dominated, Al-Sanadk[1] (pl. of Sandkh huts) and Al-Bouot al-Sh^{c}abyah (pl. of Bait Sh^{c}aby, Arabic traditional house).

3.5.3.1 Al-Sanadq

Al-Sanadq (huts) dwellings occurred in Jeddah as a result of the gradual increase of immigrant labour, especially from Africa and Yemen in the 1360s/1940s. They came first on pilgrimage, deciding to stay on in Jeddah, to find jobs being offered by the city and to be near to Makkah, the holy place. However, because of the limited income of these immigrants, they built their dwellings from simple, scrap materials, such as wooden boxes, petrol drums, corrugated iron, etc.

In some places outside the city built area, Al-Sanadq was the dominant type of dwelling, which expanded gradually to form a quarter by itself, such as Al-Quarantinah Quarter, south of the city, near to the quarantined area (from which it derived its name (see Figure 3.17). Most of the occupants of this quarter, who built their dwellings on owned land, without permission from the owners, were from Africa. This is considered an illegal (T^{c}dy) action, in fact the whole area is considered T^{c}diat a squatters' area. (38). However, in the late 1400s/1980s the squatters were removed by the government, starting

first with-small scale demolition at intervals in the early 1980s, and large-scale in 1974. This was as a result of a serious fire which occurred in the north-west part of Karantinah, which threatened the refinery and steel rolling mills to the west. (39). Actually, this demolition programme and others similar to it, was not accompanied with a prepared programme of re-housing. As a result, this led to an increase inthe problem of housing shortage which prevailed in the 1980s and also led to, according to Assad:

> "... dispersal of more than 700 families, leaving them homeless and victims of high rents. The result was new random pockets of squatter occupation to the north of the city and more than half of the total households remained in the same hara... living in shacks built on rubble in the same area". (40).

Also, al-Sanadq dwellings occurred side by side with al-Buat al-Shᶜabiah (Arabic traditional houses) inside the city built areas, within the quarters of organic fabric, to be near to the source of water and daily services. Here, al-Sanadq dwellings were occupied by immigrants from Yemen. They built their dwellings on rented land according to agreed rents with the owners.

Usually groups of al-Sanadq dwellings were built on rented lands, after first surrounding them with a wall composed of the above-mentioned available scrap materials, with a courtyard in the middle as common space (Figure 3.19).

The form of al-Sanadq is of square or circular layout, usually with a pitched roof, and indicates the influence of construction techniques of the immigrants' origin and background. The interior space has multi-purpose functions (eg kitchens, sleeping rooms), and sometimes the space is divided to have some privacy for guests or visitors. The toilet is usually separate. However, with an improvement in their economic situation, the immigrants transfer to more permanent housing, such as al-Buat al-Shᶜabiah, (local Arabic traditional houses). Thus al-Sanadq gradually decreased.

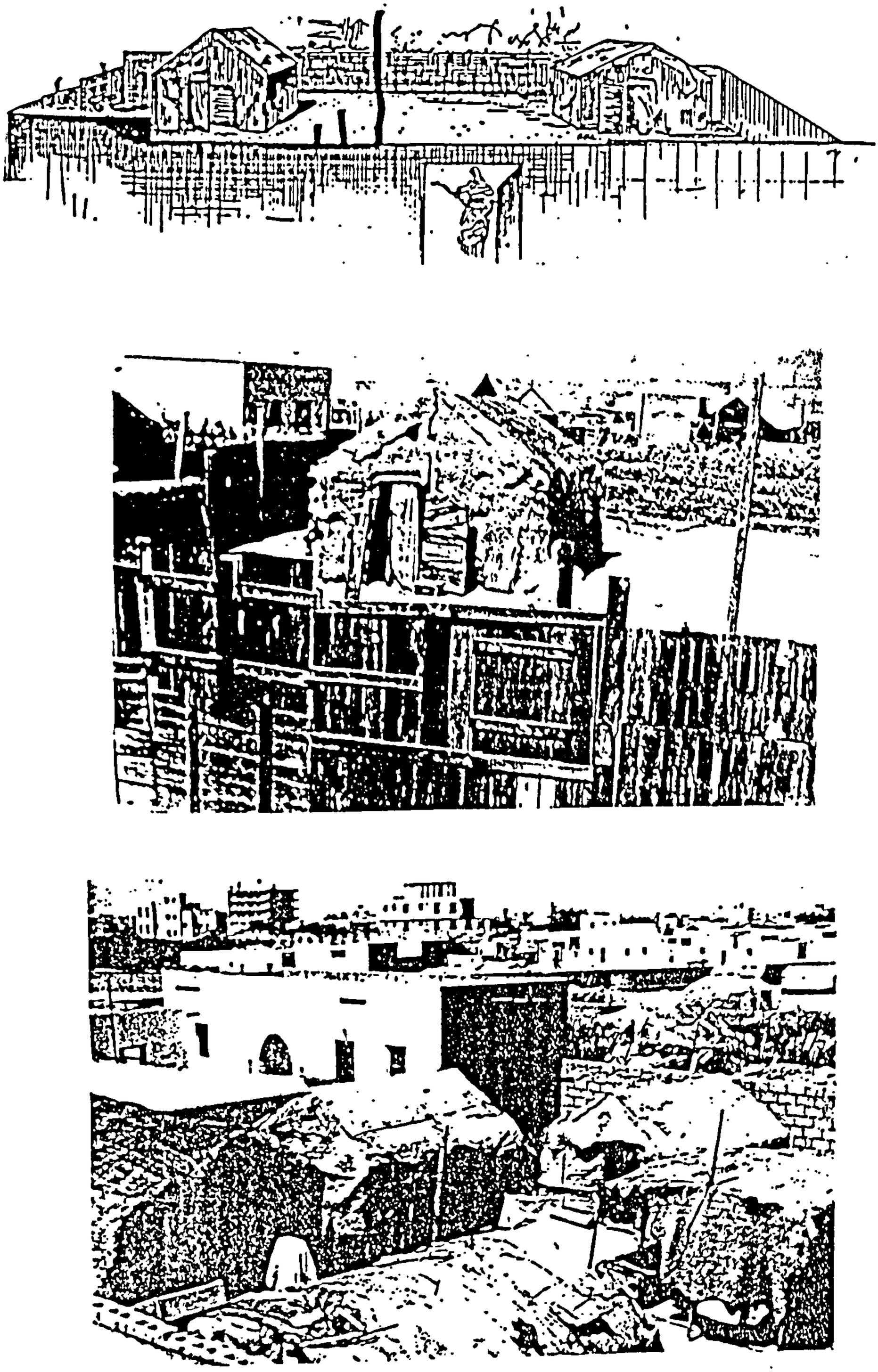


Figure 3.19: al-Sanadq Dwelling

Source: Abdul-Rahman Makhlof, op.cit, Vol.2 p.220

3.5.3.2 Al-Buat al-Shᶜabiah

Al-Buat al-Shᶜabiah are considered to be the new version of the old traditional Mashrbiah houses in Jeddah's old town, and are also considered to be transitional between the old style of house and the new style of villas and flats. Al-Buat Shᶜabiah (pl. of Bait Shᶜaby) are well-known names. Dr. Abdul-Rahman Makhlof also named them Bouat Badwiah (Bedouin houses). (41) This name could be considered valid (but not popularly used) because it explains the people who first built and used them.

It seems that the Bedouins, who lived in the villages outside the city wall, were the first people who were introduced into Jeddah. Actually these villages were the original nuclei of the old quarters outside the city wall, eg Bany Malik, al-Kandarh, al-Sohifah, al-Bogdadiah, etc. Thus, al-Buat al-Shᶜabiah were mainly concentrated in the old quarters, but were also concentrated in the new quarters such as Hay al-Jamᶜah, Hay al-Qhatin, Qwizah, Al-Nuzlah el-Sharqiah, in which most of the residents are originally Bedouin. These new quarters grew up in the late 1380s/1970s in the organic form, as a result of increased housing demand, caused by internal immigration from villages and tribes of the Western and Southern regions of Saudi Arabia, who sought to benefit from work opportunities and social services (education, health, etc) offered by Jeddah city. Some al-Buat al-shᶜabiah were built on owned land, others illegally on other land (which is known as Tᶜdy and will be mentioned later).

Generally, al-Buat al-Sᶜhabiah could be described as simple houses in their nature, easy to construct, and were built by residents themselves (or at least they participated in the building). They were economical in price, and suited to the budgets of the immigrants. These houses are considered to be permanent with a strong structure - in contrast to al-Sanadk huts of a light structure which were first built from Libn mud, roofed by tree trunks and covered by mats.

Later new construction materials were used, such as concrete blocks, cement, ready-made wooden beams and sheets, and doors and windows, etc, but still the system of bearing walls covered with a wooden roof remained the same. These houses had no extensive decoration (see Figure 3.18). They used windows with four shutters rather than the rawshan or shish, as in the old traditional houses of Jeddah, to provide light and air. The lower two shutters were always closed for privacy. (See Figure 3.20).

These types of houses are mainly built in stages. The owner himself would plan the layout directly on the site - without intervention of an architect - according to their needs and limited budget. One or two, or more rooms with essential services (kitchen and toilet) were built first of simple construction and usually in one corner of the plot. Gradually with the owner's economic improvement and an increase of needs, more rooms and services were added, until completion. The final form would be an attached house of two to four storeys height, with an internal courtyard, either in the middle of the building or in one corner (Figure 3.21). This courtyard provided an area for the women to move easily, out of sight of the adjoining neighbours; it also provided a safe place for children to play in a shaded area and under the supervision of the mother. In addition, it provided light and air from the court and the adjoining streets into the house through the four shuttered windows. The two lower shutters were always closed to prevent sight into the house, as well as preventing sight of the adjoining neighbours. This was made possible because the lower shutters provided a dead wall of two meters in height from the floor level, which is more than the average height of a person, and even if there were openings or a courtyard opposite, privacy could still be maintained. (See Figures 3.20, 3.21.

These houses usually provided residences for extended families as in the traditional houses of old Jeddah. Also parts of the house could be rented, each part having its main entrance, in contrast to flats where the whole building shared one main entrance (see Figure 3.22).

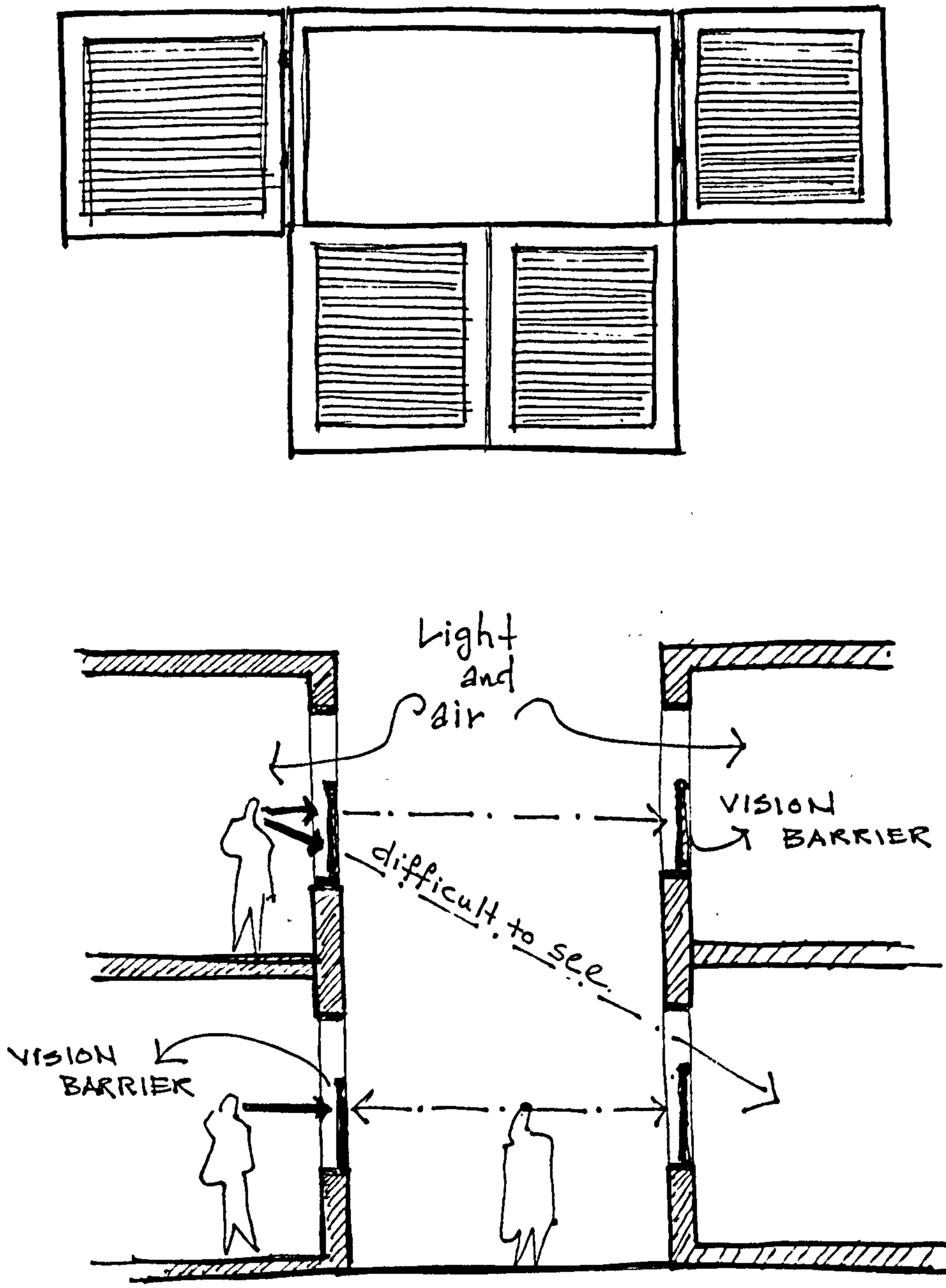
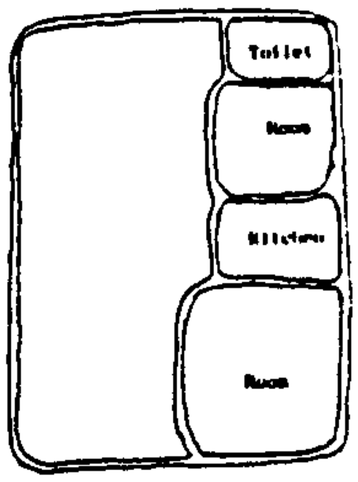
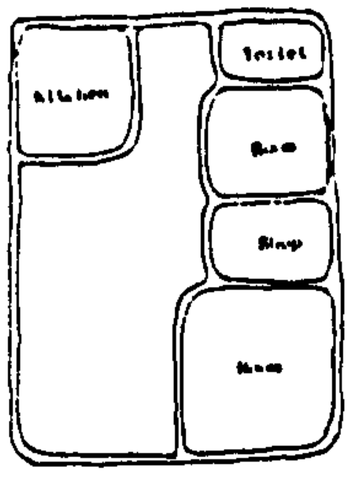


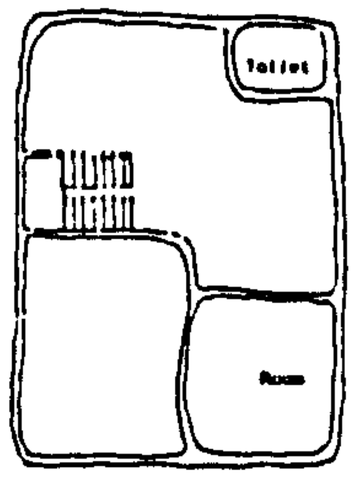
Figure 3.20: Four wooden shutters divided into the upper and lower part. The lower part mainly closed to function as a vision barrier while the upper part mainly opened to provide light and air. This type is usually used in the new Arabic traditional houses (Al-Buat Al-Sha'bih)



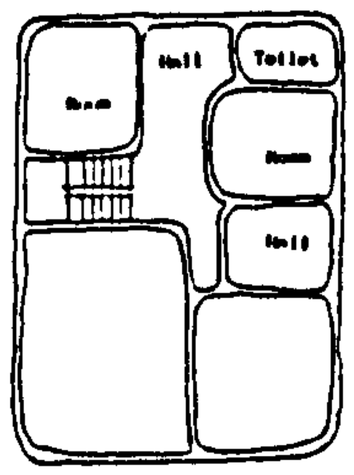
Stage I



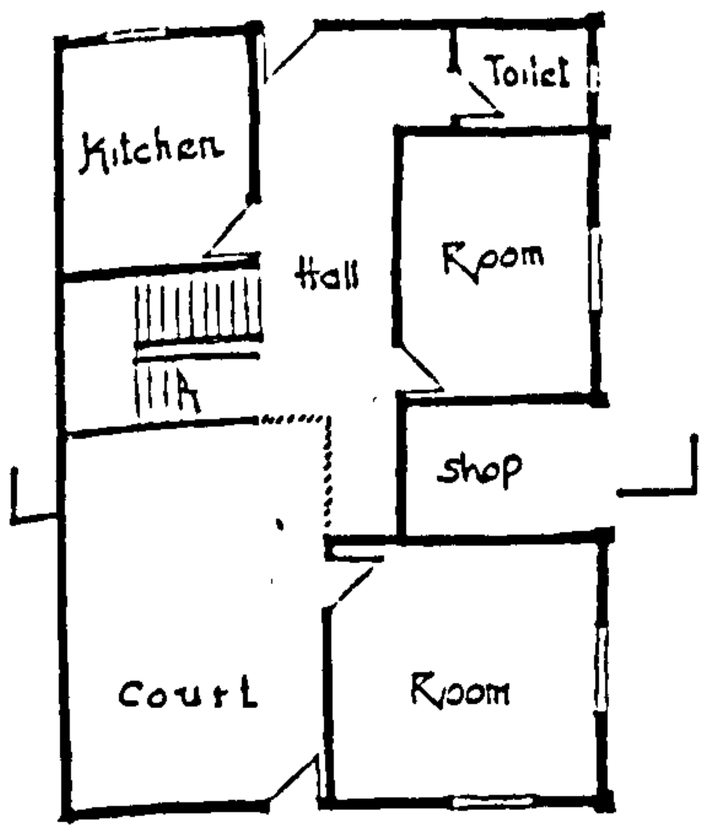
Stage II



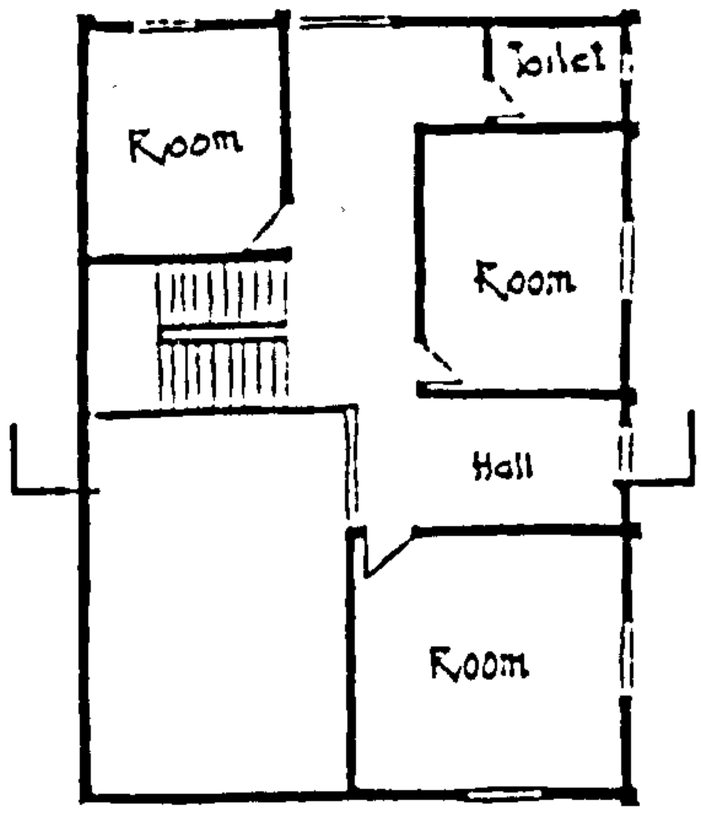
Stage III



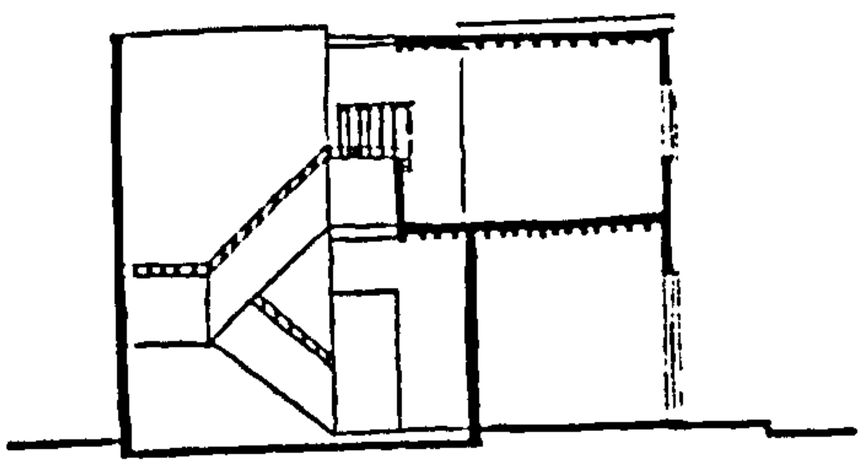
Stage IV



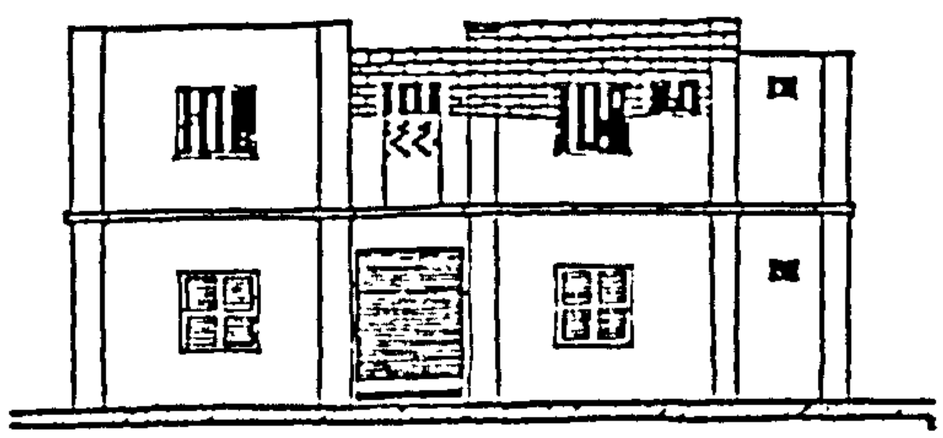
Ground Floor Plan



First Floor Plan



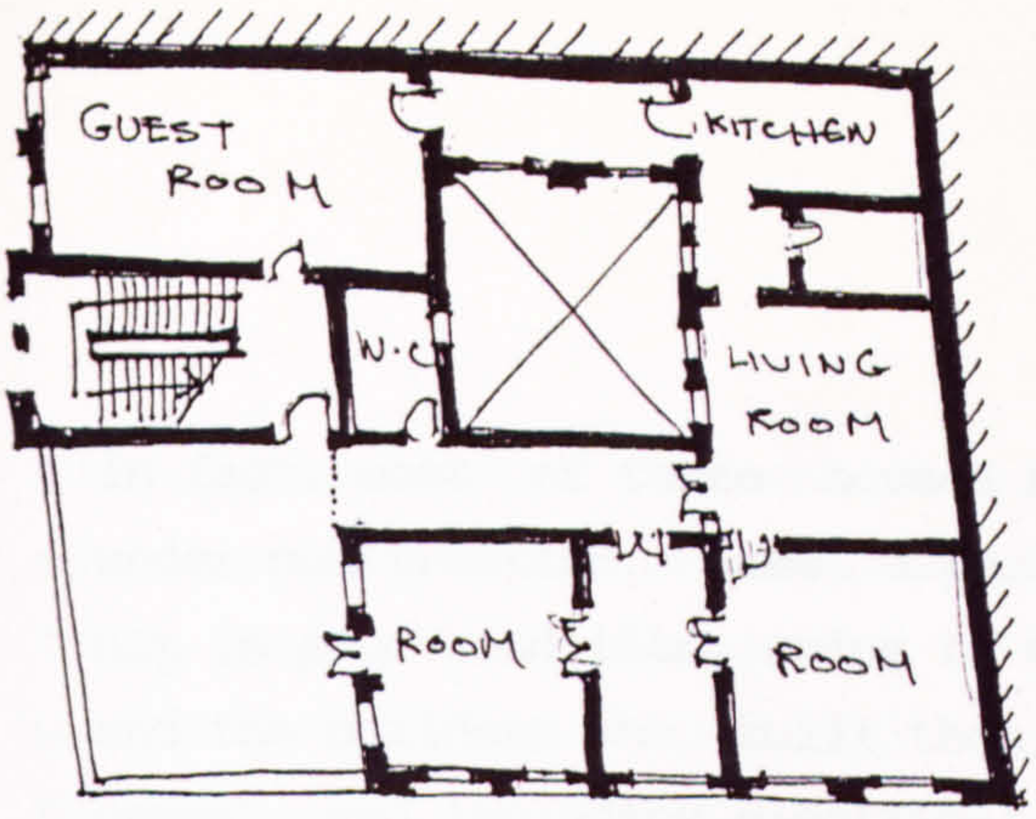
Section



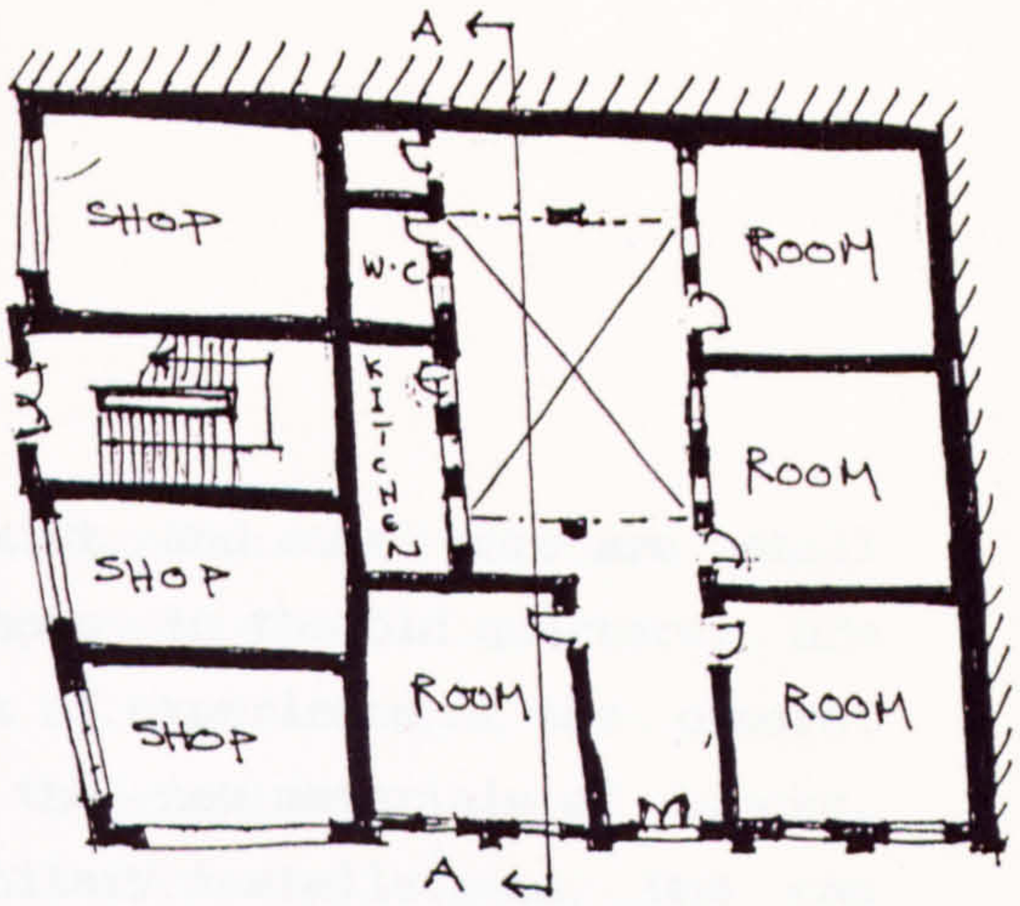
South elevation

Figure 3.21: Stages of development of al-Bit al-Sh^{c}by (Arabic traditional houses)

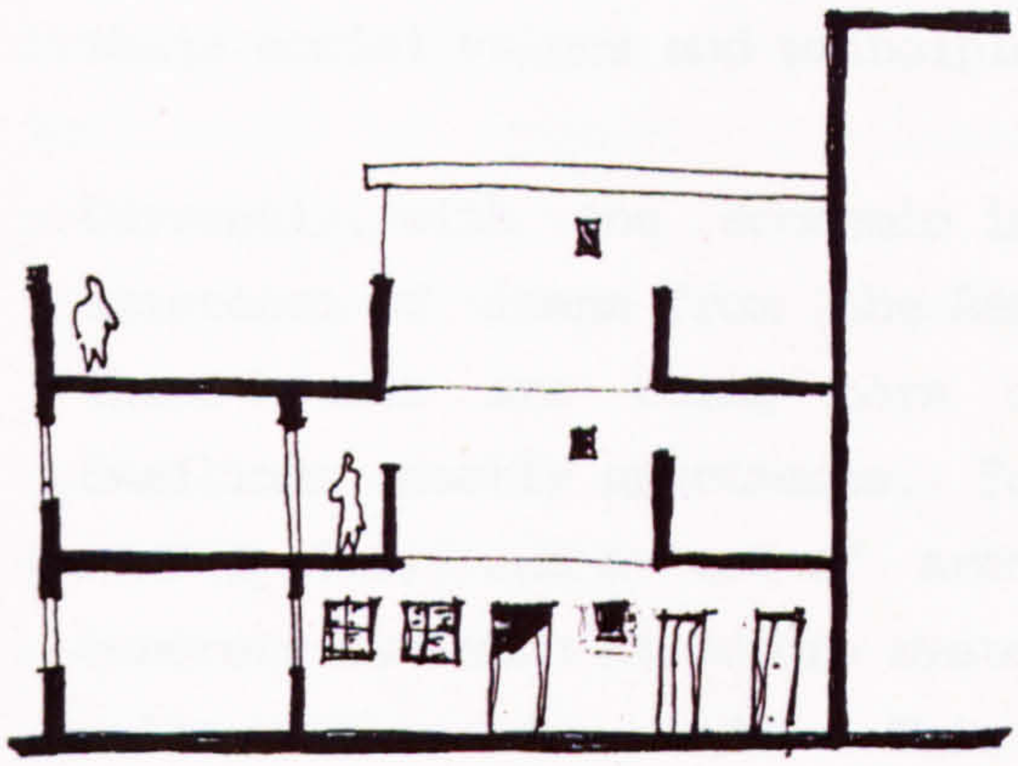
Source: T. Alharbi, op.cit, p.245-246



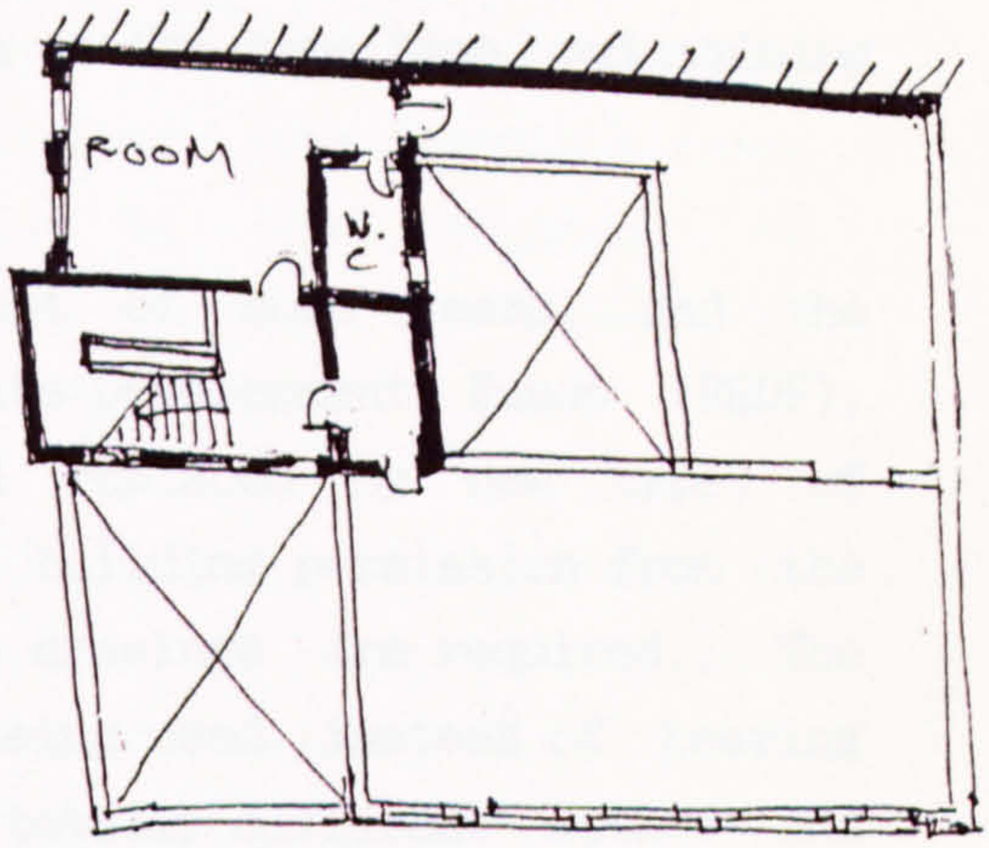
First Floor - Owner living area



Ground Floor - Rented Section



Section A-A



Second Floor
Roof for sleeping at night



Figure 3.22: Rented Arabic Traditional House

In fact, most of these houses still exist and some more are still under construction. Some, especially those in the old quarters, are not in good condition, owing to the lack of experience of the owners, and the builders who built them, using the new materials of blocks, cement, and including electrical and sanitary installations. One can find electrical wires exposed, cracks in the walls, water leakage, etc. However, in spite of these construction problems and the need for maintenance, these houses express the needs of the residents, according to their budget limits, while at the same time maintaining their social values and principles.

Currently, with the economic improvement of some owners, and the existence of loans from the Real Estate Development Funds (REDF), these houses are being torn down and replaced by new types of dwellings, mostly apartments. For this, building permission from the municipality, and a set of architect's drawings are required. The concrete skeleton structure system is being used, instead of bearing walls with wooden roofs. This is a totally different method and procedure from the one previously practised.

3.5.4 Grid Iron Pattern

As discussed previously, the attempt to plan Jeddah city was connected with the establishment of a planning office belonging to the Ministry of the Interior in 1955. Experts of the United Nations collaborated with the planning office at that time, to prepare the first Master Plan for Jeddah (1959-62). The planning attempt in this period was not a comprehensive future plan, but a series of pilot schemes in order to avoid organic development and cope with the need for the car as a new mode of transportation. Thus, land sub-division based on the grid-iron pattern, was adapted and applied, and was first introduced into Jeddah by the Baker Consulting office.

Application of the grid-iron pattern concept was enforced in Jeddah in two ways. The first to avoid organic development along the major

roads, like Makkah, Madinah, Al-Matatr, al-Mina, etc. There were some open spaces between the major roads and the organic settlements, and these spaces were sub-divided into small blocks of regular shapes, mostly rectangular (100mm 50m) or square (100m x 100m). Among these blocks, roads of 12m width were planned to form cross junctions at intervals of 100m and 50m. Along the major roads, within these blocks, multi-family apartments with open balconies, and of western design, began to appear in large quantities. (See Figure 3.23). The appearance of these apartments was helped by the existence of elite Arab architects from neighbouring countries, who were already influenced by western civilisations and by the emergence of professionals (Doctors, Teachers, Engineers, etc), who were used to living in such types of buildings in their own country.

The second planning application for using the grid-iron pattern to avoid organic development was for the division of large open spaces east of Khozam Palace, and north and south of Jeddah, into small square blocks (100m x 100m), similar to those mentioned, with cross-junction roads between them. These planning areas, as a sign of urbanisation, and because of the cost of a plot, attracted only middle and high income classes. As a consequence, and coupled with regulation setbacks at the end of 1960, villas (detached houses in the middle of a plot) and palaces appeared in these areas (see Figure 3.24).

In addition, the grid iron pattern was applied to the swamp areas, where it was considered difficult for organic development to extend. Al-shata neighbourhood to the west of al-Handwiah district was a swamp area because of the lack of building techniques by individuals in such an area, and lack of government control and funds needed to repair and maintain the area. Thus, in the aerial photograph of 1948, one can see the boundary of al-Handwiah neighbourhood at the edge of the swamp area, and the survey map of 1962 shows this swamp area to be planned according to the grid-iron pattern.



Figure 3.23: Aerial Photograph 1950s, Showing the Grid-Iron Pattern with Apartment Types along Airport Road

Source: Abdul-Rahman Makhlof, op.cit



Figure 3.24 Aerial Photograph 1970s, Showing the Grid-Iron Pattern with Villa Type in the Middle of the Plot, which occurred in the 1960s

Source: RMJM, Jeddah Master Plan Report
Ministry of Interior/Municipality Department, 1973, p.57

Al-shata neighbourhood (considered part of al-handwiah neighbourhood, and thus named by the people as 'al-Handwiah') emerged after construction of the sea port to the south-west of the city. Construction of Al-Mina street (sea port road) from the old town (city centre) to the sea port, extended to the airport. Al-Mina street was constructed with a sea front protection, to prevent sea water extending beyond the street inland. The area after a while became acceptable to build on, and it was then planned according to the grid-iron pattern plan, similar to those mentioned above. Most of the dwellings in this area were apartment buildings of three to six storeys high.

In investigating the planning application of the grid-iron system, the following matters can be recognised:

1) The main intention for such planning was to avoid the expansion of organic development.

2) Planning was concerned more with cars as new modes of transport, than the priority of human needs.

3) No attention was paid at all to the community of neighbourhood services, such as shopping areas, schools, clinics etc, but it was seen that these new areas, until the late 1970s, were dependent on the Suq area of the nearest neighbourhoods, which developed organically.

4) The cross junctions provided by the pattern created a lot of traffic hazards and car accidents, especially in the areas between junctions (only 100m or even 50m).

5) The pattern does not provide the social interaction, or safe areas for children to play, as in the traditional urban fabric. There is a lack of semi-private meeting space, such as squares and pedestrian safety routes; instead the houses are surrounded by streets, which encourage the use of cars even inside the

neighbourhood, which makes social interaction difficult and is a danger to children playing.

6) These planned areas attract high and middle income classes because, when land has planning approval, its value increases by more than ten times that of its value, before planning approval. Thus, low-income classes could not build in these areas.

3.5.5 Modern Dwelling Types

Both villas and apartments which appeared in the middle of the 1950s, mostly on land with grid iron pattern, became very popular types of dwellings in Saudi Arabia and in Jeddah in particular, in spite of the fact that they do not conform to socio-culture and the prevailing climate in the country. The author believes that the main reason for such conflicts can be attributed to the absence of the local master builders. This results from the municipality's requirement when issuing building permission, that maps (plans) must be included, which local master builders are not qualified to do. This gives to the foreign Muhndsin (anyone who has a certificate from an engineering school was called 'Muhandis', even if he graduated as a surveyor or draftsman) from Syria and Egypt a better chance of obtaining the job of building the Jeddah built environment, which has resulted in the introduction of the international type of dwelling (villa and apartments).

3.5.5.1 Apartments

The increase in population coupled with a shortage of housing, and the existence of non-Saudi professionals working in Jeddah, created a need for apartments. Consequently, both high-rise and lower buildings were built by the Muhndsin mostly for renting.

Apartments first appeared in the city centre, some of them replacing the old traditional houses, and along the main roads where the land

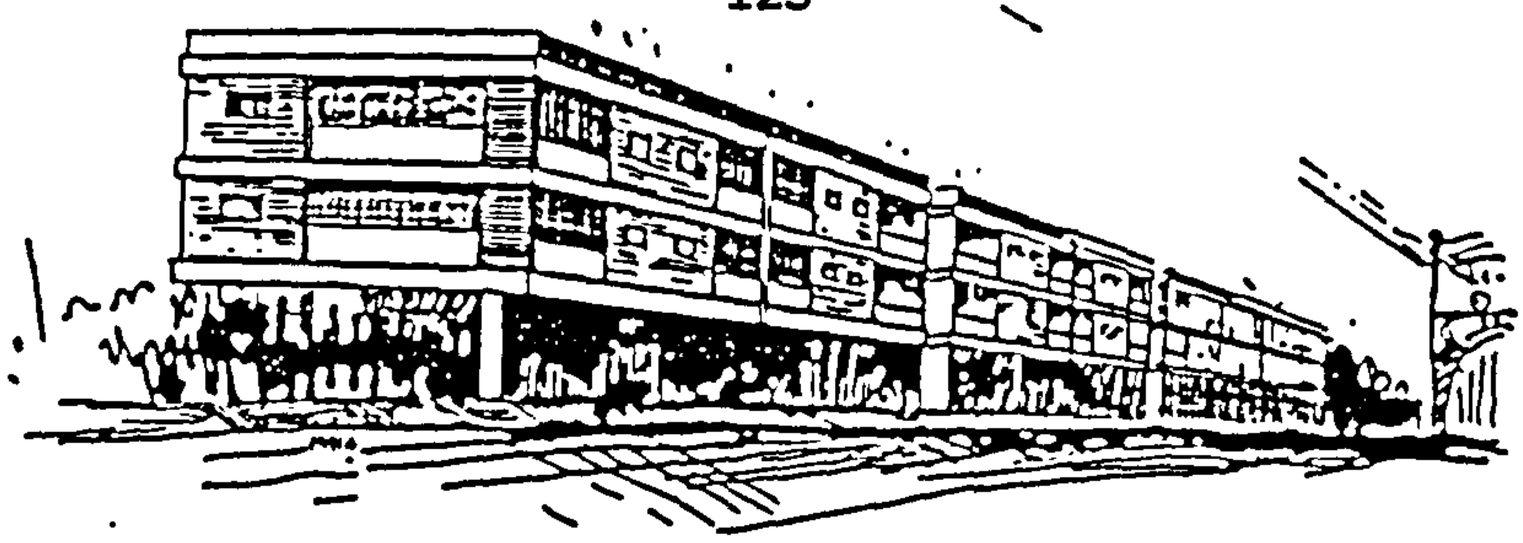
had been sub-divided into regular shaped plots of grid-iron pattern. Recently some apartments were built to replace the al-Buat al-Shᶜabih, with the aid of REDFC.

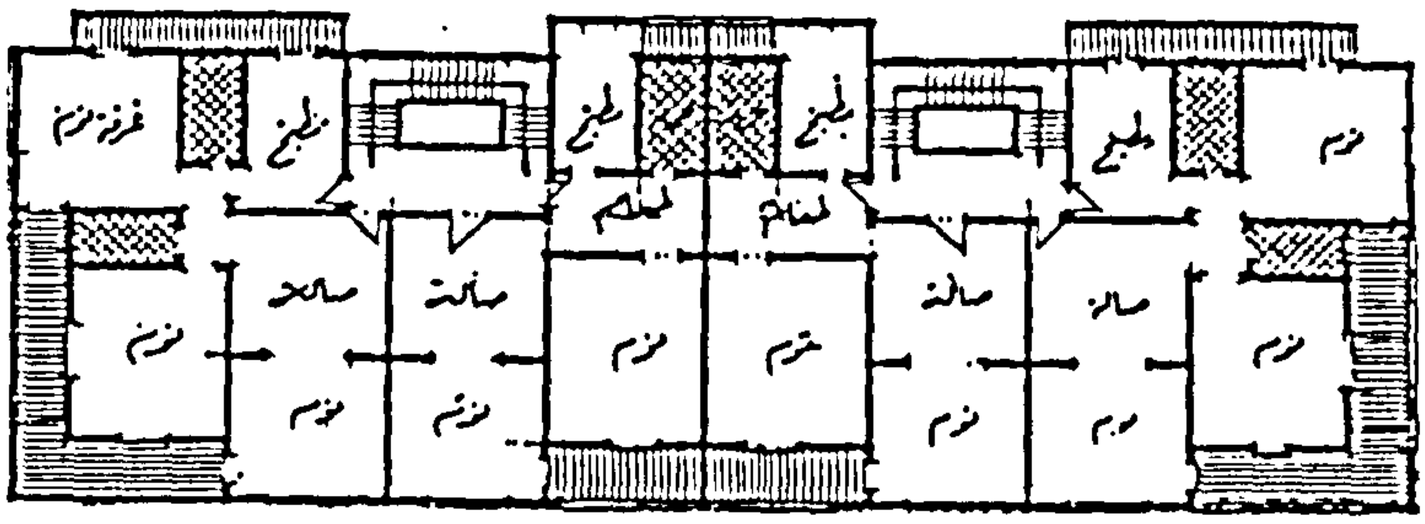
Although the high-rise apartment buildings are similar in height to the traditional houses of old Jeddah, there is a marked difference between them. The main reason for height in the traditional houses was because of shortage of land in the old town, and the need to accommodate the extended families, while at the same time preserving the socio-culture. Thus, the ground floor was mainly reserved for males and guest quarters, while the upper floors were reserved for the family and family quarters, and the facade was covered with lattice wood (rawshan) for privacy, and for climatic reasons.

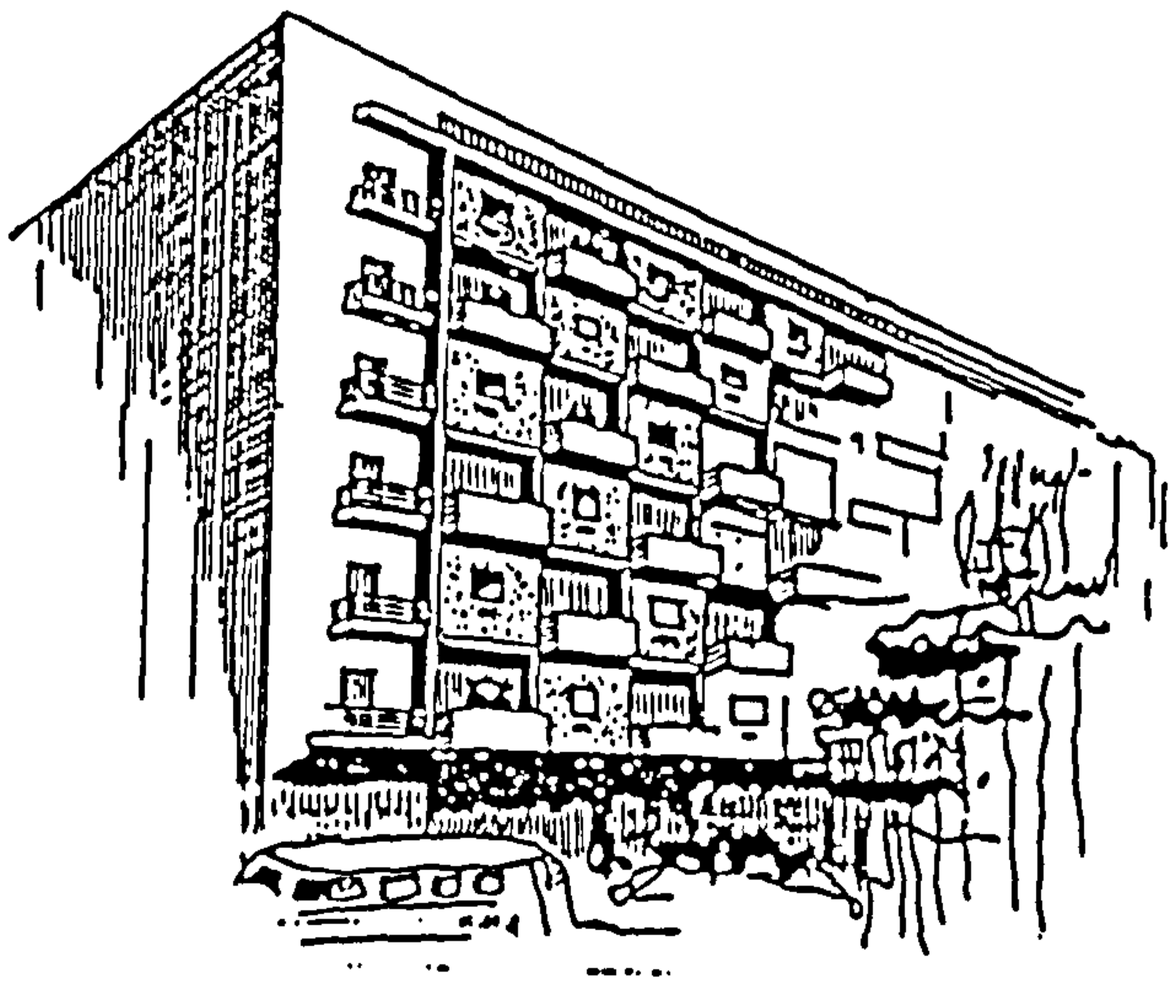
This is in contrast to the apartment which was designed to accommodate nuclear families, and is not concerned with the extended socio-culture. Each floor contains many flats, with entrances placed opposite each other, which disposes of privacy, when both doors are open. Even the spatial organisation inside the apartment has little concern for the separation between the family area and the guest area and this restricts easy movement for the family inside the apartment, especially in the presence of a guest. (Figure 3.25).

Additionally, the facade was not designed to protect the privacy of the occupier, or the privacy of adjoining neighbours. Instead, new architectural elements were introduced into the facade with open balconies and glass or wooden windows. This removed any privacy and allowed neighbours to see into each other's apartment. The inside of the apartment and the balcony could also be viewed from the street. (Figures 3.26, 3.27)

Some apartment buildings have lifts, but these often do not function properly, not only from the maintenance point of view, but also from a social point of view. In Islam it is prohibited for one to be alone (Khlwah) with another member of the opposite sex, not from the degree







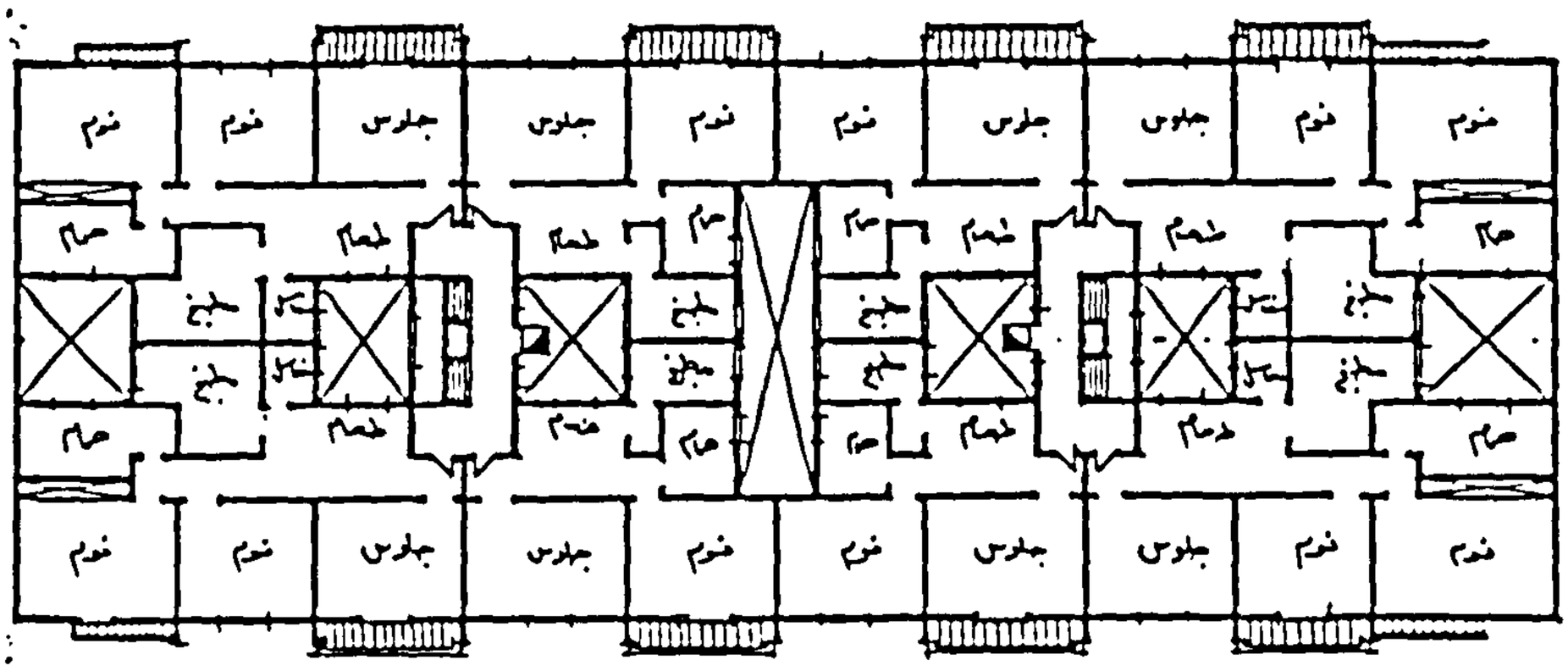
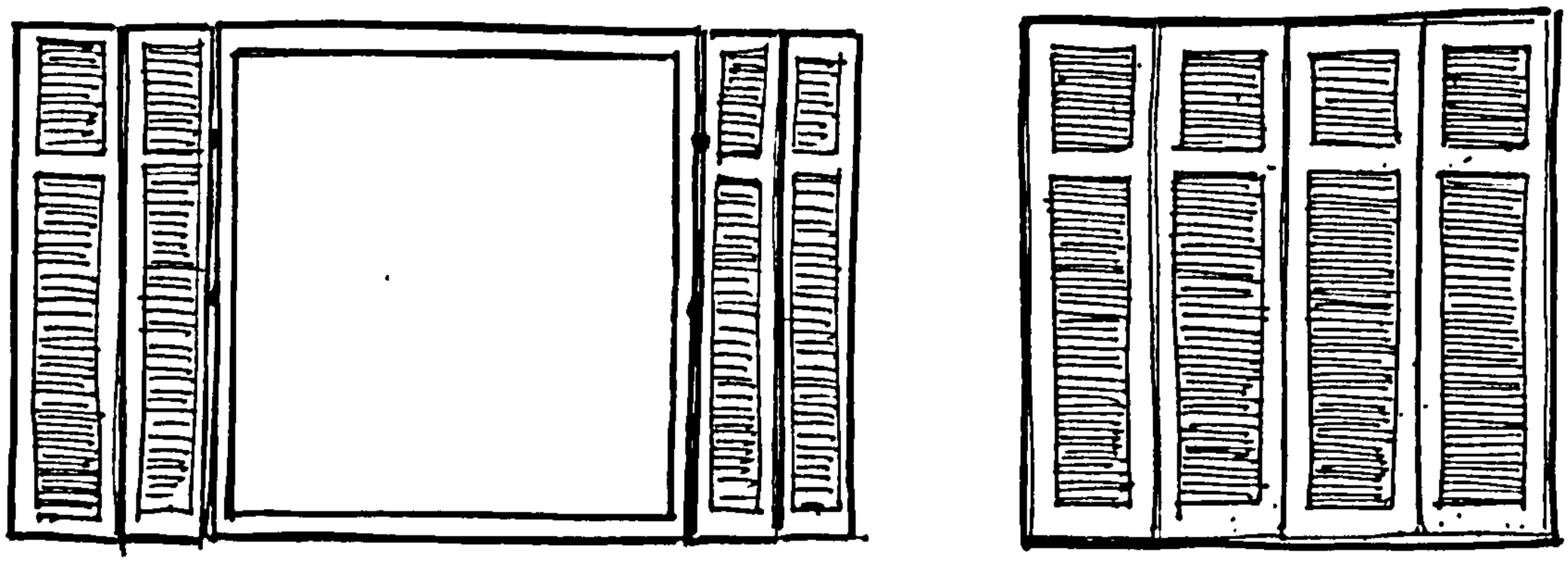


Figure 3.25: Apartment type, mid-1950s

Source: Abdul-Rahman Makhlof, op.cit, Vol.2, p.224, 226



Figure 3.26: Privacy Problems Through Balconies and Windows



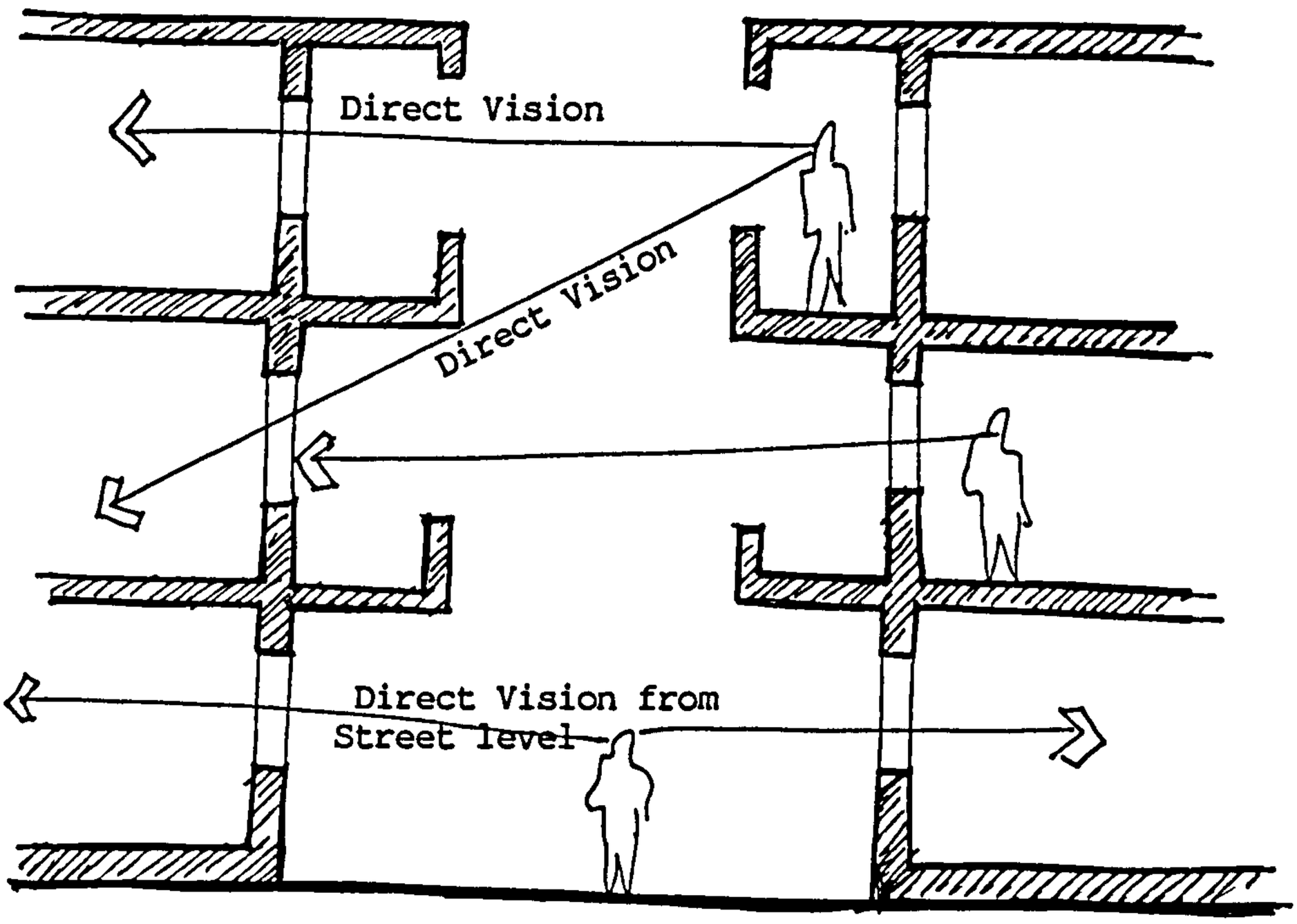


Figure 3.27: Four wooden shutters, opened altogether, difficult to prevent direct vision and maintain privacy. First introduced in the 1950s and used in the new building typology (apartments and villas)

of Mahram (42). This leads to a person (either male or female) often having to wait a long time to use the lift. Consequently, the lift is not used to its full capacity, its working time increases, which has the effect of decreasing the life of the lift. (43).

In spite of the fact that apartments do not conform with the socio-culture or norms of the society, they have recently become popular with Saudi Families in Jeddah, and in Saudi Arabia in general. This is due to the increasing numbers of the nuclear family, especially among young couples with a limited budget, who are newly married and looking for a decent rented house at a reasonable price. Apartments also became popular among the extended family, in which each married son receives a flat for his own nuclear family, within the extended family apartment. The social integration among the extended family in an apartment dwelling is a little less compared to the traditional house of Old Jeddah, because in the apartment building each flat has complete self-contained facilities; ie kitchen, guest room, dining room, living and sleeping rooms. Thus, each nuclear family receives and entertains their guests in their own flat in contrast to the traditional houses where all members of the extended family come together at eating times or to receive guests because the common facilities are used by the whole family.

Recently, however, there have been some attempts made to modify the interiors, in order to create public, private and semi-private space within the flat to achieve separation between the family area and guest area. This does not however solve the problem of lack of privacy with or from adjoining neighbours, especially with the introduction of the setback regulations, which will be discussed in Chapter 9.

3.5.5.2 Villas

The villa dwellings were introduced into Jeddah in the mid 1950s by foreign Muhndsin. This type of dwelling was first introduced into

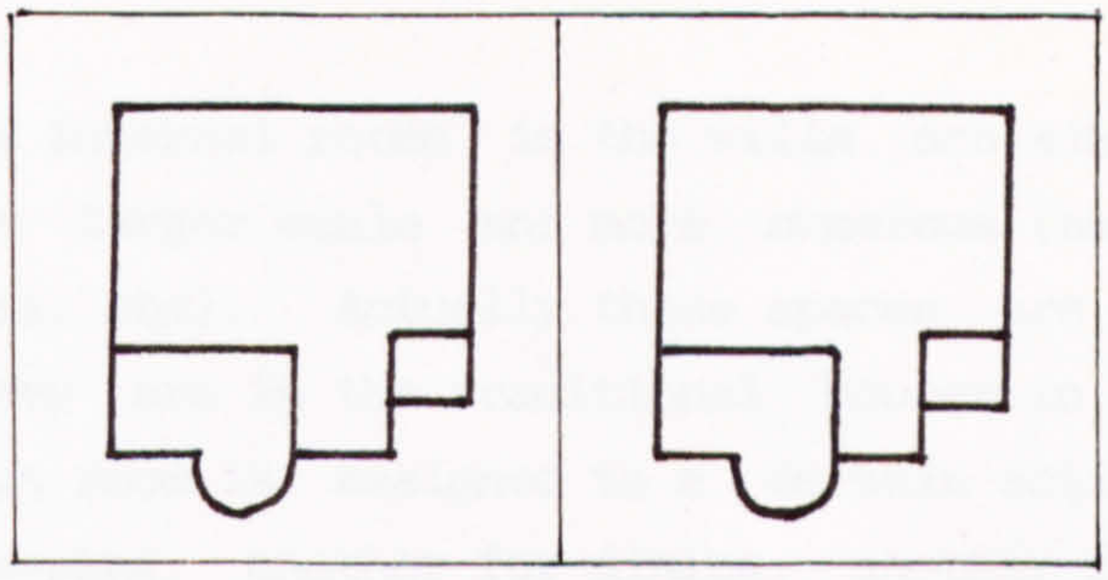
Saudi Arabia by Aramco in the Eastern province and then adapted by the government in the al-Malaz project for government employees. Gradually, through sociological influence, this type of dwelling spread throughout the whole country, including Jeddah.

The villa is a western style, low-rise, detached house of one or two storeys high, occurring in the newly sub-divided areas of grid-iron pattern. They attract mainly the single family of middle and high income class, because of the high cost of the plot and construction.

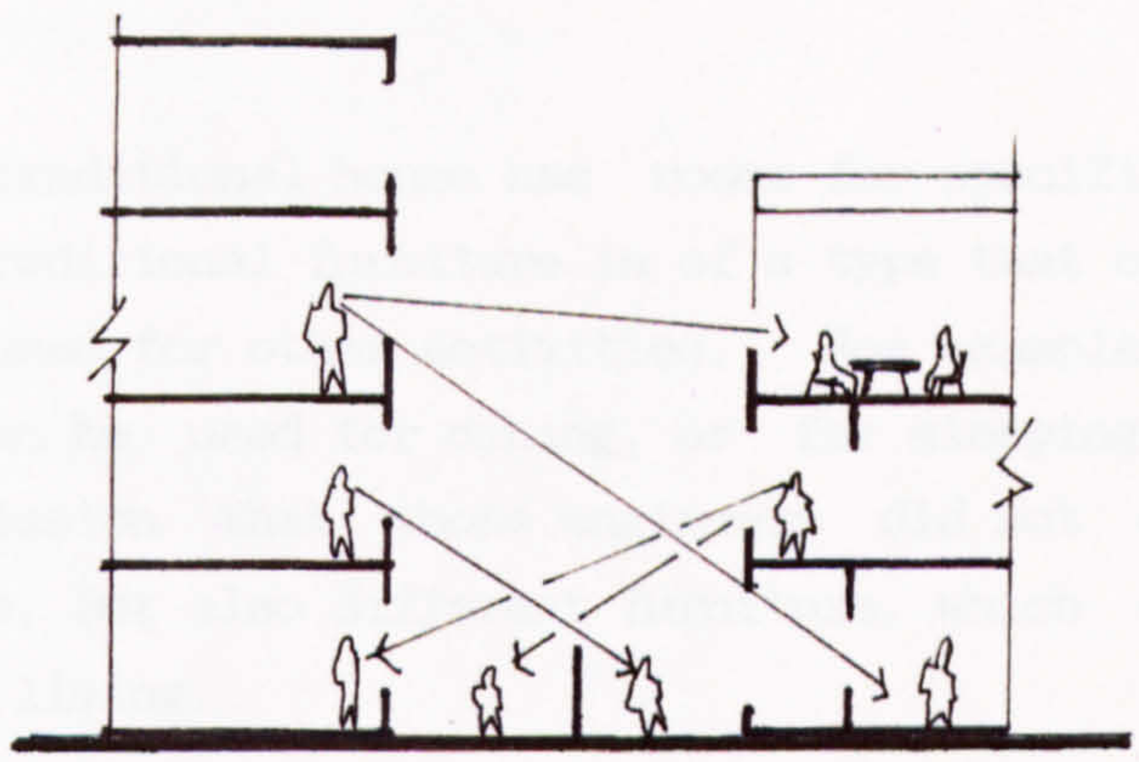
The villa has been greatly influenced by the western culture, the architects and engineers copying the styles which already exist in their own countries (eg Egypt and Syria) and not taking into consideration the socio-culture and norm of the Saudi society and prevailing climate. They have blindly imitated to the extent of even building some villas with pitched roofs, which is mostly suitable in the high rainfall areas.

The villas are built in the middle of a rectangular plot, with spaces around the building for gardens and car parking, and surrounded by high walls to prevent direct sight from the street. However, the building location in the middle of the plot makes it easy to be seen by the adjoining neighbours, which consequently makes the outdoor space useless for the family. Similarly, in the large terraces which are usually included in the villa's facades, to function as open air seating areas, one is also exposed to being seen and intrusion from the adjoining buildings. Nor do the wooden windows when open, or the large glass window, maintain privacy within the building. (See Figure 3.28).

The location of the villa in the middle of the plot causes the building to be exposed constantly to the sun. The use of concrete materials in the construction, which is characterised by quick gain and loss of heat in such a hot climate, has no doubt led to over-heating the interior space. The use of air conditioning therefore is essential, even if the climate becomes temperate.



Plan of Villa Types built in the middle of the plot



Section shows the Privacy Problem between villas



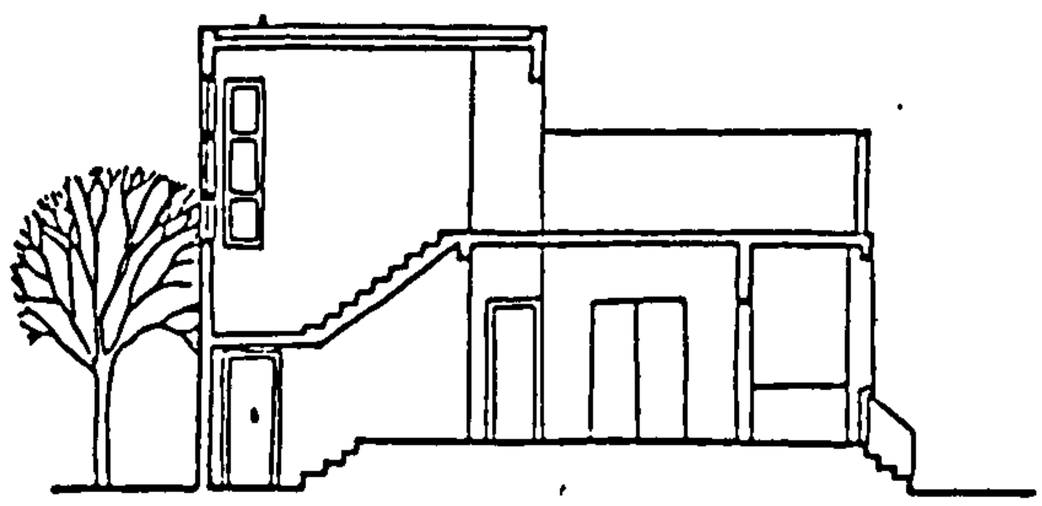
Figure 3.28: Villa Types which occurred in the 1960s

To some extent, the internal rooms in the villa are similar to the apartment, but on a larger scale and more numerous (such as more bedrooms, living area, etc). Actually these spaces are not used to their maximum, as they are in the traditional houses in old Jeddah. This is because each room is assigned to a certain activity (ie, a special room for sleeping, another for dining, another for a guest, etc.), and each has its own type of western style furniture and cannot be used for purposes other than what it was designed for. (For example, a dining room cannot be used as a sleeping room, and vice-versa).

In contrast, the traditional house has rooms for specific activity, but, because the traditional furniture is of a type that can be moved, each room can be used for other activities. For example, the guest room (al-majlis) can be used for dining, or for sleeping. Here, we can draw the conclusion that those engineers did not only design exotic architecture, but also different furniture, which consequently affects the way of living.

In looking at the spatial organisation of the villas, one can find that although there is a special zone for guests, and others for the family, the segregation is not really complete. For example in Figure (3.29) the plan for the villa, built in the late 1960s, indicates that, when a guest enters the building at the main entrance via the lobby to the guest room, he can see who is moving on the stairs, or in the corridors, and can even see into the master bedroom through the door that opens onto the terrace (if it is open).

Recently there has been some concern about the spatial organisation to achieve the segregation between guest and family areas. To avoid direct vision to the family or women's area, some additional walls and doors have been added, and to control circulation by having certain entrances and guest rooms for males and other rooms for the family. However, intrusion on the indoor and outdoor privacy of the villa from the adjoining neighbour still exists, especially with the introduction



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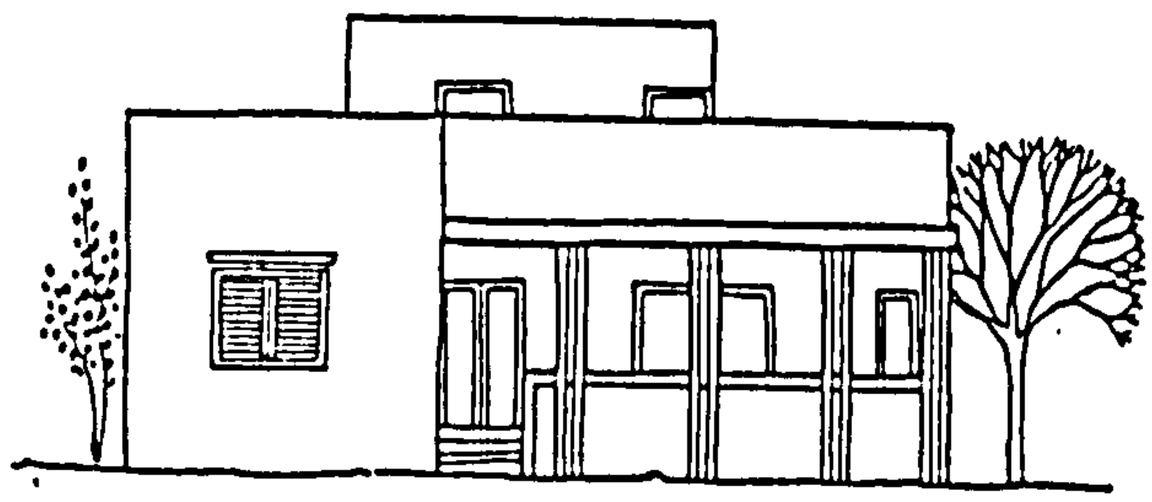
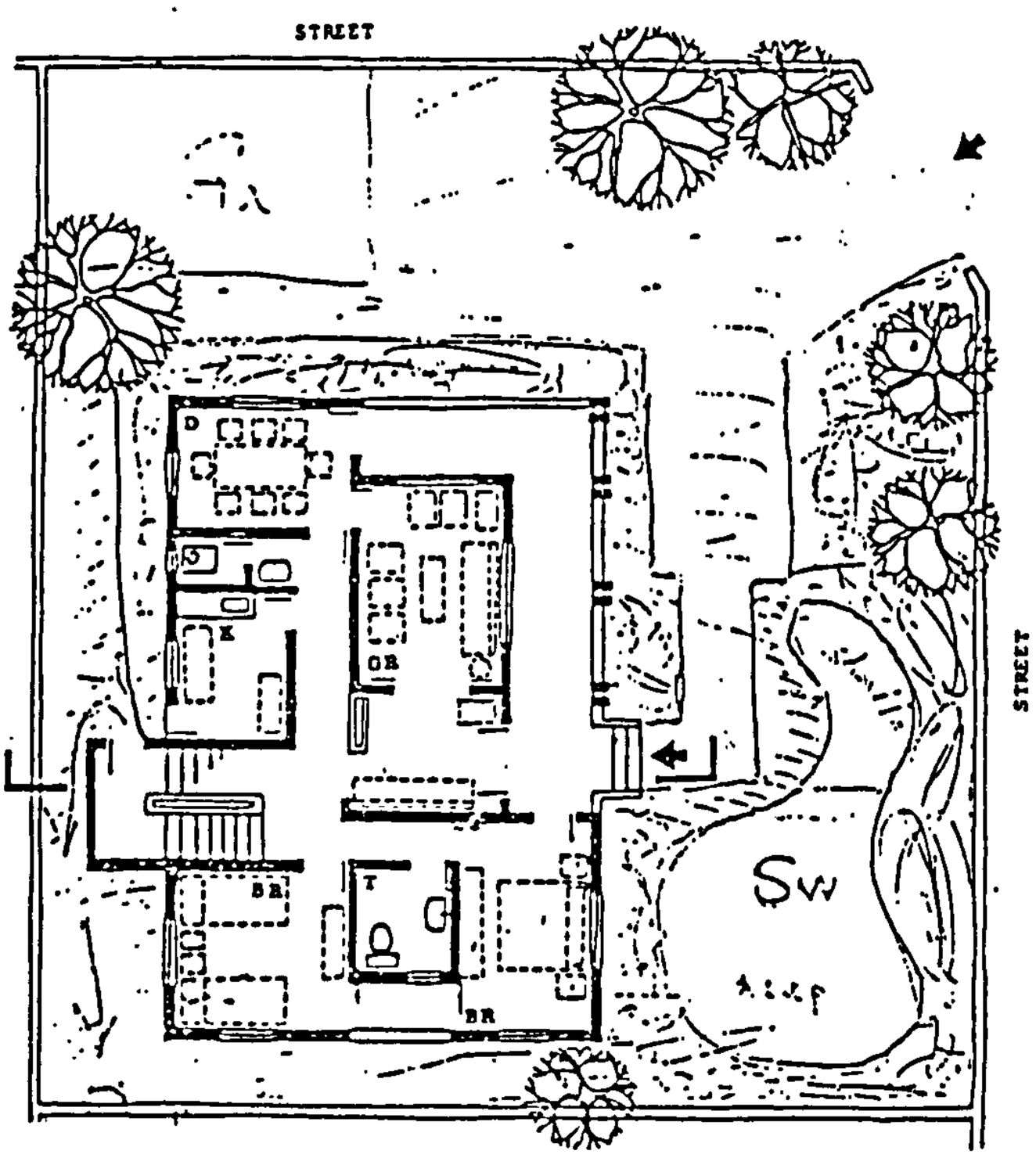


ELEVATION



0 1 5 10m

1:200

Figure 3.29: Plan of Villa Type, 1960s

Source: Y.M. Fadan, Urban Dwelling Environment: Jeddah, Master Report, MIT, 1977, p.49

of the compulsory regulation of set-back which will be discussed in Chapter 9. Thus, some people raised the outside wall mainly by plastic corrugated sheet. (Figure 3.30).

However, in spite of all this, there are some positive aspects of the villa dwelling type. It is considered the preferable type of dwelling among the local people because internally it is spacious, with an availability of outdoor space, and moreover, gives the feeling of independence and private space, in contrast to the apartment dwelling type.

3.6 SUMMARY

This chapter describes two types of urban fabric, organic and planned, which occurred outside old Jeddah's city wall. Here, the influential factors' effect on the emergence and formation of this fabric were discussed in more detail.

At the same time, the study clarified the dwelling type which prevailed in each urban fabric, and it determined the influence and conformity of each type with the socio-culture of the society and the prevailing physical environment.

In the following chapter, the study will concentrate on the comprehensive plans that applied in Jeddah, especially with regard to their effect on urban dwelling.

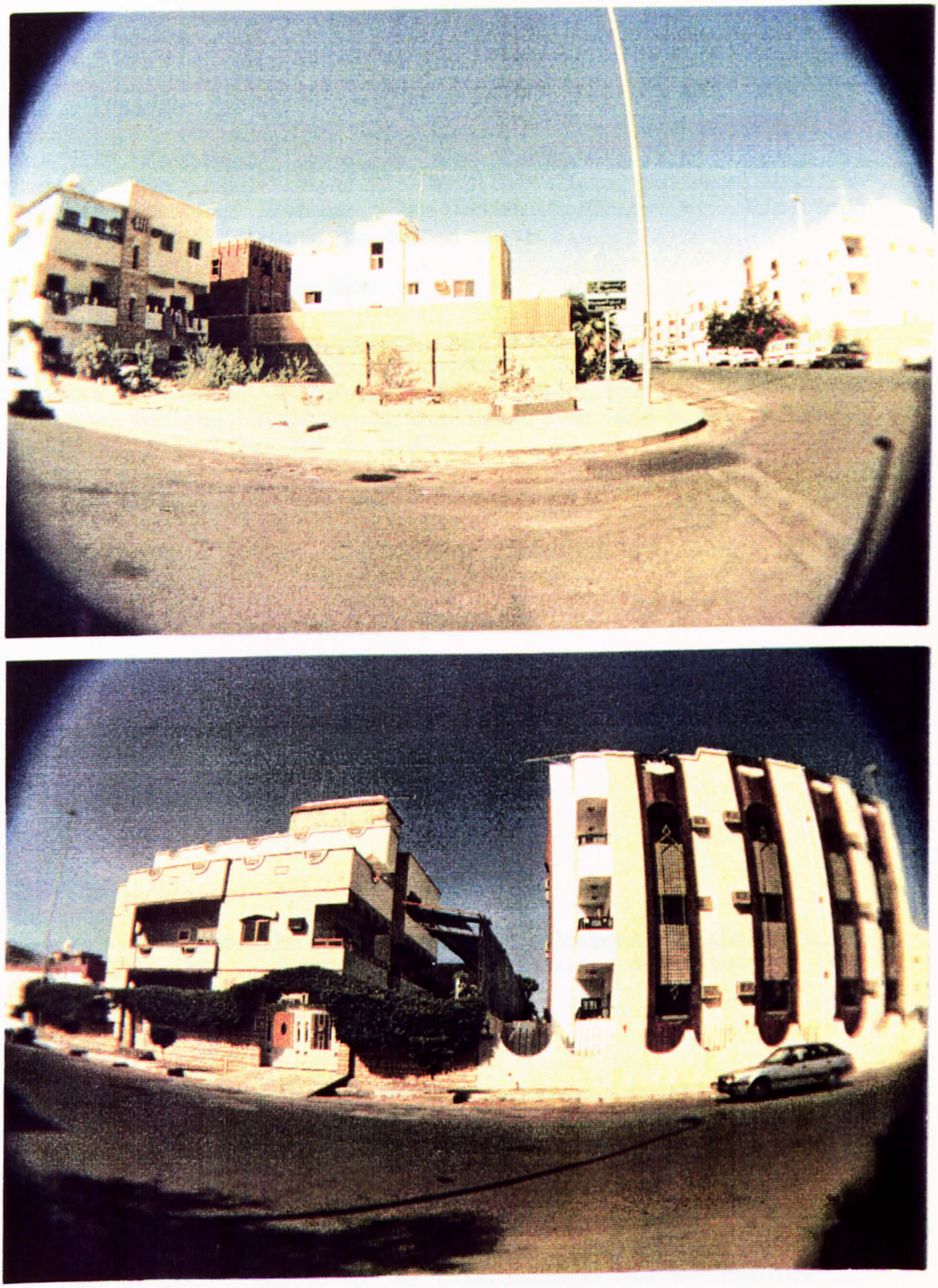


Figure 3.30: The outside wall is raised by a plastic corrugated sheet for maintenance of privacy

Footnotes - Chapter 3:

1. The King Abdulaziz' grant to the immigrants from Bukhara in Russia. The author heard it from the Master Builder Abdullah Bokhary (recently working with Jeddah Municipality, Old Town Branch) during his visit to Jeddah in 1988.

2. A.Y. Bokhary, op.cit, p.280.

3. Abdul-Rahman Makhlof, al-Drasat al-ᶜmraniah al-Shamlh L-Madinat Jeddah min 1378H iLa 1383H (1959-1963), (The comprehensive Urban Studies for Jeddah City from 1378H to 1383 (1959-1963). A report prepared for the Ministry of Municipalities and Rural Affairs, Jeddah Municipality, Vol.2, p.33.

4. A.Y. Bokhary, (1) op.cit, p.210.

5. Angelo Pesce, "Jeddah, Portrait of an Arabian City", Falcon Press, p.109.

6. Abdul-Qadus al-Ansary, op.cit, p.159-162.

7. Ibid, p.159.

8. Ibid, p.146.

9. Ibid, p.150.

10. Ibid, p.152.

11. Ibid, p.152.

12. George Orr Duncan, The Planning and Development of the City of Jeddah 1970-1984. Unpublished Ph.D Thesis, submitted to the University of Durham, 1987, p.38.

13. Ibid, p.38.

14. See the government goals in the economic, social and urban affairs in 1961, to explain the government's decision to diversify the economy. Abdul-Rahman Makhlof, op.cit, Vol.1, p.30-37.

15. Ibid, Vol.2, p.76. The population of Jeddah was estimated in 1948 and 1956 by Aramco from aerial photographs of Jeddah, while in 1961 it was estimated by the International Health Organisation by means of a sample.

16. A.Y. Bokhary (1), op.cit, p.222.

17. Abdul Qadus al-Ansary, op.cit, p.34.

18. Ibid, p.35.

19. The author met with the Architect, Sᶜaud al-Qaifaidy, the mayor of the al-Balad Municipality, during his site visit to Jeddah in April-June 1987. The mayor requested the local Master Builder, Abdullah Bokhary, who worked with the municipality for the renovation of traditional houses, to be with me as a guide during my visit to Jeddah Old Town.

20. Yousef Fadan, "The Development of Contemporary Housing in Saudi Arabia (1950-1983)". Unpublished Ph.D Thesis, MIT, 1983, p.80.

21. For example, the Bowring regulation for the Real Estate Fund gives those who build in concrete more funds than those who build in other materials; this indirectly encourages building a frame concrete building.

22. See page 297 of this Thesis.

23. Saleh A. Al-Hathlouf, Tradition, Continuity and Change in the Physical Environment: The Arab-Muslim City. Unpublished Ph.D Thesis, MIT 1981, p.162-171. Also, see Yousef Fadan, op.cit, p.128-142.

24. Yousef Fadan, Ibid, p.179.

25. Abdul Qadus Al-Ansary, opᶜcit, p.412. He mentions that the previous mayor of Jeddah ᶜamar Banajh (1375-1381, 1955-1961) mentioned to him that the income of the municipality was very little, until the government decided that in order to increases its performance it should receive the real estate tax of about 5%.

26. Ibid, p.179.

27. For more detail about Ahya revivification see Chapter 6 of this Thesis. See Jamel A. Akbar, "Responsibility and the Traditional Muslim Built Environment. Unpublished Ph.D Thesis, MIT, 1984, p.71-76. See also, Abdu-Slam D. Al-ᶜAbady, "al-Mlkyah Fi al-Shariᶜah al-Islamiah", Published Ph.D Thesis by Maktabat al-Aqsa, Amman, Jordan, Vol.1, p.272-311. Also see others Figh (Islamic Jurisdiction) books.

28. Sunan al-Bayhaqi, related by ᶜAish, the Prophet's wife, also see Ibn Adam, p.306.

29. See Appendix B, the reply letter from Dr. Abdul-Rahman Makhlof to the author's questions about the first Master Plan and other matters relating to the subject. Also see, Abdul Qadus al-Ansary, op.cit, p.381. Also see Abdul-Rahman Makhlof, op.cit, Vol.1, p.73.

30. See Appendix B.

31. Abdul-Rahman Makhlof, op.cit, Vo.1, p.73.

32. Ministry of Municipality and Rural Affairs, al-Anzimah, al-Lwah, al-Ta^{c}limat, (The Statute, The Regulations, The Directive), Vol.2 from 1354 to 1399H, Instant 1934 to 1973, p.153.

33. See Appendix 2. Also see Abdul-Rahman Makhlof, op.cit, Vo.1, p.71.

34. Ibid, Vol.4.

35, See Chapter 6 for more detail about the legal method of land ownership, acquisition of ard al-mwat dead land by Ahya revivification.

36. Ihtijar demarcation is the first step of land ownership acquisition by Ahya revivification.

37. See Chapter 4.

38. See Chapter 5 for more detail about the concept of T^{c}diat squatters.

39. M.H. Asaad, "Study of the Housing Situation for Low-Income Families in Jeddah, Saudi Arabia". Unpublished M.Phil. Thesis, University of Newcastle, 1977, p.59.

40. Ibid, p.60.

41. Abdul-Rahman Makhlof, op.cit, Vo.2, p.243.

42. See Chapter 6 for more detail about the degree of Mahram and non-Mahram in Islam.

43. Farouk Konash, "The Impact of the Tall Building on the Social and Cultural life of Saudi Arabia", in Tall Building in Urban Context. Edited by: Dieter Baker Knecht & Sadi Assaf. Published by University of Petroleum & Minerals, College of Environmental Design, 1986, p.39.

CHAPTER 4

CHAPTER FOUR

THE INFLUENCE OF THE COMPREHENSIVE PLANS APPLIED IN JEDDAH CITY ON THE URBAN DWELLING

4.1 INTRODUCTION

The comprehensive plan is one of planning methods in which the city is developed and controlled both at local and regional levels, to provide comprehensive and balanced development according to scientific studies and predictions in order to achieve the following goals: (1).

1. Prevent organic development without a Master Plan;
2. Determine land-use and distribution outside the city;
3. Balanced distribution of facilities and public services within the city's neighbourhoods according to numbers and types of inhabitants.;
4. Relationship between public and private ownership.

Jeddah city entered the era of comprehensive planning in 1959, when the Ministry of the Interior/Planning Office sought help from the United Nations with preparation of the first Jeddah Master Plan. The preparation occupied three years and was completed in 1962. This first Master Plan was followed by three subsequent Master Plans; in 1973 by Robert Matthew, Johnson-Marshall & Partners, Consultants; and in 1980 by Sert Jackson International.

In this section the study will be directed towards an investigation of the nature and characteristics of these Master Plans, and their influence on Jeddah's urban dwelling.

4.2 THE FIRST MASTER PLAN - 1962 BY DR. ABDUL-RAHMAN MAKHLOF

The first Master Plan of Jeddah was done by Dr. Abdul-Rahman Makhlof, the United Nation's expert. This plan was totally forgotten and was not mentioned in the later Master Plans, as though it had never

existed. Actually, the influences and ideas proposed by the UN experts were very clear, even before implementing the Master Plan at the time of preparation. For instance, to continue adaptation of the grid-iron pattern (as mentioned in the previous section on 'Planning Endeavours'), and many of its proposals for Jeddah's future physical infrastructures, which are now just finished. These will be discussed in this section.

Here, the writer confirms the fact that the first Master Plan, supervised by Dr. Abdul-Rahman Makhlof (see Appendix C) was the main base and foundation for Jeddah's later Master Plans. This will also be discussed in this chapter.

4.2.1 The Characteristics of the 1962 Master Plan

The preparation of this Master Plan was dependent upon the maps done by Paktel Company, 1951, and aerial map prepared by Air Services Corporation 1956, to design and plot the proposal. (See Appendix B).

This first Plan was set up to plan the physical structure of the city in terms of expansion, distribution of land use, and to determine road networks (see Figure 4.1). Most of these proposals were adapted by the later Master Plans and are now finished, For instance:

- It was determined that the city expansion should reach north to Sharm Obhur, south to al-Ras al-Aswad and east to the mountains of al-Hamra, Marikh, Tendoub and Beriman. This is similar to the proposals in subsequent Master Plans.

- It was proposed to move the airport from the inner city to the north-east of Sharm Obhur, the existing location of King Abdulaziz airport, but with some modification of area and shape of the land.

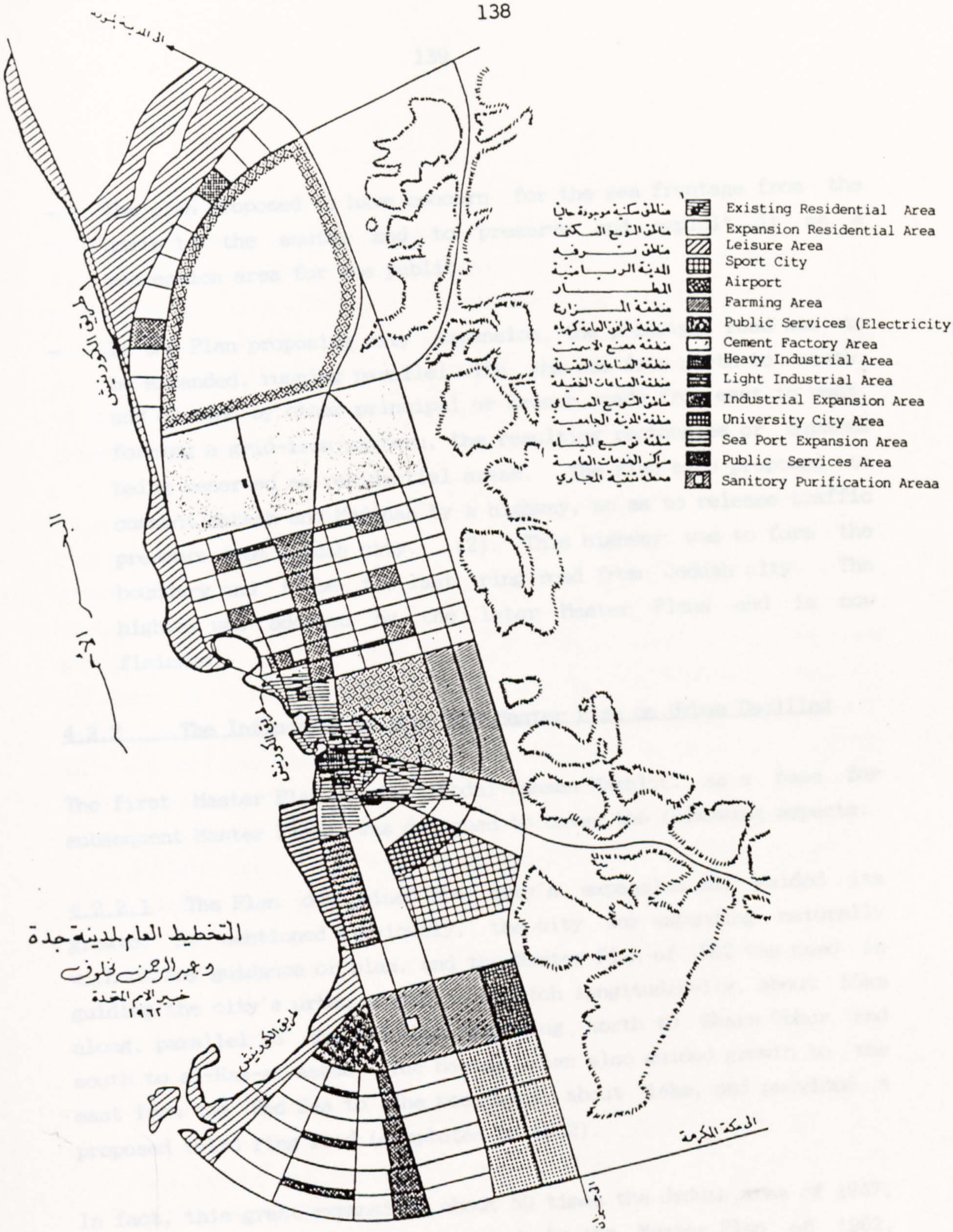


Figure 4.1: The First Master Plan of Jeddah 1962 by by Dr. Abdul-Rahman Makhlof

Source: Dr. Abdul-Rahman Makhlof

- The plan proposed to have concern for the sea frontage from the north to the south, and to preserve and exploit it as a recreation area for the public.

- In the Plan proposing city expansion, the principal road was to be expanded, running parallel with the sea from north to south, and crossed by other principal or branch roads from east to west, forming a grid-iron pattern, the resulting rectangles or squares being reserved as residential areas. The Plan also proposed to connect Makkah and Madinah by a highway, so as to release traffic pressure from Jeddah city. (2). This highway was to form the boundary and to be the last ring-road from Jeddah city. The highway was adopted by the later Master Plans and is now finished.

4.2.2 The Influences of the 1962 Master Plan on Urban Dwelling

The first Master Plan by Dr. Abdul-Rahman Makhlof, as a base for subsequent Master Plans, was designed to cover the following aspects:

4.2.2.1 The Plan determined the city's expansion and guided its growth. As mentioned previously, the city was expanding naturally without any guidance or plan, and the Master Plan of 1962 was used in guiding the city's urban growth to stretch longitudinally, about 55km along, parallel to the Red Sea, reaching north to Sharm Obhur and south to al-Ras-al-Aswad. The Master Plan also guided growth to the east from the Red Sea to the mountains, about 14km, and provided a proposed third ring road (completed in 1982).

In fact, this great expansion, about 50 times the Jeddah area of 1947, and 40 times that of 1962, proposed by the Master Plan of 1962, increased Jeddah's Municipality's reserved land and determined the boundary and limitations of the Municipality's property. This occurred as a result of the Royal decree No.20/1/13/1009 in 1374/1954, which gave the municipalities in Saudi Arabia the authority to control

and own all un-owned vacant land in the suburbs, as well as the land belonging to other government agencies. (3). As a result, any vacant land - not owned, or with no land deed - within the determined city boundary would now be owned by the municipality of Jeddah, and would not be considered dead land. Thus the revivification is lapsed within this area, and the way to acquire land ownership by allotment or grant is from the King, or by purchase from the municipality, or from the owners who have a legal deed.

In spite of Jeddah's municipality having authority to control and regulate the built environment, it has at the same time, a large amount of reserved owned land. New organic settlements have grown during this period, such as those in the al-Jam^{c}ah district, Nuzlah-al-Sharqiah, and Kilo '3' of Makkah road. Most of the residents of these new-mentioned settlements are Bedouins, here to benefit from the city's facilities, especially education for their children and work opportunities. The appearance of these new organic settlements, and the increase of Arabic traditional housing (al-Buat al-Sh^{c}abih) which were built without permission from the municipality - from 7,123 houses in 1962 to 38,900 in 1972 (an increase of approx. 31,767 houses, about six times that of 1962) (4), may have occurred because of the following:

a) The municipality has no power to control, and has not enough staff;
b) The land for distribution and sale may not be ready, or not yet planned.
c) The land for distribution may be ready and already be planned, but the regulation and system for distribution is very complicated and involved a long process, or the land is very expensive.

It would seem that all these reasons, coupled with the great demand for housing, had an effect on the appearance of new organic settlements and Arabic traditional houses (Buat al-Sh^{c}abih).

4.2.2.2 The circulation: The great expansion proposed by the Master Plan of 1962, and the distribution of land use will no doubt increase the distance between the residential area and the location of work. It seems that the only mode of of transport suggested by the plan was the car.

4.2.2.3 The Plan proposed to change the face of the old town, from its traditional urban fabric of compact, attached traditional houses, with narrow, irregular streets, which provided total pedestrian movement and social interaction, to a new face of modernisation, by dividing the heart of the old town into small parcels of blocks by a network of local streets with roundabouts, in order to allow cars to enter inside the old town. This is shown in Figures 4.2, 4.3, 4.4, and 4.5. At the same time the proposed local network of streets would connect with the first ring-road (the road being in the location of the demolished city wall), and with the rest of the streets of the city.

Incorporated with the local network of streets, were a greater number of traditional houses which would need to be demolished, and an expropriation programme was set up, in order to enforce the proposal to replace the traditional houses with new modern buildings (see Figure 4.4). In fact, not all the proposals were enforced; some were, but with modification, such as King Faisal Street (known also as Shar^{c} al-Zahb Gold Street - because they found gold after demolishing the houses) and King Abdulaziz Street. Along these streets, high rise concrete buildings were built, which were used as residential, or offices and hotels, or both.

In observing the effect of these proposed local streets inside the old town, one can see that, in addition to the loss of a large amount of traditional property, at the time of great demand for housing (due to increasing numbers of immigrants) and the spending of vast sums of money on preparation road construction, a new problem was created, which did not previously exist - traffic congestion. This occurred

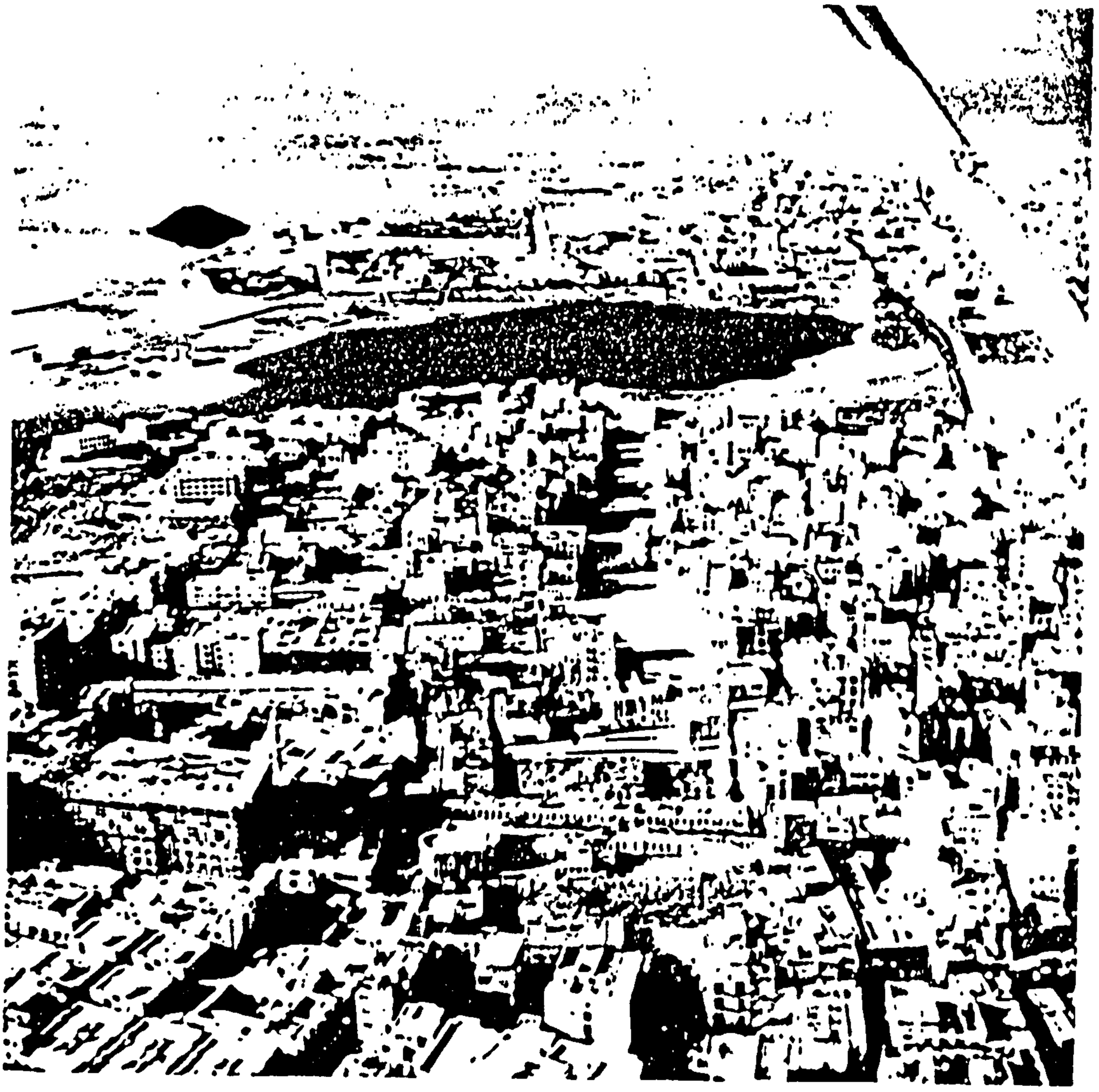


Figure 4.2: Aerial Photograph of Old Jeddah before the opening of Al-Zahb Street

Source: Dr. Abdul-Rahman Makhlof, op.cit, Vol.4, p.137

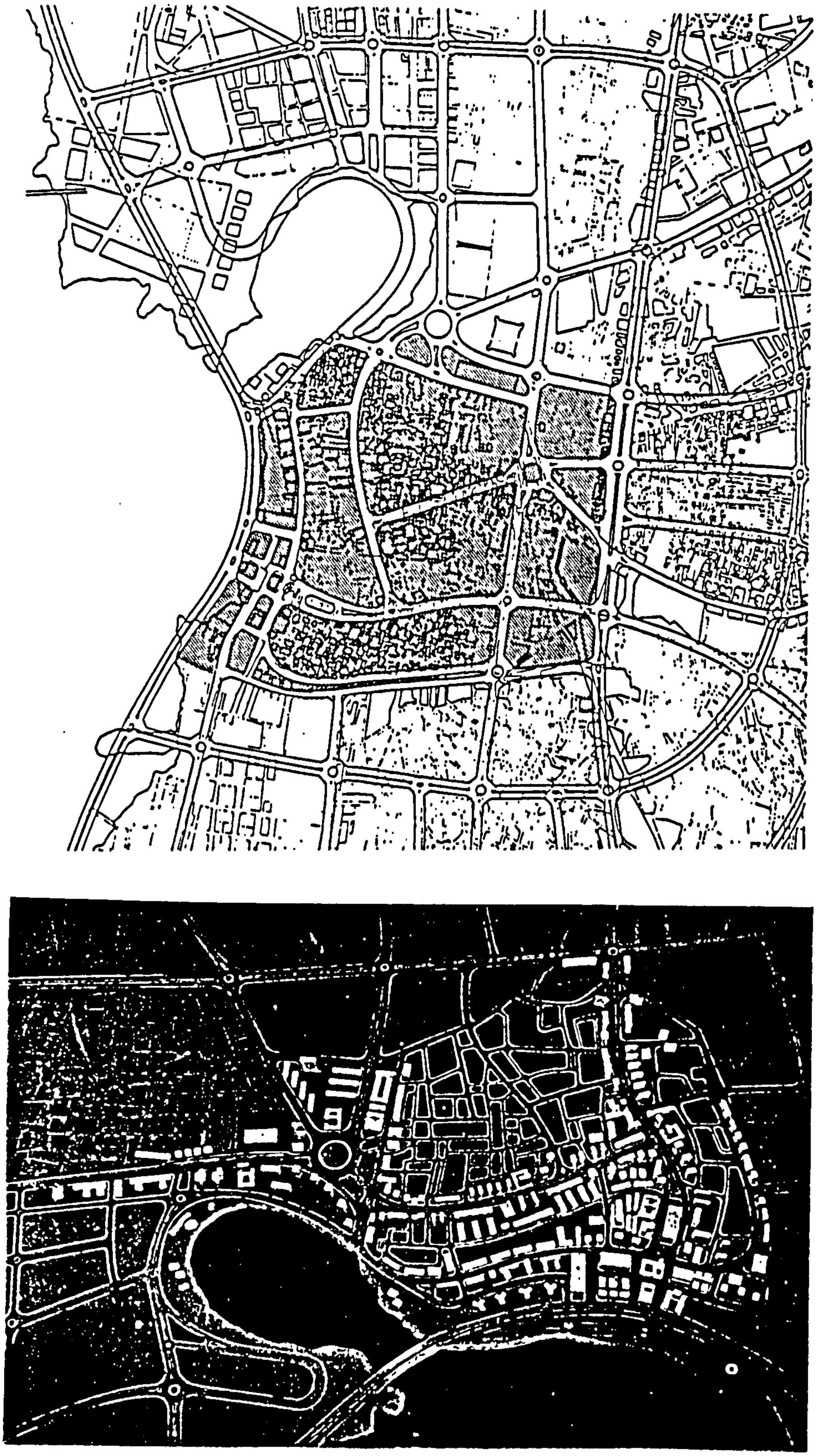


Figure 4.3: Proposal of new streets within the old town

Figure 4.4: Lower picture model shows the proposal of Development in the old town replacing traditional houses with exotic ones

Source: Dr. Abdul-Rahman Makhlof, op.cit, Vol.4, p.132, 133

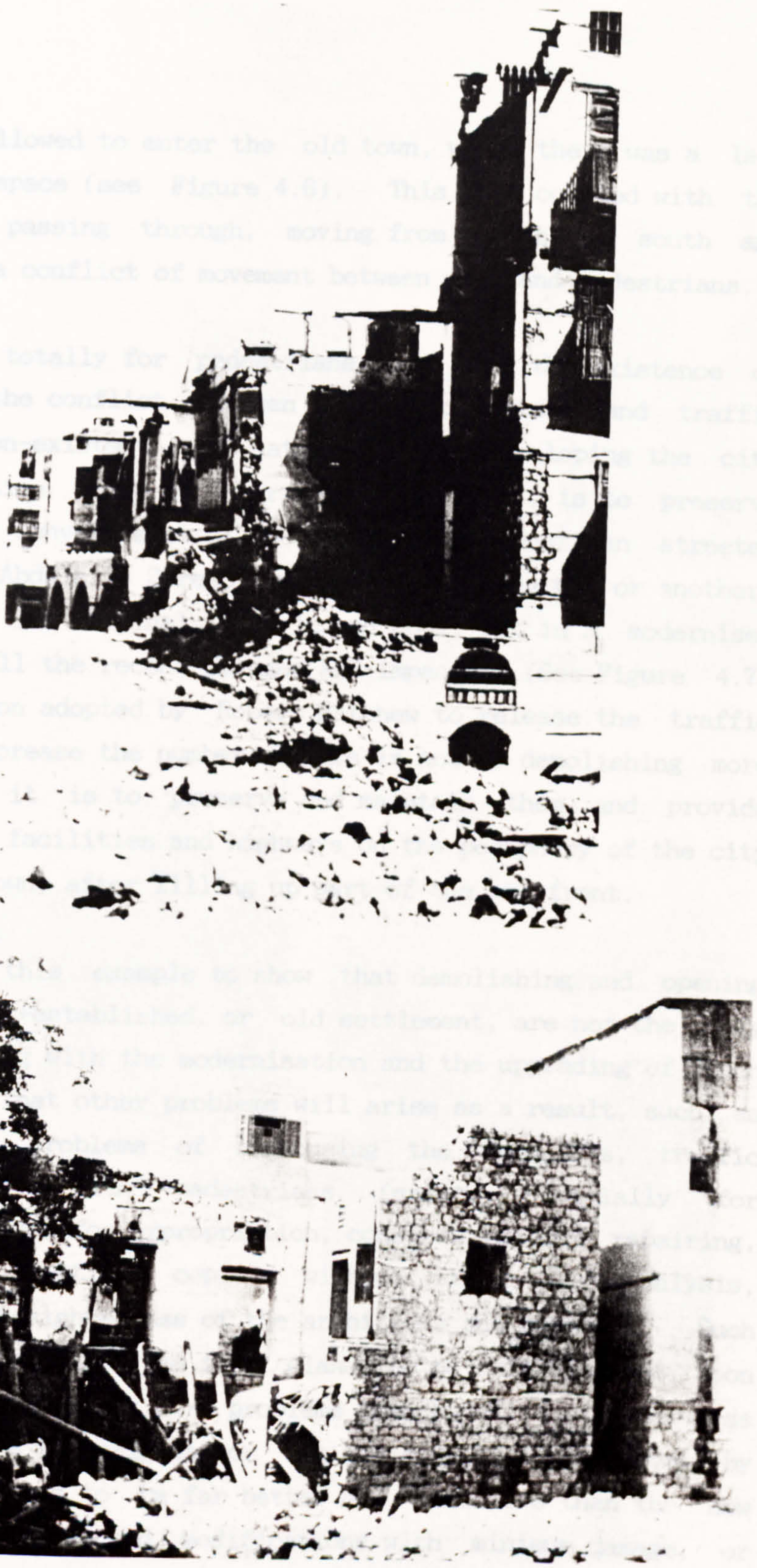


Figure 4.5: Loss of traditional houses as a result of the opening of al-Zahb Street

Source: Dr. Abdul-Rahman Mahklof, op.cit. Vol.4, p.137

when cars were allowed to enter the old town, where there was a lack of car parking space (see Figure 4.6). This was coupled with the number of cars passing through, moving from north to south and vice-versa, and a conflict of movement between cars and pedestrians.

The old town was totally for pedestrians, but, with the existence of those streets, the conflict between cars, pedestrians and traffic congestion was non-existent. The latest plan for developing the city centre (as an action area) by Robert Matthew (1981), is to preserve the old town and convert most of the streets to pedestrian streets, (among them King Abdulaziz Street) in order to, in one way or another, retain the old in its original fabric and soul, but in a modernised way considering all the recent changes and impacts. (See Figure 4.7, 4.8). The solution adopted by Robert Matthew to release the traffic congestion and decrease the number of cars is not by demolishing more buildings, rather it is to preserve and maintain them, and provide large car-parking facilities and highways on the periphery of the city centre (the old town) after filling up part of the sea front.

The writer offers this example to show that demolishing and opening streets in the well-established, or old settlement, are not the only solutions for coping with the modernisation and the upgrading of such areas, but rather that other problems will arise as a result, such as loss of property, problems of re-housing the occupants, traffic congestion, conflict with pedestrians, (safety (especially for children), expenditure for expropriation, construction and repairing, etc. Such easy solutions copied, without thought or analysis, represent the short-sightedness of the architects and planners. Such solutions might appear from the first glance to be suitable, but, upon application, they prove that more problems than benefits will occur as a result. Sometimes the original or the old situation are proven by experience and analysis to be far better and effective than the new ones, when small touches and modifications with minimum damage, or none at all are required. Thus, the tasks for the planners and architects are not to look at the problem from only one angle, but

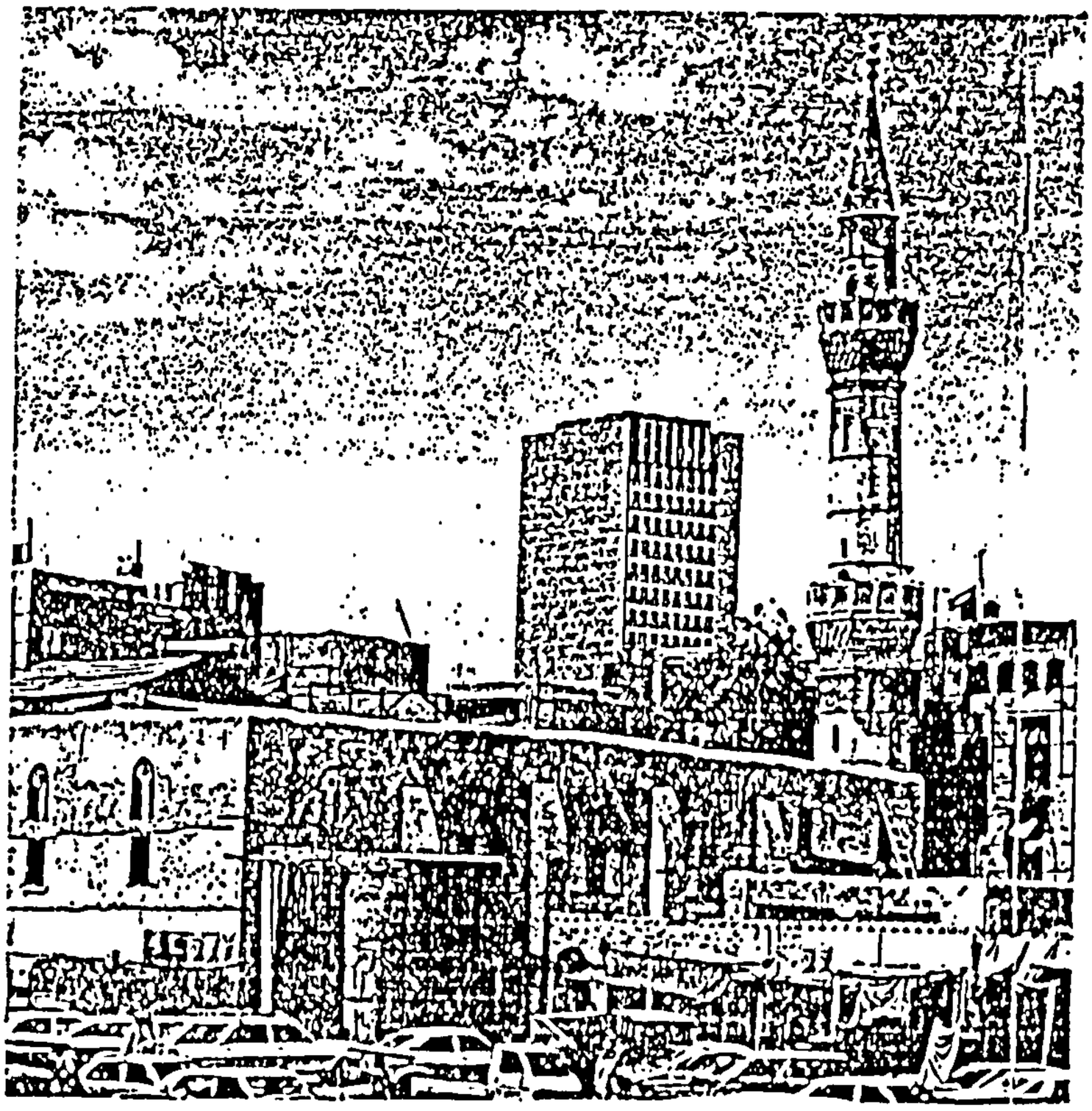


Figure 4.6. Lack of maintenance, and cars entering the suq area create an impression of decay and conflict in movement between pedestrians and cars. Source: Khalid Khaidr and John France, Jeddah, Old and New, p. 68. 1980

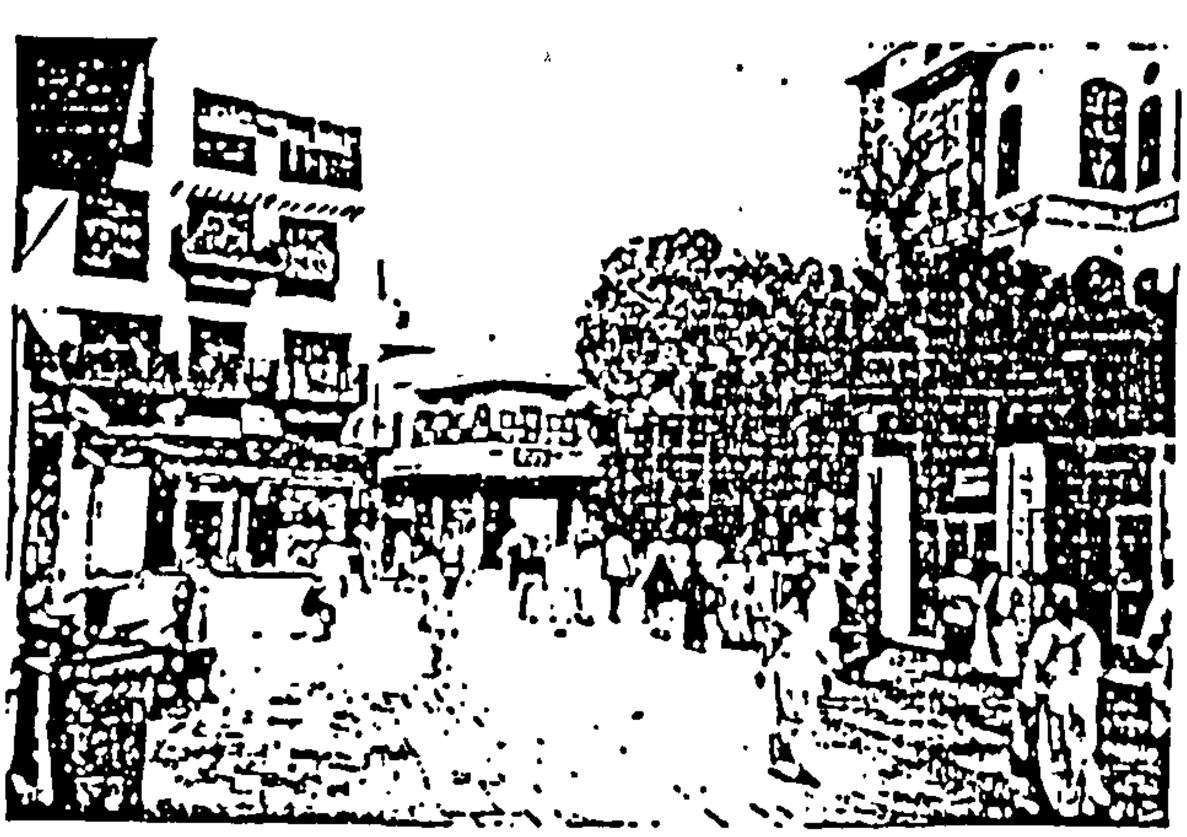


Figure 4.7

Open square area, with surrounding shops, al-ᶜLwi Suq, Jeddah, 1984.



Commercial lane, emerging from pedestrian tunnel, al-ᶜLwi, Jeddah, 1984.

Figure 4.8

Reserve the commercial corridor for pedestrians only, and upgrade the environment by paving the commercial corridor and maintaining the shop facade to harmonize in color and materials according to historical appearance and fire regulations.

Source: J. Salagoor, Arab Suqs: Changes and Continuity of the Organisation, Function, and Characteristics, with a Case Study of Development in the Suq Area at al-Hofuf, Saudi Arabia. Unpublished Masters Project, University of Arizona, Tucson, 1984, p.120

from different angles (ie comprehensive solution), and, before adopting any solution, deep thinking and analyses are required. Predicting the effect and result of the proposal in the long term is very important. At the same time they must first try to upgrade and benefit as much as possible from existing elements and resort to demolition only when it is really needed, because in Islamic law "the lesser harm must be removed" and demolition is considered an excessive harm, unless it is the only way to solve the problem.

4.2.3 Housing Stock, 1962

The adoption of a grid-iron pattern with the regular shape of plot, had a great effect on the spreading of contemporary housing in Jeddah (villas and apartments). By analysing the housing stock of 1962, which was recorded while preparing the first Master Plan, one could recognise that the contemporary house typology was spreading rapidly in a short time. Starting only in the middle of the 1950s it had reached as high as 36.6% of the total housing stock in 1962, as shown in Table 4.1.

Table 4.1

Housing Stock, 1962

BUILDING TYPOLOGY	NO. OF HOUSES	% OF EACH TYPOLOGY
Palace	156	0.55
Detached Villa	1342	4.70
Attached Villa	47	0.16
New Apartment	8790	36.75
Traditional Houses	5695	19.92
Arabic Houses	7133	24.96
Sanadg (Huts)	5420	18.96

Source: Mohammed Said Farsi, Arab Cities (Theory and Practice), Case Study for the City of Jeddah, Ph.D. Thesis, Alexandria University, Faculty of Engineering, Department of Architecture, 1407H, 1987. The table developed by the writer.

The table shows that the percentage of apartments was higher than of villas, reaching 36.75% of the total housing of 1962 while villas and palaces only reached 5.41%. The high demand for apartments, in spite of non-conformity with the social life of Jeddah's native people and the lack of privacy, occurred because of the great number of immigrants and a shortage of housing; the apartments, therefore, were seen as solution to this problem. Apartments were introduced by the alien architects (Muhndsin) as dwellings for multi-families (mostly professionals from nearby Arab countries) in one building, who were used to living in such buildings.

4.3 THE SECOND MASTER PLAN - 1973: BY ROBERT MATTHEW, JOHNSON-MARSHALL & PARTNERS, CONSULTANTS (RMJM)

Within the framework of the first five-year plan of Saudi Arabia, the main goal was to safeguard the religious and moral values, increase prosperity and raise living standards for the Saudi citizen. City and rural development was one way to achieve this goal. Thus, the Ministry of the Interior, Department of Municipal Affairs in 1968 requested the United Nations to advise them on how to prepare a programme of Regional and City planning for the Kingdom, especially as Dr. Abdul-Rahman Makhlof, the UN Expert for Saudi Arabia (from 1959 - 1963) had established the planning principles in the Kingdom at all levels: national, regional and local, and acoomplished many Town Planning projects for different cities. (See Appendix 3, Summary of Work Accomplished 14 April 1959 - 15 August 1962 by Dr. Makhlof).

However, the United Nations set up a committee chaired by Dr. Omar Azzam (head of the UNDP Mission in Beirut), with members from several Arab, European and American countries. The committee realised that, to achieve such a major programme of Regional and City planning, a consultant would be required. Thus, in 1969 the committee recommended Robert Matthew, Johnson-Marshall and Partners to prepare regional physical plans for the Western region of the Kingdom of Saudi Arabia, and Master and Detailed plans for its major cities - Makkah, Medina,

Jeddah, Taif and Yanbu. Of these the most important for this study, is the identification of the Master Plans for Jeddah that were prepared by RMJM between the period 1970-1973. (5).

4.3.1 Goals

Goals were set between the consultant and the Ministry to be achieved at two levels, city and regional. In the study the city level goals are considered more important.

4.3.2 Survey of 1971

The consultant conducted a survey which was completed in 1971. He found there were five distinct zones (see Figure 4.9), each having its own characteristic. (7)

4.3.2.1 The Old Town: The historic core of the city, bounded by the ring-road, functioned as the central business district with many uses, commercial, offices and residential. Due to the importance of the functions in this zone, land values reached as high as 7000 RLS/m^2. As a result, high rise apartments replaced the charming traditional single family housing, and this threatened the historical architectural asset of the city. The calculated density in this zone ie approx 454 person/hectare (184 person/acre).

4.3.2.2 Outer Central Zone: Bounded by the outer ring road which connects the seaport, Makkah Road, the airport and Madina Road, consisting of mixed residential, commercial and light industrial activities. The prevalent housing types in this area are apartments and Arabic traditional houses, with about 75% of ground floor occupied by commercial and light industry. This zone and the central zone provides living quarters for about 80% of the city's total labour force. Mainly half of Jeddah's population lives in this area, which gives a gross density of approx. 158 person/hectare.

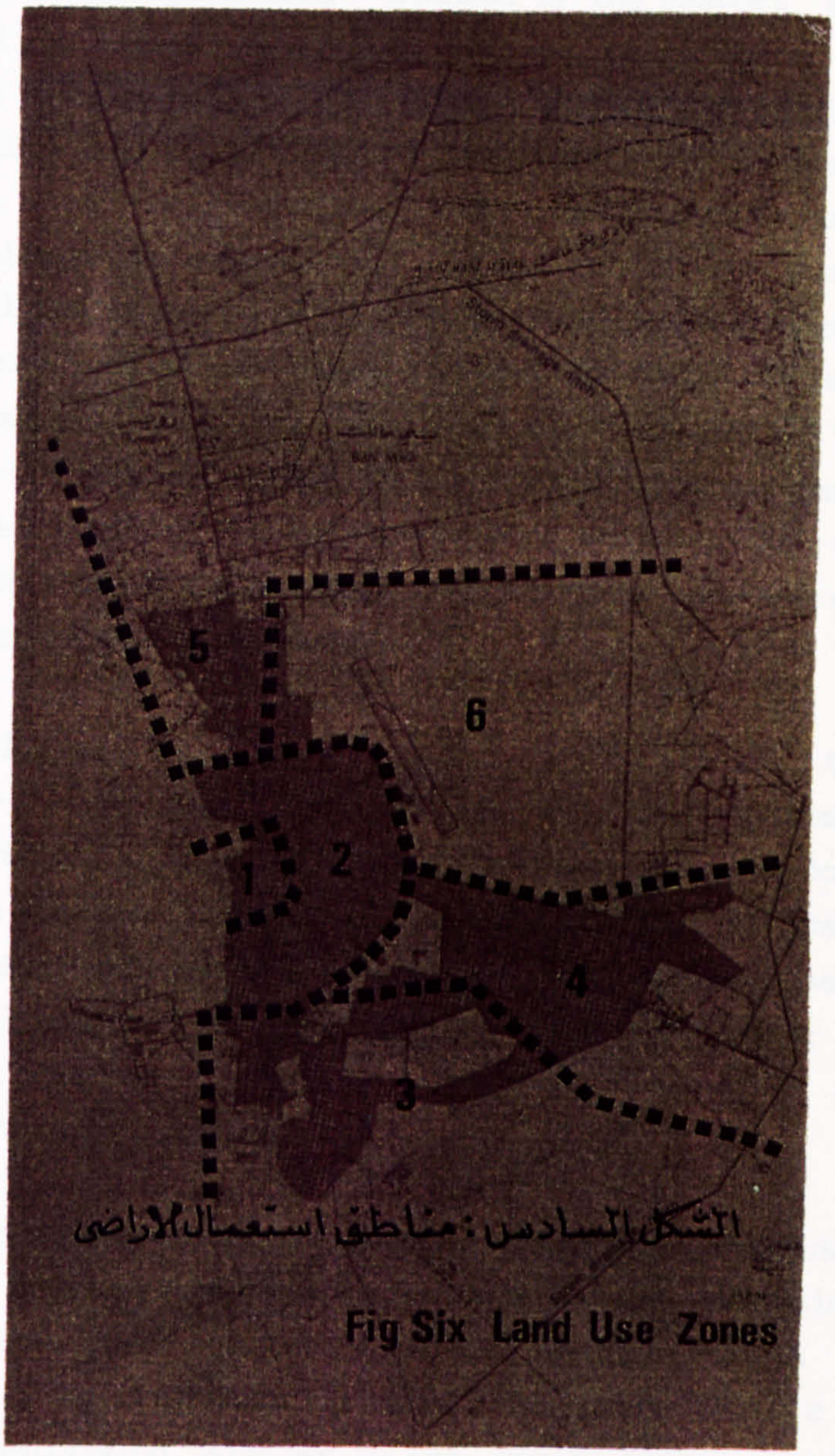


Figure 4.9: Distinct Zones of Jeddah City in 1971

Source: RMJM, Jeddah Master Plan, 1973, p.5

4.3.2.3 The Southern Zone: Bounded by the seaport and part of the ring road on its northern boundary, which includes the industrial estate in the south, and low income area of al-Sabeil and Gholeal. Its location near to the seaport attracted heavy industry, such as oil refining, steel rolling mills, etc. In the south of the zone an industrial estate was planned in the 1970s to encourage private industrial enterprise. Also in this zone existed al-Mahjar al-Sahi (quarantine), and a large area reserved for Radio, TV and Telecoms. A general image of this area indicates that, because of the industrial use it is not good as a residential area. However, large numbers of low-income squatters, mostly immigrants, have built their huts and shanties on the public land, and density has reached as high as 170 person/hectare (60 person/acre).

4.3.2.4 Makkah Road Zone: Located to the east of the city along both sides of the Makkah road. Mainly high middle income class lived in this area in the form of single families, detached housing. About 80% of the total buildings are villa types, the rest apartments, which mainly existed along both sides of the Makkah road. The Arab traditional houses were scattered in Kilo 3 of Makkah road and the University quarters. The gross density in this zone was 53 person/hectare (21 person/acre).

4.3.2.5 Madina Road Zone: This area was mainly residential with a mixture of Royal Palaces and high-income villas. Additionally, there was a smaller area of lower income settlements in al-Rwais and Bani-Malik. The predominantly urban development in this zone is based on land sub-division similar to the one in Makkah road, with villa types in the middle of a plot not less than 400m^2 being the prevalent houses. Apartments were occupied by middle- income, foreign professionals, technicians and young Saudi technocrats, living mostly along both sides of Madina road.

The above descriptions of the existing zone area in 1971 indicates the well established geographical location and distribution of built area

and population. One can find from the description that a great difference exists between the north and eastern areas in comparison with the southern area. The southern area of the city is mainly occupied by low-income classes dewelling in shanties.

4.3.3 Urban Dwelling - 1971

Here, the study will benefit from the survey conducted by Robert Matthew, Johnson-Marshall & Partners, Consultants (1971) to learn from it the situation and characteristics of the urban dwelling in the 1970s, and to find what proposals and policies were recommended and adapted by the consultant to upgrade the existing and new developing urban dwellings.

The survey manifested that most of the existing buildings in 1971 were detached and about 64.6% of the total building stock was rented. This could refer to the internal and external immigration, while at the same time, because of Saudi policy, foreigners were not allowed to own property in Saudi Arabia. (9).

TABLE 4.2: HOUSING STOCK 1976

BUILDING TYPE	% OF HOUSES 1952	% OF TYPE 1961	% OF TYPE 1971	1971	% INCREASE IN TYPE 1961-71
Villa	1,545	5.41	3,250	4.32	110.34
Arabic Traditional House	12,828	44.88	38,900	51.66	203.24
Apartment	8,790	30.75	21,300	28.28	142.32
Shanty	5,420	18.96	11,850	15.74	118.63
TOTAL	28,583	100.00	75,300	100.00	

Source: Information from Mohammed S. Farsi, op.cit, p.146, and Abdul-Rahman Makhlof, op.cit, Vol.1, p.209-213.
The table developed by the author of this Thesis.

The survey discovered four types of buildings in Jeddah: detached - villa; non-detached - Arabic traditional house; apartment; and shanty. Until mid-1971, the household was 5.06 person/dwelling and the total number of housing stock was about 75,300, more than double the number of households in 1961, as shown in Table 4.2.

By comparing the housing typology, according to Table 4.2, one can find that within the ten years between 1961-71, each housing typology increased in number by more than double, while the Arabic traditional house was to increase by three times. Also, the Arabic traditional houses, among the total housing stock in 1971 reached as high as half the total stock (51.66%, while in 1961 only 44.88%). Then the percentage decreases gradually by 28.8% in apartments (about one quarter of the housing stock); 15.74% in shanties; and the lowest percentage, the villas, about 4.32%.

From this analysis one can recognise the great demand and preference for Arabic traditional houses, followed next by apartments and the lowest, for the villas. This could be explained by the ease, cheapness and fast construction of Arabic houses, and that building permission is not needed from the municipality for this type of construction, and, coupled with the fact, that most of the population during this period were immigrants with limited income, a great number of them being Saudi, migrating to Jeddah from rural areas, to seek work and improve their living standards.

The survey indicated that the villa type, which attracted the medium and high-income people, was the lowest percentage in the total housing stock, but still had an increase, reaching about 3,225 villas in 1971, about double the number in 1961 of 1,545 villas. At the same time the cottages and shanties, occupied by low-income people, most of them immigrants from the south of Arabia and from Africa, also increased, reaching 11,850 shanties in 1971. The rate of increase in 1971 was about 118.63% compared to 1961. Thus, with great differences in terms of quality between the villa and shanty, both increased, but the shanty was in greater demand.

The concentration and spreading within the city were in two opposite directions. Villas were mainly concentrated on the north and the east side of the city, where the municipality provided better facilities in terms of planning, services, etc. The shanties were concentrated on the south side of the city, where services from the municipality were very poor, with little attempt to upgrade and improve the environment. The Arabic traditional houses were mainly concentrated in the south of the city, in the area within the first and second ring-road. This area too had poor services from the municipality.

In terms of density, the survey indicated that the highest density occurred in the city-centre because of the existence of high-rise buildings, about 82% of the housing stock. Thus, the density reached as high as 450 person/hectare. This represented the highest density in the city, the lowest occurring in the north, because of the concentration of villas in that area with open space between buildings. The density reached about 37 person/hectare, while in Madina road it reached 53 person/hectare. There was an increase in the south of the city reaching about 158 person/hectare.

The survey indicated that the social ties and sense of community were very high in the quarters surrounded by the second ring-road, such as al-Handawiah, al-Bukhariah, al-Sabeel, al-Kandarah, al-ᶜmariah, etc, and more so than in the quarters in the new areas such as the one in the north and east of the city. Most of the population in the great central area were unskilled labour, and the rate of owned cars was very high, in spite of the small numbers of housing and wide streets in the outer area. Also, the great centre possessed a high rate of unstable buildings nearing collapse. This was concentrated in al-Sabeel, al-Bukhariah and adjoining quarters such as Barah and al-Sahifah quarters.

From the survey, one can realise that each spine had its own characteristics, in terms of housing and environment quality, and population distribution. Generally, one finds that the northern and eastern sides of the city were better than the southern part, in spite of the fact that the southern part occupied about 26% of the total area of the city, sheltering about 48% of the total inhabitants, reaching in 1971 about 381,000 inhabitants, most of them unskilled labour and about 62% of them immigrants.

This quality differentiation could be explained according to the following reasons:

- First, because Makkah road on the east side of the city and Madinah road on the north side, were the first paved roads in Jeddah. In this period arose a 'stereotype' among the people living adjoining the principal street, as having a kind of social prestige. In addition was the possibility of opening shops at ground floor level which attracted a lot of business. This made the land price along both sides of the Makkah and Madinah roads very high, with the price gradually decreasing further away from these principal roads.

- The second reason was the municipality's intention to plan and develop the areas surrounding Makkah and Madinah roads. This could have been because these areas were not built up, and, at the same time, not much care was given by the municipality or the planning office to developing and upgrading the southern area.

- The third reason for the southern area was that it did not attract medium and high income people because, in addition to lack of care from the municipality, there were too many unattractive elements in the location, such as the seaport, storage facilities, petroleum refinery, industrial areas and steel rolling.

These situations determined the geographical distribution of the population and residents, creating a social segregation, according to

income, on the city level. The northern and eastern sides of the city were the quality areas, where the high and medium income class lived, while the low income people lived in the southern part of the city. Thus, low income people could not live in the north and eastern part of the city, because of the high price of land in these areas, while high-income people did not wish to live in the southern part of the city, because of the unattractive elements in that area.

After identifying and determining the problems, it became important to provide a planned study to remodel the social geography of Jeddah. This was one of the main goals of the comprehensive plan of 1973 in which it was stated:

> "Achieve, by the balance of residential density and housing types, an appropriate mixed distribution of high, medium and low income groups to maintain social cohesion and well being as part of the city's growth and development". (10)

In the following section, the study will be directed towards an investigation of adapted policies and proposals to achieve this goal, and to improve the quality of urban dwelling.

4.3.4 Nature of 1973 Master Plan

Here the study will concentrate on the investigation of the 1973 Master Plan proposals and policies, which might have a direct or indirect effect on the Jeddah urban dwelling, from the theoretical point of view, and then to find out to what extent they were applied.

Generally, Jeddah's second Master Plan did provide an overall basis for city growth and development control, and established the city image until 1411 in terms of urban elements of future city structure, and the direction of the city's development and growth. The plan determined the city's growth in linear form from north to south, parallel to the sea, similar to the first Master Plan, and confined within the northern and southern stormwater ditches. (See Figure 4.10). Within this basic shape the plan did establish the main

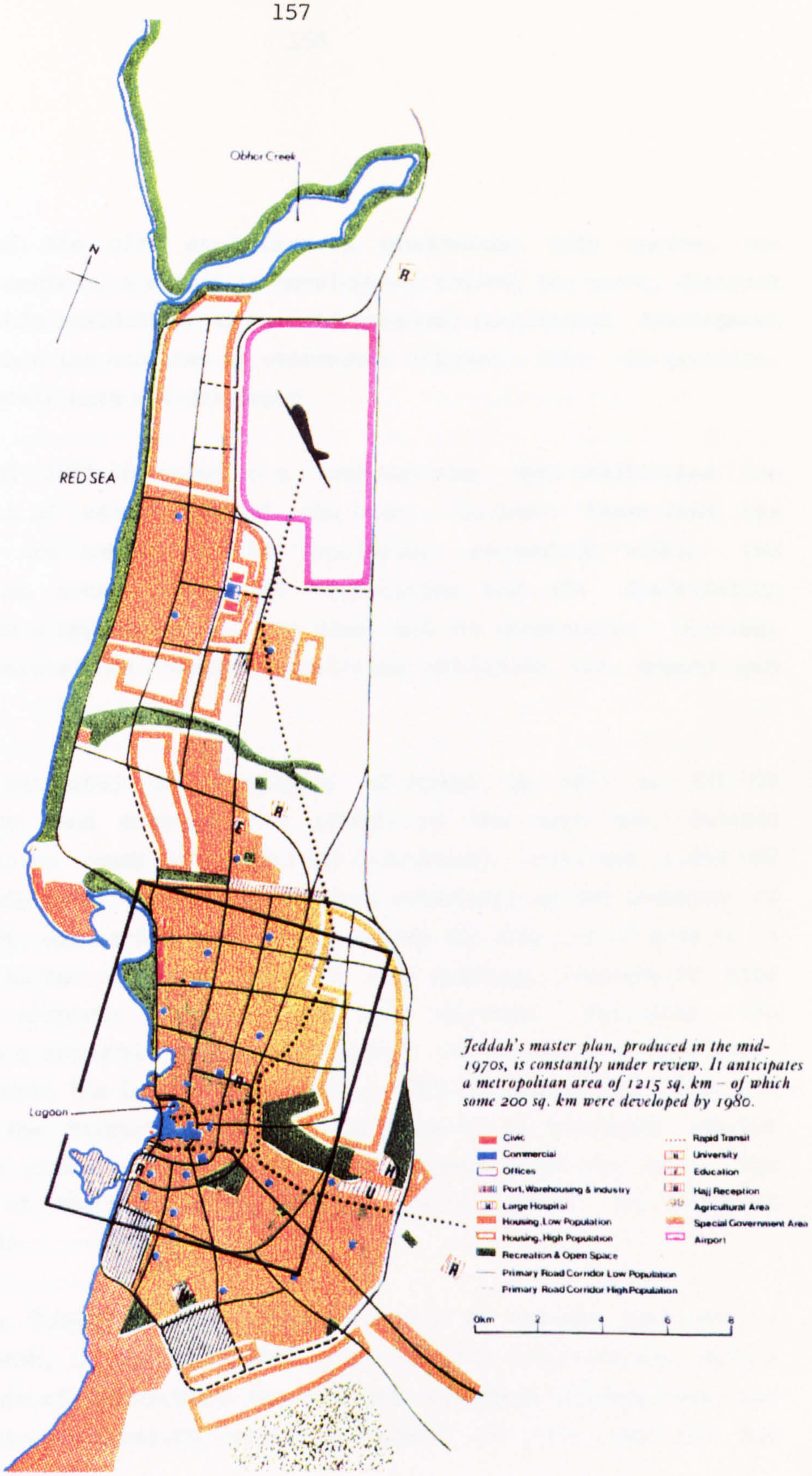


Figure 4.10: Second Master Plan of Jeddah by RMJM, 1973

Source: Khalid Khaidr and John France, Jeddah Old and New, 1980

elements of the city structure: a predominant city centre, two secondary centres, a satellite development towards the north, district centre within residential areas and balanced residential development mainly within the confines of stormwater ditches. (11). In practice, these elements have not developed.

The Plan of 1973 is based on a land-use plan that establishes the arrangement of uses throughout the city. In fact, these land use proposals are based on the population projection within the metropolitan area. Thus, the population and its distribution constitutes a key element in the plan, and its components: housing, jobs, commercial and community facilities, utilities, etc. depend upon it.

The Plan estimated the population of Jeddah in 1971 as 381,000 inhabitants, and expected the growth in the next two decades (1971-1991) to reach about 800,000 (low-growth rate) and 1,650,000 (high growth rate). These options were consequent on the location of the airport, either for it to remain inside the city, or to move to a new site to the north of the city (the existing location of King Abdulaziz Airport). Option two was selected, following the government's approval, to move the airport to the north of the city, to accommodate the low rate of growth, 800,000 population. The new siting of the airport would be accompanied by an adjoining 100,000 population concentration between the airport and the sea. The remainder of the population would be situated around the existing city. (12).

In essence, Robert Matthew, Johnson-Marshall & Partners postulate a future Jeddah, in which the main features were consolidation within the confines of the northern and southern stormwater ditches, and, the development of a satellite community towards the north, near the new airport.

Also, at the same time, the Plan projected the estimated population in each predetermined planning zone. This distribution was based upon the recognition of the 1971 socio-economic survey, the prevailing population distribution in the city, and the preferred household type for each area (medium/high income, villa types in the east and north of the city; and low income, the low type of household, Arabic traditional houses in the south of the city). Accordingly, the Plan determined, in each residential planning zone, the residential density and type of building to be constructed in each zone. (13)

According to our analysis in the following chapters concerning the principles in which these densities were calculated, these methods led to social segregation according to income, rather than social cohesion, which was the main aim of the Master Plan. (See Chapter 9). In fact, the social cohesion had no solutions offered by the Plan, "...desired social mix within a given area can be misleading at this stage of our planing work...". (14). The planners also indicated the difficulties of social mix, "...the social structure that prevails in the country, being characterised by a high degree of service in favour of the high income bracket...". (15)

Also, the Plan proposed the policy of "Housing, Re-housing and Redevelopment" in order to provide adequate services and facilities in existing residential areas (old quarters). This will lead to cleared and redeveloped sites (piecemeal, not wholesale clearance). Thus, the policy of 'patch-work' redevelopment is recommended. But, in spite of the Plan's awareness of the disruptive effect of the clearance on the existing community, no specific redevelopment programme is mentioned.

4.3.5 The Influential Factors on the Enforcement of the 1973 Master Plan

The main factor that affected the enforcement of the 1973 Master Plan was the second oil boom. This occurred in 1973-74 immediately

following the preparation of the Master Plan. The oil boom led to an increase in the level of the gross domestic product (GDP), to reach an average of 12% more than the planning estimates of 6.5% in the period 1390-1395 and 5% in the period 1395-1400 (1975-1980). Consequently, the increase in the GDP led to changes in the planning principles proposed by the Master Plan in which their influences were reflected in the enforcement of the Plan as follows:

1) As a result of the increase in the GDP, more opportunity for work occurred. This affected the estimate in the Master Plan, of an increase in the population to more than 800,000 inhabitants in 1411/1991, in fact it was to reach as high at 981,000 in 1398/1978, twelve years before the end of the Plan. (17). Clearly, the major explanation for this unexpected increase of population has been the substantial immigration of non-Saudi Arabians. Thus, of the 1978 population 47.2% (432,250) were of Saudi nationality and 52.8% (483,550) were non-Saudi, while in 1971 Saudis made up 57.9% (234,500) and non-Saudi 42.1% (170,175) of the total population, so the greater increases were in foreign immigrants. However, this tremendous increase in the population resulted in the shortage of housing and all substantial city services, such as electricity, water, sewage, etc.

2) This situation brought about changes in the overall pattern of population distribution, and in fact differs considerably from that proposed in the Plan. What has happened is that:

a) no satellite development has occurred near to the airport;

b) development to the north has occurred well beyond the storm-water ditches in areas not designated in the Plan. In practice, a 'leap-frog' pattern has occurred, new areas (Kubat Ashara, Bani Malik) being developed, before consolidation of older areas. This occurred because of the lack of development control, and integration of urban growth and utility provision.

c) residential development in the southern-most part of the city has lagged far behind that proposed in the Plan. This occurred because these sectors were already substantially developed by the

early 1390s/1970s; thus the additional population has been accommodated by increasing densities rather than developing new land.

d) In the Makkah road areas, the density increased more than that proposed by the Plan. This was partly caused by the apartment development,. However, clearly, the major increase has been in the Arabic traditional houses, which were developed in squatters areas; this development will be discussed in the following section. (19).

As noticed above, the residential development occurred in the northern part of the city and mainly for higher income people according to the 1398/1979 survey by Sert Jackson International/Saudiconsult, while little new development occurred in the southern part, in spite of the biggest increase in density. (20). The balanced growth proposed by the Plan has not materialised. Also this pattern of high income in the north and the low income in the south still continues, which contradicts the main goal of the Master Plan; this occurred because of the following:

a) the planning control adopted by the Plan such as plot size, building typology, etc, had some effect on the trend of the social segregation according to income; this will be discussed in Chapter 9.

b) Incentive from the municipality came to the Northern part of the city, such as development of the northern corniche, opening new and wide streets in this area and litle development, or not at all, in the southern part of the city.

c) The establishment of the Real Estate Development Fund (REDF) in 1394/1974, assisted indirectly in the trend of social segregation, because among the stipulations for obtaining loans are, to own land already and to have at least an amount required to finish the ground floor. (21) At that time the price of land and building materials was very high because of inflation. Thus, the only groups benefiting from the loans were those with high or

middle income, certainly not low income. In spite of the fact that these funds helped toward the over-supply of houses on the market, they did nothing to relieve the housing shortage because the rents required were beyond the means of most, especially the unskilled and foreign labour living in the city, the exception being employees of expatriate companies. Thus, the unskilled labour with low income lived mainly in the southern part of the city, which is why the density increased in this area, while employees of expatriate companies lived mainly in the north.

3) Also, as a consequence of the increase in population, traffic jams occurred in both the first and the second ring road in the central area. This led to some streets being converted into one-way direction streets, and the construction of over-passes, such as the Bridge of Kilo Two over the Makkah Road, and at the same time, the opening of new streets that hindered the extension of Prince Fahad Street through the old quarter which developed organically (al-^{c}amariah, al-sohifah, al-sabeil, al-Handwiah, al-Qriat, all the way to the harbour). The opening of this street resulted in the loss of many properties, with no re-housing programme to replace them. This increased the problems of housing shortage while increasing the price of land and rents. This situation encouraged the residential development outside the city boundary designated in the plan, and improved the appearance of the new squatter areas (Ta^{c}addyat), as will be discussed in Chapter 5.

As noticed, in determining the density standard, the Plan implies that there will be homogeneity of residential types within the predetermined residential areas. In practice, according to the 1978 land-use survey by SJI/SC, this did not occur. Apartments and villas are inter- dispersed and new apartments occur within the traditional (low and medium income) housing areas. Also, the survey concludes, according to Table 4.3 below, that in the future more emphasis will be placed on low and medium cost housing (more traditional, and fewer apartments and villas will be constructed) which conforms with the RMJM projection.

TABLE 4.3

THE TREND OF BUILDING TYPOLOGY IN 1978

Building Typology	% Building Constructed	% Building Occupied	RMJM Projection
Traditional	58	62	70
Palace / Villa	12	10	5
Apartments	30	28	25

Source: Sert Jackson International/Saudiconsultant;
Evolution of Existing Master Plan, Technical Report 4,
Ministry of Municipal and Rural Affairs, 1979, p.54.

According to the above discussion, because of the unexpected tremendous increase in the population, due to the increase of the GDP, it became difficult to enforce the Master Plan, in parallel with what had been proposed by Planning. As a result, many problems arose, such as shortage of housing, high increase of rents, residential development beyond the area designated by the Plan, and in addition the emergence of new squatter areas such as guwazah al-kahatain east of the Makkah- Madinah highway, (see Chapter 5).

Thus, as a result of the unexpected changes, which affected the enforcement of the 1973 Master Plan, a contract was agreed with the Sert Jackson company to evaluate the 1973 Master Plan and to draw up a new plan that would consider the economic and the population changes.

4.4 THE THIRD MASTER PLAN, 1980: BY SERT JECKSON INTERNATIONAL/ SAUDICONSULT (SJI/SC)

As previously noted, as a result of the unpredictable rapid increase in the population due to the oil boom, the city of Jeddah grew beyond the expansion proposed by the 1973 Master Plan, resulting in high pressure for housing and public services. This situation made it necessary to review, re-plan and up-date the 1973 Plan. Thus Sert Jackson International Saudi Consultants were assigned to prepare this

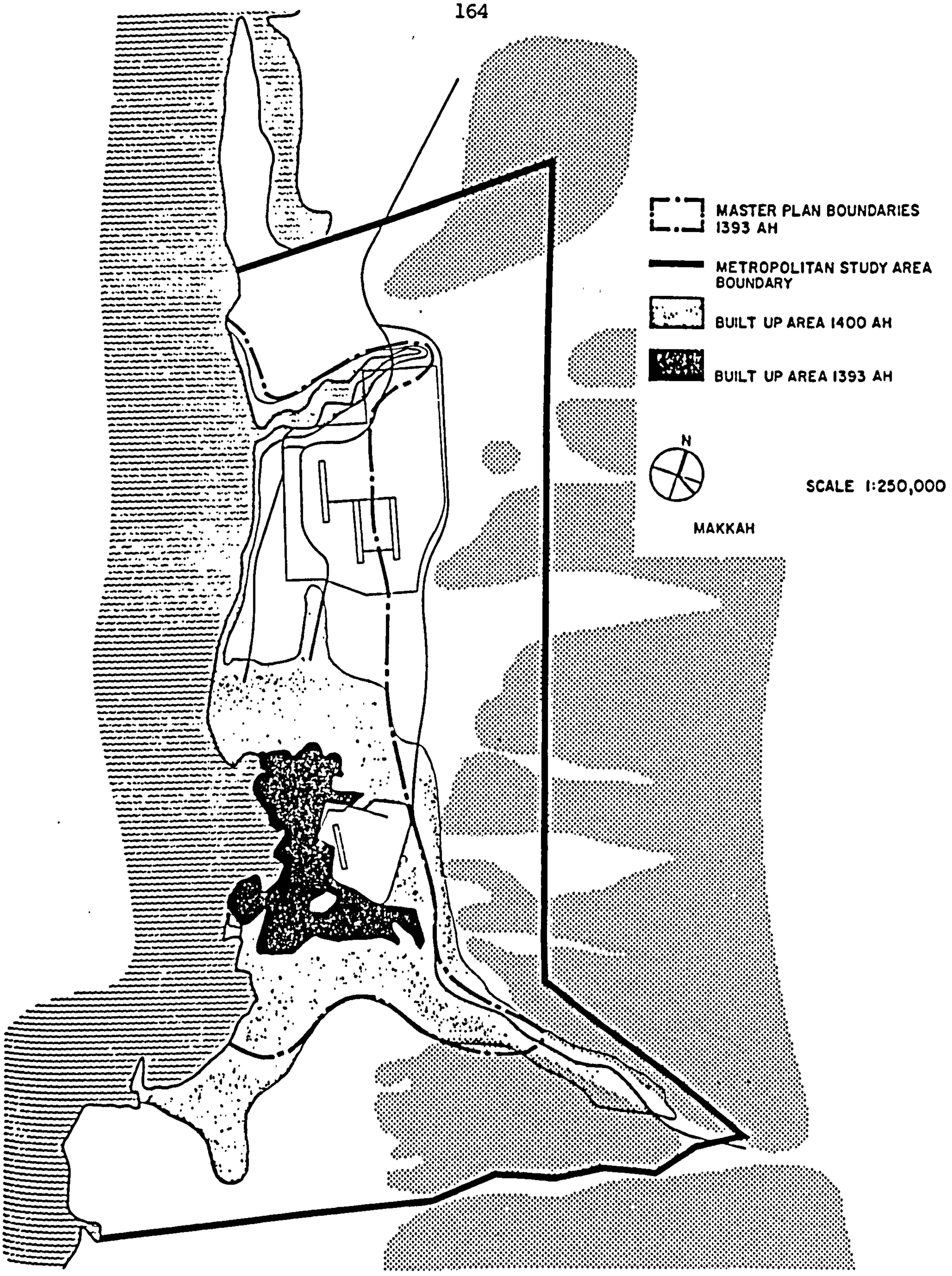


Figure 4.11: The Study Area Boundary (1215 Km^2), assigned to SJI/SC, 1980

Source: SJI/SC, Technical Report No.9, 1980

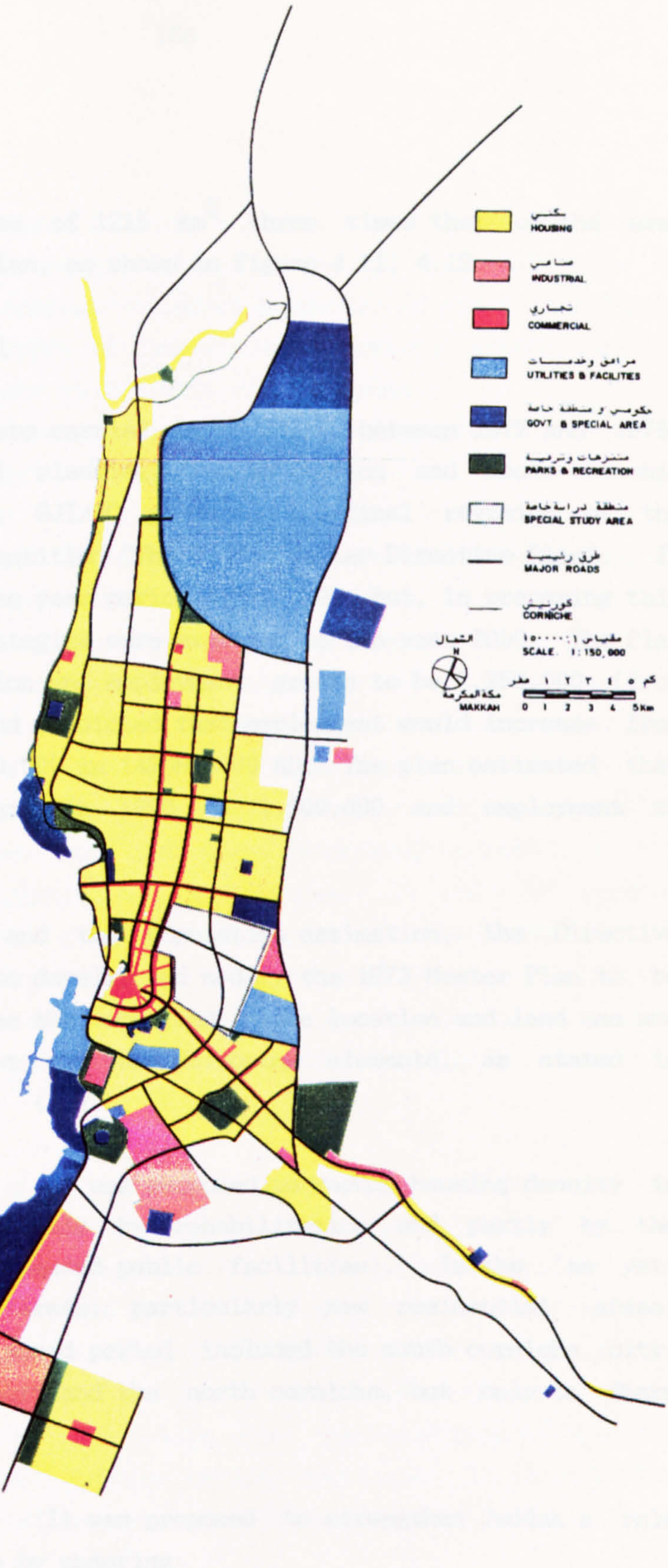


Figure 4.12: The Third Master Plan of Jeddah, by SJI/SC, 1980

Source: SJI/SC, Technical Report No.9, 1980

study covering an area of 1215 km^2, three times that of the area studied in the 1973 Plan, as shown in Figure 4.11, 4.12.

4.4.1 The Proposal

Three major surveys were carried out by SJI/SC between 1977 and 1978, dealing with physical planning, transportation and socio-economic factors. Accordingly, SJI/SC produced the final revision of the revised plan in 1980 entitled "The Jeddah Master Directive Plan". It concentrated on the ten year period, 1980-1990, but, in preparing this plan, longer-term strategies were examined to the year 2000. The Plan estimated the population and employment growth to be 2,250,000 (from 1,000,000 in 1980), and predicted that employment would increase from 282,000 in 1980 to 900,000 in 1420H,2000 AD. The plan estimated that the population increase in 1990 to 1,600,000 and employment to 640,000. (22).

Based on the survey and the population estimation, the Directive Master Plan proposed to develop and modify the 1973 Master Plan to be compatible with changes that occurred in the location and land use and to ensure achievement of the following elements, as stated in Technical Report No.9. (23).

4.4.1.1 Residential: It was proposed to reduce housing density in traditional areas, (partly by rehabilitation and partly by the introduction of much needed public facilities). In the 'as yet' underdeveloped newer areas, particularly new residential areas, developments in the planned period included the south corniche city, the existing old airport and the north corniche, but only to Sharm Obhur.

4.4.1.2 Employment: It was proposed to strengthen Jeddah's role as a commercial centre by ensuring:

a) Adequate well-surveyed land for the provision of warehousing both for processing and redistributing goods, and for manufacture of construction and consumer oriented products, by means of extended industrial areas south of the existing industrial estate, and to a much lesser extent to the east of the bypass.

b) Adequate major highways and supporting infrastructure, serving both the new airport and seaport.

4.4.1.3 Transportation: It was proposed to cater for travel demand, given the following constraints:

a) Restricted growth on the central area employment.

b) Controlled development of commercial spine roads.

c) Reduced density in existing and proposed residential areas.

d) Limitations on car accessibility and usage of work journeys, in order to facilitate the demand for travel movement; a public mass transit system would need to be introduced by 1985.

4.4.1.4 Hierarchy of facilities and centres: In order to provide better for the various service requirements of the community, a hierarchy of centres was proposed. These would provide for social needs and would include mosques, shops, open space and schools in such a way as to minimise travel, increase amenities and give a focus to the local community.

4.4.1.5 Form of the city: It was proposed to emphasise the natural features of the city region, namely the coast and the hills, and to conserve these as much as possible for future public enjoyment and leisure. These features both contain and give rise to a resulting linear shape of the city. The linear growth would generally be extensive and low rise in form, with the exception of the spinal corridors radiating from the existing city, the older part of which it was proposed to conserve, and the corniche frontages. In those latter areas a higher density of development would be accepted.

4.4.2 Implementation

After establishing the Master Directive Plan, SJI/SC produced execution plans and bye-laws (containing zoning and building regulations) to ensure implementation of the Master Directive Plan properly according to the proposed phasing and quality. At the same time a Planning Department was established to control the land use, through the land sub-division approval and zoning regulations to be enforced according to the bye-laws (which will be discussed in detail in Chapter 8).

Actually, one can recognise, in the urban form and development of Jeddah city in the last few years, that they go parallel with the proposed plans, and are highly affected by the guided planning and regulations. This is especially so in the new areas north of the city, which is generally characterised by low density, detached dwellings of two to three storey apartments, or villas, which were constructed over approved pre-planned land subdivision of wide streets, with sufficient car parking and open space.

However, it seems that the proposed tremendous residential expansion to the north to Sharm Obhur, and south to the southern corniche about 55km longitudinal from south to north, and east to the mountains about 17 km from the sea, had both advantages and disadvantages. The advantage of this expansion is that it leads to the occurrence of approved subdivision land at reasonable prices - especially for limited income groups - in the city outskirts, which gives a chance to build decent houses with the help of Real Estate Development Funds (REDF). The problem of this expansion is hidden behind the occurrence of these developments in different places (leap-frog development). The problems are that they are far from each other and away from the city built areas and public services (electricity, water, telephone etc), (See Figure 4.13).

This situation led to an increase in the costs of service installations, and in addition, the cost of maintenance and operation, because they are not used at full capacity, for example, lighted streets which extended more than 30km and served only a few residential houses. If someone calculated how many riyals the government spent for operating these lights, for only small numbers of people, he will find a lot of wasted expenditure. It seems that the vacant land between the leap frog development will take a very long time to be developed, especially with the sharp decrease in foreign employment, due to the completion of most of the city infrastructure and essential projects, coupled with Government policy of decreasing the foreign workforce, for example, the present policy restricting entry of families to essential workers. (24). In addition the policy encourages the Saudi to take the place of the non-Saudi in all different types of work. Thus, one can now find a lot of empty dwellings at a very cheap price.

Actually, this leap frog development not only occurred in Jeddah, but also in other Saudi cities and rural areas. This situation has forced the Ministry of Municipalities and Rural Affairs to conduct meetings and research to avoid leap frog development by determining principles which determine the boundary of urban areas.

After the completion of the Master Directive Plan in 1980/81 by Sert Jackson International/Saudconsult, a new consulting office (Sumait) was formed, to work in collaboration with the Town Planning Office, to continue the detailed studies of action areas for different sectors of Jeddah following the same procedures and requirements of SJI/SC. A detailed study of the rehabilitation of the old and newly organic development sectors is one of the follow up studies done by Sumait. This will be discussed in the Summary of Part One.



Figure 4.13: Aerial Photograph, 1982, showing Leap-Frog Development of Jeddah

Source: Urban mapping of the city of Jeddah, Kingdom of Saudi Arabia on the basis of high resolution satellite data - Mohamed Alwash, Fawaz Zakir and Abdul Razzak. Faculty of Earth Sciences, King Abdulaziz University, Jeddah

Footnotes - Chapter 4:

1. Mohammed S. Farsi, "Arabian Cities Theory and Practice, Case Study for the City of Jeddah". Unpublished Ph.D Thesis in Arabic, Alexandria University, 1987, p.132.

2. Abdul-Rahman Makhlof, op.cit. p.38-39.

3. Ministry of Municipal and Rural Affairs, "al-Anzmah, al-Lwah, al-Taʿlimat", (The Statute, The Regulations, The Directives), Vol.2, p.153.

4. See Abdul-Rahman Makhlof, op.cit, Table 5, Vol.1, p.213, for the numbers of al-Buat al-Shaʿbiah in 1962, and see Mohammed S. Farsi, op.cit, Table 6, p.146, for the numbers of al-Buat al-Shʿbih in 1972.

5. George Orr Duncan, "The Planning and Development of the City of Jeddah". Unpublished Ph.D Thesis, University of Durham, 1987, p.51-52.

6. Robert Matthew, Johnson-Marshall & Partners (Consultants), (1), "Western Regional Plan, Jeddah Master Plan Report". Unpublished Report, Ministry of Interior, Municipal Affairs, Jeddah, 1972, p.5.

7. Robert Matthew, Johnson-Marshall & Partners (Consultants), (2), "Western Regional Plan, Action Plan, Jeddah" Unpublished Report, Ministry of Interior, Municipal Affairs, Jeddah, 1972, p.29-47.

8. Robert Matthew, Johnson-Marshall & Partners, op.cit, p.3.

9. See Royal Decree, Number 27, in 12/17/1390H, 1970 AD, "Nizam Tmluk qhair al-Soʿdian LLʿqar" (The Statute of Real Estate ownership for the non-Saudi)". See Ministry of Municipal and Rural Affairs, op.cit, Vol.1, p.29.

10. Robert Matthew, Johnson-Marshall & Partners, op.cit, p.5.

11. Ibid, p.179.

12. Ibid, p.41.

13. Ibid, p.41-60.

14. Ibid, p.178.

15. Ibid, p.178-179.

16. Mohammed Farsi, op.cit, p.151.

17. Sert Jackson International/Saudiconsult(1), "Evaluation of Existing Master Plan, Technical Report No. 4". Ministry of Municipal and Rural Affairs, 1979, p.26-28.

18. Sert Jackson International/Saudiconsult (2), "Existing Conditions of the Metropolitan Area, Technical Report No.5., Volume 3, Socio-Economic Data, Jeddah 1398H (1978 AD)". Ministry of Municipal and Rural Affairs, 1399AH (1979 AD), p.30.

19. Sert Jackson International/Saudiconsult (1), op.cit, p.37-47.

20. Sert Jackson International/Saudiconsult (2), op.cit, p.53.

21. Real Estate Development Fund, Technical Department "Datil Qoroad al-Astthmar" (The Guidelines of Investment Loans), Government Publication, Saudi Arabia, 1401H, (1981 AD), p.9.

22. Sert Jackson International/Saudiconsult (3), "Revision and Updating of the Existing Master Plan, Technical Report No.9". Ministry of Municipal and Rural Affairs, p.38-42.

23. Ibid, p. (O and P).

24. Ibid, P.35.

CHAPTER 5

CHAPTER FIVE

SUMMARY OF PART I

EVOLUTION OF URBAN DWELLING IN JEDDAH CITY

5.1 INTRODUCTION

From the previous studies and discussions about the various influential factors which occurred at different time and had great effect on the shaping of Jeddah's urban dwelling, one can recognise three distinctive types of urban dwelling in terms of urban fabric and building typologies.

1) Old Jeddah
2) Spontaneous Quarters
   a) legal development
   b) illegal development, Ta^{c}addyat (squatters)
3) New Quarters

The aims of this summary, as part of the Thesis,are to identify the evolution of these urban dwellings and the recent solutions that have been adopted to up-grade these quarters. By this summary and the previous studies and discussions, the author hopes to give the reader a general background of Jeddah's urban dwelling, taking him gradually into the next part, to a more detailed study of the regulations that had an effect on the formation of Jeddah's urban dwellings.

5.2 OLD JEDDAH

According to the the previous study, old Jeddah, within its wall, was characterised by narrow, irregular streets, suitable for the prevailing mode of transportation and human scale, high rise attached buildings with charming Rawshan projecting to the street, to provide light and air, while at the same time maintaining privacy. Such types of urban fabric and dwellings were the real expression of the people's needs and their interaction with the surrounding environment, in

respect of society's values and traditions, and the limitation of materials and technique.

Following the demolition of the city wall and the opening of al-Zahab streets in 1961 through the homogeneous urban fabric, coupled with a change in the mode of transport to cars, house owners left the area for houses in new quarters. This area then became the Central Business District (CBD) for the city. When all these events accumulated, many problems were created. Among these problems were traffic congestion, conflicts between cars and pedestrians, a decline of traditional housing conditions, and lack of essential contemporary services such as electricity, water, sewage, etc.

This situation led Jeddah municipality to contract with Robert Matthew in 1393/1973 for the re-planning and development of the old city, in order to preserve and restore those buildings that represented architectural and historical value. Thus, 558 buildings were chosen to represent the various types and usage, which were to be restored and adapted to receive modern utilities (water, sewage, power supply), in order to cope with modern usage. At the same time, the streets and lanes were paved with granite blocks, in order to sustain the heavy pressure of pedestrians. Motor vehicles were restricted in order to revive safe, traditional pedestrian paths and to prevent conflict between cars and pedestrians. (See Figures 4.6, 4.7, 5.1).

In fact, Jeddah Municipality took steps to enforce this redevelopment project; these are summarised below: (1)

1) Loans were granted to real estate owners in the old town to help them with maintenance and restoration.

2) Some of the real estate was purchased from the inheritors by new owners, who were capable of maintaining and restoring them, for re-use with different functions, to cope with the development of the historical area.



Figure 5.1:

Upgrading the Environment of Old Town Jeddah

Source:

Old Jeddah Municipality Branch

3) Special projects were agreed for pavements, lighting and beautification of internal and principal streets in the old town. For the pavements, special methods were used, with marble and granite arranged harmoniously in colour and Islamic Arabic form; lighting forms were used that reflected the traditional type of lighting known as al-Atarik.

4) Special regulations were brought in to preserve the traditional houses, to guard against the pressure that resulted from the high increase in land prices, and an owner's wish to re-build his house to achieve more profit. If a house was torn down it would be transferred to a park, and the owner would not be issued permission, except under certain stipulations concerning building height and facade, compatible with the surroundings of old houses.

These efforts and many other actions by the municipality played a major role in the upgrading of the standards of the remaining part of the old town, giving back its life and activities, with a new cloak mixed with fragrances of the past. Thus, old Jeddah deserved first prize for traditional preservation offered by the Arabic Cities Organisation, in Dmah Quarter in 1406/1986. (2).

5.3 SPONTANEOUS QUARTERS - (Outside the Old Town)

It was seen in the previous study that many quarters occurred outside the old town of Jeddah and developed spontaneously in organic form such as al-Sabeel, al-Handwiyah, al-ᶜamariyah, etc. As discussed, the origins of these quarters were primitive Bedouin settlements, scattered in different locations far from the old town. As a result of the first oil boom in the early 1950s, these settlements were gradually developed, as a consequence of the increase of internal and external immigration, to form the old quarters. Although there are some similarities between these quarters and the old town in terms of urban fabric, there are some differences. The plots in these quarters

are larger than those in the old town, and the houses are mostly one to two storeys in height, with a central courtyard known as al-Buat al-Shᶜabiah (Arabic traditional houses), or groups of Sanadk (huts) grouped around an internal court. Fewer numbers of these houses are rebuilt compared to apartments.

However, in the municipality there is more concern to develop the new areas, especially in the north of the city, and little concern for the development of the old spontaneous quarters, in spite of the fact that they have a high density of population and well-established community and social relationship. Thus, these quarters suffer from the poor condition of the houses in terms of construction, electrical and sanitary conditions. In addition, the narrow, irregular streets which were used for pedestrians and open space for children to play safely have become congested with cars, creating traffic hazards.

In fact, as noted before, the spontaneous developments have not been stopped by the contemporary methods of planning and compulsory regulation that any parcel of land has to be developed according to the requirements of modern planning principles, indeed they still appear in different parts of the city. Such types of development in the past was considered legal, but under recent changes are now considered illegal and is known as Taᶜaddyat (squatters).

In this section the study will investigate when, how and why the spontaneous development came to be considered illegal. At the same time it will identify what kind of solutions were adopted by the municipality to tackle the problem of the Taᶜaddyat and the old spontaneous quarters.

5.3.1 Al-Taᶜaddyat Areas - (Squatters Area)

Al-Taᶜaddyat or the squatters' areas, are scattered in different locations in Jeddah. First, they were developed outside the city built area, but now, with the great expansion of the city, they have

become part of the city's physical structure. Squatters are considered to be illegal development. Here in this section we will try to discover why they are considered illegal, how they are developed, what kind of problems are attached with such development and what are the (adapted) proposals to tackle these problems.

Before getting deep into the discussion, it is well to know the meaning of Ta^{c}addyat, in order to understand the whole issue behind this name. The word Ta^{c}addyat is the plural of the word Ta^{c}addy, which means 'hostile' or 'overtaking someone's property'. It also means violation of, or breach in, the law, or the right of others. Thus, the word implies illegal action and in the case of the built environment it means illegal development over land owned by others, or development without permission from the authorities, or violation of what is permitted (such as adding more floors or changing the ground floor into shops when not included in the permission).

The squatters have developed illegally on land many kilometres square owned by others, either by the government, who wished to reserve the area for al-Hadiqah al-Sahrwiah (the desert park) south east of the city which was occupied originally by the Saudi Bedouin tribes forming the squatter area of Hay al-Qhatin and Qwizah, or on land owned by individuals, in various parts of the city, such as the land of al-Sharbtly, north east of Makkah road about 2.6 million sq.m, and the land of Baklaf, north of the city about 10 million sq.m. Also such squatter areas occurred south of the city, the largest one known as al-Qarantinah occupied by immigrants from the southern part of Saudi Arabia, Africa and Yemin, as mentioned previously.

It seems that development of these squatter areas occurred as a result of the changes in land acquisition outside the city wall of old Jeddah. Traditionally, the land outside the city wall was considered ard-mwat (dead land, empty land which has no owner), and anyone could acquire Sak-Shar^{c}y the legal title of land ownership, from the court after al-tahjyer (demarcation) and al-Ahya (the revivification) either

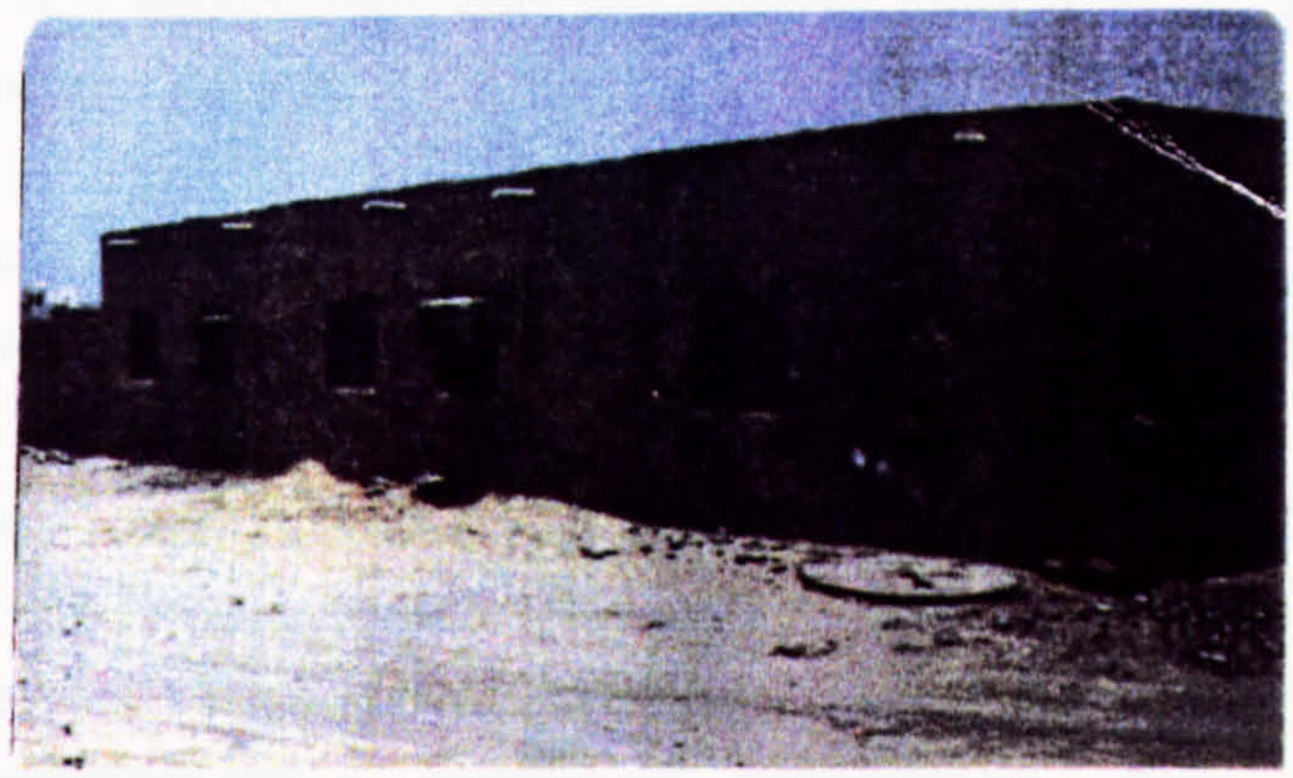
by building, or cultivation, or any action that gives life to the land. This is based on the prophet saying. He says:

> "The people are God's people, the land is God's land, he who revives a piece of dead land will own it, and the unjust root has not right".

(See Chapter 6 for more detail about land acquisition by revivification). Even traditionally someone could sell land after the demarcation and before obtaining title from the court. The only thing the demarcator had to do was to write wathigha a document of sale, to prove that the land was purchased from the demarcator. From 1367/1947 onward al-ard al-bida (the white or empty land which has no owner) outside the city wall was not considered ard-mwat dead land, but rather belonged to some government agencies according to the Royal decree on 25/8/1367H,1947 - to regulate the Jeddah physical structure. (5).

This decree lapsed the right to anyone to demarcate or to revive any empty land which has no owner, and the only way to acquire land ownership is through Royal grants, or through purchase from an assigned government agency, which finally became the responsibility of Jeddah municipality. However, this change of land acquisition led to most of the land outside the built area (even beyond the current proposed city expansion) being owned by individuals through purchase or grant, or reserved for some government and public purpose, such as al-Hadiqah al-Sahrawiah (desert park).

In spite of many kilometres of land outside the city built area being owned, it is considered empty or open space, because the boundary of each parcel is not well-defined, especially those large parcels of many kilometres square, which were sold very cheaply, because they were a distance from the built area. This situation of vacant-owned land, coupled with the following circumstances, had a great effect on the appearance of squatter areas, either because of the illegal development on other people's land or the development on unapproved land.



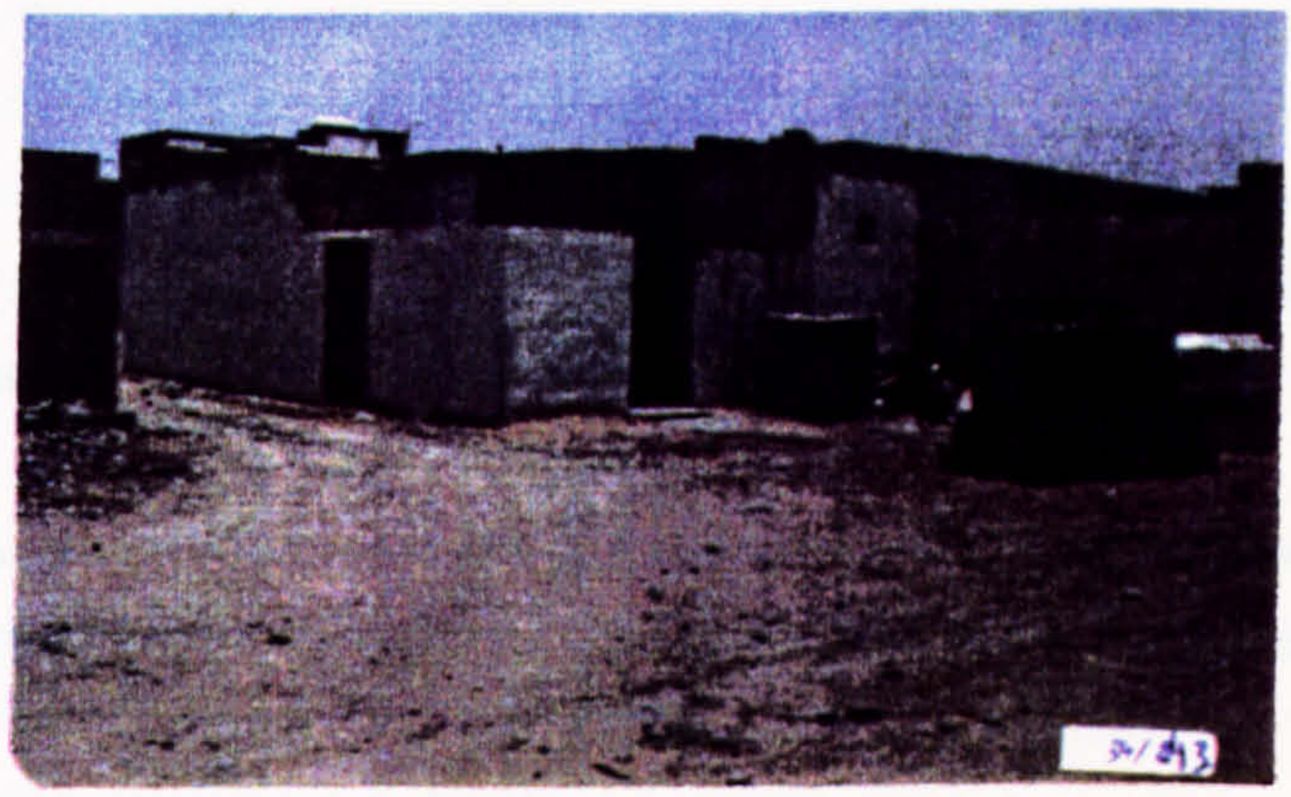


Figure 5.2: Typical houses in the squatter areas

Source: T. al-Harbi, The Development of Housing in Jeddah: Changes in Built Form from the Traditional to the Modern. (Unpublished Ph.D Thesis, University of Newcastle upon Tyne, 1989).

1) An increase in the interior and exterior immigration to Jeddah at a time of housing shortage, led to the increase of both housing rent and land value. This encouraged needy people to find other ways of settling in cheap accommodation, and the Saudis have always preferred to own their own house.

2) It is permitted to build only on approved land sub-division, but process for approval for this takes a long time. In addition, when the sub-division building is approved, the land price has usually become expensive and only remote and unapproved land is cheap.

3) To open new streets and widen existing ones in the built area, it is necessary to expropriate a number of properties. This, coupled with no programme for re-housing, led to an increase in the shortage of housing. The compensation paid was very low to those whose property had been expropriated, and, when looking for suitable land on which to rebuild, the only available land within their budget was in the unapproved land.

4) There was a lack of supervision by the authorities over unapproved development, which was due to a shortage of manpower, and a lack of suitable solutions for the great housing demand as well as delays in developing government land.

5) There was a lack of coordination between ᶜAin al-ᶜAziziah and the Municipality. ᶜAin al-ᶜAziaiah sold a lot of land and the procedure was simply to allow the individual to choose his own site, size and design required, without obtaining permission or approval from the Municipality. Thus, organic development occurred and was considered unapproved, in spite of official action from the government agencies.

6) Finally, some landowners delayed developing their large parcels of land, awaiting the increase of land value. This situation decreased the supply of land to the market and increased the demand for land, which led to excessive increases in value. This had the result of encouraging people of limited income to build the squatter areas.

Although al-T^cAddyat the squatter areas are considered illegal development, the needs for accommodation because of the above-mentioned circumstances, forced the needy to violate the law. They took advantage of the absence of Municipality observation on weekends to establish the basic customary right of occupation by building houses in a very short time (over a weekend). This created difficulties for the municipality in trying to move them from the property. Also an Act published in 1401/1981 prevented families from being evicted, which increased the difficulties for the municipality.

In order to construct houses in the squatter areas in such a short period, certain usual procedures were followed. Following purchase of land from previous occupants, a purchase receipt was issued but this gave little protection as there would not be any legal documents. The construction would begin over a weekend with help from friends and relatives, and even from illegal labour. The first step was to finished completely the outside facade (walls, windows and doors, and even plaster before the block mortar dried). This was done before the roof or interior walls, so as to give the indication of a complete house from the outside. The interior layout and walls, wooden flat roofs, stair case, would be finished next, and the services would then be installed to finish the house gradually. At least one or two rooms in one corner of the plot, and the fencing around the plot have to be completed over the weekend and the dwelling occupied by the family. This action makes the task of the municipality difficult, when trying to remove the occupiers. (Figure 5.2 shows the completed house in the squatter area).

A quick glance at the situation in the squatter areas, in order to identify the main problems, and what the authorities' proposals are for tackling the problems, reveals the following:

1) In the squatter areas, some houses are built on individually-owned land, or on government land reserved for public interest.

2) Some squatters suffer from lack of essential urban services, such as public sewage, electricity, water supply. Thus, substitutes are used, but these are expensive and sometimes dangerous and a hazard to health. For example inadequate septic tanks are used, which cause constant overflows and foul running water. This foul water sometimes becomes mixed with the drinking water storage tank, which, overall, causes a health hazard. Also, some suffer from lack of health and educational facilities.

3) Some of these houses are in bad condition, as a consequence of the quick construction. Some are unfinished and some are a hazard to health and safety, due to poor electrical installations, sanitary problems, water leakage, etc. Maintenance is needed on these houses to upgrade the standard.

4) The streets inside the squatter areas are currently paved, which solves the problem for pedestrians, but creates another problem by introducing more cars to the site, especially through streets which pass within the squatter area. Some of these through streets are too narrow to have pedestrian pavements on both sides, as well as road traffic, and, with the existing maintenance, these streets are dangerous, especially for children.

5) Although, the social life and interaction is very high in the squatter areas, there is always a fear of government intervention.

After discussion of the main problems of the squatter areas, two proposals have been suggested for tackling these problems. The first is to demolish the whole squatter areas and re-house the people in other residences. The second is to develop and upgrade the standards, by widening streets and providing all needed facilities and services. The author is in favour of the second proposal of upgrading the standards, but not of widening and opening new streets.

5.3.2 Redevelopment of the Organic Quarters

Recently following completion of most of the projects in the north of the city, the municipality gave their attention to developing the southern and older parts of the city, after identifying their characteristics as poor and low income areas. Thus, attention was given to re-planning the old spontaneous quarters, where the studies were completed. The aims and methodology of the re-planning and the development project for these quarters are summarised below. (6).

1) Re-planning and development of the old quarters so that their urban fabric and design will be compatible with the adjoining new neighbourhood with a common road network and public services.

2) Provision of a hierarchy of street networks with consideration of the Master Plan and the area action plans recommended.

3) Provision of services that were not existing in the area.

4) Improvement of the residential area by: benefiting from empty land, to improve the public environment by means of planting; the provision of pedestrian paths in the commercial area, separate from vehicle movement. Conditions to enforce this aim either by minimum expropriation, or preferably by benefiting from a 1-2 metres set back, without paying compensation, in order to allocate an area for car parking or open space for children's playground or public park. At the same time to benefit from the existing services in the adjoining neighbourhoods, such as schools, hospitals, etc.

It seems that the first project proposing to use this methodology was the urban re-design and vision arrangements for Abha streets in al-Kndarh quarter. Distinctive architectural elements of old Jeddah are determined and used for improving the facades of the houses that face onto the street, so as to combine the existing older

architectural elements with the new materials and techniques, and at the same time preserve the organic fabric developed by the inhabitants. The standard of this street was developed by re-paving, lighting distribution, planting and selection of suitable tiles with special designs which could be used for different areas.

It seems that these redevelopment projects were mainly concerned about the beautification of the facades, which is good, but, more important, in the author's opinion, is that the standards of these houses should be raised not only from the outside, but as a whole, by inspecting the construction, the electrical and sanitary installations etc. Accordingly, this will help the owners to be aware of the problems in their homes. The inspections must be combined with the redevelopment housing fund (similar to REDF but for building houses).

5.4 PLANNING DEVELOPMENT OF NEW RESIDENTIAL AREAS

As discussed previously, the new residential areas emerged on sub-divided land according to the grid-iron pattern. Such types of sub-division at first appeared to restrict spontaneous development and was used to prepare some land for sale. The income from the sale of land was used to maintain and construct the city's streets according to the Royal Decree in 1364/1974. (8)

In this section the study will investigate the evolution of the new urban dwelling in terms of planning and building and land sub-division stipulations and regulations.

5.4.1 The First Prototype

The first prototype of the new residential land sub-division consisted of square blocks of 100m x 100m with grid-iron planning. There were no special building regulations in terms of building height, density, floor area ratio, etc. and no consideration was given for allocating specific percentages for services such as parks, mosques, clinics etc.

Also there were no principal streets; the width of all the streets was the same 10m. Some of the 100 x 100 square blocks were divided into two, four and sixteen plots with cross streets between of 8m width (see Figures 5.1, 5.2). In the last subdivision of sixteen plots, the percentage for residential building was about 98.5%, an average plot size of $529m^2$, and the percentage for roads only 1.5%. Later, moving away from the 100 x100 square blocks, more rectangular and larger sized blocks were planned, and the land sub-divided into smaller plots with an average size of 441m. This resulted in the percentage for residential building equal to 85% while for the roads about 15%. (See Figure 5.3, 5.4, 5.5).

This method of land subdivision created numerous car accidents because of the short cross-sections of 100m intervals, and in some places the interval was only 50m. Thus, the municipality recently closed some of the streets in order to minimise the number of cross-sections. Some of the streets were widened according to the Master Plan proposal.

In fact, the land subdivision into regular shapes (square or rectangular) according to approval plans helped to improve land registration. However, when applied on the site, the boundary of the plots was determined by a pile of sand or concrete posts. This led to overlapping between properties, which created disputes between owners. To avoid this problem, the municipality paved the surrounding and internal streets before handing the plot over to the owner, as will be mentioned in the 'third prototype', then later the municipality forced the owner of the large parcels to pave and light the streets as part of the land subdivision approval, as noted in the 'fourth prototype'.

5.4.2 The Second Prototype

The second prototype of the new residential land sub-division differs from the first in terms of allocation of a percentage of the total area for services, mainly mosques and parks. To do this it minimised the numbers of cross-sections and where two or more 100 x 100 plots

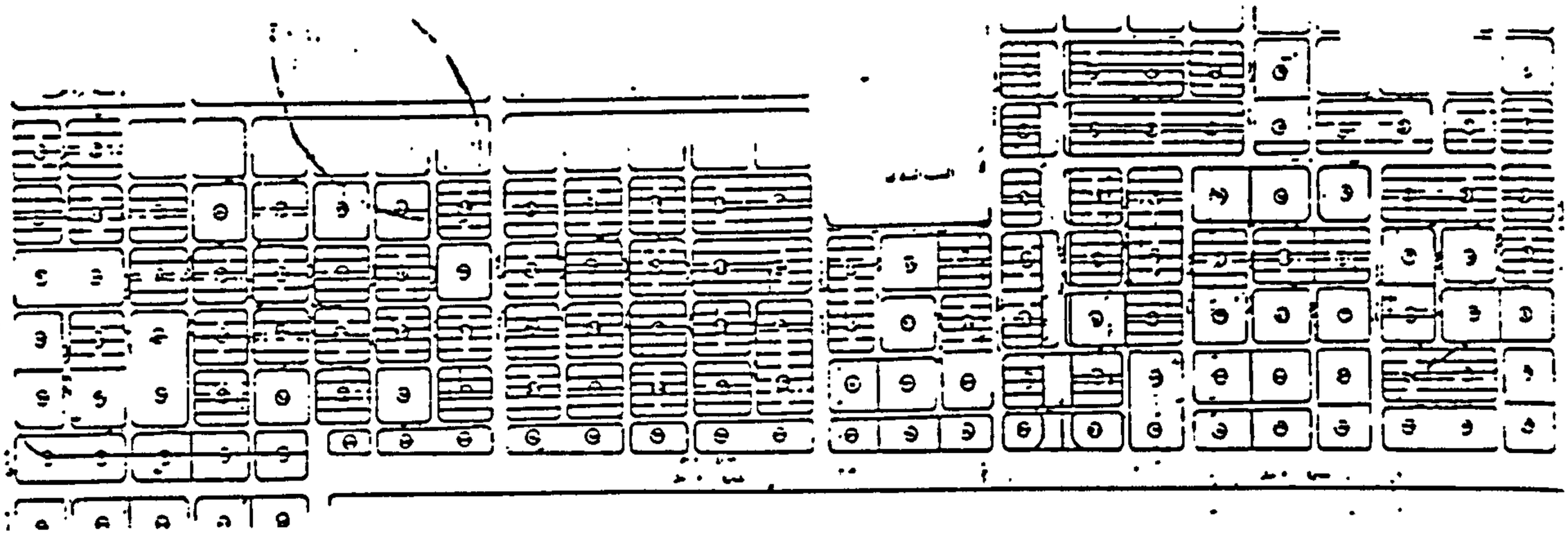


Figure 5.3: The first prototype of land sub-division consisted of square blocks of $100m^2$ with Grid-Iron Planning, no consideration of services such as mosques, parks, clinics etc.

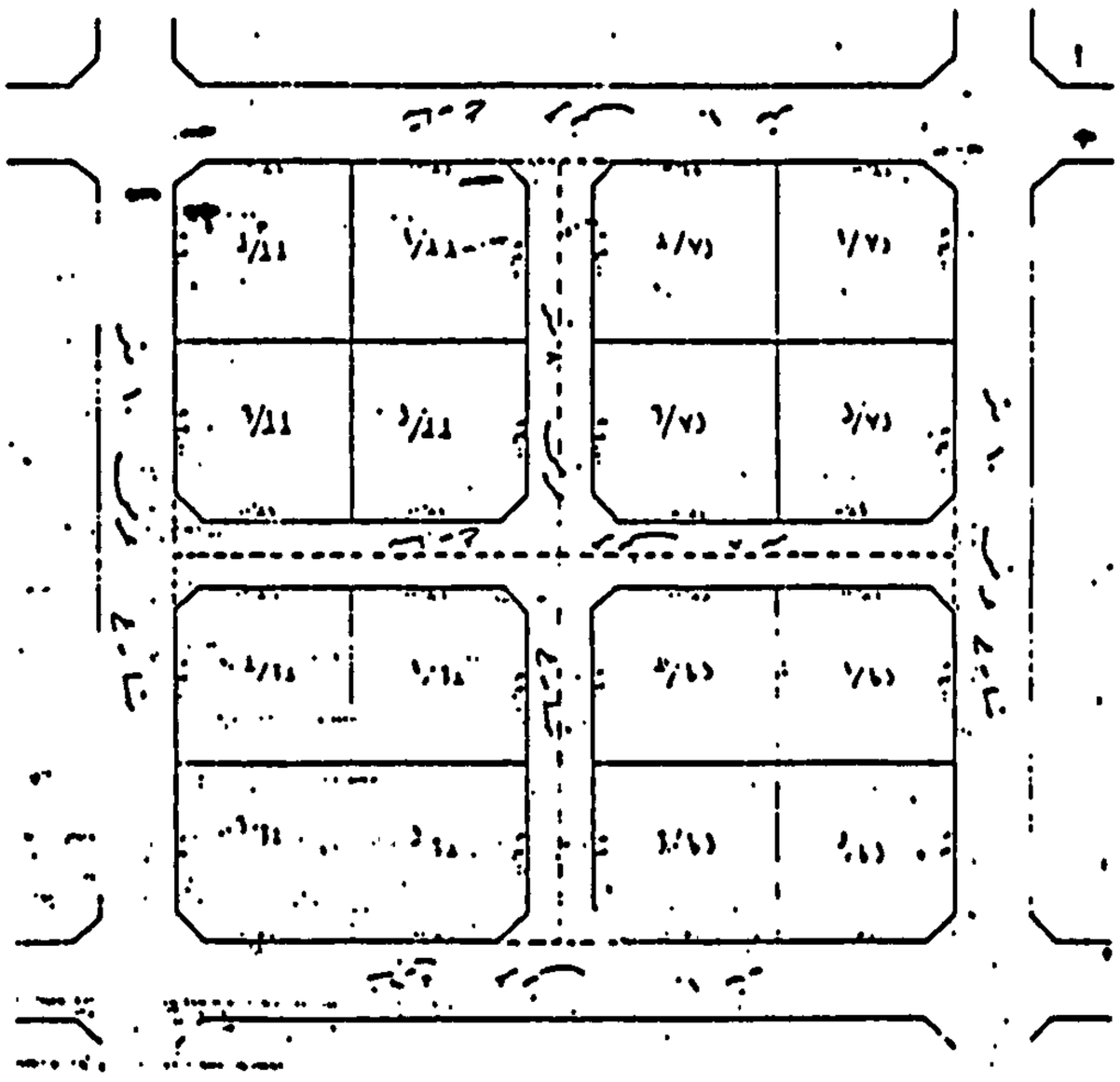


Figure 5.4: Land sub-division of 100m x 100m square block into 4 or 16 plots with cross section roads between them.

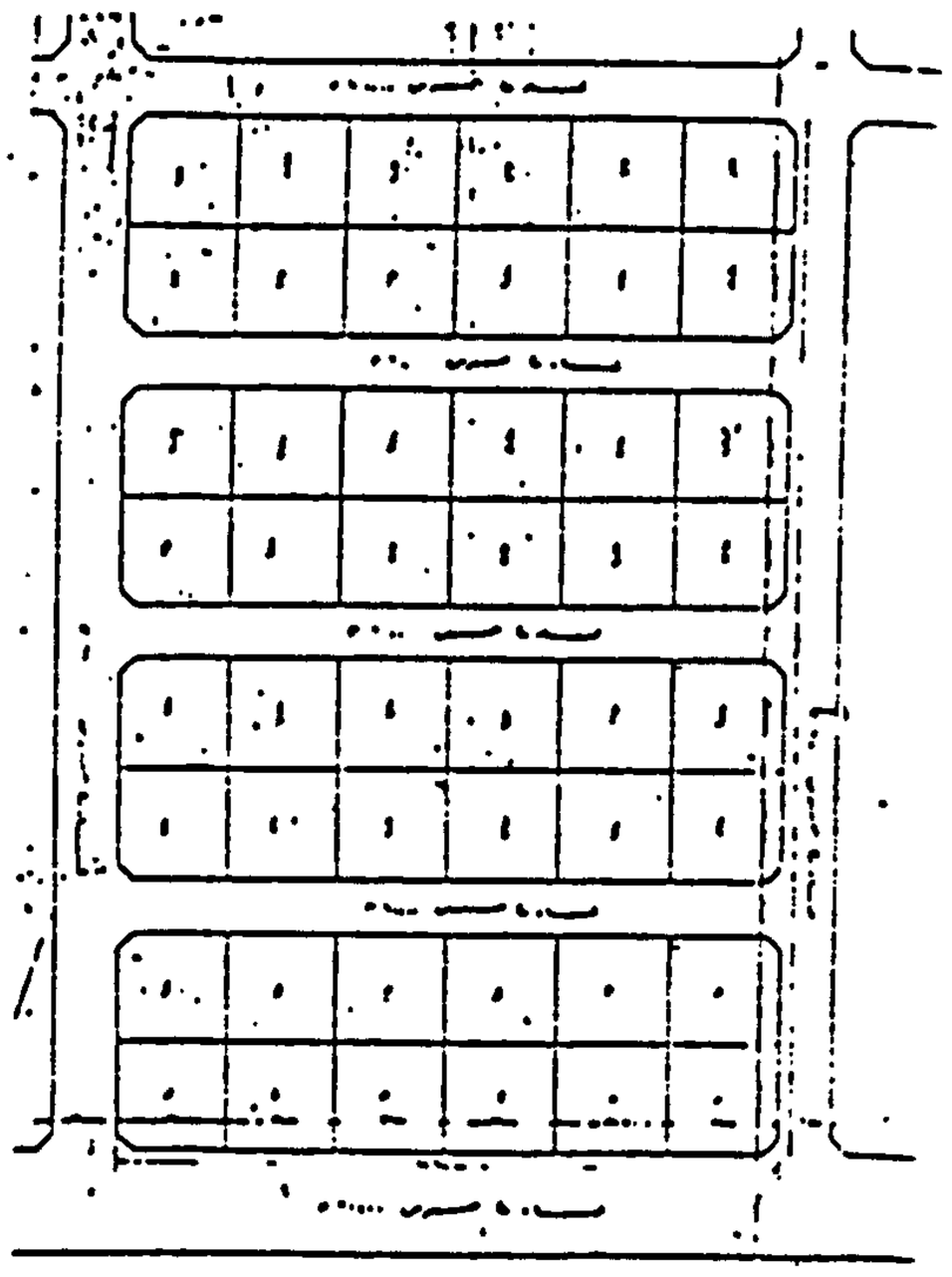


Figure 5.5: Land sub-division of rectangualr block (mainly a combination of two square blocks 100m x 100m.

Source: Mohammed S. Farsi, "Arabian Cities, Theory and Practice", Case Study for Jeddah, Unpublished Ph.D Thesis, Alexandria University Egypt, 1987, p.301-303

and streets were joined, these were sub-divided into small plots in the form of al-Maforkah ('twist form' with perpendicular or 'T' sections) with spaces were left in the middle for services, about 6 to 7%. (See Figure 5.6).

5.4.3 The Third Prototype

The third prototype of residential sub-division represents a transitional point in the land sub-division in terms of planning principles. The goal here is not only to sub-divide the land to prepare for sale, it is also to enforce the Master Plan by following its proposal in terms of land use (residential, commercial and industrial, density, zoning regulation etc.

This transitional prototype occurred within the existence of the second Master Plan by Robert Matthew, 1973. Owing to the increase of land speculation at that time and to a shortage, and less experience of technical staff in the municipality, some land sub-division was compatible with the Master Plan proposal, though most of it was not.

The first land sub-division which did match with the Master Plan proposal is Plan Number 17/B/68, Figure 5.7. The total area of this is approx. one-million sq.meters (equal to the area of old Jeddah). About 64% of this is allocated for residential areas, 14% for services (such as schools, parks, shopping) and 22% for roads, and the average Plot size $600m^2$.

The planning of the sub-division depends upon the network of roads in the form of al-Mafrokah 'twist forms', and the homogenous distribution of the open space and schools. Also the central area is allocated for commercial services and car parking.

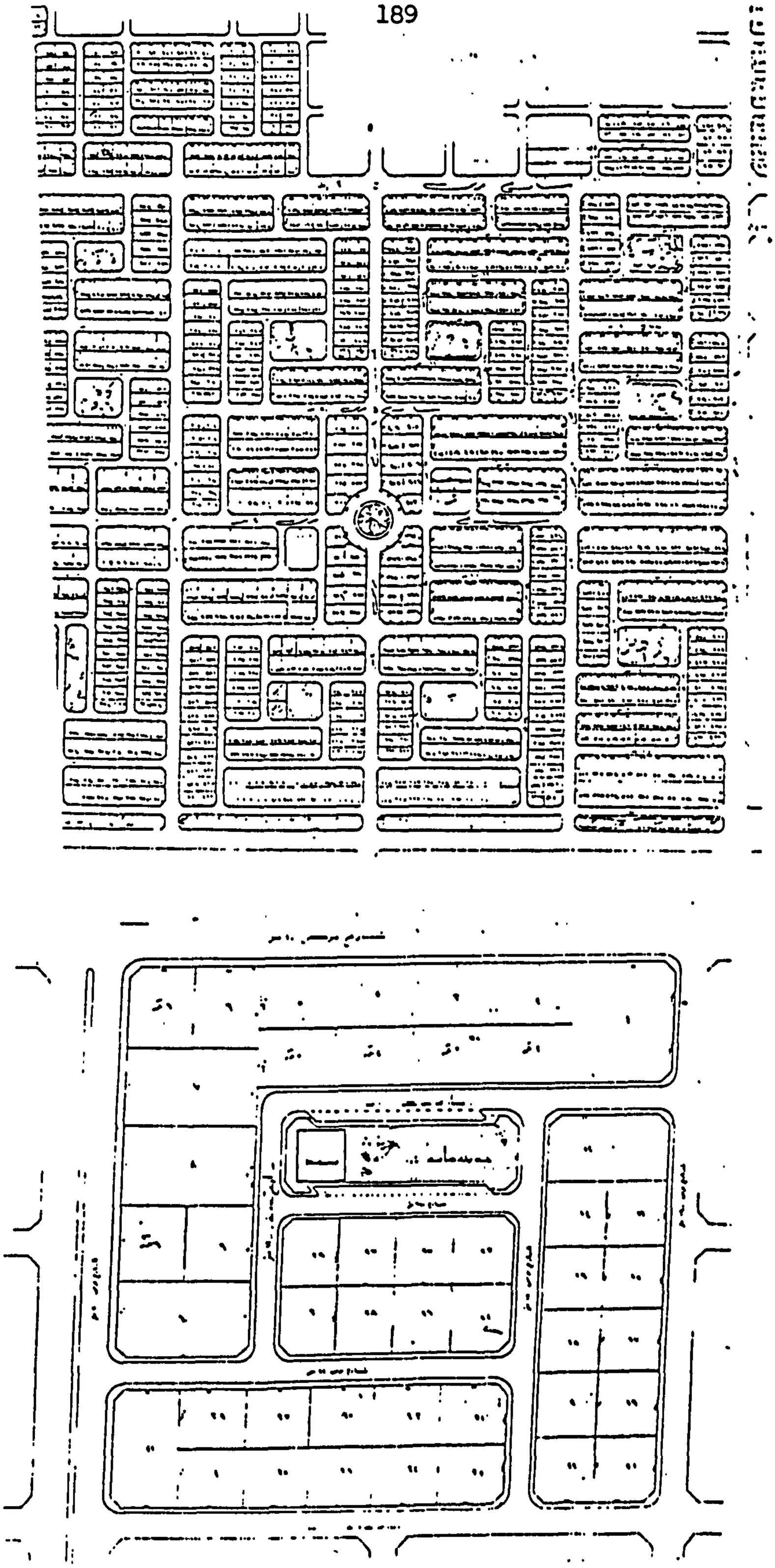
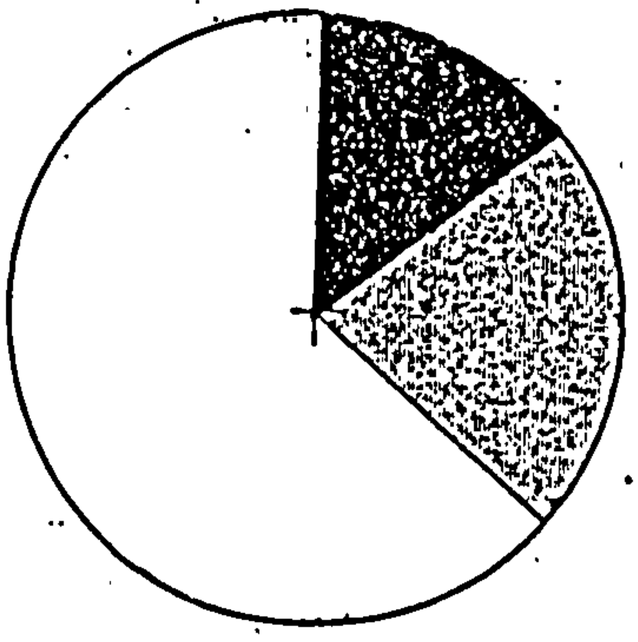


Figure 5.6: The Second Protoype of land sub-dividing in the form of al-MafromKah (Twosted form" with T Junctions) with 6% to 7% space left in the middle of the block for services.

Source: Mohammed S. Farsi, Ibid, p.305-306

رقم المخطط	المساحة الكلية (م٢)	استعمالات الاراضي						متوسط مساحة القطعة
		سكني		خدمات		طرق		
		م٢	%	م٢	%	م٢	%	
١٧/ب/٩٨٨	٩٧٥٠٠٠	٦٢٥٢٥٢	٦٤	١٤٣٢١٨	١٤	٢٢١٤٣٠	٢٢	٦٠٠ م٢

شكل١٣٦): النماذج الثالثة في المخططات





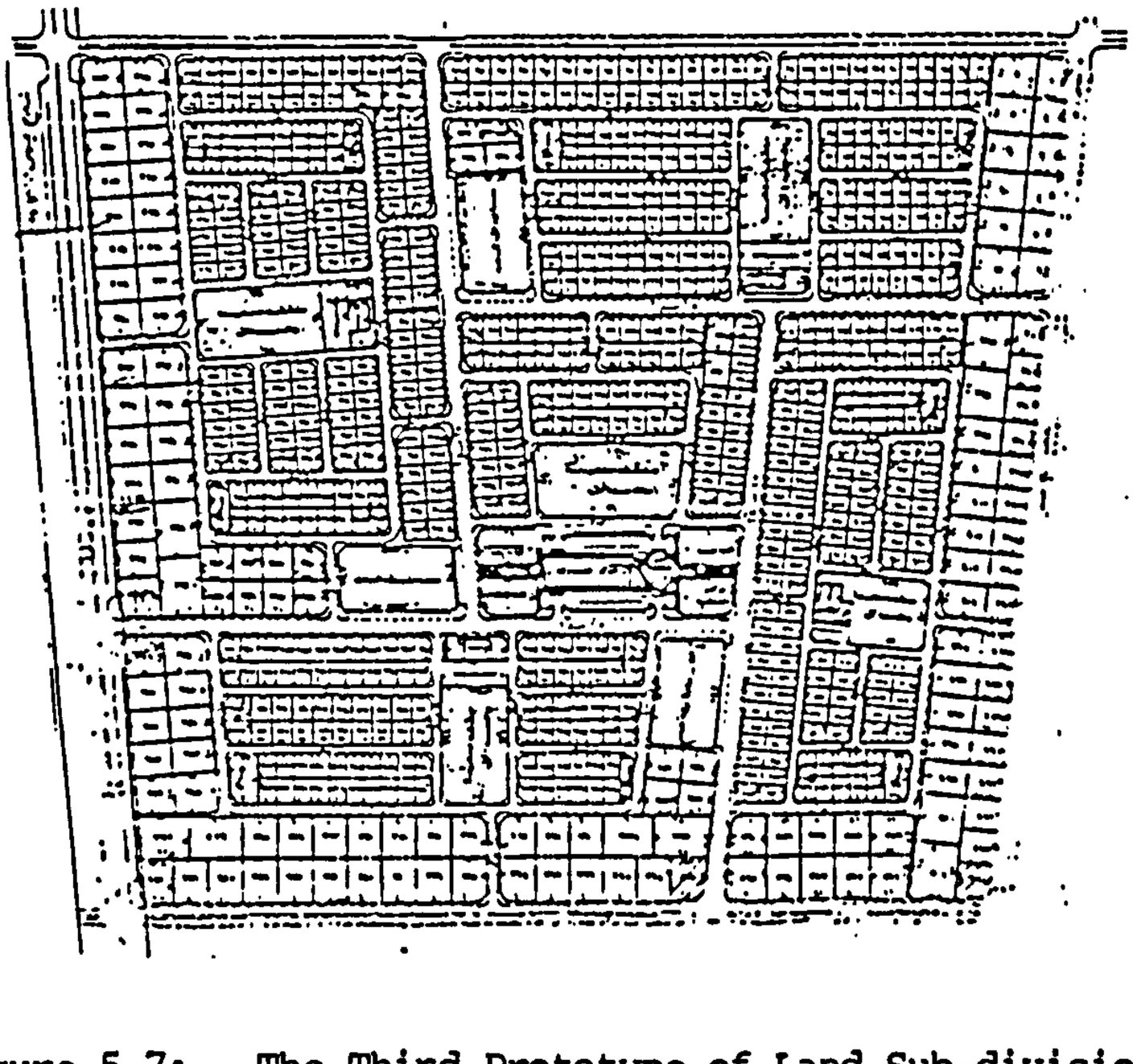


Figure 5.7: The Third Prototype of Land Sub-division which is matched with the proposal of 1973 Master Plan

Source: Mohammed S. Farsi, Ibid, p.309

5.4.4 The Fourth Prototype

This prototype is mainly affected by the direction of the third Master Plan by Sert Jackson International, in which its action plans played a major role as directive for the land sub-division to respect the proposed modified land use, road net-work and the zoning regulations.

In this prototype, the zoning regulations were applied strictly. This had an effect of achieving, to some extent, the proposed population density and the building percentage rate in each area, by applying the set back regulation, the plot size (which increased from 20 x 20 to 30 x 40 in the villa zone), building height, etc. Other regulations dealt with city beautification such as painting, planting and finished materials. Actually the nature and the effect of these regulations on the urban dwelling will be discussed in detail in Chapter 9 of this Thesis.

* * * *

In this part, it was manifested and clarified that the evolution and various influential factors which occurred at different times had a great effect on shaping Jeddah's urban dwelling.

In the following Part II, the Study will concentrate with detail on investigating and analysing the regulations which are used as building and urban dwelling controls, to identify their effect on shaping Jeddah's urban dwelling.

Chapter 5

1. Mohammed S. Farsi, 920, "Tatwer al-Nasij al-ᶜMrany Lmdint Jaddah al-Qadimah", (The Evolution of Old Jeddah's Urban Fabric). Paper submitted to the Symposium of "The Saudi Cities", from 21-23 March, 1983, p.32-34.

2. Mohammed S. Farsi (1), op.cit, p.252.

3. More detail about revivification, See Chapter 6.

4. Sunan al-Bayhaqi reported by ᶜAish, The Prophet's wief. Other traditions narrated by Sumrah B. Jundub who mentioned that the prophet said "He who walled (erected) a wall around a piece of land owns it", Al-kharaj, op.cit, p.65.

5. Abdu-Qadus al-Ansary, op.cit, p.178, 179.

6. Mohammed S. Farsi (1), op.cit, p.261.

7. Ibid, p.258.

8. Abdul-Qadus al-Ansary, op.cit, p.179.

PART II

PART II

EVOLUTION AND ANALYSIS: THE INFLUENTIAL REGULATIONS ON JEDDAH'S URBAN DWELLING

In this part of the thesis, the study will concentrate on an investigation into the regulations that affect the shape of the urban dwelling of the City of Jeddah. The investigation will concentrate only on the regulations which are used as building and urban dwelling controls, and currently are considered part of the Residential Zoning regulations.

Here, the method of investigation will be to discover the evolution, the characteristics and the nature of these regulations. It is also intended to investigate the changes and the continuity of these regulations throughout their evolution, the extent to which they affect the Jeddah urban dwelling, and the degree to which they conform to Islamic Shri^{c}a, the social life and the climatic aspects. Further observations will be made concerning how the regulations cope with change of time, technology, knowledge, etc.

These regulations, which are used as building and urban dwelling controls, can be classified, according to their evolution, into three stages :

(1) the regulations that affect the urban dwelling of old Jeddah.
(2) the pre-Master Plans Regulations.
(3) the Master Plans Regulations.

Each of these stages represents a certain period and characteristics, and each stage is presented as a chapter in this part of the thesis.

CHAPTER 6

CHAPTER SIX

BACKGROUND OF ISLAM AND ITS LEGAL SYSTEM

6.1 INTRODUCTION

One of the main objectives of the analysis of the influential regulations on Jeddah's urban dwelling is to identify to what extent these regulations conform to the socio-culture of a society whose beliefs are in Islam as a religion and way of life. Thus, it is very important from the point of view of the analysis, to have a good background of Islam, and how effective this belief is in forming the identity of a Muslim society. At the same time it is important to know about the Islamic legal system in terms of sources of Islamic Law (Shari^{c}h), and the characteristics of this law, since this part deals with regulations.

However, this part deals mainly with the analysis of building regulations. These regulations are concerned with building, land and surrounding areas, such as neighbours, streets etc., and these have a relationship to rights; right of ownership, right of neighbours, right of easement, right of government control and intervention. Thus, it is important in this part to know the nature of right in Islam in general and the right of ownership and right of building in particular.

Thus, the author includes in this chapter the following:

- General idea of Islam
- Islamic Jurisprudence (Revealed law and Derived law)
- Characteristics of Islam Law (Shari^{c}h)
- Nature of right in Islam
- Right of Ownership and Buildings.

6.2 ISLAM

Islam is the last heavenly religion and believed by more than a billion in the world as a way of life. (1). Muslims believe that there is only one God (Allah), and He, the Almighty who created man and the universe, and He the only one who deserves worship and obedience.

Thus, Islam, from Aslama, means 'entered into peace', or 'the total submission to Allah'. It is through submission to God's will that peace and the realisation of one's destiny can be achieved. (2) The whole realm of nature is revelation of the will of God. The divine will is manifested in the creation of heaven and earth, in the change from day to night, and in the variety of flora and fauna, or in the hydrodynamic law which governs the interface between fresh water and salt water and keeps them apart. (3).

All creation harmonise with each other in a fine order system. Everything, the moon, the sun, the resources of the earth, have been created for man's benefit and enjoyment. At the same time Allah Almighty created mankind in very good shape, and endowed him with personality, consciousness, knowledge and concomitant powers to exercise the viceregency (Khalifah caliphate) of God in the earth. (5). This Khalifah contracted to build the earth according to Allah's commitments. Thus, the earth for mankind is Dar I Khtbar (test house), and hereafter is Dar Garar (final place), and everyone will be judged according to his deeds. Those who performed good deeds by obeying Allah's orders and preventing their prohibition, they will deserve al-Janah (the heaven) in the hereafter and those who do bad deeds will deserve al-Nar (the hell).

> "Surely we have made whatever is on earth an establishment for it, so that we might try which of them (among mankind) is best in deeds". (6).

Allah sent his messengers to preach the one-ness of God, and to guide them on the right path (the law of God). Scriptural revelations were

communicated for the guidance of mankind through divinely inspired prophets who were ordinary mortals. (7). The Muslim is not considered a Muslim until he believes in all the prophets, starting with Adam, passing to Ibrahim - to Jesus and on to the last and final prophet Mohammed. (8). (Peace be upon all of them and their original scriptures) as emphasised in the Quran.

> "The Apostle believeth in what hath been revealed to him from the Lord, as do the men of faith. Each one (of them) believeth in God, his angels, his books and his apostles. We make no distinction (they say) between one and another of his apostles". And the say "we hear and we obey; (We seek) thy forgiveness our Lord, and to Thee is the end of all journeys". (9).

The prophets were not the authors of the scriptural revelations they merely communicated the divine guidance to people under the command of Allah. The Muslims believe that every prophet was Muslim, and the followers of other prophets were also called Muslim. These various prophets preached the one-ness of God and mankind, essentially the same social ethics and cosmological doctrines and the same basic premises and institutions for the realisation of social justice.

> "Not an apostle did we send before Thee without this inspiration sent by us to him: that there is no God but I, therefore worship and serve Me".
> "For we assuredly sent amongst every people an apostle" (with command) "serve God, and eschew Evil". (11).

However, the followers of earlier scriptural revelations adopted many ideas and customs alien to those that were actually revealed through the chain of prophets. (12).

The Quran, the final and the last holy book, revealed to prophet Mohammed to reform and restore the Islamic values and ideology to disparate segments of mankind; to preserve those ideas and institutions which have permanent value; to replace by something similar or better what was changed or abrogated from earlier scriptural revelations; and to complete the ideological and institutional evolution of Islam. Prophetic transmission of

scriptural revelation was terminated with the Quran and the prophet Mohammed since God's mission was completed:

> "This day I have perfected your religion for you, completed my favour upon you, and have chosen for you Islam as your religion". (13).

And all promised to guard the Quran from any change.

> "We have without doubt, sent down the Message, and we will assuredly guard it" (from corruption).

6.3 ISLAMIC JURISPRUDENCE

Since Islam is considered the last and completed heavenly religion, and the prophet is the last messenger of God whom he sent to all people, and the Quran the last revealed scripture and Allah promised to guard it from change, thus Islam and its Jurisprudence must be suitable for any time and any place. This statement can be clarified in the discussion of the source and the nature of Islamic Jurisprudence.

Mainly, the Islamic Jurisprudence consists of two components: the revealed law (Shari^{c}ah) and derived or substantive law (Figh).

6.3.1 Revealed Law (Shari^{c}ah)

The main sources of revealed law - Quran and Sunnh (prophet tradition).

6.3.1.1 Quran

The Quran is the word of Allah revealed to Prophet Mohammed, peace be upon him, and we received by succession to worship Allah by reading it, and by practising its law in our life and thus to be seen to prove the Prophet Mohammed's message. The Quran is the main source of Islamic law and guidance for time and place, and Allah ordered us to follow the word in the Quran and to work according to his law in many places.

"Follow O man! the revelation given unto you from your Lord, and follow not, as friends, or protectors, other than him. Little it is ye remember of admonition". (15).

"So judge between them by what God has revealed and follow not their vain desires, diverging from the truth which hath come to thee. (16).

The Quran contains the general principles of Shari^{c}ah and the base for lawful action and prohibition in Islam. These principles are general and wide, to indicate the Shari^{c}ah far-sighted intention (Magased al-Shari^{c}ah), to be as a lamp on the hand of Muslim scholars so they can derive from its light the minor and detailed principles of different happenings in this life, at any time and any place. (17). This is the secret remaining behind the flourishing of Islamic Shari^{c}ah for ever.

On the other hand, the Quran also contains detailed principles which need to be clear-cut to prevent differences and arguments between people, such as matters concerning the faith, the fundamentals of worship, or in matters that are not affected by the change of time and place, such as the principles of inheritance, marriage and some criminal punishments, etc. (18).

6.3.1.2 Sunnh

Sunnh, the prophet tradition, is the second source of Islamic Shari^{c}ah. It was defined by Muslim scholars as "all that was set up by the prophet, other than Quran, from saying (qwl) action (fi^{c}al), and confirmation (Taqrir). (19). The prophet tradition was well taken care of by the Muslim scholars; they preserved it, wrote it, and narrated it, and some of which we received by succession in words and meaning and some only in meaning.

The authority of the prophet tradition as second source of Islamic Shari^{c}ah after Quran, is mentioned in many verses in the Quran. Allah says:

> "Take what the Apostle assigns to you, and deny yourselves that which he withholds from you". (20).

Also Allah makes as part of the faith the obedience and the satisfaction of the Prophet Mohammed's judgement. As Allah says:

> "But no, by thy Lord, they can have no (real) Faith, until they make thee judge in all disputes between them, and find in their souls no resistance against thy decisions, but accept them with the fullest conviction". (21).

> "He who obeys the Apostle, obeys God, but if any turn away, we have not sent Thee to watch over their (evil deeds)". (22)

Mainly, the rules in Sunnh either conform to Quran's rules and duties, such as duty of prayer, zakah, fasting and some matters which are considered lawful or prohibited: or, Sunnh clarifies the Quran's rules which are very general, and the prophet then clarifies them by practice or saying when it is prayer time, and number of times, and how to perform it. Also, there are Sunnh rules which are not in the Quran, but Allah ordered Muslims to follow the prophet. (23) As Allah says:

> "O ye who believe, obey God and obey the apostle, and those charged with authority among you". (24).

Allah finalised prophethood by Prophet Mohammed, Allah says:

> "Mohammed is not the father of any of your men, but (he is) the Apostle of God, and the seal of the prophets: and God has full knowledge of all things". (25).

If the text of Islamic Shari^{c}ah (revealed law) in its main sources, (the Quran and Sunnh) are limited, the flexibility and wideness of the Shari^{c}ah is manifested in what is known as Mjal al-^{c}afw wa al-Ibah, the zone as permissible and lawful.

6.3.2 Zone of Permissible and Lawful

The basic principles in Islamic Shari^{c}ah is any case in life conducted which has not been mentioned in the Quran and Sunnh by whether it iss lawful or prohibition of it is lawful. In this regard Prophet Mohammed, peace be upon him, said:

> "What Allah has made lawful in his book is halal (lawful) and what he has forbidden is haram (unlawful), and that concerning which he is silent is allowed as his favour. So accept from Allah his favour, for Allah is not forgetful of any thing". (26).
>
> He then recited "And the Lord is not forgetful".

Here, the Prophet Mohammed, peace be upon him, referred to the general criterion for determining the halal and haram, everything is pure and permissible for Muslims, with the exception of a small number of things, which are definitely prohibited by the law. Al-Quradwi indicates in his book al-Halal and al-Harem fi al-Islam:

> "permissibility is not only limited to things and objects, but also includes all human actions and behaviour not related to acts of worship, which may be termed living habits or day-to-day affairs". (28)

The permissible and lawful in Islam is another appearance of the suitability of the Islamic Shari^{c}ah for all time and place. This principle is given the flexibility and total freedom to act with suitability of the changes occurred on the methods and needs of living, which are changed by the change of time and place, but with the stipulation not to violate what is prohibited or restricted by Allah.

6.4 CHARACTERISTICS OF ISLAMIC SHARI^{C}AH

After the discussion of the main sources of revealed law (Shari^{c}ah), it is essential to know the characteristics of this Shari^{c}ah, which affects the formation of the Muslim Community.

The Islamic Shari^{c}ah covers all aspects of life: political, social, economic and spiritual. Among the Islamic Shari^{c}ah, are principles that guide the Islamic community to build on solid and fixed foundations on the private or public right.

6.4.1 On the Private Right

6.4.1.1 Individual Right

Islam looks to the human being as the highest statute in this world, as Allah says:

> "We have honoured the Sons of Adam: Provided them with transport on land and sea; giving them for sustenance things good and pure; and conferred upon them special favours, above a great part of our creation". (29).

Thus the individual - in the eye of Shari^{c}ah - a living being free, independent, and responsible. This freedom is not absolute. The Shari^{c}ah endows the individual's rights of freedom, independence and owning, because he is a human being, and restricts all that by the responsibility (wordly and religious) that has been given to him to limit his freedom to the degree not to harm others. (30). This responsibility is well mentioned in Quran.

> "Every man's fate, we have fastened on his own neck on the day of Judgement. We shall bring out for him a scroll, which he will see spread open". (31).
>
> "Then shall anyone who has done an atom's weight of good see it!
>
> Any anyone who has done an atom's weight of evil shall see it! (32).

> Also, the independent is not absolute, but it is connected with the public in cooperation with dutiful and public interest, as mentioned in the Quran.
>
> "Help ye one another in righteousness and piety, but help ye not one another in sin and rancour". (33).

Thus, he is positively required to cooperate to the common good, and is negatively required to prevent the imperfection and the harm of

others. This negative and positive aspect is considered a general principle in Islamic Shari^{c}ah which is related to worldly and transaction rules, which the scholars use to rule the different acts.

6.4.1.2 Family Right

The Shari^{c}ah indicates the family right to safeguard the balance between their members, and has made the reciprocal rights between their members, and has made the reciprocal rights between the couples to be proper with the natural characteristic of each of them. The woman has the total right to choose her husband and to invest her money; her main responsibility is taking care of the children. The Shari^{c}ah gives the man the higher authority of taking care of the family with what Allah has endowed upon him in the characteristics of leadership, and the responsibility of spending on the house, the gain by loss. Allah says:

> "Men are the protectors and maintainers of women, because God has given the one more (strength) than the other, and because they support them".

6.4.1.3 Relationship with the Opposite Sex and the Inviolability of Dwelling

The Shari^{c}ah indicates the relationship between male and female within the framework of the personal inviolability. Islam differentiates the degree of relationship between the male and female in what is known in Islam as Maharm. This term denotes the relationship (between male and female) either by marriage or close blood ties of such degree that marriage is permanently prohibited. Thus anyone outside the degree of Maharm is considered a stranger. The following verse determines the limits of relationship between the foreign male and female, also it indicates who are the Maharm:

> "And say to the believing women that they should lower their gaze and guard their modesty; that they should not display their

> beauty and ornaments except what (must ordinarily) appear thereof; that they should".

Islam prohibited the khwlwah (the sitting alone of a stranger outside the family both male and female). Generally when Islam prohibits something, it closes all avenues that lead to haram (prohibition); this is achieved by prohibiting all means that lead to haram. In Islam, zina (adultery) is prohibited. The only relationship between males and females is through marriage. This is why Islam prohibits khwlwah between males and females who are not in the state of Maharm, to protect them from wrong thoughts and sexual feelings. This might have led to "confusion lineage, child abuse, the breaking up of families, bitterness in relationship, the spread of venereal disease, and a general laxity in morals, and moreover it opens the door to a flood of lust and self-gratification". (36).

It is not only in the strange male and female relationships that Islam prohibits the khwlwah that might lead to adultery, but also it prohibits looking at the opposite sex with desire. Thus, because the eye is the key to feelings and the look is a messenger of desire that might lead to adultery, a contemporary defines the process of looking to adultery.

> "A look, a smile, then a nod of the head,
> then talk, then a promise, then the warmth of bed". (37).

Prophet Mohammed, peace be upon him, in declaring that the eye commits adultery (zina), he said "the eye also commits zina, and their zina is the lustful look". (38). He, peace be upon him, termed the lustful look zina because it gives sexual pleasure and gratification in an unlawful way. It is the same message that the prophet Jesus, peace be upon him, also declared that the eye will commit adultery, as reported in the Gospel of Matthew:

> "You shall not commit adultery. But I say unto you that everyone who so much as looks at woman with evil desire for her has

> already committed adultery with her in his heart". Matthew 5:27-28.

With a clear understanding of the inviolability of looking at the opposite sex with desire, one can understand the Islamic philosophy about the inviolability of dwelling. When Islam gives a very special inviolability to the dwelling, not only because it is a place for living and to settle, but also because it has great connection with a person's privacy and honour. The dwelling in Islam is a place to guard one's honour and a place for the family to move in freedom, without fear from the observation of others. The importance of this matter makes no punishment to the one whose house was looked on without permission if he punctured the eye of the one who looked upon it. The prophet Mohammed, peace be upon him said:

> "He who looks into a house without the occupant's permission and they puncture his eye, will have no right to demand a fine or ask for punishment". (39).

Thus, Allah the Almighty has mentioned the verse of permission when one enters another's house, Allah says:

> " O ye who believe! enter not houses other than your own, until ye have asked permission and saluted those in them, that is best for you, in order that ye may heed.
> If ye find no-one in the house, enter not until permission is given to you: if ye are asked to go back, go back: that makes for great purity for yourselves: and God knows well all that ye do". (40).

These two verses not only indicate the rights of privacy of the residents not to be intruded upon without their permission, but the matter is more than that. It is the Shari^{c}ah's intention to safeguard the human relationships, keeping a good manner between the people. Thus Allah has mentioned at the end of these verses, after determining the sacredness of the dwelling "that is best for you, in order that you may heed". This behaviour of entering the house is really better for the believers in their relationship between them, and there is nothing better than to have good relationship between the believers

who build according to brotherhood, love and respect and to honour and safeguard.

6.4.1.4 Neighbour's Right

The Shari^{c}ah manifests the right of neighbours and is considered part of the belief. Prophet Mohammed, peace be upon him, says:

> "He who believes in God and the day of Judgement would not hurt his neighbour..." (41).
> "Swear by Allah not to be a believer who sleeps with a full stomach and his adjacent neighbour is hungry". (42).

Part of a neighbour's right is not to exclude the breeze from him, and not to prevent him from inserting the wooden beams in the neighbour's wall. The prophet, peace be upon him, says:

> "Do you know the rights of the neighbour.. you must not build to exclude the breeze from him, unless you have his permission..." (43).
> "A neighbour should not forbid his neighbour to insert wooden beams in his wall". (44).

Mainly the neighbour has rights of priority. Thus he has the right of pre-emption from others. The Prophet Mohammed, peace be upon him, says:

> "The neighbour has pre-emption rights over his neighbour's property. If they share common access and the neighbour is absent, then the other should wait for his return". (45).

The scholars mentioned the rights of pre-emption to the neighbour, to guarantee that he will not do harm because he might be needed and because he does not know the behaviour of the one who is going to buy it.

It appears from the above discussion, that Islamic Shari^{c}ah takes care of the personal rights and the degree of welfare of its integrity from any harm and the right to live in peace, love and cooperation.

6.4.1.5 The Transaction

The Islamic Shari^{c}ah has clarified the principle of not causing harm to others, as Prophet Mohammed states "there should be neither harm nor reciprocating harm". (46). This principle applies in all types of transactions, and the scholars use it to rule a lot of worldly transactions.

Originally, the principle of (not to harm) is not to be applied with outside compulsory force but rather as a self commitment (Iltzam) but to do so as a religious order. Allah says:

> "God doth command you to render back your trust to those to whom they are due; and when ye judge between man and man, that ye judge with justice...". (47)

If this verse indicates the return of trust (as a kind of transaction between people) to their people as an order from Allah, it, this order, applies to all types of transaction.

In fact, the self commitment (al-Iltzam) is stronger and faster than the outside force (ie by the government) in rendering the others' duties and rights. In the first one (self commitment), the rendering of others' duties and rights occurred as a result of reply to Allah's order and fear from Allah's banishment in the hereafter, as Prophet Mohammed, peace be upon him, said to Abazar when asked to be the Governor of al-Kufh, the Prophet said when he found his weakness "... it's trust (Amanh) and in the hereafter its ignominy and remorse except in the case of a person who takes up an office with justification and fulfills its obligation". (48). On the other hand, if the rendering only depended on the outside forces (not self-commitment), the one who is forced to the rendering of others' duties and rights, might delay or make tricks not to render, if there is some weakness in the regulations. Thus it is important to be reminded about rendering and the banishment in the hereafter to those who are not rendering the rights of others, in order to build the spirit of self-commitment (Iltzam) in rendering without outside policing. But

if other's rights are neglected and not maintained as a result ofthe weakness of religious impediment, and causes harm to others, then the ruler has the right to intervene and enforce regulations by judicial power, to the limit that harm will be removed and rights will be maintained. This actually is based on the original and confirmed by Shari^{c}ah, that is "not to harm nor reciprocating harm" and on the legal rule of "if the duty cannot be achieved only by it, it is duty". (49).

6.4.2 On the Public Right

The Islamic Shari^{c}ah declares in its constitution three main principles:

6.4.2.1 Freedom

The Shari^{c}ah declares the principle of freedom. The freedom in Islam is unlimited but at the same time restricted. One can act as one wants, but when one's actions causes harm to others and violates Allah's order, then this freedom must be removed. Thus, the freedom in Islam is balanced or controlled freedom, and is not supposed to disturb the public system and disdain the morality and behaviour, or exceed the freedom of others.

6.4.2.2 Equality

The Shari^{c}ah manifests the principle of equality and preference at the same time. The original concept of equality depended on human rights and not on the basis of wealth, education or colour. Those differences cannot be the base of preference between people, because all these norms do not match with human nature. Wealth and money tend to last, illiteracy can be eliminated by education and there are a lot of illiterates, who have better moral behaviour than many educated people. We cannot take the difference in colour or race as a base for preferability, because these differences occur as a consequence of

differences in geographical location. In fact, Islam looks at these differences as a way of meeting and helping between nations, as Allah the Almighty states in the Quran:

> "O mankind! we created you from a single (pair) of a male and a female and made you into nations and tribes, that you may know each other (not that ye may despise each other)... (50).

In the same verse Allah declaring the principle of preference, says:

> "Verily the most honoured of you in the sight of God is (he who is) the most righteous of you, and God has full knowledge and is well acquainted (with all things). (50).

Thus righteousness and the fearing of Allah are the actual base of preference in Islam. Righteousness is well explained in the following verse:

> "It is not righteousness that ye turn your face towards East or West; but it is righteousness to believe in God and the last day and the Angels, and the Book, and the Messengers; to spend of your substance, out of love for Him, for your kin, for orphans, for the needy for the wayfarer, for those who ask, and for the ransom of slaves; to be steadfast in prayer, and practise regular charity; to fulfil the contracts which ye have made; and to be firm and patient, in pain (or suffering) and adversity, and throughout the periods of panic. Such are the people of truth, the God-fearing". (51).

From the above discussion it appears that Islam equalises between people in terms of mankind's nature, and distinguishes between them on the basis of reaching high standards of humanity, which is the main characteristic of the (Mutgain), those who fear Allah - as mentioned in the above verse - and do not indulge in fighting and selfishness.

6.4.2.3 Shwra (Consultation)

The Islamic Shari^{c}ah conforms to the principle of (Shwra) consultation as Allah says:

> "Who (conducts) their affairs by mutual consultation". (52).
> ".. and consult them in affairs (of moment), then when thou has taken a decision, put thy trust in God". (53)

The Shari^{c}ah left the method of determining the Shwara according to the change of time, place and the purpose of public interest of the nation.

6.4.2.4 The State Authority

The Islamic Shari^{c}ah confirms the administration of high authority in the state to the ruler, in issuing the regulations that ensure the enforcement of Shari^{c}ah and to achieve its intentions according to the change of time and place. This authority is not legal authority because the source of law in Islam is Allah alone. The authority of the individual or council is obedience to the authority of the Islamic Shari^{c}ah rules.

> "The right of the ruler is to have his people obey him insofar as he enforces Allah's rules, because as the Prophet Mohammed says, no obey to the creature in disobeying the creator (Allah)". The right of the people from the ruler is the right of wakefulness to their interest, as the Prophet says (All of you are sponsor, and all of you are responsible from whom you are sponsored..." (54).

Finally, we can summarise that Islam covers all aspects of life and has had a great affect on forming a special identity for Muslim society.

6.5 DERIVATION OF LEGAL RULES FROM THE MAIN SOURCES OF SHARI^{c}AH OR FIGH (SUBSTANTIVE LAW)

As mentioned previously, the main source of Islamic Shari^{c}ah (revealed law) is the Quran and Sunnh (the prophet tradition). Here the question is raised, is there a place for the human mind to give opinion and reason in Islamic Law, or is all considered divine law? In fact, every matter related to worship or legal rules which have nasqat^{c}y (definite text) from the Quran and Sunnh, must be followed and applied as mentioned in the nas (text), without human intervention in reasoning or opinion. In the case where there is no nas qat^{c}y of

Lawful, or Prohibition, it is permissible for the human mind to give opinion and reason, but with limitation and according to certain stipulations. This is known as derived or substantive law (Figh).

Figh in legal terms means the understanding of the legal practical rules (not the believed one) from their detailed evidence, and the ruling of each human action by what is lawful, or forbidden, or obligatory, or desirable, or undesirable, and the need to prove each case with legal evidence. (55).

The rulings of each derived or substantive law (Figh) are the outcome of various deductive and inductive methods of reasoning. Figh rulings are dependent on the social and intellectual environments of each age and policy; they comprise temporal legislation. Thus, Shari^{c}ah is the plain, self-evident, unequivocal ordinance of the Quran and Sunnh. Figh is 'the human understanding of Shari^{c}ah'.

Figh is the Islamic science of 'the human understanding of Shari^{c}ah', and the basic method of understanding the Shari^{c}ah is Ijtihad '(strive hard). Ijtihad has its origins in the Quran; Allah says, "those who strive hard for us, we shall guide them in our paths". Ijtihad is the basic legal method of individual reasoning, based on the principle of Shari^{c}ah: Quran and Sunnh 'to exert with a view to form an independent judgement on a legal question'. (56). Al-Shatby states two main roots for Ijtihad:

First: to understand the intentions of the Shari^{c}ah (Maqasd al-Shari^{c}ah), in which they are built, with consideration of Islamic interests (al-Masalh al-Islamih) as self-evidence, and not to look at them as a desire of the Muklf (the one who is legally capable), but to look at them from the point of self benefit or harm.

Second: to be capable of derivation. This can be achieved with knowledge of the Arabic language, the rulings of the Quran and Sunnh,

consensus, and differences of the scholars' opinions and different forms of analogy. (57).

However, Muslim scholars have determined some basics for deriving the rules dealing with daily dependence, on the main source of Shari^{c}ah (Quran and Sunnh) and good logic. These basics are:

6.5.1 Al-Qayas, is an analogy method to determine the legal rules for a case which has no text (nas) from Quran and Sunnh with a case that has, and both have common reason. (58). For example, it is prohibited to drink wine because it subjects one to mind loss zahab al-^{c}aql therefore by analogy, every drink that leads to loss of mind is prohibited.

6.5.2 al-Isthsan (preference for better), is defined as alteration or amendment from clear analogy to hidden analogy, or from general rule to exception rule). This alteration is not based on the self desire but according to logical proof, coupled with legitimate consideration, and to prevent imperfection and fulfilment of interest. For example, it is lawful for a doctor to see the genitals for medical treatment, although the general rule prohibits the sight of human genitals. This exception is for medical reasons to prevent harm from illness.

6.5.3 Al-Masalh al-Mursalah (unrestricted interest), is defined as the interests or benefits in which the law giver (Allah) did not enact rules to achieve them, and with no legal proof set up to consider or to prevent them. (60). Actually, the main intention of the rules' enactment is to achieve the interests of mankind by bringing benefits to the people and to prevent the imperfections by them. The interests of the people have three forms of consideration of the law given to them;

i) Interests were considered by the law-giver and they enacted rules to achieve them;

ii) interests were avoided by the law giver because they prevented bigger interest;

iii) interests that have no legal proof to achieve or to avoid them and this is known as al-Masalh al-Mursalah (unrestricted interest).

Al-Masalh al-Mursalah is one of the Figh sources. Its consideration is proved from the inductive texts and rules of the Shari^{c}ah in the Quran and Sunnh, and the action of the prophet companion. This source is capable of dealing with new and developed incidents, and of making the Islamic Figh flexible and progressive and not halting it where there is real interest that has no rules enacted by the lawgiver. For example, a traffic light; there is no certain rule in Islam to achieve it, or avoid it, but it is very important in the present day to regulate traffic and, more importantly, to safeguard human life. Thus where traffic lights or any suitable methods, are needed to safeguard human life, it will be the intention of the Shari^{c} to make this a legal rule. In fact, the people's interests do not exceed the following three matters: necessary; needy; and betterment matters. (61).

i) Al-Aomor Al-Tarooriah (necessary matters): are those matters which are considered very essential to settle the life of the people and look after their interests. These matters have a range of five areas; the religion, the life, the mind,the money and the generation. The protection and safeguarding of each of these is considered necessary for the people.

ii) Al-Amor Al-Hajih (needy matters): are those thing that people need for an easy and comfortable existence, and to avoid difficulties and critical problems.

iii) Al-Amor Al-Tahsinih (betterment matters): are those things which lead to the ideals of manhood and morality and which support manners and customs that create a flourishing life.

Actually, Muslim scholars have made some stipulations for judging the unrestricted interest, al-Masalh al-Mursalah:

i) it should be real interest;
ii) it should be public interest and not personal benefit;
iii) there should be no objection to any rule proved by text 'nas' from the Quran or Sunnh or by consensus 'Ijma'. (62).

6.5.4 The Nature of Islamic Figh and its Relation to Shari^{c}ah

The difference between the Islamic Figh and Shari^{c}ah is that Islamic Shari^{c}ah contains all the rules that relate to belief, morals, worship, transaction, which is revealed to the Prophet Mohammed, peace be upon him, in the Quran and Sunnh. Thus it is considered a revealed law which has no place for human reasoning. On the other hand, the Islamic Figh is only concerned with the practical rules, ie the rule of worship and transaction. Of these rules there are two types.

The first is the weaker side of human reasoning, or there may not exist at all an understanding of the necessary rulings of religion, such as the obligation of prayer, or prohibition of adultery; these rules are considered part of the revealed law, and it is not permissible to violate them.

The second type of Figh rulings is a counterbalance on the side of human reasoning. These are not considered from the technical term as part of the revealed law where it is not permissible to violate them, but it is permissible to contrast them, since they are based on the proof that they are stronger than the first one and more close to the spirit of the Shari^{c}ah, because the mere contradiction is considered to be part of self-desire, which is not permissible as a base for a ruling. This type of ruling is more than the first one because of its many incidents and it is renewable.

However, the Islamic Figh overall has a religious touch because it is based on the Islamic Shari^{c}ah, and its principles and values enter within the zone and the circle of the Shari^{c}ah.

6.5.5 Nature of the Islamic Figh vs Right and Interest

The observer of the Islamic Figh will find the people's interests are the aim of the legal rights. These interests were set up or enacted by the lawgiver, and the mujtahiden (pl of mujtahid, the striver, the one who makes Ijtihad) have no rights to invent interests, they have to find them from the legal proofs in the Quran and Sunnh, consensus, analogy and the other correct proofs that depend on the spirit of Shari^{c}ah.

The aims of the Islamic Figh are two-fold; the individual interest and the public interest. To achieve these aims, the individual rights and the public rights were enacted, as indicated by Muslim scholars who divide the right into two: the servant's right (Hag a^{c}Abd) and Allah's right (Hag Allah). They said in the first one "which is related to the individual interest" and in the second one "which is related to the public interest", and the public interest is added to Allah for its danger and importance, and for its comprehensive benefit. (63).

As a result, individual ownership is recognised as an essential pillar in the Muslim legal system, as it is an essential pillar in the economical and social life. Also, public ownership is recognised as a limit of achieving public interest to the degree of preventing harm to the Muslim community. To protect the public interest, government intervention is enacted, and this intervention is ruled by the general Figh principles, mainly those related to the principles of harm. Thus, intervention is not permitted if it results in real public imperfection, and intervention is permissible only to the limit that it prevents any public harm.

Generally, at the time of conflict, the "public interest" exceeds the "individual interest", even if it results in causing harm to an individual, because this can be maintained by compensation. In addition to this, maintaining the "public interest" precedes maintaining the individual interest, as indicted in the prophet saying:

> Nazrat Nu'man Bashir (R.A.A) relates that the Holy Prophet (S.A.W.) said: "The example of a person who obeys injunctions of Allah and the one who disregards these limits is like passengers on a boat who decide by drawing lots as to who should occupy the upper deck and who should go to the lower deck. Those in the lower deck had to pass through the upper deck to fetch water which caused some inconvenience to the occupants of the upper deck. So they suggested to the occupants of the upper deck to allow them to bore a hole in the lower deck and to draw water without causing any inconvenience to them. If the occupants of the upper deck were to leave the others to carry out their design, they would all perish together; but if they were to stop them from carrying it out they would save themselves and all others". (Bukhari). (64).

The prophetic saying indicates a restriction on the people on the lower part of the boat for making a hole in their area to get water, in spite of their good intentions to prevent harm and disturbance to the people on the upper decks, and to safeguard all the people on the boat, including the people on the lower part. Thus, maintaining the public interest, in fact, is maintaining the individual interest.

Consequently, using the right only for the intention of harming others, or with no real interest in the one who has the right, or to achieve minor or insignificant benefit, with great harm to others (either individual or public), or using the right as an excuse to achieve interests which are not legal, or by cheating against the rules of the Shari^{c}ah, all these are considered excessive (Ta^{c}suf) in the use of rights, because they are contrary to the intentions of the lawgiver in the legislation. (65).

6.5.6 Differences in Opinions on Matters of Jurisprudence and the Emergence of al-Mzahb al-Eighian (Islamic Schools of Thought)

Litihad is the basic legal method of individual reasoning, based on the main sources of Shari^{c}ah (Quran and Sunnah), with a view of forming independent judgement on legal questions. This, no doubt, leads to differences of opinions, because the scholars' minds are not one, and their ability and views of deriving legal rules from the main sources are not the same. Actually these differences in opinions enrich and strengthen the Islamic figh (jurisprudence).

The differences in opinion were very limited at the time of the prophet Mohammed, peace be upon him, because he was the authoritative reference for judicial and formal religious edicts.

For all times the Quran and Sunnah have been the sources of legislation in Islamic Law. At the time of prophet Mohammed (peace be upon him), any differences which did arise among his companions concerning legal matters were always referred back to him. He would review the matter and give his opinion which would then become the final legislation. Thus, during this period, there could be no differences of opinion on specific legal matters because the prophet was the final authority. (66). Before the prophet Mohammed passed away the revealed law Quran and Sunnah had been completed, as Allah Almighty says:

> "This day have I perfected your religion for you, completed my favour upon you, and have chosen for you Islam as your religion". (67).

The Islamic figh (the human understanding of Shari^{c}ah) started to appear after his death. This occurred because the scholars came face to face with many incidents which did not occur during the lifetime of prophet Mohammed and they had to make rulings in the light of Quran and Sunnah concerning these new incidents. Thus they gave their opinions (Litihad) concerning these new incidents based on the Quran and Sunnah.

Although there were individual opinions (Ijtihad fardy) at the time of the Orthodox Caliphs, most of the opinions were Ijtihad Jama^{c}y Aw Shwry (opinions arrived at after group discussion or mutual consultation). If a matter was referred to the Caliph, he called the scholars and consulted them about the matter. If they agreed on a certain opinion, then he had to rule according to the agreed opinion, but, if they did not agree, the Caliph ruled according to what seemed right to him. This al-Ijtihad al-Shwry then prevented differences in opinions, or at least limited the differences to the minimum. However, with the expansion of the Islamic state, from Spain in the west to China in the east, coupled with the dispersal of the scholars from among the prophet's companions, and the Tab^{c}yein (generation after the companions), the making of a consensus on one opinion became very difficult. Also the great expansion of the Islamic state led to the development of the figh by an increase in legal questions. This was due to the differences in customs, traditions, methods of transaction and policies between the different countries. Answers had to be provided for these legal questions, eg, a particular custom could be continued, or adapted or completely taken away, depending on how it conformed to the requirements of the Shari^{c}ah. When the scholars settled in different parts of the Islamic State, people started to come to them and ask them about different matters, in order to get the Islamic knowledge from them. Thus the opinions of certain scholars spread in one region, while other opinions spread in another. (68).

In fact, many factors, coupled with great expansion of the Islamic state, helped in creating the differences of opinions between the scholars. First, the scholars did not know the Sunnah to the same degree, especially since the Sunnah was compiled at the end of the second century al-Hjrah (at the end of the eighth century AD). Second, their degree of understanding and deriving legal rules from Quran and Sunnah, was also not the same, which led to the differences in opinions. This, coupled with the differences of al-naz^{c}ah al-fighiah (the tendency of the scholar to give opinions or not) led to the formation of two schools of thought: Madrsat Ahl al-Hadith

(the school of prophet tradition) and Madrsat Ahl al-Ray (the school of opinion). (69).

Both schools of thought were agreed upon the Sunnah as a main source of the Islamic law, but the differences occurred as a result of the points stated below.

1. Forming opinions
2. Branches of the legal questions based on the opinions.

First in using the opinion, Ahl al-Hadith did not go beyond the Nosoos (pl of Nas (text)) of Quran and Sunnah and their straight-forward meaning and did not form opinions. Only if it was necessary, did these scholars give an opinion on legal questions on a matter which had no straight-forward answer in the text. It was reported that a man came to Salim Bin Abdu Allah and asked him a question; he said (Salim): I have never heard of this matter". The man asked him: "May Allah be pleased on you, tell me your opinion". He said "No". Then the man asked him again saying, "I accept your opinion"; Salim said, "I might tell you my opinion, and when you go I have a change of opinion and may not find you to give this new opinion". (70). The scholars of Ahl al-Hadith were afraid of giving their opinion and preferred to stay with the straight-forward meaning of the text.

On the other hand, the scholars of Ahl-al-Ray, were not frightened of giving their opinion on the legal questions which had no text in the Quran and Sunnah. Thus they were much more used to the forming of opinions, in contrast to the first group of scholars. They proved that the rules of Shari^{c}ah were logical and they existed for the interests of the people, and were built to achieve these interests. Thus these scholars insisted on understanding why Allah revealed a particular law and on this understanding scholars were given the ability to form new opinions for new incidents. Also their proof was based on the behaviour and writings of the higher scholars from among the prophet's companions like ^{c}mar Bin al-khatah, Ali and Abdullah Bin Maa^{c}ud, may Allah be pleased on all of them. (71)

The second matter is that concerning branches of the legal questions based on opinion. Scholars of Ahl-al-Hadith did not go into the ramifications of a legal question, and did not assume the incidents, then search for their rules. Thus their figh became realistic and did not give fatwah (legal opinion) only on the matters which actually happened. On the other hand, the scholars of Ahl-al-Ray did not only look at real incidents and derive rulings for them, they assumed the incidents, which had not yet happened, and derived rules for them, using their opinions. Actually, in the school of Ahl-al-Ray, its figh began realistically and was then directed to assume incidents after its scholars finished deriving reasons for the rules, and set up the principles and the controllers (Thwabid) of the legal question. This direction resulted in its choice of the school of Abu Hanifah, the founder of al-Mazahb al-Hanfy (al-Hanfy school of opinion) as will be discussed later.

However, the figh flourished and was recorded in the early 2nd century of al-Hijrah to the middle of the fourth century of al-Hijrah, especially with the great attention of the Abbasid Caliphs to the figh and figaha (Islamic jurisprudence and scholars). This was coupled with the appearance of great mujtahiden (scholars), who played a major role in the flourishing and the progressing of the Islamic figh, in which they established al-Mdars al-Fighyah, the jurisprudence schools of opinions, and many great scholars and followers became known under the title of these schools. These schools named by al-Mzahb al-Fighyah (Orthodox rite of figh) and known by the name of their founder. Although there were many schools of opinions, they were not divided in Islam, or enacted new laws, but rather they considered different methods of understanding the Shari^{c}ah and interpreting its texts, and ways of deriving the legal rules from its main sources. Many of these schools were extinct and antiquated, and some still exist, among them al-Mazhb al-Arba^{c}ah (the four Orthodox rites of figh): al-Mzhb al-Hanafy, al-Mzhb al-Maliky, al-Mzhb al-Shaf^{c}y, and al-Mzhb al Hanbly (see Appendix D).

Actually, it is well recognised that the Muslim scholars were never fanatical in their opinions and usually ended their saying with Allah -wa - A^{c}lam (Allah knows the best). For example Abu-Bakar al-Sadiq, the second Orthodox Caliph, when giving his opinion, he said "This is my opinion, if it is right, it is from Allah, and if it is wrong, it is from myself; I seek forgiveness from Allah". (72). Also one can recognise the saying of Imam Maliky the founder of al-Mzhb al-Maliky when the Caliph Harwoun al-Rashid requested Imam Malik to make his book al-Mwta the main reference for the state to be followed by the judges and all the state authorities, he refused and said to him:

> "The scholars of the prophet companions are dispersed in different provinces and each one of them has knowledge and figh and all of them are right, and there is no harm in their differences". (73).

However, at the present time, there is a sign of development in the Islamic figh, especially at the university educational level, where concern with Islamic figh is very noticeable to clarify its characteristics and to form the Islamic theories in different fields (economics, politics, daily behaviour etc.) while, at the same time, there is study of the figh in comparison with studies of other ideologies. Among these university theses, the Ph.D thesis of Dr. Ibrahim al-Faz about 'Figh al-Bina' (The Building's Jurisprudence), in which he describes the different opinions of the scholars and school of opinions concerning certain legal questions on buildings, then he reaches a consensus and counter-balance between these opinions, according to the strong proven and valid arguments. The author uses this thesis at the end of this chapter to show the scholars' opinions, and comments on matters that relate to building.

6.6 FIGH AL-BINA (THE BUILDING JURISPRUDENCE)

There is no doubt about the human being's need to have a residence for himself and his family, and for it to safeguard his interests, enabling him to avoid imperfections of living in security and privacy, and to be protected from a changing weather climate (heat, cold, rain, etc), and outside hostility. This human nature has existed since man used caves as shelter, as Allah mentions in the Quran:

"Out of the mountains did they hew (their) edifices, (feeling themselves) secure". (74).

Also, Allah says:

"It is God who made out of the things He created, some things to give you shade; of the hills He made some for your shelter..". (75).

Allah, the Almighty, enacted the permission before entering any house to safeguard the houses and respect their people, and order avoidance of overlooking in order to protect the privacy of others. In fact, the residence for a Muslim is considered from the necessary interest that helped safeguard the five intentions of Shari^{c}ah, (the life, the mind, the money, the religion and the generation).

However, since the residence played a major role in Muslim life, and since man cannot live alone, and he must live with the community, as encouraged by Islam, thus, Muslim scholars are taking care of building jurisprudence well. They declare the right of building and other related rights, such as the rights of neighbourhood, servitude, pre-emption, etc., in order that a building conforms with the spirit and intentions of the Shari^{c}ah.

Since a building has a relation to the rights of ownership and land acquisition, it is here that the discussion will concentrate, first on the Islamic way of acquisition of land ownership. Following will be knowledge of matters concerning the rights of building, in terms of raising an edifice, window openings, party walls, etc., and here to show how legal rules concerned each matter.

6.6.1 The Right of Ownership

'Ownership' is the expression used to express the relationship between the man and the property. Ownership in Islam is a legal rule established by the lawgiver (Allah) who confirms the ways of acquiring ownership. (68). Independence, freedom and ownership are rights

confirmed by Allah to mankind. Thus, these rights are not established from things of nature, or from agreements by people, they are established by the permission of the lawgiver.Abu-zaid al-Dabosy explains this statement:

> "When Allah the Almighty created mankind and gave him the trust, he, the Almighty, honoured him by mind and responsibility. By these, man became qualified for the obligation of rights for him and on him. It was fixed for him the rights of independence, freedom and ownership by carrying his rights, and was fixed on him the right of Allah which he (Allah) named it 'Amanh' (trust)...". (76).

The Islamic Shari^{c}ah recognises and respects the rights of individual ownership, and confirms the methods to protect and safeguard it. On one side, the Shari^{c}ah orders all people to respect the property of others and consider that violation of other's property from al-kbar (the greatest sin) will bring the annoyance of Allah and his punishment in the hereafter, while confirming the banishment in this life, to those who would not stop him, of guidance, instruction directive methods, for example the banishment of the thief, defaulter and usurper. Thus, from the side of the confession and protection of right of ownership, and from the side of the advantages gained from this right, it is confirmed to the owner the right to please, to exploit and to act on his property as he wishes.

Actually, this act is not considered absolute, but the Shari^{c}ah regulates this right to guarantee the gain of good and benefit for both the owner and the public. Thus, the ownership right in the eye of the Shari^{c}ah, as if it is (a job), and the owner as if he is (an agent or deputy) he cannot act on his property only according to Allah's order who is the real owner. The interpretation of the verse of (Istkhlaf) deputy-ship proves the function of the owner on his property as an agent or deputy; al-Immari al-Qortoby says on the interpretation of the verse:

> "Believe in God and his Apostle, and spend (in charity) out of the (substance) whereof he has made you heirs". (77).

"prove that the origin of the ownership is to Allah the Almighty, and the servant has nothing on it only the act that satisfies Allah.... and this proves that these properties are not yours, and you are only in the position of deputies or agents, benefit from these chances before they are removed from you to whom come after you" (78).

If the ownership is legally approved for someone, he has the right to act on it, and develop it in legal ways, according to the Shari^{c}ah's orders and restrictions. He has the right to use it, exploit it, sell it, endow it and donate it, but he has no right to use his ownership in an arbitrary manner that leads to harming others.

The Shari^{c}ah respects the rights of individual ownership and confirms the punishment in this life and in the hereafter, in order to safeguard the properties. In the same time the Shari^{c}ah makes it lawful to expropriate the property even by force from the owner, in order to achieve the real public interest or to remove harm after payment of justice compensation. Examples of expropriation for public interest are wider streets, or a mosque. (79).

6.6.2 Acquisition of Land Ownership

Actually here we are not going to discuss the legal ways of land acquisition through the transfer of ownership, such as selling, inheritance, etc., but rather the acquisition of land ownership when the land is not owned by anyone, only Allah the Almighty. The legal way to acquire such ownership are Ahia (revivification) and Iqta^{c} (allotment).

6.6.2.1 Ahia al-Ard al-Mwat (Revivification of Dead Land)

Al-Ard al-Mwat, or dead land, can be owned by Ahia (or revivification), if the land is not owned by anyone, located outside the urban area, and no-one has a right to it, and it is not of benefit for any other purpose.

Actually, the Muslim scholars have differing opinions concerning the location of the land outside the urban area, as stipulation for the land to be considered dead Mwat, which can be owned by revivification. Some scholars did not stipulate the distance, but others did. Those who stipulated the distance, in their opinion held that, if the land is near to the built area and is most likely to benefit the inhabitants, in its suitability for use as common pasture, burial ground, or as a source for cattle, then it is considered dead. The other opinion is the land is considered Mwat or dead because the actual benefit or non-benefit is not affected by the distance from the built area. Those who stipulated the distance have different opinions in terms of distance limit, and some left it to the custom or ʿurf and this is the opinion of al-Hanablh and al-Shafʿih school of opinion. (81).

The dead land is lawful land that can be owned by possession. ie, by putting his hand on the land; ie, to be the first before others who put their hands on certain dead land to acquire the land ownership. Actually, putting a hand on the land, is not enough to own the dead land, this must be accompanied by revivification, as the prophet tradition.

> The people are God's people, the land is God's land, he who revives a piece of dead land will own it, and the unjust root has not right". (82).

The revivification of dead land will be by making the dead land appropriate to benefit from removal of obstacles that have prevented this benefit, such as building on the land, or making an irrigation system to provide the land with water, utilising the soil to make the land appropriate for agriculture, or any other work that makes the land productive.

There are no stipulations about how to achieve revivification, but any work that the custom or ʿurf considers revivification, if benefits are achieved from the land, then it is revivification. Thus it is the

acceptable opinion by some of al-Hanablh and al-Shaf^{c}ih, and supported by the prophet tradition "who revives the dead land, it is for him", (83) in which the revivification in 'general and is not restricted by any means, and the Shari^{c}ah did not limit it or determine it, thus its determination is referred to the custom "^{c}urf". (84).

Surrounding the dead land with stones, or making any marks, is known legally as Tahiyr (demarcation) and is not considered revivification, but gives to the one who demarcates the precedence in acquiring land ownership. If the demarcator does not revive the land within three years, the ruler or the government has the right to take it from him, and give it to others who can benefit from it and revive it. It is reported that Omar fin al-Khtab (the second Orthodox Caliph said: "who revives dead land, it is for him, and Muhtajer (the demarcator) has no rights after three years". (85).

The scholars have different opinions concerning the permission of the ruler (the government) for acquiring ownership of dead land by revivification. Some scholars stipulate the permission of the ruler and their opinions are based on the argument - if the revivification occurred without the permission of the ruler, it might lead to a dispute and quarrel. Thus, the ruler's permission is a must to prevent any imperfection. They base their argument on the prophet tradition, "the person has nothing only what his Immam (ruler) is satisfied with, and the satisfaction of the ruler is gained by getting his permission". The argument of the other opinions is based on the prophet tradition "who revives dead land, it is for him". Here, the permission of the Immam (ruler) is not stipulated, thus, it is not right to stipulate it. (86).

It seems from the two opinions that the permission of the ruler is not a stipulation, because it is not mentioned in the prophet tradition of revivification, which is more authentic than the first opinion as indicated by Dr. Zidan, (87) but, if there is dispute and harm, the opinion of Abu Yosef (d. 182/798) is that the permission of Immam is

recommended in this case, according to prophet tradition. "He who takes from the land without rights will, on the Day of Resurrection, be submerged to the Seventh Layer of the Earth". (88).

6.6.2.2 Iqta^{c} (Allotment)

Legally, the ruler, as a representative for the Muslims, has the right to allot a piece of dead land, or State land, (89), to individuals to be cultivated or built on; this action is known as Iqta^{c} (allotment). The ruler either allots the land to be owned through revivification (Iqta^{c} Tamlik), or only to be utilised but not to be owned (Iqta^{c} Istighlal). If the allotted land is not utilised or revived, the ruler has the right to take it from the allottee and give it to another one. The first one who performed this action was the third Muslims Orthodox Caliph ^{c}Umar bin al-khtab, when Bilal b. al-Harith did not utilise the area of al-^{c}Aqiq - a large piece of land - which was allotted to him by the prophet , peace be upon him. ^{c}Umar took away the un-utilised land and divided it among Muslims. (90).

From the previous discussion, it can be concluded that revivification is stipulation for acquiring the right of ownership for the demarcated and allotted land and so may not be sold unless it has been revived.

However, if the land ownership is legally approved for someone, he has the right to act on it, and develop it in a legal way according to the Shari^{c}ah orders and restrictions. He has the right to use it, exploit it, sell it, endow it and donate it, but he has no right to use it in an arbitrary manner that leads to harming others.

6.6.3 The Right of Building

In this section, the discussion will concentrate on the matters that relate to the right of building in relation to others' rights, such as rights of neighbourhood, easement, preemption, etc. Here the opinions of different jurisprudence schools will be mentioned, with the

consensus and counter-balance between these opinions by Dr. Ibrahim al-Faz, the author of Figh al-Bina (The Jurisprudency of Buildings).

6.6.3.1 Raising the Edifice

There are some questions related to raising the edifice. The first - has the owner the right to raise his edifice on his property as he wishes? Or does he have to obtain permission from his neighbours? Or what if raising the edifice causes problems such as prevention of air or daylight, or gives a view of the women's area of his neighbour?

The scholars have different opinions concerning these questions. Al-Ahnaf's opinion is that the owner has full rights to act within his property as he wishes. This is based on an analogy in which everyone who builds on his own property cannot be prevented from doing so, even if this causes harm to others. However, this analogy is left out to Istahsann (betterment) if the harm caused is excessive, for then he must be prevented. (91).

Al-Malkih differentiates between the building for real benefit, or without benefit. If the owner raises his building for his real benefit, it is permitted for him to do so, even if the action does obstruct the light to his neighbour, but if there is no real benefit, then this action has to be stopped, because there is no worse harm than preventing air and light for his neighbour without the reaping of benefits. (92).

The opinion of Al-Hanablh is to prevent the owner from acting in his property if this causes harm to his neighbour, such as raising an edifice. (93). This opinion is similar to the opinions of some Abu-hanifh companions based on Istahsan betterment, according to the prophet tradition "Neither harm, nor reciprocating harm". (94). This harm is similar to knocking, which causes vibration on the wall, and this might lead to the wall collapsing, and where raising the edifice prevents the daylight and air and perhaps give sight of the

neighbour's privacy. Also there is a saying of Immam Ahmed 'not to be prevented' - similar to al-Shaf^{c}ih and some companions of Abu-Hanifh based on the analogy , and they argue that it is an act purely on the property, not related to other rights, and thus must not be prevented, as if he were cooking or baking in his house. (95).

To adjucate between these opinions, Dr. al-Faz manifests that, it is correct for the owner to act in his property as he wishes, but the Islamic Shari^{c}ah is characterised by comprehensiveness and is mutually social. This is dependent upon those who said by lawful means unrestricted, while the prophet tradition says "neither harm nor reciprocating harm" and is restricted from unlimited time at the origin, because the harm cannot be determined only according to the situation. (96).

Thus, Dr. al-Faz counter-balances al-Malkih's opinion in which they differentiate between the real benefit or not.If there is no real benefit and no necessity for raising the edifice, then the neighbour must be prevented, according to the fundamental rule of 'not harming' because safeguarding the neighbour's rights and not causing any harm to him, is one of the intentions of the Shari^{c}ah as indicated in the Quran and Sunnh, and is the practice of the prophet companion, in the prophet tradition "He who believes in God and the Day of Judgement should not hurt his neighbour", (97) unless of course his neighbour gave him permission to do so, which would then be acceptable. (98).

The stipulation for restricting and preventing the owner from acting in his property, is well mentioned by Abu Hanifh. "The person should not be prevented from acting in his property unless the harm to his neighbour is being excessive". (99). The harm is considered excessive when it leads to the collapse of the building, or when it prevents totally any real benefit, such as totally stopping the daylight. (100).

6.6.3.2 Opening Windows

Windows are considered very essential for the building, to provide light and air, and also from the psychological and aesthetic points of view. A problem occurs however, when these windows give sight of the women´s area of a neighbour; then this question is raised. Is the opening of windows permissible without any restriction? Or should there be some restrictions?

Muslim scholars have different opinions concerning this matter. Al-Ahnaf´s opinion is based on the analogy of not preventing a person from acting in his own property, unless there is excessive harm, then he must be stopped. They do not differentiate between old or new openings, as al-Malkih. (101).

In al-Malkih there are three opinions concerning the opening of windows, which overlooked the neighbour´s property on which no building had yet been erected. The owner of this property wanted to prevent this action, on the grounds that this would cause him damage, when he built on his lot.

The first opinion is that it should not be prevented only if he builds, then he will be ordered to close it, but not before building it. The second opinion is to be prevented at all, and this is the saying of Matrf, but the opinion of Majshon is not to prevent at all. However, the first is the general opinion and the one which was put into practice. (102). Accordingly, they differentiate between the old and new harm.

In al-Bahjh, it is determined when opening a window is considered sighting, and when it is considered sighting, then how to remove the harm. "If the harm that is taking place is sighting, such as when opening a window, or door, in a room, and seeing from it to the neighbour´s house or garden, where the neighbour spends time with his family there, even though only sometimes like summer. This type of

seeing is not acceptable and must be stopped. The window and door must be closed and removed, in order not to claim, after a long time, "It was closed and I had to open it". The reason for removing it, if it is near to the neighbour and persons' figures can be distinguished and differentiated, eg, ᶜAmro, male from female, and the beautiful from the ugly. Otherwise it is not to be judged by removing. (103).

The opinion of al-Shafᶜih concerning the opening of windows is what is stated by Ibn Hajr, "the rule of sighting is permissible, if it is maintained from sighting the house privacy, but if it is not maintained then he will not be forced to close the window, but he will be ordered not to sight the neighbours and those who are below him will be ordered to protect themselves. (104)

The opinion of al-Hahablh is mentioned in al-Muqny. That is - the man has not right to act within his property with an act that will cause harm to his neighbour. (105). This is also the opinion of Ibn-Timih, in which he was asked about a man who built Rwshan facing the main door and the stairs of his neighbour, in which he could see the neighbour's women. This led to the closing of the main door, and prevented the going down with the plaster tray, and the going up with the waterskin. Ibn Timih replies that the neighbour has no right to do in his property anything which leads to harm the neighbour. (106).

From the above discussion, it is clear that there were no differences between the scholars in terms of permission to open windows, to get light and air, and beautification, because it is permissible action on private property where the owner of the house cannot dispense without it to get light. Only if this action caused excessive harm to his neighbour, such as sighting women's areas of the neighbours, then the owner must be stopped, based on the Prophet tradition "not to harm, nor reciprocating harm".

6.6.3.3 The Right of a Party Wall

The observer of the traditional Muslim cities can see that most houses are attached with at least one party wall, or more. This attachment sometimes leads to the neighbour needing to use his wall. Muslim scholars manifested the rules of the party wall with differentiation in the ruling between party walls, according to the type of ownership.

Actually, there are two types of party wall in terms of ownership: First, the party wall of private ownership; this means the party wall between two neighbours, but only owned by one of them, while the other is only a beneficiary. Secondly, the party wall of joint ownership. Here the study will concentrate only on the first type, in order to give the scholars' opinion about the party wall.

The party wall of private ownership for only one neighbour, makes the other neighbour only the beneficiary. The questions raised here is whether it is compulsory for the owner of the party wall to permit his neighbour to use his wall for supporting the roof or not. If he refuses, is it considered that he is causing harm?. And, if his neighbour used the wall without permission, is the neighbour considered to be causing harm?

Muslim scholars concerning this matter are of three opinions. Some felt the neighbour has the right to put up his wooden beams over his neighbour's wall, even without his permission, and if he refuses, he will be forced to agree, because of the need for a roof. This is the opinion of al-Shafᶜihih in the past (107) and Ibnᶜakil from al-Hanablh (108) and Ibn-Habib from al-Malkih. (109). This opinion is based on the prophet tradition narrated by Abu-Horirh "A neighbour should not prevent his neighbour from inserting wooden beams in his wall. Then Abu-Horirh said: "When I saw you object to it, I swear on Allah I wanted to throw them on your shoulders". (110).

They deduced from the prevention in the prophet traditions the proof for prohibition and they considered the saying of Abu-Horirh as certainty in the prohibition.

Al-ɛhafᶜy stipulated for using the neighbour's wall, the following:

1) If the owner of the party wall does not need his wall to put on his wooden beam;

2) If the neighbour does not want to use the wall to build another building over it, and he should not put anything on the wall that will harm the wall;

3) If he does not own any of the wall in the part where he intends to roof it, or he owns only one wall. But if he owns two walls he has to put a roof on them and has no right to force the wall's owner. Al-Imam al-Shafᶜy does not consider this stipulation but he stipulates that three walls of the house are for the owner and he needs the fourth. If all walls belongs to others it will not be permitted at all. However, some of his friends do not consider this stipulation. (111).

The second opinion is that, it is not permissible to put wooden beams on the neighbour's wall, and the owner should not be forced into allowing this. Here the owner's permission and satisfaction must be taken into account.

This opinion is based on the verses that relate to oppression and violation, annoying those without any rights as Allah says:

> "The blame is only against those who oppress men with wrong-doing, and insolently transgress beyond bounds through the land, defying right and justice: For such there will be a grievous penalty". (112).

Also based on the prophet saying peace be upon him, he says, "The Muslim's property is not permissible only with his consent". (113). Accordingly, it was proved that putting wooden beams on the neighbour's wall without his permission is considered oppression, and oppression is legally prohibited. Thus, it is prohibited for the neighbour to take such action without the permission and satisfaction of his neighbour. This opinion is based on the prophet tradition "Neither harm nor reciprocating harm", (114) which in this tradition the prophet (P.B.U.H) prohibits harm to others and also prohibits harm between the disputers. Therefore, since the owner of the wall is the rightful owner, the placing of wooden beams on his wall without his permission is considered excessive harm and must be removed.

There is an argument from the holder of the second opinion, about the saying of Abu Horirh, "why did I see you object to it (preventing the neighbour from putting the wooden beam on his wall). They argue that this action at the time of the prophet's companions was in contrast to what Abu Horirh wanted, because, if it was compulsory, the prophet's companions could not fail to understand its interpretation and would not have objected to Abu Horirh. But it seemed that the rule was confirmed to them in contrast, otherwise they would not ignore this order, and this proved that they understood this matter as preferable not as compulsory. (115)

The third opinion is based on the concept of harm. If putting the wooden beams on the neighbour's wall will harm the wall, because of its weakness to carry the beams, it is not permissible, without any contradiction. But even if they are not harmed, and the neighbour could put his beams on the other's wall, this also is not permissible, and this is the opinion of al-Hanablh and al-Shaf^{c}yah. If the wall would not be harmed and if the neighbour could not have a roof because of it, then it will be permissible, even without the permission of the owner, and al-Hanablh says "this is similar to relying on it and being shaded by it". (116).

However, after discussing these three opinions, al-Faz counter-balances the third opinion, and he says:

1) Combine the prophet traditions, which give order to inserting the wooden beams, and the prohibition of taking the Muslim's property only by his acceptance.
2) And because the prophet tradition, "neither harm nor reciprocating harm" makes it clear not to harm one another, and if the weakness of the wall is proved, then it is not permissible to do so.
3) Since the neighbour has the right, according to the many texts, which order us to maintain and safeguard this right, and if there is no harm to the wall, the right of inserting has the upper hand, and if there is harm to the wall, then the right of the owner has the upper hand.
4) And because the benefit from the neighbour's wall, if it is not harmful, is the same as relying on the wall or benefiting from its shade. (117).

By this counter-balance, the three different opinions are combined, and Allah Almighty knows the right.

6.6.3.4 Projection Gutters and Balconies to Streets

Here, the discussion will extend to the architectural features that project from the property to the street, such as balconies and gutters. Actually to know the opinion of the scholars concerning this matter, it is very necessary to differentiate between the public streets (the through traffic streets) and the private streets (the dead end streets) because the rules concerning the projections differ according to the type of street.

First: Projections to Through Streets

The through street is a public street which is located in the built area (not in the desert), or what was left out from the un-owned land between the buildings. (118). Since the through street is owned by the public, projecting balconies or gutters on to the through streets may be harmful to them. If the opinions of the scholars is unanimous in preventing the projection, which is harmful to the public, it is compulsory to take it down therefore preventing harm. (119). This is based on the prophet tradition "neither harm nor reciprocating harm", (120) and according to the legal general rule "the private harm should be removed if it is harmful to the public".

If the projection does not cause harm to the public, there are two opinions in terms of the ruler's permission or not. The first, is that the ruler's permission is not a stipulation, thus, it is permissible to extend the projection to the public street and no one has the right to prevent it. This is the opinion of al-Shafᶜyah, (121) al-Malkih (122) and some from al-Ahnaf (123) and al-Hanablh (124); it is also the opinion of Ibn Timih (125). This opinion is based on the saying of Abdulah Ibn al-ᶜAbas, may God be pleased with him, he says:

> "there was a gutter for Al-ᶜabas on the way of ᶜAmar Bin Al-Khateb (the second Muslim caliphat, may Allah be pleased with him), and ᶜAmar has dressed in his clothes for Friday, and two chickens were slaughtered for al-ᶜabas, when ᶜAmar arrived at the gutter, water with blood of the chickens was poured and touched the clothes of ᶜAmar. Then ᶜAmar was ordered to take them off; he then returned and changed his clothes and went to lead the people in prayer. Then al-ᶜabas came to ᶜamar and said to him, swear on Allah, this is the place where it was put by the prophet, peace be upon him. The ᶜamar said to al-ᶜabas, I implore you to climb on my back until you return it to the place where it was put by the prophet, peace be upon him. Thus al-ᶜabas did so. (126)

Since the gutter was placed by the prophet, peace be upon him, then it is permissible for others to do likewise, if there is no proof of it being private property, since there is no proof, thus it is permissible to project the gutter and other parts to the public road.

Ibn Taimih said, "projecting gutters in the through street is the prophet's tradition". (127). They said because the one who does the action servitude in the area which is not owned by others, without any harm to others. Thus it is permissible to like walking and sitting in the street. (128). Al-Malikyah stipulated that the projection should be raised up high over the heads of the passer by. (129).

The second opinion. It is not permissible to project to the public road, gutters, rawshan, high bridges between two buildings, rooms, shops or anything similar, even if it is not harming the public, if permission was not granted by the ruler or his deputy.

This is the opinion of Abu Hanifh and Abu Yousef, and Al-Hanablh and the sayings of some Al-Malkih.
Al-Hanablh said "if it was projected to the Muslim's road; asttwanh (column from house) and kanif (bathroom), he (the one who projected) is not just and his son is not just if he inherits from his father, until he returns what was taken from the Muslim's road. (130). They argued the previously-mentioned saying of Abdulah Bin al-ᶜAbas concerning the gutter that "this prophet tradition is proved to us, not on us, in which the prophet, peace be upon him, put it with his hand, and this is more intense than his permission, and we cannot say anything when the ruler permits it. This proves that it is not permissible to do anything from these, only by permission from the ruler. (131). Also, they said, "this action is an act on the party air between him and others (the public). Thus, it is not permissible, like building on a dead-end street, without permission from their people, and since the ruler is the deputy for the public on public matters and one of these acts on the through street, then permission must be from him or from his deputy". (132).

Abu Hanifh said "anyone from the people can prevent him from building the projection and can enforce him to take it down, either because the action harms others, or if it was put up without permission of the ruler...". (133) Also, they said "the ruler has no right to permit

it, if it is harmful to the people, such as if the road was narrow, but if the ruler sees real benefit out of it, then it is permissible". (134).

Al-Faz counter-balances the second opinion of allowing projection to the public road, only with permission of the ruler, because it will safeguard the public interest and will achieve the private interest, if he finds there is no harm to the public. But he restricts the opinion of the authorities in the government to be only according to legal proof, and not to issue their opinion only after investigation and observance Allah, in order not to violate the interests of some people from others. (135).

Actually the scholars have different opinions concerning the determination of the projection's harm when it is considered and when it is not. Some of them said the determination of harm must be related to the situation of the road, if it was narrow, and when caravans and horses could not pass through. It must be raised to allow the passer-by to pass underneath it standing, and if caravans or horses passed through, it must be raised to allow the loaded animals to pass under it. (136).

Some mentioned about the projection harm in terms of darkness on the road; Ibn al-Sabg said, "It is not affected" and in al-Tatmh, "If the light is totally finished it will affect, but if it is decreased it will not affect". And others said, "If the road is less than seven zara^{c} (traditional length measurement equal to 0.70cm) it will harm", based on the prophet tradition "if you disagreed on the width of the street make it seven zara^{c}". (137).

<u>Second, projection to dead end street</u>

The dead end street is considered a private street, and it is owned only by those whose doors open on to it, and not by those whose walls are attached to the street and where their doors do not open on to it.

Thus, whoever has their doors opening to the dead end street, they are partners/owners of this street, and others then have no right to project a gutter or balcony, or even a door on to this street, except by permission. This is the opinion of al-Malikyah, al-Shafᶜyh and al-Hanablh, but al-Ahnaf considered it as public right. (138).

The scholars were in two minds in terms of projecting gutters and balconies to the dead end streets.

The first opinion stipulated that permission from the owners of the street, either the action caused harm or not, and it is not permitted to others who are not partners on the streets. This opinion is based on the prophet tradition, "neither harm nor reciprocating harm", (139). Since they are partners on benefiting from the street, and from the projection, it may be that some of them will be harmed from the projection and harm is prohibited. Thus, the projection is not permissible on the dead end street, only with permission from all the street's partners. (140).

The second opinion is that it is permissible to make projection on the dead end street if there is no harm caused to others, and if there is harm, but the people of the street accept the harm; it is then permissible. (141). They prove their argument that since all of them have ways on the street, thus they own that, as they owned on one of the through streets. Thus each of them has the right to easement of its ground and also its air. (142).

Al-Faz counter-balances the opinion which said it is not permissible to project on a dead end street, except with permission from its owners. Because the neighbour's right is based on kindness, and harm is prohibited, especially to the neighbour. And al-Hanablh restricts the permission with the stipulation that the amount of projection and height should be known. (143).

6.6.3.4 Right of Easement

The right of easement is part of offering kindness, benevolence and help to the neighbour, which is encouraged in many verses of the prophet tradition. Among the rights of easement, are the right of way and right of drainage, in which the neighbour gives his neighbour the right to pass by through his property or to drain the water on his roof. Actually, the rule of the rights of easement is mainly mandwb (recommended) to get their reward from Allah. In some cases though, the right of easement is compulsory, as when the neighbour has no way out, only over his neighbour's roof, and some scholars mentioned that the neighbour must offer that right even without his permission. (144).

The definition of easement rights, is the right that proved the easement of someone's property to another property owned by another. Actually, this right emerges, either as a result of reviving the land between other's land, which is already revived, and with no access to this land, except by passing through another's land. When the upper floors are sold and there is no access to these floors except through the lower floors, or when the property is divided between the inheritor and some of them cannot reach their portion except by passing through the other's portion.

However, if the easement right is proved by real estate on the property for others, then this right must be used to limit what is permitted for both parties.

From the side of the owner's rights; he must use this right in the limit of what it was permitted for. If the right is only for pedestrians from the household or the guests, then it is not permissible to use it with cars or animals. If it is only for a certain purpose, such as maintaining a wall, or building a wall, it should not be used more than for that purpose. Also, it is compulsory to pass only from the place which was determined by the neighbour

without using another way or place, and he has no right to widen the passage or use it for other purposes, because he is not the owner of it. This is only allowed if it is beneficial, such as getting rid of some obstacles, such as sand or stones, or anything similar. Such action is permissible, even without the owner's permission. (145).

On the side of the neighbour, or the owner of the easement property, he has to allow the owner of the right to use that right, and he has no right in doing something in the passage which might prevent the one who owns the right to make full use of his rights. For example, if an owner of land wants to build on his land, where an easement right of passing through has already been confirmed to the neighbour, here then the owner must leave a portion of the land enough for the neighbour to pass by.

6.7 SUMMARY

The aim of this Chapter is to have background about Islam and its legal system, to help in analysing the regulations that applied on Jeddah's urban dwelling. Thus, in this Chapter, the first discussion was on a general knowledge about Islam, the characteristics and the sources of Islamic Law (Shari^{c}ah), and how Islam forms the identity of Muslim society. The discussion then concentrated on matters that relate to the rules of buildings and gave the different opinions of scholars from different Mzahb (schools of opinions), concerning certain legal questions on building, with consensus and counter-balances between these opinions by Dr. Ibrahim al-Faz the author of Figh al-Bina (The Jurisprudence of Buildings).

However, in this Chapter it is found that Muslims have their own identity, ideology and systems which cover all their aspects of life (religious and worldly matters), and form their socio-culture. Thus, when dealing with Muslim society in any matters - among them the built environment - it is very essential to consider and to confirm with its socio-culture in order to have suitable solutions, which fit in with the requirements of this society.

Footnotes - Chapter 6

1. Gulam Sarwar, "Islam, A Brief Guide", Published by the Muslim Educational Trust, London, 1988.

2. Ghulam Sarwar, "Islam Beliefs and Teachings", published by the Muslim Educational Trust, London, 1401,1982, p.13. Also see S. Wagar Ahmed Husaini, "Islamic Environmental System Engineering", published by Macmillan Press Ltd., London 1980.

3. A. Yusuf Ali, "The Holy Quran": Arabic text, translation and commentary, all references to Quran (Chapter; verse) are according to the numbering by A. Yusuf Ali,. See 25:53, 35:12, 55:19-20, 27:61.

4 Quran 6:141-3, 7:31-3, 16:5-18, 20:53-4, 71:15-20

5. Quran 2:30-8, 6:165, 33:72

6. Quran (trans. A. Yusuf Ali)

7. Quran 17:93 (trans. A. Yusuf Ali)

8. Quran 1:25 (trans. A. Yusuf Ali)

9. Quran 1:177 (trans. A. Yusuf Ali)

10 Quran 21:25 (trans. A. Yusuf Ali)

11. Quran 16:36 (trans. A. Yusuf Ali)

12. Quran 9:31 (trans. A. Yusuf Ali)

13. Quran 5:4 (trans. A. Yusuf Ali)

14. Quran 15:9 (trans. A. Yusuf Ali)

15. Quran 7:3 (trans. A. Yusuf Ali)

16. Quran 5:49.

17. Mna^{c} al-Qtan, "Wjob Tahkim al-Shari^{c}ah al-Islamiah" (The Must of the Islmic Law to be Ruled), published by the University of Immam Mohammed Bin Saud al-Islamiah, Saudi Arabia, p.16.

18. Ibid, p.17.

19. Ibid, p.21. Also see Mohammed Abu Zahrh, "Ausol al-Figh" (The roots of Islamic Law), published by Dar al-Fikr al-^{c}Arabi, 1377,1958, p.105-114. See Ahmed Ibrahim Pik "^{c}ILm Ausol al-Figh" (The Science of the Roots of Islamic Law) Dar al-Ansar, Cairo, Egypt, 1357,1939, p.14. Also see other Islamic Law Books.

20. Quran 59:7.

21. Quran 4:65.

22. Quran 4:80.

23. Mna^{c} al-Qatan, op.cit, 30-31.

24. Quran 4:59.

25. Quran 33:40.

26. This hadith prophet saying was reported by al-Hakim, classified as sahih (sound), and quoted by al-Bazzar. See Yousef al-Qaradawi, "Al-Halal wal Haram Fij Islam" (The Lawful and the Prohibited in Islam), translated to English by Kamel El-Helbawy, M. Moinuddin Siddigui and Sayed Shukreg, Shorouk International (UK) Limited, 1985, p.15.

27. Quran 19:64 (trans. A. Yusuf Ali).

28. Yousef al-Qaradawi, op.cit, p.15.

29. Quran 17:70 (trans. A. Yusuf Ali).

30. Fthy al-Drini, "al-Haq wa Mada Sultan al-Dawlah Fi Tqidh", (The Right and the Limit of the State Power to Restrict it). Published Ph.D Thesis, Moasst al-Rsalh, the third edition, 1404,1984, p.74.

31. Quran 17:13 (trans. A. Yusuf Ali).

32. Quran 99:7-8 (trans. A. Yusuf Ali).

33. Quran 5:2 (trans. A. Yusuf Ali).

34. Quran 4:34 (trans. A. Yusuf Ali).

35. Quran 24:31 (trans. A. Yusuf Ali).

36. Yousef al-Qaradawi, op.cit, 149.

37. Ibid, p.152.

38. Reported by Ahmad Abu Daoud, and al-Tirmizh. See Ibid, p.153.

39. Reported by Ahmd and al-Misai via Abu Hurairah. See al-Saiyed Sabiq, "Figh al-Sunna", Dar al-kitab al-^{c}Arabi, Beirut, 1967/71, Vol.II, p.576. Also see the translation to English in Basim Selim Hakim, Arabic-Islamic Cities: Building and Planning Principals, KPI, London, New York, Syudney, and Henley, 1986, p.151.

40. Quran 24:27-28 (trans. A. Yusuf Ali).

41. Reported by Abu Hurairh. See Mustafa Mohammed Amarra, "Jawahir al-Bukhori wa Sharh al-Qastalam" (Jewels from al-Bukhari and Interpretations by al-Qastalani), al-Maktaba al-Taijariyah al-Kubra, Egypt, p.465.

42. Reported by Abu Hurairh. See Mohammed al-Mubarak, "Nizam al-Islam: al-Iktisad", (The Islamic System: Economics), Dar al-Fik, Beirut, 1972, p.132.

43. Reported by Ibn Adi and al-Kharati from Amraw Bin Sh^{c}ib from his father from his grandfather. See Besim Hakim, op.cit, p.154.

44. Reported by Abu Hurairh, See Ibid, p.154.

45. Narrated from a number of Sources via Tabir, Ibid, p,154. Also see - al-Sayied Sabiq, op.cit, Vol. III, p.221.

46. Reported by Ahmad, Ibn Majah and Malik, See Mana^{c} al-Qatn, op.cit, p.91.

47. Quran 4:58 (trans. A. Yusuf Ali).

48. Reported by Muslim,, see: Mostafa al-Khin, Mostafa al-Bodh, op.cit, Vol.1, p.557.

49. Fathy al-Darini, op.cit, p.110-112

50. Quran 49:13 (trans. A. Yusuf Ali).

51. Quran 2:177 (trans. A. Yusuf Ali).

52. Quran 42:38 (trans. A. Yusuf Ali).

53. Quran 3:159 (trans. A. Yusuf Ali).

54. Mna^{c} al-Qatan, op.cit, p.93

55. Abdul-Karim Zidan, op.cit, p.62-64, also see Mohammed Abu-Zahrh, op.cit, p.6-7.

56. S. Waqar Ahmed Husaini, op.cit, p.16.

57. Aby Ishq al-Shatby (d.780 H) "al-Mwafqat Fi Ausol al-Shari^{c}ah", (The Conformities in the Roots of Islamic Law), Dar al-Ma^{c}rfh, Beirut, Lebanon, Vol.4, p.106-118. Also see Mohammed Abu-Zahrah, op.cit, p.379-383.

58. Mana^{c} al-Qatan, op.cit, p.73. Also see Mohammed Abu-Zahrah, op.cit, p.218-261,. See S. Waqar Ahmed Husaini, p.27-28.

59. Ibid, p.78.

60. Ibid, p.80.

61. Aby Ishaq al-Shatby, op.cit, Vol.4, P.27-32.

62. Mana^{c} al-Qatan, Ibid, p.85.

63. Fathy al-Darini, op.cit, p.70.

64. Mustafa al-Khin, Mustafa al-Bogh, "Nozht al-Motaqeen Sharh Ryiad al-Salheen Min Klam Syyd al-Morsaleen LLimam Aby Zkria Mohy al-dden al-Nawawy" (d. 676), Moasst al-Risalh, Beirut, 1985, Vol.1. p.210, 211.

65. Fathy al-Darini, op.cit, p.115.

66. Abdul Karim Zidan, op.cit, p.118

67. Quran 5:3

68. Abdul Karim Zidan, op.cit, p.133
69. Ibid, p.136

70. Ibid, p.138.

71. Mohammed Ali al-Sais, "Tarikh al-Figh al-Eslamy", p.77.

72. Abdul Karim Zidan, op.cit, p.119.

73. Ibid, p.142.

74. Quran 15:82 (trans. A. Yusuf Ali).

75. Quran 16:81 (trans. A. Yusuf Ali).

76. Abdusalam al-^{c}Bady, "al-Molkiah fi al-Shari^{c}ah al-Islamiah", Maktabt al-Aqsa, Amman, Jordan1974, p.134, quoted from "Taquem Usol al-Figh", p.866.

77. Quran 57:7 (trans. A. Yusuf Ali).

78. Abdusalam al-^{c}Bady, op.cit, p.407, quoted from "Tfsier al-Qortaby", Vol.17, p.338.

79. Abdulaziz Abdulmonaim, "Mshro^{c}iat Istmalk al-^{c}Qar LLmnfa^{c}ah al-^{c}Amah", Mjilt al-Bohath, 7th edition, 1403,1983, p.259-266.

80 Abu Yousef, "Kitab al-Kharaj", Dar al-Fikr Press, Beirut, 1969, p.63.

81. Al-Mawardi, "al-Ahkam al-Sultaniyyah", al-Halabi Press, Cairo, 1960, p.171. See Abdul-karim Zidan, op.cit, p.259.

82. Reported by ᶜAish, The Prophet Wife, See "Sonn al-Bihaqy", Vol.6, p.142-148.

83. Narrated by Bokhari, Muslim, Ahmed, Abu-Dawd, al-Trmzy, al-Nsay and others, See "al-Bokari Bi-Sharh Fath al-Bary", Vol.5, p.514.

84. Al-Mawardi, op.cit, p.171, and Ibn Qudamah, op.cit, p.583.

85. Abu Yousef, op.cit, p.61-65.

86. Abdul-Karim Zidan, op.cit. p.260.

87. Ibid, p.262.

88. Abu Yousef, op.cit, p.61.

89. The State land is the land given voluntarily to the State by the original owner, such as the land which was given to the Prophet Mohammed, (peace be upon him) by inhabitants of Medina when he emigrated to them and authorised the Prophet to do whatever he liked with them. Also subject to allotments are land taken by Muslims through conquest, as were those belonging to the Persian King and his family. these lands were known as Swafi, literally (strained or filtered). Each type of land has been further sub-divided into categories by jurists according to which type could be owned and which could only be utilised without ownership. See Jamel Akbar, Ibid, Jamel Akbar, "Responsibility and Traditional Muslim Built Environment", unpublished Ph.D Thesis, MIT, 1984, p.76-77.

90. Abu-Yousef, op.cit, p.61-62.

91. Khair aldden al-Rmly "al-Fatwy al-Khyriyah L-Nfᶜ al-Bariyah ᶜla Mzhb al-Imman Aby Hanifah", Matbaᶜt al-Amriyah, Cairo, Egypt, Second Edition, 1974, p.202, 204.

92. Aby al-Hassn al-Tswhy, "al-Bahjah Fi Sharh al-Tohfah", Matbaᶜ al-Baby, Cairo, Egypt, Second Edition, 1951, p.343.

93 Ibn-Qudamah (d.620H), al-"Moghny", Maktbt al-Riyadh al-Hadith al-Riyadh - Matbaᶜ Dar al-Kitab al-ᶜArby, Beirut, Lebanon.

94 jSee Sonn Ibn Majh, p.784.

95 Ibn-Qudamah, op.cit, 572-573.

96 Ibrahim al-Faz, op.cit, 393.

97 Immam Ahmed Bin Ali Hajr al-ᶜsqlany, "Fath al-Bary Bi-Sharh Sahih al-Bokhary", published by al-Bohth al-ᶜlmiyah wa al-Ifta wa al-Daᶜwah wa al-Irshad, Riyadh, Saudi Arabia, p.445.

98 Ibrahim al-Faz, op.cit, p.394.

99. Mohammed al-Hasfky, "al-Dar al-Mokhtar Fi Tanweer al-Abs Absar Fi Figh Mahab al-Immam Aby Hanifah", Matcᶜt al-Baby, Cairo, Egypt, Second Edition, 1966, p.448

100 Ibn ᶜAbdeen, Hashit Rd al-Mohtar ᶜLa al-Dar al-Mokhtar, Matbᶜt al-Baby, Cairo, Egypt, Second Edition, 1966, p.448-449.

101 Khair aldden al-Rmly, op.cit, p.202-204.

102 Aby al-Hassn al-Tswly, op.cit, p.338.

103 Ibid, p.338.

104 al-ᶜsqlany, op.cit, p.116.

105 Ibn-Qudamah, op.cit, p.572

106 Ibn Tymiyah, "Fatawy Shikh al-Islam Ibn Tymiyah", compiled and arranged by Abdul-Rahman Bin Mohammed Bin Qasim al-ᶜAsmy al-Njdy al-Hanbly, Matᶜt Dar al-ᶜArbiah, Beirut, Lebanon, Second Edition, 1398,1978, p.8.

107 al-Nwawy (d.676/1256), op.cit, Vol.4., p.212, al-ᶜSqlany, op.cit, Vol.5, p.110.

108. Ibn Qudamah, op.cit, Vol.4, p.555.

109. al-ᶜSqlany, op.cit, Vol.5, p.110.

110. Ibid, Vol.5, 110.

111. al-Nwawy, op.cit, Vol.4, p.212-213.

112. Quran 42:42.

113. al-Dar Qotny (d.385/965), "Sanan al-Dar Qotny", ᶜAlam al-kitab, Beirut, Vol.3, p.25, 26).

114. Narrated by Immam Malik, see al-Suwty, Tanwer al-hwalik, Sarh Mwta Malik, Dar al-Kotb al-ᶜAlmiah, Beirut, Vol.3, p.218.

115. Ibid, Vol. 5, p.112.

116. Ibn Qudamah, op.cit, Vol.4, p.555, 557.

117. Ibrahim al-Faz, op.cit, p.471.

118. Ibid, p.472.

119. Ibid, p.475.

120. Al-Suwty, op.cit, Vol.3, p.218.

121. al-Nwawy, op.cit, Vol.4, p.204. Also, Vol.9, p.319, 320.

122. Ibn al-Rami, "al-Aᶜlan fi Ahkam al-Bonian", edited by Abdul-Rahman al-Atram. Unpublished Master Thesis, Imman Mohammed bin Sᶜud University, 1983, p.20.

123. Ibn ᶜAbdin, "Hashit Ibn ᶜAbdin", Mustaf al-Halby Press, 1966, Voo.6, p.593.

124. Ibn Qudamah, op.cit, Vol.4, p.551.

125 Bin Rajb al-Hanbly (d.795/1275), al-Qwaiᶜid Fi al-Figh al-Islamy, Dar al-Maᶜrfah Press, Beirut, Lebanon, p.204.

126. See Musnd al-Imman Ahmed,

127. Bin Rajb al-Hanbly, op.cit, p.204

128. Ibn Qudamah, op.cit, Vol.4, p.551.

129. Ibrahim al-Fax, op.cit, p.476.

130. al-Drdir (d.1201/1781), "al-Sharh al-Kaber", part of Hashit al-Doswqy, published by Dar Ahia al-Kotb al-ᶜArabiah, Halab, Vol.6, p.259.

131. Ibn Rajb al-Hnbly, op.cit, p.204.

132. Ibn Qudamah, op.cit, Vol.4, p.554.

133. Ibid, Vol.4, p.552-554.

134. Ibn ᶜAbidn, op.cit, Vol.6, p.593.

135. Ibrahim al-Faz, op.cit, p.483.

136. Ibn ᶜAbidn, op.cit, Vol.6, p.593.

137. al-Nwawy, op.cit, Vol.4, p.204, 205.

138. See Footnote, Ibrahim al-Faz, op.cit, p.486.

139. Narrated by Malik. See al-Suwty, op.cit, Vol.3, p.218, Ibn Majh, op.cit, Vol.2, p.784.

140. See Ibn ᶜAbdin, op.cit, Vol.6, p.593, Ibn Qudamah, op.cit, Vol.4, p.552, al-Nwawy, op.cit, Vol.4, p.206, 207.

141. This is the opinion of Abu Ahmed from al-Shafᶜy rite, see al-Nwawy op.cit, Vol.4, p.207.

142. Shms al-Din al-Rrmly, famous by al-Shafᶜy al-Skhir (d.1004/1585) "Nhait al-Muhtaj Ita Sharh al-Minhag".

143. Ibrahim al-Fax, op.cit, p.489.

144. Ibid, p.492.

145. For more detail see, Al-ftawy al-Hindih, written by a group of scholars from India, headed by Shikh Nzam, Dar Ahia al-Trath al-ᶜAraby for distribution and publication, Beirut, Lebanon, 1974, Vol.5, p.216, 272, 373, 374.

CHAPTER 7

CHAPTER 7

THE NATURE OF BUILT ENVIRONMENT RULES AND REGULATIONS APPLIED IN JEDDAH OLD TOWN

7.1 INTRODUCTION

In this section the study is directed to search for the nature of the built environment and rules of conduct and regulations that applied to the old town of Jeddah city and which resulted in beautiful architecture both functional and aesthetic. As a logical introduction to this section, the study will examine one of the property deeds in old Jeddah to discover some applied facts on the built environment of old Jeddah. This deed was issued in the 8th of Rajab 1269H instant to 1849 at the Ottoman Caliph for declaring the ownership of land in Harat Al Sham near to Al Basha mosque, which was granted to Skikh Ali Bin- Abdullah Ba^{c}astian. (1) (See Appendix E). This deed clarified some facts concerning decision makers and controllers of the built environment in old Jeddah city. It shows the way they made decisions and the rules on which they based their decisions; moreover it shows one of land categories in the old town of Jeddah, and the conventions of the built environment regulations, on which was based the concept of harm.

The deed shows that among those who declared the deed, Naib-al-Shr^{c}a al-Sharif (the Judge deputy), Qaim-Makam, (Governor deputy), and Arbab Al Khbrah (the experts on the built environment all of them were master builders). Among the experts were Kbir Al Mu^{c}Lmin, (the chief Master builder, and Muhandis Al Balad, (the town engineer, who was also a master builder). The built environment of old Jeddah seems to have been controlled by three bodies: the ruler was represented by the deputy governor Qaim-Makam, the Judicial body was represented by the judge or his deputy Naib-al-Shr^{c}a al-Sharif, and the technical experts were represented by the master builders. The deed also shows

that the declaration was made in front of some of Jeddah's traders as witnesses.

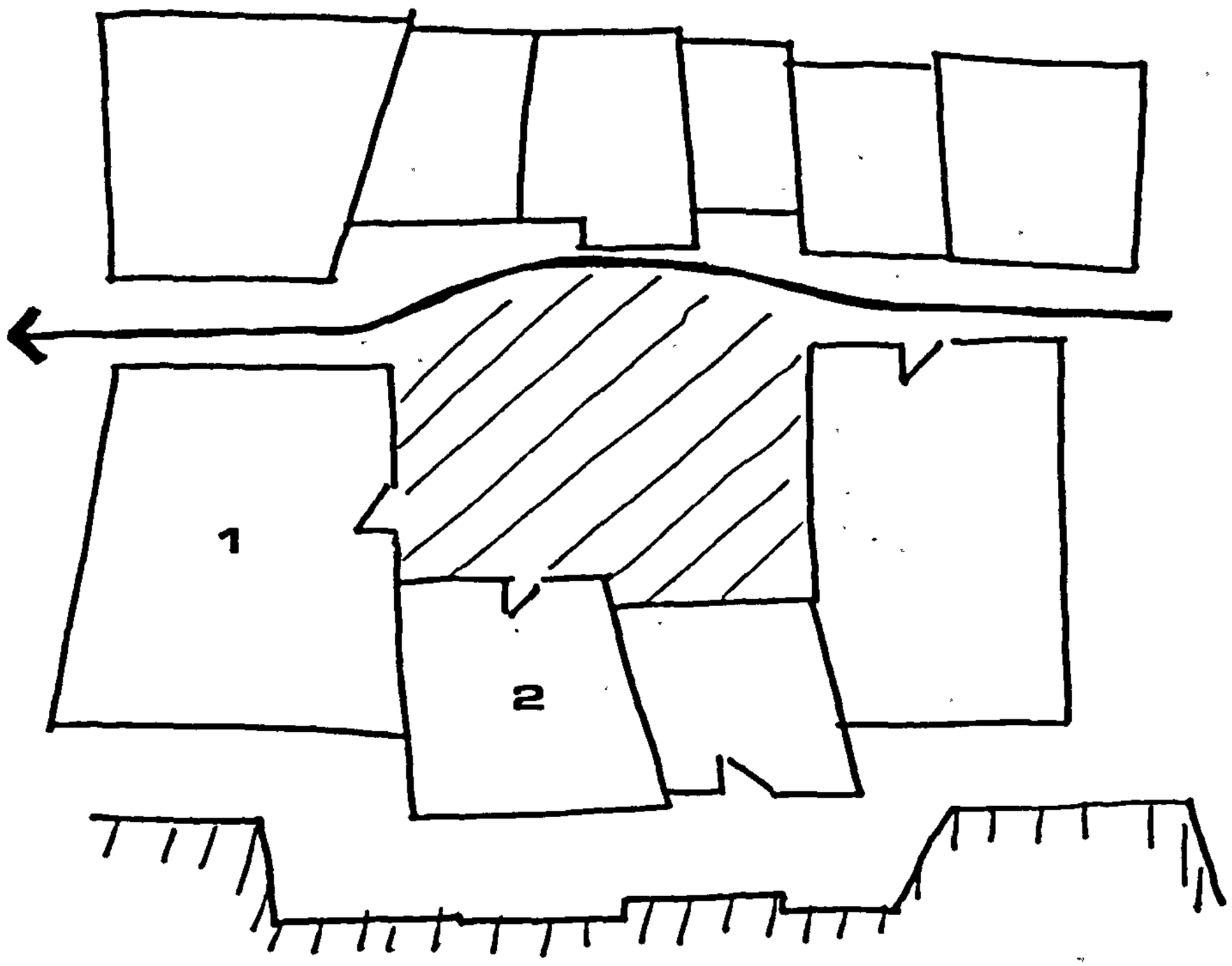
The declaration decision was made after visiting the site and deciding that no harm was caused to anyone or to the market.

> "... what we [the decision makers] saw and sighted [the land] that there were no harm to anyone and to the market". (2).

The harm referred to here was the harm that might be caused by the land to the passers-by, by preventing or hindering right to pass by along the street, which already existed, or by preventing someone entering his house by hindering his entrance. These types of harm are illustrated in the hypothesis of the determination of the land's size and shape, (Figure 7.1). Also, it is found in the deed that the decision of declaration was not made only because the land caused no harm to people or the market, but was extended to future situations, it being stipulated that at the time of erection no harm should be caused either to the neighbours or to the road. Here one could realise the importance of the "rule of harm" in the built environment in order to take decisions, to solve disputes and to confirm property deeds. Although the harm rule was mentioned in the deed in a very general and broad manner, it seems that the people of Jeddah and the local master builders realised and observed this rule very well. Thus the traditional architecture of Jeddah and its environment was expressed, observing the actual needs of the people, socially, culturally, religiously and climatically. Thus, in the following section, the study will discuss in more detail the rules and regulations that affected the built environment of old Jeddah and which were based on the rule of harm.

7.2 MAJALAT AL-AHKAM AL-ᶜADHIAH AS A REFERENCE TO SETTLE CIVIL AND WORLDLY MATTERS DURING THE OTTOMAN CALIPHATE

Old Jeddah was ruled by an Ottoman Caliph for about four centuries from the beginning of the sixteenth century to the beginning of the

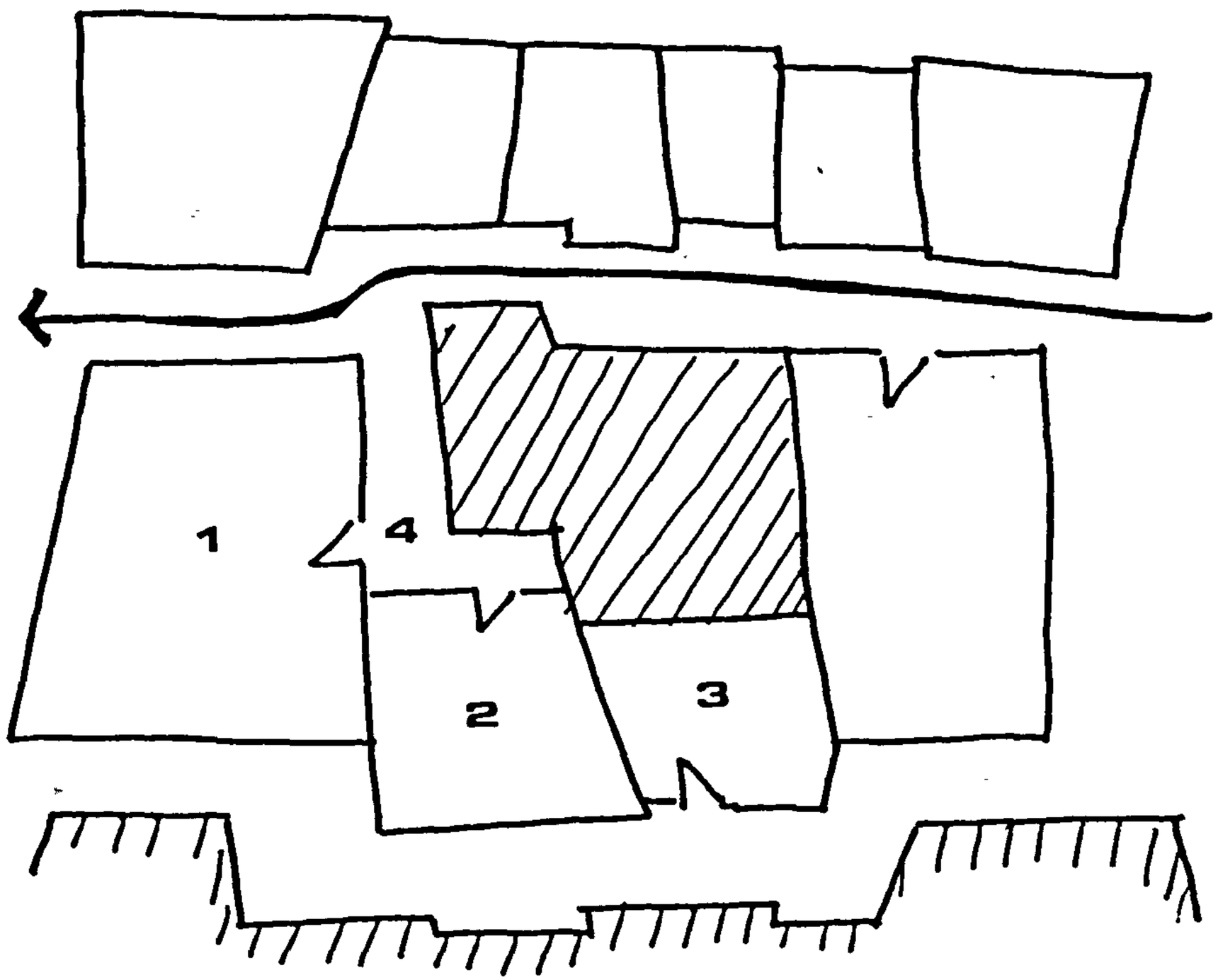


Hypothesis

Right of way

Amirih land (land owned by the Government)

Existing building



Proposed

The shape and the size of the land that could be alloted or sold which guaranteed the right of way for passers-by and guaranteed the right of abutting neighbours to reach their entrance without blocking any opening for (1) and (2) houses.

4 Cul-de-Sac street as semi private space

Figure 7.1 : Hypothesis of the determination the shape, the size of the plot by the experts.

twentieth century, when Jeddah came under the Saudi government in 1924. During this period, Jeddah reached its mature urban stage inside its wall. As any city under the Ottoman Caliph, Jeddah before and after was ruled by Islamic Shri^{c}ah. As Al-Ansary stated in his book, "The History of Jeddah", in the chapter on "Judges of Jeddah", "The Judgements between people in their worldly conduct and disputes according to Islamic Shri^{c}ah were current matter in Jeddah from its original Islamic establishment. Similar to other cities, people in any city must differ in their interest and goals; thus it was necessary to have a power or authority to settle disputes between them, and this authority in Jeddah was the Judicial Judge in Jeddah and Hajaz. (3).

At the time of the Ottoman Caliph, the prevailing Islamic legal school opinion was Al-Hanfy rite Al-Mazhab Al-Hanfy. This extended from the Sh^{c}ban 1293H instant to 1873 CE, approximately 127 years ago. The Ottoman Caliph issued a book consisting of all the Jurisprudence concerning worldly conduct and prosecution problems, and Judicial rules. Called by the name of "Majalat Al-ahkam Al-^{c}adhliah" it means "the book of `legal rules´". Dr Abdulwahab Soliman and Dr Mohammed Ibrahim Ali explained the method of writing Majalat Al-ahkam Al-^{c}adhiah and the differences with the previous writing of Islamic Jurisprudence as "Majalat Al-ahkam Al-^{c}adhiah is top in its literacy style and methods of arrangement for Islamic Jurisprudence, because the Jurisprudence writing actually used the ordinary style of analysis and elaboration, but the method in writing Al-Majalah was that each legal case was presented as an independent article in an easy and clear style, without any interference and ambiguity, introducing each Jurisprudence subject by explaining its terminology. The authors wrote on its providing the important fundamentals of Islamic Jurisprudence on which rules were dependent, including 100 fundamentals, and its subjects were established and rules built on according to the Hanafy-rite and the circle of their Judges and leaders". (4).

The main goals for writing Al-Majallah were to be as a general reference for all Judicial deputies of court members and for different administration commissioners, especially for those who had no good background of Islamic law. Thus, by reading it, they would familiarise themselves with the law, and by applying it they would match the action with the Islamic law. (5).

The importance of Majalat Al-Ahkam Al-^{c}adhliah at the time of the Ottoman Caliph led its use as the general reference for the Judicial deputy and other administration commissioners to settle disputes according to Islamic law. The following section will endeavour to search for the general fundamentals and subjects that related to the built environment which affected, in one way or another, old Jeddah. It will be attempted to identify through them to the concept of harm which was considered the main fundamental for controlling and shaping the built environment.

7.3 GENERAL FUNDAMENTALS AND SUBJECTS RELATING TO THE BUILT ENVIRONMENT AT MAJALAT AL-AHKAM AL-^{C}ADHLIAH

Majalat Al-Ahkam Al-^{c}adhliah, as mentioned before, proceeded with general fundamentals on which other articles, in more detail, based their rules. Then it was divided into sixteen books relating to worldly conduct, starting with the book "in seals", then "in renting" and ending with the book "in Judgement". Each book consisted of many parts, each part consisted of many chapters. In fact, the subject that deals with buildings and the built environment was found in the book of the partnership's types "Fi Anwa^{c} Al-Shrkat". It seems that the subject concerning buildings and the built environment was put in this book because the building did not stand by itself, but it shared and participated with others, the light, the air, the road and, above all, the rights of neighbours. Thus the subject of building and the built environment was found in the book of partnership's types in the part of the problem related to wall and neighbourhood Fi al-Msal al-Muta^{c} lagh bi al-hat wa al-Jiran. This part consisted of four

chapters. The first chapter "Some Fundamentals to the Ownership Rules" Fi Ba^{c}t Al-gwa^{c}d Fi Ahkam Al-amlak, the second chapter "The Rights of Neighbourhood Conduct" Fi Haq al-Mu^{c}amiat al-Jwariah", the third chapter "In the Road" Fi Al-Tariq, and the fourth chapter, "The Rights of Passers-by and Drainage" Haq Al-Moror wa al-Mjary wa al-Msil. Also, there were some subjects concerned with the built environment in other books, such as the book of "Fi al-Hajr wa al-akrah wa al-shf'ah" in the petrification, reluctance and servitude, and in the part of "al-qasmah" the Division in the book of "partnership kinds".

The method we are going to follow in this section is to determine the general fundamentals that related to the built environment, then move on to study the subject concerned with the wall and neighbourhoods, then the other subjects. Since the articles have a general feature, we will tie these articles together with some examples to clarify their meaning.

7.4 GENERAL JURISPRUDENCE FUNDAMENTALS "AL QWA^{c}D AL-FIGHIAH" RELATED TO BUILT ENVIRONMENT

It is important to give definition of Al-qa^{c}aidah (the fundamentals) and the difference between it and Al-zabd (the controller). Al-qa^{c}aidah (the fundamentals), linguistically means 'the foundation and conventional techniques; the general or most likely rules that can be applied to all or most parts of worldly matters'. The difference between it and Al-zabd, (the controller articles), is that the fundamentals, Al-qa^{c}adah, collect many branches from different parts and the controller, Al-zabad, collects only from one part.

After searching in the 100 general fundamentals, the fundamentals that relate to built environment could be categorised into four sub-headings:

1) The old
2) The Harm
3) The ownership
4) The convention, custom

7.4.1 The Old

Article 6:

"The old should be left to its old". (6).

The old means the thing about which no one knows the beginning, derived from these fundamentals. If a house has drainage on the neighbour's house and it has flowed for a long time, nobody may realise its beginning. This drainage is considered old and the neighbour has no right to prevent it, because the old should be left to its old.

Article 7:

"The harm cannot be old". (7).

Thus it was said that "no consideration to the old is against to the Islamic law". Thus, if a house has water drainage to the public street and this resulted in excessive harm to the passers-by, then its past would not be considered and the owner must be ordered to take it out. However, if the drainage flows on a man's house which is old, then it will be left as is, even if it is harming the house, because it might be owned by its owner in the correct way. However, in the public road, it is impossible to be owned by an individual in a legal way. The two above mentioned fundamentals manifest that the old components should remain in their situation without change. Only if they caused harm, especially to the public, they should be removed. In the following articles, one will find that new construction must respect and take into consideration, the old.

7.4.2 Concept of Harm

Article 19:

"No harm neither reciprocating harm". (8).

Actually, this fundamental is a prophetic saying, interpreted in Morocco that man must not harm his brother from the beginning or as punishment. That means that it is not profitable to start harming others or countering similar harm to others. For example, it is prohibited to pull down the wall of any one. If some one did, the one who is harmed has no right to pull down the other wall as a reciprocal action. But he must complain to the ruler to reclaim the wall's value from the one who pulled it down. Also, following from this fundamental, if the property is jointly-owned and has to be rebuilt, and one of the partners requested to rebuild it and the other one refused, he should not be forced. If the jointly-owned property could be divided, it should be divided, then each one can do as he wants with his portion. If the property could not be divided, the ruler permits the one who requests to rebuild it to do so, and the property will be kept until the partner repays his portion of the expenditure.

Article 20:

"The harm must be removed". (9).

In this, the partner has a right of pre-emption to remove the harm caused by subdivision, and also for the neighbour to remove the harm of a bad neighbour. The harm must be removed by little actions and minimum damage, according to the following articles.

Article 21:

"The necessities lawful of the profitation". (10).

That a time of urgent need, eg. during a fire, matters which would be unlawful under the fundamentals would be allowed. For example, it is lawful for the rulers Awlia Al-aumor to pull down the houses adjacent to a fire to prevent its spreading.

Article 22:

"The necessities are evaluated by their amount". (11).

For example, if someone made a window in his house, or built a room and made a window overlooking the women's section of his neighbour's home, he can be forced to remove the harm by means of preventing only the overlooking, either by building a wall or a screen, rather than closing up the whole window.

7.4.2.1 Judgement between two conflicts of harm

The following fundamentals manifested the way of judging between two conflicts, both of them causing harm.

Article 25:

"The harm must not be removed by a similar one". (12).

Article 26:

"The private harm is burdened to remove the public harm". (13).

For example where a private wall pulled down tends to collapse into the public road, or preventing a shop for cooking from being sited among textiles shops, also pulling down adjacent houses to prevent a fire from spreading.

Article 27:

"A severe harm removed in favour of a light harm". (14).

The public and private harm as mentioned in Article 26 is one way to differentiate between severe and light harm. Mainly the public harm is considered more severe than the private one. But, if the harm is caused between private parties, the harm is in the favour of the one who is harmed more especially in terms of value. Thus, the man who owned the property of greater value has to be compensated from the owner of the lesser value property. For example, in the matter of

sub-division, if the one owning the greater portion of the property requests subdivision and his partner will be harmed, the decision will be in the favour of the greater portion because the harm caused to him by not subdividing will be greater than the harm caused to his partner. Articles 29 and 30 are similar in meaning to the fundamental in Article 27, but with different articulation.

Article 28:

> "If two imperfect matters conflict, the greater harm is considered by applying the less harm". (15).

Article 29:

> "Selected the less evil calamity". (15).

Imperfection and interest are other ways to measure between two conflicts. If there is an imperfect conflict of interests, removing the imperfect should precede fulfilling the interest, because Islamic law takes more care about the unlawful than lawful. Thus, the fundamental in Article 30 can be articulated as following.

Article 30:

> "Getting rid of the imperfect precedes getting the interest". (17)

Following from from this fundamental, a man must be prevented from acting in his property if his act will cause excessive damage to his neighbour because preventing imperfection for his neighbour precedes getting benefit for himself.

From the above-mentioned fundamentals, one can recognise the importance of the concept of harm, in settling disputes and maintaining the Muslims' built environment. But the most important thing, when dealing with the concept of harm in the Muslims' built environment, is to understand the actual meaning of harm from the point of view of Islamic Ideology because those things which are considered harm in Islamic society cannot be considered so in others.

For example, overlooking the women's section of a house is considered harm in Muslim society, but not in other societies.

7.4.3 The Ownership

Can a person owning a property use it as he wants with total freedom, or are there some restrictions and stipulations? The following articles show the rights of ownership and to what extent a person can use his right.

Article 1192:

> "Everyone can act in his property as he wants, but when it is related to other rights, the owner must stop acting independently in his property. If the lower floor is owned by one, and the upper by another, the upper's owner has a right of support from the lower parts, and lower has the right of the ceiling covering by the upper. (This latter means the right to be protected from the sun and to be sheltered from the rain). No one has the right to cause any harm unless he gets permission from the other". (17).

This article confirmed the freedom of the owner to act as he wanted in his property but permission should be acquired if his property is closely related to another. Also it confirmed the different ownership of upper and lower parts of the building and the relationship between them. This system was founded in some old buildings of Jeddah and was known in the old town of Jeddah as "Nazam Al Haker". Al-Haker system occurred between the people of Jeddah, in order to help friends and relatives, who could not afford to acquire land. A person allowed his friend or relative to build on his land, or above his house almost free in some cases, or for some payment. (18). In this situation the upper owner had the right to build on the top of the building without owning the land. Both of them had rights and no one had to act in his property to harm the other without getting permission. The upper one had no right to build anything on the top, or to put any load or new room, if they were harming the lower part, and, if he did, they must be pulled down. Similarly the one below had no right to open doors or

windows, if they would harm the upper. In fact, both of them could do anything that did not harm the other, but, if there was doubt that it would lead to harm, it must stop.

As any one had a right to act in his home as he wanted, the lower owner could have his right restricted, if the passage of the upper owners was through his property. This restriction act is part of servitude rights, and articulated in Article 1193 as following "If the door of the upper and the lower form one passage, both of them used the door commonly and no one has to prevent the other from using the door, for entering or leaving". (19).

Article 1194:

> "Every one who owns property, he becomes the owner of what is above it and also what is beneath it". (20).

This article determined the limitation of the property ownership which includes what is beneath it to the bottom of the earth and what is above it to the sky. (This is the condition if the whole building is owned by one owner or partners, and not if the upper floor is owned by one and the lower by others). Also it indicated the total freedom of the owner to act in his property as he wants by building or raising his edifice as high as he wants in the sky and by digging his land to build storage or extending the digging as he wants to make a well. His neighbour has no right to extend pipes underneath the land or to dig drainage, even if it does not cause harm, because this is considered as an act on another's property without the owner's permission, according to Article 96, "it is prohibited for any one to act on another's property without the owner's permission".

Actually, the owner has full rights to act in his property as he wants, but if this act causes excessive harm to another, it must be stopped as in Article 1197. If a man's property is adjacent to another's property, such as if part of a house is owned by one person, and the property below it is owned by someone else, then the owner cannot act independently, as in Article 1192.

Article 1197:

> "No one is prevented from acting in his property at all, only if he harms others with an excessive harm". (21).

The excessive harm was the only restriction which prevented the freedom of the owner to act in his property as he wanted. The definition of excessive harm and what was considered excessive and what was not will be discussed in the articles that deal with neighbours' conduct.

7.5 NEIGHBOURING CONDUCT

The right of neighbourhood is one of the most important matters that is encouraged by Islamic religion and is considered part of belief. The following articles show neighbouring conduct in the cities under the Ottoman Caliph, and to what limitation the neighbour could use his right, and what things were considered excessive harm to be prevented by the neighbours.

7.5.1 Raising the Edifice

Article 1198:

> "Anyone can raise up his own wall, and build what he wants, and the neighbour has no right to stop him, if the harm is not excessive". (22).

This article showed that there was no restriction to raise the edifice, only when the neighbour complained that raising the edifice caused an excessive harm. Thus the houses of Jeddah were different in height and vary from one to six storeys in height in the quarter. It seems that this occurred, in spite of the habit of the people of Jeddah to sleep on the roof, because, as mentioned by old people of Jeddah, they were highly respectful of the neighbours and always tried

to keep away from the roof parapet which usually is built to human height (23). Thus the neighbours did not complain about overlooking, although this could have been an excessive harm, because of the variation of building heights.

7.5.2 The Excessive Harm

In fact not every harm must be removed or stopped, only if it is considered excessive. In the built environment excessive harm was well defined in Article 1199 in a broad way but with precise meaning.

Article 1199:

> "Excessive harm is everything that prevents the original benefit from the building as a dwelling or harms the building by leading to a weakness which causes collapse". (24).

Article 1200:

> "The excessive harm must be removed by any means. For example, if the adjoining house becomes a shop for a blacksmith or a miller, and if hammering steel and rotating the grinder causes the building to weaken, or if inside it an oven or press is made, and the occupier of the house suffers from the oven's smoke, and smell of the press, and it becomes difficult for him to dwell there, all these are excessive harm, and must be removed and got rid of by any means". (25).

The oven here means the continuous oven (for public use), not like a baking oven in the house which was not to be prevented. Also if someone tanned leather in his house, and the neighbours contantly suffered, he must be prevented, but if the suffering was seldom, it would be bearable for him. Similarly, if someone made a steam bath in his house, and the neighbours suffered from the smoke, they had the right to prevent him only if the bath's smoke caused harm like the neighbours' smoke, but if this seldom occurred then he need not be prevented. Similarly, if a man has a room connected with another house and he made in it a hole for a mill, and the flow of water weakens the buildings wall, the wall's owner has the right to force him to remove the harm from the wall. Similarly, if man a made a threshing floor near to a house of another, and the dust coming from

it harmed the house's owner, until he could not live in it, then he could charge him to remove the harm. Also, if a man made a high edifice near to the threshing floor, or another, and stopped the wind for him, he could charge him to remove the harm. Also if a man made a cooking shop in the textile market 'Suq' and the smoke harms the neighbours' goods, they can charge him to remove the harm. Also, if a man made a channel in his house, and it broke and the neighbour was harmed from the flowing water, with excessive harm, he could be restrained if the neighbour requested him to restore the channel and repair it.

The other excessive harm that could affect the dwelling was intrusion and spoiling of privacy of others through direct sight of a neighbour's women's area.

Article 1202:

> "Sight of the place of the women's area such as the courtyard, the kitchen, and the the light well is considered an excessive harm. If a man places a window in his house, or new buildings have windows with a view of the place where the neighbour's women gather, either if it was attached or separated by road between them, he would be ordered to remove the harm and forced to remove it in way that would prevent viewing, either by constructing a wall or making a screen, but he would not be forced totally to close the windows. Also, if he made a screen from branches and saw through it the women's area, he would be ordered to close the spaces between them and to remove it, or to make a wall instead". (26)

From the above-mentioned articles, three main factors were considered excessive harm in the built environment which must be removed:

1. Anything preventing the occupier from utilising the building appropriately as it was intended, such as the residential for dwelling and the shops for buying and selling. Here the excessive harm could be categorised into three issues. (27).

   a) excessive harm because of smoke

   b) excessive harm because of odour

   c) excessive harm because of sound

2. Anything that led to the weakening of the building structure and gradually led to the collapse of the building was considered an excessive harm. This could occur because of the following:

a) high vibrations caused by high rotating, hammering, or anything else which affects the structure's solidity and later threatens to cause it to collapse; (28).

b) liquid leakage to the structure which could weaken the building and threaten it with collapse;

c) any action and function which led to the weakening of the structure.

3. Intrusion of privacy by sighting the neighbour's women's area, in the house, such as courtyard, kitchen, etc; whether they used the space frequently, or at different times such as day and night, or summer and winter, they were considered an excessive harm. If the sighting occurred, no matter whether the houses were attached or separated by a street, it would be considered an excessive harm. (29). Here, stopping the harm meant not by closing the whole window, but stopping it in such a way, so that the sighting would be prevented, either by a wall, a screen, or anything else that would stop the sighting harm, according to Article 1202.

If the space was seldom used by the women, and sight of it was not considered harm, such as the garden, it was customarily not considered to be a women's area.

Article 1204:

"The garden is not considered the women's area; if a man has a house not sighting the women's area but sighting the garden, his neighbour has no right to charge him to stop sighting from that garden because the women go there some of the time". (30).

In the case of jointly-owned property, where both parties were responsible to prevent harm by overlooking each other, each should spend according to his portion. It seemed to be from my interpretation of Article 1206, if they refused they might be ordered by the ruler to do so.

Article 1206:

> "If two had divided a jointly-owned house between them, and saw from the portion that was owned by one of them the women's area of the other, both would be ordered to get a party partition between them". (31).

In fact the sighting harm would not be considered harm, unless it definitely happened; if there was some doubt, it would not be considered excessive.

Article 1203:

> "If someone has a window higher than the human height, the neighbour will not charge him to close it, because he might put a ladder to see into the neighbour's women's area". (32).

But if the window's owner climbs to it usually by ladder, or anything else, to see the women's area, and the neighbour complained to the ruler, this case is seen to be measured according to Article 1205.

Article 1205:

> "If a man has a fruit tree in his garden and when climbing it he sees into the neighbour's women's area, he will be forced to inform the women, so that they can veil when he is climbing. If he does not inform them the ruler will stop him from climbing without informing them". (33).

Finally, there are clarified three measures of excessive harm in the built environment, which must be stopped and removed: anything preventing the occupier from utilising the building appropriately for its function; anything that leads to the weakening of the building structure and gradually to its collapse; and intrusion of one's privacy by sighting the neighbour's women's area.

7.5.3 In the Road: (Public and Private Street)

The matters that related to the articles concerning the road can be differentiated according to the two types of roads: public road and private road. The differentiation was not according to the width of the road, but rather according to whether the road was a thoroughfare or a dead end. If the road was a cul-de-sac, then it was considered a private road according to Article 956. "The private road is an alley which is not a through road". Accordingly the through road was called a public road. The importance of the differentiation between a public and private road referred to the right of ownership and consequently to the right of use and activity.

7.5.3.1 The Private Road:

Article 1220:

> "As joint property, for the private road, those who lived there had the right of passing-by. It was prohibited for any road's holders to enact anything there, whether it is harm or not, without getting permission from the others". (35).

Since the private road was considered as joint property, any one of the roads' owners could put his woods, or tie his animals to his door, because the cul-de-sac road was considered as joint property. However making anything in the cul-de-sac was prohibited, whether it would cause harm or not, unless permission was obtained, as will be mentioned in the following articles.

Article 1221:

> "No one of the private roads' holders has the right to take the water drainage of his house into this road unless permission is obtained from all holders". (36).

Article 1219:

> "It is prohibited for those who have no right to passing-by in a private road to open door ~~s~~ into it". (37).

The above-mentioned articles clarified that the holders of the private street, who had the right to pass-by were the decision-makers in this street, and no one could open a door, or make a projection, without getting permission form the other holders. If a man had a house, with its door in the road and its back on another cul-de-sac road and he wanted to open a door in that road, he was prevented from doing so, if he had no right to pass-by in that road. Thus, the passing-by right in the private road was the key to being one of the holders in this road and no holder could make anything in this road without getting permission from the other holders.

If the passer-by rights were approved for some one, even if he closed his door, his rights still existed and even the new owner could open the door.

Article 1222:

> "If someone closes his door which is in the private road his right will not lapse by closing it but it is possible for him and those who buy after him to open it again". (38).

The above mentioned articles clarified that the holders of the private street as party property, were the decision-makers in this street, and not one of the holders could make doors or projections, without getting permission from the others, not from the ruler.

Although the private road was considered as joint property, the holders had no right to sell it, or divide it between them, or close its mouth, even if all concerned were agreed.

Article 1223:

> "The passers-by in the public road have a right to enter a private road when it is crowded. The holders of the private road have no right to sell it or divide it between them or close its mouth, even if all of them agreed on it". (39).

These articles indicate the importance of the private street as a semi-private space for the group of houses in which the responsibility

and the decision in these streets were in the hands of the occupiers. This resulted in more social integration and relations.

7.5.3.2 The Public Road

Unlike the private road, where there was any through traffic, no matter the size of the road, the road was considered a public road. When the road was considered public, certain legal actions were applied different from the private one. In the public road, the road would be common for all people; this gave the right to everyone to pass-by with the condition of not harming others. At the same time they were restricted from taking any action - even opening a door and some other action - without getting permission from the ruler as the public representative, whether the action caused harm or not. In the private road, the road's holders, were those who had the right to give to a person permission to make something in the road, such as a projection, door, etc. because they were those who were concerned with this road and they could determine the harm, and they would be affected by the harm. In contrast, the ruler, as public representative, was the one who determined the harm; thus no one had the right to make projections, a bridge between two buildings, even selling and buying on the street, without getting permission from the ruler. If he found the action would harm the public, even if the actions were past, he had the right to remove them, but if the actions were not causing harm, even by getting some portion of the public road, he had the right to give the permission, but he had no right to turn down any already built structure like a bridge, if it was not causing harm to the public, as stated in Article 56 "The remaining is easier than starting".

The above analysis was based on the following articles.

Article 926:

"Anyone has the right to pass-by in the public road but with condition of safety, ie. his passing-by restricted with the condition of not harming other than can be avoided. If goods have fallen down from the camel's back and damages one's property, the carrier will guarantee recompense. Also if a cloth of a passer-by is burnt by sparks flying from the blacksmith's shop when knocking the steel, the blacksmith will guarantee the cloth of this passer-by". (40).

Article 927:

"It is prohibited without the ruler's permission to sit in the public road to buy and sell, and if any one acts by putting or doing something without permission he will guarantee the harm and the loss which is generated from the action, for example if one digs a hole in the public road or puts his woods or projecting Rwshan - cantilever, planting trees, setting for selling. If the action is done with the permission of the ruler, he will not guarantee; otherwise he will guarantee. (41).

Article 934:

"No one has the right to park his animal or tie it in the public road. If he did, he would guarantee its harm in all situations either a kick by hand, legs, tail or harm caused by any other factor. But the places prepared for parking the animals at animal markets and the places prepared for parking or the renting of animals, are excluded". (42).

Article 1213:

"If one has two houses on both edges of the road, and wants to construct a bridge from one to the other, he will be prevented". (43).

From Article 1213 one can discern three issues concerning the bridge between two buildings, or any architectural features extended to the public road such as projections, rooms, etc., the time of construction and permission to build : First any architectural feature extended from the building to the public road, whether it would harm the passer-by or not, any one of the disputers (the passers-by), even non-Muslim, could prevent the owner from doing so. This only applied at the beginning or during the construction and if he has no permission from the ruler or his representative, but if he did have permission no one could prevent him because the ruler's decision represented the public.

In contrast to al-Hanfy rite, on which the articles in the Majalat al-Ahkam al-ᶜAdliah are based, the ruler's permission for the building extension to the public road is not required in the Maliky rite with the stipulation not to harm the passer by. The argument of al-Maliky rite is that the space around or along the adjoining street - which is known to them as fina, - is considered part of the building because of its susceptible and collective use by the residents of these properties. The space allocated for the fina which did not need the authority's intervention, depended on the size of the street and the most important stipulation was that it should not cause harm to the passer-by or hinder the circulation. As Malik (the founder of Maliky rite) said:

> "...For spaces of small width, where the least thing posed would hinder the circulation, I think that no one has the right to reserve their use for himself, and that the authorities must intervene, but for those where the width is such that the circulation would not be hindered at all if the neighbouring owners utilise them for their own need, I see no harm if the authorities do not intervene". (44).

Both rites (Hanfy and Maliky) agreed that any extension into the public road must not harm the passer-by and not hinder the circulation; the difference between the opinions of the two rites concerns the intervention of the authority; in the Maliky rite the authority would intervene only if the harm were to develop, but it seemed to be the opinion of al-Hanfy rite, which applied in Jeddah, that the authority would intervene through permission from the beginning, in order to guarantee that no harm would occur to the public.

Secondly if the bridge or the extension to the public road was already built and finished, no-one had the right, even the ruler or his representative, to turn it down according to the Article 56 "the remaining is preceding the beginning". Thirdly, if the bridge between two buildings was already built and no harm was caused to the public, but after a while it was turned down, the owner had no right to build it again, unless he got permission from the authority.

Article 1214:

"The excessive harm to the passer-by must be removed even if they were old as low projections and cantilevers into the public road". (45).

Article 1217:

"It is lawful to give a man what is exceeded from the roads' need from the side of Al-Miry (Government Land) for similar amount and attach it with his house". (46).

The road here is the public road, because the private road is owned by its holders; it is prohibited for them to sell it or divide it as in Article 1223. If the road was wide and would not be too narrow if part of it was taken, but, if it would create harm to the passer-by, it would be prohibited to give anything from it, even if there were other roads.

Article 1218:

"Any one has the right to make a door onto the public road". (47).

This is because anyone from the public has the right to pass-by; thus, he has the right to open a door onto it, in contrast to the private road.

7.6 SUMMARY

In this chapter the study was investigating a land deed in old Jeddah (1269H, 1849E) which gave an indication that the lands within the city wall of Jeddah at the time of Ottoman Caliphate were Miry Land (Government Land). Ownership of land was obtained either through Iqta^{c}a allotment or through buying from the government, according to the amount.

There was no pre-planned land subdivision, but rather the land acquired was dealt with, case by case, according to the need, with full respect in the determination of the plot shape and size, not to harm either the passer-by or the neighbours, and at the same time not to hinder the circulation, or the entrance of the adjoining property, as Figure 7.1. The decision-maker, for the plot size and shape, and those who confirmed that there was no harm to the abutting road and neighbours, consisted of representatives of the Governor, the court, Muhandis al-Balad the town engineers, and Local Master builders. The decision was issued in front of the proposed owner.

As the decision of the plot size and shape depended on the concept of harm, similarly, at the time of construction, no harm must occur either to the road or to the neighbour, and this stipulation was mentioned in the Land deed.

The concept of harm led the author to investigate this concept in the Majalal al-Ahkam al-^{c}adhliah (1293H, 1873CE), which was considered the main reference to settle civil and worldly matters at the time of the Ottoman Caliphate by the different government agencies, in order to have their decision based on Islamic Law.

Actually, the study did not cover all the articles that deal with the built environment (such as property subdivision as the result of inheritance, or water drainage) because the main goal of this chapter is to identify the intention and the nature of these regulations and give us the general ideas of the concept of harm.

The study has revealed that the articles concerned the regulation of the built environment were proscriptive rather than prescriptive regulations. They told you what not-to-do as prohibitions, rather than how-to-do as compulsory. This, in my opinion, gave the Master builders the full freedom and flexibility to build and even to adapt some architectural elements through cross culture from other societies, with full awareness of the need not to conflict with the

socio-culture of the Jeddah society but rather to confirm it. (See Chapter 2).

The articles dealt with what not-to-do and what must be removed, the things that lead to excessive harm. Actually the excessive harm, expressed by the articles was very general and wide in nature, and covered three main issues:

1) anything that prevented the occupier from utilising the building according to its prescribed function, because of excessive harm from smoke, odour and sound;

2) anything that would weaken the building's structure and gradually lead to collapse owing to high vibration, liquid leakage or anything that would lead to the weakening of the structure;

3) intruding on one's privacy by overlooking the women's area.

The excessive harm can be removed to a degree that the harm lapsed, such as in the case of a window which overlooks the neighbours' women's section, it should not be closed totally but any method should be used, such as putting up a screen or wall to prevent the sighting of the women's area.

Also, the study revealed that the owner has the right to do anything in his property, such as raising his edifice as high as he wants to the sky and digging as deep as he wants, but with the condition not to harm others.

The study also revealed the respect for the old or already built architectural element and no one, even the ruler, had the right to remove it, unless it harmed others because "the remaining is precedence of the starting". Also the new construction had to respect and to consider the old one; that meant the new structure must not harm the old one and, at the same time, the new structure had to be

protected from any harm from the old one. For example, no window must be opened to the light well of the neighbour, where the women's sections were, but rather another solution must be found to get light and air, such as making a light well for himself and at the same time protecting it from the older construction.

The articles differentiate between public and private streets in terms of acts and decisions. The cul-de-sac street was considered a private street and was collectively owned by residents abutting onto this street. Here no one had the right to open a door or make a projection without obtaining permission from the holders of this street. This, in my opinion, increased the relationship between neighbours. In contrast, the permission from the authority was needed for any extension to the public road (not within the property itself) in order to ensure no harm to the public.

Finally, it seemed to be these proscriptive regulations, expressed by the articles, which reflected the Islamic concept of controlling the Muslims' built environment, they gave to the Master builders (the designers) a great freedom and flexibility to produce architecture fit and suitable to the Muslim society.

Footnotes - Chapter 7

1. Abdul Qadus Al-Ansary, Tarikh Madinat Jeddah (History of Jeddah City, Volume 1, Appendices G, 1402H, 1962CE, also see Appendix C of this thesis.

2. Ibid, Appendix C.

3. Ibid, p.333.

4. Ahmad Bin Abd-allh Al-qary, Kitab Majalat Al-ahkam Al-shr^{c}iah ^{c}la Mazhb Al-amam Ahmad Bin Hanbal Al-shibany (The book of Justice Rules according to the rite of Al-amam Ahmad Bin Hanbal Al-shibany), revised by Dr Abd-alwahb Abu-Soliman and Dr Mohammed Ibrahim Ali, Volume 1, 1401H, 1981CE, p.27.

5. Salim Rostm Baz Al-Lbnany, shrha al-Majalah (the explanation of al-Majalah), 30 zul-hajah 1305H, 1895CE, p.11.

6. Ibid, p.21.

7. Ibid, p.21

8. Ibid, p.29.

9. Ibid, p.29.

10. Ibid, p.29.

11. Ibid, p.30.

12. Ibid, p.31.

13. Ibid, p.31.

14. Ibid, p.31.

15. Ibid, p.32.

16. Ibid, p.32.

17. Ibid, p.654.

18. Isma^{c}il A. Mna^{c}, "Jeddah Aoma al-Rkha wa al-Shidh Bin Aswarh al-Arb^{c}h", (Jeddah the Mother of Prosperity and Severity, Between its Four Walls). Article in Igra Magazine, special edition, on Jeddah in the 15th Century of al-Hijrh, Jeddah, 1401,1981, p.63.

19. Salim Rostm Baz Al-Labnany, op.cit., p.655.

20. Ibid, p.655.

21. Ibid, p.657.

22. Ibid, p.658.

23. The author interviewed some elderly people who lived in the old town of Jeddah, among them the Master Builder, Abdullah Bokhary, to get information about the social life, buildings rules and conduct, construction techniques, etc. during his visit and survey to Jeddah between December-March, 1988.

24. Salim Rostm Baz Al-Labnany, op.cit., p.658.

25. Ibid, p.658.

26. Ibid, p.659.

27. See Article 1200, p.15, "... and the occupier of the house suffered from the oven's smoke, and squeezer's smell and it became difficult for him to dwell there; all these are excessive harm and must be removed..."

28. See Article 1200, hammering steel and rotating the grinder lead to high vibration which consequently caused the building to weaken.

29. See Article 1202, p.16.

30. Salim Rostm Baz Al-Labnany, op.cit., p.661.

31. Ibid, p.662.

32. Ibid, p.661.

33. Ibid, p.662.

34. Ibid, p.537.

35. Ibid, p.669.

36. Ibid, p.669.

37. Ibid, p.669.

38. Ibid, p.670.

39. Ibid, p.670.

40. Ibid, p.518.

41. Ibid, p.519.

42. Ibid, p.531.

43. Ibid, p.666.

44. Saleh A. al-Hathloul, "Traditional, Continuity and Change in the Physical Environment, the Arab-Muslim City". Unpublished Ph.D thesis, MIT, 1980, p.92.

45. Salim Rostm, op.cit, p.666.

46. Ibid, p.667.

47. Ibid, p.667.

CHAPTER 8

CHAPTER 8

PRE-MASTER PLAN REGULATIONS

8.1 INTRODUCTION

In this chapter we are going to direct the study into the analysis of regulations that existed before the First Master Plan of 1962, and after the Ottoman period. These regulations were issued in the form of a royal decree, circular and directive from the Ministry of the Interior/ Municipalities Affairs. In fact most of these pre-Master Plan regulations were not applied in reality; the importance of these regulations was their great impact on the introduction and the acceptance of the Master Plan regulations.

Here, in this chapter, the study will concentrate on the analysis and review the following statutes and regulations :

1) The General Statute of Makkah Municipality and the Municipalities in Saudi Arabia. This statute was issued in 1357H, 1937CE to explain the role of the municipalities in Saudi Arabia and to strengthen their function and authority.

2) The Roads and Buildings Statute, issued in 1940 by the Makkah Municipality and circulated to all municipalities in Saudi Arabia. This statute was the foundation for the emergence of zoning regulations in Saudi Arabia.

8.2 SHIFTING THE RESPONSIBILITY OF ADMINISTERING THE BUILT ENVIRONMENT FROM HISBAH TO MUNICIPALITY

It is important, before discussing the regulations before the Master Plans in depth, to look at the background concerning the shifting of the administration of Jeddah's built environment during the Saudi and the Ottoman periods. This will help us to differentiate the nature and the philosophy of control of the built environment between these two periods.

According to Abdulaadu's al-Ansary, the built area of Jeddah town before 1300H, 1880CE was administered by the Muhtasib who had a lot of responsibilities for running the city's affairs and being responsible for its gates. Then in the early 1400sH, 1900sCE, the Hisbah (the office run by the Muhtasib) was changed to a municipality in Jeddah and in all the Hejazy cities (Makkah, Madinah, etc), by the Turkish government to be parallel with the modern western system of administration. The same administrative system of a municipality headed by a mayor runs today under Saudi rule. (1).

The responsibility for administering Jeddah's built environment was thus transferred from the Hisbah headed by the Muhtasib to the Baladiah (municipality) headed by the mayor. Here the study will investigate the differences between these two institutions. There is very little historical information concerning the Hisbah system in Jeddah and this is confined to names of Muhtasibs only. (2). In spite of this, the Hisbah was well known in the Muslim communities, from the time of the prophet Mohammed, peace be upon him, and many scholars wrote about the Hisbah at different times, and these writings can be used in this study to identify the role of the Hisbah in the built environment.

Al-Mawardy defines the role of the Hisbah as "to promote a good which the community is clearly neglecting, and to forbid an evil which the community is clearly committing". (4). The concept of al-Hisbah is based on the commands of Allah almighty. He says:

> "Let there arise out of you a band of people, enjoying what is right, and forbidding what is wrong: They are the ones to attain felicity". (SIII,104).

The Muhtasib, the officer who was effectively entrusted with the application of Hisbah, was appointed by the state, or the town's governor, to supervise the moral behaviour in the town and particularly in the market. That is why some call him 'sahib al-souq', the official in charge of the market. Based on the Islamic

principle of promoting good and forbidding bad and evil, the Muhtasib's role was mainly related to the following matters: (6).

1. Religious matters: These were mainly related to the rights of Allah, such as performing worship, and preventing evil such as stealing, drinking wine, lending with riba (interest) etc.

2. Worldly matters: Which were mainly related to protecting the individual, eg examining weights and measures in the market, manufacturing, artisans, food and drink, etc. This also involved looking into public streets and open spaces to ensure that nothing was done which might be harmful to public safety or impede pedestrian routes. At the same time al-Muhtasib was for the cleanliness of public streets, for ensuring the supply and regular distribution of water and for the repair of the city wall, etc.

3. Combined Matters: These were related to combined rights of Allah and the individual, such as maltreatment of children, servants, and animals. It also included the height to which an individual could raise his building, as this concerned the individual's rights, but also the rights of Allah must be considered, as the owner's right must be restricted, so that his building should not cause harm to others, such as when opening windows or using the roof, which must not overlook the surrounding neighbours.

Al-Mawardy states that the rules of al-Hisbah were between the rules of al-qadi (judge) and al-Mazalin (misdeeds), with some differences and similarities with these two positions. The jurisdiction of Hisbah corresponded to that of qadi (judicial) in two respects.

i) The Muhtasib had the right to hear and adjudicate any complaint in worldly matters which implied a clear wrong;

ii) He had the right to force the wrong-doer to render due compensation to the wronged party. The judicial powers of Muhtasib fell short of that of Qadi in two respects;

a) He could only hear complaints for which there was a clear right or wrong. He was incompetent to deal with and hear all the complaints, unless he was specifically appointed to a judicial position as well as Hisbah. To reach this combination of positions he had to be a scholar (Majtahid).

b) He had the right to judge only in those cases in which the wrong-doer admitted his wrong, otherwise the dispute would pass to a qualified judge (qadi).

The authority of the Muhtasib exceeded that of qadi in two respects: (7).

1) He had the right to examine matters within his jurisdiction in the absence of a complaint, while the qadi could not act and would be considered exceeding his jurisdiction, if no complaint is lodged.

2) His power was based on authority, thus strength and toughness of opinion was considered suitable in his jurisdiction. However, the authority of the qadi was based on justice, thus deliberateness and sedateness were more fitting for the qadi, and being rough like the Muhtasib was considered exceeding his jurisdiction.

As mentioned above, the Muhtasib could intervene only in the matters and cases which implied that clear wrong had been committed, or obvious right or good had been neglected, and in the cases which were already admitted by a litigant, but for those which contained disagreement and denial, the qadi was responsible for settling the dispute. For the qadi to settle a dispute on the built environment, one or more persons from Ahl-al-Khibrah (the experts on the built environment and mainly having reached the position of Master Builder), worked with the qadi, either permanently, or when they were needed to investigate a case on the built environment, and to give their suggestion as to how to solve the problem. Accordingly then the qadi would give the decision. (8). Thus, the Muhtasib and the qadi both

played a major role in administering the Muslim's traditional built environment, and their administration was based on the Islamic concept of 'promoting good and forbidding evil', and their rules based on the Islamic concept of "not harming nor reciprocating harm" as discussed in the previous chapter.

The Muhtasib, as a religious figure administrating the municipal affairs of the traditional Muslim's cities, was considered the most respected and in the most prestigious position in Muslim communities. The importance of this position however, gradually declined during the Mamluk era, at the end of the Ottoman period, when the office of the Muhtasib and the military governor of the city were closely linked - if not in the hands of the same person, then at least administratively. (9). By this time, for example, in Cairo, according to Janet Abu-Lughod "The office (of Hisbah) had become quite venal and was often a "tax farm" or a forced assignment to a person lacking the pre-requisite religious qualities". (10). Thus, instead of the Muhtasib (originally known as 'men of the pen') administering the city affairs, based on Islamic concepts of "promoting good and prohibiting evil", they became similar to Mamluk 'men of the sword', their only intention being to collect revenue through licensing, fines and bribes. (11).

It seemed that the administrative corruption, which occurred in the Muhtasib office, coupled with the growing size and increased urban and economic complexity, especially in large cities like Cairo, all operated to undermine the general jurisdiction of the Muhtasib. This forced him to share his prerogative with other economic administrators who were added one by one, quite without logic or plan, and who had equal, if not superior, status to the Muhtasib. According to Janet Abu-Lughod:

> "This fragmentation of the Muhtasib's coordinative role, and the gradual divestment of his authority over municipal facilities, seems to have left a serious vacuum in the system which has never completely been filled". (12).

There is no doubt that this situation led to a deterioration in municipal facilities and services, and there was no chance to improve and develop the Hisbah system, in order to fulfil the requirements of the socio-economic changes based on the Islamic concept of 'promoting good and prohibiting evil'; especially when the Muhtasib position had been given to persons who had no pre-requisite of religious qualities of fearing and observing Allah in all their actions.

However, the position of the Muhtasib remained nominally in existence until the mid-nineteenth century in some cities, such as Cairo (in which the Muhtasib position was abolished after the reign of Mohammed Ali and his responsibilities were assigned directly to the municipal police) (13), while in other cities it remained in existence until the beginning of the 20th Century (for example in Fez, Morocco (14) and in Jeddah (15)).

It seemed that, at the decline of the Hisbah system, the tendency of the Ottoman Empire was to Westernise its administration system, when it reached the stage known as 'the sick man'. It followed the system of a municipality, headed by a mayor, and seemed to take care only of the physical environment, in order to fill the vacuum which had been created by the abolishment of the Hisbah system.

On the other hand, when the Hisbah was changed to the municipality (Baladiah)" at the end of the Ottoman Caliphate to cope with the development of the modern Western system of administration, which has been continued and practised until the present time under Saudi rule, this alteration created an effect on the built environment. Instead of the method of the built environment administration being based on the Islamic concept of "promoting good and forbidding evil" and on the concept of "not harming nor reciprocating harm" which gave the essence of administration of a combined religious and worldly nature, the essence of administration has gradually been altered by the effect of

the general concept of administration in Western society of 'the separation between religion and the state' which occurred in Europe during the Renaissance.

This general concept of 'separation between religion and the state' which was transferred, through blindly imitating Western culture, led to certain government institutions being concerned about the religious affairs while others are concerned with worldly affairs. For example, Hayat al-Amr bi al-Ma^{c}ruf wa al-Nahi ^{c}an al-Mankur the Organisation to Promote Good, and Forbid Evil, which occurred in the early Saudi rule in 1924, is only concerned with the moral aspect of religious character while the municipalities - which occurred at the end of the Ottoman Caliph and continued under Saudi rule - are responsible for urban matters of worldly character. In the past both affairs and more were the responsibility of the Hisbah headed by the Muhtasib.

It seems increasingly that the authorities of the institutions are only concerned with worldly matters. This is intensified by the fact that most of the heads of these institutions have graduated abroad, so that they applied what they saw and learned, and consequently are less concerned with connecting the affairs of these institutions with religion, in terms of the conformity with Islamic principles, ie, to make these affairs to be within the context of Islam. For example, the municipalities were given the authority to develop regulations to organise and control the built environment. These regulations, as will be discussed in this chapter - were borrowed blindly from the neighbouring countries (such as Egypt and Syria) who already had been affected by Western Cultures, without much concern and analysis to ensure their conformity with Islamic principles to make them within the context of Islam.

For example, the influence on Egypt from the beginning, by Western Culture, had a great effect on the transfer of this influence to other

Arab countries. Egypt was influenced by western culture through the French expedition by Napoleon. (19). In spite of the short occupation by the French (around three years, compared to forty years by the British), the French model clearly dominates in the new areas of Cairo, which have a resemblance to Paris. This is because French colonisation is not only military and economic, but also educational and cultural. This influence persisted during the time of Mohammed Ali, when he used the French expertise and sent an educational mission to France by the Pasha, intending to establish Paris as a first model of the 'Western' ways. (16).

At first the western influence in Cairo was mainly concentrated in the new areas, while in the old quarters the changes were confined to widening the traditional maze of streets for military and security reasons. The real intervention and tendency of rejecting traditional architecture and values slowly yielded to western influence, and in the 1830s Ibrahim Basha issued a mandate that every house holder should paint the exterior of his house white. (17)

This regulation is now in practice in Jeddah (see Chapter 9). It seems that this order altered the natural appearance of the old Cairo houses from dun and mud hues to an exterior appearance of houses in Southern Europe. A decade later other orders were issued making it illegal to enhance new buildings with mashrabiyah (18). This architectural element had functioned very effectively both in maintaining privacy and against climatic elements, while at the same time enhancing the building's exterior, if it was dull.

The logic behind the ruling was that they constituted a potential for fire hazard, but, according to Janet Abu-Lughod, "one must look deeper to recognise this perhaps as a rejection of traditional values". (19). This regulation was as a result of the abandonment of the

traditional mashrabiyah, replacing it with stark rectangular wooden windows copies from Europe (see Figure 8.1, also see Figures 3.26 and 3.27, the same window style in Jeddah).

From the above discussion, one can recognise that contemporary regulations are mainly concerned about 'city beautification'. The example and standard of the aesthetic values for city beautification in the eye of the decision-makers or consultants of the decision-makers, are to copy what they saw or learned in western countries, ie, Mohammed Ali who used Paris as a model of western ways which had to be followed. To achieve the goal of city beautification, compulsory regulations are used, even if these regulations lead to conflict with the social values of the society and to intervening into individual ownership, which is highly-considered in Islam, without any real or necessary public interest, only unjustified reasons of 'city beautification'.

Some such regulations that will be discussed in this Chapter, have been followed blindly by Saudi municipalities, with little concern or analysis to their conformity with Islamic principles, or to make them within the concept of Islam.

In fact, it is well known (in Islam) that any matter for a Muslim, either small or big in his religious or worldly affairs, and even his self desire, will be accounted unto him. Although all Muslims are accountable to Allah for all their affairs, worldly and religious, the accountability and responsibility of the Wilayat (civil servant) is greater because they are responsible to Allah for the dispensation of the community's affairs.

Ibn Tymyah, when he talks about al-Hisbah as one of the institutions in Islam, says: ...This is the rule of al-Hisbah, the original of this (al-Hisbah) is to know that all the sovereignty in Islam, belongs

Traditional Mashrabiyah



European Facade



Figure 8.1: Traditional Mashrabiyah in Cairo replaced by stark rectangular windows copied from Europe in the 1830s due to theorder making it illegal to enhance new buildings with Mashrabiyah

Source: Janet L. Abu-Lughod, Cairo, 1001 Years of the Victorious, Princeton University Press, Princeton, New Jersey 1971, p.89

to Allah Almighty, and the word of Allah must be the highest. Allah Almighty creates the creatures only for that, and for that the books were revealed, and the prophets were sent, and because of that the prophet and the believers have striven. (20). This means, according to Dr. Tariq al-Soliman, "The principle of separation between the religion and the State is conflicted with the principles of civil servants (Wilayat) in Islam". (21).

8.3 REVIEW OF THE GENERAL STATUTES OF MAKKAH MUNICIPALITY AND THE MUNICIPALITIES IN SAUDI ARABIA

The general statute of Makkah Municipality and the Municipalities Statute was issued according to the royal degree 8723 in Saudi Arabia in 20/7/1357/1937. In fact, before issuing this statute, the function of the municipality was limited to "taking care of the health and the architectural condition especially in terms of cleaning and building construction" (22). This statute increased the authority and the function of the municipalities in all Saudi's cities, among them Jeddah city. This clearly states in Article 3 :

> "The Makkah Municipality and the municipalities are the supervisors for regulating the cities according to the fundamentals of public health and beautifying them, and doing all that improves their appearance, and are general guardians to their interests and different facilities according to what is stated by this statute". (23).

Also, the statute gave a very long list of duties and works in Article 9 which strengthen the municipalities' responsibilities, such as regulatory cleaning and lighting in the town; supervising public and private building and construction; drawing a town's map, ensuring wide and clean streets and providing public squares for the comfort of the residents; establishing public sewerage, ovens outside the city to burn the rubbish and waste; establishing places for selling wood, coal, meat, vegetables, and places for cars, animals, carriages parking; and many other duties. (24).

In addition to these duties, the statute also gave the administrative council of the municipalities the authority to set up the regulations that the municipalities needed, especially those that dealt with buildings, construction, roads and the numbering of the real estate. This authority and responsibility of the municipalities given by the statutes is very important in this study because it indicates that any statutes or regulations concerning the built environment mostly issued from the municipalities, and they have power to implement them. (25). Thus, the regulations and codes developed by the municipalities first started case by case according to the need, until they developd the comprehensive statutes of roads and buildings. These regulations and codes which were developed by the municipalities, had embodied a new concept : that of beautification. According to the above mentioned Article 3 "beautify them (the cities), and do all that will improve their appearance". (26). Among the methods to be used to improve the city's appearance was regulation. Thus the study will investigate the effect of this concept in the contemporary regulations.

8.4 ROADS AND BUILDING STATUTES

The roads and buildings statutes were issued in 1940 (27), by Makkah municipality and were circulated to all municipalities, among them Jeddah city. It seemed to be that the issuing of these statutes after three years from the general statutes of the municipalities in Saudi Arabia, had a great impact on the strength of the function of the municipalities in regulating their cities, and increased their control over the built environment.

It seemed to be that the statutes of roads and buildings were borrowed from the neighbouring countries such as Syria and Egypt (28), and contained some subjects which were not known and not practised before, and were introduced for the first time in the Saudi cities, in the form of code and regulation. These codes and regulations were concerned with town-planning, zoning and land use, rules of building line, building measure and rules through permission.

8.4.1 Town Planning and the Emergence of the Zoning Regulations

In fact, this statute introduced provisions in respect of physical planning to deal with plan preparation, plan approval and plan enforcement, including zoning and land-use regulation. For plan preparation, town maps at 1:10,000, as a new technique, were to be prepared by a technical committee and approved by high authority. In the maps, the location of some uses that caused harm, such as slaughterhouses, barns and stables for horses, cows, etc., also workshops, factories and the storage of construction and flammable materials, and similar uses, must be determined with relation to the residential area. The maps would not only contain the existing land-use but also should contain confirmed replanned and planned uses and even area for future expansion, according to the plan's stipulations and regulations, as they are stated in the following articles :

> 6a: confirm the areas that the buildings are erected on according to this statute, and redivide these areas into first, second and third classes including with them the building's land.
>
> 6b: confirm these area or the areas of the building's lands which are used for dwelling, and the action areas, and workshops and the places which are used for the professions that caused harm to health and other things. It is prohibited to use any building within this area for anything other than the purpose that they are confirmed for. (29)

These two articles manifest the emergence of a zoning ordinance which was based on distributing the areas according to uses and classes, and to confirm the use of the area for only those uses assigned for it. This is clearly stated in Article 20 :

> 20: It must take into consideration the following rules:
> a) It is prohibited to use any building in a residential area as shop or a workshop for any purpose especially for market or any harmful professions. (30).

It seems that even the shop that is not causing harm and is considered part of the purpose of the market must stop by the virtue of the regulation as in 20e, (31):

b) It is prohibited to use any shop or market as a workshop for any harmful profession.

c) It is prohibited to use any buildings in the workshop's area for the purpose of harmful profession, and it is permitted for the municipality, if the condition is needed, to permit using it for a period not exceeding one year.

d) It is prohibited to use a residential building public building such as Government offices, mosques, hospitals, clinics, hotels, coffee shops, stalls, garages, public path and vice versa without the owner taking a letter of permission from the municipality and the permission would only be issued after examination by the building authority Saltat Al-Mabani with respect to its suitability for the required purpose, and the permission will only be issued after making all changes and preparation to make it suitable for use.

e) It is prohibited to erect any temporary or permanent structure in these areas except by clear letter of permission from the building authority with the restriction that they have seen it to be suitable. Any building erected without legal permission would be pulled down and the expenses would be collected from the person who erected it. Only if the building was harmonised with the surrounding buildings in this area and there is no harm to the public interest or the neighbour's interest, would the building be allowed to continue but with a penalty that the building's owner must pay a quarter of the building value. This will be enforced by the building committee.

The above articles show that the separation of uses, according to the concept of harm, is similar, to some extent, to the practice in old Jeddah city and any traditional city. But the only difference from the traditional practice was that the separation of uses enforced by the power of regulation was sometimes considered very rigid and unfair, as in Article 20e, where the building would be pulled down if the owner did not get permission from the building authority and if his building was not in harmony with surrounding buildings or caused harm to the neighbour. Actually, the word "harmony" is very vague and everyone can interpret it as he likes; also harmony is associated with

the concept of beauty, which is not resulting in excessive harm to others such as preventing the occupier from utilising the building or leading to weakness in the building structure, or leading to an intrusion on the neighbour's privacy. Even if it produces excessive harm, the whole structure need not be removed, only the thing that has caused harm, such as a wall threatening to collapse, and sometimes a small modification can remove the harm, such as putting a screen in front of the window if it is sighting the neighbour's womens' area, etc.. Also, it is unfair to pay a quarter of the building's value if the erected building is matched with its surroundings and is not causing harm; only to pay this amount as a punishment for not getting permission from the building authority is really against the concept of the right of ownership to act in his property as he wants, if he is not doing harm to another. Thus, this action will result in giving the authority more power and control.

In addition to the separation of areas according to use, as discussed before, the statute shows the separation according to classes, as stated in Article 6a. Actually, classifying the areas in Jeddah into classes was well mentioned in the Royal decree which was issued on the 25th August 1367 instant to 1947 CE in the same year, concerning demolition of the wall of Jeddah. This Royal decree is very important in the planning of the new Jeddah in terms of regulating its urban and its financial growth, which was required for its urban expansion. (32). The decree shows that the lands were classified into four classes according to value; the first class land was in the centre (the area of old Jeddah). From then, the further the land was from the centre, the more its value decreased, and, consequently, its class becomes lower and lower, so that from the centre, land grades into second, third and fourth classes, (33). Not only were the areas classified by their land value but also they were classified by the power of the regulation according to the building materials. As was stated in the Roads and Buildings Statute Articles 52-53 :

52. The outside wall of the first and the second class building must be constructed of stone or plastered by mortar or any workable material.

53. But the building of the second class, it could be from bricks, mud or any other material more bearable (34).

Income was not mentioned in the classification, according to this statute, but this statute would lead to classification according to income. Because, if a person could not afford to buy land near to the centre, and could not afford to build by stone, he would go to the second class area, where he might be able to afford to build by mud. If he could not afford to build here either, he would go to build in the third class, which did not stipulate the kind of material to be used, which means that he could build with any other kind of material, even a less expensive material. As a result, this would create a high income class near to the centre and lower income classes would gradually move away from the centre according to their income. In fact, this result did not occur owing to the emergence of the modern method of land sub-division in the third class land in the east and the north of the city, along Makkah and Madinah Road (see Chapter 3). Also, because of the increase in land subdivision, the price of the land rose. In addition, the large size of the plots, coupled with the distance from the city centre, and the lack, at that time, of public transportation, attracted mostly people of high and medium income to these new land-subdivisions. The low income people remained in the old settlement, like al-Sabeel, in which the plots were smaller and less expensive per square metre, compared with the new land subdivision. In spite of this, one can conclude that the roads and buildings statute was foremost in the introduction of the idea of classifying both the buildings and lands or areas into classes (first, second, ..., etc.) which is part of the zoning regulations' aims.

8.4.2 Roads vs Expropriation

In this statute, roads and expropriation became more related to each other, since the statute adopted the trend of straightening and

widening streets, according to the pre-planned map which was designed by the technical committee. This would result in the expropriation of the land. Thus, the articles that related to streets were always concerned with expropriation and compensation.

> 7: The straightening and design of the streets was determined according to the map that is to be done by the technical committee according to this statute, and will be effective after approval from the right authority.
>
> 8: The planning of roads is executed according to the design which will gradually be enforced, but at the time of reconstructing the demolished buildings or new building, an exemption from this would be required in the public interest. It will enforce with guarantees compensation to the property owners from loss as a result.
>
> 11: If in the public interest it is required to widen one of the narrow streets, the municipality must count the area that has been taken, and the value that is to be paid as compensation to the owner through a committee of experts assigned equally by the municipality and the owner and obtain a decision to refer it to the higher authority. (35).

The above mentioned articles confirmed that straightening and widening streets follow "the design" which depends on the concept of "public interest". The planners and the designers always use "public interest" as a measure to solve planning problems in an easy way, according to their planning desire and background, without knowing the real meaning and limitation of the "public interest". For example, the old City of Jeddah's urban fabric was characterised by a well-established and correlated urban tissue, which formed a complete urban mass for many centuries, when the city was within its wall or for some years after demolishing the wall. In spite of this, at that time, there were many open spaces around old Jeddah which could be utilised to solve any planning problem, such as traffic, circulation, parking, etc. The planner, through a design process at the beginning of the 1970s, decided to open a street known by the name of Shar^{c}a Al-Zahab (Gold Street) in the middle of the urban mass (old Jeddah), which resulted in the demolition of many traditional houses and the spending millions of ryals for expropriation and execution of the street (see

Figure 4.5). This action was undertaken only to cope with a change in the mode of transportation, to connect and to ease the traffic between the north and the south side of the city, and at the same time to allow the cars to enter the old city. Opening Shar^{c}a Al-Zahab (Gold Street) in the middle of the old city relied on the virtue of "public interest" to solve the mentioned planning probems, which could have been solved in different ways with less harm financially and less damage to the properties and to the urban fabric of old Jeddah. There was already existing open space at that time around the city, so that instead of making a straight street connecting the north and the south side of the city by cutting through the urban fabric of old Jeddah, the street could have been designed with divergence to the periphery of the old town, and some areas could have been provided for car parking at various places causing less damage - especially as the numbers of cars at that time were quite small - to serve the old town in a similar manner to that practised nowadays. (36).

Thus, in the author's opinion, the harm caused by opening Al-Zahab street was more significant than the losses of property and money, and in reality it did not serve the public interest; rather, many problems occurred such as over-crowding due to new high-rise buildings. (See Chapter 4). Generally, the problem occurred because of the unclear meaning and definition of "public interest" in the statute, in which the planner or anyone could claim and act by the name of the statute unreal public needs by virtue of "the public interest".

Also the articles that related to roads and expropriation manifested a bias towards cul-de-sacs and a preference for the inefficiency of expropriation.

17: The cul-de-sac roads which are located in a fire-risk area must be opened if it is possible, and if this is according to public benefit and must include expropriation according to the statute. (37).

The article made a correlation between fire and cul-de-sac roads, and preferred to make them through roads if this were to public benefit. Actually, the article did not mention directly the preference of through roads but, in practice, this was clearly applied. This could have been because of the danger from fire and the need to escape from the fire, but it gradually created the abandonment of the private road, where the people shared the responsibility and decisions, and felt the sense of community and neighbourhood, and led to the creation of the through road, which was used mainly for cars, rather than as a place for human interaction. This can be seen in all of the new residential areas, where it solves, to some extent, the problem of fire escape, but creates a new problem, that is, the danger of cars, especially for children, and this has resulted in many losses. The real need is for a regulation that preserves the semi-private space for social interaction and guarantees both a fire escape and safety from the danger of cars. (See Chapter 10).

8.4.3 Building Line and Projections

Building line was one of the new regulations which was introduced for the first time by the Buildings and Roads Statute to the Saudi built environment. It seems the nature of this regulation is to support the new trend of straightening the streets and to increase the building authorities' control over the new development. Also it could be one of the reasons for accepting and introducing the set-back regulation later on.

24. Building lines' rules

(a) It is permitted for the building authorities to set up a building line within an area not more than 15m from the regulating line, in which such a line should not be set up in a situation that will lead to erection of buildings unsuitable to the conditions of the area.

(b) If any building line is set-up in any residential area, no buildings, only the separation wall, will be constructed outside that line.

(c) If any building line is set up in any road or part of a road in the shops and market area, no building will be erected beyond that line, only the arches and the projections, and these arches and projections will not be set up without permission from the building's authorities. It is permitted for the building's authority, when it gives such permission, to determine the materials which the arches and projections are to be built of; also it is permitted for them to set up stipulations to preserve the design plan, and the method of construction, according to what has been seen by the building authority that will be suitable for the building class in that area, with right for the public to pass underneath these arches and projections. (38),

The above-mentioned rules had an indirect effect on accepting the set-backs rules. Traditionally, all structures were built directly on the property line, but, with this new rule, all building must follow the building line, and this line did not always match with property lines. It might be sometimes within or beyond the property line. If the building line was beyond the property line, the owner would not be allowed to build on the building line, because it would be out of his property, unless he bought the additional area, but if the building line was within the property line, the owner, by the power of the regulation, had to set back some metres to build on the property line. As in Figure 8.2.

_._. proposed building line

(1) Plot 1, the owner has to build on his plot line or he has to buy the additional area to build on the building line

(2) Plot 2, the owner must set back to build on the proposed building line.

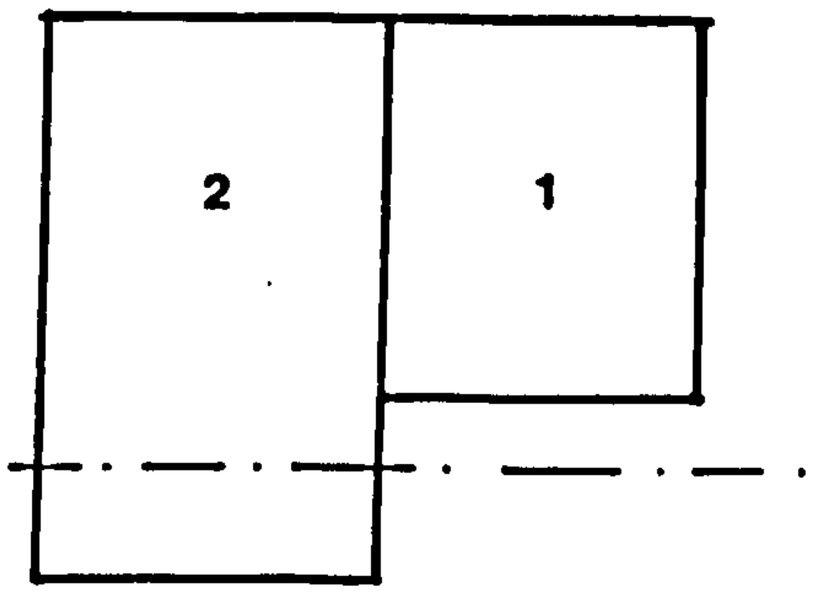


Figure 8.2: Building line as an introduction to the acceptance of the set-back regulations.

The owner had to accept the set back, otherwise building permission would not be issued to him, unless he followed the regulation. It might be that at first there was some objection to the rule but after a while, people had to accept it. Building lines, coupled with the powers given by the Statute to the Building Authority to have control over the location of buildings within a plot, and the manner in which light and air are provided between the party properties are stated in Article 96.

> 96. The building has to be constructed on the plot in the position that will be determined by the Building Authority. If there are many buildings it must be taken into consideration during construction as to how light and air are to be provided. (39).

In addition to this, it has been mentioned in Chapter 3 of this Thesis about the psychological influence on creating the image of contemporary urban dwelling. All these had a great influence on preparing and introducing the first clear regulation about the set-backs in the late 1380s/1980s by the Ministry of the Interior/ Municipiality Affairs.

Actually, the set-backs regulations were first issued in the late 1380s/1960s as part of regulations concerning building on plots of land.

> 3. Height should not exceed eight meters, except with the approval of the concerned authority.
>
> 4. A built-up area should not exceed sixty percent of the land area, including attachments.
>
> 5. Front set-backs should be equal to one-fifth of the width of the road and should not exceed six meters.
>
> 6. Side and rear set-backs should not be less than two meters and projection should not be permitted within this area. (40).

By comparing this regulation with what was stated in Article 96 (mentioned above) of giving the Building Authority the power to

determine the position of the building on the plot, one can recognise the results of this power, that is, forcing the owner to build in the middle of the plot, according to the above mentioned set-backs, building height and plot coverage regulations. All these regulations are confirmed by the 1973 and 1980 Master Plans, which makes them widely practised by virtue of the regulations. (See Chapter 9).

The building line rule gave the building authority more power and control over the development of the built environment. The control of the building line included the control of the design of arches and projections, and the control of the building materials to support the pre-planned areas, according to class divisions. These kinds of controls could be categorised under the control of beautification and the image of areas and buildings. Thus the building line was used as an instrument for the beautification of the city.

The building line rules differentiate between the residential area and market and shops in terms of the extension after the building line. In the residential area no extension was permitted after the building line as in Article 24b. In contrast, in the shops and market areas, it was permitted but only after getting permission from the building authority as in Article 24c. Here we have to ask the following questions : why are the projections permitted in any road or part of the road in the shop or market area, but not in the residential area, in spite of the fact that most of the upper floors of the buildings along the shopping street function as residential quarters? And is there any excessive harm which will be caused by the projections in the residential and not in the shopping area? Actually, in the author's opinion, such restrictions have no valid and strong reasons; they are an arbitrary control, which is based on self-desire and image and not on real interests. (See Chapter 6 for more detail about the Islamic point of view of real interests).

8.4.4 Minimum Standards (As New Methods of Building Control)

Here, I mean by the minimum standards, the lowest level beyond which, or below this level, according to the situation, the level will be out of the standard; that means, it is not to be accepted or permitted. The minimum standards usually are determined and defined either by principles and values, or by figures and numbers. Traditionally, the minimum standards were usually determined according to the principles and values, and the breaking-point occurred if the action was in conflict with the society's principles and values. Thus, the output of these standards was characterised by flexibility and conformity with social needs and the physical environment, which led, by the virtue of flexibility, after trial and error, to a well-established architectural and environmental local identity. In contrast, the minimum standards in the contemporary regulations were usually limited by figures and numbers, and sometimes led to a rigidity in practice, and sometimes led to conflict with social life and even with the physical environment; sometimes the standards were already accepted by the virtue of community sense, not by the power of the regulation.

In this section we are going to discuss and analyse the minimum standards which were introduced for the first time by the Statute of Buildings and Roads, and which became a custom to be followed in the later regulations. Among these regulations which adopted the minimum standards were the following: minimum plot size, minimum room size, minimum facade requirement, minimum specification of building structure, minimum requirement for light and air, minimum requirement for fire escape, etc.

8.4.4.1 Minimum plot size

Traditionally, anyone could build on his land without any restriction on the size of the land or the room; the only restriction was not to cause any harm either to the neighbour or to the road. The Statute of Building and Roads restricted building in a new residential area to a

plot size less than 175 square zara^{c}a, equal to 96.25m^{2}, and the width of the lot not less than one-third of the land and not to be less than 12 zara^{c}a, equal to 9 metres. (41). Thus any plot in the new residential area less than the minimum standard will not be allowed to be built on, or at least it will take a lot of time, process and effort to convince the building authority to give permission for a non- conforming plot size. The arguments used to convince the authority to allow someone to build on his private non-conforming plot size were:

1) It is difficult or impossible to buy a portion of land to complete the conditions of minimum plot size.

(2) It is difficult to sell it to abutting neighbours. (42).

If the owner could convince the authority by the above means, then the authority would decide to give him the permission, but with the condition of leaving about half the area of the plot not built on. (43). Here one can ask questions, what are the main reasons for restricting the owner from building on his non-conforming plot size? Is there any harm that will affect the abutting neighbours or the road or the total neighbourhood? Or, is it difficult to build on in such a plot size? Actually, the Local Master Builder, Abdullah Bokhary, showed to the author many houses in the old town of Jeddah of less than 60 square metre plot size, with a frontage facade of about 5 to 6 metres, which are less than the mentioned minimum plot standard. (33). Thus the claim of the difficulty to build on a non-conforming plot size is non-conforming, though the authority will still force the owner to leave about half of the area unbuilt on in the non-conforming plot size, as mentioned before. On the other hand, if there were any excessive harm caused by the non- conformity of the plot size - which the author cannot conceive - then the harm must be removed, but to the degree that stops the harm, not to the level of preventing the owner from building on his land.

However, the minimum plot size introduced by the Buildings and Roads Statute became a habit for the following regulations and practices. The preference to increase the minimum plot size for a new residential area was started first by the Building and Roads Statute at 175 zara^{c}a = 96.2m^{2}, then it was raised to 400m^{2} then to 600m^{2}; now the municipality wants to raise it in the north of Jeddah to about 2500m^{2}. (45). This increase always occurred in a new area, and the new area was always to the north because of the city's trend of expansion to the north. Thus, as one moves from the south to the north of Jeddah, one will find gradually a decrease in the housing density and an increase in good services as one moves to the north of the city. This will lead, to some extent, to social segregation according to income, because those who cannot buy a large plot will buy in the area where the plot size is enough for his budget. In the following study we will see the use of the minimum plot size as an instrument to determine the density, which consequently leads to social segregation according to income.

In fact the decision for the minimum plot size is mainly based on the beautification concept. The preference is for a large size plot. The small size of less than 20m x 20m is considered a mistake as it is not capable to achieve the beautification concept. This was stated by Jeddah's Deputy Mayor for Technical Affairs, Eng. Barkat Ba-jined in al-Madinah newspaper (special edition about Jeddah, August, 1984). (46).

8.4.4.2 Building minimum vs stipulation standards

The Statute of Buildings and Roads determined some stipulations concerning new building, and these stipulations are mainly based on health conditions and the safety of the building itself, but there is little concern, or no provision at all, to respect the abutting neighbours, especially in terms of the building preceding in construction and the respect for the neighbour's privacy.

The measures for the conditions of health are also based on minimum standards in order to ensure sufficient light and air and a minimum healthy living standard. For example the statute determined that any room used for residency must have a window or windows. Their area must not be less than one-tenth of the room floor area and they must be good for light and air ventilation. Similarly, concerning the room for habitation, its area must not be less than $9m^2$ and its volume not less than $20m^3$. (47). These minimum standards were already in practice naturally without the force of the regulation because these standards express the needs of the people and their understanding of the requirements for good health. Thus, no one can find in the old town of Jeddah rooms used for living without windows, or where the area of the window is less than one-tenth of the ground area of the room, or where even the volume of the room is less than $20m^3$. Although these regulations did not conflict with what was happening in practice, they were considered sometimes to be rigid, especially as the Building and Roads Statute was circulated to all municipalities in the Kingdom. Determining such a percentage of window size will not be suitable for some regions. For example, in the central area of Saudi Arabia it is not recommended to have a large window because of the aridity of the climate and prevailing sandy wind; also it is not recommended in the southern part of the country to have large windows, but to increase the thermal mass (the wall) and minimise the opening (see Chapter 2). Furthermore, traditionally to the rear of the back of the building dwellers prefer to have a room without a window to use in the hot afternoon. This mainly occurs in inland, arid areas of Saudi Arabia. Actually such regulation of minimum standards will restrict the architect or the Master builders in their choice of the architectural elements that will be suitable socially and environmentally. Moreover, the minimum standard of window size has no provisions to stop the intrusion into neighbours' privacy which might be caused through the window.

The window minimum standards might be necessary to provide light and air, and to maintain minimum health conditions, but there are some regulations which have no sense and no good arguments in their support.

Among them is the restriction of the area of the rwshan in the facade to not more than half of the area of the facade.

> 69. It is not lawful to give permission for making rwshan in new buildings on a street or public alley unless the area of that rwshan is less than half the area of the facade that it is proposed for. The projection of the rwshan must differ according to the difference of the street's width which the projection is sighted on". (48).

Here one can ask the question, what is the main reason for the restriction of the area of the rwshan to less than half the area of the facade? Is there any harm to the building or to the neighbours if the area of the rwshan is more than half the area of the facade? Actually, the old houses of Jeddah displayed very attractive rwashin in their facade and their area was more than half the area of the building (see Chapter 2). In addition, there are some traditional houses where the whole facade was covered with rwshan and they are still in good condition. Furthermore, no harm was caused either to the building or to the neighbour, but rather complemented it, and many writers and visitors described the rwshan works as "charming and beautiful". This denies any saying that restriction in the area of the rwshan to half the area of the facade will achieve an aesthetic goal. Thus such a minimum standard has no reason or good argument, but rather indicates an arbitrary decision.

8.5 SUMMARY

In fact, the Pre-Master Plan regulations to control the Saudi built environment are considered to be the main transition to the contemporary regulations which occurred as a result of the increased strength of the authority and function of the Saudi Municipalities, according to the Royal Decree of the the General Statute of Makkah Municipality and the municipalities in Saudi Arabia in 1357,1937.

This statute gave the municipalities the right to form regulations to control the built environment, based mainly on the fundamentals of

public health and city beautification. Thus the Makkah municipality introduced the 'Roads and Buildings Statue' of 1360,1941, which is considered to be the first intensive regulation to control the Saudi built environment. This was circulated to all municipalities and became the reference and foundation for the proceeding regulations.

Since the articles of the Roads and Buildings Statute were borrowed from the neighbouring countries (Syria and Egypt) who were already affected by the Western Culture and systems, through colonisation, this statute contained new planning concepts in the form of regulations which were not known or practised traditionally. They introduced for the first time to the Saudi built environment, regulations such as building line, zoning regulations, etc. Some of these concepts were in practice before, though not through regulations, but rather as a result of the sense of community, like the separation of uses according to the the harm caused by them.

The study has revealed the introduction of a new concept of dividing the built and unbuilt areas into zones and differentiating between them according to classes, (first, second and third). The method of classification was based on the dwelling types, types of building material and finishes. However, later the differences in land price were used also. Recently the Master Plans used the concept of density and plot size, in addition to the above mentioned criteria, to differentiate between the pre-determined zones, as will be discussed in the following Chapter. The emergence of zoning regulations by the Roads and Buildings statute and their adaptation by the Master Plans led to social segregation based on income, which did not conform with the Islamic concept of equality and the encouragement of social integration.

The study also reveals the introduction of the new concept of straightening the streets, which is in contrast with what was in practice previously, namely, irregular narrow streets mainly for pedestrians. Coupled with this concept of straightening the streets

came the widening of the narrow streets and provisions for expropriation and compensation. Thus, straightening and widening the narrow streets became the goal and the image of modernisation and city beautification for all municipalities, replacing the traditional irregular narrow streets. Actually, this image resulted largely because of the change in the mode of transportation - from riding animals to driving cars, but this led to more concern for cars than human needs for safety and social integration, which had been provided by the traditional pedestrian streets.

The desire to have straight streets was first put into practice in the new built area in Jeddah in the early 1370s,1950s, and the widening of the traditional narrow streets occurred in the late 1370s,1950s and early 1380s,1960s, starting with the Shar^{c}a al-Zahab (Gold Street). As discussed, the provision of expropriation and compensation made necessary by the widening and straightening of the streets conformed with Islamic Shari^{c}ah except the principle of expropriation of the first zara^{c}a without compensation.

In addition, the Roads and Buildings Statute introduced the new concept of the building line, complementing the concept of the straightening of the streets. The owner, by the power of the regulation, is restricted to build his buildings only up to the predetermined building line (determined in the City map) and not outside of it. This led in some cases to setting back the property line to the building line, which the owner had to accept and follow. The acceptance of the building line and the psychological effect of the media and exhibitions during the introduction of the villa type of house by Aramco and al-Malaz housing projects for government employees in Riyadh in the early 1370s,1950s, all helped toward the introduction of a clear, compulsory regulation by the Ministry of the Interior in the late 1380s,1960s.

The evaluation of the effect of the set-backs regulation is shown in the following chapter.

There also has appeared a new concept of controlling new construction by the introduction of dimensional minimum standards, such as minimum plot size, room size, etc. Traditionally, this control was used only to determine the right of way and only during the time of disagreement as the Prophet Mohammed (peace be upon him) said: "If you disagree about the width of the street, make it seven cubits". This dimensional seven cubits is equivalent to 3.23-3.5m, enough for two loaded camels to pass by, as Basim Hakim pointed out in his analysis of the streets in the old quarters of Tunis.

However, traditionally the dimensional minimum standard never applied to private property, but rather gave the owner the right of maximum freedom to act in his own property, which allowed a flexibility of design solution within the limit (principally not dimensionally) and decreed that any harm to others must be removed. As a result of introducing the dimensional minimum standard within the Roads and Buildings Statute, new consequences occurred which were different from the traditional practice, and which have become widely practised today. These consequences are:

1) Minimising the owner's right of maximum freedom to act in his property, to the limit of not causing excessive harm to others.

2) Restricting the right of the owner to act on his property based on the prescriptive minimum dimensional standards (not according to proscriptive principles) in which the owner must follow the standard blindly, by the virtue of the regulation, without argument, or knowing the reason behind it and even if the dimensional standard causes an excessive harm to the owner or others.

3) Gradually, following the regulation blindly, led to carelessness in preventing excessive harm to others, and at the same time those who have been harmed had to accept the harm because the harm resulted from enforcement of the regulations. Thus, those who have been harmed often resorted to preventing the harm themselves (eg, what is in

practice today of preventing an intrusion of privacy by the neighbours as a result of set-back regulations, by constructing a high wall of plastic corrugated sheets. (See the following Chapter).

4) Above all, the statute of the Roads and Buildings has no concern at all about the cultural aspects of the society and the articles relating to the restriction of not causing harm to others.

Finally, one can conclude that there are a number of differences between the traditional regulations of the old town of Jeddah and the Pre-Master Plan regulations in terms of the ideology and concepts involved in the making of the regulations, and manner of enforcement.

Actually, the main ideology of the traditional regulations that affected the old town of Jeddah was based on the concept of prevention of excessive harm, according to the Islamic Shari^{c}ah, and the manner of enforcement was based on self-awareness of 'what not to do' as based on Islamic principles. In contrast, the ideology of the contemporary regulations Pre-Master Plans is based on the fundamentals of public health and city beautification, according to western planning concepts, and the manner of enforcement is based on compulsory 'how to do', according to the dimensional minimum standard, and not according to the principles. However, in spite of the Pre-Master Plan regulations being premature in nature, they can be considered the foundation and the reference for the contemporary regulations by which they ease the transition towards the regulations adapted by the later Master Plans, as will be discussed in the following chapter.

Footnotes -Chapter 8

1. Abdul-Qadus al-Ansary, op.cit, p.409

2. in 1270H,1850AD, the Hisbah in Jeddah was between three persons, Mohammed al-Tweed, Abdullah al-Mohtsib, and one from al-Jasir family. See Abdul-Qadus al-Ansary, op.cit, p.409.

3. Al-Mawardy.

4. Naqwla Zyadh, al-Hisbah wa al-Muhtasib fi al-Islam. (The Hisbah and The Muhtasib in Islam), Catholic Press, Beirut, 1962, p.56.

5. Quran3:104, (translation by Yusif Ali).

6. Naqwla Zyadh, op.cit, p.58.

7. Ibid, p.58.

8. Ibn al-Ramy, (d.734/1334), Kitab al-I^{c}lan bi-Ahkam al-Bunyan, Manuscript of Rabat, Dar al-Khizana al-^{c}Ammah, No.A802834. In this manuscript Ibn al-Kany explains his work as Master Builder with Judges of Tunis to settle the dispute in the built environment.

9. Janet L. Abu-Lughod, Cairo, 1001 Years of the Victorious, Princeton University Press, Princeton, new Jersey, 1971, p.74.

10. Ibid, p.74.

11. Ibid, p.74.

12. Ibid, p.75.

13. Ibid, p.75.

14. Tariq M. al-Soliman, "Dwr al-Muhtasib fi Adart wa Siant Beaat al-Souq fi al-Mojtama^{c} al-Islamy al-Awl", (The Role of the Muhtasib in administrating and Maintaining the Market Environment in the First Islamic Community). In al-Baldyyat (Municipalities) magazine, issued by the Ministry of Municipality and Rural Affairs, No.21, 1987, p.58.

15. Abdul-Qadus al-Ansary, op.cit, p.409.

16. Janet Abu-Lughod, op.cit, p.87, "When almost two decades after Mohammed Ali's death, his grandson Isma^{c}il sent for one of the chief landscape architects of Paris to help redesign the city of Cairo".

17. Ibid, p.93.

18. Ibid, p.94.

19. Ibid, p.94.

20. Taqi Aldin A. Ibn Tymyah, al-Hisbah Fi al-Islam, verification by Syd Mohammed Abu-saʿdah, Kuwait, Mktbt Dar al-Arqm, 1983, p.8.

21. Tariq M. al-Soliman, op.cit, p.55

22. Jeddah Municipality, Al-Anzimah, al-Lawaih, al-Taʿlimat, (The Statutes, Regulations, Directive) Volume 1, pp. Also see Al-Anzimah, al-Lawaih, al-Taʿlimat, by the Ministry of Municipalities and Rural Affairs, Volume 1, pp.11-22.

23. Abdul-Qadus al-Ansary, op.cit, Vol.1, p.410, also see Hajaz wality salnamah, p.251.

24. The Ministry of Municipalities and Rural Affairs, op.cit. p.11.

25. Ibid, p.16.

26. Ibid, p.11.

27. The data of issuing the roads' statutes is not mentioned in all the publications of the Ministry of Municipalities and Rural Affairs, and the Jeddah City Trust. The date was only mentioned in the PhD thesis of Saleh A Al-Hathloul, Tradition, Continuity and Change in the Physical Environment : The Arab-Muslim City, p.192.

28. Dr Abdul-Rahman Makhlof, op.cit, Vol.1, p.39.

29. Ministry of Municipalities and Rural Affairs, op.cit., p.34.

30. Ibid, p.36.

31. Ibid, p.36.

32. The decree determining the land situation inside and outside Jeddah city. The unowned land inside the old town within its old wall boundary belongs to the municipality; the unowned land outside the city wall belongs to the Ministry of Finance, either the currently planning or unplanning one; and all the land on both sides of Makkah road from kilo 6 to the beginning of the wells that supply Jeddah with water, belongs to ʿain al-ʿaziziah (see Abd-Alqadus al-Ansary, op.cit. pp.178-181.

33. The land value per metre square is classified into four classes. The first class 3 Rls/m^2, second class 2 Rls/m^2, third class 1Rls/m^2, and the fourth class 0.5 Rls/m^2. The first class land is considered to include all the land belonging to the municipality and the land in the east and the west of the first road which runs from south of Jeddah to the head of the new airport. The second class land is considered to extend from the first road which is situated on the road which extends from Jeddah to the airport south and north, and the lands which start from the airport toward Khozam Palace to its connection with Jeddah-Makkah road, and the land which starts from Bab-Makkah until the khozam palace to the south and the second kilometre to the North. The third class land is considered to extend from the second street to the south which is connected to the new seaport, and the land which is situated north of Jeddah, starts form the end of the army barracks and the Foreign Ministry until the Rwais area. This land includes the section in al-kandarah and al-Nazlah al-Yamaniah. The other lands are considered to form the fourth class. Ibd, p.181.

34. The Ministry of Municipalities and Rural Affairs, op.cit., p.42.

35. Ibid, p.35.

36. Robert Matthews, Johnson-Marshall.

37. The Ministry of Municipalities and Rural Affairs, op.cit., p.43.

38. The Ministry of Municipalities and Rural Affairs (1), op.cit., Vol.1, p.37.

39. Ibid, Vol.1, p.47.

40. Saleh al-Hathlouf, op.cit, p.205, 206.

41. See Article 28a,b in the Statute of Buildings and Roads, Ministry of Municipalities and Rural Affairs, op.cit., Volume 1, p.38.

42. See Article 23d, Ibid, Volume 1, p.38.

43. Ministry of Municipal and Rural Affairs, op.cit, Vol.1, p.38.

44. This visit by the author occurred during his survey in Jeddah from January-March 1988.

45. The increase of the minimum plot size to 2500m^2, is adapted by the SOMAIT CONSULTING OFFICE for Jeddah city. The author obtained this information during his interview with Eng. Al. Matboly, who is responsible for this office, March, 1988.

46. Interview with Jeddah's Deputy Mayor for Technical Affairs, Eng. Barkat Ba-Jined, "Mainah Newspaper, Special Edition about Jeddah", Jeddah, August 1984, p.22.

47. The Ministry of Municipal and Rural Affairs (1), op.cit, Vol.1, p.45.

48. Ibid, p.48.

49. Saleh al-Hathlouf, op.cit, p.205, 206

CHAPTER 9

CHAPTER NINE

REGULATIONS ADOPTED BY THE MASTER PLANS

9.1 INTRODUCTION

This chapter will concentrate on the analysis of the regulations that have been adopted by the Master Plans, concentrating mainly on those regulations dealing with residential zoning and density distribution in the city. Here the study will analyse these regulations through their origination, and the fundamental elements that these regulations are based on. At the same time they will be linked with the goals of the Master Plans, especially with the goal concerning the maintenance of the socio-cultural elements of the society. This method of analysis will give a good indication of the atmosphere and the background of the formation of these regulations, which will help to ascertain whether or not they conform with the goals of the Master Plans, and above all in relation to the socio-culture of the society, and to identify the sources and the reasons for failure to achieve these goals.

In this chapter, the study will first analyse the formation of the residential density policy introduced by the 1973 Master Plan, then the bye-laws introduced by the Master Plan of 1980.

9.2 RESIDENTIAL DENSITY POLICY REPRESENTED BY THE 1393H - 1973CE MASTER PLAN

The 1393-1973 Master Plan proposed a residential density policy for Jeddah to predict the numbers of persons per hectare to be utilised in land use for determining the size and the population for each planning zone among Jeddah's metropolition area (see Figure 9.1). In fact, the proposed residential density has led in one way or another, to social segregation according to income, rather than to social homogeneity and coherence, which was one of the main goals of the 1393-1973 Plan.

"Achieve by the balance of residential density and housing types, an appropriate mixed distribution of high, medium and low income groups to maintain social cohesion and well-being as part of city growth and development". (1).

In addition, this policy had some deficiencies and not enough provisions. This can be recognised through the analysis of the original formation of the policy.

The plan determined the gross residential density for each type of accommodation as indicated in the table below :

TYPE OF ACCOMMODATION	PROPOSED GROSS DENSITY STANDARD
Large villa	15 pph
Standard villa	50 pph
Medium villa	90 pph
Low cost housing	120 pph
Apartment	150 pph

Table 9.1: Gross Residential Density for each type of accommodation: by RMJM.

Source: RMJM, Jeddah Master Plan, Table 18, p.55

In fact, the calculation of the above residential density was, the sum of the net residential density and the area allocated for the community service (such as clinic, mosque, local schools, etc). (2).

The calculation of the net residential density was based on the future prediction for the accommodation typologies for Jeddah, and these typologies were categorised according to their size, cost and quality, which were accordingly represented by the occupiers' income classes for each typology as indicated in Figure 9.1 and Table 9.2. Table 9.3 illustrates the standard units for the net density calculation which were based on the plot size (including share of access roads), and the average of household size.

TYPE (see table 1.5)	NET RESIDENTIAL DENSITY pph	NET RESIDENTIAL LAND RATE ha/1000 persons	GROSS RESIDENTIAL DENSITY pph	GROSS RESIDENTIAL LAND RATE ha/1000 persons
Large Villa	16	62.50	15	67.35
Standard Villa	64	15.62	49	20.47
Medium Cost Housing	160	6.25	90	11.10
Low Cost Housing	276	3.62	118	8.47
Apartment	500	2.00	146	6.85

Table 9.2 Building Typologies are used to determine the residential density

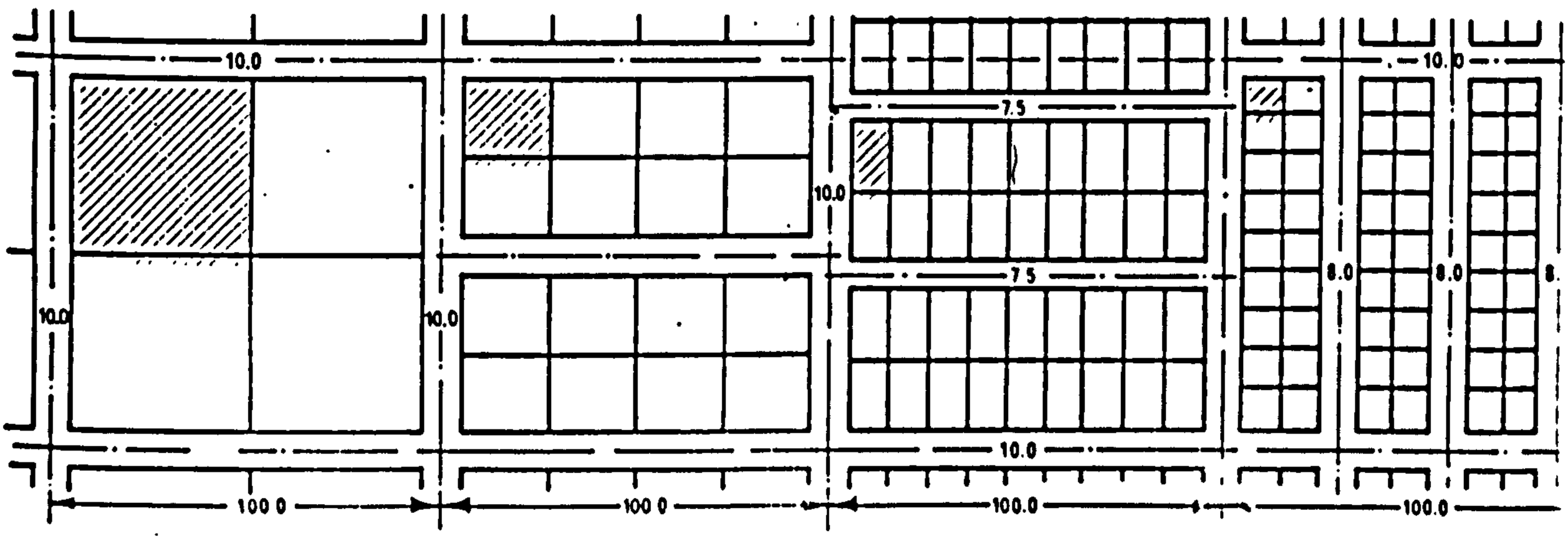


Figure 9.1 Standardised Housing Layout for Recommended Densities

Source: RMJM, Jeddah Master Plan Report, 1973, p.54

DESCRIPTION OF UNITS		PLOT SIZE OF UNITS (including share of access roads)	UNITS PER HECTARE	AVERAGE HOUSEHOLD SIZE FOR DENSITY CALCULATION
Large Villas	High income homes surrounded by luxurious garden. Generous space standard	50m x 50m = 2,500 m^2	4	4
Standard Villas	Medium to high income homes with garden, fully detached	25m x 25m = 625 m^2	16	4
Medium Cost Housing	Medium income homes which generally will not be detached. Some garden space	10m x 25m + 20m for access roads = 250m^2	40	4
Low Cost Housing	Low income homes most likely developed in terraces with small patio and/or garden. No provision for enclosed car parking	9m x 15m + 10m^2 for access roads = 145m^2	69	4
Apartment	High density accommodation without patio and/or garden. High standard of finish, attracting medium income bracket occupants	Assumed to be 5 storeys high on average. Floor space per family 100m^2 site ratio 0.25	125	4

Figure 9.3: Calculation of Residential Density by RMJM, is based on Building Typology, Plot Size, and Income

Source: RMJM, Jeddah Master Plan Report, 1973, p.53

First of all, the writer would like to draw attention to the misrepresentation of the household size in the calculation, which contradicted the proposed plan. The average household size proposed by the plan for net density calculation was 4 persons per household (see Table 9.3, which did not match that proposed by the plan, in which the household size would gradually drop from 5.06 persons per household in 1971, to 4.94 in 1976 to 4.65 in 1981, until it reached 4.06 in 1991 at the end of the implementation of the Master Plan). (3). The plan did not give any reason for the drop in household size (which did not exist in reality but rather increased), and it did not take this proposal of drop in household size into consideration; the standard unit used for household calculation was 4 persons per household. Thus, there is no doubt that this situation would create a mistake in the calculation of the size of the population and the services allocated for each planning zone.

The plot size was one of the measurement units for calculating the net residential density, coupled with accommodation typology, which led to social segregation. As in Table 9.2 and Figure 9.1 for the standardised housing layout, the plot size was different according to the accommodation typology; the larger plot size represented the higher income classes, and, as the plot size decreased the income classes decreased. This correlation of the plot size with relation to income is very natural; those who are rich can afford to buy a large plot size, and those who cannot and have limited income, have to buy according to their ability. Thus there is no doubt that the size of the plot, to some extent, represents the status of income classes. This problem originated when the planning agency determined for each planning zone, a certain plot size or accommodation typology, which made social integration very difficult because poor people cannot afford to buy land in the zone where the land size is very large, and the rich people will not buy land in the zone where the plot size is very small, as it would not satisfy their needs and requirements for luxury. The plan, by adopting the pre-planned residential density of the density distribution in the city, as Figure 9.2, created a kind of

social segregation. This occurred very clearly when the plan proposed for each planning zone numbers of population and certain types of accommodation, as explained previously. Actually the plan did not mention certain plot sizes for each zone, but the plot size could be derived directly from the interpretation of the accommodation typology (see Table 9.2). Also, when the plan allocated numbers of population for a certain zone, that meant the size of the zone must be determined to fit certain numbers of people, and there is no doubt, that the size of the residential zone was calculated by using the measurement units of plot size and household size, as described previously.

9.2.1 Community Services vs Provisions

In the calculation of the gross residential density (Table 9.1), the plan proposed equal land use rate for community services and roads for different types of accommodation (zone), 3.7 ha/1000 persons for mosques, schools, shops, clinics, hospitals and public open space, and 1.1 ha/1000 persons for the distribution of local road networks. Let us here discuss only the distribution of the mosques, using the proposed gross density standard and the land use rate for community services, and, compared with distance, we will find the following. In the low density area (large villa), the location of the mosque usually will not be within walking distance, and sometimes will be very remote from some dwellings, compared with the dwelling in low density. One can find, according to the planning radius, that the maximum distance of the local mosque from the dwelling will be 460m in the low density area (large villa type), while the maximum distance of the local mosque in the low density area is about 164m. According to some studies, the preferable walking distance to the local mosque is about 150-200m. (4). Thus this situation has made the mosque not the most important element in the high density neighbourhood, and has encouraged people to go to the mosque by car rather than on foot. As a consequence, this policy has not helped the process of socialisation while going to the mosque, and moreover the Muslim enjoy the rewards of walking to the mosque, as Prophet Mohammed, Peace be upon him, said. (5).

As discussed in Chapter 4, the municipality found it difficult to implement the proposals of the 1973 Master Plan, because of the unpredictable increase in population and a greater demand for housing, as a result of the 1975 oil boom. This made a very wide gap between planning and control, especially in the absence of any detailed development plans, coupled with a shortage of suitably trained personnel to effect implementation of programmes and enforcement of regulations.

To help narrow the gap between planning and control, SJI/SC was assigned in 1987 to evaluate the 1973 Master Plan and to prepare detailed development plans. To ensure control and enforcement of these development plans in terms of land use and zoning regulations control, the Jeddah Directorate of Planning was established independently from the Western Region Directorate of Planning. At the same time Jeddah planning bye-laws were prepared by SJI/SC in 1981 as guidance for control.

9.3 PLANNING BYE-LAWs INTRODUCED BY SERT JAKSON INTERNATIONAL/SAUDI CONSULT TEAM

The planning bye-laws of 1401H,1981 CE, introduced by Sert Jackson International, are still being applied and have had a great effect on the formation of Jeddah's built environment during the last ten years. These bye-laws are considered an instrument to help implement the Jeddah's Master Directive Plan of 1400H,1980CE. The bye-laws are designed to fulfil the following objectives:

(a) ensuring an optimum use of land
(b) providing community facilities
(c) reducing overcrowding
(d) enhancing the historic, natural and cultural values and amenities of the city. (6)

They claim that these goals are to be achieved with respect of the certain measurements as stated:

"These bye-laws should follow the prevalent practice and reflect on inbuilt practicability and flexibility. In addition, taking care of the principles of the "Shari^{c}ah", the bye-laws must take account of the effect of the socio-economic and technological forces likely to be operative during the next 5 to 10 years". (6)

Thus, the proceeding section will be directed towards the study of the nature of the bye-laws, to test validity in terms of practicability and flexibility, and conformity with Shari^{c}ah, socio-economic and technology.

9.3.1 Structure of the Planning Bye-Laws

The planning bye-laws, as an instrument to control the development according to the Master Directive Plan proposal of 1980, have been structured to cover these aspects: use regulations, zoning regulations and subdivision regulations. These regulations will be enforced by the Directorate of Planning, Jeddah municipality and the sub-municipalities as the competent authorities.

9.3.2 Use Regulations

The use regulations determine two types of uses: permitted uses and discretionary uses. In fact the Master Directive Plan divided the city into a set of functional zones classified in accordance with the land use proposals, which comprise three principal types of zone: residential, commercial and industrial zones and other subsidiary category zones. Thus, only a confirmed use with each zone should be allowed, while discretionary use might be allowed, if it does not have any environmental or sociological effect on the surrounding area.

9.3.3 Zoning Regulations

Each principal zone is classified into sub-categories (ie, the residential zone has 7 zones), and each sub-category zone is

controlled by specific regulation (called Zoning regulation) which consists of minimum plot size, maximum permissible ground coverage, maximum floor area ratio, permissible number of floors and features like set-back and parking provisions.

It is wise before going deep into the study of the nature of the zoning regulations, to identify first the residential zone and the concept behind the formation and classification of its sub-categories, in order to understand the background of land use and zoning regulations.

9.3.3.1 Classification of the residential zone

The Master Directive Plan classified the residential zone into seven sub-category zones. The concept of classification is based on two factors: density (person per hectare) and building type or use:

- R-1 low density (less than 75 pph) single family villa zone
- R-2 low-medium density (75-125 pph) single and two family house zone
- R-3 medium density (125-175 pph) single, two, three and multi-family houses zone
- R-4/R-4A medium-high density (175-250 pph) two, three and multi-family houses zone
- R-5 high density (above 250 pph) two, three and multi-family houses zone
- Rs Corniche area (RS)

When we analyse the density and the relation between the numbers of persons and the area they occupy, we find the occupied area per person

in the high density zone is less than the occupied area per person in the low density zone, thus the proportion is controversially between numbers of persons and the occupied area. This creates, even in the new built area, a residential zone more crowded than the other. This effect creates imbalance in services and facilities; this can be seen concerning car parking, as in some zones there is not enough car parking, in contrast to the situation in other zones. Also the distribution of the residential zones in accordance to density has resulted in creating a "preferred zone", or in some zones being better than the others, and this is coupled with pre-zone selection for these densities. This indirect but unplanned situation distributes and segregates the population in accordance with income, and there is a rigid boundary for each zone when applying regulations. One can clearly recognise the situation while moving inside Jeddah city. Yet by adopting the zoning method, which occurred first in Germany and was applied in 1916 to the USA(7) they claim that they are going to "integrate the population" and to conform with Shari^{c}ah and Saudi socio-economic principles.

9.3.4 Residential Zoning Regulations

Each zone has its own regulations to control its development and use, which cover the following aspects:

a) minimum plot size
b) maximum permissible ground coverage
c) maximum floor area ratio
d) maximum numbers of floors
e) set-back and parking

9.3.4.1 Minimum plot size vs standard alteration

The planning bye-laws specify a minimum standard of plot in terms of size, frontage, depth and road frontage in different places in Jeddah, according to location and the time of approval, before or after the Master Directive Master Plan of 1980.

MINIMUM PLOT	NEW DEVELOPMENT	APPROVED BEFORE 1980 MASTER DIRECTIVE PLAN	ACTION AREA PART OF OLD CITY
Size	$600m^2$	$400m^2$	$100m^2$
Frontage	20m	20m	8m
Depth	20m	20m	12m
Road frontage	15m		12m 9m

Table 9.4: The distribution of minimum plot size in the Jeddah city confirmed by Master Plan of 1980.

Source: The table is designed by the author based on the information in the planning bye-law prepared by SJI/SC, 1980, p.53-54.

The above table confirms that the minimum plot size is an instrument to control the development in Jeddah according to the 1980 Master Plan. It shows the adoption of the new standard of $600m^2$ minimum plot size in the new development area and fixes the $400m^2$ minimum plot size in the approved subdivision prior to the approved Master Directive Plan of 1980, and $100m^2$ in the action area and part of the old city. In fact, the minimum plot size has faced many alterations from its first introduction in the beginning of the 1940s by the Statute of Buildings and Roads until now. It first began as 175 zra^{c}a (equal to 96.25m) with minimum frontage 9m, (8) then was reduced to $60m^2$, (9) which is almost similar to what was in practice in Old Jeddah, by the virtue of community sense, not by the power of the regulation; then a size of $400m^2$ was fixed in some subdivisions and now it has been increased to $600m^2$ by the planning bye-laws.

As mentioned before, the minimum plot size gives the municipality a right to void the rights of the owner to act (build) on his plot if it is less than the fixed mentioned minimum plot size. Thus, it is very important to ask certain questions at the outset of the discussion. What are the main reasons for adapting the minimum plot size which gives the municipality the right to void the right of the owner? Why is the minimum plot size altered from one place to another? Actually, the author could not find any clear statements in the bye-law to answer these questions; accordingly it is wise to examine these questions under the microscope of the planning bye-law's objectives and measures. Thus, we have to rephrase the question. How can the minimum plot size ensure an optimum use, reduce overcrowding, and enhance the natural and cultural values?. Also, according to the bye-law's measures, how can the minimum plot size provide practicability and flexibility, and how can it conform with the principle of Islamic law and Saudi socio-economic conditions? Let us analyse these questions in order.

First, in terms of ensuring optimum use and reducing overcrowding, here, we have to ask the question, what is the definition of optimum use and overcrowding, and then how, if possible, can the problems be remedied? Does the optimum land use mean the most satisfactory and desirable land use. If this is so, then who is going to be satisfied with a $600m^2$ minimum plot size, and will this be desirable to them? Actually, in the author's opinion, those who can afford to buy the large plot in the new area may be content, but what about those who cannot afford it? Perhaps there are those who do not need that large plot because of their small size of family, especially newly married couples. Do people complain, or are they affected by any excessive harm when they inhabit a building on a $400m^2$ plot size or less?

Let us examine the overcrowding. Overcrowding concerns the relation between the numbers of persons and their "space utilisation". The preference of space utilisation is different from one person to

another, according to the family size, income, and his or her view of their way of life. The critical point of overcrowding - in the author's opinion - occurs when the space utilisation reaches a level that leads to the prevention of the person from inhabiting the space, or will cause a real excessive harm to the health, or lead to a sociological problem, preventing him from working and production. The above mentioned "critical point" - in the author's opinion - is a measure for a minimum standard of overcrowding for a person, relating to his space utilisation. The other measure for overcrowding, is when the amount of services such as electricity, sewage, car-parking, schools, etc. are less than the real needs of the people, and this will lead to undesirable overcrowding. Thus, a suitable analogy for overcrowding is a glass of water; if the water pours out from the glass then this is considered undesirable overcrowding which has to stop only to the degree that water will not pour out. As a result can we consider that a plot size of less than $600m^2$, or $400m^2$, or even $100m^2$, can lead to overcrowding, so that the owner should be stopped from acting in his property by the virtue of the regulation?

Let us also examine the validity of minimum plot size from the point of view of Islamic law and socio-economic principles, as one of the claimed measures by the planning bye-law. Here we are going to examine it from the Shari^{c}ah principles of ownership, concept of harm, and rights of a ruler to control. We know from previous chapters that the owner has a right to act on his property as he wants, but his right will be restricted, if his act exceeds the other rights (ie, public rights and neighbour rights); on the other hand, the ruler, as guardian of the public interest, has a right to restrict the owner to act according to the real interest. So we have to ask the question here, what kind of an excessive harm will be produced to the public, or to the neighbour by the minimum plot size before building on it? What kind of public interest is guarded by introducing a minimum plot size of $600m^2$, or $400m^2$ or even $100m^2$? If there are no valid answers to these questions, then the minimum plot size will conflict with Islamic principles and the socio- economic fabric of Jeddah society,

where people used to live in a minimum plot size of even less than $60m^2$; consequently they could live in a plot size less than $600m^2$, even $400m^2$ or $100m^2$.

After analysing the minimum plot size theoretically, let us view it and examine it on the grounds of practice. This minimum plot size creates three areas in the city, in terms of plot size, from south to north. This results in a variety of urban quality and characteristics, with the poorer quality urban areas being concentrated in the south, and the quality increasing the further one goes north. This factor, coupled with the concept of density, helps indirectly in segregating the society according to income.

9.3.4.2 Residential zoning regulation vs building control

Also, one of the means used by the planning bye-laws to achieve predetermined density and image of each residential zone was control of building form through zoning regulations, such as:

1. Maximum ground coverage.
2. Maximum floor area ratio.
3. Maximum number of floors.
4. Set-backs and car parking.

These regulations differ from one zone to another, according to difference in plot size, density and right of way (ROW, ie, width of the road in front of the plot). (See Schedules in Appendix D).

The maximum ground coverage is used to control the permissible percentage area to be built on the ground level of the plot and has a relationship with set back regulations in terms of placing the building within the plot. Mainly the location of the building is forced to be in the middle of the plot.

The maximum floor area ratio is used to control the permissible total area for all floors to be built on the plot; thus it is affected by the set back regulations, and affects the permissible numbers of floors.

A quick glance at the above mentioned regulations in Appendix D shows that these regulations restrict the right of the owner to act on his property as he wants. There is no doubt that these restrictions are not based on the principle of harm, but they function rather as a means to achieve the predetermined density for each residential zone. Thus one can find that, in the proposed low density area, the increase of the left-over area from the setbacks and the decrease of the floor area ratio, compared with the proposed high density area, in spite of the minimum plot size in the proposed low density area, is larger than the one in the high density area. As a result, there is overcrowding in the high density area, especially in terms of car-parking and wide spaces in the low density area.

In addition to the restriction of the owner's right to act in his property as he wants without harming others, the regulations did not provide equal chance to all concerned, in spite of equal requirements. For example, in plots of equal size with similar road frontage existing in one zone, the permissible ground coverage will be different from one plot to another if the length of one of the plot sites the road frontage, and in the other plot the width sites the road frontage, as illustrated in Figure 9.4.

The differences are very little, but at least $10m^2$ is enough for a small room. Also, because of the determination of the maximum numbers of floors, this, in addition, will limit the equivalent of the floor area ratio, and moreover, will increase the differences as much as the permissible number of floors, ie, the maximum number of floors is three storeys, then the differences of floor area ratio will increase to $30m^2$.

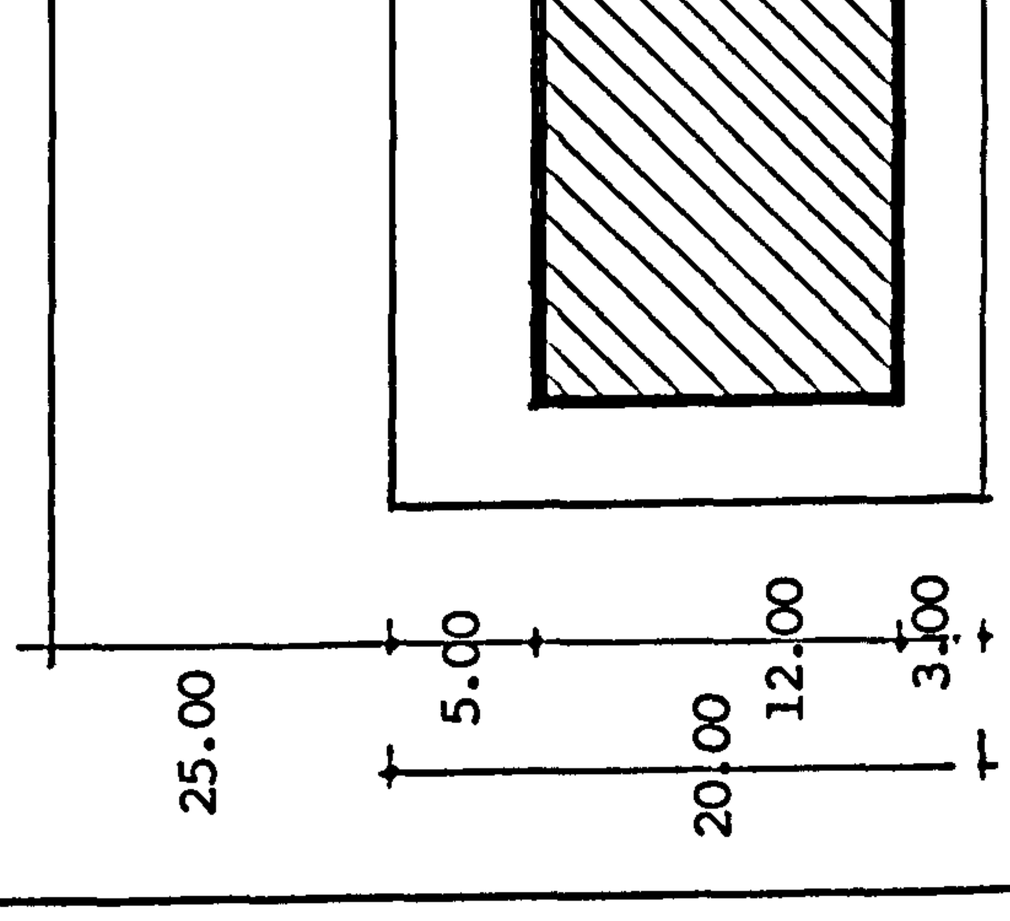
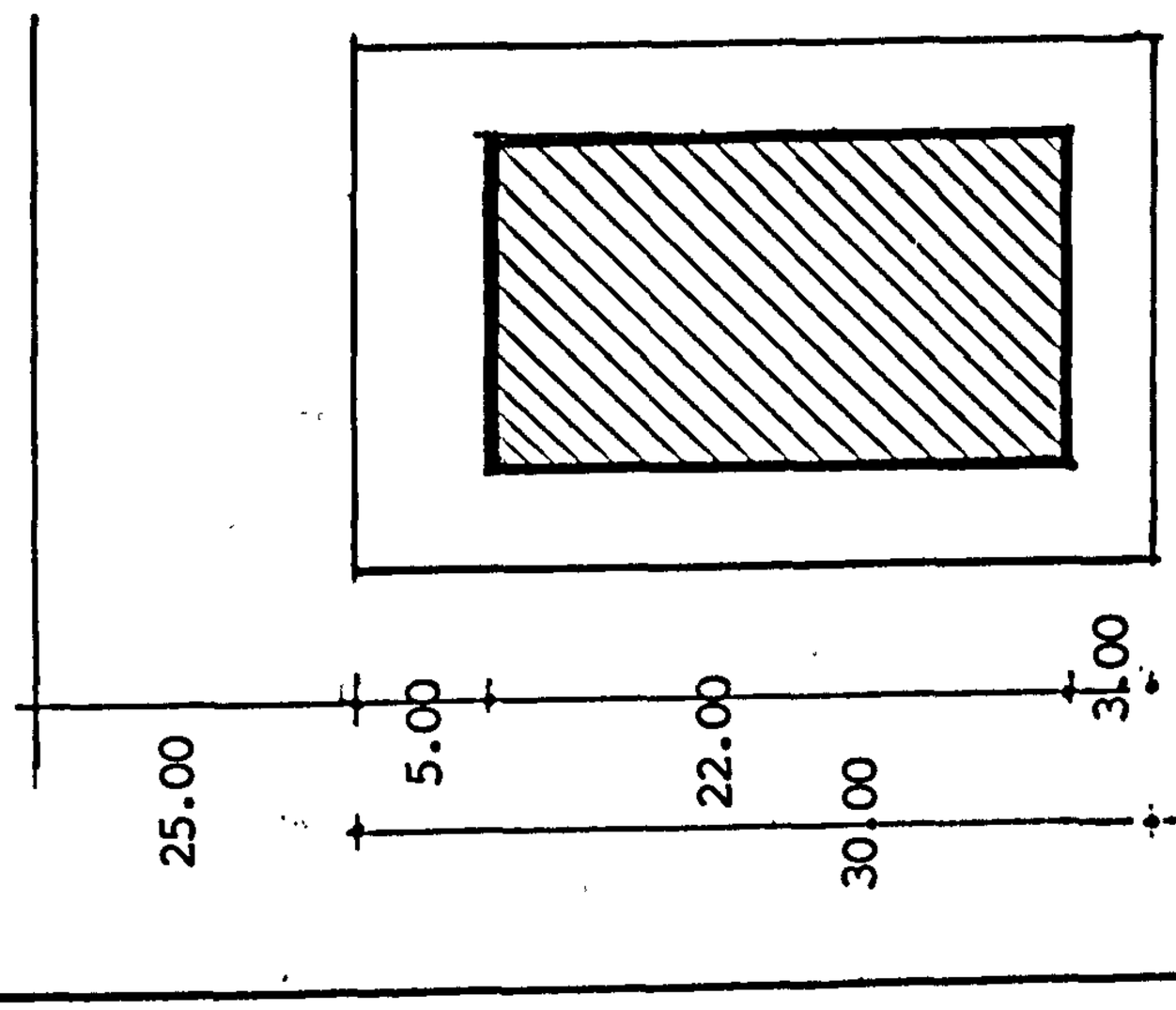
Front Street	Plot Area	Ground Coverage	Differences
	600m^2	23 x 12 = 276m^2	286m^2 – 276m^2 = 10m^2
	600m^2	22 x 13 = 286m^2	

Figure 9.4: Differences of permissible ground coverage of the same size plot

Similarly, any recess or any open space within the permissible built area after determining the set back regulations, will decrease the ground coverage and floor area ratio. No-one can then acquire more floor space beyond his right, in order to reach the permissible maximum floor area ratio, because of the determination of the maximum floor area ratio. In fact, the maximum floor area ratio, with some modification, coupled with the principle of harm, can be used without conflict with Shari^{c}ah and the socio-culture of the society, but rather to confirm it and provide equal chances and freedom to build, but this is prevented by using the measures of floor area ratio to determine the harm that will affect others (see the the Conclusion).

However, the study will not go into further detail and analysis of the ground coverage and floor area ratio because, in practice, they do not have a great effect compared with the setback regulations. Thus the study will concentrate on analysing the setback regulations to see their effect on the urban dwelling of Jeddah city.

9.3.4.3 Set-backs

Set-back is a well recognised regulation which is applied intensively in the Jeddah built environment and all other Saudi cities. The municipalities might allow exemptions to other zoning regulations but not to this one. Actually, the setback regulation was not first introduced by the planning bye-laws but it is the extension of the building line in the Statute of Building and Roads, 1940. It was then enhanced by the villa type introduced by Aramco in the Eastern Province, and the government residential project known as al-Malz Project in Riyadh in the early 1950s, (see Chapter 3).. It first appeared in the form of a regulation in the late 1960s in the form of a circular issued by the Ministry of the Interior, for municipalities to all town planning offices in the country (see Chapter 8). Here the set-back regulation was part of the regulation concerning building on plots of land.

To analyse the setback regulation, first the study will be directed towards the main reasons for adopting this regulation and showing how it is applied; then, through the analysis of these facts, we will see their validity and conformity with shari^{c}ah and socio-cultural factors. It will also be possible to recognise the effect of the setback regulation on the Jeddah built environment and on the architectural profession in Saudi Arabia.

The planning bye-laws, as in previous regulations, provides. the set-back regulations in order to "define a building envelope within which a building may be set. However, depending upon the existing pattern of building lines obtainable in the surrounding development", (10) this building line, which was first introduced by the Statute of Building and Roads in the 1940s, affected the appearance and the acceptance of the set-back regulations. Set-backs which are applied in Saudi Arabia and Jeddah city in particular, surround the building from its four sides; each has its own rule and function.

a) Front set-back: It has great relation with the road frontage as can be seen from the following table:

Road Frontage	Minimum front set-backs
Up to 15 metres	3 metres
Over 15 metres exceeding 20 metres	3 metres
Over 20 metres and not exceeding 25 metres	4 metres
Over 25 metres	4 metres

Table 9.5: Minimum Front Set-backs based on the Width of Road Frontage
Source: SJI/SC, Bye-Laws, 1981, p.57.

The above table shows that the minimum front set-back increases with the increase of the road frontage of the frontage road.

This comparison leads us to ask these questions. Firstly, what is the function of the front set-back when there is an existing front road which makes it easy to get light and ventilation from the road? Why does the set-back increase with an increase of the road frontage?

b) Rear Set-back: It is claimed that the main reason for having a rear set-back is in order to get ventilation and light and maintain privacy - "rear set-back should be provided to enable the protection of audio-visual privacy and allow for natural light and ventilation". (11). The minimum requirement for the set-back is 2 metres if a window opens on to the adjacent property, and 3 metres if a balcony is provided.

c) Side Set-back: This is similar to the conditions for the rear set-back, being 2 metres without a balcony and 3 metres with a balcony. (12)

From the above mentioned aspects of the set-back regulations, we find that the main reason for providing them is to define the building envelope within the plot, to enable protection of audio-visual aspects and to allow for the availability of natural light and air. Here we have to ask the question, is the predetermined building envelope in the middle of the plot considered to be a flexible and practical method of building? And is the set-back the only way of providing light and air, and guaranteeing audio-visual privacy? Also, are these things really guaranteed with respect to the socio-culture and values of the society? Let us examine these questions and relate them to the output and the effect of the set-back regulations on the Jeddah built environment and on the architectural profession in Jeddah and other Saudi Cities.

In fact, the set-back regulations had a great influence on the production of what is known as "Box' Buildings" which create a kind of conflict with the socio-culture and the physical environment of Jeddah

city and other Saudi cities. At the same time, the set-back regulations restrain the hands of architects and prevent them from creating an appropriate building form, compatible with the prevailing environment and socio-culture.

It is true that the set-back regulations, from the first glance, will provide light and air to the building, but in fact, because of the socio- culture of the inhabitants, they do not fulfil this role, and moreover they cannot guarantee the privacy of others. The set-back regulations, coupled with the use of glass windows, lead to the direct vision to the inside of the neighbours' houses, which results in the intrusion into the neighbours' privacy. The compulsory set-back regulations, coupled with the use of split unit air conditioners, (A/C) result in windows being shut to prevent the hot air from the owner's and the neighbour's A/C entering the house. At the same time the windows are covered by heavy, dark curtains to protect the house from direct vision. Instead of benefiting from the set-backs to provide light and air to the building, this situation leads to shut windows and dark rooms, which consequently encourage the use of artificial light and air from the A/C rather than natural air.

- Moreover, spaces left remaining, as a result of set-backs, cannot be utilised by the occupiers, because of the direct vision from the abutting houses. This leads to confinement of women's activities to inside the house, in contrast to the courtyard house of traditional Arabic culture in different parts of Saudi Arabia. Here, it is not wise to complain to the municipality of the harm to vision, because it has resulted from the set-backs, which are enforced by the municipality itself. Thus most of the people surround their houses with walls about four metres high to prevent overlooking at ground level; this might be coupled with the tendency to protect the children from the dangers of cars because all the plots are surrounded by at least one street. However, a 4 metre high wall does not prevent direct vision from second or higher floors from the abutting houses, and so some people raise their walls to a height of 6 or 9 metres by

adding zinc or plastic sheeting to prevent being overlooked from the upper floors of the abutting houses. This action, instead of enhancing the city's appearance as befitting the role of the municipality, creates a poor environment, (see Figure 9.5).

In addition to the visual, social and environmental harm, which do not conform with Islamic Shari^{c}ah, the set-back regulations harm the owner, by restricting his right to act in his property as he wants. Furthermore, the restriction was not adopted to prevent harm to others (ie. roads, neighbours, community, surroundings) but rather, as mentioned previously, it caused more harm to the property owners, and also to the community, by creating rights and habits among the people of intruding upon others' privacy by virtue of the regulations. Also it served social segregation, according to income, as one instrument of zoning regulations. Thus such restrictions do not serve the real public interest and counter the individual interest and right. This is considered an excessive harm in Islamic Shari^{c}ah, and must therefore be removed and substituted with another regulation based on the Quran and Sunah which will guarantee the individual rights within the stipulation of not harming the rights of others, but rather guaranteeing them.

- In terms of the architectural profession, the set-back regulations restrict architects in developing new architectural forms that would be suitable both socially and environmentally to Jeddah's society. This occurs as a result of restricting the architect to work only within a confined space in the middle of the plot, leaving the other space untouched. Such a restriction, in the eye of the planners, may be considered flexible, however, it is the author's opinion that it is too rigid. If the planners consider it practical, the author asks how could it be practical, when it is in conflict with social convention, and environmental requirements.

The author believes such regulations restrict the architectural profession. An architect, who is taught and trained for not less than



Figure 9.5: Raising up the yard walls by corrugated plastic sheet

five years to solve the built environment according to the social needs, and the prevailing micro-climate, with consideration of modern techniques and technology, in practice is restricted to "box buildings". This situation leads to the spread of the sickness of "Plan duplication" in the architectural offices, in which the architect needs only the information of plot size and the set-back regulation, and some information from the owners, then he duplicates the plans that match requirements, with no need for a site visit, or site analysis, to identify different problems. The municipality will then give the building permission, if the set-back regulations are considered. Thus the set-back regulations make the job of the architects very easy. If there were no such regulations, and the principle of harm must be considered, then the architect would have to visit the site to see the different problems that might cause harm to neighbours, and to the road, and at the same time find out the suitable solution that would protect the privacy of the owner from the neighbours and would provide the suitable solution for obtaining air and light, functional requirements, etc., and all this with freedom to utilise the whole plot. This situation also would create a kind of communication between neighbours, especially in terms of party walls, privacy, etc.

Finally, the set-back regulations, as one of the most frequently practised regulation in controlling the urban dwelling of Jeddah city and other Saudi cities, is not considered the most suitable and appropriate for these cities. If there is some benefit out of it, such as light and air - it is very small. The fact is that the harm caused by the regulation is more than the benefit. Thus this regulation must be removed and substituted with regulations appropriate to the Saudi socio-culture and values, and the environmental requirements according to the Islamic principle "the severe harm must be removed".

9.4 LAND SUBDIVISION

Currently, land subdivision is used as one of the instruments to control the urban development, according to the direction of the

Master Plan. It involves the conversion of open land into streets and plots, through the division of large parcels into small parcels, and the demarcation of the streets and road frontages. Thus it has great effect on determining the pattern of the neighbourhood, prior to development.

In this section, the study will concentrate on the discussion of the features of the land subdivision regulations of the planning bye-laws, as the latest regulation which must be followed and practised in Jeddah nowadays, in order to see its efficiency and deficiency and to observe how much it is followed in practice.

In fact, the land subdivision regulation was not first introduced by the planning bye-laws of the 1980 Master Plan, but it is the continuity and the build-up of the previous regulation. Thus it is important to identify the evolution of land subdivision, in order to establish the background and the continuity circle of the land subdivision regulation, before the discussion of the latest regulations established by the planning bye-law. At the same time it will be correlated with land acquisition as the main factor in the development process.

9.4.1 Evolution of Land Subdivision Regulation

Inside the old town of Jeddah, most of the property is held by freehold of Ottoman origin. The lands within the city wall were considered Mirv land (Government land), and one could acquire land ownership either through Iqta'a allotment, or by buying from the government, or through selling and buying between individuals. It seems that the subdivision of large parcels into small plots did not occur in the old town because of the limited size of the town within the city wall, coupled with the structure of the extended family and the limited growth of population, which all led to less demand for large numbers of land acquisitions. Thus, only the determination of case-by-case of the size and the shape of the individual plot

according to the concept of harm was needed and practised in the old town of Jeddah.

It seems that the contemporary concept of the subdivision of large parcels into small ones, according to pre-planned decisions, and the control of the development through land subdivision, was first introduced by the Statute of Buildings and Roads 1360s-1940s. It is stated in the statute,

> "If it is wanted to establish a new residential area in empty land, the building authority, before doing anything, must plan it and make a map for it and divide it into reasonable plots, and this is not permitted at all in this area before planning". (13)

Thus, development was controlled and land subdivision was enforced through building permission. In fact many factors assisted the continuity of the land subdivision:

1) The tendency of the city to expand outside the city wall after the demolition of the wall, as a result of national security achieved by the Saudi government, and the increase of population as a result of internal and external emigration and the need for a labour force.

2) The state grants; in addition to small plots, large parcels are granted to individuals as a reward for public service, or to the government agencies (like ʿAin-Al-ʿAziziah) as waqf endowment, to establish a source of income to the agencies to run their affairs.

3) The establishment of the planning office as part of the Interior Ministry. These factors encouraged the need for small plots out of the existing large areas of land, and with the establishment of the planning office, subdivision was confirmed and enforced.

In the beginning, the subdivision was only limited to subdividing large plots, in order to get regular-shaped plots (rectangular or square plots), and straight streets which would be suitable for the

movement of cars, and it was not intended to affect services and utilities. But, with the existence of the first Master Plan, the function of the land subdivision control became to guarantee the division to be matched with proposed physical structure and the requirements of the Master Plan, which allocated 33% for public use (roads, schools, gardens, etc.). (14), Here the owner of the land is not paid for land being acquired for public uses, other than schools, which is compensated for by the education authority. Land values are estimated to increase between 30%-40% for an approved subdivision.

In general, there are no specific regulations that govern subdivision, only the mentioned allocation for public services, and even then there is little or no apparent consideration paid to the extent of the available infrastructure in that part of the city. The planning bye-laws introduced a set of land subdivision regulations in connection with zoning regulations in order to control the development according to the physical structure and the requirements of the revised Master Plan in 1980.

9.4.2 Land Subdivision Regulations Introduced by the Bye-Laws

The Planning Bye-Laws provide sets of technical conditions and standards as land subdivision regulations. These are to be reviewed when giving approval, and include the following:

1. Desirable size of land parcel for subdivision.
2. Land suitability.
3. Integration with environs.
4. Conformity with land use and zoning.
5. Linkage with urban network including roads and utility lines.
6. Access control and roads.
7. Density computation.
8. Land use allocation and disposition of facility area.
9. Land reservation/dedication.
10. Plot dimension and minimum plot size.
11. Public utilities.

In fact, the conditions and standards of land subdivision regulations are set up to confirm any new subdivision with the physical structures, and the requirements of the 1980 Master Plan, in terms of density and zoning regulations, and, at the same time, to give a guide for determining the pattern of the neighbourhoods and the districts, and to provide the essential facilities and services with integration and respect of the surroundings. (15)

In this section, we are going to examine some of these conditions and standards and we might compare more than one condition together for the benefit of the analysis, in order to find out the efficiency and the deficiency of these conditions and their effect on the urban dwelling. We will also hope to identify some of these conditions which appear to have good provisions but not in practice.

9.4.2.1 Desirable size of land parcel for subdivision

Only a certain viable size of area should be eligible for subdivision, which depends upon the density of development for each zone.

Gross District Density pph	Desirable size of area (hectares)	Absolute Minimum size of area (hectares)
Up to 75	200	50
75 to 125	100	25
125 to 175	80	20
175 to 250	50	15
Over 250	40	10

Table 9.6: Desirable size of Area for Residential Subdivision.

Source: SJI/SC, Planning Bye-Laws, 1981, Table 10.1, p.99

The table indicates that the desirable size of area for subdivision differs from one zone to another and the size of the area decreases with increase in density. This leads to overcrowding in a high-density area and less crowding in a low-density area; consequently it leads to segregation according to income, as discussed previously.

Land suitability

Subdivision is not allowed for unsuitable land caused by poor soil conditions, poor drainage, or, if it were to be environmentally, or ecologically detrimental to the area, or to the surroundings, or to the inhabitants, unless corrective and landscape reconstruction techniques are formulated and applied. This condition is very important, because it prevents the harm before it happens.

9.4.2.2 Land use allocation and land dedication

As the regulation determines the desirable size of parcel for each particular zone; it determines through land use allocation the amount of land devoted to roads and facilities, which depends on the physiographic generalised land use and the intensity of development and community structure. (16) Any residential subdivision should follow the land use allocation according to the following table.

Zone	Gross District Density (pph)	Percentage of area under residential plots	Percentage of area under circulation	Percentage of area under all facilities and services
R-1	Up to 75	60-65%	25-30%	5-10%
R-2	100 + 25	60-65%	25-25%	10-15%
R-3	150 + 25	55-60%	20-25%	20-25%
R-4	200 + 25	50-55%	18-22%	27-32%
R-5	Over 250	45-50%	18-22%	30-35%

Table 9.7: Land Use of Residential Subdivision by Gross Density.
Source: SJI/SC, Planning Bye-Laws, Technical Report No.7, 1401H, 1801, p.108.

At the same time the land subdivision regulations determine the land dedication for the essential facilities like mosques, open spaces, parks and playground, according to the following table:

Area Under	Percentage of Gross Site Area
Roads and parking	25-30%
Garden and green spaces and incidental open spaces	10-15%
Other public uses including services	5-10%
All essential services	40-50%

Table 9.8: Land Dedication for Essential Facilities.

Source: SJC/SC, Planning By-Law, Technical Report No.7, 1401H, 1981CE, P112.

Here we would like to compare Tables 9.6 and 9.7, in order to see the efficiency of the facility for distribution of residential sub-divisions in each particular zone, and we will also examine the car-parking provision as an example. In Table 9.6 the percentage of area under circulation increases with the decrease of Gross District Density. Roads and car-parking are considered part of the circulation calculation, as in Table 9.7. This means that the area dedicated for car parking is decreased as long as the density is increased. Because the desirable parcel size for subdivision, as in Table 9.5, is decreased with increased density, this makes the area for car-parking and roads, coming from the percentage calculated from the desirable size of parcel, decrease while density is increased. This situation creates problems in high density areas.

This problem occurred in the old neighbourhood, and also in new neighbourhoods such as Rz, where multi-family walk-up buildings are concentrated. Conversely, in the low density area like R-1 and R-2, there are spacious areas with no car-parking problem at all. As a result, there is an imbalance of car-parking distribution, according to the real need, and a deficiency of car-parking in some residential zones, with a superfluity in other zones. All these result from the original imbalance of the zoning and density distribution, which leads to imbalance of the distribution of the desirable size of parcels for subdivision, which also leads to an imbalance in the provision of service. It is therefore inefficient to use the percentage as a measure for calculating the distribution of the essential facilities.

9.4.2.3 Access control and road layout and system

The subdivision regulations provide standards for access control which has a good provision to minimise the danger from cars, especially for children.

> "... the proposed subdivision should not open to the primary urban road system. Under any circumstance, no plots should have access directly from a major road. All plots should have access directly from local roads/internal road of subdivision". (17).

This condition also was recommended in the first Master Plan of 1962, (18), but, unfortunately, there seemed to be no consideration of this condition during the review of the subdivision for approval.

The subdivision regulations for road layout should be followed in the proposed subdivision to ensure the following:

- segregation of local traffic from through traffic.
- establish a hierarchy of traffic according to traffic and needs.
- avoid wastage of land and excessive street length.
- encourage curvilinear roads, culs-de-sac and access roads to ensure a variety of layout.

- the road system should be integrated with the physical features and topography of land.
- concerning the land, excessive slopes should be avoided.
- the road system should be convenient, safe and should ensure vehicular-pedestrian separation.
- the road system should ensure placement of facilities, so that these facilities are accessible, and the placement of utility lines and items of street furniture like lighting poles, refuse boxes and other such equipment.

Actually, these conditions and standards, which have good provision for safeguarding the public interest, have not been well followed or practised. This may have occurred because the architectural and planning offices do not know, or have not been informed about these standards to be followed. Concerning land subdivision, the most important standard required to be considered is to satisfy the dedication requirement (about + 33%) for roads and open space.

In practice, for example, concerning the segregation of local traffic from through traffic in the existing land subdivision, in fact, there is segregation between primary roads for through traffic and the local roads. The proposal for the local roads not to become thoroughfares or carry a high volume of traffic, by designing short local roads following the topography and making use of cul-de-sacs and loop streets, did not in fact occur in practice. Rather, the local roads themselves create through traffic, at unacceptable speeds, inside the land subdivision. This has occurred because of the great length, width and continuity of these streets (see Figure 9.6). This situation, coupled with main entrances of buildings on such roads, has led many people to complain about the dangers of the main entrance being situated on local roads, and they would prefer to have separation between vehicular traffic and pedestrians.

9.4.2.4 Land subdivision and topography

In terms of the integration of the road system with physical features and topography, no real problems occur because most of the existing land subdivision is planned in flat areas. There are only a few cases in which the land is levelled because of the different topography, eg, on the foot hills on the east of the city (see Figure 9.7). The real problem might occur if expansion was to spread to the mountainous area on the east of the city. The author visited one of the approved land subdivisions, in Makkan, in the mountain area. He saw many problems resulting from the fact that little consideration of topography was taken into account, from both the consultant's office, who planned the land subdivision, and the municipality, who gave the approval. In this subdivision, it was planned to have straight streets and regular rectangular shaped plots, with no more consideration being paid to the natural topography of the land - in spite of the fact that the land survey was done by the same office - as if it were planned on flat land. In application, many cuts and fills were made into the mountain, in order to have straight and reasonable slopes, which resulted in the drawing up of many plots in holes about 2-3 storeys in height from the proposed streets, or other plots raised about one storey high or more from the streets (see Figure 9.8).

This situation created severe harm for both the owner of the parcel and those who had already bought the plots on the map, before streets and plots were subdivided on the site. The owner of the parcel has no knowledge about such technical problems, and for him the most important factor is to have the maximum numbers of plots to be sold. Since subdivision will not be approved until subdivision is enforced on the site, to enforce such subdivision on such land will cost a lot of money, especially in terms of cutting into hard, rocky mountains, and filling and compacting some places between two points so that it will be reasonable to construct a street between them for the movement of cars. Also, the buyers of the plots, whether their plots are in the holes, or raised some metres above the street, will face severe

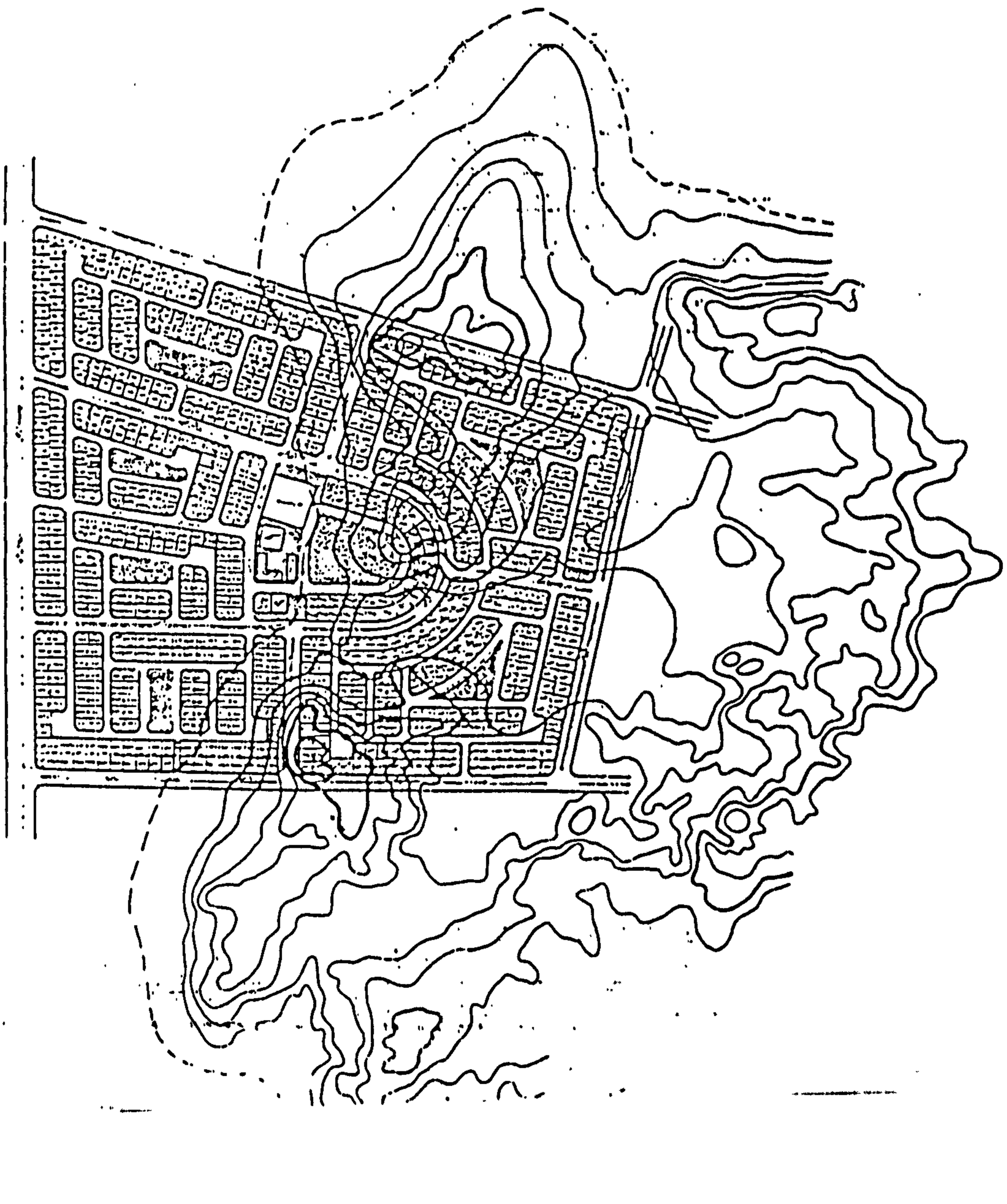


Figure 9.7: Land Sub-Division on the East of the City not respecting topography

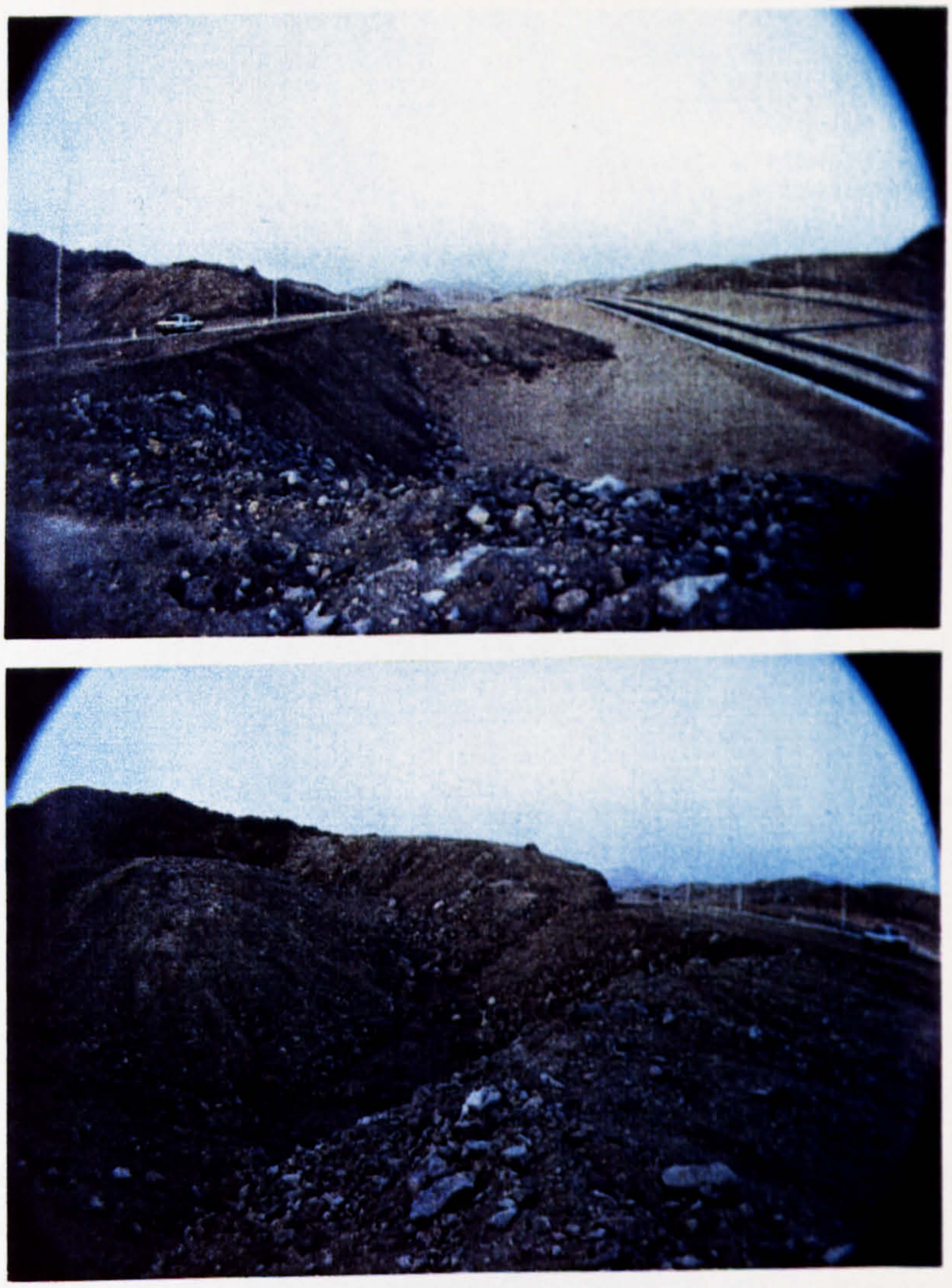


Figure 9.8

Plots in Holes

Land sub-division
in Makkah



9.9

Plot raised up from

the street

Land sub-division in
Makkah

problems, when they start building, especially those whose plots are in holes.

Another problem which might occur in this land subdivision or any such topographical area, is that special maps showing the extent of utilities (sewage, electricity, water supply, drainage, etc.) are required by the municipality, and they are checked and reviewed by the experts of the different agencies concerned. This will result in any proposed extension of utility systems being poor and less efficient after the subdivision; ie, there will be less maximum benefit from the topography in terms of water discharge by gravity. It will be difficult to solve the problems of water supply and distribution, and above all there will be a lack of suitable space for facilities or support facilities, such as electricity sub-stations and water tanks or towers should they be needed. (See Figure 9.9) for an unsuitable location of electricity sub-station in the new land subdivision in Jeddah city).

The above example for land subdivision in the mountain area in Makkah city is mentioned to draw attention to this problem because of the existence of the following circumstances:

1) The tendency of Jeddah expansion is to the mountain area in the east of the city; the land subdivision already reaches to the foot hills, and the way the topography is dealt with in the foot hills is to make it one level.

2) The lack of working and detailed drawings (such as sections, grading system, extension utilities system, etc.) for the subdivision, makes the subdivision review for the area with different topography the same as for a flat area.

3) Owing to the lack of courses and design problems about the matters dealing with mountain areas and topography in most architectural and planning schools in Saudi Arabia and some other

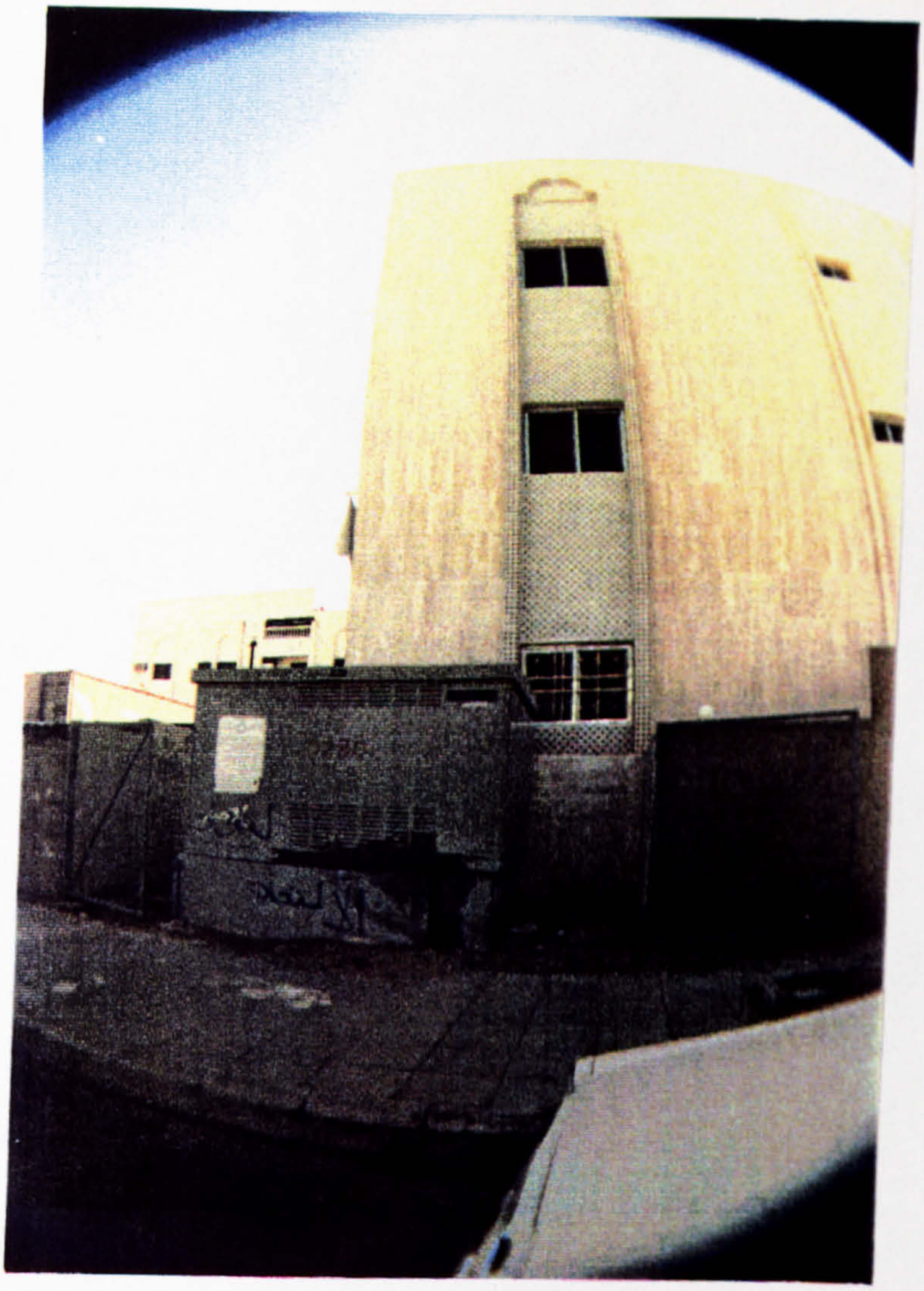


Figure 9.10: Unsuitable location for Electricity Sub-Station

schools in the world, there is a lack of knowledge and training among the architects and planners concerning this matter.

Thus, it is very important for the Jeddah municipality and other municipalities in Saudi Arabia to be aware of how to review the subdivision in mountain areas, and in the areas of different topography, and, at the same time, to prepare some of their staff with good training to deal with such problems. And, above all, for the subdivision approval, working and detailed drawings (detail sections, grading system, cut and fill, extension system of different utilities and the support facilities, flood and water discharge, etc.) must be included with other drawings to be reviewed by the municipality and other concerned agencies like the electricity company, water and sewage departments etc. to give final subdivision approval.

Actually, such a technical review will benefit both the parcel's owner, who does not have any such technical background, which might minimise the amount of money spent when preparing the land for the subdivision; and the buyers of the plots who will have (by the will of Allah) convenient and ready plots on which to build and the ease of utilities working at maximum efficiency.

9.5. AESTHETICS

The restriction or the enforcement by regulations to achieve a certain degree of aesthetic appearance for urban housing and the built environment in general was not considered at all in the traditional regulations. It is believed that this occurred because aesthetic value was not considered as a possible excessive harm, which must be controlled by the regulation.

In contrast the contemporary regulations restrict and enforce some regulations to achieve a certain degree of aesthetic value (according to the aesthetic taste of those who draw up the regulations). This occurred at the time of establishing the municipalities in Saudi

Arabia, as one of their responsibilities was to ensure the beautification of the city. The appearance of the building is controlled through its form and facade, by enforcing the regulations of building line, set backs, certain architectural elements, materials and colour, especially on the facade of the building.

It is recognised that in the last decade in Jeddah there has been a sudden change in one of the compulsory regulations that related to a building's appearance, as issued and enforced by Jeddah's municipality. In the beginning the municipality issued a regulation that all building facades must be clad with Hajar al-Riyadh (Riyadh stone); the means of enforcing this regulation being through building permission (for new buildings or the buildings which needed some alteration, or the addition of more floors). However, later the municipality issued another regulation that all the buildings should be painted white, because this is the colour of Old Jeddah, and it is a sign of purity and clarity. To conform with this philosophy, even the houses which were covered with Riyadh stone (yellow in colour) were ordered to be painted white, although changing the colour of the entire exterior of a building is very expensive, depending on the size of the building. This costly change is not enforced in order to prevent excessive harm from occurring to the neighbour, or to the people on the street, but only to achieve a certain degree of city beautification, based on the aesthetic philosophy of the regulation makers.

Yet there is no doubt that the test and the appreciation of beauty is different from one person to another. However, today, most or all of Jeddah's buildings are painted white, and some other Saudi cities are imitating blindly Jeddah's experience with the colour white, without knowing its positive or negative impact on the city, or where it is best to use the colour white and where not to. Thus it is necessary in this study to analyse the affect of this colour on the built environment.

9.5.1 The Effect of the White Colour on the Built Environment

In this section the analysis will concentrate on the effect of the white colour on the built environment, in terms of its characteristic vs the harm and the benefit which result. There is no doubt that the colour white on the exterior of the buildings has both a positive and a negative impact. It helps to some extent in minimising the building's heat gain from outside thus benefiting the occupier, because of the reflective properties of the colour white. However, on the other hand, this reflection has a negative impact on the built environment owing to the width of most of Jeddah's streets, and the fact that most of the houses are painted white on both sides. This leads to the reflection of a high proportion of the sun's rays onto these buildings; consequently a high intensity of reflection will occur, which will produce a high intensity of glare and brightness that might harm the eyes of the neighbours and the passers-by. The effect of this reflection can be recognised in the summer and in the winter, especially on a summer afternoon at the rush hour, when the cars move slowly and the distance between home and work is large owing to the great expansion of the city; then one can feel, while in the car, that the effect of reflection on the eye vs the compulsory regulation of painting all the houses with whitewash needs more measurement and medical research.

The use of the colour white on the exterior of buildings could function very effectively in one area of certain characteristics, yet not in another area. For example, in Old Jeddah, the whitewashed exteriors function very well because of the narrow streets and high rise, compacted buildings on both sides. This leads to the casting of shadows by the buildings over other buildings and produces desirable reflection of indirect light (the shadow) which does not affect the eyes. At the same time the shadows make the narrow streets appear spacious, owing to the presence of indirect light. In addition, the location of Old Jeddah by the sea, the surrounding area being characterised by hard ground, coupled with the compacted urban fabric, all help to prevent the whitewashed exteriors from becoming dirty very quickly.

In contrast at the Prince Fwaz Housing Cooperative project, on Makkah Road, the surrounding area is sandy ground (in spite of there being some mountains) and the buildings are low rise and dispersed with whitewashed exterior. This situation creates a high intensity of reflection and brightness and, in addition, the exteriors quickly become dirty from the sand, which adheres to the walls, and shows up against the white colour. The author saw some houses in this project which were just finished and not yet inhabited, yet they have become very dirty because of the sand.

From the above analysis, it is recognised that the benefit from the compulsory regulation to paint all houses white is very limited and mainly confined to the occupier, compared with the resulting harm to the public, the neighbours and the passers-by. Also it is a disadvantage to the owner as it limits his rights to act and to express his sense of aesthetic taste in his property, as long as he does not cause excessive harm to others. Accordingly this compulsory regulation does not conform with the principle of Shari^{c}ah, in which the house is built to obtain the benefit and to prevent the evil, where preventing the evil precedes obtaining the benefit. Also preventing the harm to the public is preceded by obtaining the benefit to the individual, and Allah knows best.

Also from the analysis, it is found that using the colour white on the exterior of buildings is not suitable in every place, but needs to be applied only in certain places with certain characteristics, otherwise, the negative impact will be greater than the positive impact. Thus the author would like to draw the attention to excessive use of legislation (al-Ta^{c}suf fi al-Tashri^{c}). The issuing of any regulation should be avoided until it has been studied, analysed and reviewed very carefully. A great deal of consideration should be paid to the changes in time and place and conformation with the cultural values of the society. At the same time legislation should not be dependent on people's self-desire or feeling, but rather on the fundamentals of Islamic law, and the principles of Ijtihad (striving hard to obtain legal rule).

Generally, the author believes that it is not legal to restrict the rights of ownership by regulations based on aesthetic values. Aesthetics are not considered part of the necessary matters that lead to preserving five things; 'the human life; the religion; the honour; the mind; and the generation', or part of the needy matters which people need 'for an easy and comfortable existence and to avoid difficulties and critical problems', or part of the betterment matters 'which lead to the ideals of manhood and morality and which support manners and customs that create a flourishing life'. Thus, aesthetics should not be achieved by the force of the regulations but through discussion, encouragement and satisfaction, and Allah knows the best.

9.6 SUMMARY

In this Chapter, the discussion concentrated on the regulations adopted by the Master Plans. As noticed throughout the discussion, these regulations have the same concept as the regulations which occurred pre the Master Plans and are mainly based on the concept of public health and city beautification and image. They have the same manner of enforcement, which is based on compulsory 'how to do' according to the dimensional minimum and not according to principles of traditional regulations.

Thus, these regulations could not conform with Master Plan goals, especially those which deal with socio-culture, but rather, they widen the gap of not achieving the goal by adopting regulations that increase conflict. For example, throughout analysis by RMJM, it was found that the method of calculation and distribution density led to social segregation according to income, in spite of the Master Plan goal to achieve social integration and cohesion, which is one of the Islamic principles.

Also, the planning bye-laws by SJI/SC adopted the same method of density distribution and zoning regulations, such as set-backs, plot coverage, minimum plot size, etc, to achieve the image of each

pre-determined residential zone. According to the analysis, these regulations could not conform with the planning bye-laws goal of conforming with Shari^{c}ah and to achieve an in-built practicability and flexibility. In spite of all this there are some good provisions, especially in dealing with road layout in land sub-division, though unfortunately there seemed to have been no consideration of this condition during the review of sub-division for approval.

However, there are both positive and negative aspects in the regulations applied to Jeddah through its long life. These will be utilised in the conclusion of this Thesis to propose regulations which hopefully will fit the socio-culture of the society and prevailing environment and technology.

Footnotes -- Chapter 9

1. Robert Matthew, Johnson Marshall & Partners (1), op.cit, p.5.

2. Ibid, p.10

3. Ibid, p.49.

4. The Ministry of Municipal and Rural Affairs, The Deputy Minister for Planning, "al-MʿAyer al-Takhtitiah Ll-Masajiid". (the planning standards for Mosques). Published by the Saudi Arabian Press Co. Ltd., ʿMariah, Ryiadh, 1400,1980, p.7.

5. Sert Jackson International/Saudi Consult. (3), "Planning Bye-Laws, Technical Report No.7". Unpublished Report, Ministry of Municipal and Rural Affairs, Jeddah, 1987, p.1.

6. Ibid, p.1 and 2.

7. Thomas Adams, "Recent Advances in Town Planning". J. & A. Churchill, London, 1952, p.49.

8. The Ministry of Municipal and Rural Affairs (1), op.cit, Vol.1, p.38.

9. "At present (1980) a plot under $60m^2$ area is considered as non-conforming. The Director of Planning, Jeddah Municipality and Assistant Mayors of the Sub-Municipalities have agreed to raise this limit to 100 square meters". See footnote Sert Jackson International/Saudi Consultant (3), op.cit, p.54.

10 Ibid, p.55.

11. Ibid, p.57.

12. Ibid, p.57.

13. Article 93, "Roads and Building Statutes". See Ministry of Municipal and Rural Affairs, op.city, Vol.1, p.47.

14. In the letter by the Director of City Planning No.1954, in 28/7/1389(1969) is stated: "Concerning the area for public uses including the streets, there should not be taken from each plot more than 33%". See Ibid, Vol.2, p.150.

15. Sert Jackson International/Saudi Consult, op.cit, p.98.

16. Ibid, p.108.

17. Ibid, p.33.

18. Abdul-Rahman Makhlof, op.cit, Vol.4, p.48.

CHAPTER 10

CHAPTER 10
CONCLUSION

10.1 THE GOAL

The main goal of this thesis is to identify the regulations that have applied to Jeddah's urban dwellings, to see their characteristics and effects on the formation of urban housing and to examine the extent to which they conform with the culture of the society. This is in order to discover whether these regulations could be adapted or developed to be more suitable to the social and cultural conditions and the present living standard.

In the previous chapters of this thesis, it was found in general that two types of regulations have been applied to Jeddah: one could be named as 'traditional regulations' and the second as 'contemporary regulations'. Each of these regulations has its own characteristics and effect on the formation of Jeddah's urban housing. The differences between the two types of regulation occur in terms of the main philosophy or ideology on which the regulation is based and on the method of control which is implemented. Here in the conclusion, we are going to list the differences and effects of these two regulations on the urban dwellings, and compare their advantages and disadvantages, in order to benefit from the experience of both sets of regulations in development and improvement. It is hoped that in this way a standard may be reached which is suitable for the culture of society in Jeddah, taking into consideration the prevailing standards of living in terms of services, modes of transportation, methods of administration etc., and prevailing climate.

10.2 A LIST OF COMPARISONS BETWEEN TRADITIONAL AND CONTEMPORARY REGULATIONS

		TRADITIONAL REGULATION	CONTEMPORARY REGULATION
a)	Ideology	Based on Muslim Socio-Culture and belief	Based on the western concept of planning control of the built environment
b)	Form of Submission	General rules based on the Islamic principle of harm of 'not-to-do' as prohibited in the form of proscriptive regulation	Fixed-technical dimensional regulation of 'how-to-do' as prescriptive regulation to achieve public health, safety and visual effect.
		Much concern to the right of ownership	Not much concern for the right of ownership
		Have no concern to provide for the benefit of the owner through the regulation of 'how-to-do', such as providing light and air. Such benefit to the owner is supposed to be provided by himself through the right of the owner to act on his property as he wishes. The regulation's main concern is to protect the rights of others from the owner using his rights in an excessive way.	Have much concern to provide for the benefit of the owner through fixed regulation such as the set back regulation to provide light and air to the owner. However there is little concern to protect the rights of others from the owner using his rights excessively. For example, the set back regulation gives the owner the right to open windows but do not stop him from sighting the neighbour's women's area, but encourages him to use his right excessively since it is permitted to him by the regulation
		The regulations are applied equally to all; there is no differentiation between people or area.	The regulations are different from one residential zone to another
		Different in terms of control, responsibility and decision making between public space (to to the State), private space (to the owner), and semi-public or private space (to the group concerned). (~~See Appendix 4~~).	The State is responsible, the controller, and the decision maker for public space, semi-public or private space (if there) and to a large extent to private space (~~See Appendix 4~~).

		TRADITIONAL REGULATION	CONTEMPORARY REGULATION
c)	Method of Control	Permission through rights and conditions. The right is freedom to act on the property, the condition is not to cause harm either to the road or to the neighbour.	Follow the regulations as stated as compulsory, even if they cause harm to others or to the owner.
		Prevention when the harm occurs. Limitation to the degree the harm is removed.	Prevention by predicted regulation (prediction based on the public health, safety and aesthetics). Limitation not to violate the regulation.
d)	Elements to be Controlled	Excessive harm 1. Anything which may lead to building collapse 2. Anything which may prevent the occupiers from utilising the house 3. Intrusion of the privacy of others by sighting the women's area.	1. Density of use 2. Building envelope 3. Plot. The above is used to achieve the predetermined density and image for each predetermined residential zone.
e)	Agent of Control	Self consciousness or policing of not causing harm to others as part of Muslim belief.	A. Fixed zoning regulations for each residential zone. 1. Floor area ratio and building height to control the density of use. 2. Setbacks, plot coverage and building height to control the building envelope in order to provide light and air, to prevent fire spreading, and to have visual effect. 3. Minimum plot size and shape to control the plot. B. Fixed land sub-division regulations as the first step to conform to the above mentioned regulations and requirements for each residential zone.

		TRADITIONAL REGULATION	CONTEMPORARY REGULATION
f)	Agency of Enforcement	All who are concerned. State intervention occurs only at the time of dispute.	The Municipality and the Planning Office.
g)	Advantages	1. Conform with the socio-culture of Jeddah's society. 2. Respect the right of ownership by giving the owner the total freedom to act on his property with the condition not to harm neighbours or the passers-by on the road. 3. Led to flexibility in design which encourages the master builder to invent a suitable design to satisfy the owner's needs with consideration to the socio-culture, prevailing climate, and availability of materials. 4. Increases the sense of community through the sharing of responsibility and decision making in the private street (cul-de-sac) between the people whose doors open onto this street. 5. The maintenance of the built environment is not only confined to the State, but also the community, and the individual shares the responsibility of maintaining the space which concerns them. The State maintains the public space, the community semi-private spaces, and the individual his own space. This decreases the State's responsibility and budget for maintaining the built environment. 6. It was not meant as a source of social segregation.	1. System of prediction to be used as planning control and approach. 2. Has some concern for safety and public health. 3. Easy to administer and does not need a high level of skill to enforce them.

	TRADITIONAL REGULATION	CONTEMPORARY REGULATION
h) Disadvantages	1. Difficult to control and administer in present society, would take time to introduce. 2. Accordingly it needs highly trained skilled architects with good legal background. 3. There is no systematic approach by which to stop the harm before it happens through prediction.	1. Not much respect paid to the right of ownership. 2. Leads to social segregation according to income. 3. Little concern with the culture of society. 4. Rigid regulations; this leads to restricting the designer's creativity for designing a dwelling suitable for the owner's culture and needs without harming others.

10.3 GENERAL RECOMMENDATIONS

In the light of the previous study, and the comparison of the traditional and contemporary regulations, and based on their positive and negative impact output, the author believes that, in order to have urban dwelling regulations suitable for Jeddah's society, the following recommendations must be taken into consideration.

1) The urban dwelling regulations must conform with Islamic teaching and the culture of the Muslim faith.

2) The regulations must be applied to all people equally and provide equal opportunities for all.

3) The regulations must not be a source or a means of social segregation, according to wealth, but should rather encourage social integration.

4) The regulations must respect the right of ownership and restrict this right to everything which causes an excessive harm to others (either to the neighbour or to the passer-by).

5) The regulations must determine the excessive harm according to the change of time, place and the way of living. Most importantly, they must identify rules by which excessive harm is determined.

6) The regulations must not be a source or a means of intruding into the privacy of others, but rather they must maintain the house's inviolability from intrusion by overlooking.

In this conclusion, the author is going to explain the methods of achieving these recommendations, by drawing on the positive and negative aspects of the traditional and contemporary regulations. This is in order to develop the existing regulations (by reforming,

or modifying, or excluding some of them, or adopting new regulations according to the situation), to be suitable for the culture of the society in Jeddah, with consideration to the change of time, place and technology.

10.4 METHODS OF ACHIEVING THE PROPOSED GENERAL RECOMMENDATIONS

To achieve the proposed general recommendations, the following methods will be followed:

Firstly; identifying the problem, with consideration of the main causes of this problem, and benefiting from the experience of the traditional and contemporary regulations.

Secondly; finding out the suitable method to solve this problem, to conform with the culture of the society, and the prevailing climate, technology and standard of living.

The present regulations concentrate on the following matters:

1) There is not much respect for the right of ownership, and this needs to be solved, to respect the right of ownership and increase the flexibility in design.

2) The regulation leading to social segregation should be modified to achieve social integration and cohesion.

3) Privacy intrusion should be altered to privacy maintenance.

4) The consideration of providing light and air, safety should be considered.

5) The quality of management and the enforcement of the regulations should be improved.

10.5 ENCOURAGING SOCIAL INTEGRATION

10.5.1 Social Integration vs Social Segregation

As can be seen from the previous analysis, the traditional regulations did not include a method for achieving social integration, but, at the same time, did not lead to social segregation. However, it is well known that Islamic teaching does not differentiate between the people according to their colour, origin, or social state (as mentioned in Chapter 5), but all people are the same in front of the Islamic justice, with no fear or favour. As Allah almighty says:

> "O ye who believe stand out firmly for justice, as witnesses to God, even as against yourselves, or your parents or your kin, and whether it be (against) rich or poor for God can best protect both. Follow not the lusts (of your hearts), lest ye swerve, and if ye distort justice, verily God is well-acquainted with all that ye do", 20:135.

In contrast, contemporary regulations, especially through the differentiation into zones, in order to achieve a predetermined density and image for each residential zone of the Master Plan, leads to social segregation between the inhabitants, according to wealth and state of income. This segregation is either stated in the regulations as found in the density calculation by Robert Matthew (see Chapter 9), or is not mentioned in the regulations, but, through the analysis, it is found that these regulations - as an agent of planning control - are means that lead to social segregation, in spite of one of the main stated goals of the last two Master Plans of Jeddah being to achieve social integration and cohesion.

Accordingly, it is important that the regulations must not be a source or a means which lead to social segregation, but rather should encourage social integration, according to Islamic teaching and justice. This will increase the spirit of cooperation and love between the people, which consequently will increase, by the goodness and guidance of Allah Almighty, the care of rich people towards the

poor, as part of the neighbour's right, as prophet Mohammed, peace be upon him, says:

> "Swear on Allah there will not be a believer, who sleeps with a full stomach and his neighbour adjacent to him is hungry". (2).

Also he says:

> "To Allah, the best friends are those who are good to their friends, and the best neighbours are those who are good to their neighbour". (3).

There are many similar prophetic traditions which encourage social care and integration between neighbours. However, from the previous analysis, it is found that undesirable social segregation has occurred under the contemporary regulations as a result of the differentiation caused by the following zoning regulations between the predetermined residential zones of the Master Plan:

1) Plot size.
2) Density.

10.5.2 Mixed Plot Sizes and Semi-Private Space to Achieve Social Integration

The restrictions of the minimum plot size for each residential zone and the differentiation of the minimum plot size between these residential zones, plus the withdrawal of the right of ownership for those who have a plot less than the minimum plot size, leads to social segregation according to income (see Chapter 9). Thus the author recommends the following:

1) The regulation of minimum plot size should be abandoned (lapsed) with the stipulation that any new building should not cause harm either to the neighbour or to the road (as will be discussed later under 'density').

2) Different plot sizes should be encouraged, when planning and approving land sub-division, so that different-sized plots should occur in the same neighbourhood and even in the same street, in order to encourage a people of different incomes to come together, rather than differentiating between them, by virtue of the regulation.

3) In order to encourage further social integration between people of different incomes, the following proposals - as support elements - are recommended:

   a) Encourage while planning and approving land sub-division, the creation of semi-private gathering space, between these plots of different sizes.

   b) It is highly recommended that this semi-private gathering space should be characterised by the following:

      i) It should be free of car traffic, and mainly used for pedestrians;
      ii) It should be highly secure for children to move and play safely in this space, under the control and watch of their parents and neighbours, while they are in their houses;
      iii) At the same time, it should be easy to escape from the space if there is fire;
      iv) The spaces should be well connected through safe pedestrian routes with social institutions (mosques, schools, clinics etc), and shopping facilities, which should all be within walking distance. This will encourage social integration as people walk to these places.
      v) This semi-private gathering space should be owned, controlled and maintained by the people who live around it, or, more precisely, whose doors open onto it. In this way, the amount of space to be maintained by the

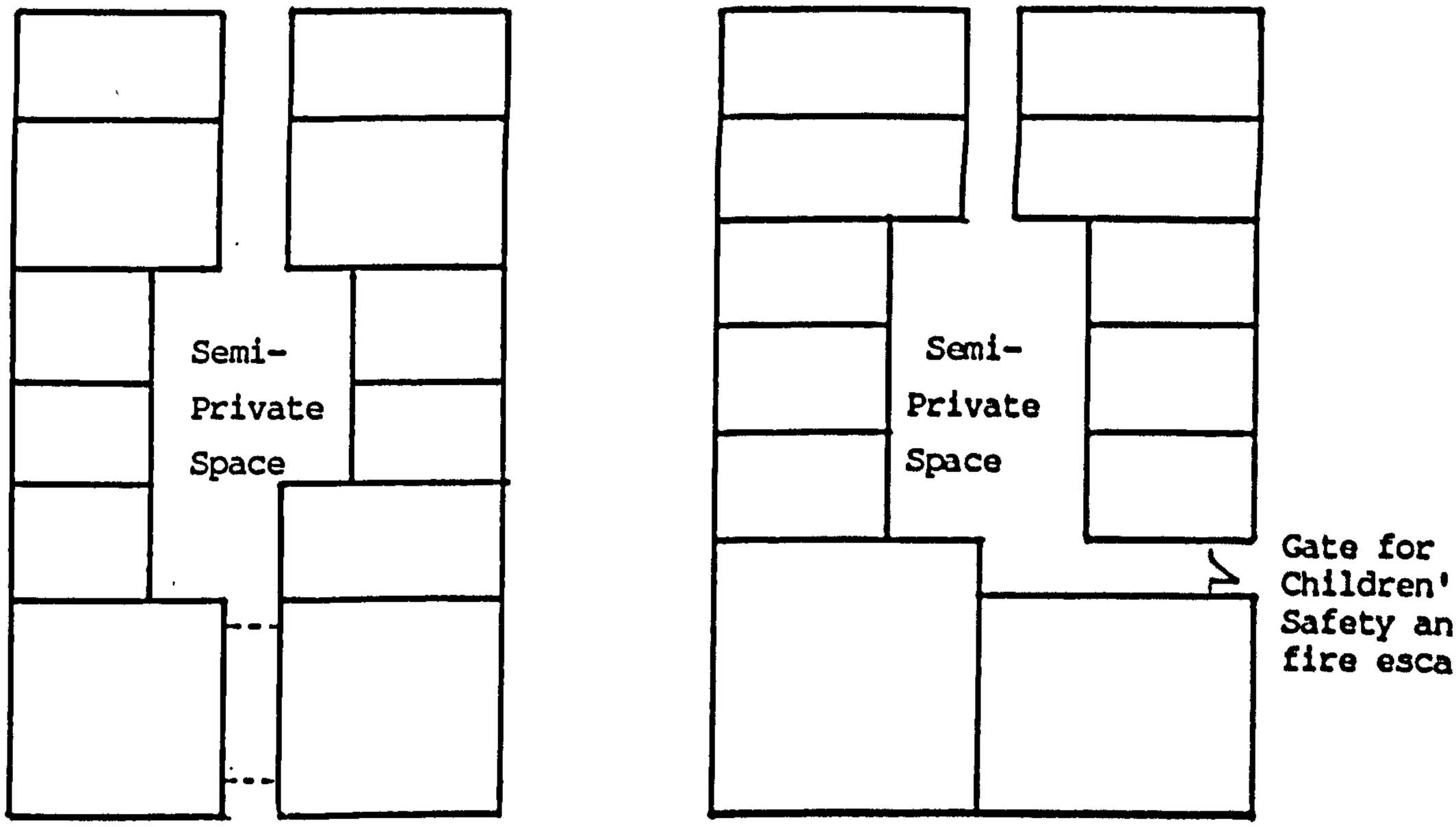


Figure 10.1: One of the possible ways to have different plot sizes coming together and creating semi-private space in order to achieve social integration and cohesion of people of different income and to revive the sense of neighbourly care and cooperation

municipality will decrease, meaning the saving of both effort and money by the municipality, and, at the same time, increasing the social integration between the neighbours through the decision making, control and use of this space.

vi) This space could be in the form of a cul-de-sac street or square (court) or any form invented by the designer taking into consideration the above-mentioned safety for children, clear fire escape and the harsh climate (in terms of orientation, self-shading, heat from A/C air conditioning units etc).

vii) The above mentioned proposals to some extent by help of Allah Almighty, will lead to social integration and cohesion and, at the same, time will lead to the revival of the positive aspects of the traditional pedestrian routes and cul-de-sac, with consideration of improving the negative ones.

Figure 10.1 shows one of the possible ways of having different plot sizes coming together and creating semi-private space, in order to achieve social integration and cohesion of different incomes, and to revive the sense of neighbourly care and cooperation.

10.5.3 Density vs Social Segregation

Traditionally, density was not used as an agent of planning control, as it is in the contemporary regulation. This seems to have occurred because the density was not very important in the past to regulate the built environment in accordance with the style of life and small numbers of inhabitants. In addition, most houses were independent in terms of services, so that systems for water supply, sewage discharge etc, were not held in common with other houses. Even the means of traditional transportation did not cause problems as today, when the shortage of car-parking will create traffic congestion and discomfort to the residents. Similarly density is important for people today

because high densities lead to the shortage of common facilities such as schools, mosques, electricity, telephones, sewage disposal, water supply etc., which have become very necessary for today's living. Density calculation will play a major role in determining the amount of these essential services to prevent discomfort for the people, and this is the main goal of density in urban planning. (1).

From the previous study it is found that the use of density by the Master Plans in Jeddah does not play a major role for determining the necessary requirements for the people, as one can find in one area a shortage of car-parking (which leads to over-crowding), schools and other services, and in another area more than sufficient. In addition, as mentioned before, the way of applying density as a control at present leads to social segregation according to income, because of the determination for each residential zone of a certain density to be different from the others. However, the author recommends the use of density as an agent of planning control to determine the amount of necessary services for today's living, to prevent difficulties and discomfort for the people, while, at the same time, avoiding the use of the density as a means of social segregation. Achieving social integration by using density will be discussed in the section of "Floor Area Ratio vs Social Integration and the Balance of Easement".

10.6 RESPECTING THE RIGHT OF OWNERSHIP

10.6.1 Right of Ownership vs Restriction and Controls

The traditional regulations gave total freedom to the owner to act on his property as he wanted. He could raise his edifice as high as he wanted, or go down as far as he wanted and even choose the form and layout of his buildings, as he wanted, within his plot, with only the stipulation of not causing harm to his neighbours, or to the road and passers-by. In contrast, the contemporary regulations restrict the right of ownership and control it in the following areas:

1) The building's intensity of use: by controlling the total areas in use in the building, in order to know the number of persons who use these areas. This logically will help to predict the actual services which are needed at the level of the house (such as car-parking, telephone lines etc), and at the level of the neighbourhood (such as mosques, schools, shops etc). Similarly this can be projected to predict needs at the city and regional level. But, instead of predicting the actual services needed through the density for each residential zone, the present zoning regulations differentiate the densities between the residential zones, which leads to social segregation according to income, with overcrowding in some zones and spaciousness in others, as discussed previously. However, the building's intensity of use is controlled by the zoning regulations of floor areas ratio and building height.

2) The building form: by controlling the building's location within the plot, and the building's height, through the zoning regulations of set-backs, plot coverage, and building height, in order to provide light and air and prevent fire spread. As noticed previously, this restriction does not conform with the Islamic concept of right of ownership. Moreover, it creates problems of privacy intrusion between the neighbours, and restricts the architect from developing a building form suitable for the social activities and culture of the owner and the prevailing climate. Thus, it is highly recommended that the right of ownership should be respected, the owner should be given total freedom to act on his property, with the stipulation of not causing harm, either to the neighbour, or to the road, or the passer-by. The author believes this can be achieved by the combined system of Floor Area Ratio and Flexibility on Building form).

10.6.2 Floor Area Ratio vs Flexibility of Building Form

The floor area ratio is the ratio of the total floor area over the plot area, and it is used to determine the actual services needed for

the inhabitants, as the shortage of these services, such as car-parking, schools, mosques, shops, etc will cause difficulties and discomfort for the inhabitants.

The floor area ratio is not concerned at all with determining the building form in terms of its location within the plot, or its height, but rather a variety of building forms can be achieved with a fixed floor area ratio. For example, as explained in the report "Zoning Regulations, Toward a More Flexible Basis" by the Deputy Minister of Town Planning, if the floor area ratio is 1.0, then

a) the building could cover the entire plot, 1 floor in height; or
b) it could be a 4-storey building covering one quarter of the plot; or
c) there could be two buildings one of 1-floor height covering half the plot and the other 3-stories high covering one-sixth of the plot with one third of the plot as open space. (4). (See Figure 10.2).

Accordingly, using the system of floor area ratio alone, will lead to a flexibility in design and building form, as shown in Figure 10.3, and give the designer the freedom to find suitable design to fit the culture and the needs of the owner (for example, privacy) while taking into consideration the prevailing climate, and the surrounding neighbours. Above all, this system respects the right of ownership by encouraging a greater utilisation and activity of the plot.

Thus the author highly recommends the adoption of this system but with the following conditions and considerations:

1) it should not lead to social segregation and should give well-balance services;
2) it should take account of the following, which is not considered by the system;

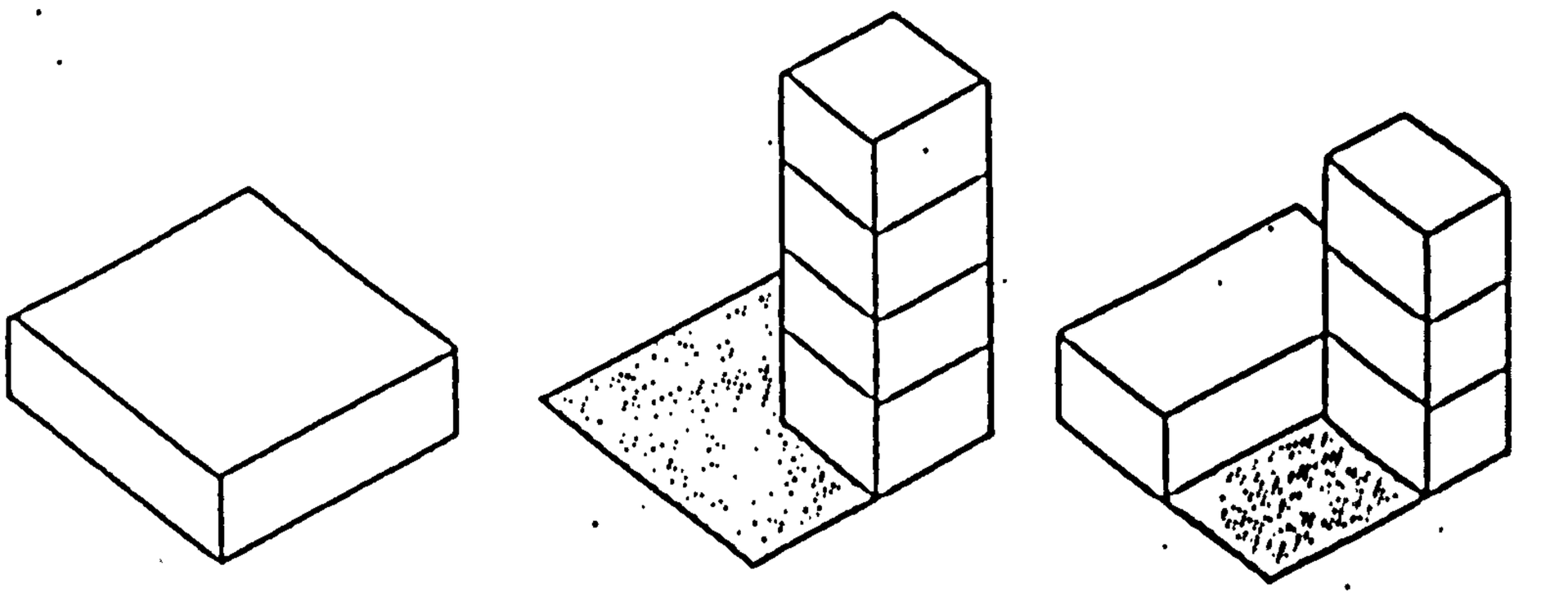


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Figure 10.2

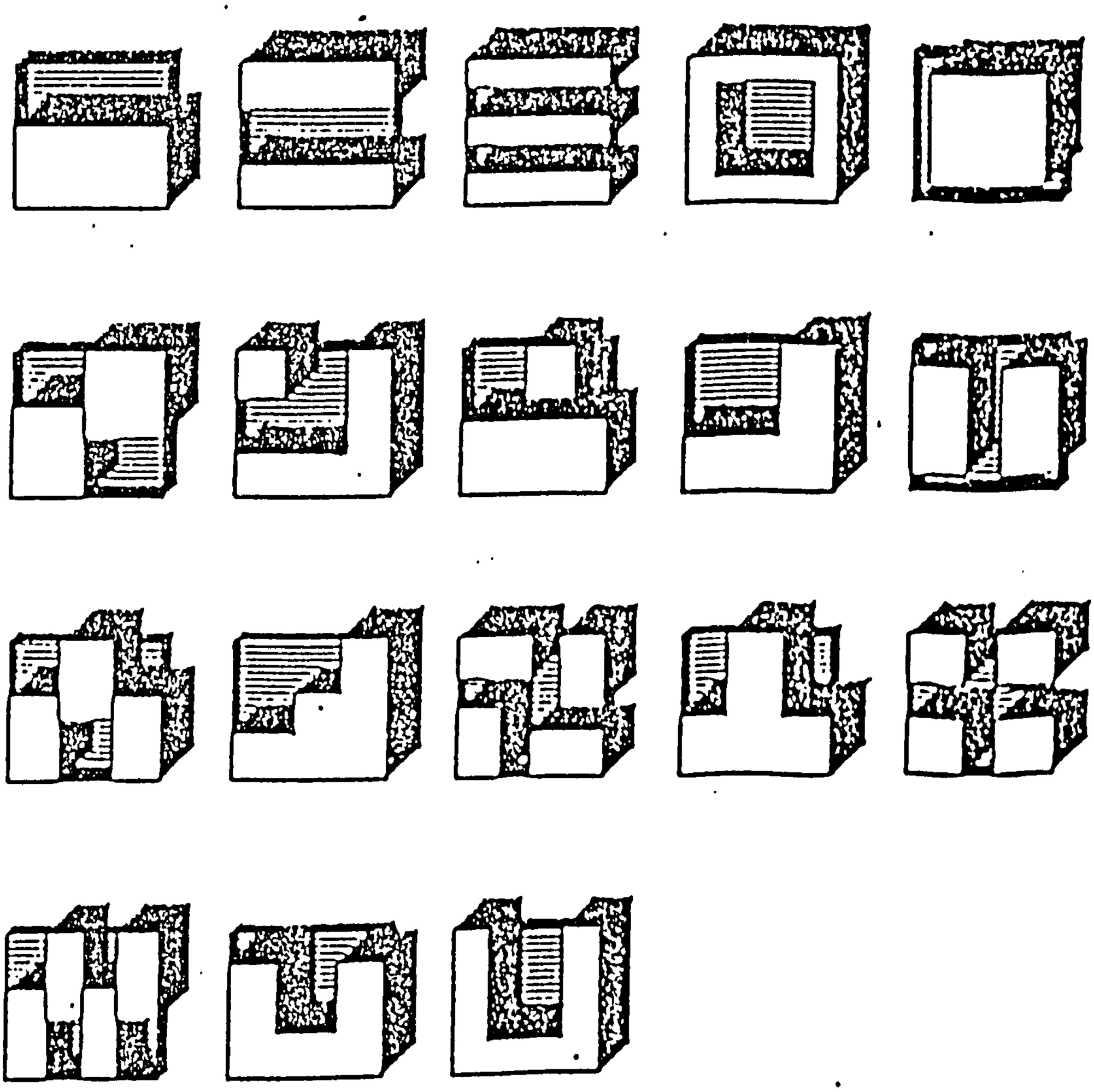


Figure 10.3: Using a floor ratio alone - as planning control for building intensity, leads to flexibility and variety of building form

Source: Ministry of Municipal and Rural Affairs, Deputy Ministry of Town Planning, Zoning Regulations, Towards a more flexible base, a discussion document, Unpublished Paper, 18.12.1405, 1985

a) the provision of light and air;

b) the maintenance of privacy;

c) safety (structures and fire spreading).

10.7 FLOOR AREA RATIO VS SOCIAL INTEGRATION WITH THE BALANCE OF EASEMENT

In the contemporary regulations each residential zone has a certain floor area ratio, which is different from the others, in order to achieve the density pre-determined by the Master Plan for each residential zone; this method, as has been discussed, leads to social segregation.

In order to avoid social segregation, the author sees no harm in having different floor area ratios, even if they are in one neighbourhood or street, but with the condition that no harm will be caused to the neighbours, as the result of an over-intensity of use in the building (for example a shortage of car-parking). (See Figure 10.4). To achieve this condition, it is important that the floor area ratio for each plot should be determined in relation to its easement while preparing the land sub-division, and at the time of sale, and it should be written in the title deeds. For example, a high rise building will have a greater floor area ratio than a low rise building of the same plot size, and there is no doubt that a high rise building will need more car-parking to serve the building, than will the low rise building. If the car-parking for the high rise building is not determined at the time of land sub-division, then the harm of difficulties, discomfort, overcrowding, delay, fire escape etc, will be caused to the neighbours and to the road, as a result of over-intensity of use of the building. By mentioning the floor area ratio of the plot and its easement in the title, then the owner will know his limit of using his property, because, if he exceeds this limit, he will cause problems to his neighbours and to the road. The owner has the right to increase the floor area ratio, if he proves that this increase will not cause harm to his neighbour or to the road, for

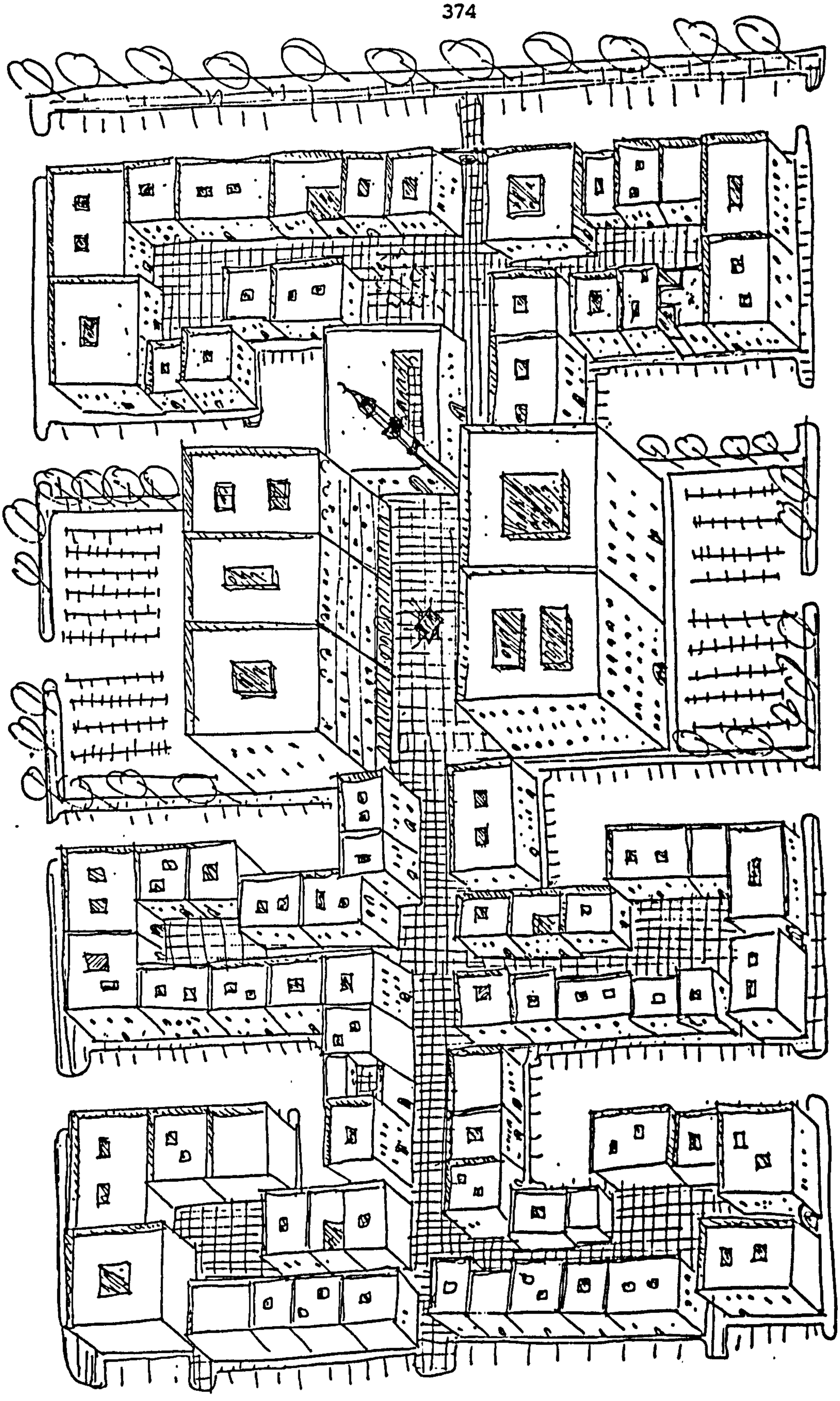


Figure 10.4 Sketch showing the possibilities of having mixed Floor Area ratios with social integration and balance of car parking services. (Shown here is an example of the balance of car parking services)

example, by buying the next plot or reserving the building's ground floor for car parking. This needs both approval from the authority and permission from the neighbour. (5).

10.8 PROVIDING LIGHT AND AIR

From the two experiences of traditional and contemporary regulations, it is found that the traditional regulations did not enforce or determine the ways of allowing light and air to get to the building. This was left to the owner, the only one who knew what was to his own interest and benefit.

In some traditional houses in Saudi Arabia, especially in the central and the eastern part of the country, one of the rooms would be left dark intentionally, without windows, to prevent the heat from entering and to preserve the cold air inside the room, to be used for sleeping in summer at noon-time. In contrast, the contemporary regulations do determine the method of providing light and air to the building by enforcing the compulsory regulation of set-backs. However, as previously mentioned, because of the invasion of the neighbour's privacy, as a result of the outward-looking windows, encouraged by the set-backs, and as a consequence of the over-heating of the solar air temperature in the set-back caused by placing air-conditioning units in the facades, the efficiency of providing light and air through the set-back regulation is very low.

The Ministry of Municipality and Rural Affairs made a comparative study of the efficiency of providing light and air through the left-over space from the set-back, naming it "Island building", and of the efficiency of the central courtyard, when the plot coverage is the same and buildings are placed symmetrically on the plot, as shown in Figure 10.5. They found that the set-back (island building) system has an upper limit of plot coverage (in the mid-sixties %) to give adequate light, while the central courtyard has an upper limit of

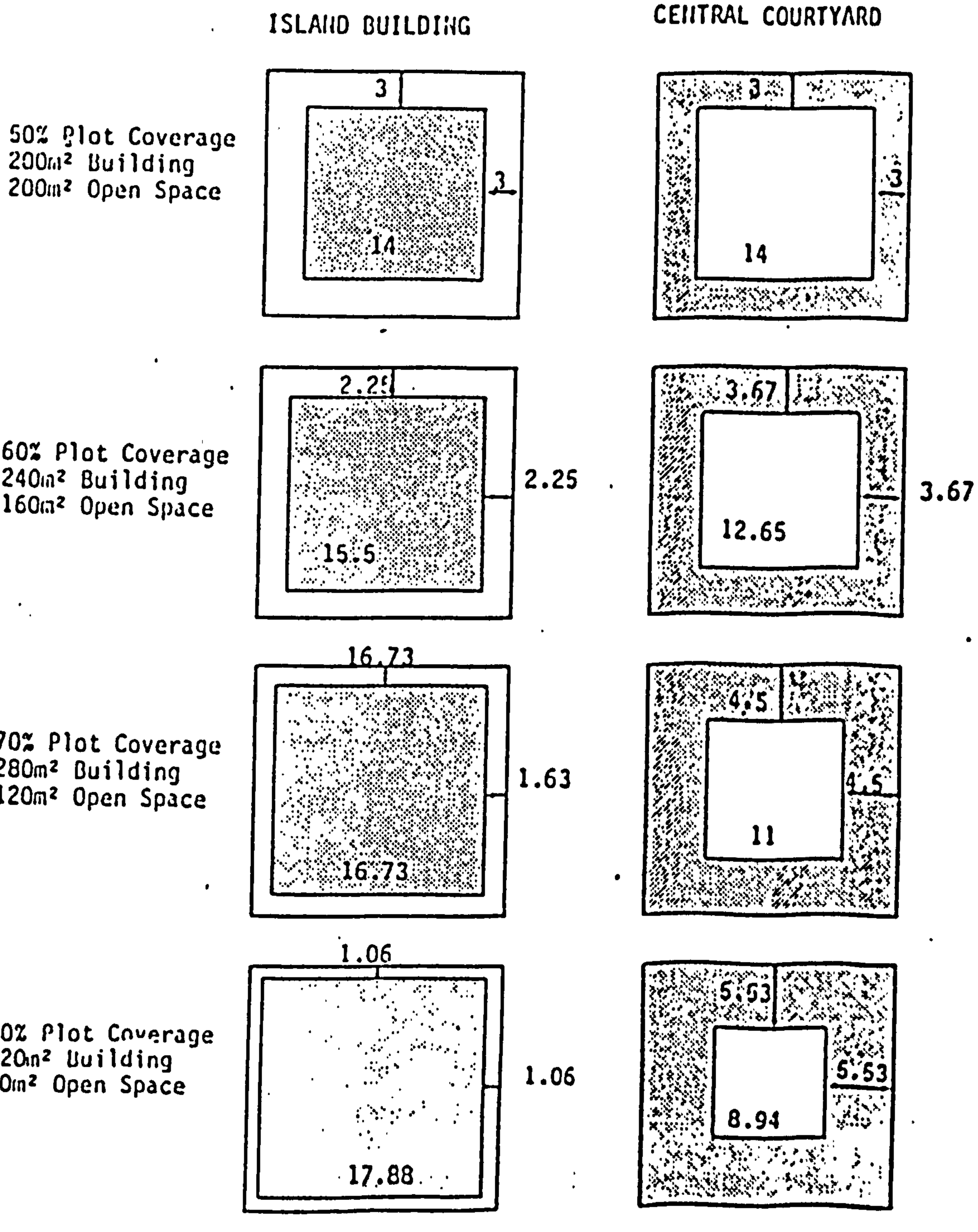


Figure 10.5: Comparison between central courtyard and island building (building with set-back), in terms of light provision through the left open space with relation to plot coverage.

Source: Ministry of Municipal and Rural Affairs, Deputy Ministry of Town Planning, Zoning Regulation, op.cit.

approximately 80% plot coverage, on the assumption that the light and air is obtained from its own courtyard and the perimeter wall is a fire barrier. (5).

However, the author believes that the regulations must not include methods of providing light and air to the building, which must be left to the owner, who knows his own interests and to the designer. Only if some functions of the building are really proved by medical research to affect the health of the occupier, then the regulation must be limited to the degree that this effect is required to protect human life, as this is one of the five important matters which the Islamic Shari^{c}ah considers must be maintained and preserved. (1). As a result, the author highly recommends that the set-back and plot coverage regulations, should be terminated or frozen, in order to leave the owner and designer with the authority and freedom to invent a way of providing light and air to the building. The intervention of the building authority (the Municipality) in forcing the provision of light to some functions in the building should only occur if the medical research proved that without it a health problem will be caused to the users. Then the method of providing light and air should also be left to the designer, to the degree that the harm will cease.

10.9 THE MAINTENANCE OF PRIVACY

In the previous study it was found that the contemporary regulations have no concern at all for maintaining privacy between the neighbours, but, rather, through the set-back regulations, which encourage outward looking, lead instead to destroying the privacy between neighbours. In contrast, the traditional regulations have great concern about maintaining the privacy between the neighbours as part of the Muslim cultural values, which consider sighting of the women's areas as being excessive harm, which must be removed. The way of stopping this harm is not mentioned in the regulation but it is left to the owner to find the proper way of stopping this invasion of his neighbour's privacy.

The author highly recommends the maintenance of privacy between neighbours and proposes the following ways of developing the prevailing regulations:

1) Remove or freeze the set-back regulation.

2) The regulations must not be in any way a source or means to lead to privacy-breaking between the neighbours.

3) The regulations must encourage the maintenance of privacy between the neighbours. This proposal can be achieved by respecting the owner's right to act in his property as he wants, with the condition of not causing excessive harm to the neighbours. This will give the designer the flexibility to find out the suitable way of maintaining the privacy.

4) The regulation must achieve a balance between guarding one's own privacy and destroying the other's privacy. This can be achieved by cautioning the owner to maintain his privacy, if he wants others to respect his privacy. At the same time the owner should be warned to avoid causing excessive harm to his neighbour (here avoiding sight of his neighbour's privacy). The regulations must not state the way to guard one's own or another's privacy.

Since house privacy is mainly related to the protection of the women's area, the proposal of cautioning the owner to maintain first his privacy is based on an analogy of Allah's order for the women to guard their modesty and not to display their beauty and ornaments to strangers, except to those who are in the degree of Mahram, and at the same they should not draw attention to their hidden beauty and ornament. (See Chapter 6, section about relationship with the opposite sex).

Thus the prophet Mohammed, peace be upon him, considers the woman who walks perfumed, commits adultery. All the above-mentioned indicate

that the woman should first protect her modesty, her beauty and ornament and should not be a sign, or a source of allure and attraction; all of this is to protect the society from anything leading to adultery. Thus a woman in Islam should dress with certain cloth that covers all her body, except her hands and face, and some scholars say that, if she is very beautiful and her charm cannot be resisted, then for her it is compulsory to cover her face and hands. Similarly, the woman is ordered to dress in the Islamic legal uniform to protect her modesty and beauty from the stranger; it is an axiom that the dwelling, which is considered the woman's kingdom and place where she moves freely without restriction, must be protected firstly by the owner maintaining his privacy.

The other reason for the author's recommendation that the owner must first protect his privacy is to maintain the balance between the new and the existing building to prevent both of them using their rights in an excessive way. The owner of an existing building might use his rights excessively by not taking any precaution to avoid harm occurring to his neighbour by overlooking. His balconies and openings may be open and the yards may be exposed, so that he may request the owner of the new building to prevent any overlooking of his property, based on the argument that his building was there first. Without doubt, this would lead to great restrictions being placed on the new building, with nothing being yielded from the other side.

Alternatively, the owner of the new building might do something which harms his neighbour's privacy with the argument that he can do what he likes on his own property. Thus the author believes that limitations are needed to avoid the use of the rights of owners in an excessive way.

In Islam there is no excess (Ifrat) or negligence (Tafrit) in any matter, but rather balance and equilibrium (Mwazmh wa Itzan). This can be recognised in Allah almighty's order that both men and women should lower their gaze, guard their modesty and cover their bodies,

particularly the sexually attractive parts of their bodies. Also, to achieve balance, Allah orders the most attractive sex (the women) not to draw attention to their beauty. All these limitations are ordered in order to achieve Allah's (the lawgiver's) intention to guard the honour and lineage of the people from distraction and intrusion.

This balance of guarding one's own privacy and preventing the intrusion of another's privacy was in practice in all the Arab-Muslim traditional cities, using different techniques according to different natural environments. In the desert, the central courtyard, the high small window and high roof parapet were designed to maintain one's own privacy at the same time preventing intrusion onto another's privacy. Similarly in the traditional dwelling in the coastal area the building is high rise, the openings are covered with wooden lattice work, and the roof parapet is also high.

10.9.1 Architectural Elements to be checked for Privacy Maintenance

In order to achieve a balance between maintaining the privacy of a building and intruding on another's privacy, certain architectural elements should be checked before commencing construction. It is possible to achieve this by reading the prepared plan of the building and the map of the surrounding area before building starts, to determine the points in the building in which its privacy certainly will be exposed to the sighting of others, and the owner should be warned to modify them, if he does not want others to destroy his privacy. At the same time, it is possible to determine the resulting harm which might occur to others and the owner should be warned to avoid them to the degree the harm will be removed.

The following architectural elements and others must be checked by the authorities in the municipality before giving building permission, in order to achieve privacy in the buildings.

1). Openings (windows and doors)
2). Balconies
3). Roof parapet
4). Building height
5). Building form (the left-open space) vs the surrounding.

10.9.1.1 Points to be Checked for Openings and Balconies

1) Their location and their relation with the surroundings.

2) Their height from the floor level of the rooms and the building with relation to human height and angle vision (see Figure 10.6).

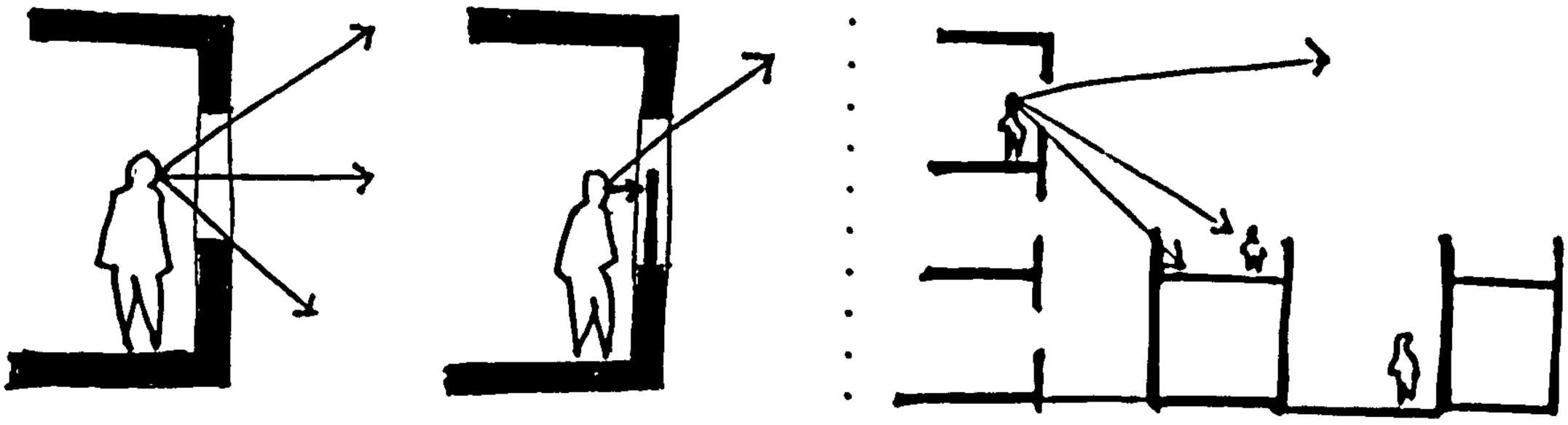


Figure 10.6: Angle vision vs Building and Human Height.

3) Material and vision barriers (such as wooden lattice), (checking) in terms of their degree of transparency and opaqueness.

Also the factor of judgement is based on the possibility of recognition and differentiation through them between male and female and between Zaid and ᶜamr (persons' names, it is an Arabic expression to indicate good recognition between persons).

4) Intensity of lighting used in the room vs transparency of material, and the lattice and shutter design for the opening should be used as vision barrier. For example, in the past, the wooden lattice (Rwshan, or shish) in the opening functioned very effectively in terms of privacy maintenance, because the lighting inside the rooms was always very low. Today, the intensity of light inside the room is very high, especially at night owing the use of electricity; thus the openings in the wooden lattice should be designed very carefully to protect the privacy of the room from sighting from outside. As with the lattice, the shutters and the degree of the material's transparency should be checked vs the degree of light intensity inside the room.

10.9.1.2 Points to be Checked for Building Form and Height

As discussed previously, the author's proposal is to give the owner total freedom to act as he wishes on his property, based on the Islamic concept of rights of ownership, but with respect to the stated density for his plot and the condition of not causing excessive harm either to roads or to the neighbours. This flexibility should result in different building forms (height and shape); bulky, central, Island, L, U, T etc, forms (see Figure 10.7). The authorities granting building permission can determine, through reading the building plans and considering the surrounding situation (either built or unbuilt, which should be recorded in the land sub-division plan), whether the proposed building form will maintain its privacy or cause problems to others. For example, the building form with a central

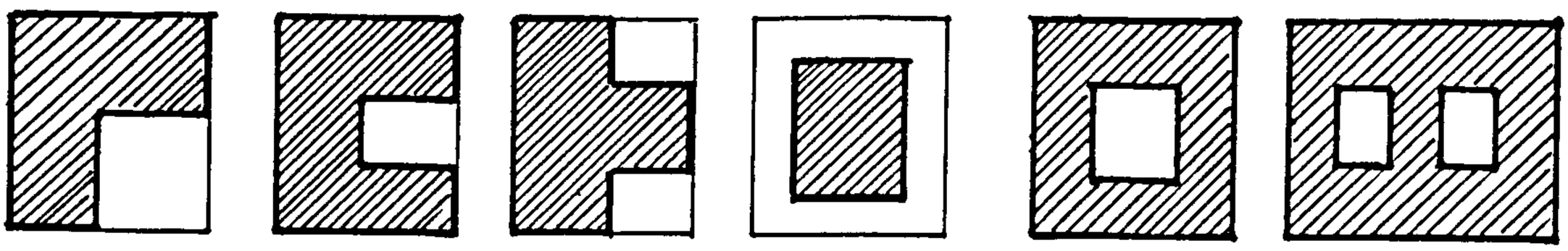
court is the most the owner can do to maintain the privacy of the court, while the other forms, either U or T or L, etc, have free ends or unbuilt property edge(s) which make the open space that is left exposed to the sighting of others, either from the adjacent neighbour or from the neighbour on the opposite side of the street (see Figure 10.8).

Here, the authorities should warn the owner to solve this problem in his own way if he does not want others (the opposite and the adjacent neighbours) to overlook his open space.

10.9.1.3 Building Height vs Self-Privacy and Sighting Intrusion

As has been notified, the flexibility of the owner to act on his property does not only lead to a variety of building shapes but also building height. There is no doubt that the variety in building height will lead to intrusion of privacy from the highest building to the lowest building, even if the lowest maintains its maximum privacy by having a central court, the outside opening wall protected, and the roof parapet to human height (see Figure 10.9).

Here, those authorised to grant building permission should differentiate in ruling between the buildings which have already maintained their self-privacy to the maximum, and those which have not, and between those buildings which were constructed first and newer ones, to prevent intrusion by overlooking. For example, as in Figure 10.10, if low rise buildings are built first, and the high rise building later, the owner of the low rise building, if he has not maintained his privacy well, has no right to claim the sighting harm which might occur from the high rise building. The authorities have no right to force the owner of the high rise building to remove the sighting harm which might occur from his building, but should caution the owner of the low rise building to maintain his privacy by protecting the open space if it to be used by his women, protect the windows and doors, and raise his roof parapet. If he were to do this,



Building form with free end or edge(s)
Privacy breaking occurred through the free end(s) or edge(s)

Central Court
Privacy is maintained

Figure 10.7 Different Building Forms

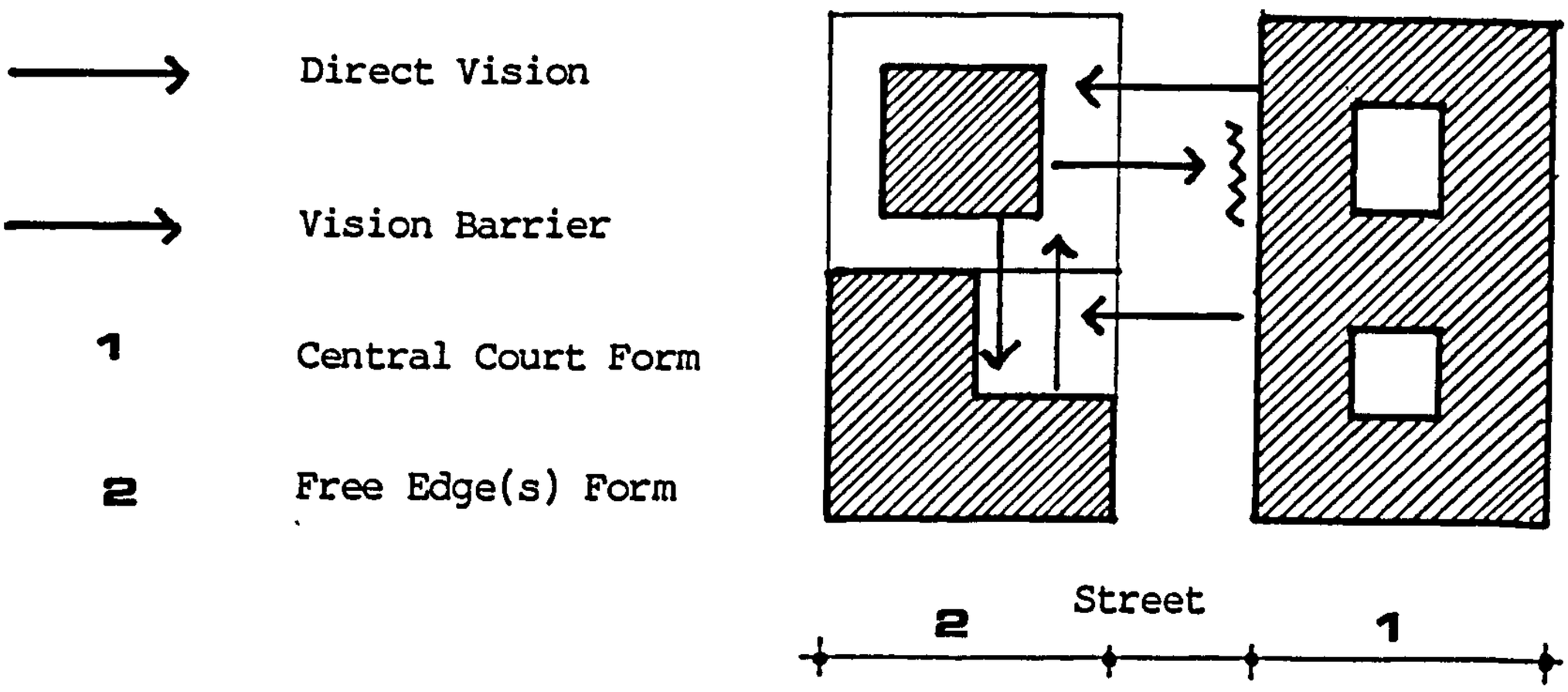


Figure 10.8 Degree of Privacy vs Different Building Forms

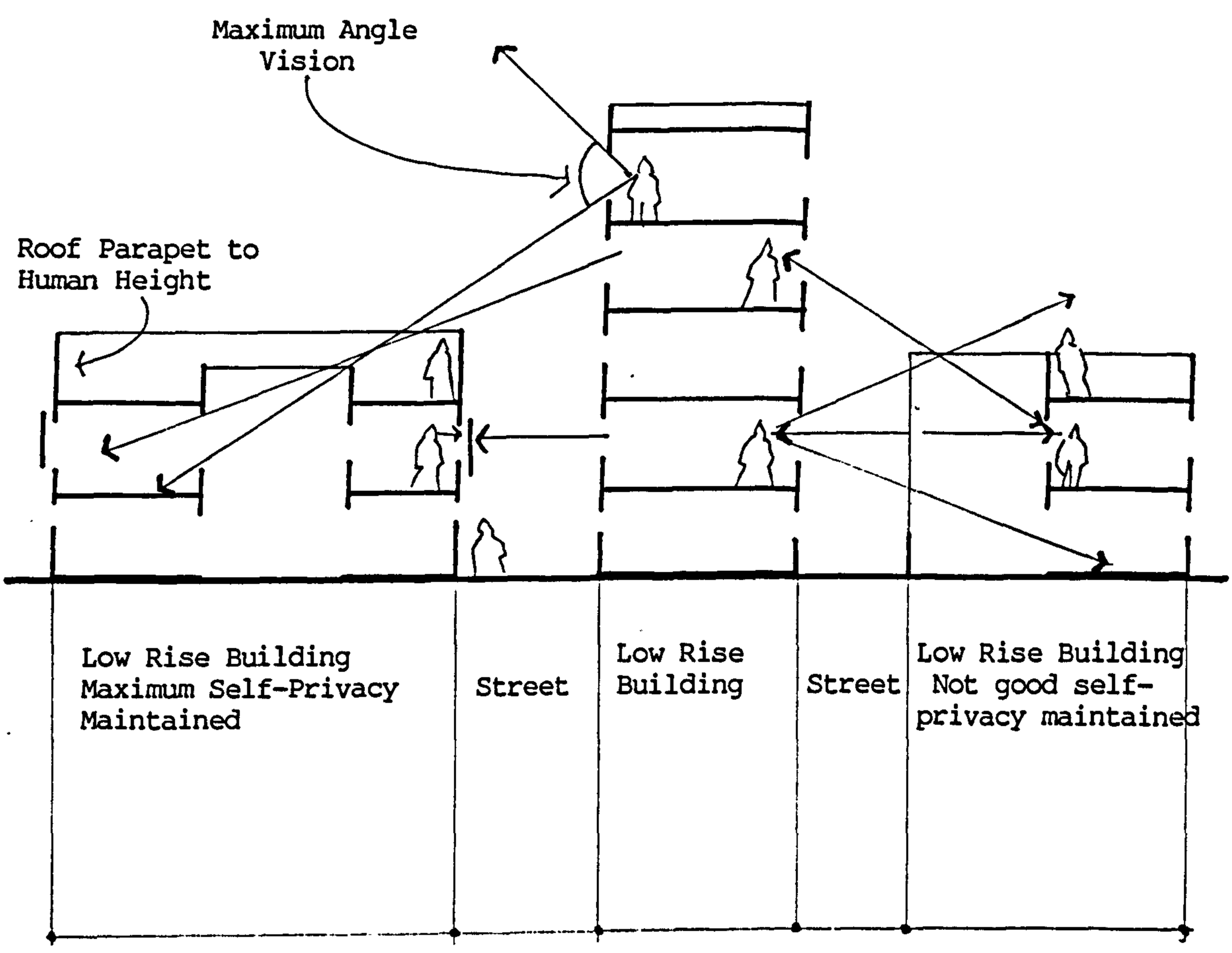


Figure 10.9 Variety of Building Heights vs Self-Privacy

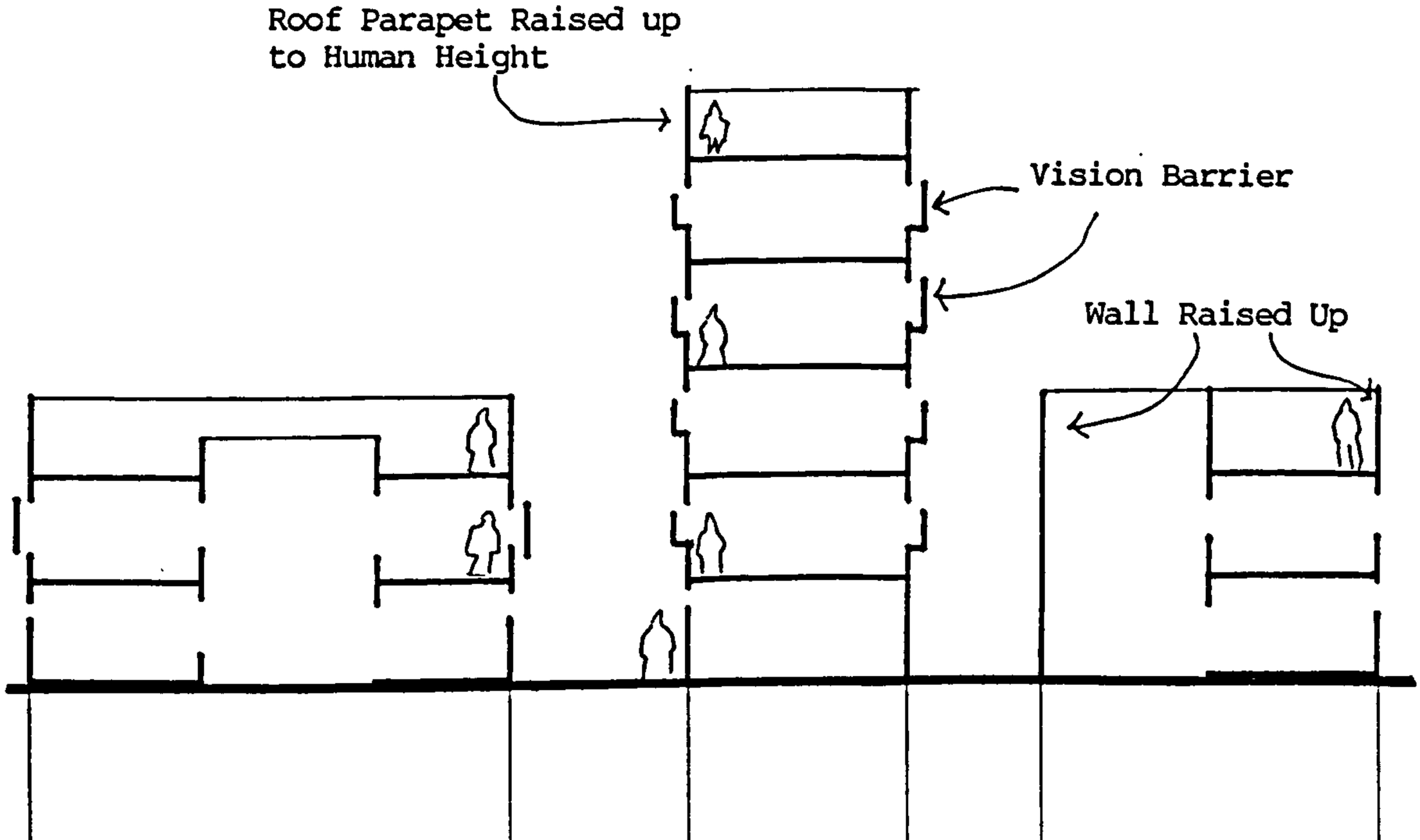
then the authorities have the right to force the owner of the high rise building to prevent harm being caused by his overlooking his neighbour.

Similarly in the case of the low rise building, which has already maintained its privacy to the maximum, the authorities have the right to force the owner of the high rise building to prevent the sighting harm to this building immediately, and force him to modify the plan to the degree to which the sighting harm will be removed. (See Figure 10.10).

10.10 PARTY WALL VS SAFETY AND THE CLIMATIC FUNCTION

There is no doubt that the proposal for giving the owner his right to action on his property with the stipulation that he must not cause harm to others, will lead to the establishment of party walls between the neighbours. Concerning this party wall, there will be the emergency of party wall disputes between the neighbours, and construction and safety problems will occur, which need to be solved and about which clear decisions need to be made.

As mentioned previously, one of the advantages of the set-back regulations is that it prevents fire spreading, and prevents structure problems occurring to the neighbour's building, because both buildings are totally separated and structurally independent. When buildings are attached, one advantage is that they function very effectively climatically, especially in hot climates, as the amount of the building enveloped which is exposed to the sun's rays is decreased, with a corresponding reduction in solar radiation onto the building. This will lead to the preservation and sharing air cooling between the houses and a minimising of the loss of cool air through convection and conduction. However, with attached dwellings, fire may spread from one to the other, causing structural weakening to the party wall. Also if the neighbour is excavating while constructing his house, he may cause damage to the other's foundations. The regulations must



Already has maintained its own privacy	Prevent the Harm to passer-by	Forced to remove the sighting harm from the low rise building	Prevent the Harm to passer by	After Maintaining its self-privacy
Precedence in Construction		New Construction		Precedence in Construction

Figure 10.10 Different Building Heights vs Privacy Maintenance

have restrictive rules, to avoid excessive harm to human life, as human life is one of the five things ordered by Islam to be preserved and protected. To avoid fire spread, the regulation must order the owner of the party wall to choose material for the wall which has the characteristic of delaying the spread of fire for many hours. Actually the decision of time lag of delaying the fire spreading for the construction material of the party wall is related to the speed of the firemen in reaching the dwelling (based on the distribution of fire stations within the city), and how quickly they can extinguish the fire (based on past experience and the standard of firemen in terms of training and equipment, the system of evacuation of the dwellings and other necessary safety factors). There is a great need to study Fire Safety and research needs to be undertaken by the experts in this field and the related government agencies.

In terms of avoiding the weakening of the neighbour's party wall, the authorities, who grant building permission, should warn the owner of a new building to take into consideration before building, the need to avoid causing a weakening to the party wall of adjacent neighbour(s). This can be controlled, before the harm occurs, by checking the structural system and the construction stages, especially in the area adjacent to the neighbour(s) party wall. If the authorities find that it will cause weakening to the party wall, they will not give building permission until the plan is modified to the degree that the weakening to the party wall is removed.

In terms of using the party wall owned by another neighbour, the one who wants to use it must first obtain permission from the owner, and the owner should not prevent him from using it, if he is really in need, and if no harm will be caused to the wall. He should allow this either freely, or according to a certain agreed amount, as the prophet Mohammed, peace be upon him, says "the neighbour should not prevent his neighbour from inserting his wood on his wall". (6). This is also based on the prophet saying "Nor harm neither reciprocating harm". (7). Also the prophet says "Use of the Muslim's property is

not permissible except with his consent". (8). Thus the neighbour's permission to use his wall is very necessary.

10.11 THE QUALITY OF ENFORCEMENT

There is no doubt that the nature of the proposed method of controlling urban housing makes enforcement of this proposal somewhat difficult, needing professional skill and a certain quality of administration higher than the quality of the enforcement of the present zoning regulations. This occurs because the enforcement of the present zoning regulations can be simply identified as routine work, needing little thinking and decision making.

All that is required is to follow blindly the standardisation of set-backs and numbers of floors suitable to the building scale; and plot size with 35-40% deduction for roads and open space in the land sub-division on scale; if it conforms with these regulations then the permission will be issued. In contrast, the enforcement of the proposed regulation needs a person of good architectural professional skill and Islamic legal background, because this person will be in the position of a judge. He will not issue permission (either for building or land sub-division) until he ensures that the rights of the owner, the neighbours and the passers-by in the road (either on foot or in cars) are maintained and no harm will be caused to any of them, according to the Islamic concept based on the prophet's tradition "not to harm neither reciprocating harm". (10)

At the same time he is not only in the position of judge but also he will act as consultant and advisor. Here it is important to differentiate between maintaining the rights and giving advice. The former will be mainly in favour of others by preventing the harm which might be caused by the owner, while the latter will be mainly in favour of the owner to prevent harm which might be caused by the designer because of the owner's limited background in architecture.

For example, suppose the design office makes the main building orientation east-west, and puts all glass windows on the westerly direction. There is no doubt that this will harm the owner, because the sun's rays will penetrate horizontally inside the house, overheating the house, limiting the use of the rooms and increasing the expenditure on energy. The owner may not recognise such a problem, but one who has a background knowledge of architecture in hot regions is aware of it. Here, the municipality's architect who is authorised to give building permission, has to explain the problem to the owner and how it can be solved. If there is no harm caused to others this is not compulsory, but it is given as advice which the owner will not be forced to accept, if does not wish to do so. But, if the windows will intrude on the privacy of others, or cause a high intensity of glare and brightness because of the reflection from the glass and cause difficulties to the drivers in the street whilst driving, or will prevent the neighbours from utilising their house, then this action should be stopped to a degree that the glare is removed by not using reflective glass, or by treating the windows to stop the glare - the action taken depends on the owner.

Also, if the harm will cause danger to the owner or the building's occupants, such as could be caused by an unsafe structure, and it is proved through calculation that the building will collapse, and the owner will say, "I am the harmer, and I accept the harm", here the permission must not be given until the structure is surely safe. Similarly, the harm that might be caused by insufficient light and air, if it is proved through medical research that it will cause health problems, then this action should be stopped to the degree that the danger is removed.

As noticed above, to apply such regulations is not as easy as applying present regulations, and needs authorities of high skill, full awareness and very good architectural and Islamic jurisprudence background.

10.12 EPILOGUE

Knowledge, information and experiences are reciprocated between nations through cross cultures. Every nation has its own beliefs, values and traditions, which form its identity. Benefiting from other societies is considered a positive gain. The negative signs are of blindly copying systems of other societies with different identity and culture, without questioning the system and without analysing it under the microscope, against the real needs of the adopting society to establish suitability. A time may be reached when this blind copying may cause damage similar to the damage caused to a thin man's clothes when worn by a very fat man thus tearing the clothes and rendering them useless.

As discussed in chapter 7 of this thesis, the Muslim society has its own identity, ideology and systems which cover all the aspects of Muslim life (religious and worldly matters), which form their socio-culture. Thus, when dealing with Muslim society in any matter, among them being the built environment, it is very essential to consider and to conform with its socio-culture, to have suitable solutions, which fit in with the requirements of this society.

Jeddah, one of the Islamic cities on the Red Sea, throughout its long life, has had many experiences and regulations applied to its built environment, some of which conformed with the socio-culture of the society but were later abandoned one way or another, and new policies and regulations were substituted which were far removed from Jeddah's socio-culture. It was thought that they would be suitable for this society because they had succeeded in other societies or, it was thought that they would lead to urbanism, or that they were urbanism per se, or that they could be easily applied. Thus they were adapted, as they are now, without question, and without being analysed against the need of Jeddah's Muslim society and its micro climate to establish their suitability.

Consequently, many problems occurred in the built environment, conflicting with the socio-culture and the prevailing climate.

This thesis is mainly directed towards identifying the nature of the building regulations which applied to Jeddah's built environment through its long life. to know their positive and negative effects on the built environment and then to reach recommendations and solutions for regulation of urban dwelling suitable for Jeddah's inhabitants. As a doctor needs the historical information about the patient to identify the cause and effect of the illness in order to give a proper cure and description to overcome the illness, a similar methodology is used in this thesis. Historical evolution of Jeddah's urban dwelling, and building regulations have been identified and analysed and then recommendations and solutions for regulations, believed to be suitable for Jeddah's society, have been proposed.

Through research and analysis, it was found, generally, that two distinct urban dwellings existed in Jeddah. The first one was characterised by tradition and the second one being contemporary. The traditional urban dwelling in the old town of Jeddah conformed well with the socio-culture and had good solutions for the harsh climate inspite of the limited local building materials. Its shady, windy, irregular pedestrian streets gave a passive solution to the harsh climate and encouraged social integration on these pedestrian streets between the residents of different incomes who lived side by side in one quarter, and also encouraged among them the sense of community and neighbourliness that is encouraged by Islam. The traditional houses are carefully designed to cope with limited amount of land within the city wall and to satisfy the needs of the extended family to live together in one house. Thus the traditional houses were multi storied. The ground floors were mainly reserved for male guests, while the upper floors were reserved for the family and female guests. The

windows were covered with wooden lattice - either Rushan or Shish, depending on how rich the owner was, to maintain the privacy for the occupiers and to respect the privacy of the neighbours, and the projections of these windows left above the street to maintain the right of the passer by on the street.

The study revealed two main factors were responsible for the appearance of the traditional urban dwelling that was suitable for Jeddah society.

1. The awareness of the local master builders about the socio-culture of his society and the full understanding of the prevailing micro-climate and the characteristics of the local materials.

2. The nature of the regulations applied in old Jeddah's built environment helped the master builder to create urban dwellings suitable to Jeddah's society. These regulations were based on the Islamic concept of "not harm or reciprocating harm", respecting the rights of ownership, neighbours and passers by. The "proscriptive" rather than "prescriptive" nature of the regulations coupled with total freedom for the owner to utilise his land as he wished with the stipulation not to cause excessive harm either to neighbours or to the road, gave the master builders a great flexibility to produce architecture fit and suitable to Jeddah's Muslim society and even giving him confidence to adopt architectural elements from other societies.

On the other hand, the study revealed that the contemporary dwellings were considered to be exotic and greatly conflicted with the socio-culture of Jeddah's Muslim society and are not adapted to the micro climate. As a result many social and environmental problems have occurred. The charming traditional housing fit for the Jeddah society has been replaced by

contemporary building typologies, villas and apartments, which have no concern for either the privacy of the occupants or the neighbours but rather encouraged intrusion into the privacy of each other through windows and buildings set back. No consideration was made for the prevailing harsh climate.

The traditional urban fabric of shady and windy pedestrian streets that encouraged the social integration between the residents and provided a safe atmosphere for children, was replaced by contemporary urban fabric of highly ordered grid iron pattern mainly for cars and had little concern for human scale, children's safety and social integration, but rather encouraged social segregation according to incomes to achieve the pre-determined densities by the Master plans for each residential zone.

The study revealed many factors that were responsible for establishing the characteristics of the contemporary exotic urban dwelling in Jeddah and all other Saudi Arabian Cities.

1. The absence of the local Master builders, who knew the real needs of their society and environment, from the arena of the built environment played a major role in the appearance of the exotic architecture and planning. The study revealed that using reinforced concrete in building helped to push aside the local master builders from supervising the built environment due to the lack of experience of the reinforced concrete technique. Coupled with the slow construction time of using the traditional local material, there was a great demand for fast construction to satisfy the high demand for housing due to the increase of population through internal and external emigration. The local master builders were replaced by Muhndsain (engineers) from neighbouring countries that already had been influenced by the western culture. These engineers who were enticed and employed because of their education, tended to look on the master

builders as being inferior to them. These Muhndsain copied blindly the architecture and planning practised in their own countries, which had already been influenced by the western culture, and transplanted to Jeddah without questioning the suitability of their methods and adapting them to the requirements of the societies' values and traditions.

2. The indirect psychological effect of media, press and exhibitions through a campaign for the Aramco home ownership plan for the Saudi employees and the housing program for government employees at Malaz in Riyadh, played a major role in planting and fixing in the mind of the public that the villa type and planning of grid iron pattern were a sign of urbanisation, modernisation and better standard of living. This image was responsible for the public acceptance of the contemporary urban dwelling and the eagerness to institutionalize the system in late 1960s with regulations that dealt with "The way of building in the plot".

3. The contemporary regulations were responsible for the continuous existence of exotic urban dwellings especially when the administration of the built environment shifted at the end of the Ottoman Caliphate from the Hisbah headed by the Muhtashib and court headed by Qadi (Judge), who were both religious officials; to Baladiah (municipality) headed by a Mayor lacking in prerequisite religious qualities, in order to cope with a western system of administration. The Baladiah system continues to this day and has resulted in an increase in the authority of the municipalities to enact regulations to control the built environment. These regulations were first started with "The Roads and building statutes", passing on to the regulations for "buildings on the plot", finally with regulations adopted by the master

plans to achieve the pre determined image and density for each residential zone. These contemporary regulations made a continuous circle, supported each other, and carried the same ideology and methodology of controlling the built environment, different from the traditional regulations. The ideology of the contemporary regulation is based on the fundamentals of public health and city beautification according to the western concept of planning. The method of enforcement and control is based on the compulsory 'how to do', according to the prescriptive dimension, minimum standard of zoning regulation and not according to Islamic principles.

These minimum standards are used to control the building intensity and form, through sets of zoning regulations like set backs, floor area ratio, plot coverage, building height etc., in order to achieve the predetermined density for each residential zone.

The study revealed the following consequences occurred as result of applying the contemporary regulations.

1. Restricting the owners right of maximum freedom to act in his property, through a set of standardisation zoning regulations that control the building form and density and not according to the Islamic principle of preventing the excessive harm of both the road and the neighbours. This resulted in a conflict with the rights granted by Islam and at the same time restricted the designer in producing architecture suitable to Jeddah's Muslim society, especially with regulations that control the building form like set back regulations.

2. By virtue of the regulations, the owner must follow blindly the prescriptive minimum dimensional standards without argument or knowing the reason behind them, even though the regulations will lead to excessive harm to

others, and at the same time those who have been harmed had to accept the harm because the harm resulted from the enforcement of the regulations. Thus, those who have been harmed are forced to prevent the harm themselves, (eg. what is in practice today to prevent intrusion of privacy by the neighbours as a result of set back regulations, is to raise up the yard walls using corrugated plastic sheet).

3. The regulations spread the sickness of plan duplication in the architectural offices in which the architect only needs the information of plot size and the set back regulations and some information from the owners. He then duplicates a similar plan that matches the requirements and therefore there is no need for a site visit and site analysis to identify the different problems. The municipality will give the building permission, if the zoning regulations are considered, without thought about the excessive harm that might be caused to neighbours and surrounding roads.

4. Instead of the regulations encouraging social integration as one of the master plan goals, based on Islamic concept of equality and brotherhood, they rather encourage social segregation according to wealth and amount of income. This occurred through the differentiation between the residential zones to achieve the density and image of each zone predetermined by the Master Plan, by controlling the plot sizes building typologies and materials, floor area ratio etc.,

After identifying the cause and effect of the regulations on urban dwellings the author proposes the following solutions and recommendations to improve the present urban housing regulation, to conform with social structure and cultural values of the society, while benefiting from the old and current experiences.

1. The urban dwelling regulations must conform with Islamic teaching and culture of the Muslim faith.

2. The regulations must be applied to all people equally and provide equal opportunities for all.

3. The regulations must not be a source or a means of social segregation according to wealth, but should encourage social integration.

4. The regulations must respect the right of ownership and restrict this right to prevent excessive harm to others (either to neighbours or to the passers by).

5. The regulations must not be a source or a means of intruding into the privacy of others, but rather they must maintain the houses *inviolability from* intrusion.

To achieve the social integration, the author recommends abandonning the regulation of minimum plot size, and the differentiation of the densities between the residential zones, which lead to social segregation. He also encourages different plot sizes and floor area ratio that control the building intensity, in the same neighbourhood and even in the same street, with the stipulation that no excessive harm will result to both roads and neighbours. At the same time he encourages a semi-private space between these different plots mainly for pedestrian and separated from motor traffic for children's safety. This he hopes will revive the traditional, private, dead end street, and will encourage social integration in this semi-private space through use and control between the residents whose doors are open to it.

To achieve the respect of the right of ownership and to increase the flexibility in design, the author recommends giving the owner total freedom to act on his land as he wants with the stipulation not to cause excessive harm to the roads or to the neighbours based on the Islamic concept of excessive

harm. At the same time he proposes to abandon all the regulations that control the building form to give the designer full freedom to act in the plot as he wishes to provide light and air to the building and to produce architecture to fit Jeddah's Muslim society and environment with consideration of "the no harm principle".

To maintain privacy between the neighbours, the author recommends abandonning the set-back regulation, with respect for the right of ownership, coupled with applying the Islamic concept of not causing excessive harm to others. This will encourage and give the designer freedom to maintain the privacy of the owner and to respect the privacy of the neighbours.

The author realizes that to apply the proposed regulations is not an easy task. Routine work, consists of blindly following the standardisation of the present zoning regulations which require little thinking and decision making, and which can be done by any clerk of low qualification, such as a draftsman. However, the enforcement of the proposed regulations needs highly skilled authorities, with full awareness and very good architectural and Islamic jurisprudence background because they will be in the position of a judge and at the same time act as a consultant or adviser for the owner to prevent the harm which might be caused by the designer, as discussed in the quality of enforcement in the conclusion. The author also realizes that the proposals need more discussions and analysis by a group of experts from different fields comprising of scholars who have good background in Islamic Building Jurisprudence, and the Islamic legal policy. and the concerned institution like municipalities, planning and consultant offices, universities, etc, to enrich the proposals and to prove their validity.

The author realizes the difference between theory and practice. He believes, that it is a big mistake to apply any

proposal that theoretically proves its validity, to the public at large, before testing and experimenting in reality to prove its practicality. Thus, the author highly recommends that the proposed regulations must be adopted by a developer and a government agency, and applied in a new development as an experiment. All incidents and experiences must be recorded, researched and analysed, to develop the proposals to a practical standard, so that deficiencies can be avoided when applied to a large scale development.

The team with skill and knowledge in architectural planning, engineering, social science and Islamic jurisprudence, who will be administrating the development as a branch of the municipality, and who experience the development, will in time become experts, who will then transfer the experiences to others (specialist and public) through conferences, lectures, media, press, and training programmes. At the same time they will be the main source of reference at the time of enforcement of the new regulations.

Finally, in this thesis, the author has tried to suggest, with his limited knowledge, the improvement of the present urban housing regulations in Jeddah city, to conform with the social structure and cultural values of the society, with consideration of the prevailing climate and technology, and benefiting from the old and current experiences; in the hope that he can offer something of benefit to his beloved people, city and country.

The author would also like to admit that he cannot claim that his opinions are beyond criticism, because completeness and infallibility are the characteristic of the creator (Allah) not the creature (the human being). Also he is not in the position to say as Al-Shafᶜy (the founder of Al-Shafᶜyah school of opinion) said "my opinion is right, and it might be wrong; and the opinion of others is wrong and might be right". But the author can say as ᶜOmar Bin Al-Khatab (the second

orthodox Muslim's caliph) says "this is my opinion, and the opinion is shared". If the opinions are right, they are from Allah and if they are wrong, they are from himself and from the devil, and he seeks forgiveness from Allah Almighty, and praise to Allah for his guidance in the beginning and in the end.

Footnotes - Chapter 10

1. Quran 20:135 (Translation Y. Ali)

2. Reported by Abu Horirah, see, M. Al-Munbarak, Nizzam al-Islam: al-Ikitisad (The Islamic System: Economics) Dar al-Fik, Beiruit, 1972, p.132.

3. Reported by Abu Horirah, see Nozht al-Motgeen Sharh Riyad al-Salheen, Vol.1, p.302.

4. Ministry of Municipal and Rural Affairs, Deputy Ministry of Town Planning, Zoning Regulation, Towards a more flexible base, a discussion document, unpublished paper, 18.12.1405,1985, p.5.

5. Ibid, p.9.

APPENDICES

APPENDIX A

A.1 Letter in Arabic from the author to Dr. Makhlof asking him about the first plan of Jeddah (1962) done by him, and other matters relating to the subject.

A.2 The translation of the letter from the author to Dr. Makhlof into English

APPENDIX A.1

بسم الله الرحمن الرحيم

سعادة الدكتور عبد الرحمن الخلوف المحترم

السلام عليكم ورحمة الله وبركاته ... وبعد ـــــــ

أفيدكم علماً بأنني أحد المستثمرين من طابعي الله يتفضل عليه لعمارة والتي تقع في المدينة المنورة ، وفي العمارة سبعة محلات تجارية مرخصة بمزاولة نشاط تجارة الأقمشة وقد تم تأجيرها لمستأجرين بموجب عقود إيجار مسجلة لدى كتابة العدل بالمدينة المنورة ، وقد تم تأجير المحلات التجارية بالعمارة المذكورة بمبالغ إيجارية مجزية جداً ، وذلك بسبب موقع العمارة الممتاز حيث أنها تقع في شارع رئيسي يؤدي إلى المسجد النبوي الشريف مباشرة ، وقد قام المستأجرون بدفع مبالغ الإيجار المتفق عليها مقدماً لمدة سنة واحدة ، وقد مضى على تأجير المحلات التجارية المذكورة أكثر من سنة ، وقد قام المستأجرون بتجديد عقود الإيجار لمدة سنة أخرى

لقد اعتمدتم بعد الله سبحانه وتعالى في تخطيط مدينة جدة على خرائط بمقياس ١:٥٠٠٠ للمساحة المصرية وهذه الخرائط في تصوير كانت نتيجة لتوعيم نظام الطرق والمباني الفاضي في أحد فقراتها بعمل رسومات للمناطق العمرانية لمدينة جدة وتحديد استعمالات الأراضي .. فما صحة هذا الكلام وهل بالإمكان الحصول على نسخة من هذه الخرائط

ما هي الأسس التي اعتمدتموها في تخطيط للتوزيع السكاني لمدينة جدة؟ هل اعتمدتم على تحديد مناطق معينة zoning على حسب الكثافة السكانية ومستوى الدخل (أي أن هناك مناطق لذوي الدخل المنخفض وآخر للدخل العالي)؟ أو أنكم اتبعتم سياسة عمرانية أخرى؟

هذا وأرجو من سعادتكم التكرم بالإجابة على استفساراتي وإمدادي بنسخة من كتابك ("التطور العمراني لمدينة جدة") الذي سوف يكون إنشاء الله عوناً لي في إتمام بحثي على أكمل وجه ... وتقبلوا فائق تحياتي لحسن تعاونكم وجزاكم الله عنا وعن جميع المسلمين خير الجزاء والسلام عليكم ورحمة الله وبركاته

مقدمه

م. مجدي الدين يوسف حسن سلاغور
محاضر بجامعة الملك فيصل كلية العمارة والتخطيط الدمام
طالب دكتوراه بجامعة نيوكاسل ببريطانيا

[signature]

مرفق ٢٧ يونيو ١٩٨٨م

عنواني في بريطانيا

J. Salagoor
3. Madeira close
Sant Johes, Westerhope
New Castle Upon Tyne
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Appendix A2

Translation of the Letter From Mr. J. Y. Salagoor to Dr. A. Makhlouf

27-6-1988

Dear Dr. Makhlouf,

I am a Lecturer in the department of Architeture and Planning at the King Faisal University and am receiving a grant. At present I am studying for a Ph.D at Newcastle upon Tyne University, UK,and the topic of my research is " The Study of the architectural policies and regulations affecting the urban environment in Jeddah City."

During my research about the first generation who were involved in the planning of Jeddah City I met Mr. Faisal Aydarous, who was a collegue of yours and he suggested that it would be wise to contact you, because you played a major role on preparing the first Master Plans for Jeddah.

I understand that you have written a book about the architectural development of Jeddah city. I would be extremely grateful if you would send me a copy, as there seems to be no detailed record of what happend during the time, after the demolition of Jeddah city wall and during the preperation studies of the first master plan of 1959 - 63 and the implementation in 1964, to which I could refer, therefore a copy of your book would prove extremely helpful.

In addition I would like to ask you about other matters which occurred at the same time.

1- What were the reasons for issuing the buildings and roads regulations at the end of the 1940's concerning

buildings and roads and what was their impact upon the architectural environment of Jeddah City?

2- What was your role in establishing the set backs regulation which was enforced in the late 60's by the ministry of the Interior, local Municipality and local planning authority? and what are your views about the adoption of these regulations?

3- Is it true that the first attempt to make plans of the city of Jeddah, in 1951 were carried out by Baker company, and that they issued the first maps showing the populated areas in Jeddah city, Old Jeddah and the surrounding area, excluding Makka Road (thesis of Dr. Mohammed Sayeed Faris)? From my research work, I found that Baker Company did not contribute in the planning, but it carried out the Street lighting project of Jeddah in 1961 which cost 1.5 million Saudi rials. (History of Jeddah City by Al-Ansari). If this company had a planning role what was it? and what impact did it have on the architectural environment of Jeddah city?

4- You was depended on the help of Allah, to the 1:5000 map done by the department of Egyptian survey. This map I believe it was produced to support the statute of Roads and Buildings in which one of its articles stated "to do maps for the built area and to determine the land use...." is this correct? and is it possible to get a copy of this map?

5- What basis did you use in planning and distribution of the inhabitants of Jeddah city. Did you base your plans on zoning, according to the density of population and class of

inhabitants (ie. lower, middle or upper class), or did you use another policy?

Please could you answer the above questions and send me a copy of your book "The architectural development of Jeddah city", which would be of great help in my research.

I look forward to your reply.
Yours faithfully,
Architect Jamal Yousef Salagoor.
Lecturer at King Faisal University, College of Architecture and Planning, Ph.D student at University of Newcastle
27 June 1988

APPENDIX B

B.1 Reply letter from Dr. Makhlof to the author's letter in Arabic

B.2 Translation of the reply letter from Dr. Makhlof to the author's letter

APPENDIX B.1

بسم الله الرحمن الرحيم

THE ARAB OFFICE FOR
PLANNING & ARCHITECTURE
Dr. A. Makhlouf

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قم .....

ريخ ٢٩ نوفمبر ١٩٨٨

السيد المهندس/ جمال الدين يوسف حسن سلاغور
المحاضر بجامعة الملك فيصل كلية العمارة والتخطيط - الدمام.
طالب الدكتوراه بجامعة نيوكاسل - بريطانيا.

عزيزي المهندس/ جمال الدين يوسف الموقر

السلام عليكم ورحمة الله وبركاته وبعد ؛

بالأمس (٢٨ نوفمبر ١٩٨٨) وصلتني رسالتكم الكريمة المؤرخة ٢٧ يونيو ١٩٨٨، أرجو ألا يكون طول الفترة بين تحريرها ووصولها قد سبب فوات الأوان المناسب للإجابة عليها. وإنني إذ أبادر بالكتابة إليك، أبدأ بشكرك على مكاتبتي وعلى ما جاء بكتابك من المشاعر الطيبة التي أعتز بها، داعيا الله أن يوفقك في جميع أمورك وأعمالك.

ويسعدني أن أرفق بهذا الكتاب الذي أعددته وقدمته لأمانة جدة، بناء على موافقة خادم الحرمين الشريفين الملك فهد بن عبد العزيز، على طلب معالي الأخ الدكتور محمد سعيد فارسي أمين جدة السابق في ١٩٨٥م بتكليفي إعداده تسجيلا للعمل العمراني في الفترة التي كنت بها في المملكة (١٩٥٩ - ١٩٦٣).

وأعتقد أن هذه الدراسة، هي تسجيل غير مسبوق لمرحلتين هامتين من تاريخ جدة: مرحلة التطوير الأولى التي بدأت منذ ١٩٢٧ وانتهت في ١٩٥٧م، ومرحلة إرساء قواعد التخطيط الحديث في المملكة منذ ١٩٥٨ إلى تاريخ نهاية عملي بالمملكة في ديسمبر ١٩٦٣.

وأرجو أن يتوافر لك الوقت لدراستها بإمعان، لأنها تعطي صورة نابضة بالحياة والحيوية لعملية إرساء قواعد العمل التخطيطي في المجال العمراني في المملكة

بسم الله الرحمن الرحيم

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وما كان فيها من جوانب متعددة وما صاحبها من تفاعلات، وخلفياتها في المجالات السياسية والادارية والاقتصادية والاجتماعية،

وسوف تجد بها معلومات مباشرة، ومعاني بين السطور، وهناك غيرها بالطبع مما هو في خزائن الصدور ...

وفي الأجزاء الأربعة ما يغطي بعض جوانب بحثك، وفيها إجابة على كثير من التساؤلات، ولكنني أرجو أن تتاح لك فرصة زيارتنا في أبوظبي للمزيد من الايضاح وتبادل الرأي، وإلى أن يتم ذلك فإنني أرجو أن ترسل إلى رقم تليفونك، كما سوف تجد أرقام تليفوناتي في رسالتي هذه، فقد يساعد الاتصال التليفوني على توضيح بعض المعلومات، وأرى من الضروري التعليق السريع على التساؤلات التي طرحتها في رسالتك:

١- لم أكن معاصرا لظروف صدور نظام الطرق والمباني الصادر في حدود نهاية الأربعينيات الميلادية، وكانت نظرتي إلى ما كان هناك من قوانين أنها صدرت لتغطية الحاجة إلى ضبط البناء في مدن المملكة، دون ارتباط بتخطيط معين، مع عدم توافر الأجهزة الفنية التي تمارس التطبيق مع التقييم والمواءمة، ومن ثم كان له آثار بعضها إيجابي وبعضها سلبي

٢- نظام الارتدادات الصادر من وزارة الداخلية - شئون البلديات وإدارة التخطيط في نهاية الستينيات، لم أكن بالمملكة عند صدور هذا القانون ولست أعرف ما المقصود به: هل هو قانون المباني أو في التخطيط والتنظيم؟

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٣- بخصوص دور شركة بيكر الاستشارية وما جاء بشأنه نقلا عن الشيخ عبد القدوس الأنصاري ، أحيطكم علما بأن ما ورد في كتابه بهذا الشأن جاء نقلا جزئيا عن تقرير كتبته ورفعته إلى المجلس الأعلى للتخطيط في إطار المساعي الدائبة التي بذلتها لإنشاء وتنمية جهاز حكومي لتخطيط المدن ، وسوف تجد تفصيل تلك المساعي في الجزء الأول (ص ٦٦ إلى ص ١٢٦) ونص هذا التقرير في (ص ٧١ إلى ص ٨٦).

وفي ص ٧٣ - فقرة أ - إشارة إلى ملفات شركة "بيكر الاستشارية ، وهناك معلومات وراء السطور عن هذه الفقرة ، أذكرها لك :

... حينما نجحت في نقل ارتباط مكتب تخطيط المدن إلى المجلس الأعلى للتخطيط ، خصصت لنا عشرة غرف ، هي جناح مهجور قديم ملاصق لمكاتب دائرة البترول والثروة المعدنية ورئيسها آنذاك الأستاذ أحمد زكي يماني - وحينما دخلت هذا المكان وجدت في غرفة منه أكواما من الملفات والخرائط ، هي مخلفات الشركات الاستعمارية التي عاونت الجهاز الفني لوزارة المالية في شتى مجالات العمل العمراني في مرحلة منتصف الاربعينيات وبداية الخمسينيات ، وكان آخرها شركة كوفنكو وتلك كانت مكاتبها ، وباسمها عرف اسم المنطقة "كوفنكو" ، ومن الواضح أنها قد ورثت تلك الأوراق ولم يكن هناك جهاز حكومي مقابل ، ولم تتحقق الاستمرارية وحدثت الفجوة التي رأيتها حينما جئت وبدأت عملي بالمملكة في ابريل ١٩٥٩م . ومن ثم رأيت ضرورة العمل على ايجاد المؤسسة الحكومية التي تقوم بمهام التخطيط العمراني ، وفي رأيي أن هذا هو الانجاز الرئيسي الذي وفقني الله إلى القيام به ، واحراز نتائج ملموسة

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م .....

خ .....

في مضماره ، كانت أساسا لما بعده من تقدم في مجال التخطيط العمراني بالمملكة على نحو ما تراه مسجلا في الجزء الأول من كتابي .

وبخصوص التساؤل عن شركة بيكر وتخطيط فإنني أرى ما يلي :

أ- إن الشكل العمراني الذي تكوّن في مدينة جدة بعد إزالة السور في الفترة من ١٩٤٧م إلى ١٩٥٧م - وشاهدته وسجلته في ١٩٥٩ إلى ١٩٦٢ - يؤكد أنه تم بناء على تخطيط مسبق - وليس عشوائيا - بالأسلوب المعروف والسائد عالميا آنذاك (تخطيط دائري قطري Ring-Radial ، الطرق الدائرية : شارع الملك عبد العزيز وشارع الملك سعود - الطرق القطرية (طريق مكة - طريق - المدينة - طريق إلى الجنوب)

ب- إن معالم النسيج العمراني في مناطق التوسع السكني في تلك الفترة ، توضح أنه تم على أساس تخطيط شبكي متعامد في المناطق السكنية المستجدة على جانبي طريق مكة وطريق المدينة .

جـ- محاولة شركة بيكر الحصول على عقد لتخطيط جدة (وعدم موافقة الحكومة على ذلك) قد تكون دلالة على أنها محاولة الاستمرار فيما بدأته من أعمال في (أ) ، (ب) ولا نستبعد أنها محاولة للقفز على مهمة من قام بتلك الأعمال إن كان هو غيرها - والأمر يحتاج إلى دراسة خاصة واستقصاء ، وإن كانت الشواهد التي رأيتها ترجح لدى نسبة العمل المذكور في (أ) ، (ب) إلى شركة بيكر .

- أما سؤالك عن الأثر العمراني للمخطط الأول في العقد الذي بدأ بإزالة السور في ١٩٤٧ فهو موضح في كتابي الجزء الثاني ص ٣٠ إلى ص ٦١ .

٤- إنشاء خريطة مساحية لمدينة جدة :

أهم جوانب القصة بهذا الشأن أوردتها في الجزء الأول ص ١٠٩ ، ١١٠ ، ١١١ . وفي ملحق الجزء الثاني وبعض المواضع الأخرى المتفرقة ، وملخصها أنني اعتمدت في إنشاء خريطة مساحية وافية لمدينة جدة على المصادر الرئيسية التالية :

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تاريخ .....

١- صورة جوية لمدينة جبة بمقياس ١ : ١٠٠٠٠ تقريبا - تصوير شركة البصور الجوية
" ايروسيرفس كوربوريشن عام ١٩٥٦ .
٢- مجموعة خرائط - عمل شركة بكتل عام ١٩٥١ .

وقمنا بتكبير بعض هذه الصور مع ورقة شفاف ثم تكبيرها بالبنتوجراف (النسبي) [وسائل بدائية جدا] وتقسيم المدينة الى مناطق ، واستكمال المعلومات الناقصة من الطبيعة . (بامكانيات متواضعة جدا (مقياس الخريطة ١ : ٢٥٠٠ ، ساح/رسام ، وذلك مع تسجيل معلومات عن الشوارع والبانيات والمنشآت من الطبيعة ، وبيانات الخرائط وفي الجداول بالمكتب - (مع "مضنيه" إلى أبعد الحدود...) وقد سجلت هذه باختصار في الملحق ١ ، وبيان ما عدا ذلك في الملحق في الجزء الثاني.
- أما خريطة "المعالم" المدينة جبة فكانت عبارة عن كروكي للمنطقة المركزية - انظر الجزء الاول ص ٣٤ - وهي ذات قيمة تاريخية فيما (أما عن مخطط الساحة العربية الرئيسي فكانه توضيحي مكبر وكروكي والمدينة صغيرة .)

- وتجدر الاشارة في الجزء الثاني من كتابي أن استخدمت الخريطة الحاضرة التي قمنا بتصويرها عام ١٩٦٠ (ص ٢٣) تصوير مصغر للخريطة المدينة جبة - (انظر الخريطة المقتبسة بكتاب الشيخ عبد القدوس الانصاري) - خطط
خرائط مناطق جبة مع بيان استخدامات الاراضي معدلة ومعدلة -
الجزء الثاني ص ٩٨ إلى ص ٢٠٣ -

لقد ساعدت هذه الخريطة الحاضرة بالرغم من أخطاء تمت في التحويل بينها - وسائل بدائية - إلا أنها ساعدت كثيرا لدعم الدراسات التي قمنا بها والدراسات التي قامت على الجزء الفني الأخير في شكل الرسالة وإلى بداية السبعينيات - حينما توافرت امكانيات التصوير الجوي الخ .

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٥ - بالنسبة للسؤال الخامس ، أرجو الإحاطة بأنني قمت بجميع أعمال التخطيط العمراني لمدينة جدة بمبادرة شخصية وبإمكانيات محدودة كنموذج لعمل تخطيطه بقصد (أ) التعريف بطبيعة عملية التخطيط العمراني و(ب) تدريب العاملين بجهاز تخطيط المدن على مختلف جوانب عملية التخطيط العمراني وكان هذا العمل في فترة انجازه سابقا لظهور الحاجة إليه لدى المسئولين والمجتمع ، وكانت الاستفادة الفعلية من هذه الأعمال (الدراسات والتخطيط العام والمخططات التفصيلية) في المراحل اللاحقة - وقد ذكر د. محمد سعيد فارسي في مناقشة رسالته للدكتوراه أن المخطط الذي عملته هو الأساس لكل ما جاء بعده من أعمال ومخططات .

وفي المحاضرة التي ألقيتها في جدة بدعوة من معالي الشيخ محمد سعيد فارسي في ١٣/٥/١٤٠٥هـ ، سألني سائل :
ما الذي وجهك إلى هذا التصور المستقبلي لمدينة جدة في تاريخ عمله (١٩٦٠م) وهو الذي تحقق فيما بعد ، . الإيضاح العلمي ستجده في الجزء الأول وفي الجزء الرابع من كتابي .. وقد أجبت سائلي بما يلي :
لقد أجريت تحليلا لكافة العوامل والظروف والاتجاهات ، ومنه توقعت أن المستقبل يحمل في طياته احتمالات النمو والازدهار لمدن المملكة ومنها جدة وكانت التوقعات مبنية على افتراضات إذا تحققت فهذا هو التخطيط المستقبلي لمدينة جدة ...
يضاف إلى ذلك .. أنك إذا أحببت مدينة .. فإنك تتمنى لها أطيب التمنيات وتلك هي مشاعري لمدينة جدة الحبيبة آنذاك واليوم وإلى آخر العمر .
وإليك سلامي وأطيب التمنيات

عبد الرحمن مخلوف

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ص.ب : ٦٩٥ ابوظبي

Appendix B.2

Translation of the Reply from Dr. A. Makhlouf to the letter of Mr. J.Y. Salagoor

Mr. Jamal Yousef Salagoor
Lecturer in King Faisal University
College of Architecture and Planning - Aldammam
Postgraduate student in Newcastle University - UK.

Dear Mr. Salagoor
Thank you for your letter dated 27 June 1988, I apologise for the delay in replying. I would like to thank you for sending this letter expressing your feelings and best wishes to you and good luck with your studies.

Enclosed is the book which you requested, which was written in 1985, with the agreement of King Fahad and a request from the former mayor of Jeddah Dr. Mohammed Farsi, it stands to record all the architectural developments in the period between 1959-63, at which time, I used to work in Saudi Arabia. I have given a copy of this book to the authorities in the city of Jeddah.

This work is to study two important stages in the history of Jeddah;
The first stage started in 1927 and ended in 1957, and the second is the stage establishing new planning methods in the kingdom which started in 1958 up to the end of my contract in Saudi Arabia in 1963.

I hope that you have time to read and study it carefully, because it gives a vivid account of the process of

establishing the foundations of planning in the field of architecture in the Kingdom.

This work also gives a good account of the different interactions with political, economical, social and administrative links. You will find alot of direct and indirect information through inferences. In the four sections of this work there are some areas which cover your work and there are some answers to your questions, and I hope that you will have an opportunity to visit our offices in Abu Dhabi to give you a more detailed picture and to exchange views and ideas.

Until that time I hope that you will send me your telephone number and you will note that my number is at the bottom of the page, if you need to contact me for further information.
In the meantime I will comment briefly on the questions you raised in your letter.

1- I was not present at the time when road and building regulations were issued at the end of the 40's, and I think that they came out to regulate buildings in the Kingdom without enforcing a specific system of planning layout, however there wasn't any technical body to check the implementation and assess the regulation, therefore there were both good and bad consequences.

2- Set-back regulations were issued by the the Ministry of the Interior, local municipality department, and planning department in the late 60's. I wasn't in the Kingdom when those regulations were issued and I don't know what was the reason behind it, was it a building or planning regulation.

3- Regarding the role of Baker company and what was said by Sheik Abdul-Qudus al-Ansari in his book, I feel that it is important to note that a passage of my report was quoted but it was unfortunately only partially reproduced and was therefore read out of context, which meant that the original meaning was not clear. The above mentioned report was about the need to establish and develop a government institute for city planning and was submitted to the Supreme Planning Committee, details of this can be found in the first section of my book pages 66 - 126 and the complete report on pages 71 - 86.

On page 73, point a- I would like to make some comments about the files of Baker company:

When I succeded in transferring the city planning offices to the supreme planning committee building, ten rooms were assigned to us. The rooms were in a disused wing adjacent to the petroleum and mineral resources office. (The head of these offices was Mr. Ahmad Zki Al-Yamani), and when we entered these rooms we found piles of reports and maps belonging to companies which previously helped the department of technical affairs in the ministry of finance in many different aspects of architecture in the mid 40's to early 50's and the last company to work there was called Covino, its offices were in this building and the name of the district later became known as Covino after the company.

In 1959 I found that after these planning companies had left, there were still no other companies or even a government ministry to fill the gap. I felt that it was therefore necessary to establish a government body to be responsible for the architectural planning and I think that this was the most important achivement made and this was the future basis for all the developments which took place

in architectural planning in the kingdom as you can see from the first part of my book.

Regarding your question about Baker company and the planning of the city of Jeddah, in my opinion;

a) The architectural shapes which have developed in Jeddah city have been based upon pre-planning (i.e. not in a haphazard manner) after the removal of Jeddah city wall between 1947 - 1957.
The technique is well founded and used world wide (ring-radial; ring-road; King Abdul Aziz and King Saud road,- radial roads (Makkah and Medina Roads, the Southern road))
b) The nature of the architectural pattern in the expanding populated area during that period of time, reflects that it was based on an Gridiron pattern in the populated area on both sides of Makkah and Medina roads
c) Baker company tried to get the planning contract for Jeddah city, however, the government refused the apllication. Baker company wanted to continue the work mentioned in parts a and b, mentioned above, however I cannot rule out the possibility that the work was done by another company. This issue needs to be investigated, although all the indications give me the feeling that Baker company did do the work.

Your question concerning the impact of the first architectural plans after the removal of Jeddah city wall is explained in my book section 2 pages 30 - 61.

4- Establishing a map for Jeddah city; the most important part of this episode is mentioned in the first section of my book pages 109 - 111 and in the appendix A section 2 and in some other places. The summary of this issue:- I used

the following material during the construction of the map of Jeddah city.

1) Aerial photographs of the city (scale 1:10,000) approx., produced by Air service corporation company in 1956.

2) A number of maps were produced in 1951 by a company called Pectil. We copied these maps onto thin paper and then enlarged them using a pantograph, we then divided the city into districts and the rest of the information came from field surveys (we had very little resources - a tape measure, two surveyors and two draughtsmen). This was a very difficult and tedious project due to the lack of information, resources and the primitive techniques we had to employ.

I have written about all these issues in appendix A.

The map for Jeddah City was made by an Egyptian surveying company, it consisted of a number of sketches for the central area (see section one page 34), and these maps have some historical value. The main area of work for the Egyptian company was Makkah road, Makkah map, and Medina road.

You will find in the second part of my book a lot of examples of the map which we introduced in 1960, page 23 (reduced picture of the map of Jeddah city, look at the map in the appendix of Sheik Abdul-Quddus al-Ansaris' book), maps of the district of Jeddah and explanation of the land use in it, section 2 pages 98 - 203.

Although this map has developed in this way (i.e. with limited resources, and primitive techniques as mentioned above) dispite this it was very useful for the work which

we and others carried out at that time up to the beginning of the 70s when more resources and better techniques were available, i.e especially with regard to aerial photographs.

5. Concerning the fifth question, I would like to inform that I did all the planning works of Jeddah as a personal action, with limited sources of examples of planning work, in order to: a) identify th nature of the planning process, and b) to train the employees of the City Planning Department about the different processes of urban planning.

This work was achieved on time before the authorities and society were aware of its need, and the real benefit of these works (the studies, the Master Plan and the detail plans) occurred at a later stage. Dr. M. Farsi mentioned during the discussion of his Ph.D Thesis that the Master Plan which I did, was the basis to all planning works which followed.

On the lecture I delivered in Jeddah on 13.5.1405(1985) as an invitation from His Highness Sheik Farsi, he asked me; "what directed you to the future of Jeddah during your work in the 1960s, which was achieved later - the explanation can be found in the first and fourth part of my book - to which I answered:

> I did an analysis of all factors, circumstances and directions. From these I expected a flourishing and shining future of Saudi cities, among them Jeddah. My expectations were based on assumptions that if these occurred, then this will be the future planning of Jeddah City...in addition....If you love the City then you hope for best wishes for it....and this was my feeling to my beloved Jeddah City.

From me to you, best wishes.

Abdul-Rahman Makhlof.

APPENDIX C

Profile of Dr. Abdulrahman Makhlouf

1378 H (1958) has witnessed the beginning of a new era in city planning in the Kingdom of Saudi Arabia, in which the United Nations (technical assistance department) sent Dr. Sayeed Karim an expert in city planning to assess the state of Saudi cities.

According to his recommendations, the Saudi government made an agreement that the United Nations would provide long term technical assistance, and that from 1959 Dr. Abdur Rahman Makhloof would be appointed as permanent city planner.

Dr. Abdur Rahman Hussein Makhloof

Graduated from Cairo University, College of Engineering, Department of Architecture, 1950.

- In 1951 he was employed by the University and after obtaining his Ph.D from Munich, in 1957 he became a lecturer.
- The U.N. appointed him as city planner in Saudi Arabia from 1959 to 1963.
- He returned to Cairo University - College of Engineering as a member of the teaching staff from 1964-68. In 1965 he was appointed as associate professor in city planning and during this time he was the major contributor in developing a curriculumm for city planning, in the department of architecture for Cairo, Asiuit and Al-Azhar universities.
- In 1966 he worked as a general director for managing the architectural plan for Greater Cairo in which he supervised the preparation of preliminary plans.

- Also in 1966 he prepared the architectural plans for the industrial area of Subra Al-Khaymar, and in 1967 for Port Said industrial site.
- 1968 - mid 1975 he was appointed as Director of City Planning for Abu Dhabi, where he developed the architectural project and city plans for the cities of Abu Dhabi and
Al-Ain whilst involved in the supervision of other projects.
- In 1976 he established Al-Arabi architectural planning company in the United Arab Emirates. During that time he carried out several projects.
- He contributed to some of the planning preparation for several new Egyptian cities (Al-Abour, Al-Areish, Al-Jedida)
- 1983-1985 he was appointed as a visiting professor of Architectural Planning in the Engineering College in the United Arab Emirates.

Terms of reference: Job Description SAU-63B.

a) Advising the Ministry of the Interior and Municipalities in overall-planning policies keeping in view the social, economic, technological and material resources of the country.
b) Assisting in the organisation of the necessary offices for the execution of planning schemes and their future implementation.
c) Collaboration with the local authorities in the collection of data and conducting the necessary surveys needed for the planning of : Riyadh, Jeddah, Mecca, Medina and Taif.
d) Assisting the Government and the Municipalities concerned in the preparation of master plans.
e) Providing the necessary advice in the preparation of

general legislation and regulations pertinent to planning, including municipal legislation needed for the implementation of the plans such as subdivision regulations, zoning, ...etc.

APPENDIX D

AL-MZAHB AL-ARBA^{C}H (The four schools of opinion)

Al-Mzhab al-Hanfy: was founded by Abu Hanifah al-No^{C}man bin Thabt, born in al-kufa Iraq (80H-660AD) and died in Baghdad (150H-730AD). His method was to derive the legal rules first from the Quran, then from the tradition of the prophet. If he couldn't find them he next referred to the sayings of the prophet's companions, and failing that to the sayings of Ibrahim al-Sh^{C}by, Ibn Seren, ^{C}Atz and Said Ibn al-Mosib (scholars who came after the period of prophet's companions known by al-Tab^{C}yn) and only then he made his own Litihad. His Litihad was based on al-Qayas Analogy and Isthsan betterment (see Chapter 5). Because he widely used these two methods, he was known as Za^{C}im Ahl al-Ray the leader of the opinion's school. He was the first who derived the legal rules for incidents which had not yet happened, and let his students participate with their opinion although some might have a different opinion, the opinions and differences were recorded. Al-Mzhab al-Hanfy is concentrated in Iraq, Pakistan, Russia and China.

Al-Mzab al-Maliky: was founded by al-Imam Malik Bin Anis al-Asbahy, born in Medina (93H, 673AD) and died there (179H, 759AD). His method of deriving legal rules was based on Quran and Sunnah but he gave precedence to the sayings of Ahl al-Medinah (the people of Medina the prophet's city) over the ahadith al-Ahad (the prophet tradition which was not recorded - the degree of al-tawatwr succession) if there was conflict between them. His argument that Ahl al-Medina inherited what they did or what they acted from their forefathers and their forefathers inherited from al-Sahabh (the prophet's companion), may Allah be pleased upon all of them. But al-Shaf^{C}y the founder of al-Mzahb al-Shaf^{C}y and other scholars contradicted his opinion, and their arguments that "a lot of the prophet traditions were carried with prophet's companions when they moved to different parts of the Islamic world, accordingly not all the prophet tradition was

restricted to the actions of Ahl al-Medinah". After the Sunnah he backed to al-Qayas analogy, thus a lot of his opinion was based on al-msalh al-murslh (see Chapter 5). The figh of Malik was recorded by him - like his book al-Mwta - or by his students like the book of al-Modwnah. Al-Mzahb al-Maliky is mainly concentrated in North Africa and Sudan.

Al-Mazhb al-Shafᶜy: was founded by al-Imam Abu-Abdullah Mohammed Bin Adris al-Shafᶜy, born in Gaza, Palastine, in (150H, 730AD) and died in Egypt (204H, 784AD). His figh was in the middle of Ahl al-Hadith and Ahl al-Ray since he was one of the students of Malik and then he studied figh al-Mzhb al-Hanfy from Mohammed Bin Hassan. His method of deriving rules was based on Quran and Sunnah, even if they were Ahad - in contrast to Malik - also he used al-Qayas rather than other methods of opinion. His figh was recorded in his book al-Aom, and he was the first to set this up since the Ausol al-Figh 'roots of law' which contributed to the regulation of the methods of Litihad and on Istnbat al-Akam (derivation of rules). This Mzhb is mainly concentrated in Egypt, Syria, Yemen, Middle and South East of Asia.

Al-Mzhb al-Hanbly: was founded by al-Imam Ahmed Bin Hanbl al-Shybany, born in the city of Maro in Persia (164H, 744AD) and died in Baghdad the year (241H, 821AD). He was very knowledgeable about the Sunnah 'the prophet tradition' and many great scholars like al-Bukhary and Muslim took the Hadith (prophet saying) from him, thus he was known as Imam Ahl al-Sunnah. He took the figh from Imam al-Shafiᶜy. His figh was based on five roots.

First: the text from the Quran and Sunnah. The Sunnah for him was preferred to any human opinion even it was Ahad and even it was contradicted by the opinion of the greater Mujtahid scholar. He did not exceed the Sunnah to the action of Ahl-al-Medinah or any other, or any opinion or analogy, or the common sayings. Here his method was similar to al-Shafiᶜy.

Second: The opinion of the prophet companions.

Third: If the prophet companions had different opinions, he took from their sayings the one nearest to the Quran and Sunnah.

Fourth: He preferred the Hadith even if it was weaker than an analogy al-Qayas. (See Chapter 5).

Fifth: Al-Qayas was the last source in his figh, and he used it only when it was necessary. Thus he did not like to give an opinion on what had not yet happened.

He didn't record his Mzhb, and he didn't like his opinion to be written. His main concentration was to compile the prophet tradition, but his friends and their successors compiled his sayings and opinions like the book of 'al-Jam' by Ahmed al-Khlal and the book of 'al-Mughny' by Ibn Qdamah al-Magdsy. This Mzhb is mainly concentrated in Saudi Arabia (where it was brought by Shikh Mohammed Bin Abdul-Wahab, who died in the year (1206H, 1786AD) - Kuwait, Syria, Iraq, and Imarat, (the Emirates).

Source:

Abdul-Karim Zydan, al-Mdkhal L-Drast al-Shari^{c}ah al-Islamih ("The Introduction to Islamic Law"), Moassat al-Risalh,, Beirut, Lebanon, 1402H, 1982AD, 7th edition, pp. 155-172. Also See Ahmed Ibrahim Bik, "^{c}Ilm Aosul Al-Figh", (The Science of Roots of Law), Dar al-Ansar, Egypt, 1357, 1939, p.33-44.

APPENDIX E

E.1 The Land notification for land in Old Town of Jeddah

E.2 The Translation of the land notification into English

APPENDIX E.1



هذا اعلام شرعي صدر من محكمة بندر جدة في ٨ من شهر رجب سنة ١٢٦٩ هـ ، لصالح الشيخ علي بن عبد الله باعشن .. جد المرحوم الشيخ احمد محمد صالح بن علي باعشن وذلك في عهد الدولة العثمانية .

Appendix E.2

Land Notification for Land in Old Jeddah, 1269 (1849).

Legal notification issued from Bandir Jeddah (Jeddah seaport-city). It is contented that the inspection and the supervision for al-ard al-mirih (the state land) which was requested by al-Sheik Ali bin Abdullah Ba'ishan, was done in the presencee of Qaim-Makam (govener deputy), Naib al-shar' al-sharif (the Judge Deputy), Amin Ahtishab (known also by Muhtasib, the responsible for the institution of Hisbh - see chapter 8), the Court writer al-sayd Hassan bin Mohammed Saim al-Dhar,and the presence of Arbab al-Khbrah wa al-Marfah (the experts on the built environment, all of them were master builders) and the traders and they are :- Al-Haj Frj bin Yarser Awad Abad, al-haj Salim Ali bin Sultan, al-sheik Abd bin Abdulqadr Sheik, al-Sheik Abdullah al-Ajily, Abdullah Bashrf, Abdulrahman bin Mohammed Akram, Muhandis Al-Bldah (the town engineer) the master builder Badr bin Abdulsalam, Kbar al-Mulmin (the cheif of the master builders) the master builder Aid bin Ali Aid, the master builder Asmail and others. They saw the plot of Miri land which is located in Bandr Jeddah in hart al-sham (al-sham quarter) in the direction of the sultans castle and near to the mosque which is known as the Mosque Bakrah Basha, and is extended 25 Zara (a traditional length of measurement equal to 0.75m) from east to West and 25 Zara from al-Sham (Syria) to Yemen (this is a traditional expression to indicate north and south, since Syria is to the north of Jeddah and Yemen to its south), and it is confined from its' four directions by.....(1). If a building is to be erected on this plot, no harm will be caused neither to the neighbour nor to the passerby. All of them mentioned to the Naib al-shar'al-sharif what

they saw and inspected as witnesses, and what they saw no harm came to anyone and to the suq (market). According to this al-sheik Ali bin Abdullah Ba'ishan, requested from Naib al-shr al-sharif to write this notification. Thus, this notification is written with the explanation of the real situation, and ALLAH is the Guide to the right path and to Him we are returned, issued in the month of Rajab, 1269H

The poor to his lord Abdullah
Mohammed Mohy - Naib al-shr
al-sharif

(1).....the writing is not clear in the deed.

APPENDIX F

Some schedules of Residential Zoning Regulations

by SJI/SC in the Bye-Laws.

(Example R_1, R_3, R_4)

ZONE: R1
PRINCIPAL USE : Low density residential Villas Zone (Upto 75 pph)

PERMITTED USES:
Single family villas and detached hou.. Facilities.

PLOT REQUIREMENTS:

Minimum plot size	(m^2)	600 *
Minimum width	(m)	20
Minimum depth	(m)	20

DISCRETIONARY USES:

Professional offices, government uses and work places of individuals.

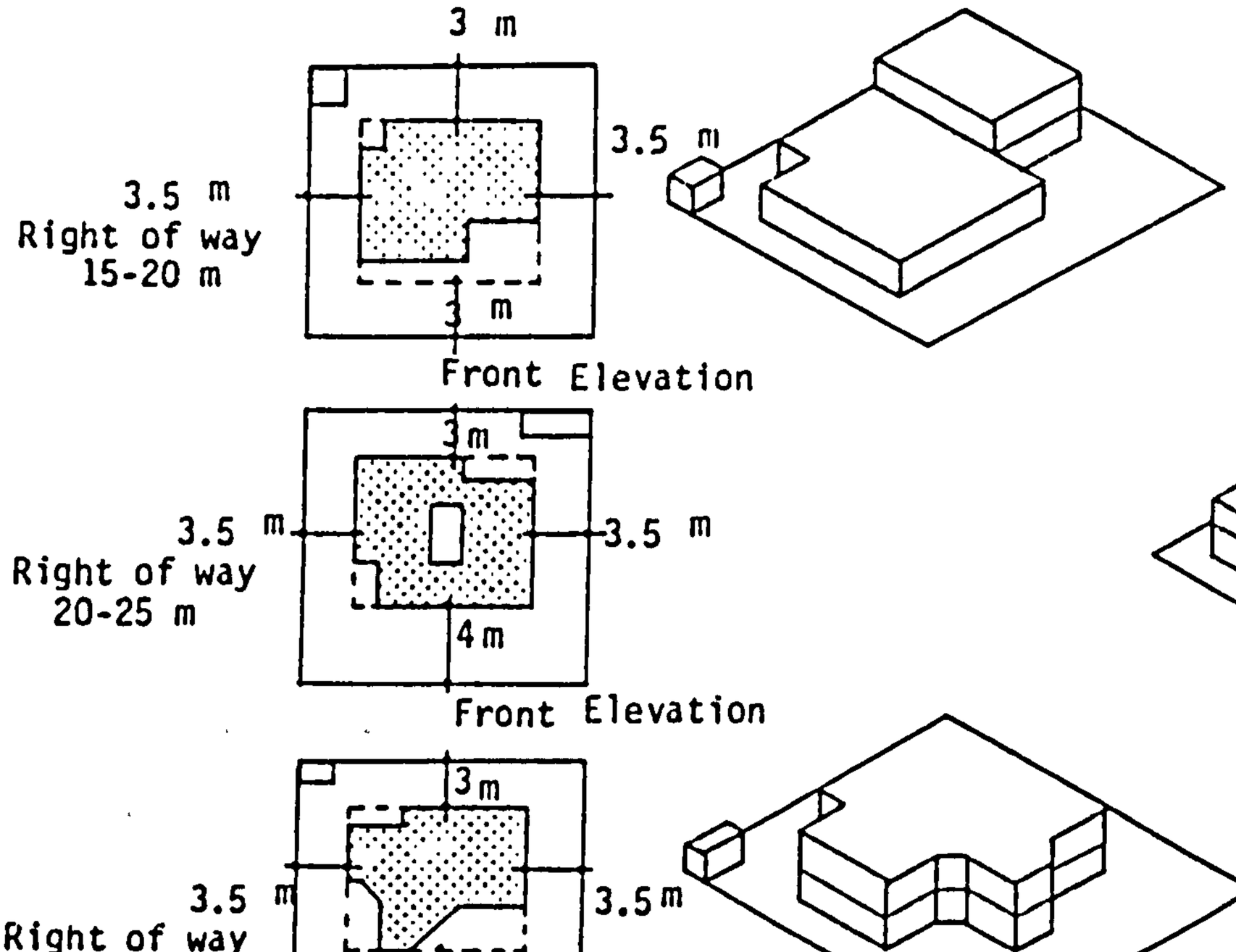
REGULATION	RIGHT OF WAY OF FRONTAGE ROAD (METRES)			
	Less than 15 *	Over 15 but not exceeding 20	Over 20 but not exceeding 25	Over 25
Maximum Ground Coverage	No permission	40%	40%	40%
Maximum Floor Area Ratio		0.80	0.80	0.80
Maximum Number of Floors		2	2	2
Preferred Setbacks: Front (m)		3	4	5
Rear		3	3	3
Side		3.5	3.5	3.5
Side		3.5	3.5	3.5

SPECIAL FEATURES
- Double row tree plantation in front setbacks.
- 25% of plot area landscaped/planted.

AUXILIARY USES:
- Gross floor area of auxiliary buildi: not to exceed 5% of plot area.
- Auxiliary building to be sited so as ensure privacy in the main building.
- Auxiliary building allowable in setback area.

Parking Provision: 1 car parking space per dwelling unit or 150 sq. metres of gross floor are which ever is smaller.

* For plots less than 600 sq. m. area and streets less than 15 m width, permission will only be granted provided subdivision plan was approved prior to the approval of the Master Directive Plan. These permissions will be governed by rules for streets 15-20 m ROW and plots over 600 sq. m.



ZONE: R3

PRINCIPAL USE: Medium density residential (.125 - 175 pph)

PERMITTED USES:

-Single, two and multifamily houses and apartment buildings.
-Facilities

PLOT REQUIREMENTS:

Plot size	(m^2)	over	1000
Minimum width	(m)	....	25
Minimum depth	(m)	....	25

DISCRETIONARY USES:

Professional offices, government uses and work places of individuals.

REGULATIONS	RIGHT OF WAY OF FRONTAGE ROAD (METRES)			
	Less than * 15	Over 15 but not exceeding 20	Over 20 but not exceeding 25	Over 25
Maximum Ground Coverage	No permission	50%	40%	40%
Maximum Floor Area Ratio		1.00	1.00	1.75
Maximum Number of Floors		2	3	5
Preferred Setbacks: Front (m)		3	4	5
Rear		3	3	3
Side		3.5	3.5	3.5
Side		3.5	3.5	3.5

SPECIAL FEATURES

- Double row tree plantation in front setbacks.
- 25% of plot area landscaped/planted.

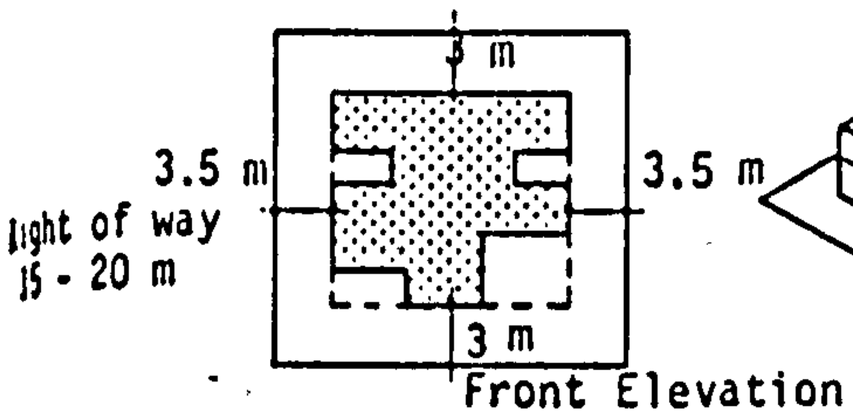
AUXILIARY USES

- Gross floor area of auxiliary building not to exceed 5% of plot area.
- Auxiliary building to be sited so as to ensure privacy in the main building.
- Auxiliary building allowable in setback area.

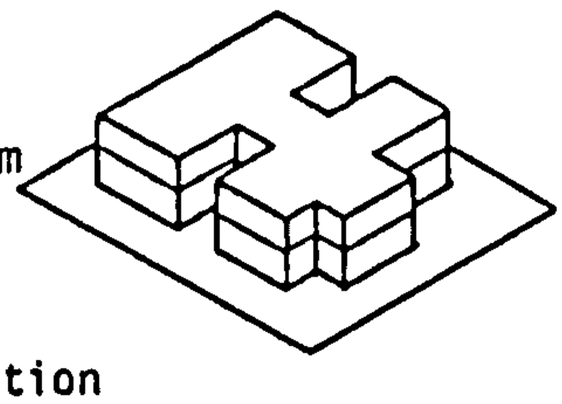
* For streets less than 15 m ROW, permission will only be granted, provided the subdivision plan was approved prior to the approval of the Master Directive Plan.

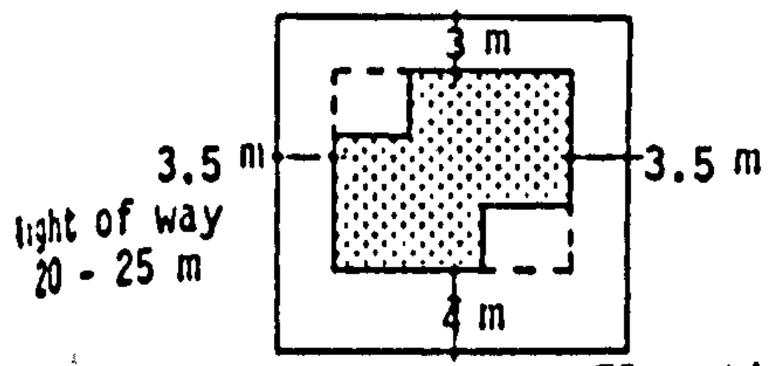
These permissions will be governed by rules for streets 15-20 m ROW.

Parking Provision: 1 car parking space per dwelling unit or 150 sq.metres of gross floor area which ever is smaller.



Front Elevation





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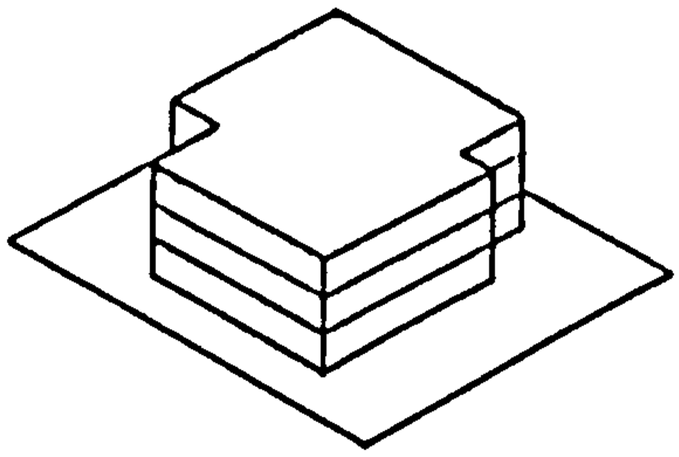
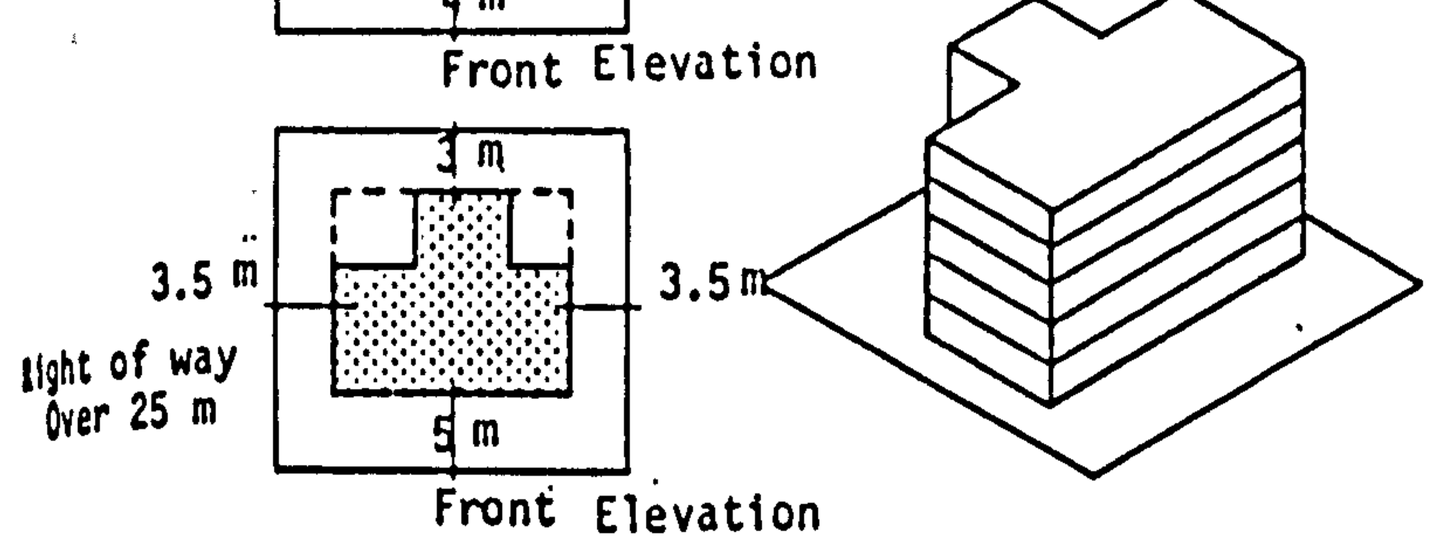




Front Elevation

ZONE: R4

PRINCIPAL USE: Medium and high density residential. (175 to 250 pph)

PERMITTED USES:

Mostly multifamily detached houses and apartment buildings.

PLOT REQUIREMENTS

Plot size	(m^2) over	450
Minimum width	(m)	20
Minimum depth	(m)	20

DISCRETIONARY USES:

Offices/shops on ground floor

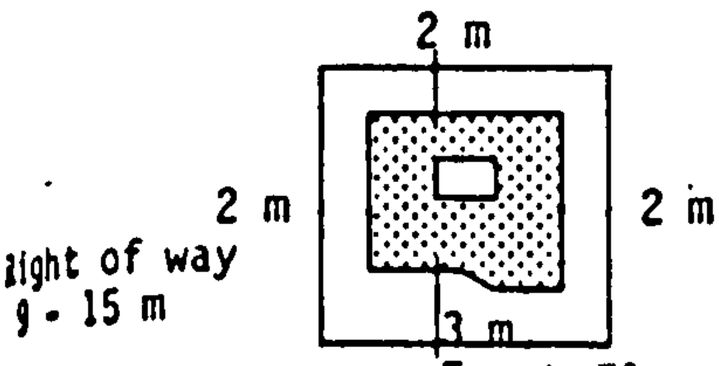
REGULATIONS	RIGHT OF WAY OF FRONTAGE ROAD (METRES)				
	Less than 9	Over 9 but not exceeding 15	Over 15 but not exceeding 20	Over 20 but not exceeding 25	Over 25
Maximum Ground Coverage	Provide setback on both sides to widen the street to 9 m	60%	60%	50%	50%
Maximum Floor Area Ratio		1.2	1.2	2	2
Maximum Number of Floors		2	2	4	4
Minimum Setbacks: Front (m)		3	3	4	4
Rear		2	2	2	2
Side		2	2	3	3
Side		2	2	3	3

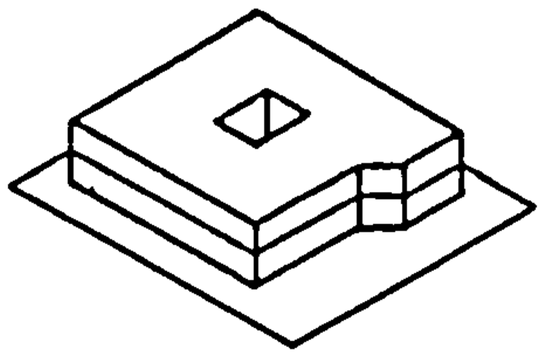
AUXILIARY USES

None

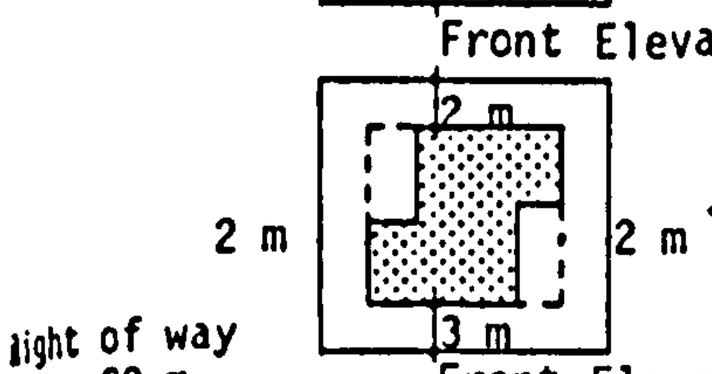
MISCELLANEOUS

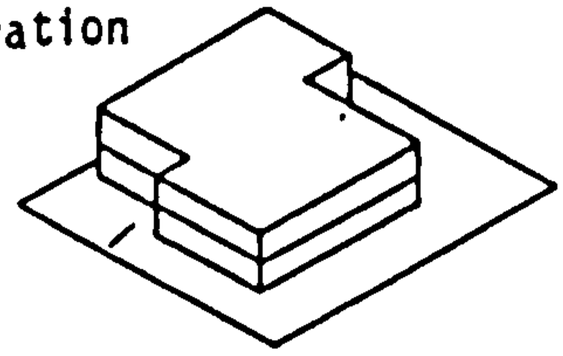
Parking Provision: 1 car parking space per dwelling unit or 150 sq. metres of gross floor area whichever is smaller.



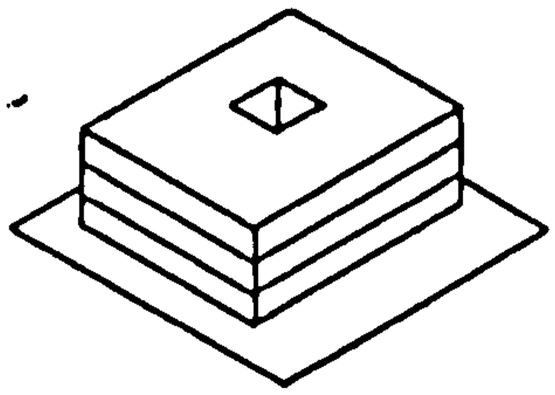


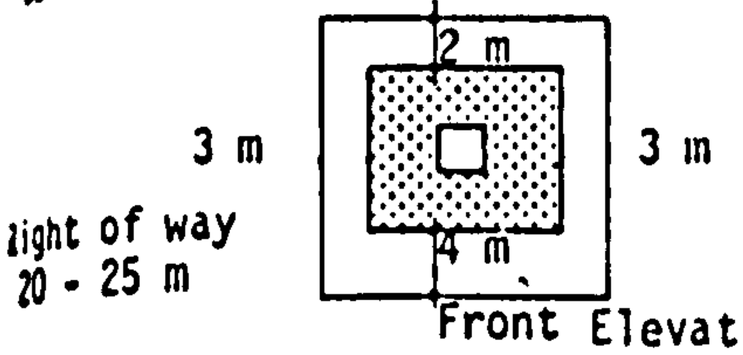
Right of way 9 - 15 m



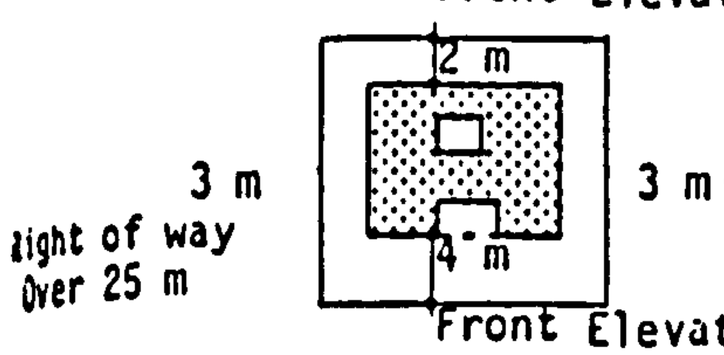


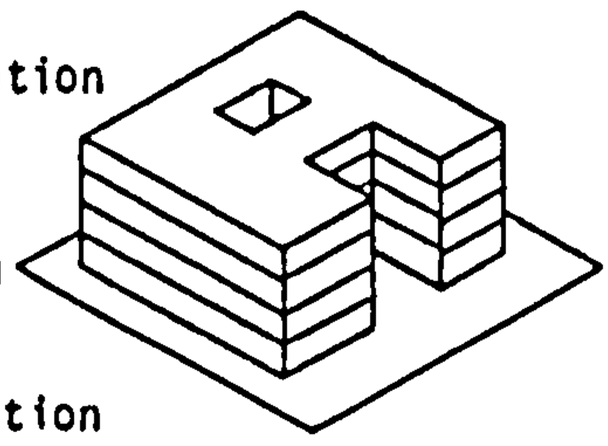
Right of way 15 - 20 m





Right of way 20 - 25 m





Right of way Over 25 m

BIBLIOGRAPHY

BIBLIOGRAPHY

Abu-Lughod, Janet L., Cairo, 1001 Years of the Victorious, Princeton University Press, Princeton, New Jersey, 1971, p.89

Al-ᶜAbbadi, D., al-Mulkiyyah Fi al-Shariᶜah al-Islamiyyah, (Published Ph.D Thesis, 3-Vol., Maktabat al-Aqsa, Jordan, 1974).

Ibn ᶜAbdun, Thalathu Rasail ´Andalusiyyah fi Adab al-Hisbah wa al-Muhtasib, edited by E. Levi- Provencal, (Matbaᶜat al-Maᶜhad al-ᶜIlmi al-Faransi Lil-Athar al-Sharqiyyah Press, Cairo, 1955).

Ibn ᶜAbdun, Hashit Ibn ᶜAbdin, (Mustaf al-Halby Press).

Ibn Adam, Y., al-Qurashi, Kitab al-kharaj, (Dar al-Maᶜrifah Press, Beirut).

Adams, Thomas, Recent Advances in Town Planning, (J. & A. Churchill, London, 1952).

Akbar, Jamel A., Responsibility and the Traditional Muslim Built Environment, (Unpublished Ph.D Thesis, MIT, 1984).

Akbar, Jamel A., Support for Courtyard House, Riyadh, Saudia Arabia, (Unpublished Master Thesis, MIT, 1982).

Anderson, Stanford, "People in the Physical Environment: The Urban Ecology of Streets", in On Streets, edited by S. Anderson (MIT Press, Cambridge, Massachusetts, 1978).

Al-Ansari, A., Tarikh Madint Jeddah, (Vol.1, 2nd Edition, Dar Masur Press, 1982).

Asaad, M.H., Study of the Housing Situation for Low Income Families in Jeddah, Saudi Arabia, (Unpublished M.Phil Thesis, University of Newcastle upon Tyne, 1977).

Bakshish, A.A., Legal Study of Legislation Applied in Saudi Arabia, (Report prepared by the United Nations Legal Expert, April 1977).

Al-Baladhuri, Futuh al-Bwldan, (Dar al-kutub al-ᶜIlmiyyah Press, Beirut, 1978).

Baleela, M., Design for Livability: The Housing Requirements of Middle Income Families in Saudi Arabia, (Unpublished Ph.D Diss., University of Pennsylvania, Urban and Regional Planning, 1975).

Black, R.V.N., Building Lines and Reservation for Future Streets, (Cambridge, Mass.: Harvard University Press, 1953).

Bokhary A.Y., Jeddah: A Study of Urban Formation, (Unpublished Ph.D Thesis, University of Pennsylvania, 1978).

Bokhary A.Y., "On the Identity of the Arab-Islamic City, Past and Present" in I. Serageldin and S. El-Sadik (eds), The Arab City: Its Character and Islamic Cultural Heritage, (The Arab Development Institute, Riyadh, 1981), pp.78-82.

Bokhary A.Y., "The Continuity of the Local Architectural Heritage in the Contemporary Architectural Trends", (Unpublished paper submitted to the Urbanism and Environment seminar, King Saud University, 8-13 February, 1986).

Al-Bukhari, Sahih al-Bukhari, 9-Vol. Trans. M. Muhsinkhann, (Islamic University, al-Madina al-Munawwarh, 2nd Edition, 1976).

Clark, K.N. and Paylore, P. (eds), Desert Housing, (Tucson, University of Arizona, 1980).

Danby, M.W., "The Islamic Architectural Tradition and the House: With Special Reference to the Middle East", In A. German (ed) Islamic Architecture and Urbanism, (King Faisal University, Dammam, Saudi Arabia, 1983, pp.60-67).

Danby, M.W., "Architecture in the Islamic World", in D. Maceoin and A. al-Shahi (eds) Islam in the Modern World, (Croom Helm, London, 1983, pp.132-141).

Danby, M.W., "The International Environmental Aspects of the Traditional Islamic House and their Relevance to Modern Housing", in A. Hyland and al-Shahi (eds) The Arab Houses, (University of Newcastle upon tyne, CARDO, 1986, pp.83-90).

Al-Dar Qotny (d.385H), Sonan al-Dar Qotny, (ᶜAlm al-Kitab, Beirut).

al-Drini, F., al-Haq wa Mda soltan al-Dwlah Fi Taqyydah, (Published Ph.D Thesis, al-Azhr University, Moasst al-Risalh, Beirut, 1984).

Duncan, G.O., The Planning and Development of the City of Jeddah 1970 - 1984, (Unpublished Ph.D. Thesis, University of Durham, 1977).

Fadan, Y., Urban Dwelling Environment: Jeddah, Saudi Arabia, (Report submitted to Educational/Research Programme, USD, Cambridge, MIT, 1977).

Fadan, Y., "Traditional Meccan Houses: The Influence of Socio-Cultural Themes on Arab-Muslim Dwellings", (Paper submitted to the Symposium on Islamic Architecture and Urbanism, Dammam, January 5-10, 1980).

Fadan, Y.M., The Development of Contemporary Housing in Saudi Arabia, (Unpublished Ph.D Thesis, MIT, 1983).

Farahat, A., Abulmohsen, M. Bown, A., Evolution and Development of Building Codes and Land-use Regulations, (Unpublished Report, Saudi Arabian National Centre for Science and Technology, Riyadh, 1985).

Farsi, M.S. and Amer, H.I., "Islamic Architectural Features in the Arabian Peninsula and their Reflection in Planning Old and New Jeddah", in I. Seregeldin and Es-Sadek (eds) The Arab City: Its Character and Islamic Cultural Heritage, (Riyadh: The Arab Urban Development Institute, 1981).

Farsi, M.S., Arabian Cities (Theory and Practice: Case Study for the City of Jeddah, Kingdom of Saudi Arabia, (Unpublished Ph.D Thesis, Alexandria University, Egypt, 1987).

Farsi, M., Tatwer al-Nasiq al-ᶜOmarny L-Mdint Jeddah al-Qadimah, (Paper submitted to the Symposium of Saudi Cities, March 21-23, 1983)

Greenlaw, Jean-Pierre, The Coral Buildings of Suakin, (Oriel Press, London, 1976).

Al-Hanbali, A. Yaᶜla, al-Ahkam al-Sulaniyyah (al-Halabi Press, Cairo, 1966).

Hakim, B.S., Arabic-Islamic Cities: Building and Planning Principals, (KPI Limited, London, 1986).

Al-Harbi, T., The Development of Housing in Jeddah: Changes in Built Form from the Traditional to the Modern, (Unpublished Ph.D Thesis, University of Newcastle upon Tyne, 1989).

Hariri, M.M., Housing in Central Makkah: The Influence of Hajj, (Unpublished Ph.D Thesis, University of Newcastle upon Tyne, 1986).

Hassan, al-Shastawy, "al-Madinah al-ᶜArbiah Byna al-Daᶜwat al-Thalath: al-salafiah wa al-Muᶜasarah, wa al-Motahfizah", In I. Serageldin and S. al-Sadek (eds) The Arab City. (The Arab Urban Development Institute, Riyadh, 1982).

Al-Hathloul, Saleh, Traditional, Continuity and Change in the Physical Environment, (Unpublished Ph.D Thesis, MIT, 1981).

Husaini, W. Waqar, Islamic Environmental Systems Engineering, (Macmillan Press Ltd., London, 1980).

Ibrahim, Abdulbaqy, Taşil al-Qyam al-Hadariyyah Fi Bina al-Madinah al-Islamiah al-Muᶜasarah, (publication of the Centre for Planning and Architecture Study, Cairo, March, 1982).

Ismail, A., "Origin Ideology and Physical Pattern of Arab Urbanisation", Eistics, Vol.33, No.195, Fab 1972, pp.113-132.

Jastaniah, O.R., The Urban Function of Jeddah - A Geographical Appraisal. (Unpublished Ph.D Thesis, University of Durham, 1984).

Khan, S.M., "The Influence of Arabian Tradition on the Old City of Jeddah", in I. Serageldin and S. el-Sadek (eds), The Arab City: Its Character and Islamic Cultural Heritage, (The Arab Urban Development Institute, Riyadh, 1981, pp.191-197).

Khan, S.M., Jeddah Old Houses, (Department of Scientific Research, King Abdulaziz City for Science and Technology, Riyadh, 1981).

Konash, M., The Planning of Jeddah: An Evolution of its Accomplishments Through Master Planning and Growth Managements, (University of Petroleum and Minerals Press, Dahran 1984).

Al-Labnani, Salem Rostm Baz, Sharh al-Majallah, (Dar Ahya al-Turath al-ᶜArabi, Beirut, Lebannon, 1305H)

Lapidus, I.M., Muslim Cities in the Latter Middle Ages, (Harvard University Press, Cambridge, Mass., 1967).

Al-Majallah, Majalat al-Akham al-ᶜAdliyyah (Al-Adabiyyah Press, Beirut, 1302H).

Makhlof, Abdul-Rahman, al-Tatwr al-ᶜOmrany L-Mdint Jeddah (1959-1963), (4 Vols., Unpublished Report, Ministry of Municipal and Rural Affairs, Jeddah 1985).

Al-Mawardi, al-Ahkam al-Sultaniyyah, (al-Halabi Press, Cairo, 1960).

Al-Mawdudi, Abu al-Aᶜla, Mulkiyyat al-Ard fi al-Islam, (Dar al-Qalam Press, Kuwait, 1969).

Ministry of Finance and National Economy, Real Estate Development Funds: Annual Report (1984-85), (Unpublished Report, Riyadh, 1985).

Ministry of Municipal and Rural Affairs, al-Anzmah, al-Lwah, al-Tᶜlimat, (7 Vols., Unpublished Report, Ministry of Municipal and Rural Affairs, Riyadh, 1375).

Ministry of Municipal and Rural Affairs, Deputy Ministry of town Planning, Zoning Regulation, Towards a more flexible base. A discussion document, unpublished paper, 18.12.1405,1985, p.5,

Ministry of Planning, The Second Development Plan 1975-1986, (Unpublished Report, Riyadh, Saudi Arabia, 1975).

Mofti, F.A., Urban Housing Design in the Context of Saudi Arabia's Cultural and Physical Conditions: Potentials and Constraints, (Unpublished Ph.D Thesis, Rensslear Polytechnic Institute, USA, 1981).

Al-Nwawy, Mohyalddin Abu-Zakria, Sharh al-Nawawy ᶜLa Sahih Muslim, Dar al-Fikr LLtbaᶜh wa al-Nshr, 1981).

Al-Nwawy, Aby Zakria (d.676H), Rwtat al-Talban, Al-Mktb al-Islamy ll-Tbaᶜah wa al-Nashr, Beirut , Lebannon).

Pesce, Angelo, Jeddah: Portrait of an Arabian City, (Falcon Press, London, 1974).

Al-Qaradawi, Y., The Lswful and the Prohibited in Islam, Kamel El-Helbawy, M. Moinuddin Siddiqui, Syed Shukry (translators), (Shorouk International (UK) Limited, London, 1985).

al-Qatan, M., Wjob Tahkim al-Shariᶜah al-Islamiah, (Published by al-Imam Mohammed Bin Saud al-Islamiah, 1985).

Ibn Qudamah (d.620), Al-Moghny, (Matbᶜt Dar al-Kitab al-ᶜArby, Beirut, 1972).

Ibn Qudamah (d.620H) al-Mughni, (Maktabat Ibn Taymiyyah Press, edited by M. Harras).

Bin Rajb al-Hanbly (d.795H), al-Qwaᶜid fi-al-Figh al-Islamy, (Dar al-Maᶜrfah Press, Beirut, Lebannon).

Ibn al-Rami, Kitab al- Iᶜlan bi Ahkam al-Bunyan, (eds) A. ad-Dawdi, Majalt al-Figh al-Maliki, (Published by the Ministry of Justice, Morocco, 1982, Issues 2, 3, 4).

Robert Matthew, Johnson-Marshall & Partners (Consultants), Western Regional Plan, Action Area Report, Jeddah, (Unpublished Report, Ministry of Interior Municipal Affairs, 1972).

Robert Matthew, Johnson-Marshall & Partners (Consultants), Western Regional Plan, Master Plan Report, Jeddah, (Unpublished Report, Ministry of Interior Municipal Affairs, 1972).

Salagoor, Jamaludden, Arab Sugs: Changes and Continuity of the Organisation, Function, and Characteristics, with a Case Study of Development in the Sug Area at al-Hofuf, Saudi Arabia, (Unpublished Masters Project, University of Arizona, Tucson, 1984).

Ibn Salam, Aby ᶜObid al-qasim, al-Amwal, Mohammed Khalil Haras (ed), (Dar al-Fikr, Cairo, 1981).

Sarwar, Ghulam, Islam: Beliefs and Teachings, The Muslim Educational Trust, London, 1987).

Serageldin, I., "al-Madinah al-ᶜArabiah wa al-Torath al-Hadarq al-Maᶜnawiyyah", In I. Serageldin and S. al-Sadek (eds) The Arab City, (The Arab Urban Development Institute, Riyadh, 1982).

Sert Jackson International/Saudi Consult, Jeddah Action Master Plan, Technical Report No.5, Vol.3, Socio Economic Data, (Unpublished Report, Ministry of Municipal and Rural Affairs, Jeddah, 1979).

Sert Jackson International/Saudi Consult, Jeddah Action Master Plan, Technical Report No.4, Evaluation of Existing Master Plan, (Unpublished Report, Ministry of Municipal and Rural Affairs, Jeddah, 1978).

Sert Jackson International/Saudi Consult, Jeddah Action Master Plan, Technical Report No.5, Existing Conditions of Meteroploitan Areas, Vol.1, Introduction and Physical Planning Data, (Unpublished Report, Ministry of Municipal and Rural Affairs, Jeddah, 1979).

Sert Jackson International/Saudi Consult, Jeddah Action Master Plan, Technical Report No.7, Planning Bye-Laws, (Unpublished Report, Ministry of Municipal and Rural Affairs, Jeddah, 1980).

Sert Jackson International/Saudi Consult, Jeddah Action Master Plan, Technical Report No.9, Revision and Updating of Existing Master Plan, (Unpublished Report, Ministry of Municipal and Rural Affairs, Jeddah, 1980).

Al-Shatby, Aby Ishaq, (d.780H), al-Mwafqat Fi Ansol al-Shari^{c}ah, (Dar al-Ma^{c}rfh, Beirut).

Al-^{c}Sqlany, Ahmed bin Ali bin Hajer, Fath al-Bary bi-Sharh Sahih al-Bokhary, (Published and distributed by Adarat al-Bohth al-^{c}Lmiah wa al-Ifta wa al-Da^{c}wah wa al-Irshad, Kingdom of Saudi Arabia).

Stacy International, Jeddah Old and New, (Stacy International, London, 1980).

Al-Suwty, Jalalaldin Abdul-Rahman, Tnwer al-Hwalik Shrah Mwta Malik, (Dar al-kotb al-^{c}Almiah, Beirut, Lebannon).

Al-Tabari, M., Tarikh ar-Rusl wa al-Muluk, 10 Vols, (Dar al-Ma^{c}arif Press, 1963).

Talib, K, Shelter in Saudi Arabia, (Academy Editions, London, 1984).

Bin Timyyah, Aby ^{c}Bas Ahmed (661-728H), al-Siasah al-Shr^{c}iah Fi Islah al-Ra^{c}iah, Mohammed al-Bna, Mohammed ^{c}Ashor (eds), (Dar al-Sha^{c}b, Cairo, 1971).

Abu Yousef, Kitab al-kharaj, (Dar al-Fik) Press, Beirut, 1969).

Abu Zahrh, M., Uswal al-Figh, (Dar al-Fikr al-^{c}Arabi, 1958).

Zidan, Abdulkarim, al-Frd wa al-Dawlah Fi al-Shari^{c}ah al-Islamiah, (al-Itahad al-Islamy al-^{c}Almy Llmnzmat al-Tolabiah, The Holy Quran Publishing House, Beirut, 1978).

Zidan, Abdulkarim, al-Mdkhl L-drast al-Shari^{c}ah al-Islamiah, (Mktbt al-Qwds, Moasst al-Risalh, Beirut, 1982).

Ziyadah, N., al-Hisbah wa al-Muhtasib Fi al-Islam, (al Matba^{c}ah al-Khathulikiyyah Press, Beirut, 1962).

Ziyadeh, F., Property Law in the Arab World, (London, Graham & Trotman Ltd., 1979).