



ORGANIZATION OF ISLAMIC CAPITALS AND CITIES

HOUSING IN THE ISLAMIC CITY

Ankara—17—21 Shawwal 1404 AH/21 — 25 July 1984



Prepared by: Center Of Planning And Architectural Studies—Cairo

HOUSING IN THE ISLAMIC CITY

Proceedings of a Symposium held in
Ankara - Turkey

17-21 Shawwal 1404 A.H.
21-25 July 1984 A.D.

Sponsored by:

Organization of Islamic Capitals and Cities

Edited by:

Center of Planning and Architectural Studies

Dr. Abdelbaki Ibrahim

Dr. Hazem Ibrahim

Arch. Hala Omar

Arch. Iman Barakat

Arch. Hoda Fawzi

Mrs. Soad Ebeld



Organization of Islamic Capitals and Cities
P.O.Box: 2919 - Mecca Mukaramah
Saudi Arabia



Center of Planning and Architectural Studies
14 El-Sobky Street - Manshiet Al-Bakry
Cairo - Egypt.

International Press - Cairo - Egypt.

First Edition: Thu Al Ke'eda 1406 A.H / July 1986 A.D.

ACKNOWLEDGEMENT

In a few words, I'd like to express my great pleasure with this book which encloses a collection of the papers presented in the first seminar for the Organization of Islamic Capitals and Cities. This seminar was held in Ankara-Turkey during the period from the 17th - 21st of shawwal 1404 A.H./16th - 20th of July 1984. The subject of the seminar was "Housing in the Islamic City". Many muslim and non-muslim experts in the field of architecture and physical planning participated in the seminar together with the secretaries and representatives of the different capitals and cities were presented covering the fields of housing, architecture and the conservation of the Islamic City. It was a wonderful opportunity for exchanging ideas and experience among the experts, participants and the concerned authorities and displaying the efforts exerted for the conservation of the Islamic City.

My gratitude and appreciation are due to his Excellency the Secretary of Ankara and his hard-working staff, for their hospitality and co-operation. I am particularly grateful to the Center of Planning and Architectural Studies - Cairo, for its organization of the seminar and participation. I'd like to thank the lecturers and the participants who took part through the presented papers and in discussion.

I sincerely hope that the next seminar that is to be held in Cairo in Moharam 1407 A.H./ September 1986 will be as fruitful as the first seminar if not more. I hope that the organization by now is already along the way towards its noble goals that aim to accentuate the typical Islamic identity in architecture and the physical environment.

General secretary of the
Organization of Islamic Capitals & Cities
Eng/Alsaid Abdel Kader Kowshak

TOWARDS A BETTER PHYSICAL ENVIRONMENT FOR MUSLIMS

The first seminar organized by the Organization of Islamic Capitals and Cities is considered an agreeable start towards a better physical environment for Muslims all over the world. In this seminar, the practical experience of official machineries, responsible for physical development and housing projects in a number of Islamic cities and capitals, interacted with the scientific experience of experts and specialists working in the field of physical planning and housing. The seminar, which was held for Four days, gave a good opportunity for the exchange of knowledge and experience among participants which helped in drawing nations close and unifying objectives for the upgrading of the physical environment of the Islamic community.

The Seminar was concluded in a number of decisions rather than recommendations. Decisions concentrated on the organization of work in the period after the seminar and until the convening of the second seminar in Cairo in Moharam 1407A.H./ September 1986, in an attempt to emphasize the connection of the experts and specialists with the continuous scientific activities of the Organization, through continuous researching and publishing on the largest scale to allow the benefit to spread all over the Islamic World. The seminar took a decision on the necessity of searching for the design and artistic roots of Islamic architecture all over the world, so as to put the scientific bases for the Muslim architect or planner when he designs or plans for the future. In this respect, the search for the Islamic cultural values comes first, as it aims at building the human being and consequently becomes the base for building the physical environment in which he lives and which reflects his needs and behaviour. Architecture and housing have always been the mirror which reflects the life of nations. Here, the architectural form expresses the Islamic concept free of anything irrelevant to the creed. Islam is a comprehensive culture comprising the economic, social, cultural and administrative aspects, it should be reflected on the physical image which suits the needs of the Islamic society.

The first seminar organized by The Organization of Islamic Capitals and Cities in Ankara in 1984, is the starting point for enriching the scientific and practical thought of Muslim experts and specialists working in the field of urbanization and housing. This book, the first on the researches and work of the first seminar, is considered the starting point for a number of scientific books issued by the Organization with the aim of accentuating Islamic values in building the contemporary city.

The seminar's directorate gathered all the studies and researches, which accomplished a certain level suitable for publishing, to be included in this book. The seminar directorate executed huge efforts in revising those studies and researches in order to prepare them for printing, as well as supervising and directing the process of printing and presentation until the book came out in this form. Meanwhile, the seminar directorate, after gaining a lot of experience in this field, wishes that the coming books published by the organization will appear in a better image as a model for the scientific and practical accomplishments which will return with benefit and wealth on the Islamic society.

Dr. Abdelbaki Ibrahim
Seminar Director

HOUSING IN THE MUSLIM WORLD

Concluding the symposium "Housing in the Islamic World" held in Ankara within the framework of the works of the Third General Conference of the Organization of Islamic Capitals, the participants in the symposium would like to express their deep acknowledgment and appreciation to the government of Turkey for its hospitality for sponsoring the symposium.

We, participants, would like to emphasize the importance of incorporating all the technical and scientific efforts for up grading the housing standards in the Islamic World and stressing the Islamic values in all aspects of planning and architecture, hoping thus for the comprehension of the decision makers in the Islamic World.

Resolutions and recommendations of the symposium:-

1. Printing and publishing the papers presented in the symposium in both Arabic and English with a French summary.
2. Establishing a technical committee including experts from the various Islamic capitals and cities for coordinating efforts with the Arab organizations with similar interests.
3. Organizing and preparing for "The Islamic Housing Year" in 1987 within the declared UN. year for "Housing".
4. Co-ordinating research and publishing activities by establishing working teams of Muslim experts from various backgrounds for publishing "The Islamic Human Settlements" magazine and emphasizing the Islamic values in architectural education, training and in housing legislation.
5. Allocation of physical and moral prizes for the best researches, construction and art works which will contribute to the revitalization of the deep rooted Islamic values in the contemporary Muslim capitals and cities.
6. Exchanging technical, scientific experts and students between the Muslim capitals and cities for a better comprehension of the achievement and knowledge of the Islamic World.

Issued with the help of God in Ankara, the capitals of Turkey in Friday 20 Shawwal 1404H/20 July 1984 AD.

May God help us all to the best of Islam and Muslims
Al-Salam Aley-Kum.....

CONTENTS:-

1- Acknowledgment. Eng./ Al-Said Abdel Kader Kowshak	
2- Towards a better physical environment for muslims. Dr./ Abdel Baki Ibrahim	
3- The Organization of Islamic Capitals and Cities.	
4- Recommendations.	
5- The house of Al-Musel Eng./ Ahmad Mejid Mollah Sherif	1
6- Revival of deep rooted Islamic values in contemporary architecture. Dr./ Abdel Baki Ibrahim	11
7- Traditional Islamic features in the domestic architecture in Saudi Arabia. Prof./ Michael Earls	23
8- Holy Jerusalem - The muslim city between the judaization conspiracy and the dangers of settlement. Eng./ Assem Abdallah Ghoshah	33
9- The Islamic identity in the design of courtyard houses Dr./ Saleh Lamei Moustafa	51
10- Cairo, The old and the new city Representative of Cairo Governorate	63
11- Conservation of an Islamic city - Lefkosa Eng./ Ahmad Orök Eng. M.A. Berkut	85
12- A study upon the provision of housing for low income groups in the muslim society. Dr./ Hazem Mohamad Ibrahim	107
13- Housing planning at the mountain's feet in Mecca Muka-rama Mr./ Fouad Omar Tewfik	127
14- Housing problems in the Islamic city Eng./ Youssef Al-Sayebi	135
15- Housing problem in Ankara Dr./ John D. Norton	143
16- City planning and housing problems in Teheran Representative of Municipality of Tehran	155
17- Ankara metropolitan area and master plan studies and 1900 urban development strategies. Eng./ Halük Alatan	161
18- The appropriate house for the muslim within the master plan of the city. Mr./ Yacoub Youssef Al-Mas	181
19- Problems of housing in low income groups in Kuala Lumpur. Mr./ Dato Elias Ben Omar	189

20-	New approach to housing design in muslim cities.	211
	Prof./ Cliff Moughtin, Eng./ Tarek Shalaby	
21-	Housing in the Islamic city-case of Marrakech.	236
	Eng./ Nour El-Din El-Ouadghiri	
22-	Planning new towns using traditional prototypes.	241
	Eng./ Loffy Belhaj	
23-	Improvement of the residential environment by integration of illegal subdivisions.	245
	Eng./ Abdel Aziz El-Felaly	
24-	Housing problems and solutions for poor groups in the Islamic city.	249
	Dr./ Rouhi El-Sherif	
25-	Services and physical planning in Tunis.	267
	Mrs./ Nagat Khantoush	
26-	Solving the problems of low cost housing for limited income groups.	273
	Eng./ Murat Karayalcin Eng. Bülent Ilik.	
27-	Zoning and land use control- solving the problems of low cost housing for limited income groups.	281
	Dr./ Saleh Al Hathloul	
28-	Co-ordination between the new building law in the old city of Tunis and the arab Islamic urbanization concepts.	292
	Mrs./ Gamiela Baynous	
29-	Islamic values structuring the society.	297
	Eng./ Tarek Wali	
30-	Housing problems in Turkey and the function of Real Estates Credit Bank.	305
	Dr./ Bahdir Agca	
31-	The Foundation of the muslim architect	311
	Eng./ Abdelkader Hamza Kowshak	
32-	Muslim low income housing in Bamako.	315
	Eng./ Alpha Boubacar	
33-	Recommendations du Symposium.	
34-	French Resumé.	

THE ORGANIZATION OF ISLAMIC CAPITALS & CITIES

The Organization of Islamic Capitals and Cities is an Islamic association having no political activities and it does not interfere whatsoever into the political affairs of any of the countries whose capitals or cities are members in the organization. All the capitals of the countries members in the Organization of the Islamic Congress are admitted to the membership of the Organization of Islamic Capitals and Cities, besides two cities at the most from every Islamic country. The organization's headquarter is in Mecca Mukarama while the general secretariate's offices are in Jeddah.

The Organization has been established on the 14th of Jamadi II 1399 A.H/ 12th of May 1979 in accordance to the decree 25/105 of the Tenth Conference for Ministers of Foreign Affairs of Islamic Countries that was held in Fez - Morocco. The establishment of the general secretariate has been proclaimed in accordance to the decree 3/1 of the General Conference for Islamic Cities' Secretaries that was held in Mecca Mukarama during the period 11th-12th of Rabie I 1400 A.H./29th-30th January of 1980. In the same conference the establishment of the organization's administrative council has been assigned.

The objectives of the Organization.

- 1- Consolidation of brotherhood relationships between Islamic capitals and cities
- 2- Stimulating the co-operation between Islamic capitals and cities.
- 3- Conservation of the Islamic heritage and identity of Islamic capitals and cities.
- 4- Achievement of comprehensive urban plans to direct the growth of Islamic capitals and cities.
- 5- Amelioration of public services in Islamic capitals and cities members in the organization.

These objectives could be achieved through:

- 1- Exchanging visits, studies, researches, experiences and scholarships between Islamic capitals and cities.
- 2- Conducting seminars for the discussion of various subjects concerning the Islamic capitals and cities.

1- The general congress

- ★ It is responsible for the determination of the organization's policy, its objectives and its goals. This congress comprises the secretaries of all capitals and cities members in the organization. The chairman of the congress is to be the Governor of the capital or the city in which the congress is held, or his representative.
- ★ The voting system is applied by considering the majority of the votes of the attendants whereas each capital or city has one vote.
- ★ The general congress is held regularly once every two years.

2- The administrative council

- ★ It is responsible for the follow up and execution of the general council's decisions and recommendations.
- ★ It lays down the essential plans and programmes for the achievement of the organization's objectives.

- ★ It directs the general secretariate towards the achievement of the organization's objectives.
- ★ It assigns the organization's regulations and frameworks.
- ★ It is responsible for the study of the budget proposed by the general secretariate.
- ★ The council includes eleven members in addition to the Organization's general secretary as follows:-
 - (8) Eight members chosen by direct election from the general congress.
 - (3) Three permanent members: Mecca Mukarama, Medina Munawara and Jeuraslem. They were chosen for their holiness.
- ★ The council meets regularly twice a year. It might be called for assembly in case of urgent matters according to the general secretary's request or that of the council's chairman or one third of the members of the Islamic capitals or cities.

3- The general secretariate

It is the organization's executive board. The general secretary is elected by the general congress every four years. He is responsible for the financial and administrative co-ordination within the general secretariate. The general secretary acts as a link between the organization and the different local, regional and international associations all over the world. He is responsible as well upon the preparation of the work reports presented to the administrative council.

4- The Heritage Conservation fund in the Islamic World.

- ★ It is called the Heritage Fund. Its headquarter lies in the permanent headquarter for the Organization's general secretariate.
- ★ It has been founded for the conservation of the heritage which constitutes a unique civilizational value in the Islamic history. It is meant to achieve one of the Organization's objectives by the preservation of the identity of the Islamic capitals and cities. This is due to the fact that some Islamic cities are financially uncapable of withstanding the renovation and restoration costs of their Islamic monumental areas.
- ★ The resources of this fund depend upon direct contributions from governments, associations individuals, the contributions sent through the Islamic Organization and the annual membership fees.
- ★ The aid requests are presented to the general secretariate provided by the minute project details, their expected costs, the degree of urgency and the reasons which stand against the country's financial capability together with the experts reports.
- ★ These requests are then sent to the fund's administrative board for their approval. This fund offers its support or aid only to those members who regularly pay their annual membership fees.

Conditions of membership.

- All the capitals of the countries-members in the Islamic Congress Organization-are allowed to join the Organization of Islamic Capitals and Cities.
- Besides the capital, two other cities from each Islamic country could join the organization on the following conditions:-
 1. These two cities have a unique Islamic and civilizational value.
 2. The capital of each Islamic country nominates these two cities. The nomination request is then presented to the general secretariate then to the administrative board for discussion and approval.
 3. Each city is bound to pay the annual membership fees equal to that of the capital.

The organization's membership in regional and international organizations and associations.

(A) Observant membership:

- | | |
|---|----------|
| 1- The Islamic Congress Organization | - Jeddah |
| 2- The Organizaiton of Arab Cities | - Kuwait |
| 3- The Arab Institute for Cities Development. | - Riyadh |

(B) Other international and local associations co-operating with the Organization

- | | |
|--|-----------|
| 1- The Islamic Education, Science and Culture Organization (ISESCO)- | - Morroco |
| 2- The Arab Education, Science and Culture Organization (ALESCO). | - Tunis |

- | | |
|---|-------------------|
| 3- The Islamic World's League | - Mecca Mukaramma |
| 4- Some Universities in the Islamic World. | |
| 5- The International Center for Islamic Education. | - Mecca Mukarama |
| 6- The Center of Planning and Architectural Studies (CPAS) | - Cairo |
| 7- The Statistics Center for Social and Economical Studies and Training for Islamic Countries | - Istanbul |
| 8- The Islamic Broadcasting Organization. | - Jeddah |
| 9- The International Union for Twin countries. | - Paris |
| 10- The United Nations Education, Science and Culture Organization (UNESCO) | - Paris |

(C) Permanent membership

- 1- The Board of the Center of Islamic History, Arts and cultural researches - Istanbul. The Islamic Congress Organization.
- 2- The Board of the International Committee for the Conservation of Islamic Heritage - Istanbul - fellow of the Islamic Congress Organization

Scope of activities

The organization has participated in many seminars and conferences as follows:-

- The Economic and Social Seminar for the Mediterranean cities held by the Union of Mediterranean Cities in Istanbul on the 12th - 15th of May 1980.
- A Seminar upon the Arab City, its characteristics and its Islamic civilizational heritage. It was held by the Arab Cities Organization in Medina Mounawara from the 24th - 29th of Rabie II 1401 A.H./ 28th of February -5th of March 1981.
- The Third Islamic Summit meeting (Mecca Mukarama - Taeif 1401 A.H.)
- The conferences held for the Ministers of Exterior of Islamic Countries, starting from the 10th conference that was held in Fez - Morroco (1399 A.H./1979) uptill the 15th conference that was held in Sanaa (December 1984). In the 12th conference that was held in Baghdad 1981, the task of conservation of city heritage was handed over to the Organization of Islamic Capitals and Cities according to the general secretary's request. In the same conference a decree has been issued stating the organization's permanent membership in:
 - 1- The Board of the Center of Islamic History, Arts and Culture Researches - Istanbul.
 - 2- The Board of the International Committee for the Conservation of Islamic Heritage - Istanbul.
- The 7th conference for the Organization of Arab Cities held in Algeria -1983.
- The 14th Islamic Summit meeting held in Casablanca on 1404 A.H. In this meeting, those countries that recently joined the Organization of Islamic Congress were invited to join the Organization of Islamic Capitals and Cities.

The organization has invited many secretaries of Islamic capitals to the celebration held in Fez, during which the twinship of Fez and Jeursalem has been announced. Along the several meetings that were held by the organization since its establishment and uptill now, decisions and recommendations were issued, the most important of which are:-

- 1- Calling for the participation of the different Islamic countries in the reconstruction of Al-Aqsa mosque and the Dome of the Rock (Qobat Al-Sakhra) in Jeuraslem either through technical expertise or through financial aid.
(First Administrative Council - Ankara - 1400 A.H./1980).
- 2- Supporting the Islamic World League's proposal which suggests that every Islamic capital should print 1 million copies of the Holy Kuran to be distributed in the Islamic countries. The kingdom of Saudi Arabia has already taken the first initiative by printing 1 million copies.
(Third Administrative Council - Riyadh - 1401 A.H./1981).
- 3- Establishing a fund for financing the projects of restoration of different distinguished areas having an Islamic architectural value. Eventually, the organization approved upon the restoration project of the monumental areas of Jerusalem as the first project to start with.

- 4- Provision of financial aid for the heritage fund. This decision has been remitted to the Islamic Congress Organization so as to contact the Islamic Governments to stimulate and encourage their support.
(Fourth Administrative Council - Kuala Lumpur 1402 A.H./1982).
- 5- Approval upon the fundamental framework for the restoration fund of monumental areas which possess distinguished civilizational and Islamic architectural value.
(Fifth Administrative Council - Konakry - 1983).
- 6- Approval upon the membership of several new cities to the organization according to their capitals requests. These new cities are: Al-Khor and Al-Shamal in Qatar, Erbid and Al-Kark in Jordan, Medina Munawara and Jeddah in Saudi Arabia, Al-Musel and Al-Basra in Iraq, Fez and Maraqesh in Morocco, Ghaza and Nablus in Palestine and Borsa and Istanbul in Turkey.
(Sixth Administrative Council - Fez - 1404 A.H./1983).

However the third general conference for the Organization of Islamic Capitals and Cities has been held in Ankara during the period from 17th -21st of Shawal 1404 A.H./16th - 20th of July 1984. Several recommendations were issued as follows:-

- 1- The approval upon the permanent membership of Medina Mounawra in the Organization's administrative council for its holiness.
- 2- The re-election of the administrative council's members how often were the time of their election.
- 3- The approval upon the entire equality between the different capitals and cities in voting.
- 4- The transfer of the general secretariate's offices to the city of Jeddah, whose secretariate made a self commitment so as to provide the Organization with the necessary support.
- 5- The approval upon the admittance of the Islamic Heritage Conservation fund to the organization as a fourth association.
- 6- The admittance of the city-in which the administrative council is held-to its membership during its ordinary session unless it is actually an elected member.
- 7- The administrative council membership period has been defined from two to four years.
- 8- The members of the administrative council for its coming session have been elected as follows:-
1- Cairo 2- Riyadh 3- Bamako 4- Ankara
5- Istanbul 6- Baghdad 7- Rabat 8- Tunis.
- 9- The Re-election of his Excellency Eng./Abdel Kader Hamza Kowshak as a General Secretary for the Organization for its next session.
- 10-Exempting Ghaza and Nablus from their annual membership fees and Bei-ut from the annual membership fees of the last two years. On the other hand, the other Islamic capitals and cities were asked to pay their annual membership fees to support the Organization and proceed along towards its goals.

At the end of the third conference many thanks and appreciations were expressed to his Excellency the General Secretary of the Organization for contributing his salary for the Organization. Thanks were due to the secretariate of the Holy Capital Mecca Mukarama for supporting the organization and to the secretariate of Kuala Lumpur for appointing one of its staff to work for the organization on its own expense. It has been decided that the fourth general conference will be held in Cairo on Moharram 1407 A.H./ September 1986 together with the second scientific seminar under the title of "City Cleaning within the framework of Environment protection".

This was a brief review of the activities and efforts undertaken by the Organization of Islamic Capitals and cities within the last five years. Along these years, the Organization has worked very hard towards achieving a very noble goal that is supporting Islam and the Muslims every where. This is considered the most honourable duty for every Islamic capital and city-either is it a member in the Organization or not, in an attempt to the erection of a united Islamic community.

THE HOUSE OF AL-MUSEL

ENG. AHMED MEJID MOLLAH SHERIF

MUNICIPALITY OF MUSEL - IRAQ

1- Location:-

Al-Musel lies in the northern part of Iraq, 400 kms to the north of Baghdad. It lies at the midst of many monumental sites that date back to early civilizations; The city of Arbil lies 87 kilometers to the east of Al-Musel, while Al-Hadr city lies at its south. Other Assyrian cities like Ninoy, Khours-abad and Al-Namroud surround the site of Al-Musel. Actually, this site has acquired a strategic importance being lying on the route of commercial caravans crossing to and fro across Syria, Iraq and Turkey.

Al-Musel is considered one of the biggest cities in Iraq. It lies on both sides of the river Tigris, the left part of which has developed after the World War I parallel to the city of Ninoy. The right part includes the existing old city located upon a ridge looking over the Tigris. The wall that surrounded the city was almost demolished by 1915. Behind this wall, new districts have erected and developed, a part of which later constituted the commercial town center while the remaining part was purely residential.

2 The erection of Al-Musel and its history:-

The city of Ninoy, the capital of the Assyrian dynasty, has collapsed in 612 B.C., and since then nothing has been left from the old city except a small village on the other side of the river which was later the core of the city of Al-Musel.

In 16 A.H./637 A.D, during the Caliphate of Omar Ibn El-Khatab, the Muslims conquered the city most peacefully and the Arab tribes e.g. Al-Khazrag, Tamim, Al-Azd and Taghlob settled in the area. In 20 A.H., the Governor of the city, Arfega Ibn Herthma Al-Barqi, planned the houses of the Arabs and built Dar Al-Emarah and Al-Mesjid Jamei (Congregational mosque). In the Abbassid period, Al-Musel played a major role in the political, cultural and economic life where as the Emarat of Banu Hamdan and Banu Aquil were established in the city which then became the capital of the Atabeky dynasty. The Atabekians have left behind valuable monuments that survived uptill today. The city was later pertained by the Alkhanian, Galairian and Ottoman dynasty uptill the end of the World War I when a new age of

national independence has started. The city was subjected to several attacks from different nationalities. It was once conquered by the Mongols, then by Taymour Lang. It was sieged by the Safavids for more than forty days but they never succeeded in its occupation.

3- General layout of the city:-

Untill 1915, the city was encompassed on the eastern bank of the Tigris. The whole city was enclosed within a wall surrounded by a trench except for Al-Mogahedy Mosque and Al-Nabi Shayth mosque in the southern part and Qadib Al-Ban mosque in the western part as well as some military barracks built by the Turks.

On the western bank of the Tigris, there only existed Al-Naby Younes mosque and a small residential cluster that erected upon the ruins of the monumental city of Ninoy. The city land is undulated enclosing fertile valleys along both sides of the Tigris. The soil is made up of mud with a high consistency of calcium, marble and stones. These constituted the fundamental building materials for the Museli Architecture.

4- The heritage fabric of the old city.

The aerial perspective of Al-Musel and its map show the irregular organic pattern of the city. Although the residential, services, religious and cultural components of the city and the streets and alleys are geometrically irregular yet they form a homogeneous entity though heterogeneous in form and space. Accordingly, the urban heritage fabric has been formulated by the residential clusters and the enclosed alleys.

The resulting architectural outcome is an irregular organic entity characterized by an integrible compact fabric. This pattern has been a result of the climatic, political, social and economic conditions. The complicated political conditions to which the city was subjected have greatly influenced the character and behaviour of Musilian individual and his architectural standards. Hence, he started thinking of protecting his city, alley and his home. The city was enclosed within a large wall built with stones and surrounded by a trench. The alleys have acquired a defensive character in addition to the provision of climatic protection through the use of high thick walls, the limited number of openings, bent entrances. The tunnels and cellars extending between the houses have evolved as a result of the hazardeous conditions in the city.

The climate has played an important role in the house design and physical fabric. The house is composed of an internal court or courts, surrounded by the different components of the house. Arches, fountains and vegetation were used in the court to eliminate the roughness of weather. In some houses, wall ventilation openings were used for air circulation and cooling. The utilized building materials and the contiguity of buildings achieved some kind of climatic isolation. On the other hand, the roof has acquired considerable importance in the Musel house; It is occasionally used for sleeping or as a living area. Thus it had to be kept out of sight of the passers-by and the neighbours. The heights of the roofs and their intra-relationship constituted one of

the major symptoms of the social life. The cellars with their changing levels and their wall air vents constituted as well an important architectural element for the resistance of summer heat. Climatic protection included the good orientation towards the south and blocking the western facade to avoid the effect of the sun.

The community's social aspects - composed by the Islamic and common traditions - have in turn affected the house of Musel through its planning and design. The concepts of hospitality and female segregation have led to the evolution of double wing houses, one of which was allocated for guests, while the other for the family. The first wing was known as the external court while the second wing was known as the internal court.

The house of Al-Musel has acquired a perfect isolation from the outer atmosphere through the introversion of the house components. The limitation of the external openings - except for a few windows in the ground and upper floor reassured the climatic isolation while the bent entrance as well as the simplicity of the external facades, free from any projections (kawshaks) except in the case of erecting bridged rooms crossing over the street, insured the social isolation. On the other hand, the economic status of the society has been reflected upon the Musel house, whereas several areas were devoted for the storage of food and seeds as Al-Gafr and Al-Eshkheim as well as the cellars and cabinets which are hidden entirely for emergency conditions.

5- The components of the Musel house:-

The general plan of the house in Al-Musel is typical to the houses in other areas in the Arab World. It is quite familiar to find the court houses with one or more courts surrounded by the different quarters. Each quarter consists mainly of an Iwan and two side rooms or aisles. The Iwan with two side rooms has developed in urban areas constituting one of the major characteristics of the Arab Islamic architecture in Iraq and that of the Musel house in particular. The Assyrian influence could be identified by the multiplicity of courts and introversion. The components of the Musel house are as follows:-

A- The court

It is usually squared in shape, surrounded by the other house components. It is tiled by a glazed stone flooring enclosing a fountain or a small garden. In many cases the court constitutes the roof of the cellar; This accounts for the existence of ventilation and lighting openings in the court. The Iwans, rooms, aisles, staircase, entrance and the well are distributed around the court. Obviously, the court played a major role in the Musel house; it constituted a basic spine for the daily house duties and social activities. It actually elaborated architectural unity in the residential cluster. Furthermore, it eliminated the influence of the rough weather where the cool air layers are accumulated during the night.

As a result, the court achieved the following characteristics:-

- i) Privacy
- ii) Social Contact
- iii) Practice of Daily home activities.
- iv) Weather treatment.

B) The Iwan.

This roofed area acts as a link between the side rooms as a private family space and the court as the family's public area. It is usually squared in shape with a pointed arch on its facade. It is clad with marble (Marmar) 3 meters high with decorative geometric floral and abstract forms. The upper parts are covered with projecting stucco decorations and calligraphy. To obtain harmony with the windows and doors, hollow cavities are made in the remaining wall area in the form of decorative lanterns (Mishkawat).

C) The rooms.

They are almost rectangular in shape, having two floor levels. The ceiling takes the form of knot having a qamariya, a small opening with gypsum decorative frames, on both sides.

D) The cellar

It is mainly found below the court and sometimes below the side rooms. In many houses, the cellar is used as storage or hiding places. A part of this cellar is occasionally used for handicraft practice. Its ceiling is in the form of arches carried upon pointed marble arches and piers.

E)- Al-Rahra

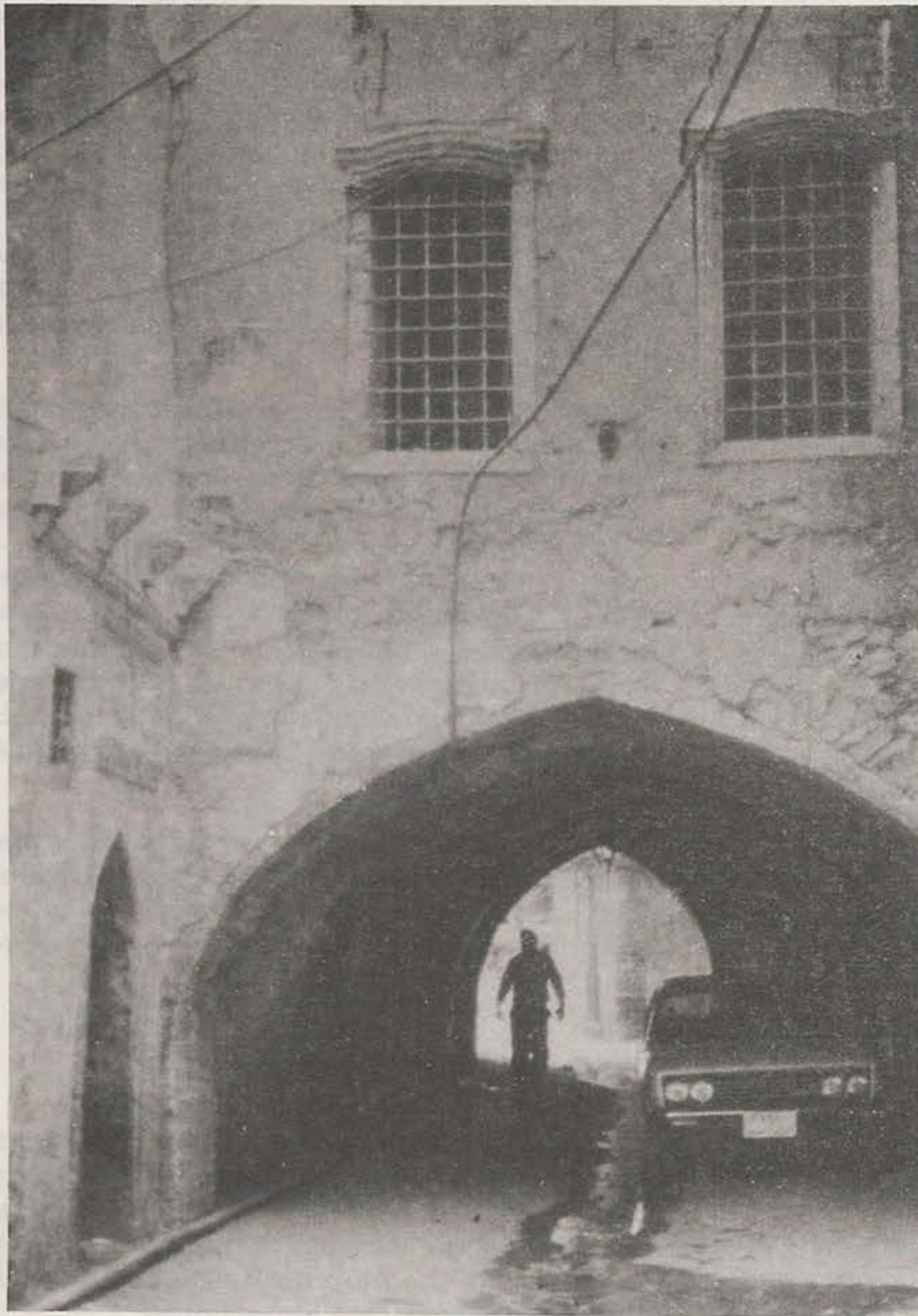
A part of Al-Rahra lies above the level of the middle court It is usually found below the side quarters. The floors and walls are tiled with pieces of marble. The walls have ventilation vents. The floors have a water fountain operated during the summer noons.

F) Aisles and al-tarema:-

The aisle is an architectural element imposed by the climatic conditions. It provides an area for protection from the summer sun and the winter rain. The aisles are usually found in front of the rooms and around the court. It rarely bisects the court into two parts. These aisles are supported on pointed and semi-circular arches reposing on marble columns. Al-Tarema is usually located on the upper floor. It plays the same role as that of the aisle.

G) The entrance:-

It is a transitional space to prevent direct view into the court. The frame of the outer door is usually made of marble (marmar) or stones and is decorated with geometrical or floral or abstract decorations. The upper arch is semi-circular or pointed or compound in shape.



- An alley passing beneath the rooms of one of the houses.

H) Other elements:-

In addition to the above mentioned elements, there are other elements which differ according to the living standards of the occupants. In some houses, a certain area is allocated for kitchen uses and it is then connected to different storage areas. In others, the kitchen occupies a small corner. Also, there is the wardrobe (Al-Khazana) which is usually connected to the rooms, it has a low ceiling above which there is another space known as (Al-Alya) and is utilized for storage. The resulting space above the arched and plane ceilings of rooms and Iwan is used for seed storage and is known as Al Sheikheim. There are other storage areas under ground known as Al-Gafr. It is used for food and seed storage. The well also constitutes an important element and is usually located in the middle court or in the service sector.

6- Structural materials.

The fundamental building materials used in the construction of the Musel house are Al-Saman stone, gypsum (Al-Ges), marble (Marmar) and Al-Helan stone. The walls are built by Seman and Gypsum. The arches are built using the same materials and adding plaster together with the Khershan - the old gypsum used in the pulled down buildings. In this case it is lighter than stone. The marble (marmar) is used in entrances, columns, arches, doors, windows and bracing frames as well as the stairs, flooring, lanterns and decorative boards. In general, it is used in areas away from weathering conditions specially the rain. On the other hand, Al-Helan is used instead of marble in open areas as in the court tiles.

The use of these materials in particular is due to their existence in the surrounding areas. These materials have been known in old ages since the Assyrian dynasty. Later, new materials were introduced into the Musel house as glass, wood, ceramic, metals and stone.

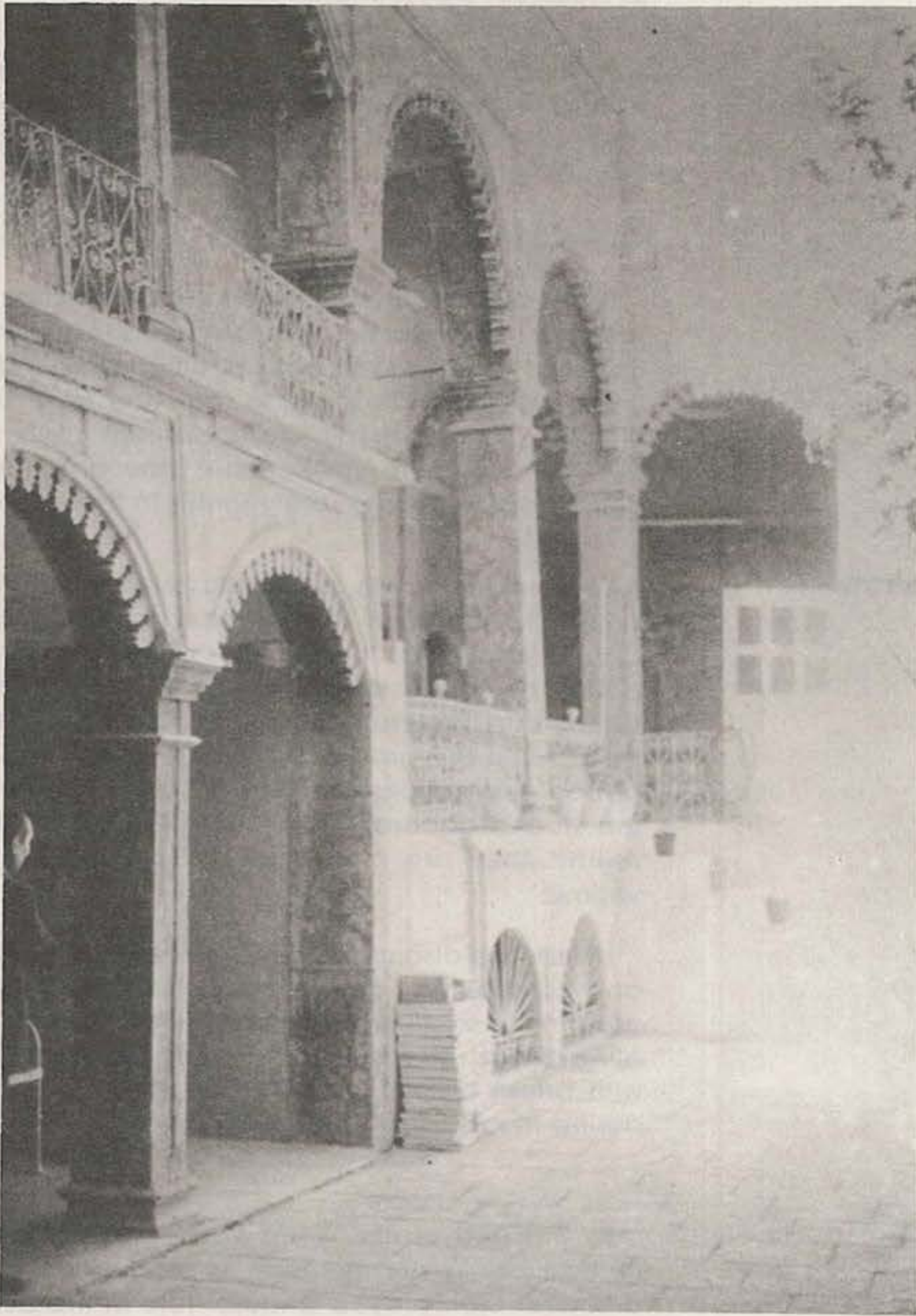
7- Decorations.

A) Geometric decorations:-

There is quite a variety of geometric decorations used in different areas. They look very simple with the frames of the different architectural elements. The most familiar figures used are the square, triangle, circle and star shapes, with different forms and composition. The Atabekian style could be clearly identified in the decorations of the Musel house.

B) Floral decorations:-

Floral decorations are predominant in tapes and spaces in between geometric decorations. They are mainly based upon the Musel spring flower - Bibon either singularly or in multiple shapes. The fruits are rarely used in floral decorations. The Assyrian influence could be identified in the forms of flowers, while the Ottoman style is identified in the compound flowers.



- Aisles facing the rooms.

C) Abstract decorations:-

These decorations are used in the tapes, corners and bracing frames. They are actually a continuity of the Atabekian era and they further intersect with the floral decorations in accordance to the Ottoman style.

D) Calligraphy:-

These decorations are made in long phrases in the form of long tapes or ribbons or on boards placed in the Iwan. These decorations are usually a mixture of calligraphy and abstract decorations. They include phrases from the Holy Kuran or Poetry of Wisdom. There are other decorations used together with the above mentioned types such as the daily used elements. The animal paintings are rarely found in these decoration.

The execution of decorations:-

These decorations are made by using marble either in haut-relief or bas-relief in entrances, arches, columns and their capital as well as the facades of the quarters looking onto the court. They are used as well in Iwans, cladding of windows and doors, and lanterns. The gypsum is also used almost in haut-relief while the grooved parts are coloured. These are used in ribbon decorations and calligraphy. The dyes used in coloring the stucco decorations is utilized in the ceilings of Iwans and rooms. They are mainly indigo in colour or sierra, green or yellow.

Metals are also used. Wood is used in the ceilings of Al-Tarema and its columns, doors and cupboard. The coloured glass is used in the small openings known as qameryat. Bricks known as Al-Agr were used only in religious buildings. These houses built with bricks date back either to recent periods or to old ages during the Atabekian dynasty.

Contemporary housing:-

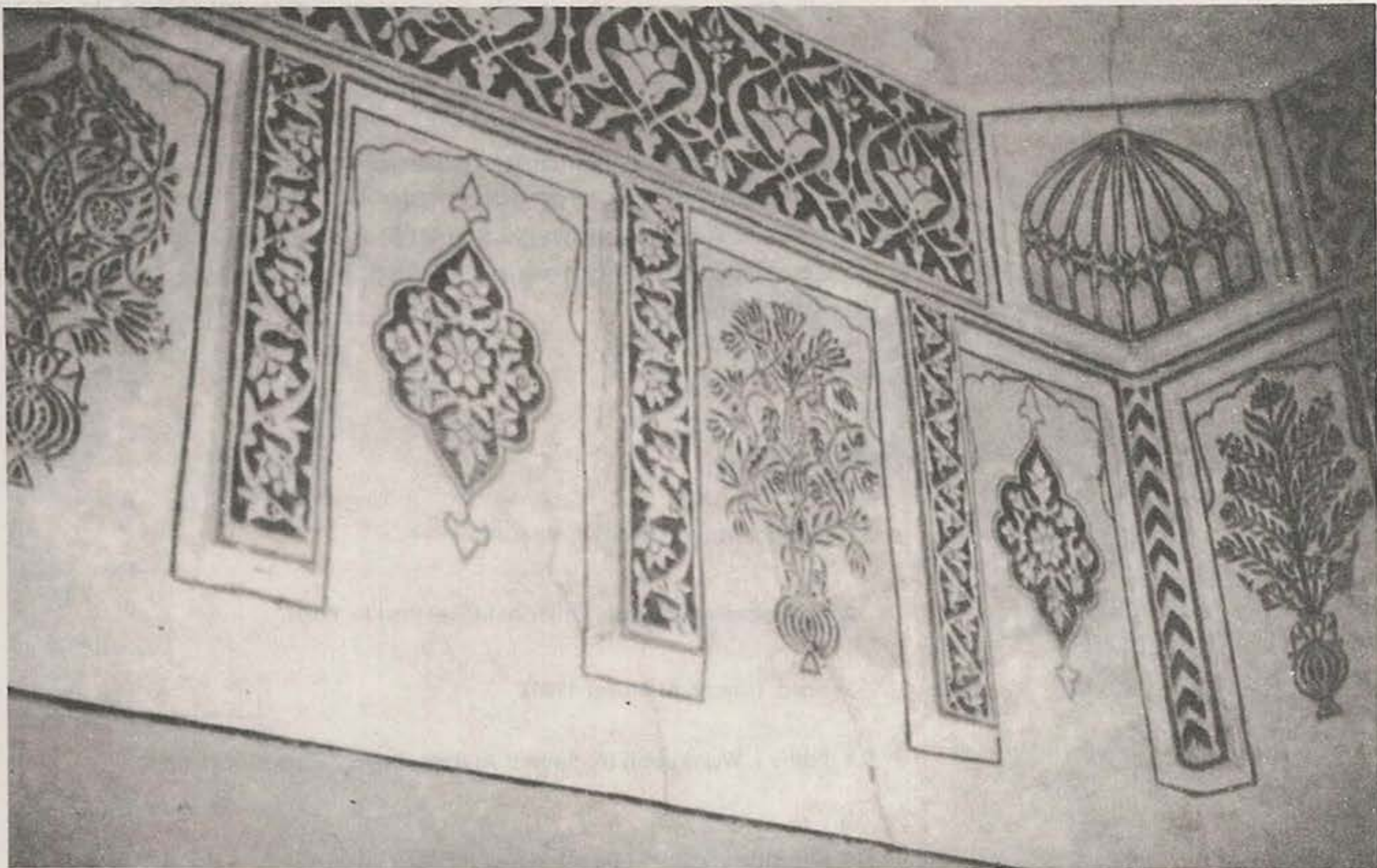
By the end of the World War I, several new elements were introduced in architecture as steel and cement. The foreign architect then played a major role in the determination of the concept and form of buildings. The new technology has overwhelmed the inherited architectural standards accompanied by the evolution of many various requirements to fulfill the individual's needs. Hence, the renovation and adoption of western types were considered an indicator of progress and modernization. Furthermore, most of the training and education of the Arab architect depended upon western culture and theories, and ignored his inherited civilization.

Consequently, many Arab architects have mistakenly thought that the western house, villa or apartment could fulfil the needs of the Arab individual. It was no surprise to find the contemporary housing incapable of satisfying the requirements of the typical Arab life: In the European house, the garden extended in front of

The role of the architect in contemporary architecture.

The house as a part of the surrounding scenery. In the Arab house, the courtyard surrounded the garden by a fence and trees. The house was built to provide shade and protection from the sun. The use of concrete and brickwork materials and the use of decorative elements without obscuring the prevailing style has crucially affected the Arab house.

- 1) The study of Islamic architecture in architectural schools in the Arab world.
- 2) Study of architectural heritage of housing and the distinction of the vital elements appropriate to the existing conditions.
- 3) Study of social, economic and climate factors and their



- Colored geometric and plant decorations on the ceiling of one of the rooms.

the house as a part of the surrounding scenery, but in the Arab house, the occupant surrounded the garden by a fence, and then after a time he tries to achieve independence and privacy by its omission. The use of concrete prefabricated materials and metallic windows and vast openings without considering the prevailing winds has crucially affected the Arab house.

The role of the architect in contemporary architecture.

- 1) The study of Islamic architecture in architectural schools in the Arab world.
- 2) Study of architectural heritage of housing and the deduction of the vital elements appropriate to the existing conditions.
- 3) Study of social, economic and climatic factors and their influence upon the arab house and the rejection of unappropriate foreign styles.
- 4) Evolution of cultural and civilizational consciousness among the different classes of society.
- 5) Study of basic building materials found in the surrounding area and the appropriate materials using new technology.
- 6- Raouf E. Abdel Salam (Al-Musel Fi Al-Ahd Al-Othomany - 1975).
- 7- Construction Engineering Office (Al-Am'er Al-Sakneya L-Al-Musel 1982)

References:-

1. Awad Korkeis (Medinet Al-Musel) 1959.

مدينة الموصل

2. Al-Dayomegi Sa'eid (Tarikh Al-Musel Part I - 1981).

تاريخ الموصل

3. Abid, (Torath Al-Musel 1981).

بحث في تراث الموصل

4. Fathy I, Warn John (Al-Beyout Al-Taqldeya Fe Baghdad 1981).

البيوت التقليدية في بغداد

5. Moustafa Fexiall (Al-Beit-Al-Arabi Fi Al-Iraq Fi Al-Asr Al-Islami 1982).

البيت العربي في العراق في العصر الإسلامي

6. Raouf E. Abdel Salam (Al-Musel Fi Al-Ahd Al-Othomany - 1975).

الموصل في العهد العثماني

7. Construction Engineering Office (Al-Am'er Al-Sakneya L-Al-Musel 1982).

مكتب الإنشاءات الهندسي - العمائر السكنية للموصل

REVIVAL OF DEEP ROOTED ISLAMIC VALUES IN CONTEMPORARY ARCHITECTURE

DR. ABDEL BAKI IBRAHIM

(DIRECTOR OF SYMPOSIUM)

PRESIDENT OF CENTER OF PLANNING AND
ARCHITECTURAL STUDIES (CPAS)

PROFESSOR OF PLANNING AND ARCHITECTURE - FACULTY OF ENGINEERING AIN
SHAMS UNIV.

Several attempts have been carried out to link the contemporary Arab architecture to its civilizational heritage either in the field of architecture or planning. Most of these attempts were meant to achieve the following:-

- 1) Disclose the architectural heritage in modern structures.
- 2) Disclose the monumental historic buildings individually and coalescing them within the city life.
- 3) Conservation of buildings having a unique civilizational value.
- 4) Linking the planning of new urban areas to the local planning heritage.

These attempts have been carried out as a response to many bias specially in the Islamic world. This trend seems similar to the one that appeared in Egypt some years ago, calling for the determination of the architectural style of public buildings in the Delta and Upper Egypt. As a result, the railway stations in Upper Egypt acquired a pharonic style, while Cairo and Tanta Railway stations acquired an Islamic style. The same concept was applied in the suburb of Heliopolis but on a wider scale, whereas several building were built on an Islamic style as an attempt to achieve a characteristic planning identity. These attempts were carried out in that time by foreign architects and were later repeated in the old buildings of Al-Azhar University, and the newly erected buildings east to Al-Hussein mosque in Cairo.

Actually, these attempts did not disclose the Islamic architectural values, but rather simplified the Islamic style and its decorations. Many architects then criticized this trend as being an architectural retreat with respect to the modern technological developments in construction. But on the other hand they didn't try to establish an appropriate procedure for the revival of the architectural values enlightened with the modern scientific progress in construction and building modes. Regrettably, the physical habitat that had evolved in Egypt in the twenties of this century — imported from France and Italy by Foreign and Egyptian architects — continued to exist in rural and urban areas. It has even reached the countries of the Gulf and Saudi Arabia.

Amongst the chaos of architectural trends, some western projects have been carried out in Iraq, Kuwait, Emirates, Saudi Arabia, Tunis and Morocco that aimed to display the artistic values of the Islamic architecture within the contemporary architecture; an attempt that hasn't been realized before by the Muslim architect. A number of new mosques were built enclosing old architectural elements taken from the Andalusian style. Several Egyptian architects worked on these new designs under the leadership of Rosso, the Muslim Italian architect and they participated in the design of a number of new mosques in Cairo and Alexandria. On the other hand, other architects adopted alien modern concepts in the design of mosques, that were not based upon deep architectural understanding as that observed in the development of church designs in Europe.

These attempts have stimulated the architectural consciousness calling for the revival of the civilizational heritage. Yet, this awareness has been limited to the use of certain elements in the Islamic architecture such as the vault, the arch and the dome. Although the recommendations of the Arab Engineers' Symposium - Baghdad 1965 - have enclosed the necessity of establishing an arab architectural school related to the civilizational heritage, yet the modern architectural schools in many Islamic countries are still based upon western schools of architecture. Upon this subject, the writer has presented a paper to the International Architects conference - Paris, 1965. Inevitably, the architectural consciousness is quite weak, not only of the Muslim architects, but also that of the people who are fascinated by the western architecture.

On the other hand, several attempts have been carried out in some Islamic countries disclosing traces of the architectural heritage. In Iraq, several public and private buildings have erected expressing the civilizational values of the Islamic architecture. This trend started to spread but on a minor scale in other Islamic countries. Scientific seminars, researches and architectural competitions could play a vital role in approaching the various concepts relating the modern architecture to the Islamic heritage. The public consciousness in Islamic countries could be elevated as well through publications.

The Gulf area has witnessed a number of architectural attempts to link the contemporary architecture to the Islamic values. These attempts include a number of public buildings:-The American Embassy in Baghdad designed by Joseh Sert, Baghdad University designed by Gropius, the Sports Building in Kuwait designed by Kenzo Targ, The Governor's palace and the Ministry of Foreign Affairs in Kuwait designed by Betilla,..... etc. The area witnessed as well several trials in the field

of Town Planning as well as the design of residential areas that incorporated the different climatic and social factors of the local environment. On the other hand, the master Plan of Damascus set by Koshar, one of the pioneer French planners displayed some of the Islamic City's planning concepts specially the planning of the road network within the old city and linking it to the general framework of the new city. Yet this plan did not define the organizational regulations that aim to achieve the planning concepts, through the display of the buildings' architectural forms along their three dimensions that reflect the civilizational values of the Islamic architecture.

The call for the revival of the civilizational heritage within the contemporary Islamic city in the eastern Arab world has not received enough response as in the western Arab world which kept sticking to its civilizational principles inspite of its direct contact with the European culture. This was apparent in the rural dwelling lots in Maraqesh and other architectural work which used arches, vaults and domes. In the forties, this trend evolved in Egypt by the Egyptian Architect Hassan Fathy in the planning and design of Al-Gourna in Upper Egypt. He used mud as a major building material with the same procedure used a thousand years ago. He repeated this example in some villages in the New Valley and uptill now, Hassan Fathy is still calling for the revival of the civilizational values in the Islamic architecture. These trials were published world wide to display the aesthetic and artistic values evolving from the local habitat.

The subject of civilizational heritage of the contemporary Islamic city was thoroughly discussed in the writings of many archeologists and artists; The artist Abdel Salam Al-Sherif wrote an article that was published in "Bena Al-Watan" magazine -June 1961 - calling for respecting the major characteristics of the architectural environment in the planning of any city specially in the old monumental areas. The writer denoted that achieving such an architectural harmony in the town planning sometimes might be thought of as tourist c luxurious considerations that lead to a retreat in architecture. The actual retreat is obvious in the public housing built behind Sultan Hassan mosque or that built beside "Megra Al-Oyoun Wall" as well as the Waqf apartments block that erected beside Qait Bey Mosque.

The writer explained the importance of studying the form upon which the new buildings should be erected, not necessarily sticking to the old oriental forms but at least without neglecting the national identity. Thus, public housing could be built in the form of a "Wekala" enclosing a spacious court yard surrounded by the different dwelling units that open onto it.

At the end of the article, the writer suggested the establishment of a supreme organization to be responsible for the architectural and planning aspects of monumental areas. This organization

would be responsible for setting new regulations for physical extensions in the Arab cities. The writer urged the architects upon the necessity of developing the Arab architecture and the elaboration of the best alternatives without being extravagant.

Apparently, this article expressed the artist's attempts to elevate the public consciousness with regards to the role of the Islamic architectural heritage in planning the contemporary Arab city. The artist's view to this problem has evolved from a sincere instinct of aesthetic values in the structuring of the contemporary city sticking to the old architectural values. The participation of artists in the revival of civilizational values in the modern architecture stimulates the architect's human aspects with the technological building development.

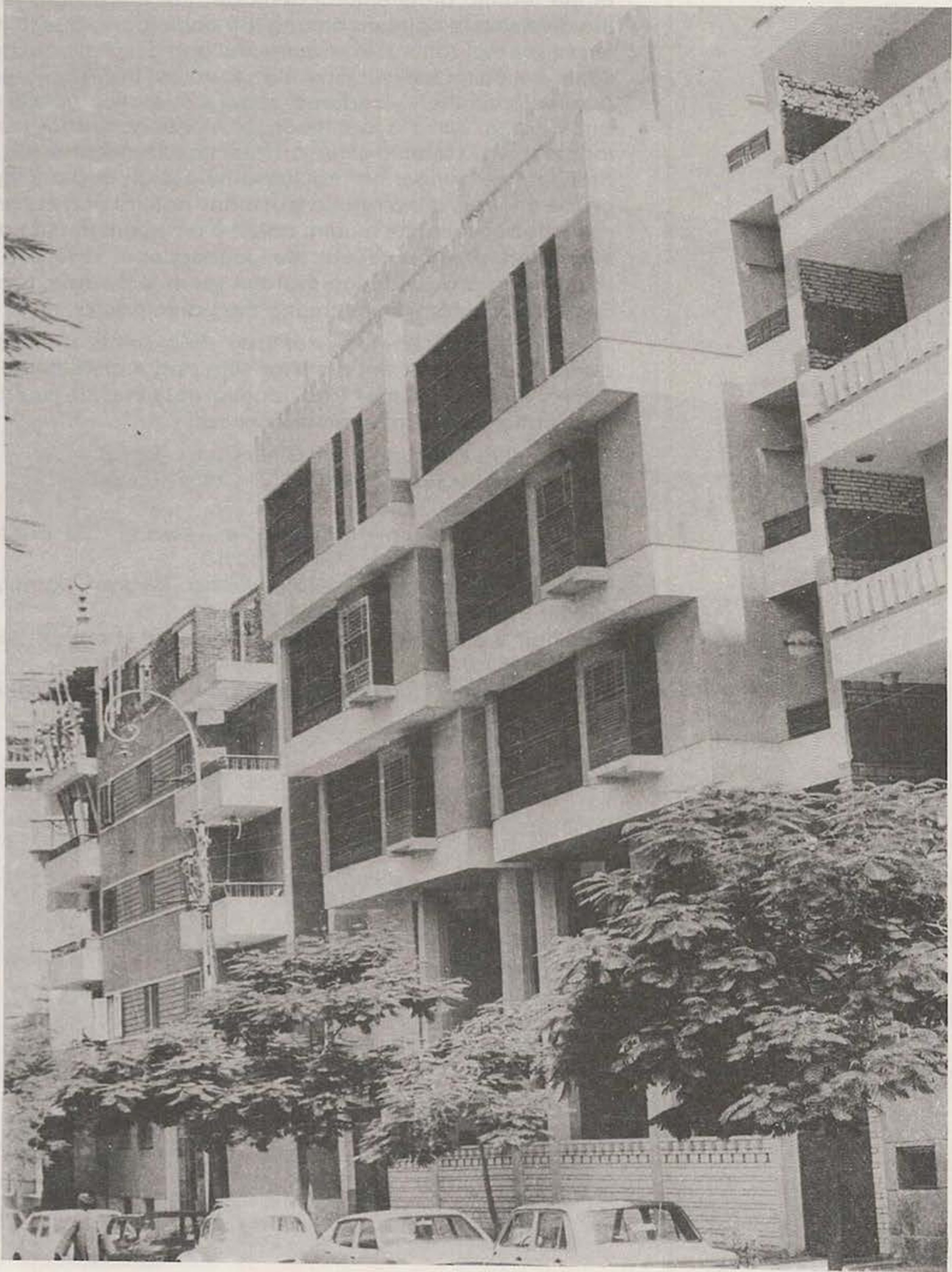
On the other hand, the archeologist is a vital participant in the display of architectural values in modern architecture whereas he is responsible for the display of planning and architectural features in the old monumental buildings. Then, he could identify the characteristic architectural outlines of the past ages that could guide the planner or architect in their present and future work. The UNESCO in-cooperation with the state of Morocco has carried out a great deal of work for the preservation of the old city of Fez. Similar activities have been carried out by several organizations in co-operation with the Egyptian government for the preservation of old Islamic monuments in Cairo.

The same subject was thoroughly studied by many international seminars: The cultural committee in the European council prepared a report upon the preservation of the civilizational heritage of the European city which concentrated upon the study of the scientific and applied principles for the conservation of the civilizational heritage of the old buildings.

In 1977, Agha Khan established architectural prizes dedicated for the best architectural projects that enclose within their design the Islamic concepts. A secretariate has been established for the management of the Agha Khan prizes in Pennsylvania University-USA as well as a consulting committee that includes Muslim and non Muslim architects. Harvard University became the steering organization for these prizes.

Mr. Sayed Hussein Nasr, the Dean of the Irani Institute of Philosophy has called for the study of the changes that influenced the Muslim life and that simultaneously reflected upon the contemporary architecture in the Islamic world. Mr. Sayed Nasr denoted that these changes influenced the Muslim minority who had an economic or social influence upon the majority. He added that the architectural changes in the Islamic world resulted from the Muslim's loss of unity and integrity in life which in turn affected the architecture and town planning. Islam is well known to be based upon monotheism which is the major principle for all Islamic arts and sciences, while the Islamic Law (Shari'a) calls for human integrity in beliefs and conducts.

In the first symposium of the Agha Khan prize for the Islamic Architecture, several suggestions were discussed for the revival



- Center of Planning and Architectural Studies - Cairo

of the Islamic architectural heritage. The discussions revealed the diversion in opinions among the participants due to their different specializations, environmental and cultural backgrounds. Some called for the revival of Islamic values in the contemporary architecture, others wondered about the relation between Islam and Shar'ia with the architecture, others called for the development of old Islamic cities; another trend noted that the Islamic architecture cannot be regulated by design or planning rules, on the contrary it is a resultant of many natural and cultural interactions between the muslim and the environment. The different suggested projects reflect the conceptional diversion in the Islamic World considering that the Islam is the common belief and behavioural system among the participants.

Herewith, the following examples show some of the projects carried out by the Center of Planning and Architectural Studies -Cairo, in some of the Arab Islamic countries to illustrate the application of the theoretical concept.

A residential building - Nasr City - Cairo - Egypt.

A residential building - Nasr City - Cairo - Egypt.

A private house - Kuwait.

A residential & commercial complex - Riyadh - Saudi Arabia.

Cairo international Fair - Cairo - Egypt.

U.N. physical planning project building - Riyadh - Saudi Arabia.

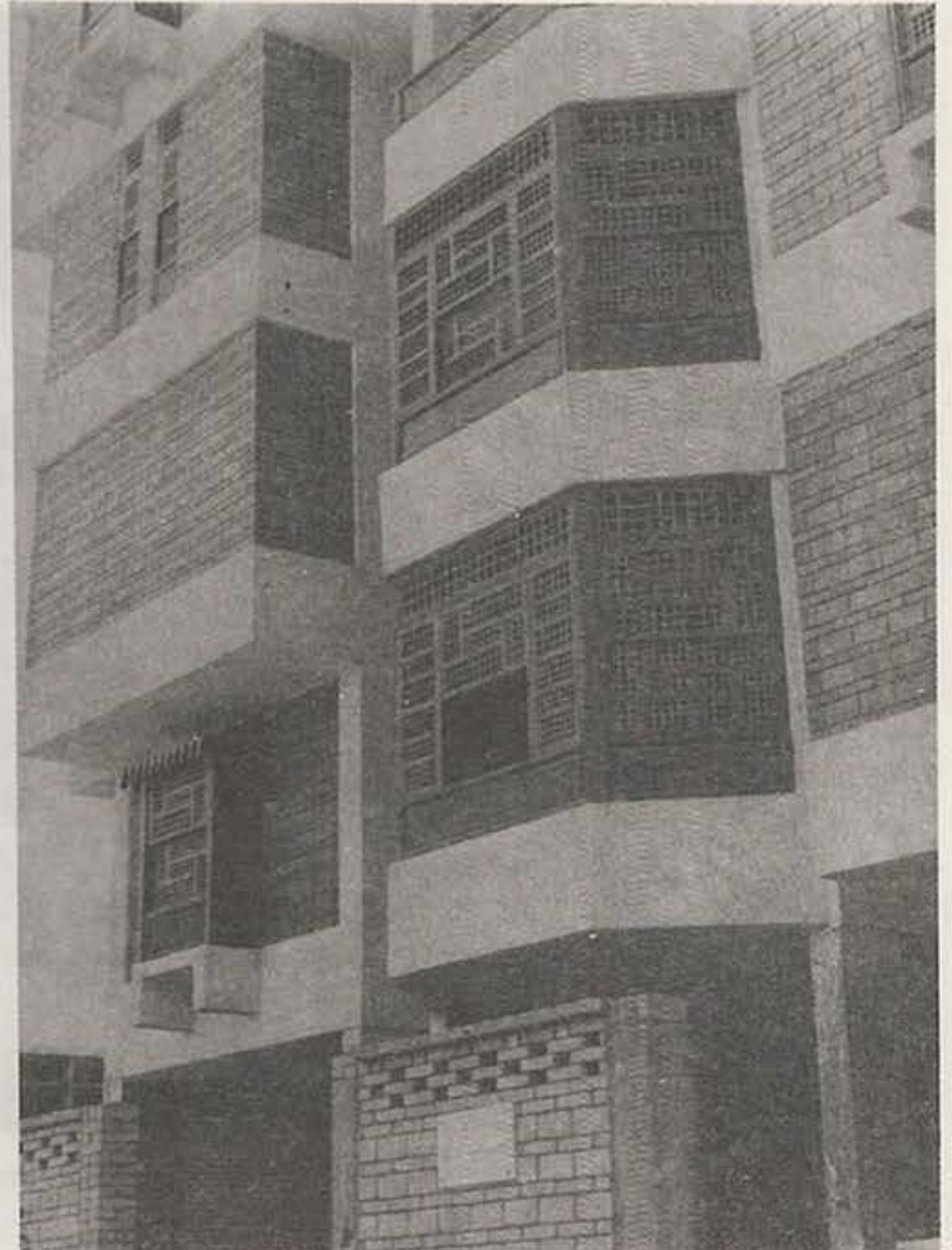
private house - Riyadh - Saudi Arabia.

Administrative - residential and commercial complex - Jeddah - Saudi Arabia.

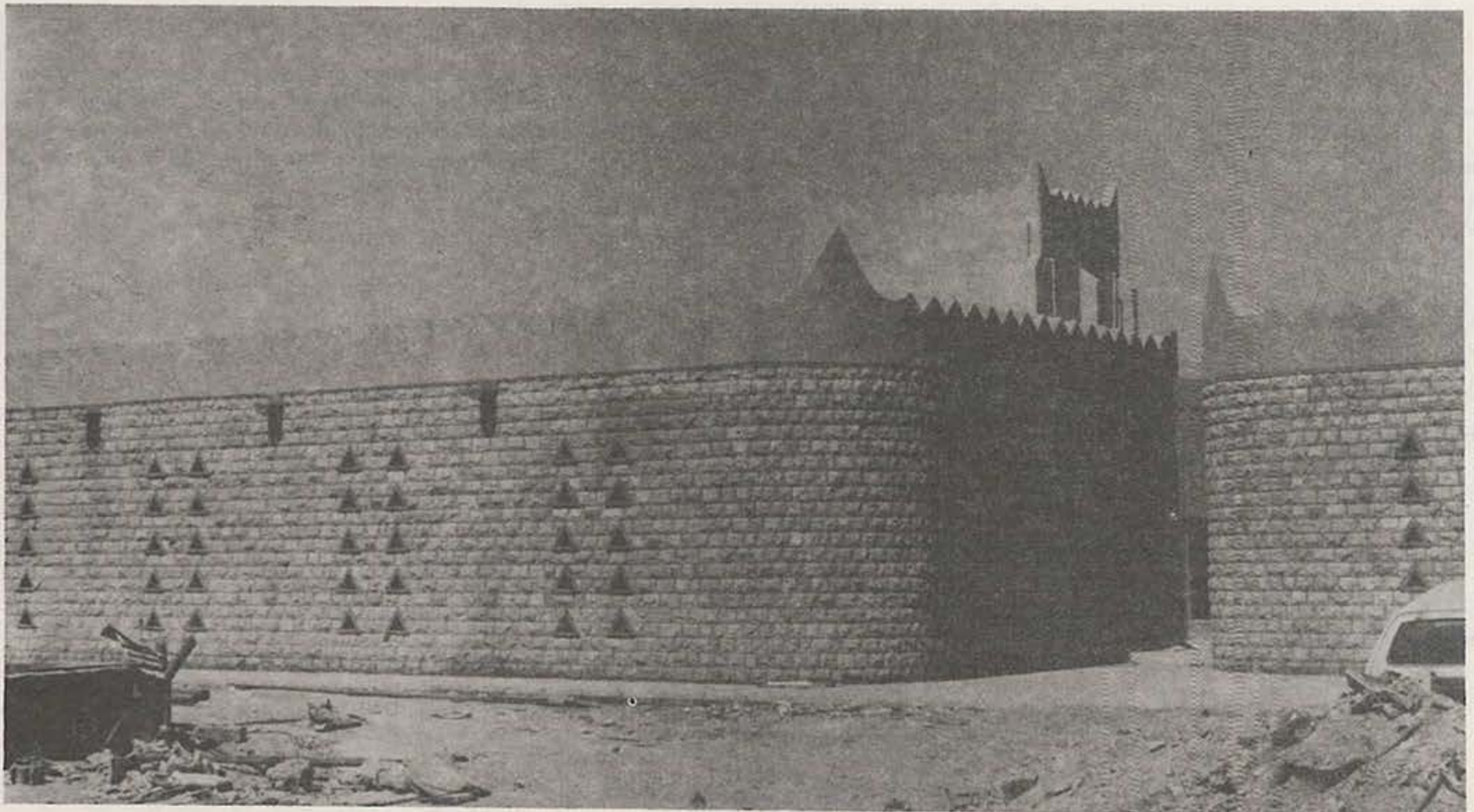
Shopping center and wedding palace - Jeddah - Saudi Arabia.



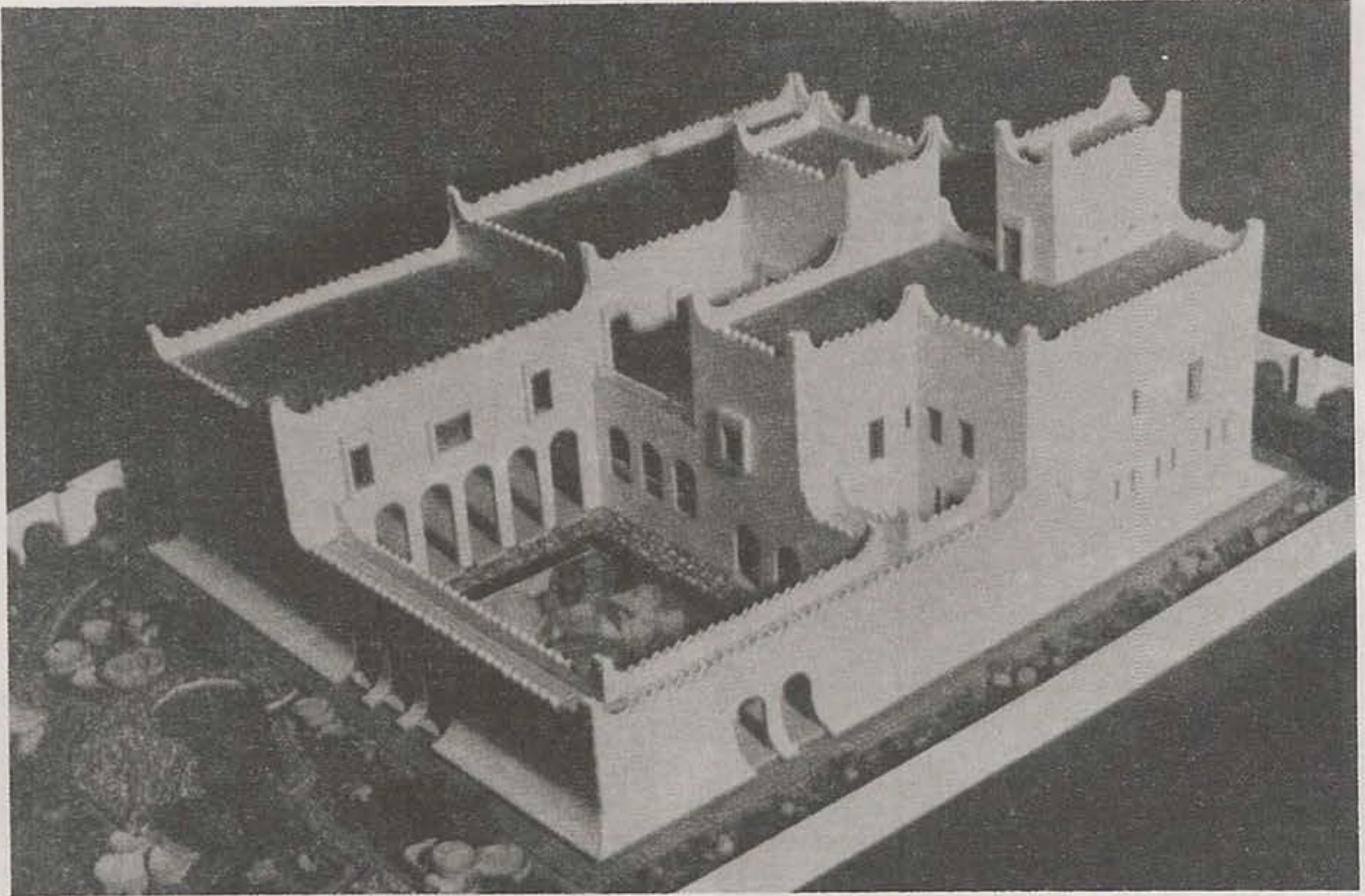
A residential building - Nasr City - Cairo.



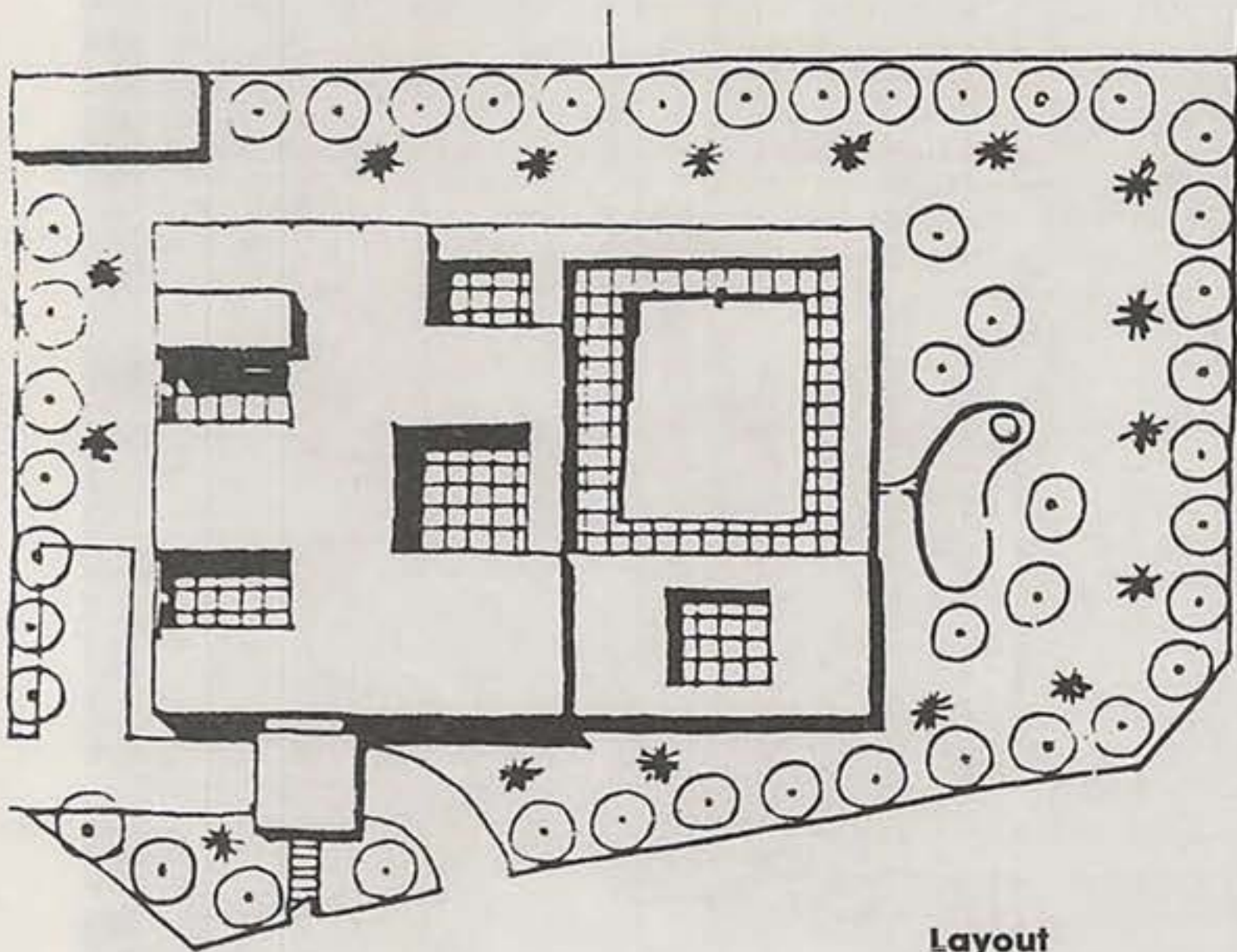
A residential building - Nasr City - Cairo.



- An office building reflecting the architectural characteristics of Riyadh (designed by: Dr. Abdel Baki Ibrahim

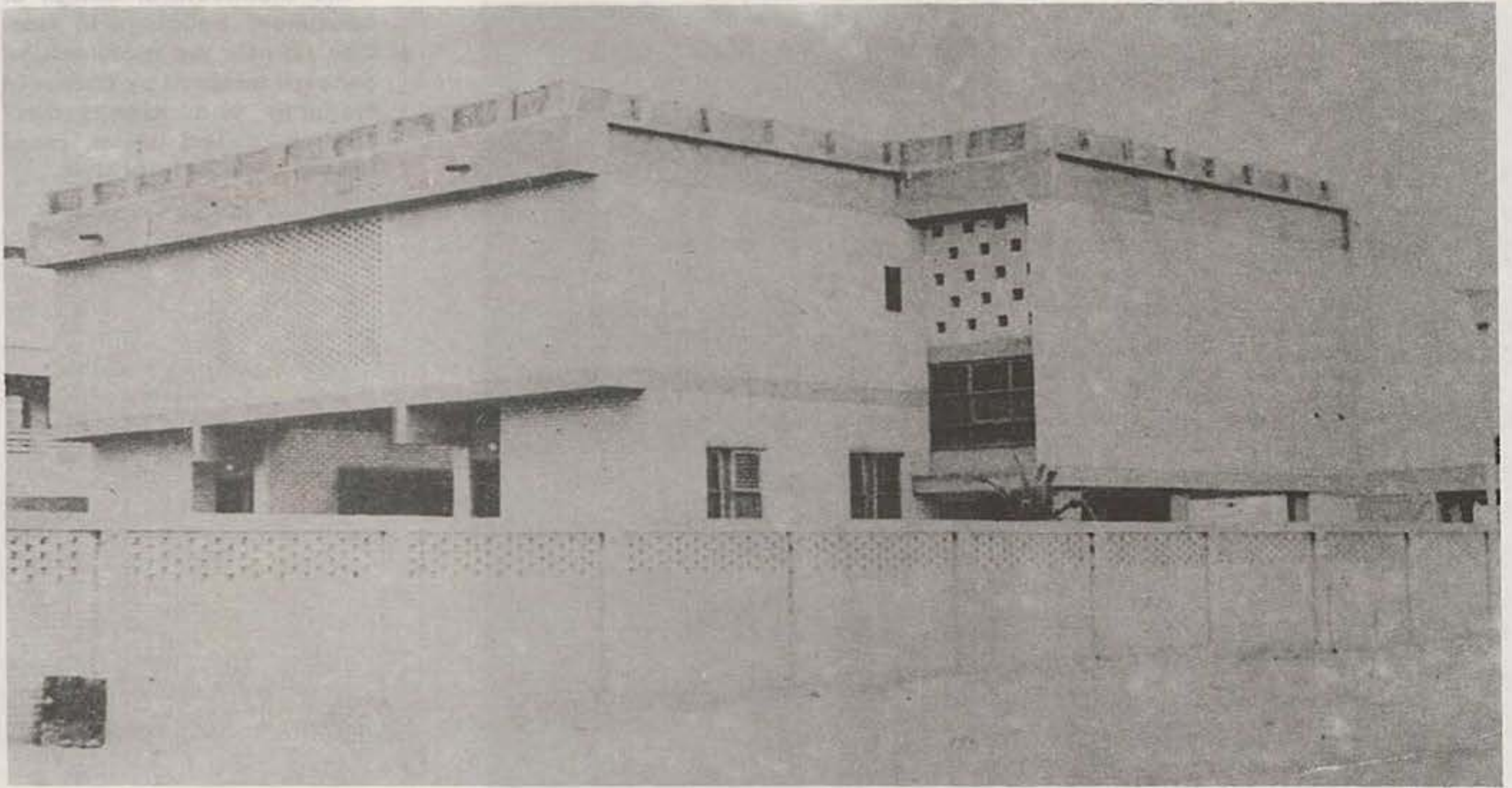


- A private house - Riyadh.

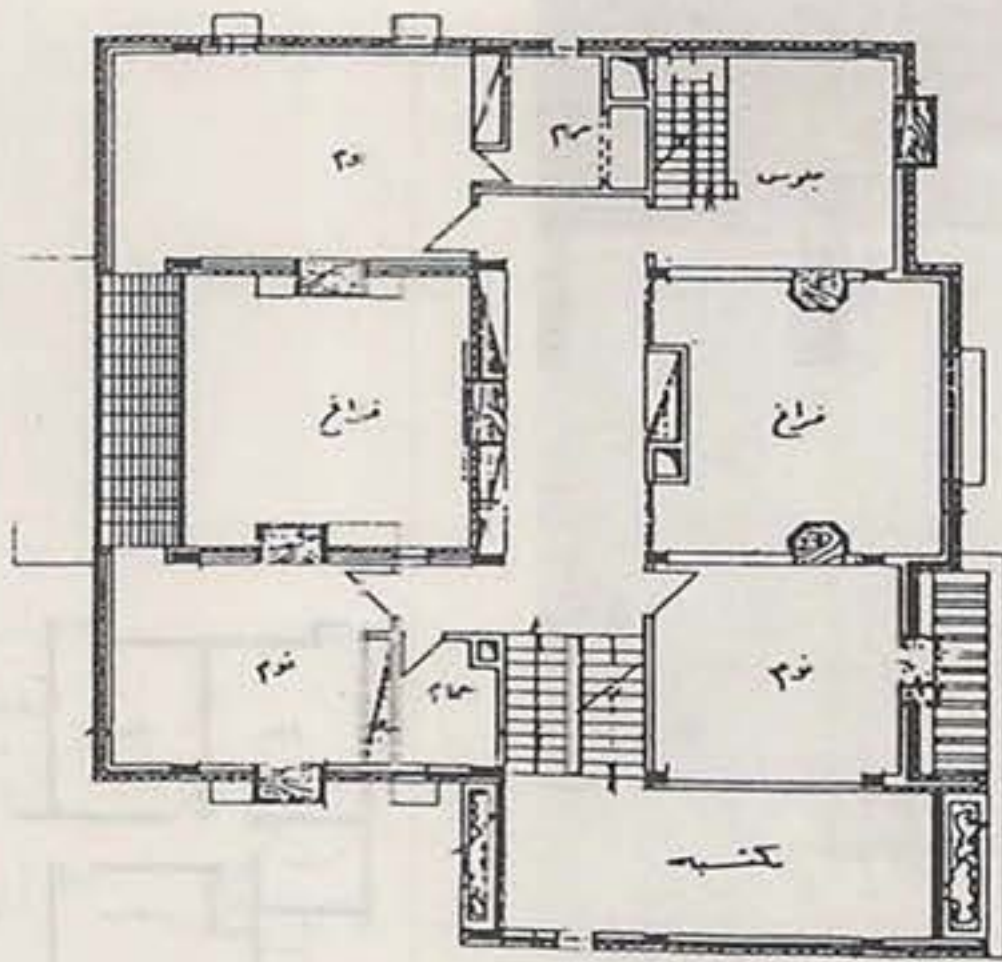


Layout

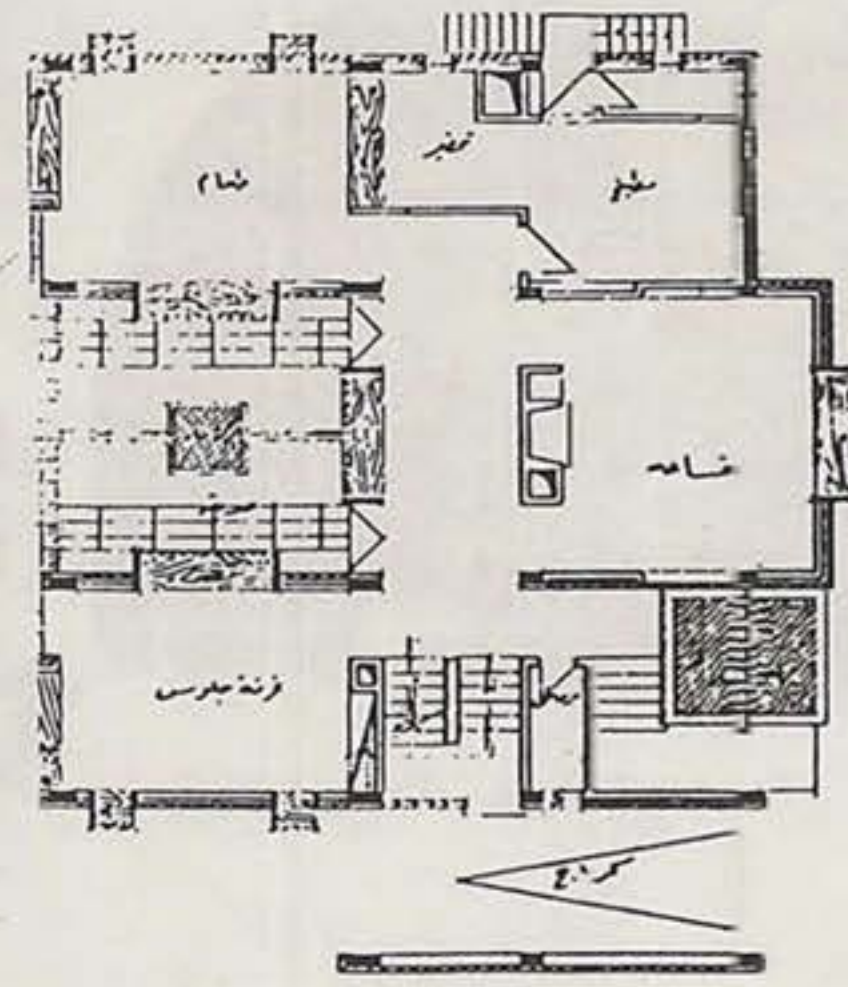
- A private house enclosing one large residential unit and another small one. It reflects the local architecture of Riyadh. All rooms open onto the introvert which include a number of courts and a swimming pool.



- Elevation

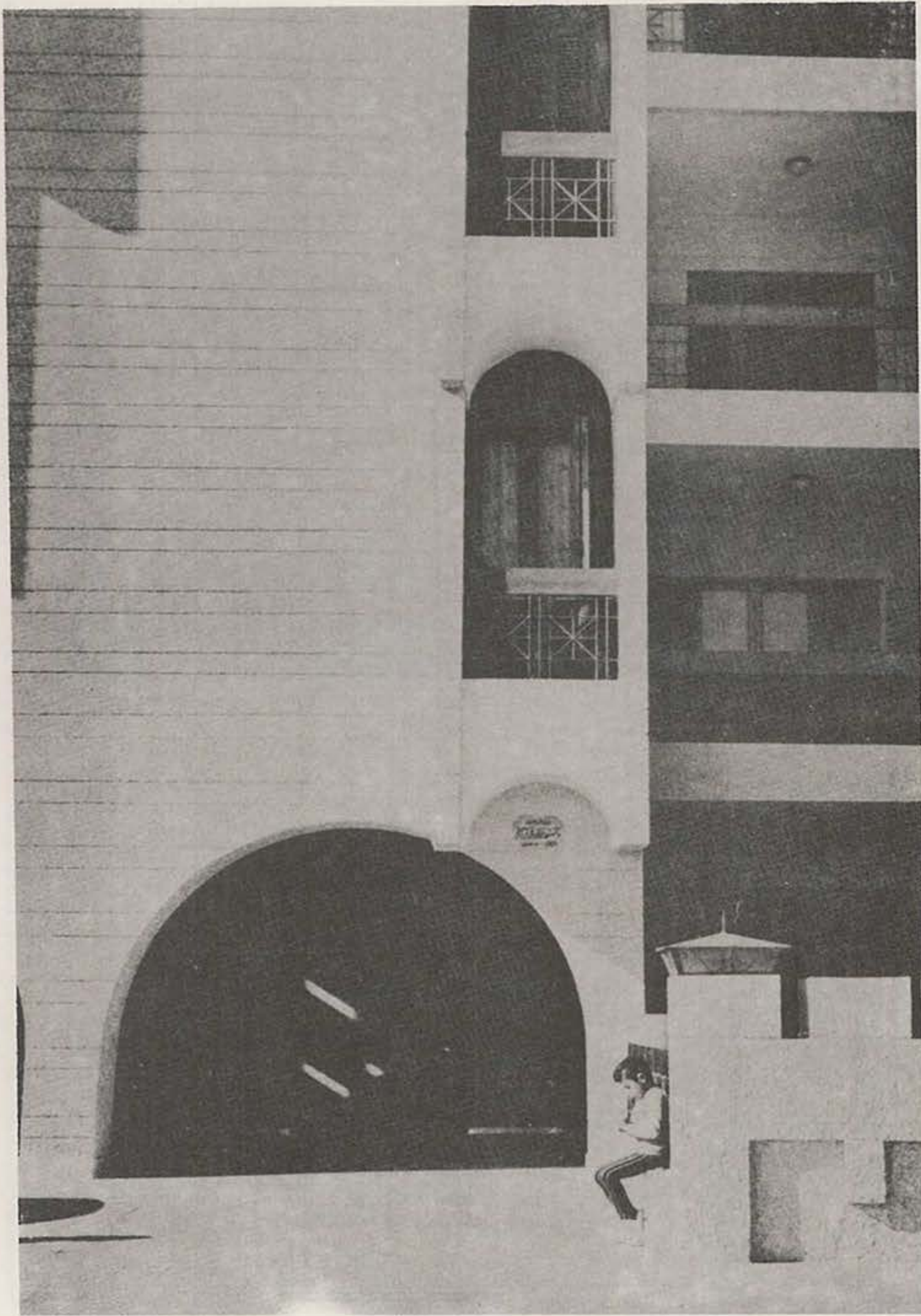


- Ground floor plan



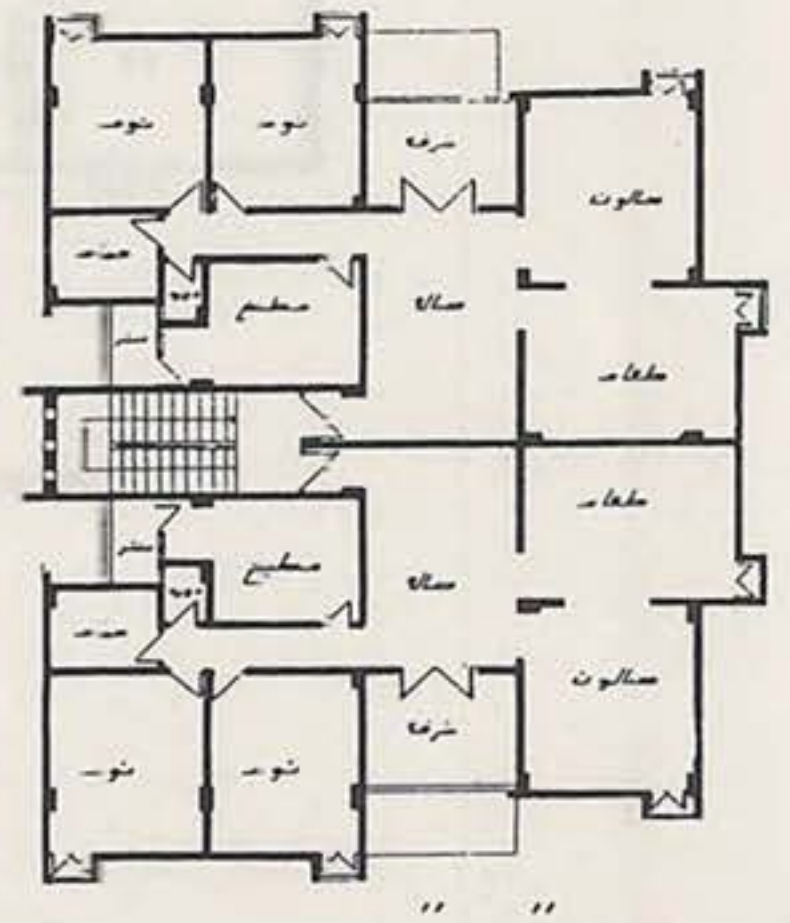
- First floor plan

- A private house - Kuwait

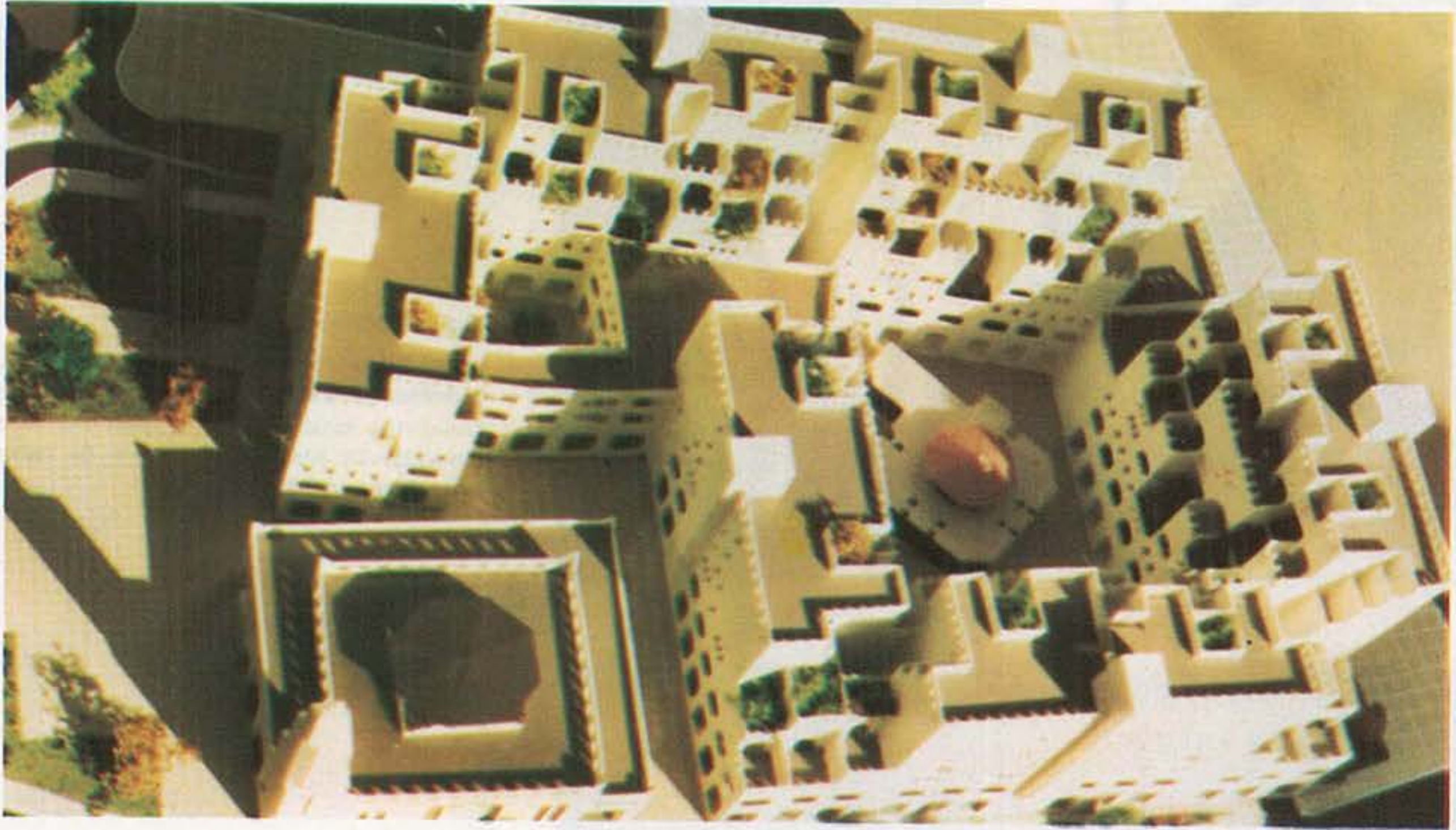


- The entrance

- The architectural design of apartment buildings in Nasr City reflects the architectural concept adopted by Center of Planning and Architectural Studies based upon local Islamic architectural style.



- Typical floor plan



- A residential, commercial and administrative complex Jeddah:

The architectural design of this complex reflects the concept adopted by Center of Planning and Architectural Studies in accentuating the local Islamic architectural values. The project consists of a number of shops, offices and apartments. The Parking area occupies two floors underground.





Cairo International Fair:

It covers an area of 120 Feddans. It includes a number of exhibition halls and administration buildings and shopping centers. It was designed by: Dr. Abdel Baki Ibrahim, Dr. Yehia El Zeiny and Dr. Fouad El Farmawi.



Jeddah: Sculptures: Seven Spikes in each 100 Seeds.

TRADITIONAL ISLAMIC FEATURES IN THE DOMESTIC ARCHITECTURE OF SAUDI ARABIA

Prof. MICHAEL EARLS

College of Architecture - King Faisal Univ.
Dammam - Saudi Arabia

Introduction

In the indigenous domestic architecture of Saudi Arabia there is found to be a wide assortment of housing types which may be further differentiated by the use of local materials, construction methods and decorative features, and often whether the houses were urban or rural. Much of this may be attributed to the variations in climate, geology and social situations prevalent in so vast a land, but it is also a reflection of the many external cultural forces influencing the peninsula and the dominance of certain cultural streams upon previously autonomous regions. Certainly Egyptian influence was paramount in the Hedjaz and Yemeni influence in the south west, while Syria, Iraq and Iran influenced the North and East, but these were interspersed with other elements derived from a variety of sources such as the trade with India, the East Indies (Java), East Africa, and the Turkish occupation.

The Kingdom as a political entity is a recent phenomenon. Before unification in this century under King Abdulaziz, the Arabian peninsula consisted of several independent entities, and often political control was invested in individual towns, villages, or sheikhs. This was characterized by fierce local pride and a strong local identity which was portrayed in the local regional variations of the indigenous architecture.

Despite the diversity of housing types and features to be found in the traditional architecture of Saudi Arabia basic characteristics emerge which align it with major Islamic works in disparate corners of the Arab world, and marked similarities are seen with the vernacular architecture of the Maghreb, Spain, and hence the Americas, Egypt, Yemen, Iran, India and Afghanistan.

Hedjazi architecture

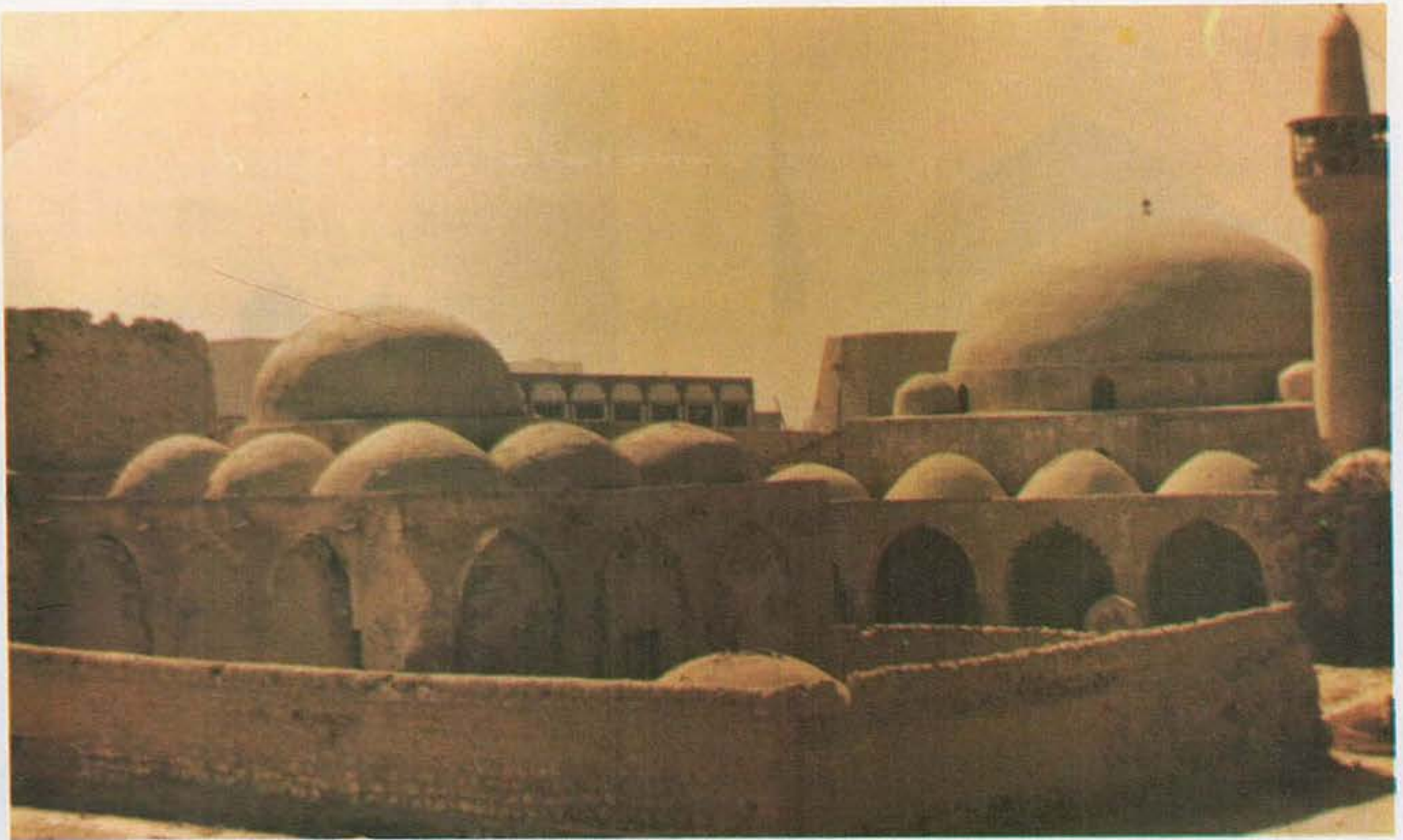
The most easily identifiable domestic buildings in the Kingdom are probably the houses of the Hedjaz, formerly the most prosperous state in the peninsula. A very similar style of domestic architecture is found in the coastal cities around the Red Sea, Yanbu, Jeddah, Medina, Mecca and Gizan in the Kingdom, Hodeida and Mocca in Yemen, Massawa in Ethopia, Suaken in Sudan. These were intensely urban environments enclosed within the confines of city walls and hence having a shortage of urban land necessitating very high density land use. The urbane character of these houses is comparable to the medieval row houses

of Amsterdam, Ghent or the cities of the Hanseatic League. Like their European counterparts they were graceful and essentially practical, the high ceilings gave the main rooms a stately air but they were most necessary in such a hot, humid climate. The roshan gave an aloof introspective appearance but it was an ideal response to the Islamic demand to screen all family quarters from strangers and the need to allow cross currents of air to flow through the house. The roshan was often combined with screen walls so that two and even three sides of a room may be open to the breezes. The roshan was often piled vertically creating continuous wooden screens down the walls. The roofs would in this instance be screened in wood rather than stone reducing the weight. The roofs would be used for sleeping on nights.

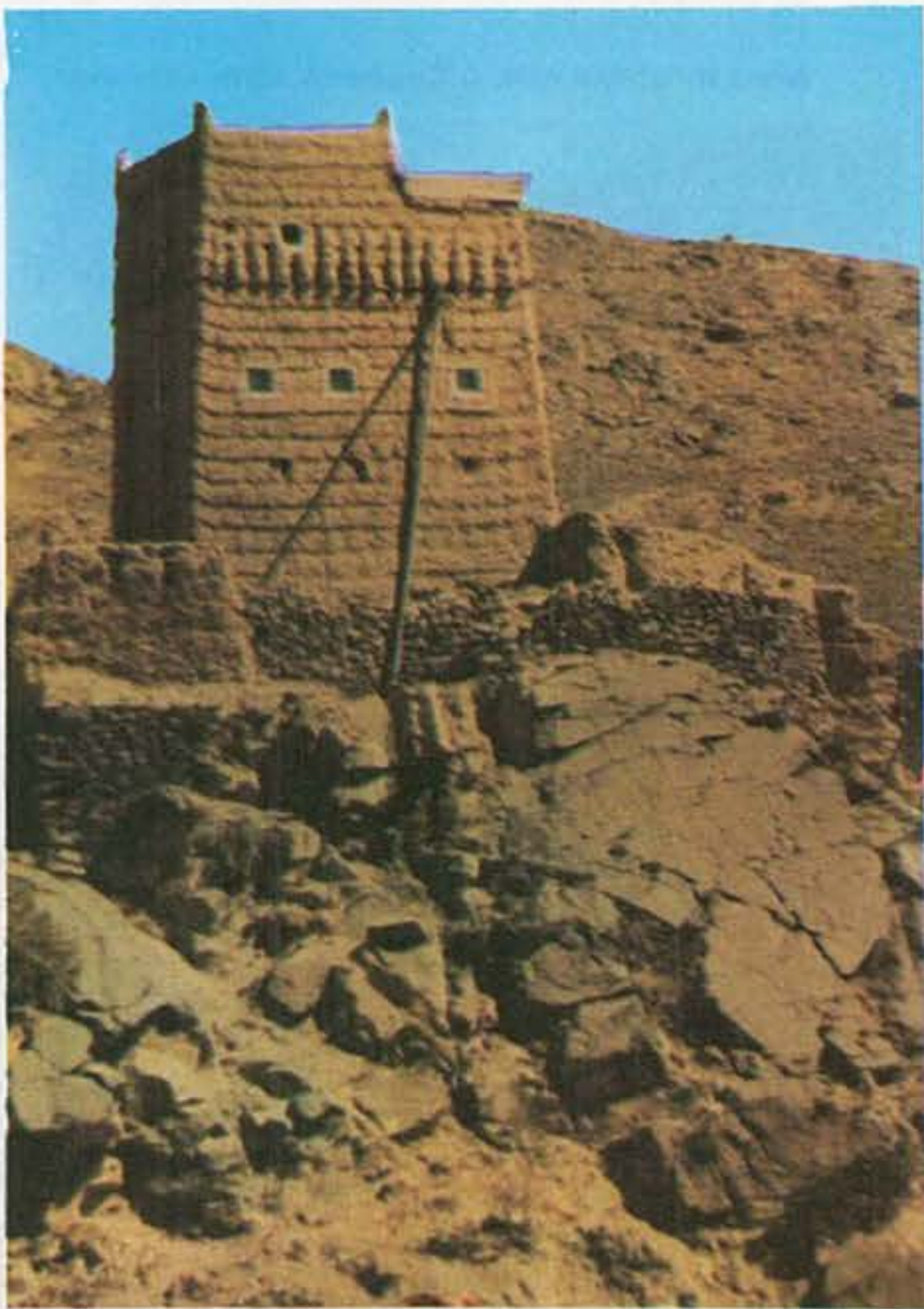
The technique of screening was developed to a highly practical and decorative art in the Muslim world. This is a local example of the feature which was developed to such astonishing and fragile affects in India, e.g. Fatehpur Sikri, the Red Fort, Delhi etc. It became part of the Spanish vernacular along with the balcony and was transported to the Americas.

The roshan was constructed to accommodate the human scale being approximately two meters wide. They were comfortable places to be on hot afternoons and being the coolest spot in the room were usually the centre of social intercourse⁽²⁾ where the family could gather since they projected into the street. The activity of the street could be observed without the family being observed by those in the street. It also provided some additional space to the room.

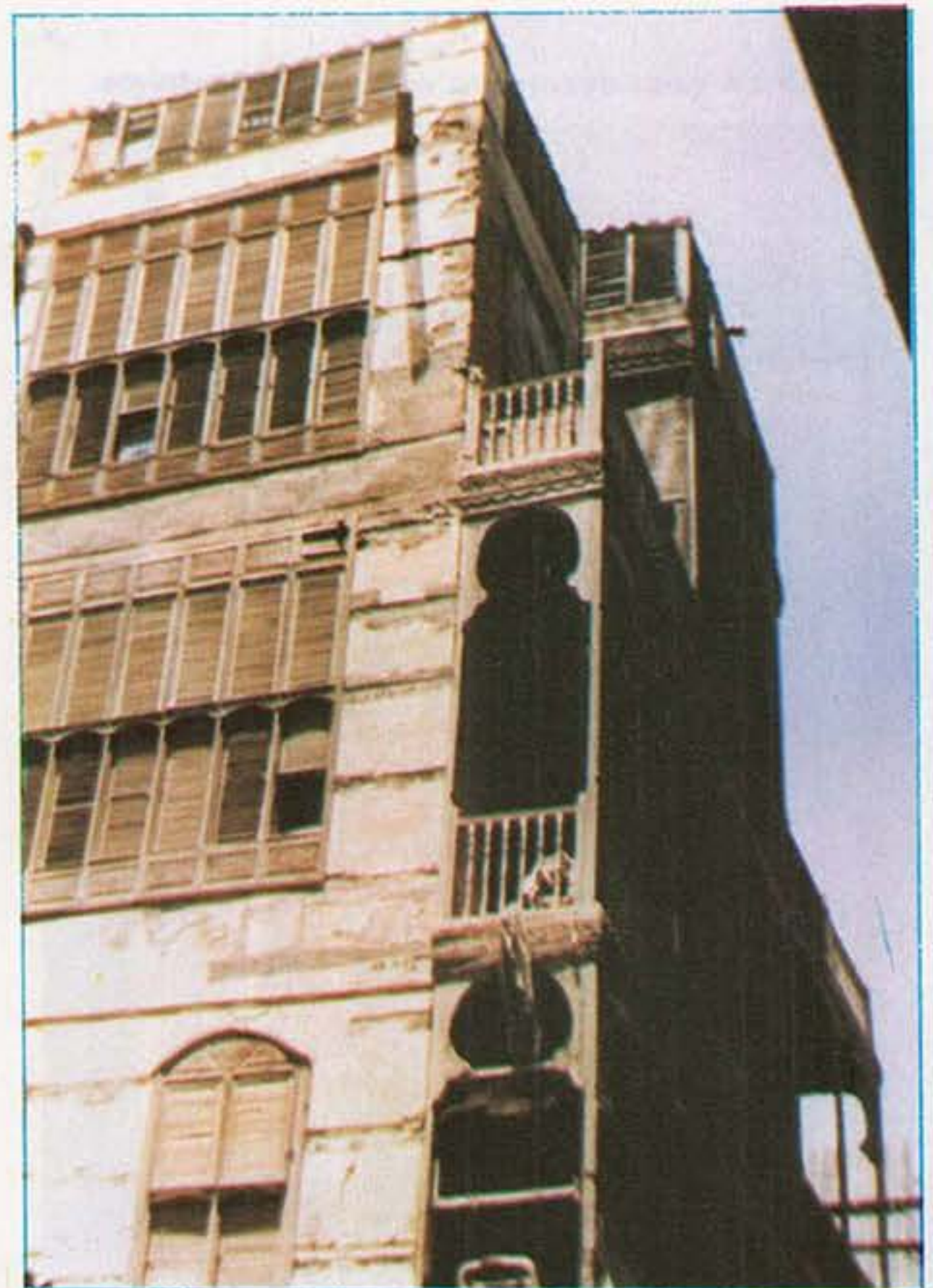
Although the roshan of the Hedjaz have strong resemblance to those of Cairo yet they are no slavish imitations and they are quite different from those of Syria and Turkey. The Cairean models were constructed mainly of turned wood which produced a delicate effect, the Hedjazi roshan were more robust, the wooden screens were more solid. Yet they employed many traditional Islamic patterns which may be seen in other contexts, but not normally in roshan. They were very similar to those of their sister cities around the Red Sea. The wood for the roshan was product of trade around the Indian Ocean and much of it derived from Indonesia. It is said that much of it was carved in Indonesia. The decoration follows Islamic models especially the rosette and tendril motif but it is less stylised than that of Egypt. The patterns do not follow the abstract models of Cairo. However, the roshan followed traditional Islamic formulas in having lambrequins hanging from the base and filigree merlons along the top of the cornice. In this they were very similar to Egyptian models. There were no clear horizontal lines, heaviness and solidity being dissolved by a multitude of minute members. This was apparent in their bases which although supported by wooden cantilevers embedded in the wall were given the appearance of being supported by muquarnas, a feature prevalent in Islamic architecture.



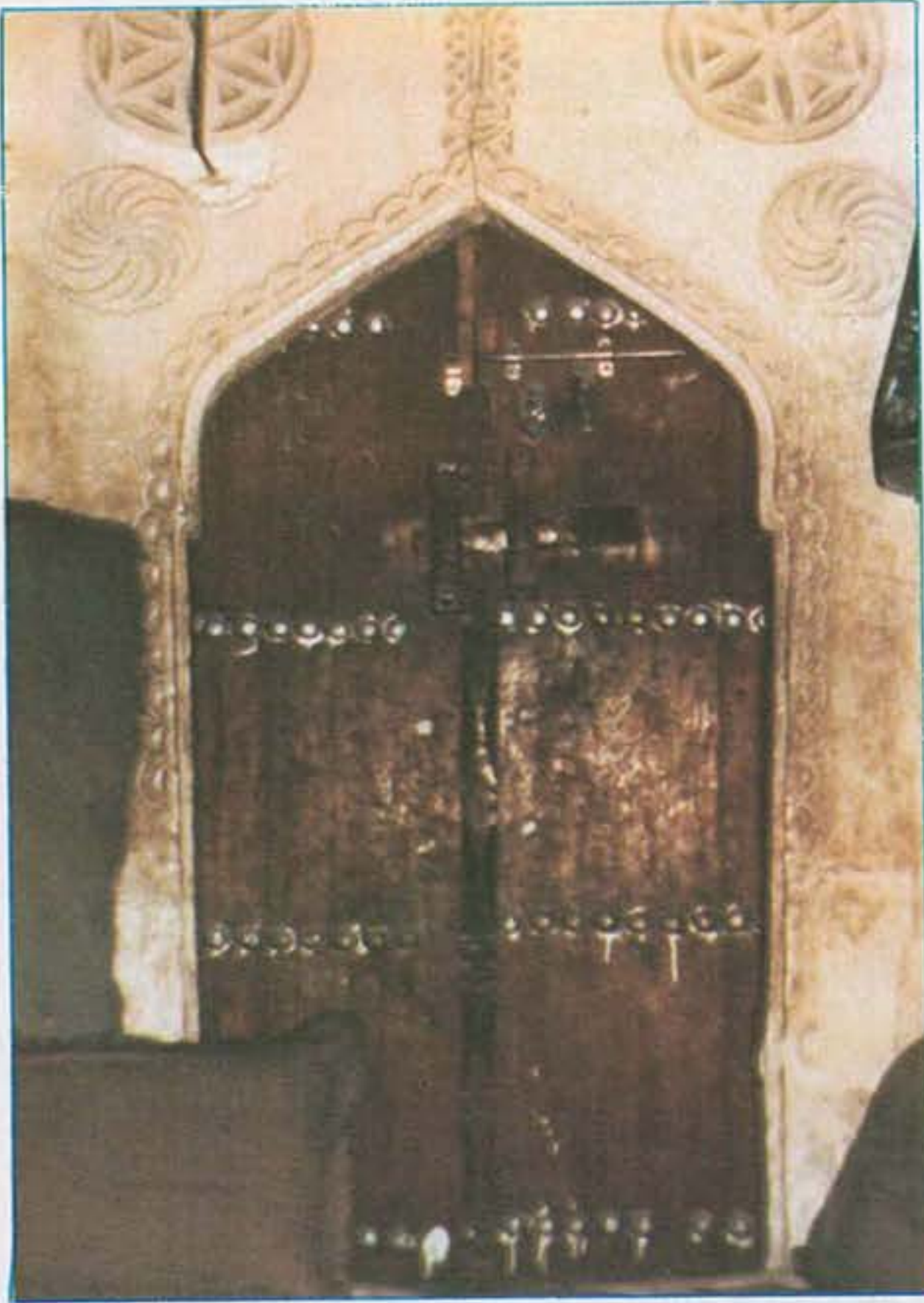
- Al-Hasa - Hofuf - mosque of Ibrahim Pasha built during the ottoman occupation



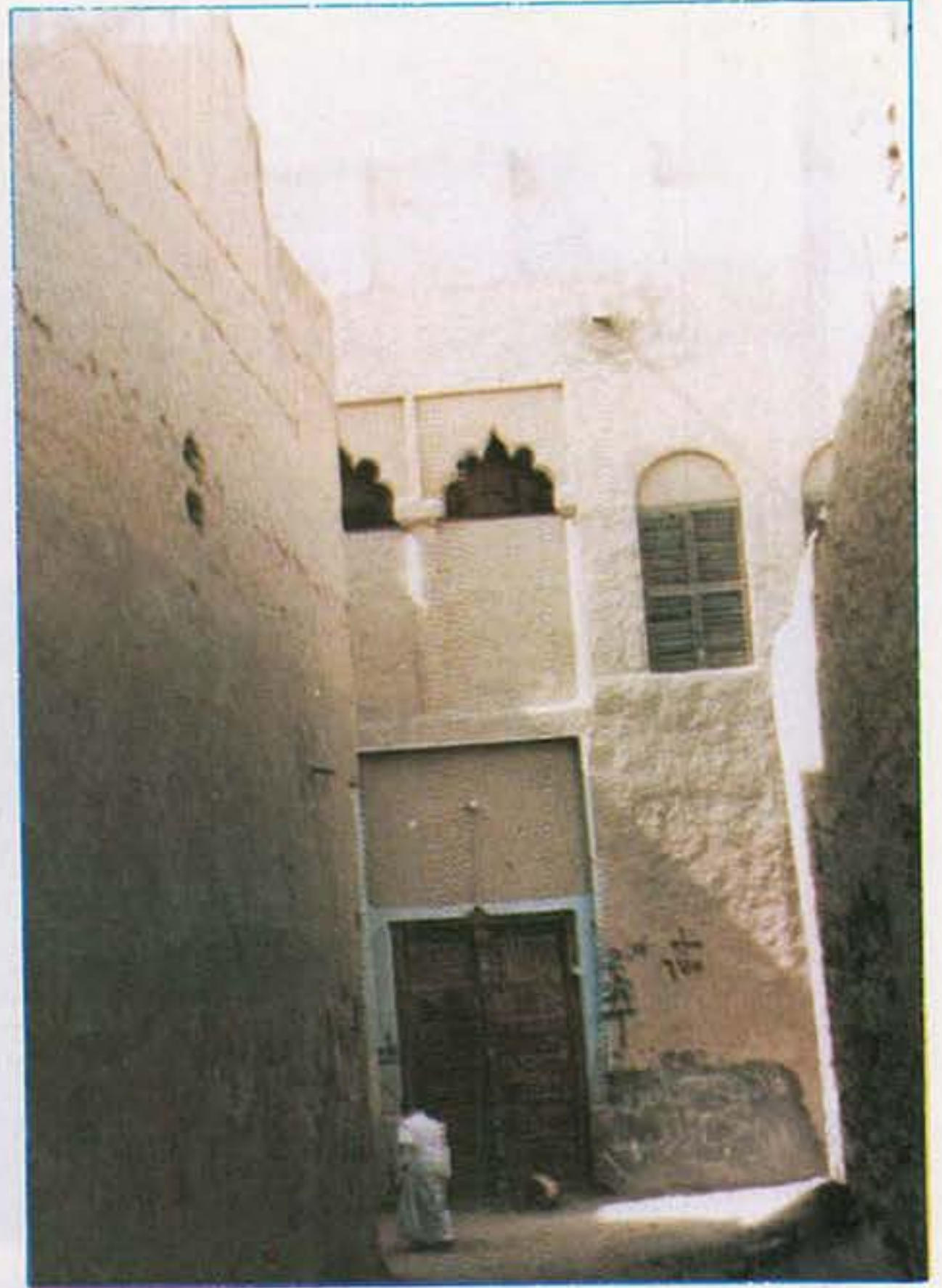
Asir: A bastion near Zahran Al-Ganoub



Windows covered with wooden louvers reflect the Egyptian Influence.



Qatif: A quadri-center arch with Persian influence

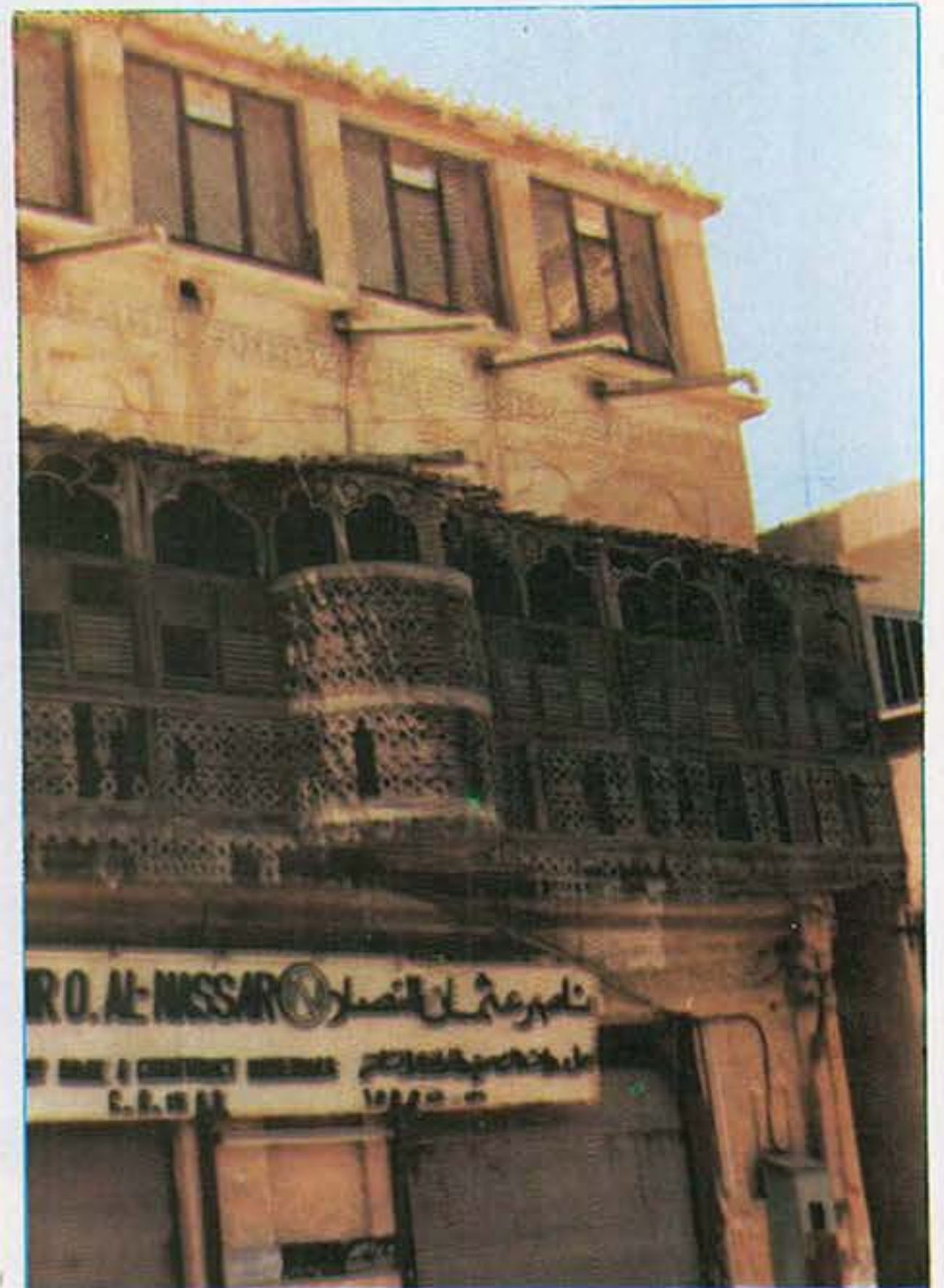


Al-Hasa-Hofuf: The arch decorations

Khobar: A door decorated with plant like forms.



A mashrabiya with a Rococo style - Khobar



The houses were often approached through long, narrow sabat and the entrance perhaps embellished with an Arabic trefoil arch, although there were other varieties. Plaster decoration was prolific usually of stylised plants in an all-over pattern, a motif common in the Maghreb and elsewhere. Only the dihlis was visible from the street, for rooms were at ninety degrees to the entrance. Frequently, a shop shielded the front of the house, and the maglis was at ground floor level. The family quarters were on the first floor. The plans of the more modest houses were usually long and narrow, since in a densely built environment a wide street frontage was not possible, many of the rooms were internally orientated. Large houses might possess a fenna but in smaller houses the hawsh was reduced to an air shaft or manwar. Air circulation was facilitated by means of the roshan and a jela. The main reception rooms, the ewan and qa'a were situated on the ground floor usually at the rear of the house. The qa'a which is an Egyptian feature found in Cairean houses rose two storeys high, a feature found on magalat in Al-Hasa, Eastern Province, and above the qa'a rose the jela conducting air to the roof. Rear rooms of the first floor looked through screen walls into the qa'a. The smaller houses, therefore, dispensed with the courtyard principle became some of the most introspective of all houses nevertheless.

Architecture of Asir

South of the Hedjaz lies the province of Asir, a mountainous temperate region bordering another major tributary to the Islamic tradition, Yemen, with which it has a strong affinity. Asir architecture is popularly known for its tall tower houses of stone or mud whose immediate counterparts are found in the Yemen. It is not surprising, therefore, that the towns, villages and houses showing the most marked Yemeni characteristics are those near the border. However, they display striking similarities with vernacular architecture at Morocco at the furthest extremity of the Arab world. Similarity in climate, terrain, building materials, the need for defence, intensive group solidarity plus a basic Islamic culture seem to have produced a remarkably similar style of vernacular architecture stretching from the Atlantic to the Himalayas.

Defence was of paramount importance in a lawless region which did not join the Kingdom until the 1920's. The ground floor and often the first floor were allotted to animals and stores respectively. The maglis was on the third floor and family rooms above. The courtyard or patio was on the top of the house, presumably to shield the women and children from attackers. In this temperate climate there was little need to have a shaded courtyard at the ground floor level in the Mediterranean idiom. It would have been too dangerous. A small patio is, therefore, provided on the top storey where the women can work in safety. These tower houses or "husn" were similar to Hedjazi houses only in that they were divided horizontally, female members were

separated from male guests by floor levels. Windows were very small. There was no need for screens, in order to prevent circulation of cold air. These husns would not seem to have many of the stylistic features associated with the mainstream Islamic architecture. There is little decoration except for the painted decoration on the walls of the interiors, these being in intricate geometric design or stylized leaf and plant patterns. They are, however, closely related to that independent tributary to Islamic culture, Yemen, and through a mixture of Islamic culture and precepts, materials and the need for defence share many similarities with mud tower architecture distributed over the Islamic world from Morocco to Afghanistan.

Eastern Province architecture

In the Tihama, where the climate is hot and humid, round domed houses are found in the villages, which have the appearance of huts in Eritrea or Somalia, but inside are not dissimilar to the domed houses of Syria and Turkey. Again they are closely related to Tihama houses in Yemen.

Vernacular architecture in the Eastern Province has been derived from many sources, the most immediate being Iraq and Iran, but strong trading connections with India and Indonesia, were involved beside the close proximity of the Nagd and the Turkish occupation.

The most recent conquerors were the Ottoman Turks who established their administration in Al-Hasa and became firmly entrenched during the later half of the nineteenth century. Their influence was quite pronounced as is witnessed in the Qasr Ibrahim Pasha, whose Ottoman domes dominate the skyline. The main mosque in the Qasr Ibrahim Pasha consists of one large dome over a square prayer hall supported by corner squinches in the Ottoman manner. The mihrab is one large pointed two centred arch decorated with multiple squinches. Along the front of the mosque runs a row of five small domes supported by pointed arches, the centre one being cusped. The concept would seem to be purely Ottoman one, which was used in Ottoman territories, e.g. Damascus, and here it has been translated through the use of local materials, rough rubble, mud and gypsum plaster, into a provincial variant. The dome was used for most public buildings in Al-Hasa, for the prison, the date store, hammam and on many smaller mosques in the true Ottoman manner of making the dome one of the most practical and applicable of structural forms. Turkish influence can be detected throughout Al-Hasa, but especially in the Al-Qut quarter of Hofuf which was the Turkish city within the city, having its own walls and towers to protect it. Here the structural accomplishments of the Turks can be seen in the perfect semi-circular arches spanning the roads to create sabat. Semi-circular arches have been used almost as much of a leit motif as the dome and they decorate the exterior and interior walls of the houses.

Some perfect pieces of Turkish woodwork exist in several areas of the province but these are infrequent and when they occur they usually can be traced directly to a Turkish military or

government official and even here Iranian influences are often detectable plaster imitation of Turkish woodwork is more common in the interiors especially for roshan or niches acting as small wall, cupboards. These were decorated with that meandering line common in Islamic woodwork and found in Turkish and Egyptian houses.

Otherwise the houses showed little Turkish influence and reverted to a basic model. The most modest were related to their agricultural prototype, a single storey dwelling with the rooms arranged around a central courtyard but many possessed open sateh or pavillion type rooms at first floor level. These were situated on the street side and their high parapets made them seem like three storey buildings. Many houses were indistinguishable from one another, for whole blocks coalesced into one mass. The houses could not be viewed from any one aspect because they could not be distinguished apart. The houses were approached through narrow lanes wide enough only for a pack donkey and the entrance to the house down a long covered sabat. The houses might have a main entrance, a women's entrance and a back entrance for animals onto another lane. In the typical house the maglis regal was situated immediately after the dihless or entrance hall. The dining room was next to the maglis and supplied with victuals from the kitchen across the hawsh or yard. The hammam was approached from the dihlees so that again guests were kept away from the rest of the house. In larger houses separate guest quarters were provided for guests staying longer periods but the quarters were separated from the rest of the house by high walls. The roofs of the houses were used for sleeping and were, therefore, protected by high parapet walls protecting the occupants from view and keeping to that introspective character associated with Islamic domestic architecture.

In Qatif, a coastal city, with an ancient history and which remained outside immediate Turkish dominance, Ottoman domes and semi-circular arches were almost non-existent. The four centred arch of Iraq and Iran reasserted itself. It was employed as an arcade around courtyards, and in larger mansions it was employed in conjunction with plaster screens of abstract or geometric designs to create large screened clearstorey windows which permitted the sea air to flow through the house. In poorer dwellings the four centred arch was imitated by using two palm logs to create an inverted V plastered over to give the impression of stone construction so that the width of the maglis was doubled. Abstract plaster decoration was popular in the houses and the designs seemed to be of an Iranian derivation.

Being a coastal city dependent on pearl diving and fishing as much as date farming, its most frequent contacts would have been with other countries, towns and villages around the Gulf rather than with the tribes of the interior, and this background has created the distinctive character to the local vernacular.

The houses rose three storeys around a courtyard which became a very cool area because most of it was in the shade. The courtyard is by no means confined to Islamic domestic dwellings but features so strongly a part of them that it has become intrinsic to them. The approach to the house was often from a sabat and even then a ninety degree bend, or two were required before reaching the hawsh to maintain privacy. These houses were constructed with similar materials to those of the Hedjaz, coral stone, danchel poles and khus, for a similar coastal climate, but they could never be confused with them.

New Cities

In the new cities of Dammam and Al-Khobar there appears to exist a "Gulf" domestic style which is prevalent from Kuwait to Bahrain and Dubai which mixes freely features derived from Iraq, Iran, India, Indonesia, Nagd and other details seen in the more famous examples of Muslim architecture especially those of the Maghreb.

The houses were basically single storey houses built around internal courtyards. The roof was used for sleeping on summer nights and the more substantial houses had sateh or open sided screened rooms at first floor level similar to those in Al-Hasa. The sateh was often embellished with pointed arches sometimes with quite fanciful decorative arches more akin to those seen in the Maghreb, but often it was a crude imitation of more delicate models. However, these rustic models possessed a certain invigorating playful character. The sateh was often provided with a mashrabiyya or screened balcony projecting over the street. These mashrabiyyat were often decorated with light filigree woodwork at roof level and lambrequins at floor level to hide the structure. Generally, the screening was simple shish lattice work but with their filigree silhouet their character appeared more Iranian than Turkish or Egyptian. The elements can be seen in Egypt but never in such a context.

Occasionally, a mashrabiyya would burst into a riot of carving boasting several patterns in the screens and trefoil arches, but most of the carving derived from the dexterity of the hacksaw and should be considered to have more in common with nineteenth century gingerbread rather than a Turkish or Iranian rococo.

These houses with their open courtyards and large screened windows were very airy buildings but introverted in the Islamic manner, the entrance usually shielded by one or two ninety degree turns. Structurally they were simple post and beam construction, but in the plaster work were inscribed ogee arches, more akin to India than Egypt. The cusp arch remained popular throughout the province sometimes looking Indian in inspiration and sometimes appearing more like those in the Maghreb. There was also a crude robust model encountered over main doorways frequently sporting inverted fleur de lys protrusions and other embellishments. Sometimes the arches and coffering disappeared into fanciful forms which can only be attributed to imaginative plasterers who rendered tendril designs normally seen in wood into huge plaster brackets. Yet they still remained

with an ornate cornice and more conservative decoration in the cup which appeared to have been in the Maghrib e.g. Gubbio Bay, Sicily in the Maghrib.

the history of Maghribi art. Sometimes the form of multiple arches is used to provide a sense of rhythm and balance to the facade. The use of arches is also seen in the Maghrib, but often these arches could be used to support a balcony or a loggia. In fact, they are often used to support a balcony or a loggia. In fact, they are often used to support a balcony or a loggia. In fact, they are often used to support a balcony or a loggia.

of nothing more substantial than which that made them extremely

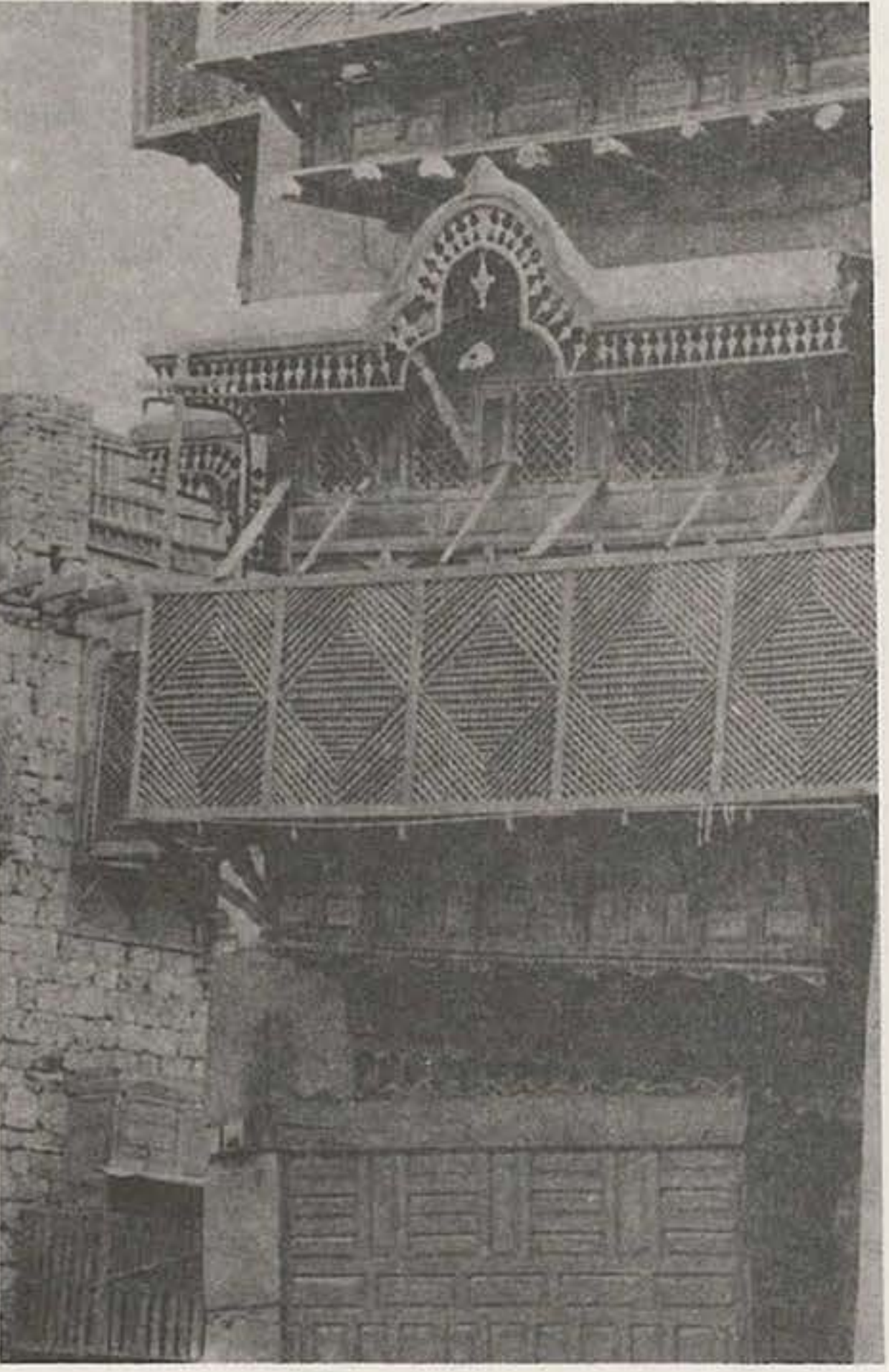
the similarities between buildings of the world which could have had political contact, except from the



Najd: Decorated Mud Walls

features of the domestic architecture of the Eastern Province the open courtyard and the courtyard, the unroofed areas used in the ceiling, the adobe walls, had strong similarities with the vernacular architecture of Spain, Mexico, Peru and the South of the United States. And so, the architecture of the United States which must have been derived from a basic vernacular inherited in a similar manner.

Building in Saudi Arabia is a blend of traditional and modern architecture. The traditional architecture is based on mud-brick walls and flat roofs. The modern architecture is based on concrete and steel. The architecture of Saudi Arabia is a blend of traditional and modern architecture. The traditional architecture is based on mud-brick walls and flat roofs. The modern architecture is based on concrete and steel. The architecture of Saudi Arabia is a blend of traditional and modern architecture. The traditional architecture is based on mud-brick walls and flat roofs. The modern architecture is based on concrete and steel.



Jeddah: The Roshan adds a characteristic style to houses

within an Islamic idiom. The more conservative decoration especially in such features as the cusp arch appeared to have striking similarity within those in the Maghrib e.g. Qubbat Barydigin and the Kutubiyya mosque at Marrakesh.

While others had the delicacy of Moghul India. Sometimes the arches took very steep pyramidal forms of multiple squinches prominent in such famous late Islamic work as the Muristan Nuri and the Madrassa al Nuriya al Kubra, Damascus or the Sultan Han near Aksaray, but more often their antecedents could be found in the Al Hamra Grenada. In fact, in their fragility they frequently resembled the Al Hamra for they were non-structural arches being constructed of nothing more substantial than danchal poles and plaster which has made them extremely vulnerable to decay and destruction.

It is difficult to explain these similarities between buildings at the two extremities of the Arab world which could have had almost no commercial or political contact, except from the basic common Arab Islamic culture. It is apparent that many features of the domestic architecture of the Eastern Province the open corridors around the courtyards, the untrimmed poles used in the ceilings, the adobe walls, had strong affinities with the vernacular architecture of Spain, Mexico, Peru and the South-West of the United States, Arizona and New Mexico, areas of Spanish influence which must have been derived from a basic Islamic vernacular interpreted in a similar medium.

References

- Coral Buildings of Suakin J.P. Greenlaw-1976-Northumberland Press.
- Islamic Architecture John D. Hoag-1977-Harry N. Abram's, Inc. New York.
- Architecture of the Islamic World Geoffrey Mitchel-1978-New York William Morrow & Co. Inc.
- Architecture of Bahrein, Rashid Al Oraifi, Bahrein Heritage Series.
- Islamic Architecture in North Africa Derek Hill-1976-Faber & Faber Ltd., London.
- Traditional Architecture in Kuwait and the Northern Gulf Ronald Lewcock 1978 Art and Archeology Research Papers, London.
- Des Architectures de Terre Centre Georges Pomidou Centre de Creation Industrielle, Paris.
- Living Architecture Ottoman Ulya Vogt Gonknil Grosset & Dunlap-1966-New York.
- Living Architecture Islamic Indian Andreas Volwahren Grosset & Dunlap-1966-New York.

HOLY JERUSALEM — THE MUSLIM CITY BETWEEN THE JUDAIZATION CONSPIRACY AND THE DANGERS OF SETTLEMENT

ENG. ASSEM ABDALLAH GHOSHAH

TECHNICAL CONSULTANT OF JERUSALEM MUNICIPALITY

DIRECTOR OF SERVICES AND ENGINEERING WORKS
DEPARTMENT. MINISTRY OF LOCAL, RURAL, AND
ENVIRONMENTAL AFFAIRS JODAN.

Introduction:-

Jerusalem, the holy Islamic city with its distinguished architectural character, has preserved the artistic, social, and environmental features of the Muslim Arab city, accentuating the relation between religion and planning. Thus, we find the Aqsa Mosque standing in the centre of the city composing the basic planning unit from which branches the urban fabric of the city.

Jerusalem, the holy Islamic Arab city which survived for 6000 years, has been preserved by Arabs and Muslims, keeping its purity, integrity, history, and sacreds along the successive ages. In spite of the different reigns which succeeded on it, the city remained Muslim in its shape and entity. Jerusalem, the city of the Arabs and Muslims every where, captives hearts of millions of Muslims with mosques, schools, libraries, zawias, monasteries, gardens, markets, streets, squares, walls, houses, sabeels, public baths, facilities, and finally its great wall.

This is Holy Jerusalem, in which artists and architects placed the essence of their art and effort in order to make it a Muslim Arab city with all its features. The Aqsa Mosque, to which Mohamed travelled in his midnight journey to heaven from the Haram Mosque, stands in the center of the city accentuating the relationship between the two holy Mosques: El-Haram and Al-Aqsa, and the two cities: Mecca and Jerusalem from the other side. This explains the holy standing of the city in the hearts of Muslims all over the world.

Jerusalem - the old city

The old city of Jerusalem which lies within the walls, covers an area of one Kilometer, 0.15 Kilometers of which are occupied by the Noble Sanctuary representing 15% of the whole area of the city. The Noble Sanctuary lies in the east-northern corner of the city. A high stone wall surrounds the Old City - 4200 meters long

-and comprises 7 open gates: Bab Al-Sahara, Bab Al-Amoud, Bab Al-Gadid, Bab Al-Khail, Bab Al-Nabi Daoud, Bab Al-Magarra, and Bab Al-Sayda Mariam. It also comprises 4 closed gates: Al-Bab Al-Mofrad, Al-Bab Al-Moztawag, Al-Bab Al-Sulasi, Al-Bab Al-Zahabi.

The Noble Sanctuary is the heart of the Old City, surrounded by a stone wall 1600 meters long-comprising 9 gates: Bab Al-Rahma, Bab-Hatta, Bab Faisal, Bab Al-Ghawanma, Bab Al-Nagar, Bab Al-Hadid, Bab Al-Qattanin, Bab Al-Silsilah, Bab Al-Magharbah. Narrow routes branching out of the 9 gates connect the Noble Sanctuary to the various sections of the city. Variations in the topographic levels within the city was overcome by using wide stone stairs which transfer people from one level to another.

The streets of the Holy city are narrow and designated for pedestrian use only; some streets are covered with beautiful stone arches which date back to the middle Islamic ages, the rest are uncovered. Schools, houses, small mosques (Zawias), and public fountains (Sabil) are found on both sides of the streets. Stone arcades support small buildings which overlook the street through small windows.

The narrow streets provide shade for the pedestrians, and alleviate the hot summer temperature. This is one of the main features which distinguishes historical Islamic cities. One could traverse the streets of Jerusalem in a small period and attain all his errands on foot without wear or effort. This reflects a planning philosophy and architecture principles that suit the conditions of the city. Streets in commercial markets are continuous to facilitate communication between one market and another, while residential streets are sometimes dead ended in order to give a sense of independence to the "Harah". The commercial markets in the city are categorized according to the kind of trade or industry, which goes with the modern principles of urban planning. There is the solderers market, blacksmiths market, El-Bazar Market, mats market....etc.

The city planning didn't neglect hygienic facilities, considering it fundamental component of the city structure. Thus, the city was provided with a stone disposal network which covers the whole city and transfers wastes outside the city walls. The houses of the city are characterized by their simple design, internal open courts, purity of form and functionalism, the use of local building materials, environmental control and good circulation of air, in addition to the homogeneity between the buildings of the city. These are considered the basic principles of Islamic architecture.

The buildings of Jerusalem are all built of stone and lime mortar. Domes and arches are used in roofs made of stone and

adobe. Windows are small, opened in thick walls to provide ventilation and natural illumination, meanwhile prevent direct sun rays from entering the rooms. Some buildings overlook the street through beautiful wooden mashrabiyas which help in ventilation and are used by women in sitting and watching the street without being seen by the passers by. Buildings are contiguous, such that the city looks like one continuous building with its serene compact fabric.

Thus, the Holy City is considered a school of architecture and city planning, covering a long period of the Islamic middle ages starting with the Ummaid era then the Abbasids, the Fatimids, the Ayyubids, then the Mamelukes, and the Ottomans.

Danger threatening the Holy city:-

The Holy city of Jerusalem, the city of Arabs and Muslims, has become indangered - with all its history heritage and civilization - by the Israeli occupant, who saves no effort to oppress the Muslim and Arab citizens in order to evacuate the city of its lawful citizens and exchange them with foreign settlers. This is being done after destroying its rich historical houses and exchanging them with strange gigantic fortresses which mar the city face and don't relate to its environmental or social conditions, in an evident assault to its culture, history and humanity. This is all planned and executed by oppressive powers, through successive settlement conspiracies aimed at the Holy city and its surroundings, in front of few limited Arab housing projects which suffer of limited resources and financing, together with the individuality of efforts.

This was a brief review of the situation, which should be further on crystallized in the form of figures and statistics which present the proof and evidence on this dreadful conspiracy which indangers the Holy city.

Settlement in Holy Jerusalem:

Since the middle of last century, organizers of Zionism have insisted on confirming to Zionists all over the world that their main target is to occupy Holy Jerusalem and make it the capital of Israel. Thus, settlement in Holy Jerusalem has become one of the main targets of Zionism, and the issue of Judaization of Jerusalem has become the main topic of the Israeli settlement orientation.

In order to attain its objectives, the occupation authorities undertook some measures to mar the historical Islamic character of the Holy city of Jerusalem through:

- Excavations around and under the Aqsa Mosque under the pretence of searching for their claimed altar.
- Setting the Aqsa Mosque on fire in August 1969, which resulted in burning Nour El-Din minbar - a unique Islamic monument which was brought about by Salah El-Din Al-Ayyubi upon conquering Jerusalem in 1187 A.D.

- Attacking the Noble Sanctuary and the people praying in it Killing a number of them, in April 1982
- Breaking into the Noble Sanctuary and occupying it by Jewish groups in March 1983.
- Demolishing houses, confiscating land, and emigrating people - which will be further on discussed in details.

The occupation authorities believe in the matter of policy, and are continuing to impose their aims by force in severe disdain to the international group and its resolutions. Ever since the occupation of Jerusalem they have been working hard to efface the genuine features of the city, demolishing it in order to build "Jerusalem the fortress", according to the Israel reporter Ibrahim Rabnovitch in his essay published in the Israel newspaper "The Jerusalem Post" under the title of "The Way to Build Jerusalem the Fortress"; In his essay he gave a clear description of the Jewish schemes to build Jerusalem the Fortress on consecutive stages, some of which have been executed and some are in the way. In the next lines we will discuss in detail what was executed of this dreadful scheme and what is still under execution.

Stages of settlement:-

The Israeli authorities started implementing measures of demolition, confiscation and emigration, directly after its resolution to annex Holy Jerusalem in 1967. The Magharba quarter was pulled down and its inhabitants emigrated together with part of the inhabitants of El-Sharaf Quarter in the old city. These drastic measures resulted in the confiscation of 116 dounim of Muslim Awkaf land in the old city, on which stands 595 Muslim Awkaf estates, which represent 11% of the old city total area. These measures also led to the emigration of 7413 Arab citizens. The Israeli authorities then started wide confiscation measures outside the old city within the boundaries of Jerusalem general municipality and later on within the boundaries of what is called Greater Jerusalem.

Thus, we find that the Israeli plan moved within the following three circles:-

First: The Old City.

Second: The boundaries of Jerusalem municipality and its extensions according to 1967 structural plan.

Third: The boundaries of Greater Jerusalem.

First: Settlement in the old city:-

Directly after the confiscation measures, Israeli authorities started demolition inside the old city, building the first Jewish residential quarter in it. Up till now it has built 467 residential units which hold 1800 inhabitants. The residential quarter includes a commercial market comprising 116 shops and places for prayer built on the ruins of 4 Arab quarter: El-Magharbah quarter, El-Sharaf, El-Basharah, and part of Bab El-Silsilah quarter.

The rapid settlement measures inside the old city were complementary to the other Judaization measures. These include extension of El-Baraq square at the expense of Muslim Awkaf estates, excavations under the western and southern walls of the Aqsa Mosque, emigrating Arab families from the adjacent areas to the Jewish quarter, issuing regulations and laws to deprive the Arabs of their properties, together with the confiscation of more land and estates in the old city.

Second: Settlement within the boundaries of Jerusalem. for the year 1967.

The second stage of Judaization of Jerusalem through settlement started in 1968, by starting to implement a belt of residential quarters gridding Holy Jerusalem from the northern and southern directions. Until now, 9 of these quarters have been built surrounding the Holy city with gigantic cement walls which mar the character of the city and its beautiful features. The UNESCO was hence forced to form a technical committee in order to study this issue and call Israel to stop marring the face of the Holy city by those cement fortresses.

The nine quarters which have been built are:-

*** Ramat Ashcool.**

- Established in 1968.
- Located north-west of Jerusalem in Sheikh Garrah area.
- Area of confiscated land 600 dounims.
- Number of executed residential units is 2200.
- Number of inhabitants is 4500.

*** Ma'alout Dafna.**

- Established in 1968.
- Located north of Jerusalem in the center of El-Sheikh Garrah area as an extension of Ramat Ashcool settlement from the north direction.
- Area of confiscated land is 270 dounims.
- Number of executed residential units is 2400.
- Number of inhabitants is 4500.

*** Samouel Hanaabay:**

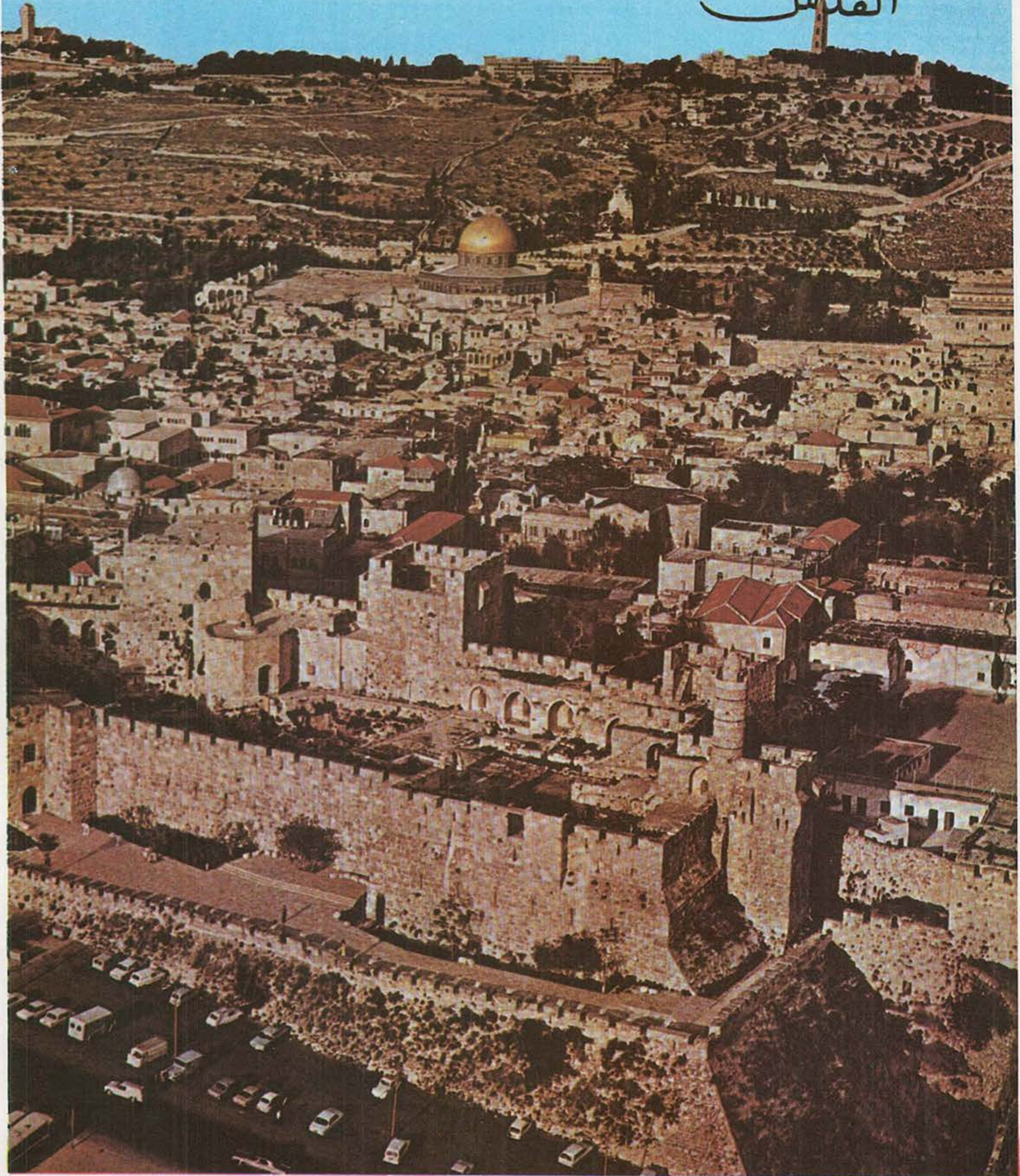
- Established in 1973.
- Located north - west of Jerusalem at Sheikh Garrah area.
- Completely erected on confiscated Arab land.
- Number of residential units is 1300.
- Number of inhabitants is 3200.

*** Ga'abat Hamfatar**

- Established in 1977.
- Located north of Jerusalem at Tall El-Zakira in Sheikh El-Garrah area, as an extension of Ramat Ashcool settlement from the north western direction.
- Completely erected on confiscated Arab land.
- Number of residential units is 700.
- Number of inhabitants is 1,500.

Jerusalem

القدس





Dome of the Rock

*** Prophet Jacob:-**

- Established in 1973.
- Located north of Jerusalem between bait Hanina and El-Rahm.
- Completely erected on Arab confiscated land.
- Number of executed residential units is 4000.
- Number of inhabitants is 12,000.
- 1000 residential units are now under execution which hold 5000 more inhabitants.

*** Lamat Shabira**

- Established in 1969.
- Located east of Tal El-Masharif on the Jerusalem Ramallah road.
- Completely erected on confiscated Arab land.
- Number of executed residential units is 5000.
- Number of inhabitants is 12,500.

*** 'Anatout**

- Established in 1969.
- Located between 'Anata and Sha'afat, north east of Jerusalem.
- Completely erected on the land of the Arab village lafta after confiscation.
- The project comprises housing for staff and students of the Hebrew University, together with the extensions of the Hebrew University and its Hospital. The new extensions include, beside the housing facilities, new offices and lecture rooms which will hold 31,500 persons.

*** Eastern Tall Eyout:**

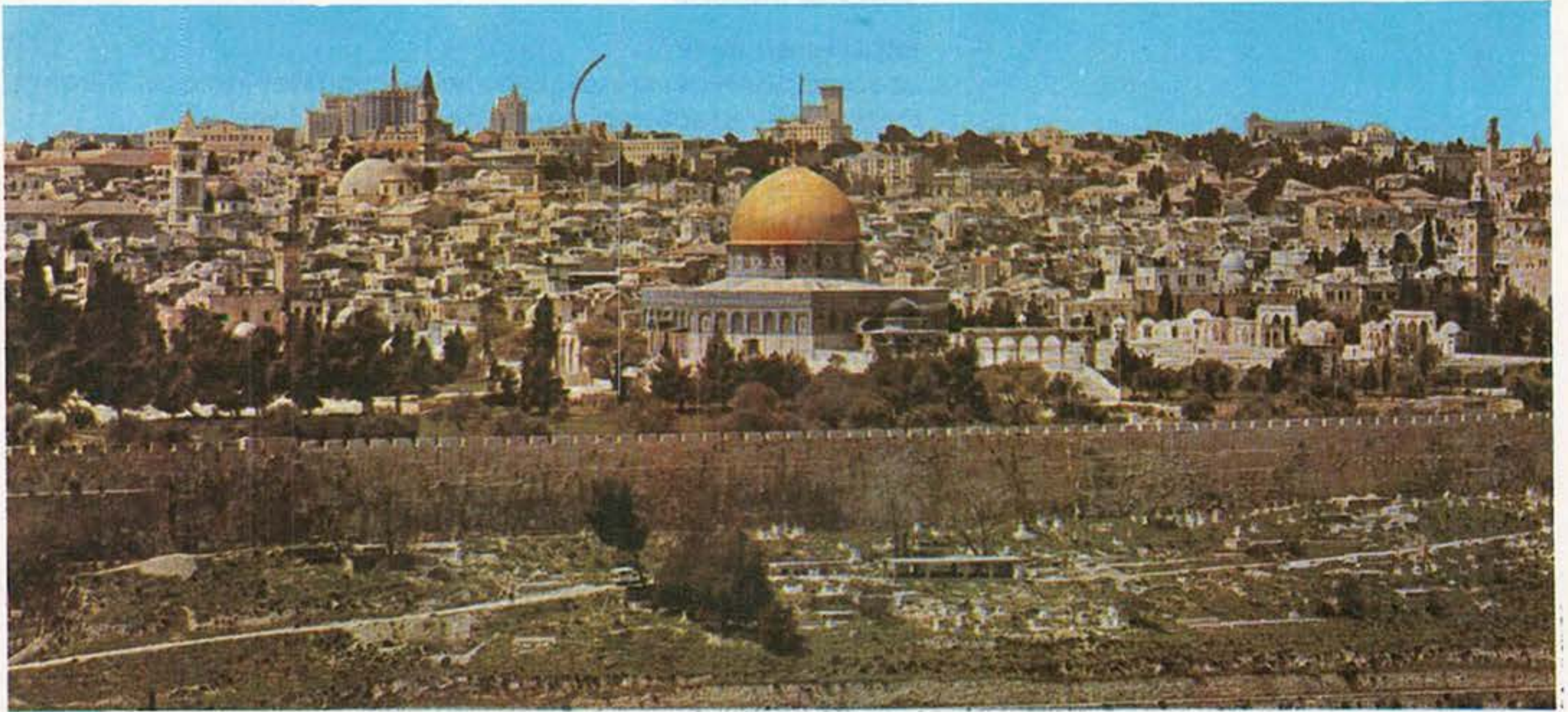
- Established in 1973,
- Located on the land of Gabal El-Mokatar and Sour Baher to the north of Jerusalem.
- Completely erected on confiscated Arab Land.
- Number of executed residential units - 2342.
- Number of inhabitants is 7820.
- Number of residential units under execution is 5000.

*** Tal 'Anatout**

- Established in 1974.
- Located north east of Jerusalem between 'Anatta and Sha'afat village.
- Completely erected on confiscated Arab Land.
- Number of executed residential units is 500.
- Number inhabitants is 2000.

Third: Greater Jerusalem project

The Jewish schemes in Jerusalem didn't stop at its official boundaries until June 1967 but exceeded it after the declaration of Jerusalem as the capital of Israel. Consequently it included 30% of the total area of the Western Bank which meant gripping 9 Arab cities and 60 villages.



A General View for Beit Al-Maqdes



Islamic monuments found by the Israeli archaeologists

Within the framework of the Israeli settlement scheme 15 new settlements were established in this stage, forming the second settlement belt around the Holy City (Jerusalem) The belt which encircles the residential quarters which were built within the boundaries of Jerusalem municipality for the year 1967.

The 15 settlements constituting the second settlement belt are:-

• **'Attarout (Industrial area).**

- Established in 1970.
- Located near the airport of Jerusalem (the Arab village of Kalnida).
- Completely erected on confiscated Arab land which belong to the inhabitants of Kalnida village.
- There has been erected in the settlement (181) factories, specialized in central heating equipments, paints, carpentry and smithcraft workshops, together with a refrigeration storehouse and a biological laboratory.

• **Gilio - Hargilio.**

- Established in 1973.
- Located on the Cross Land near Bait Galah north Jerusalem.
- Completely erected on confiscated Arab land previously owned by the dwellers of Jerusalem, Bait Safata, Bait Gala and Sharfat.
- 3000 units were executed, as a part of the planned 10,000 units to be executed on 4 stages.
- Number of inhabitants is 10,000 which will reach 350,000 after finishing the target units.
- Hargilio is an extension of Gilio settlement.
- It includes 40 residential units.
- Number of inhabitants has reached 200 until now.

• **Gaba'aoun**

- Established in 1977, and extended in 1981.
- Located east of El-Gaib village which lies north Jerusalem.
- Completely built on confiscated Arab Land.
- Number of executed residential units is (250) out of the 500 units planned to be executed.
- Number of inhabitants is 750.

• **Gab'oun (B).**

- Established in 1979.
- Located north of Jerusalem.
- Completely erected on confiscated Arab land which belongs to El-Gaib village inhabitants.
- Number of Executed residential units is 200.
- Number of inhabitants is 650.

• **Nifi Houron**

- Established in 1969.
- Located on Al-Latroon land together with three Arab villages -Amwas, Yallo, Bait Noba - which were destroyed after 1967

War. The inhabitants of these villages were evacuated, their number reaches 11,000 inh.

- Completely erected on Arab confiscated land.
- Number of executed residential units is 50.
- Number of inhabitants is 250.
- Agricultural cooperative settlement.

* **M'aaleeh Addomeem:-**

- Established in 1972.
- Located on the road between Jerusalem and Aryaha 15 kilometers east of Jerusalem on the land of El-Khan El-Ahmar.
- Completely erected on confiscated Arab land which belong to the inhabitants of El-Ayzzaria, Abou — Dis, El-Ayswaih, 'Anatta, Hazma, El-Sawahra.
- Number of executed units is 500, and 75 factories.
- Number of inhabitants is 2500.
- Residential and industrial settlement.

* **M'aaleeh Addomeem (B).**

- Established in 1979.
- Located in El-Khan al-Ahmar area east of Jerusalem.
- Completely erected on confiscated Arab Land.
- Number of executed units is 25.
- Number of inhabitants is 500.
- Industrial settlement.

* **Ma'aaleeh Addomeem (C).**

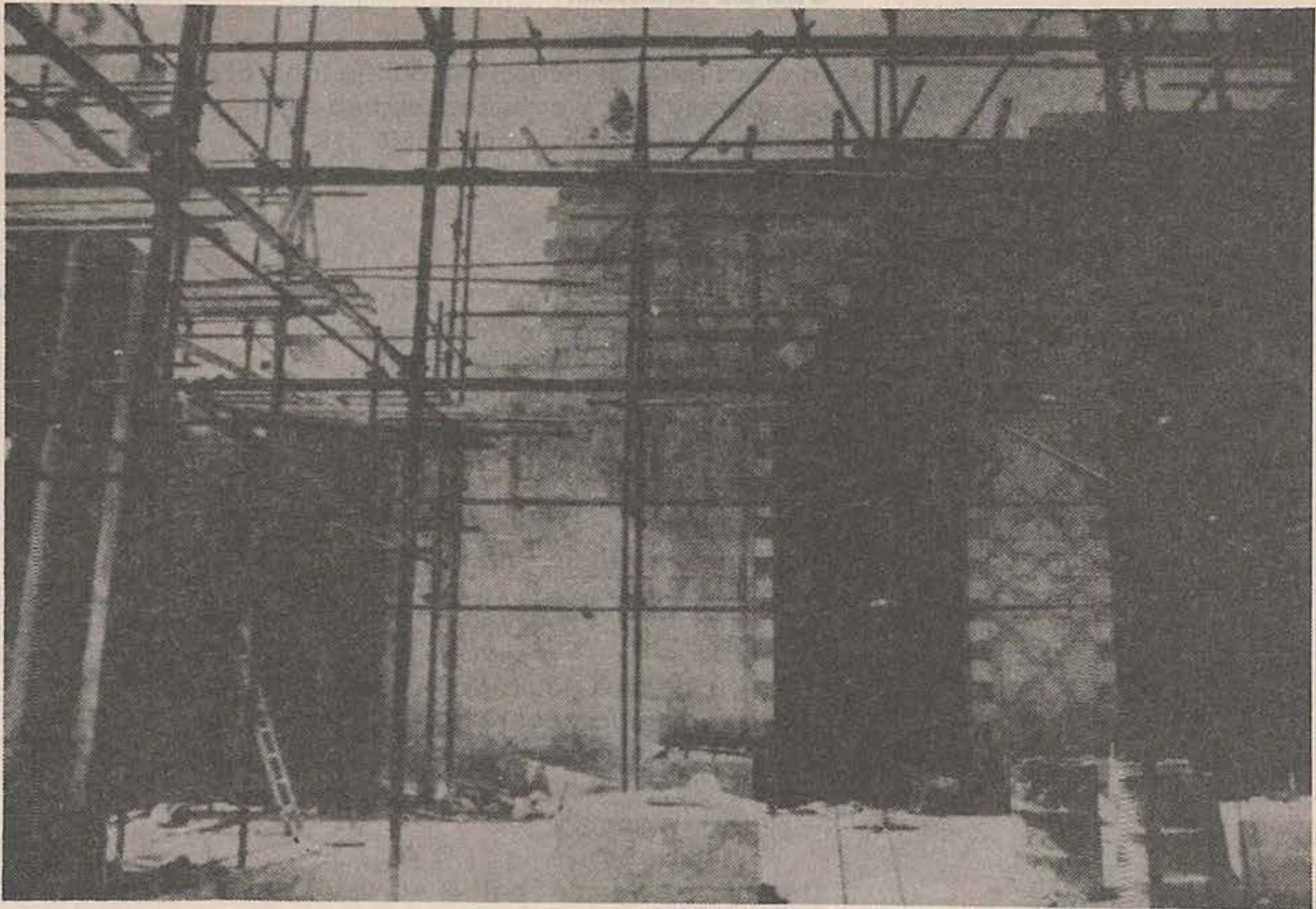
- Established in 1979.
- Located in El-Khan El-Ahmar east of Jerusalem.
- Completely erected on confiscated Arab Land.
- Number of executed residential units is 25.
- Number of inhabitants is 500.
- Industrial settlement.

* **Ramout.**

- Established in 1973.
- Located north west of Jerusalem, near Al-Nabi Samouel village.
- Completely erected on confiscated land, of 3 Arab villages = Bait Akaa, Bait Hanina, Al-Nabi Samouel.
- Number of executed units is 3000.
- Number of inhabitants is 7500.
- Number of residential units planned to be erected is 5000.

* **Bait Houron.**

- Established in 1977.
- Located north west Jerusalem on the land of Beit "Aour Al-Fooka village.
- Completely erected on confiscated Arab Land.
- Number of executed units is 200.
- Number of inhabitants is 5000.



Aqsa Mosque after the fire



Minbar of Salah El-Din - after fire.



Minbar of Salah El-Din - before fire.

* **Gab'aa Hadasha:**

- Established in 1979.
- Located north of Jerusalem, on the land of El-Gaib village.
- Completely erected on confiscated land.
- Number of executed units is 150.
- Number of inhabitants is 5000.

* **Makhmish:-**

- Established in 1980.
- Located north east of Jerusalem on the land of Mikhmas looking on Jerusalem and Khor Jordan.
- Erected on confiscated Arab land.
- Number of executed units is 45.
- Number of inhabitants is 150 from Ghosh Emonium goup.

* **Tal Zalf.**

- Its execution was declared in 1981.
- Located 10 kilometers north west of Jerusalem.
- No more details.

* **Halmish**

- Its execution was declared in 1981.
- Erected on the land of Al-Nabi Salleh village.
- No more details.

- **The third settlement belt:-**

The third settlement belt is considered the final extension of Jerusalem municipality. The project was implemented by establishing 15 settlement, as follows:-

* **In the north:-**

These include the settlements which were built around the cities of Ramallah and El-Bira. They include 6 settlements: Kokhaf Hashgar - Afra - Bait Ayl - Kafaar Rock - Nifi Tsoof Bait Ayl "B".

* **In the south:-**

These include the settlements which were erected in the area extending from north of Khalil and Bait Lahem and Bait Sahour Area. They include 9 settlements:- Tikwa'a, Kafar Asyoun, Tikwa'a - B Ali'azar "A" - Ali'azar "B". Afrat Magdal Aouz - Roch Tysouruim - Allon Shifoan and Matsibi Gobrime.

Objectives of the settlement belts:-

The settlements and the new districts grip Jerusalem and its surrounding villages from the northern eastern, and southern directions. It completes, together with the Israeli districts built before 1967 to the west of the city, the circle around Jerusalem as a whole and the rest of its withstanding inhabitants, which endangers their destiny and the Palestinian Arab entity, together with the Islamic sacra des in it.

The objectives of establishing those three settlement belts around Jerusalem is not its isolation from the Western Bank through fences of fortresses and settlers only, but there are other objectives that could be summarized in the following:-

- 1- Dividing the Western Bank geographically and demographically, and demolishing the dense Arabic presence around it.
- 2- Creating a demographic rarefication in the heart of the Western Bank, in order to bisect it into two isolated areas surrounded by Jewish settlements. These two areas are El-Khalil in the south and Nablis in the North.
- 3- Annexing wide areas of the Western Bank about 400-500 square Kilometers - in addition to the areas being annexed to Jerusalem according to its structural plans. The last of which was the annexation of 63 sq. Kilometers at the expense of the Western Bank, according to the last structural plan approved by occupied Jerusalem municipality in 1980.
- 4- Making the Holy city of Jerusalem the capital in which all the attractions and polarization factors for investment, tourism, industrial and agricultural activities, are concentrated in order to attract Jews from all over the world. The wide areas of land - which lie within the boundaries of Greater Jerusalem - will enable Jewish planners to provide the needed areas for Jewish settlement and investment in the area.

If we consider the housing schemes attached to Greater Jerusalem project, we will find that they indicate that the number of Jerusalem inhabitants should reach one million by the year 2000, 75% of which are Jews. This means that there will be 250,000 Arab inhabitants only, while the existing number of Arab inhabitants is 350,000, which means that the Greater Jerusalem scheme aims at emigrating 180,000 Arab inhabitants taking into consideration the predicted multiplication in this period.

Thus, it is clear that the Greater Jerusalem scheme aims at the complete judaization of Jerusalem, destroying its unique Islamic character, transforming its Arab inhabitants into a weak minority, and occupying the Western Bank for good, by creating new demographic and geographic conditions around the Holy City of Jerusalem and in the heart of the Western Bank.

Indications of Israeli intentions:-

There are many indications showing that the occupation authorities are going on with their Greater Jerusalem project on the organizational level, after implementing the primary phases of the settlement schemes, which include the gradual creep of Jerusalem municipality boundaries at the expense of adjacent Arab Land, this could be further demonstrated through the following facts:-

- 1- The area of Jerusalem with its two parts is 38 square kilometers, according to the structural plan of the year 1947.
- 2- In the year 1955, Israel added 7 sq. kilometers to the occupied part of Jerusalem in the year 1947.
- 3- Thus, the area of Arab Jerusalem became 13 sq. kilometers, according to the boundaries of Jerusalem municipality in the year 1967.
- 4- In 28/6/1967, the Israeli Minister of internal affairs approved on extending the boundaries of the new structural plan of Jerusalem, which implied the addition of 52 sq. kilometers to the city at the expense of occupied Arab territory after the year 1967.
- 5- The new plan assumes that the area of Jerusalem is 108 sq. kilometers, divided as follows:-
 - 41 sq. Kilometers for housing
 - 38 sq. Kilometers for green areas.
 - 11 sq. Kilometers for open spaces
 - 6.3 sq. Kilometers for public institutes
 - 4.6 sq. Kilometers for trades and industries.
- 6- This plan will open the way for confiscating more areas from the Arab territories north of Jerusalem, in order to build 12,000 residential units. Thus, the number of residential units within this structural plan will reach 180,000 units until the year 2000.

*** Future plans for Israeli settlement:-**

A quick review of the 5 year settlement plan during the period from 1979 to 1983, which was put by the chief of settlement department in the Jewish Agency, gives a clear idea of the extensive dangers laying within the Israeli settlement policy on the occupied Arab territories. It is obvious, from the plan, that the number of settlements planned to be erected in the Western Bank until the end of 1983 is from 136 to 150, holding from 120 to 150 thousand inhabitants, together with the settlers in Jerusalem and its surroundings who will reach from 100 to 120 thousand inhabitants.

It is also obvious that the costs of implementing this plan reach 1730 million dollars, with an average of 346 million dollars each year.

*** Confiscated land in figures:-**

Reviewing the figures of land confiscation in the Western Bank, it is clear that the total area of confiscated Arab land is more than 2 million dunams, which represent 45% of the total area of the Western Bank. Also the figures of land confiscation in Jerusalem and its surroundings show that the total area of confiscated Arab land reaches more than 350,000 dunams. The following are samples of the Israeli confiscations in Jerusalem and its surroundings.

Year of confiscation	Location	Area
1968	Within the wall, includes 4 quarters	116 dounim
1968	El-Sheikh Garrah	3345 dounim
1968	Bait Hanina	765 dounim
1970	Kalnida, Bait Hanina, Al-Nabi Samouel, Sa'afat, Al-Sawaha, Sour Baher, Bait Safafa.	11,680 dounim
1973	Arab Sawahra	10000 dounim
1974	'Anata	3000 dounim
1974	El-Ayzaria	3000 dounim
1975	El-Khan El-Ahmar	30000 dounim
1976	Abou-Dise	1000 dounim
1976	Gabal El-Mokabar	240 dounim
1976	Al-Nabi Samouel	645 dounim
1976	Al-Sheikh Garrah	200 dounim

A review of the development of estate property in Jerusalem from the beginning of the century up till now, implies the following table. The table reveals the amount of confiscated and seized land which belonged to Arab inhabitants and Islamic Waqf.

Year Property	1918	1948	1950	1976	1984
Arab	94%	84%	25%	14%	10%
Jews	4%	14%	73%	84%	88%
Foreigners	2%	2%	2%	2%	2%

*** Their aspiration from their words:-**

A thorough study of the previously mentioned figures and facts, proves the dangerous Zionistic objectives. It also gives an indication of the Jewish near and far greed, which is expressed by their leaders in many places and situations ever since the establishment of Zionism....These facts remind us that the Zionistic policy depends on intensifying the Zionistic presence in Arab territory, and establishing the suitable environment for the polarization of the biggest number of Jewish settlers to live in it.

We hereby present a few of the sayings of the leaders of Zionism which show their unlimited greed. They don't hide their unlawful greed and seize every opportunity to indicate their will to implement the dream of Great Israel at the expense of Arabs and Muslims in the area.

*** Hertzfel** said in his diary in 1899:-

"The more the number of Israeli immigrants, the more land we need. The boundaries of Israel are related to the number of Jewish immigrants, whenever they increase we need more territories and more extensions."

*** Max Nordon** said in the fifth Zionism Conference:-

"Palestine doesn't mean the existing Palestine, but Great Israel,

which extends from the Nile to the Euphrates. The main target of Zionism is the congregation of Jews in Palestine through migration from all over the world...."

* **Bin Gorion** - The first Israeli Prime Minister - said in 1944: "The existing map of Palestine is the map of the mandatory rule. Jews have got their own map, which our youth are obligated to confirm, it is the map of the Torah from the Nile to the Euphrates".

* **Moshie Daian** - Israeli Minister of Defence in 1967- said when he first visited El-Baraq wall west of the Noble Sanctuary, which they call the Wailing Wall:-

"Today is Bakhibar Day.....".

* **Dr. Zyrah Farhatic** - Israeli Minister of Religions in 1967 - said in a meeting attended by all Jewish rabbis in the world:

"The ultimate goal is the establishment of the Altar, however time has not yet come. When the date comes, a shake will happen to destroy the Aqsa Mosque and we will build our Altar on its ruins".

These sayings express the reality of Zionism and its organizations which try hard to implant the instructions of their expansionist racial culture in the new Jewish races, issuing from the definition of the Zionist on which all Zionistic organization have agreed: "The Zionist is a Jew who adopted the basic Zionistic Philosophy. He supports immigration to Israel, is an active member of the local Zionistic union, works on providing Jewish land to his sons, teaches them the Hebrew language and the Zionistic culture in order to accomplish the immigration to Israel.

These are some aspects of the danger of Zionistic settlement deduced from the sayings of their leaders. Perhaps the insistence of the occupation authorities on implementing the settlement conspiracy, asserts the obligation of Israeli policy makers to the words and aspirations of their leaders. As Isaq Shamir, Israeli Prime-Minister, said, Israel insists on its settlement policy and is continuing to confiscate Arab Territory, in order to build new settlements for the new settlers.

Conclusion:-

Jerusalem is looking out with hope and confidence to its Muslim and Arab sister countries, urging them to remove the injustice and push aside the harm encroaching upon its people and its Aqsa Mosque.

Acknowledgment:-

- 1- Ministry of Foreign Affairs: Notes.
- 2- Mr. Rawhi El-Khatib May on of Jerusalem: Notes and Researches.
- 3- Mr. Ra'if Negm: Notes and Researches.

THE ISLAMIC IDENTITY IN THE DESIGN OF COURTYARD HOUSES

DR. SALEH LAMEI MOUSTAFA

PROFESSOR OF ISLAMIC ARCHITECTURAL HERITAGE
DEAN OF FACULTY OF ENGINEERING BEIRUT UNIVERSITY.

Introduction:

The major aim of this study is not only to explain the philosophy and the concepts underlying the Islamic architectural heritage, but to accentuate its Islamic Identity. Although this Islamic architecture was preliminary based upon ancient civilizational roots in the area, yet it soon acquired its own identity inspired by the Islamic law (Shari'a) that is in turn derived from the Holy Kuran and Sunnah.

The Muslim's life was greatly influenced by the Islamic principles and concepts that regulated his life modes and the individual's relationships within the community as well as the space in which he lives. One of the basic principles in the Islamic Architectural Design is the introversion concept i.e. the integration of elements in the direction of interior space (the patio). Such a concept elaborated the plan of many architectural patterns in religious and civil buildings as well as the different types of dwellings.

The study aims at investigating the phenomenon of widespread courtyard housing in the Islamic World, tracing the reasons that called for adopting it, and whether the social and climatic factors were the sole determinants for using it as in preceding cultures, or was it a reflection of a mode of life that derived its roots and concepts from the Islamic religion.

Hitherto, it is very important to review the courtyard houses in different cultures whereas the court constituted a vital element in the space design with regards to its position, form and the relationship with the different countries in which the Islam has widely spread.

Early Egyptian architecture.

The courtyard house has been found in its simplest forms in the early Egyptian architecture during the period of the Old Kingdom in the Peasants houses. During the period of the Middle kingdom, the house took the form of a Masion, divided into four quarters (suites): The Mastar's quarter, the residential quarter, the servants' quarter and the kitchen and storage quarter. Each quarter had its own courtyard at its middēst and its own entrance directly connected to two main corridors leading to the main entrance. The Master's quarter is the focus of this plan, reflecting the prevailing social life.

This type of courtyard house continued to exist in the New Kingdom, they were seen in Nab Amoun's house and Nekht house. In general, the Egyptian houses were characterized by the use of air ducts (Malqaf) to make use of the cold northern breeze.

Iraqi architecture.

The courtyard house has also been found in Iraq, 2000 B.C. during the third Dynasty in the city Uwr. It was composed of two storeys having a court at its midst as a major element, around which the other elements gather and open onto its space. The ground floor includes an entrance hall, a reception hall and services. The upper floor includes the family residential quarters. This architectural type has evolved from the prevailing social conditions.

Greek architecture.

The courtyard house (Pastas house) has been found in Greece in the city of Olynth. Two other patterns were found:-

- 1) Peristyle house in the cities of Dylas and Olynth. The courtyard was surrounded by columns.
- 2) Prostas house which is characterized by a rectangular reception hall (Megaron) approached by an entrance hall carried by two columns and opening onto the court. This plan is characterized by a bent entrance at one side of the facade to avoid direct view into the house.

In general, the courtyard was the focal point in the Greek house around which the other elements gathered. It was noted that the plans were not symmetrical and the facades were quite simple.

Roman architecture:

The courtyard house (Domus) was known in Pompei before the fourth century B.C. The court was located at the center surrounded by symmetrically distributed rooms. The entrance, the court and the reception hall are coaxial having the latter opening into the courtyard. During the second century B.C, the courtyard included a fountain.

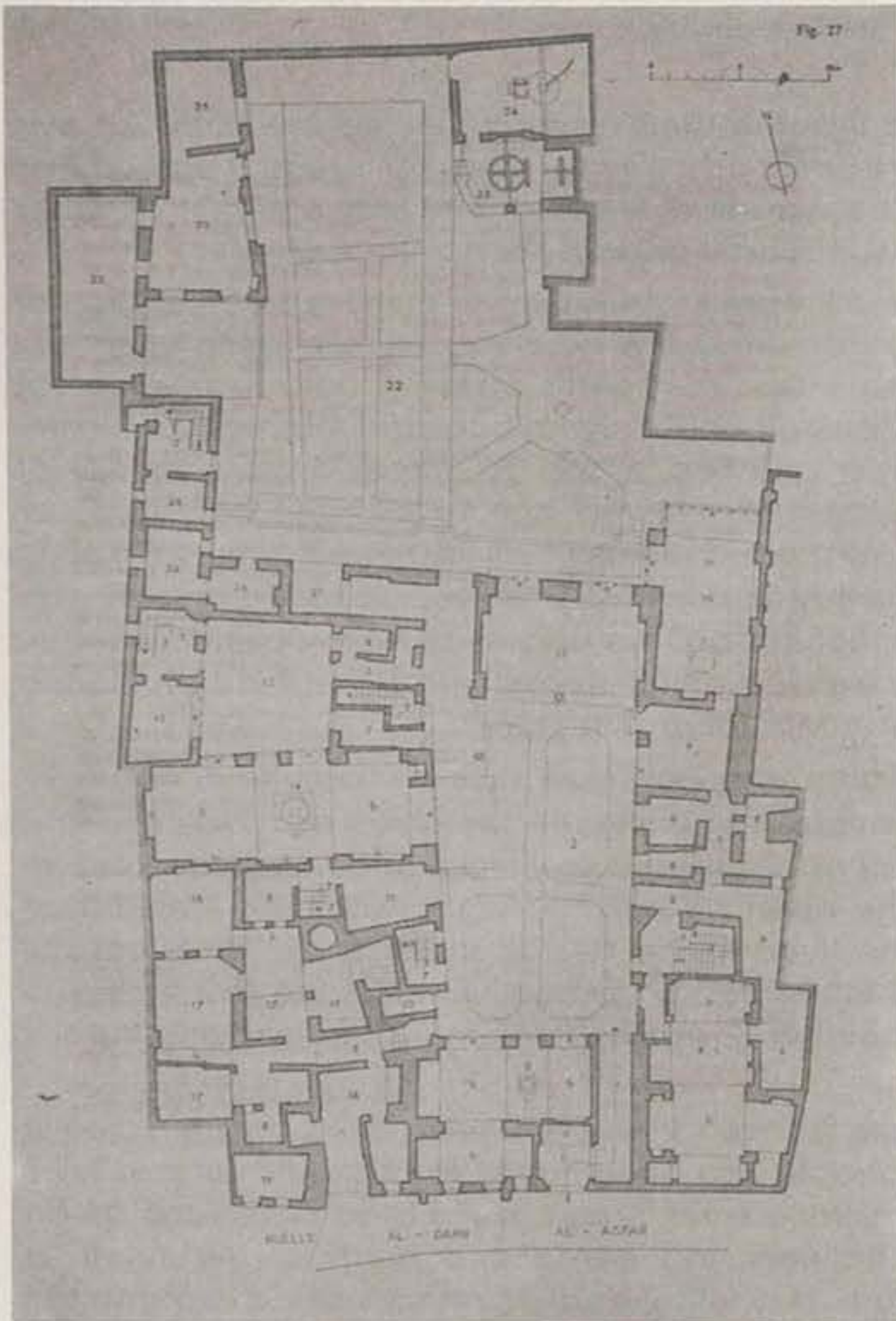
In the atrium house, the court was the focus of the house bulk in which the family activities were carried out. The court included a fountain and a garden. The reception hall was located in between the atrium and the peristyle. As for the rental residential quarters, so called Insula, they were occupied by working labour. The rooms were aerated and illuminated through openings looking onto the street or onto internal court.

The house in the Roman architecture had its own identity. The internal garden was thought to be a piece of heaven furnished by religious elements.

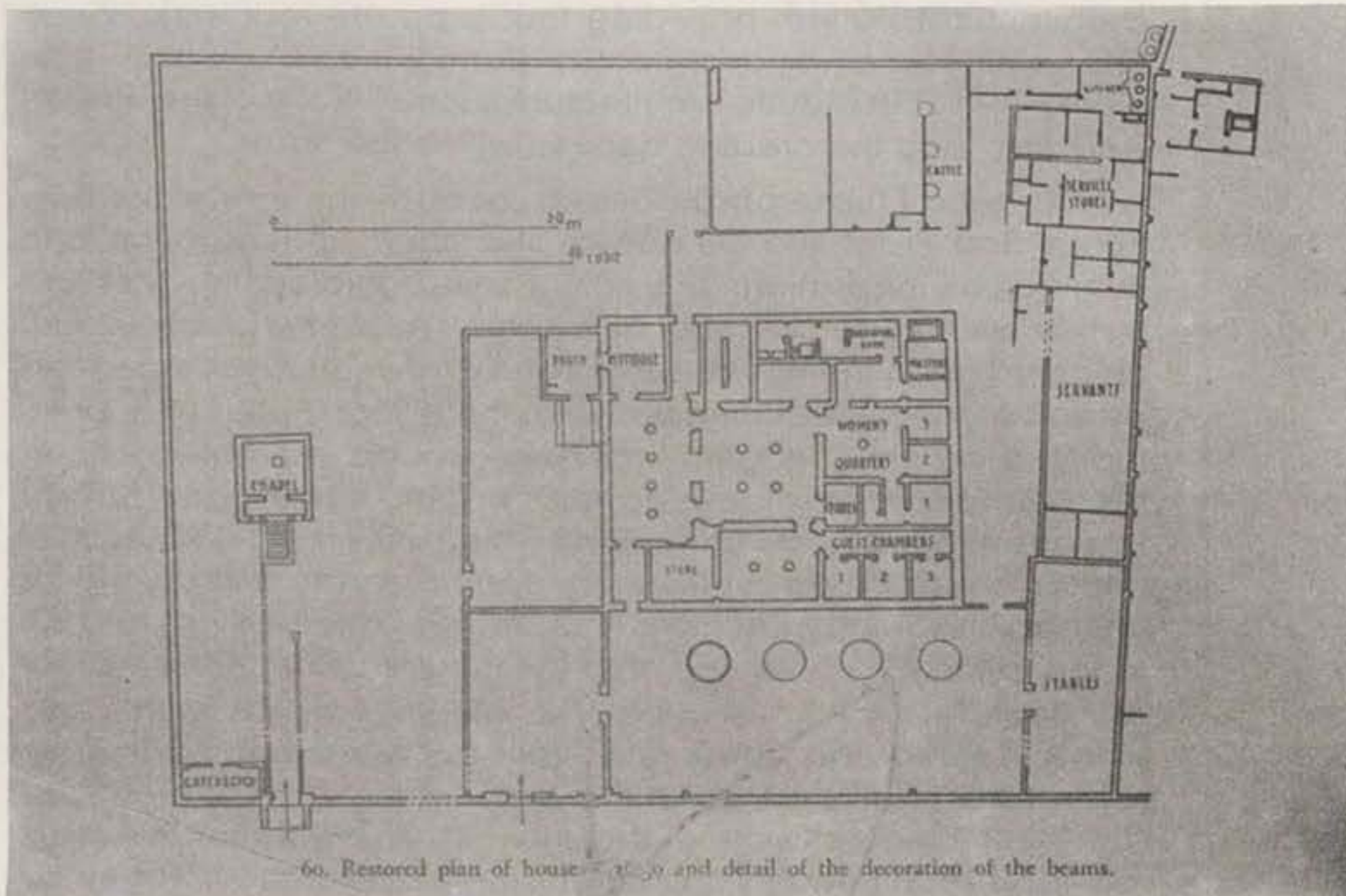
Persian architecture.

The courtyard was known in the Persian architecture during the first century A.D., in the Western Palace in Aehour. The Sasanian architecture in Servestan and Fairuz-Abad displays very advanced plans that were symmetrical around the court.

Through the previous review, one can deduce that the climatic



- Floor Plan - Beit El-Seheimy - Egypt (16th Century).



- Restored Plan of typical house - Old Egyptian dynasties.

60. Restored plan of house and detail of the decoration of the beams.

conditions and social factors elaborated the major role in the architecture of old cultures.

It was noted that the courtyard constituted the common element in all the Islamic civil and religious buildings. The court was meant to be the symbol of life and the focal point for all other elements that surround it and opened onto its space.

The plan of the Prophet's house is one of the typical residential Islamic courtyard plans. The court's area was defined by the surrounding walls and the rooms opening onto it. This typical plan was previously found in Syria, Iraq and the Arabian Peninsula. However a question arised as whether the concept of courtyard houses had evolved due to climatic conditions or social values from old cultures or civilizations? or was it due to new conditions that imposed themselves upon the muslim who used this architectural pattern and even developed it to satisfy the needs that evolved with the erection of Islam? Is it an Islamic architecture or a Muslim architecture?.

Prof. Hassan Fathy, the Egyptian pioneer architect has said about the courtyard: "When the Bedwein moved to the city and settled there, he established a courtyard in his house to keep in contact with the open air and the sky to which he was accustomed when he lived in the desert. Hitherto, the architectural form is related to the cosmic symbol whereas the four walls surrounding the courtyard represent the four piers carrying the sky dome".

This symbolism is taken from the Greek philosophy. It actually drivd many people into alien trends far from the Islamic heritage; Some explained the Arab's use of the courtyard as an expression of holiness, innocense and purity of the sky in a physical structure. In another study, a rather absurd explanation was given for the courtyard house as being an appropriate architectural pattern providing four separate residential quarters for the four wives admitted by Islam. A third trend called the courtyard in the Islamic architecture as the "Place of the Hidden Treasure" and the created heaven within the house.

Amongst all these absurd trends, nobody thought of the Holy Kuran and Prophetic Sunnah as the origin of legislation and intellectual inspiration. The Islam has regulated the Muslim's behaviour, mode of living and social relations which in turn reflected upon the house design and architectural components as well as the interrelation between the different elements. Eventually, a prophet "Hadith" has been traced indirectly concerning the courtyard house. In this "Hadith" the Prophet strictly forbaded the Muslims from sitting in the streets unless they fulfil certain conditions of overlooking, desisting harm and calling for amicability. Being very difficult to achieve, the Muslims had no other option except to turn onto the introvert. Hence this typical architectural pattern satisfied the Muslim's needs within the Islamic Shari'a. It is undeniable that the Muslim has acquired several decorative and architectural elements from old civilizations, yet he perfectly formulated them within a new framework to satisfy his requirements and disclose his characteristic identity.

- Upper and ground floor plan for a Prostas house (Greek Architecture).

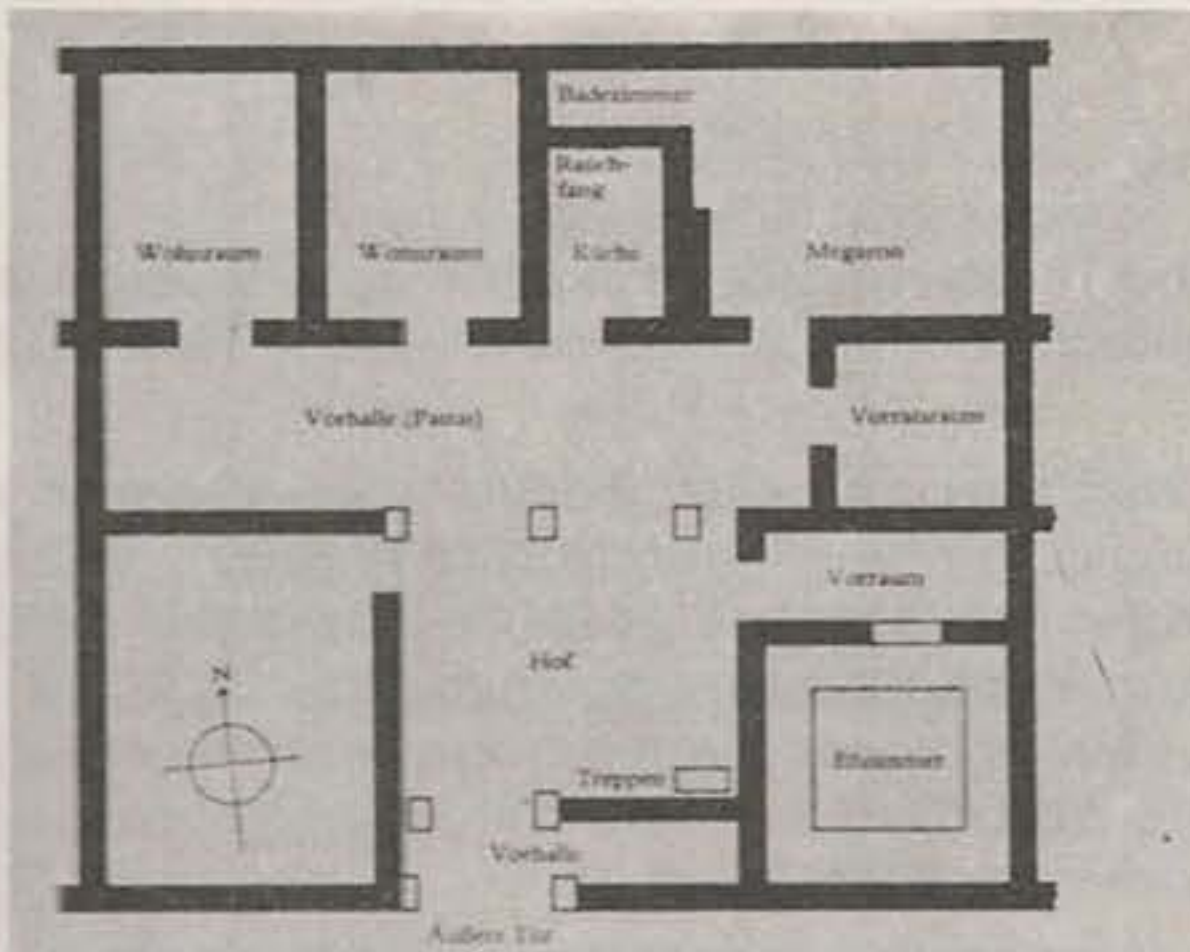


Abb. 56 Grundriß des Prostashauses (Olynth)

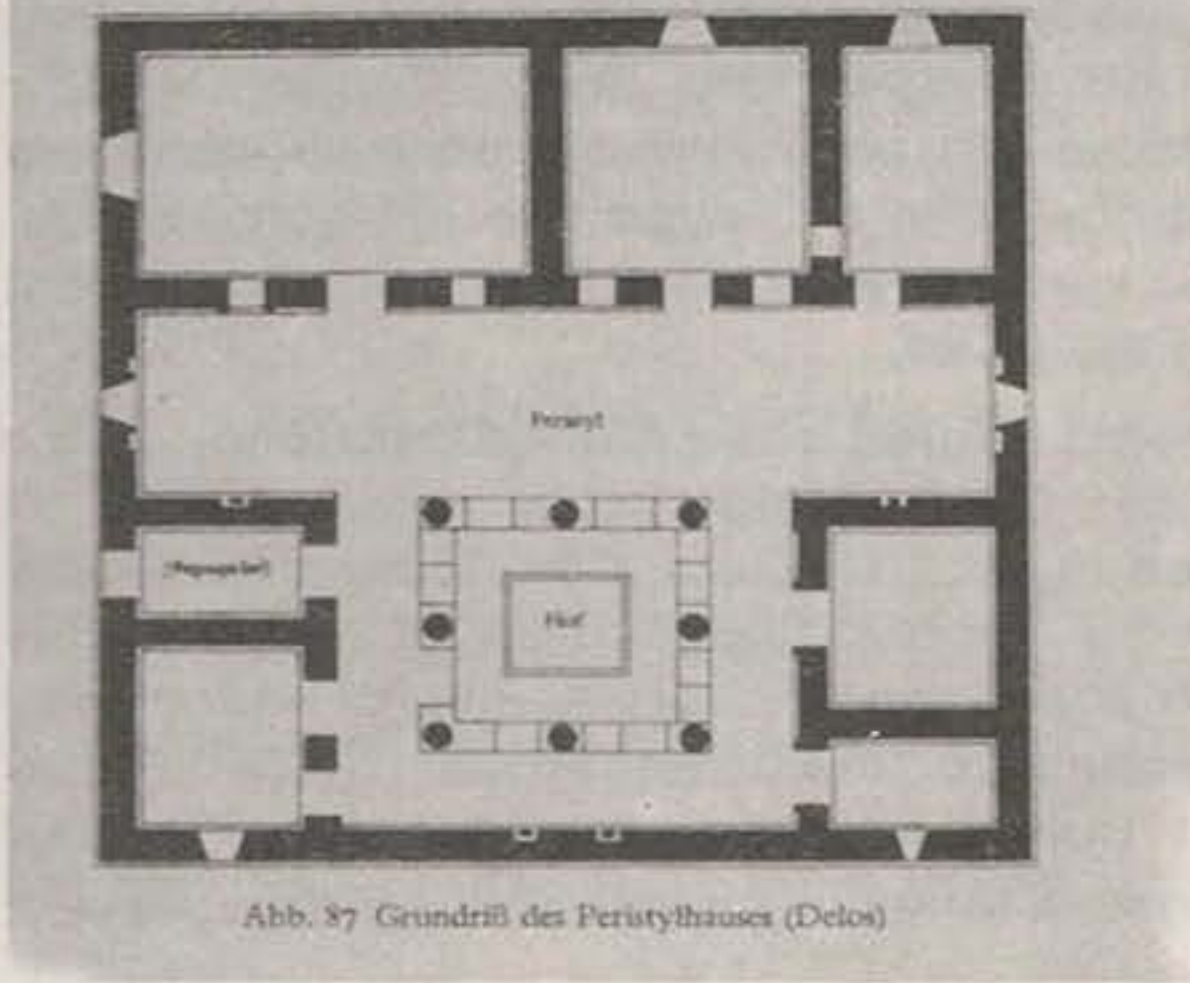
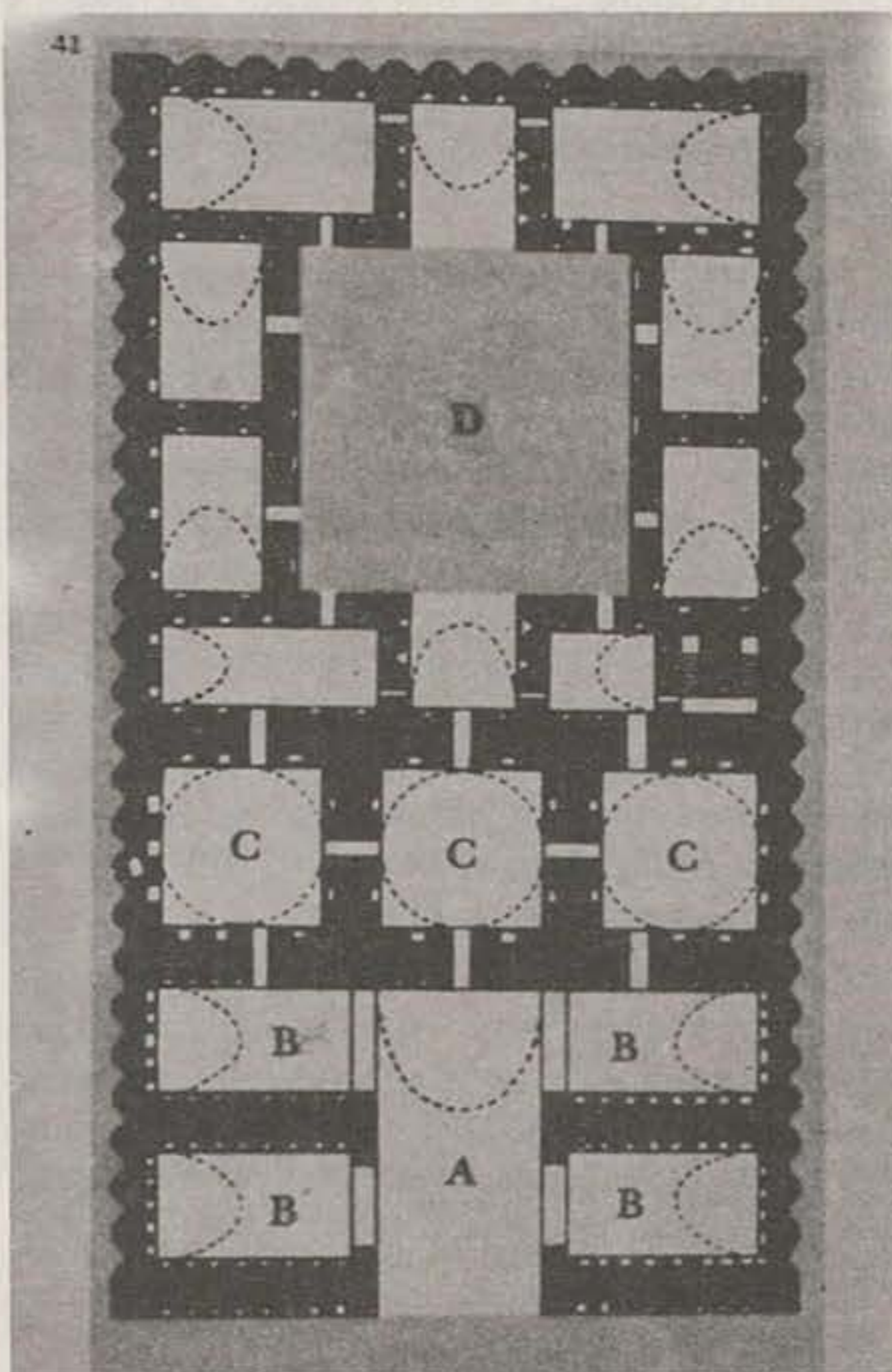
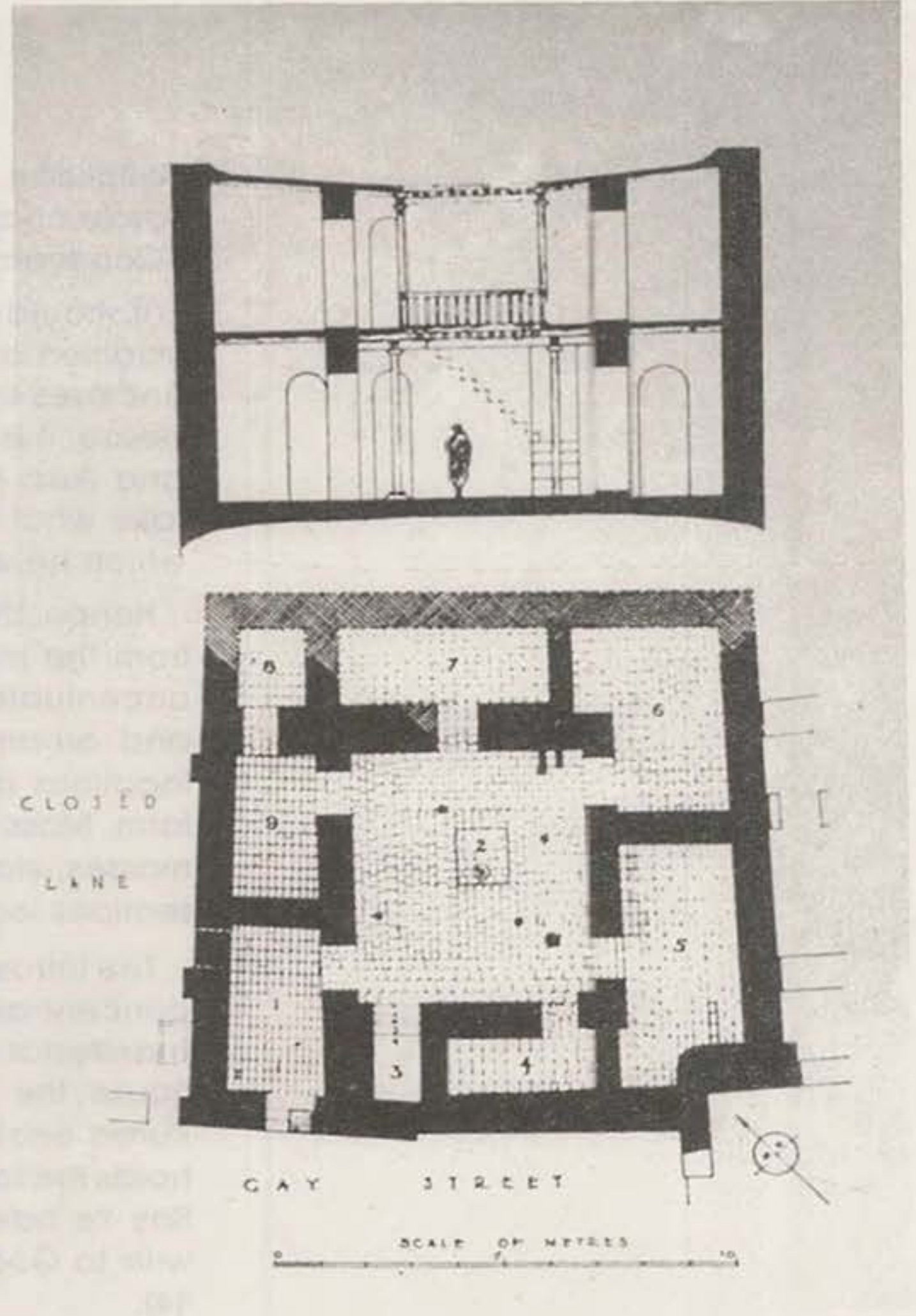


Abb. 87 Grundriß des Peristylhauses (Delos)

- House Plan in Servesfan (Sassanian Architecture).



- House Plan in the City of Uwr (2000 B.C.).



SCALE OF METRES

- House Plan in Iraq.

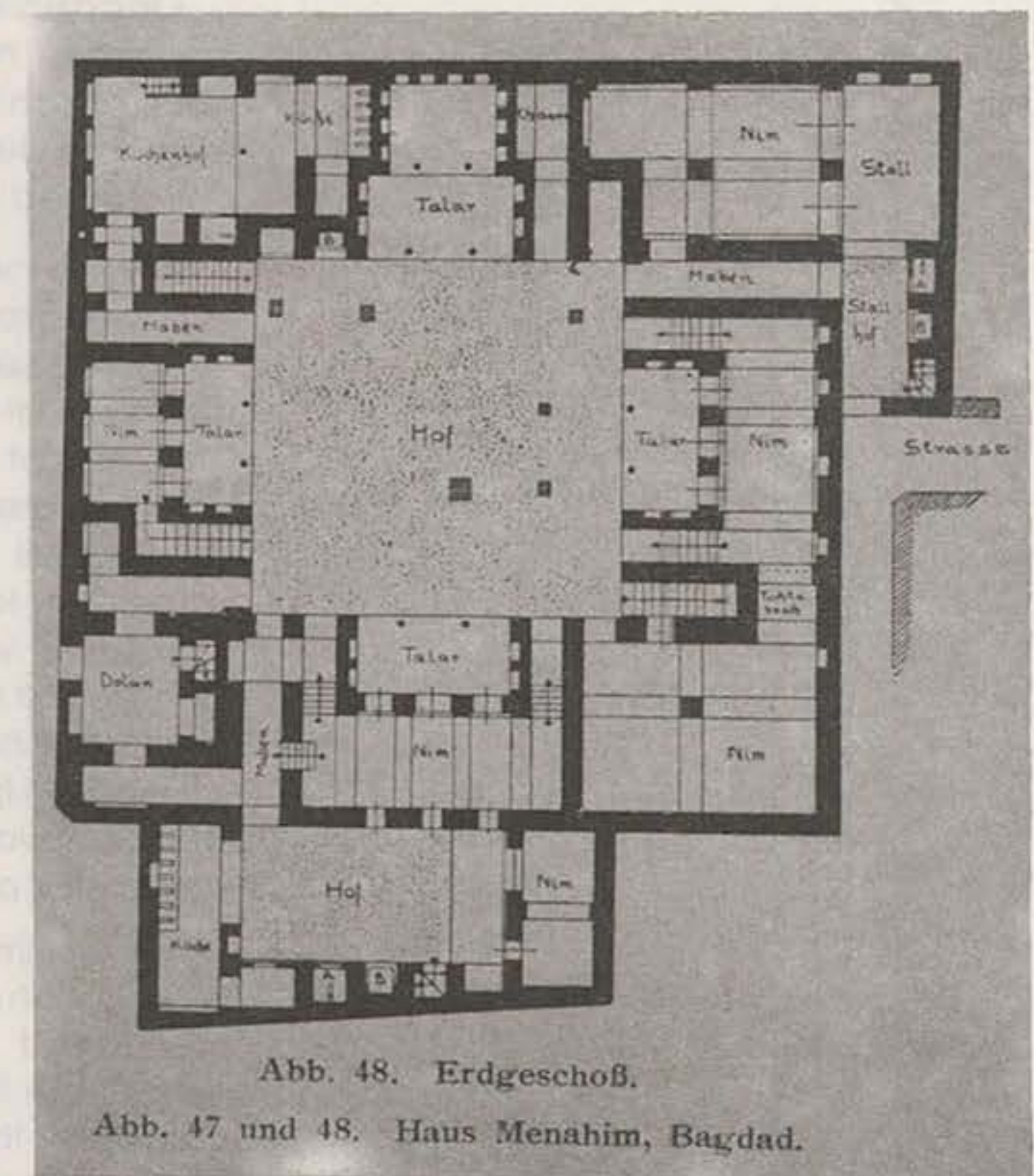


Abb. 48. Erdgeschoß.

Abb. 47 und 48. Haus Menahim, Bagdad.

Al-Bokhari, one of the major Imams of Hadith has devoted a whole chapter for the above mentioned Hadith under the title of "Courtyards".

It should be noted that the prophetic "Hadith" is an obligatory tradition as mentioned in the Holy Kuran in Sura-Al-Negm which encloses the following meanings: "nor does he say of (his own) desire. It is no less than inspiration sent down to him" (SL III, 3-4); and Sura Al-Hashr which encloses the following meanings: "so take what the Apostle assigns to you and deny yourselves that which he withholds from you" (SLIX-7).

Hence, the design of the Islamic courtyard house has evolved from the interior to the exterior. Thus the internal facades were accentuated through the use of different colors, decorations and ornaments around windows and doors. Variant window locations and planes were used within a balanced integrable form. Mass Formation has been achieved through corbels and masses, elaborating a variant figure in harmony with the vertical sections looking onto the court.

The introvert devotion is related to the Islamic inspiration which concentrates upon the fundamental issues rather than their manifestations. The courtyard is actually the focal area of the house the same as the heart in the human being. The Holy Kuran enclosed such a concept in Sura Al-Hujurat which withholds the following meanings: "The desert Arabs say We believe. Say Ye have no faith, but yet (only) say we have submitted our wills to God. For not yet has Faith entered your hearts". (SXLIX - 14).

Occasionally, the question arises as to the Muslim architect's source of this new architectural form, rhythm and balance. Yet, these architectural quotations are not so alien to him considering his deep knowledge of the Holy Kuran which obviously influenced his speculations.

The divine words in the Holy Kuran enclose a great deal of colorful pictures as in Sura Fater which means: "Seest thou not that God sends down rain from the sky? With it we then bring out produce of various colours and in the mountains are tracts white and red of various shades of colour and black intense of hue. And so amongst men and crawling creatures and cattle are they of various colours" (SXXXV, 26-27). The senses are hence attracted towards a magnificent master piece enclosing all creatures within a comprehensive harmonical unity. In Sura Al-Hajr, the words mean: "and the earth we have spread out set thereon mountains firm and immovable and produced therein all kinds of things in due balance". (SXV, 19). Hence the balance concept was mentioned in the Holy kuran denoting this special character of all the created objects on earth.

The Muslim architect has inspired the dynamization and mobility - as an architectural expression from the various pictures mentioned within the Holy Kuran illustrating the descending water from the sky, the sequency of day and night....etc. There is no doubt, the Muslim architect had such a speculative inspiration and as God said in Sura Baqraa that means: "Behold, the

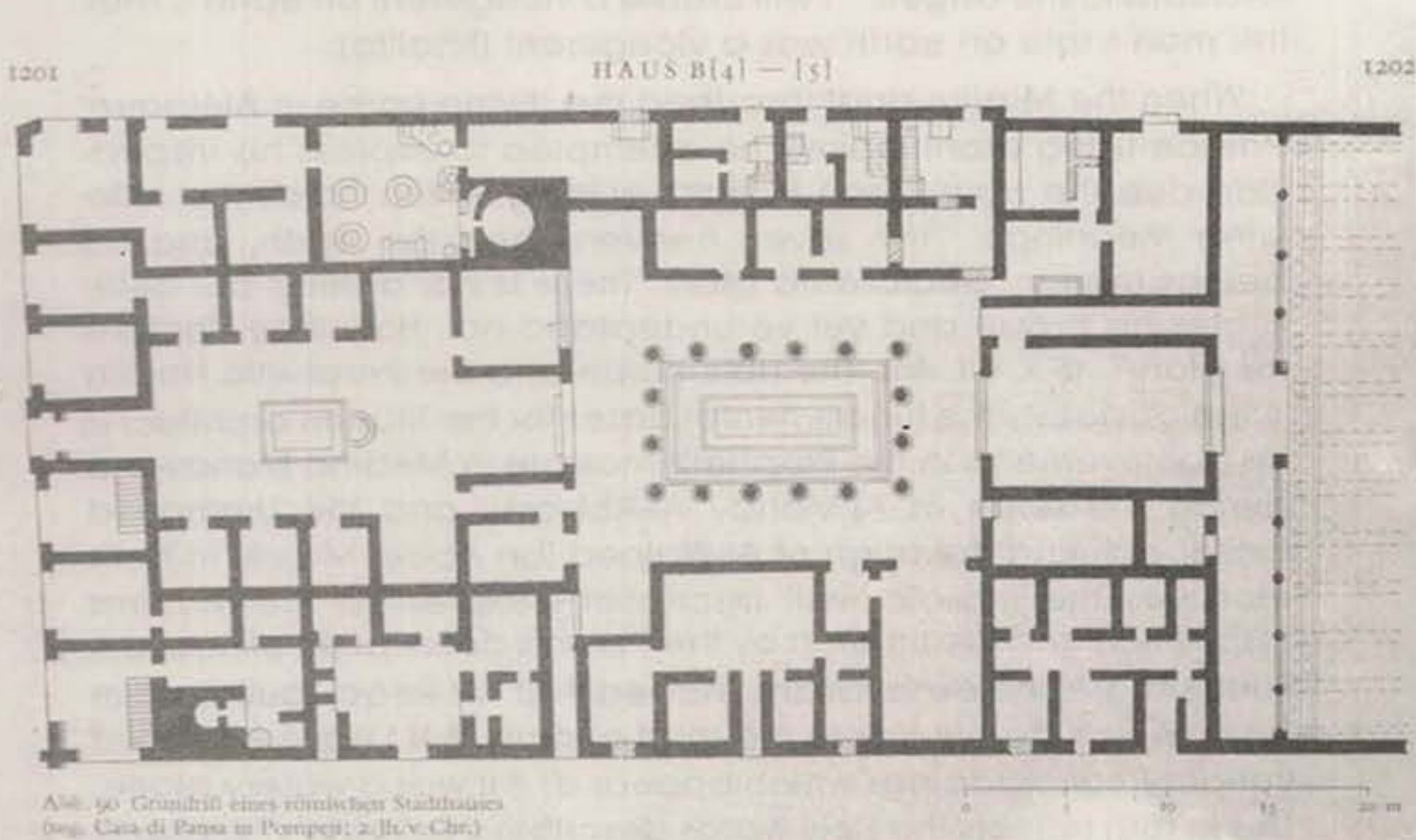


Abb. 90 Grundriß eines römischen Städtchens
(orig. Casa di Pansa in Pompeii; 2. Jh. v. Chr.)

A Prostas house Plan (Greek Architecture).

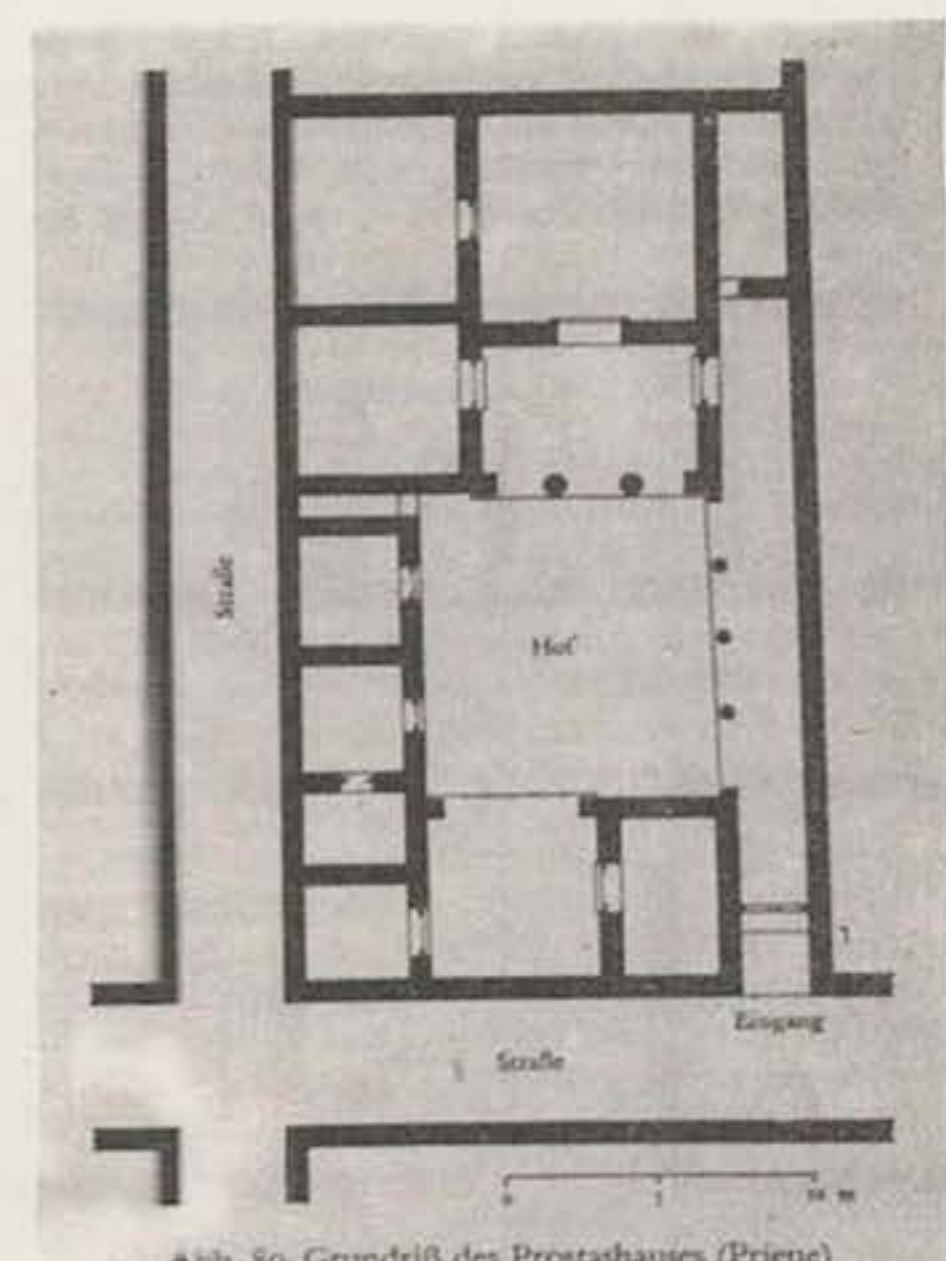
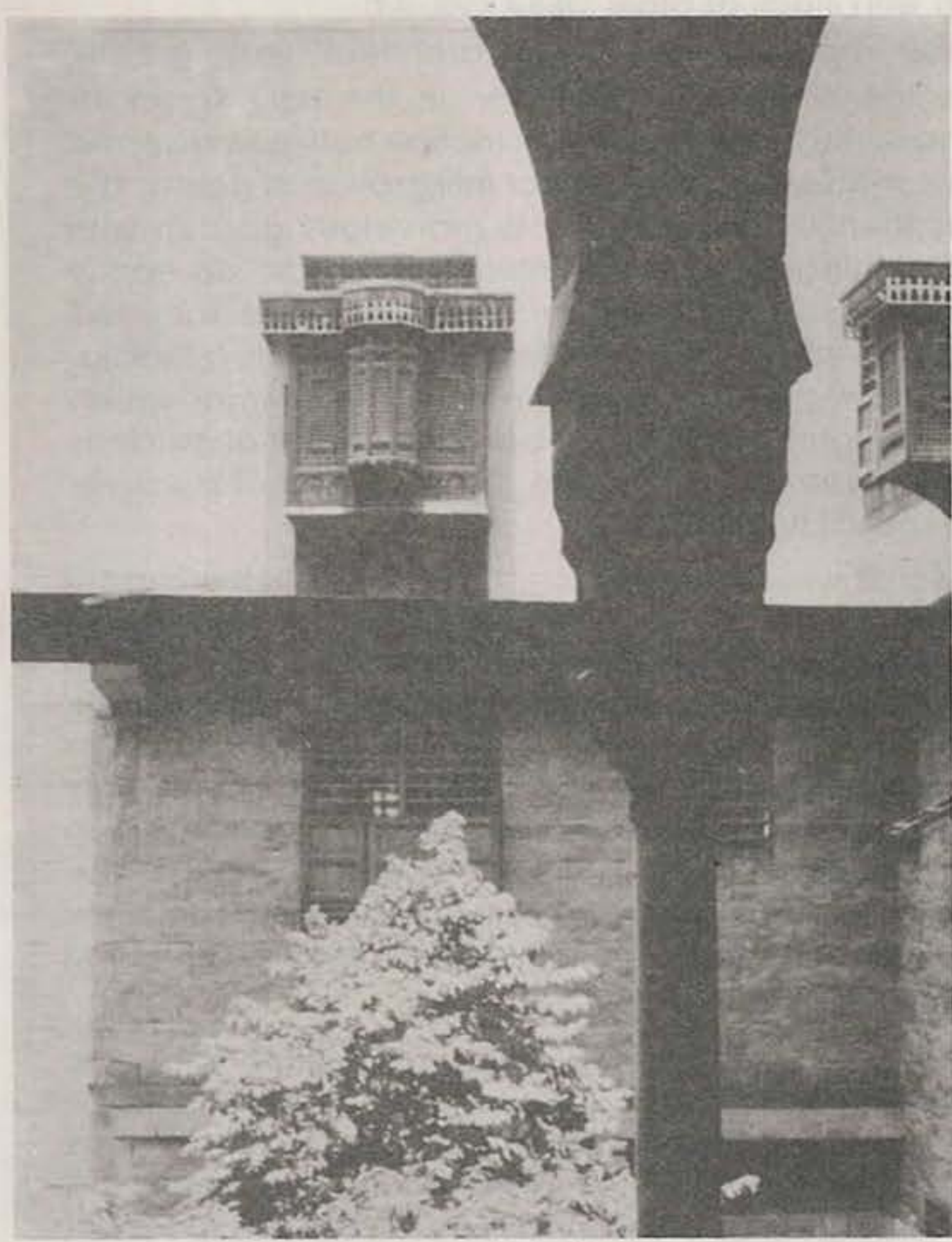


Abb. 89 Grundriß des Prostashauses (Priene)

A Prostas house Plan (Greek Architecture).



- A mashrabiya - Beit Gamal El-Din Al-Dahabi - Egypt

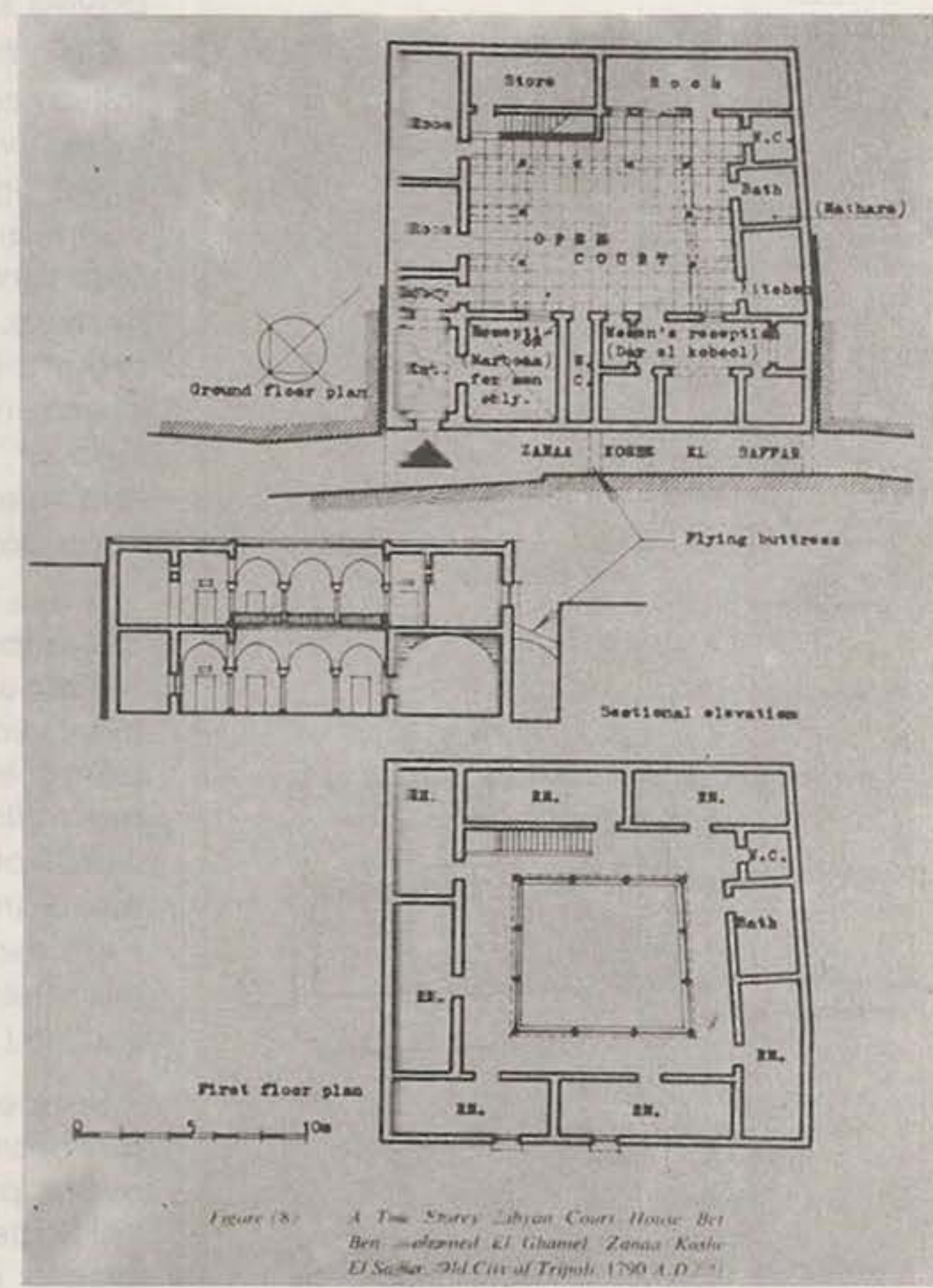


Figure 8: A Two Storey Libyan Court House Bei Ben Mohamed El Ghanniel Zanaa Kasha El Saha. Old City of Tripoli. 1790 A.D.

- A Two Storey Libyan court house - Old city of Tripoli.

lord said to the angels: "I will create a vicegerent on earth". Thus the man's role on earth was a vicegerent (Khalifa).

When the Muslim artist inscribed the divine name in Al-Hamra' Palace using plant leaves, he attempted to express his inspiration due the Holy Kuran in Sura Al-Israa which holds the following meanings: "The seven heavens and the earth, and all beings therein, Declare his glory: There is not a thing but celebrates his praise and yet ye understand not. How they declare his glory". (S X VII, 44). The Holy Kuran and the Prophetic Hadith were obviously the fundamental bases for the Muslim architect in his achievements in the Prophet's mosque in Medina Monawara during the reign of Al-Mahdy Al-Abbassy and the Ummayed mosque-during the reign of Al-Waleed Ibn Abdel Malek. In both mosques the mosaic wall inscriptions expressed the Muslims inspiration and fascination by the Kuran's description of heaven. Furthermore, the excavations showed that "Al-Reqa" buildings in Syria (which date back to the third century A.H.) have enclosed various floor claddings which appear as if it was a watery plane. This in turn reflects the Holy words describing Soliman's Palace in Sura Al-Naml: "She was asked to enter the lofty palace, but when she saw it, she thought it was a lake of water and she (tucked up her skirts) uncovering her legs, He said: This is but a palace paved smooth with slabs of glass" (SXXXVII, 44).

On the other hand, the Muslim architect was greatly influenced by the Heaven's description in the Holy Kuran, its trees, rivers and springs, the sequential motion between day and night, light and shade, and the perfect integration of colors. The courtyard was then developed into a marvelous garden with fountains and running water in an attempt to create an earthy heaven. Similarly new architectural elements were induced around this earthy heaven such as "Maq'ad" which is a loggia. It was inspired from the Holy words in Sura Al-Qammar which means: "As to the righteous, they will be in the midst of gardens and rivers, in an Assembly of truth, in the presence of a sovereign omnipotent" (SLIV, 54-55).

These Holy words were inscribed on the facades of the Loggia of Qaitbey (Antiquity No. 10 - 879 A.H/ 1474 A.D.) and the Loggia of Al-Ghoury (Antiquity No. 66 - 909.910 A.H./ 1503-1504 A.D.). Seated in this Loggia, one could enjoy the cool northern breeze without being exposed to the sun, looking onto the vast garden. This magnificent picture inspired the Muslim architect as in the Holy words of sura Al-Insan which means the following: "Reclining in the Garden, on raised thrones, they will see there neither the sun's excessive cold. And the shades of the garden will come low over them, and the bunches of fruit, there will hang low in humility". (S.L XX VI, 13,14).

Hence, the loggia occupied a unique location and was decorated with different coloured marble as well as decorative oyster pearls. As for the "Takhtaboush" - known in Morroco as "Al-Saqefa", it was a reception hall in the ground floor below the loggia. It was allocated for ordinary visitors. This seems to reflect the class hierarchy mentioned in the Holy Kuran in Sura Al-Zukhruff which means the following: "and we raise some of



Loggia - Beit Gamal
El-Din Al Dahabi - Egypt.



- Loggia - Beit El-Seheimy.



- Takhtaboush - Mussafer Khan - Egypt

them above others in ranks, so that some may command work from others". (S X LIII-32). On the other hand, the reception quarter and the residential quarter are separated from each other to keep the wives and other women out of sight in accordance with the Holy words is Sura Al-Nour which means the following: "and not display their husbands, fathers, their sons, their husbands' sons, their brothers or their brothers son,...."

This unique architecture reflects the pure Islamic identity. This Islamic architecture has procured its bases and fundamental concepts from the Islamic Shari'a (legislation) and it inspired its decorations from the Holy description of the Cosmos. Regrettably, the contemporary architecture is not an Islamic architecture but a Muslim architecture having no relation whatsoever with the Islamic concepts. Actually the contemporary architecture has been based upon western trends (since the nineteenth century). The Muslim architect has parted his Islamic values and heritage calling for development, within the European civilization. Consequently, a large gap existed between the man and community in which the Muslim lives.

This is not a call for a retreat to the medieval architecture, but an accentuation of the Islamic identity in the contemporary architecture through the use of old architectural elements and their induction within a new architectural language appropriate to the present time. The Islamic religion is an extended religion that suits every time and place, its regulations are always the source of inspiration and are most appropriate to man in every spot in the world.

Bibliography

1. Badawy, A.: History of Egyptian Architecture, vol. I (Cairo 1954) 61.
2. Op. cit. II (University of California Press 1966) 24.
3. Op. cit. II/45, Fig. 8, 9.
4. Op. cit. III (University of California Press 1968).
5. Op. cit. 1/4, 14.
6. Giedion, S.: The Eternal Present. The Beginning of Architecture. Bolling series XXXV, 6.II. Pantheon Books. The A. W. Mellon lecture in fine Arts (Washington 1957) 188 - 9, Plan 104/page 186.
7. Lexikon der Alten Welt (Switzerland 1965) Abb. 86/page 1198. For more information on Greek Architecture Rider, B.: Ancient Greek Houses (Chicago 1964).
8. Op. cit. 1196 - 1208.
9. Op. cit. 1196 - 1208.
10. Op. cit. 1208. Further literature on Roman Architecture:
 - Swoboda, K.: Römische und Romanische Paläste (Wien 1969) 2.
 - Müller, w. + Vogel, G.: DTV - Atlas zur Baukunst I. Baugeschichte von Mesopotamien bis Byzanz (München 1974).
 - Percival, J.: The Roman Villa. A Historical Introduction (London 1976).
 - Mckay, G. A.: Römische Häuser, Villen und Paläste. Atlantis Ed. Antike Welt, Raggi Verlag (Feldmeilen 1980).
11. Sarre, F.: Die Kunst des Alten Persien (Berlin 1922). Pope, A.: Persian Architecture (New York 1964).
12. Kriser, K. + Diem, W. + Hajer, H.: HAUS. Lexikon der islamischen Welt II (Stuttgart 1974) 19 - 25.
13. Ardalan, N. + Bakhtiar, L. F. The Sence of Unity. The Sufi Tradition in Persian Architecture (The University of Chicago Press 1973): 68. Grabar, O. The Alhambra (Great Britain 1978) 160.

14. Lamei Mostafa, S.: Al-Madina Al-Munawwara. Urban development and Historical Building (Beirut 1981) 52 - 62.
For more literature on Muslim Domestic Architecture:
- Reuther, O.: Das Wohnhaus in Baghdad und anderen Städte des Irak: Beiträge zur Bauwissenschaft, Heft 16 (Berlin 1910).
 - Pauty, E: Les Palais et les maisons d'époque musulmane au Caire. Mémoire publiées, Par les membres de l'institut français d'archéologie orientale LXI (Le Caire 1932).
 - Creswell, K. A. C.: Early Muslim Architecture; I (Oxford 1932); II (Oxford 1940). A Short account of Early Muslim Architecture. Penguin Books (London 1958). Early Muslim Architecture 1/2 vol (Oxford 1969).
 - Creswell, K. A. C.: Muslim Architecture of Egypt; I (Oxford 1952); II (Oxford 1959).
 - Sinjab, K.: Das Arabische Wohnhaus des 17. bis 19. Jahrhunderts Syrien. Unpubl. Disst. T. H. Aachen 1965.
 - El - Dars, Z. + Said, Z.: Libyan Court Houses. Bull. of the Faculty of Engineering, vol.I (Libya 1972) 191 - 232.
 - Lezine, A.: Trois palais d'époque Ottomane au Caire. MIFAO, XCIII (Le Caire 1972).
 - Revault, J. + Maury, B.: Palais et Maisons du Caire du XIV^e au XVIII^e Siècle; XVII, vol. I (Le Caire 1975); C, vol. II (Le Caire 1977); CII, vol. III (Le Caire 1979).
15. Creswell, K.A.C.: Early Muslim Architecture I, vol. I (Oxford 1969).
16. "The factors that have produced the tropical Arab house are partly climatic, partly social and partly religious". (Briggs, Muhammadan Architecture in Egypt and Palestine (Oxford 1924) 145. Courtyards act as air wells for cold air during the night. Its temperature is often lower than the air temperature of the roof. The courtyard is cooler than the roof by a max. of 4° - 7° C. It is the result of an air movement between the court and narrow streets surrounding it. (Nour, M.: Factor underlying traditional Islamic urban design. Alam Albena XVI (Cairo, Nov. 1981) 4 - 5. Also central square or rectangular courts are good protection against the bulk of wind blown dust. (Lippsmeier, G.: Tropfenbau (München 1980) 65 - 66.
For more literature about climatic effects on buildings:
Olgyay, V.: Design with climate (Princeton University Press 1973).
Aronin, J.: Climate and Architecture (Reinhold publ. New York 1953).
17. Hassan, F.: Planning and Building in the Arab tradition. The Village experiment at Gurna. Ed. Berger; The New Metropolis in the Arab World (Bombay, Allied publ. 1963) 218.
18. Encyclopaedia Britannica, micropaedia VI (1982) 864.
"Microcosm: a philosophical term designating man as being a "little world" in which the macrocosm, or universe, is reflected.
19. Ismail, A.: Origin, Ideology and Physical Pattern of Arab Urbanization. Unpubl. Disst., Faculty of Architecture, University of Karlsruhe (T.H. 1969) 1680.
20. Bassyoni, T. "Mula'amat Al O'mara Al Masajedy Lel O'mara Al Mesriya Al Mu'asra". M.A Thesis (un publ.) Faculty of Engineering - Architecture Dept. Cairo Univ (1982) 33. ملائمة العمارة المساجدية للعمارة المصرية المعاصرة .
21. Ardalan - Bakhtiar: Op. cit., page 68.
22. Al-Bukhary (died 250 A.H./870 A.D.), Sahih Al-Bukhary (Dar Al-Sha'ab - Cairo) صحیح البخاری .
Part III/173, Part VII/63. Muslim (died 261 A.H./875 A.D.) Sahih Muslim (Dar Al-Sha'ab - Cairo) Part IV./832, Part V 4-5 صحیح مسلم .
23. "One of the building types adopted in early Islamic period was rapidly abandoned, because it did not correspond to the main stream of Islamic needs. One can observe how a new culture picked and organized units from variety of spatial and functional origin in order to express its own needs. (Grabar, O.: The Formation of Islamic Art (Yale University Press 1973) 152 - 3.
- 24.

لقد احتوى هذا الباب على رواية للسيدة عائشة بنت أبي بكر ، بأن والدها أقام مسجداً على جزء من حوش داره بمكة المكرمة قبل الهجرة . وعلى هذا فيكون أول مسجد

أقيم في الإسلام بالإضافة إلى ارتباط المسجد والمنزل في تكوين معماري واحد .
(البخارى . صحيح البخارى (دار الشعب) الجزء الثالث / ١٧٣) وربط المنزل
بالمسجد نجد له مصدراً في القرآن الكريم في السورة العاشرة (يونس) الآية ٨٧ :
« واجعلوا بيوتكم قلة وأقيموا الصلاة وبشر المؤمنين »

25. Wiet, G.: Cairo. City of Art and Commerce. Trans. Feiler, S. (University of Oklahoma Press 1964) 88 - 9.
26. Qotb M. "Manhag Al-Fan Al-Islami" Dar Al-Shorouq - Beirut 1981/118.

منهج الفن الاسلامى .

27. Ibid / 90.
28. Ibid / 146.
29. Lamel Mostafa, S.: Op. cit., 70.
30. Grabar, O.: Die Entstehung der Islamischen Kunst (Köln 1977)
31. EITENGHAUZEN, R. "Fan Al-Taswir End Al-Arab" Translated by Eissa Solyman -Iraqi Ministry of Information - Baghdad 1973 / 22 - 28.
32. Lehrman, J.: Earthly Paradise. Garden and Courtyard in Islam. (Thams and Hudson, London 1980).

فن التصوير عند العرب :

33. Grabar O: The Alhambra (Great Britain 1978) 129.
34. The Memluke documents showed the existnece of three types of Miq'ad, Coptic Miq'ad, Turkish Miq'ad - The latter differs form the former in design and openings. The third type is the Qamari Miq'ad located on the upper roof of the house) Mohamed Al-Mesry: "Al-Am'aer Fi Wathaiq Al-Ghuri Al-Gadeda". Unpublished M.A. Thesis - Faculty of Arts - Antiquities Dept. -Sohag - Assiut Univ. 1982.

العمائر في وثائق الغورى الجديدة بوزارة الأوقاف .

35. Van Berchem, M.: Matériaux pour un Corpus Inscriptionum Arabicarum, premiere partie: Egypt I. MAFC XIX/III (Le Caire 1894 - 1903) No. 303/438; No. 391/578.
36. The second type of iconographic inscription consist of poetry.: Grabar, O.: The Alhambra (Great Britan 1978) 100.
37. For the meaning of Takhtaboush
Dozy, R.: Supplément aux Dictionnaires. Arabes I (Paris 1927) 142; Lane, E. W.: Arabic - English Lexicon I (New York 1955) 272-298.
38. Magazine of "Mogtam'e wa Omran" Third edition - Tunis -May 1983/53.

مجتمع وعمران .

39. Briggs, M.: Op. cit., 150.
40. The Holy words within the text are translations of the meanings of the Holy Kuran taken from "The meaning of the Glorious Kuran" - vol I,II - Dar El Kitab Al Masri - Dar Al,Kitfab Allubnani.

CAIRO - THE OLD AND THE NEW CITY

REPRESENTATIVE OF CAIRO GOVERNORATE

Introduction

Cairo, the capital of Egypt is one of the unique cities in the whole world that has stood for a thousand years enclosing many significant monuments and antiquities that survived along the ages. Within sight of the modern city of Cairo, can be seen a long procession of successive civilizations, Pharonic, Greek, Roman, Early Christian and Islamic. In the Cairo of today, the capital's rapid expansion is quite sound and clear.

Though the name Cairo - (Al-Qahira) was called after the fatimid city, yet today it is so called upon the different capitals of Egypt along the ages starting from "UWN" (known by the greeks as Heliopolis and known today as Al-Matariya). "UWN" was the first capital of Egypt, 4245 B.C.; later, and very near to the site king Mena established his capital Menf. The Romans then built the Babylon fortress at the north of which was later established the first Islamic capital by Amr Ibn Al'As in 640 A.D. / 21 A.H.

When the Abbasids took over the caliphate in 750 A.D, they erected a new town some what to the north east of Fustat extending to the Yashkur hill. It was now called Al-Askar and there the barracks, the congregational mosque and the governor's palace were built. Later Ahmad Ibn Tulun built a new capital and called it Al-Qat'ae. Al-Qahira or Cairo was later founded in 950 A.D. (358 A.H.) as a new capital for Caliph Al-Moez Ldin Allah. Many ages crossed by during which Cairo grew northward and extended as one capital, linking the different locations of the old capitals, Babylon, Al-Fustat, Al-Askr, Al-Qat'ae and finally Cairo.

In the middle ages, Cairo was considered the biggest town in the whole world as described by many historians and nomadics: In the 10th Century a nomadic known as Al-Maqdesy wrote about Cairo: "The Fustat of Egypt is similar to old Baghdad. I cannot recognize any more glorious city in the Islamic world". Later, in the 15th Century Al-Bondoki Bilony said "Cairo is the biggest city in the world as much as we know of it".

Nowadays, Cairo is one of the biggest cities in Africa. According to the United Nations 'latest population statistics, Cairo comes in the sixth position amongst the most over crowded cities in the world, behind Tokoyo, New York, Shanghai, Moscow and Bombay.

The foundation of the Islamic city and its development

- Al-Fustat

It was established in 651 AD (21 A.H) by Amr Ibn Alas to the north of the roman Babylon Fortress and called it Al-Fustat (The Tents). His choice for the new city's location was quite sound geographically and militarily; being at the apex of the Delta, gave the site a dominating position for both offence and defence. This site had a direct contact with the surrounding agricultural land providing food supplies. To the east, Al-Muqattam hills provided a natural shield, the lower slopes of which protected the city from the Nile flood. There was also no danger from the capital's future expansion whereas the north eastern areas were left open for further extension. After establishing the new capital, Amr Ibn Al-As started building his mosque, the first mosque in Egypt.

- Al-Askar

When the Abbasids took over the Caliphate in 750 A.D, they erected a new city somewhat to the north-east of Al-Fustat on an area hitherto known as Al-Hamra Al-Quswa and was called Al-Askar (The Cantonments). At this location, Saleh Ibn Ali built the governor's palace (Dar El-Emarah) and the barracks. Later, Al-Fadl Ibn-Saleh Ibn Ali built the congregational mosque at the centre of the new capital. In later days, Al-Askar extended upto Al-Fustat forming one whole big city in which successive Governors lived. Although Al-Askar remained a capital of Egypt for more than a century (130 A.H. - 256 A.H.) yet not much was left behind as remains or monuments.

- Al-Qat'ae

In 870 A.D. (256 A.H.) and after Ahmad Ibn Tulun was set out as a Governor of Egypt, he chose the hill of Yashkur to build his new royal capital and called it Al-Qat'ae (The Words) declaring himself as independent from the Abbasid caliphate in Baghdad. Al-Qat'ae was to be the first independent Islamic Capital in the Nile Valley.

When Ahmed Ibn Tulun planned his new city, he was greatly influenced by Samarra (Iraq) - where he was brought up before he moved to Egypt. Both cities were divided into distinct quarters, each allocated to some particular group distinguished by race or occupation. Hence came the name Al-Qat'ae after the new foundation. At the centre of the new city, Ibn Tulun built his famous mosque that still stands as one of the most spacious mosques in Islam. The Iraqi architectural influence could be recognized in Ibn Tulun's mosque and all other surviving Tuluni monuments.



Minbar of Soliman Pasha Al-Khadem during restoration.



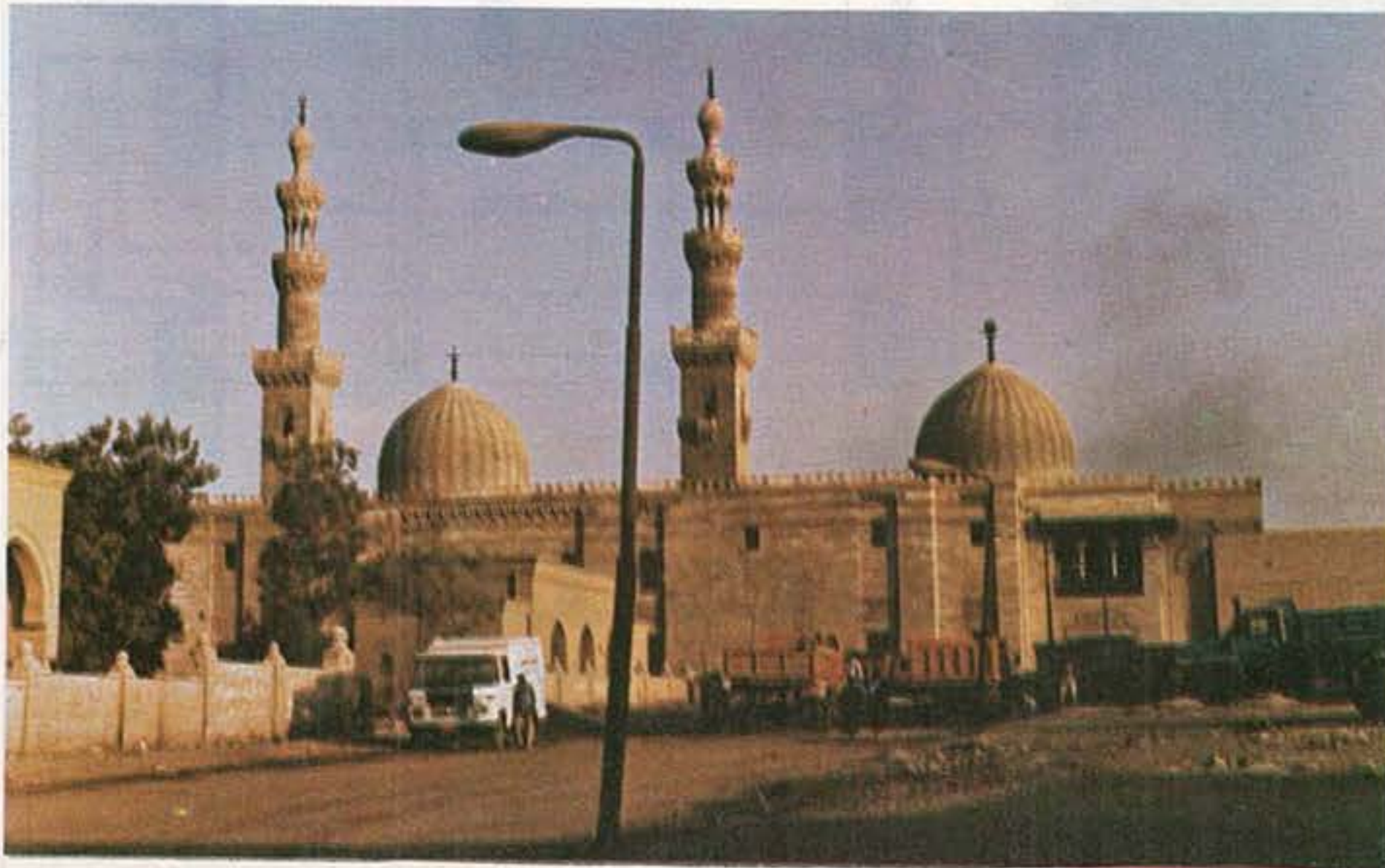
- Mosque of Mohamed Ali.



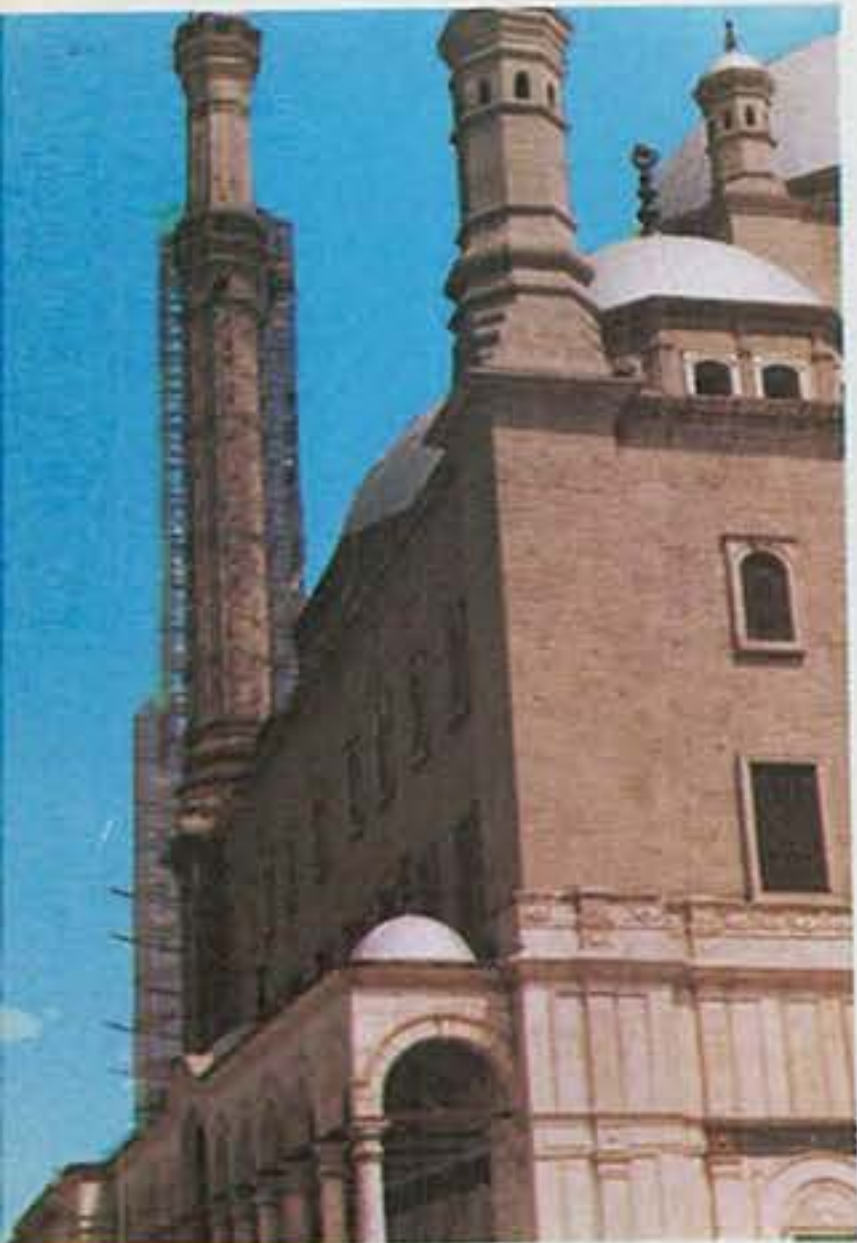
- North Western Facade for mosque and Khankah of Farag Ibn Barqouq.



- South Eastern Facade of mosque and Khankah of Farag Ibn Barqouq.



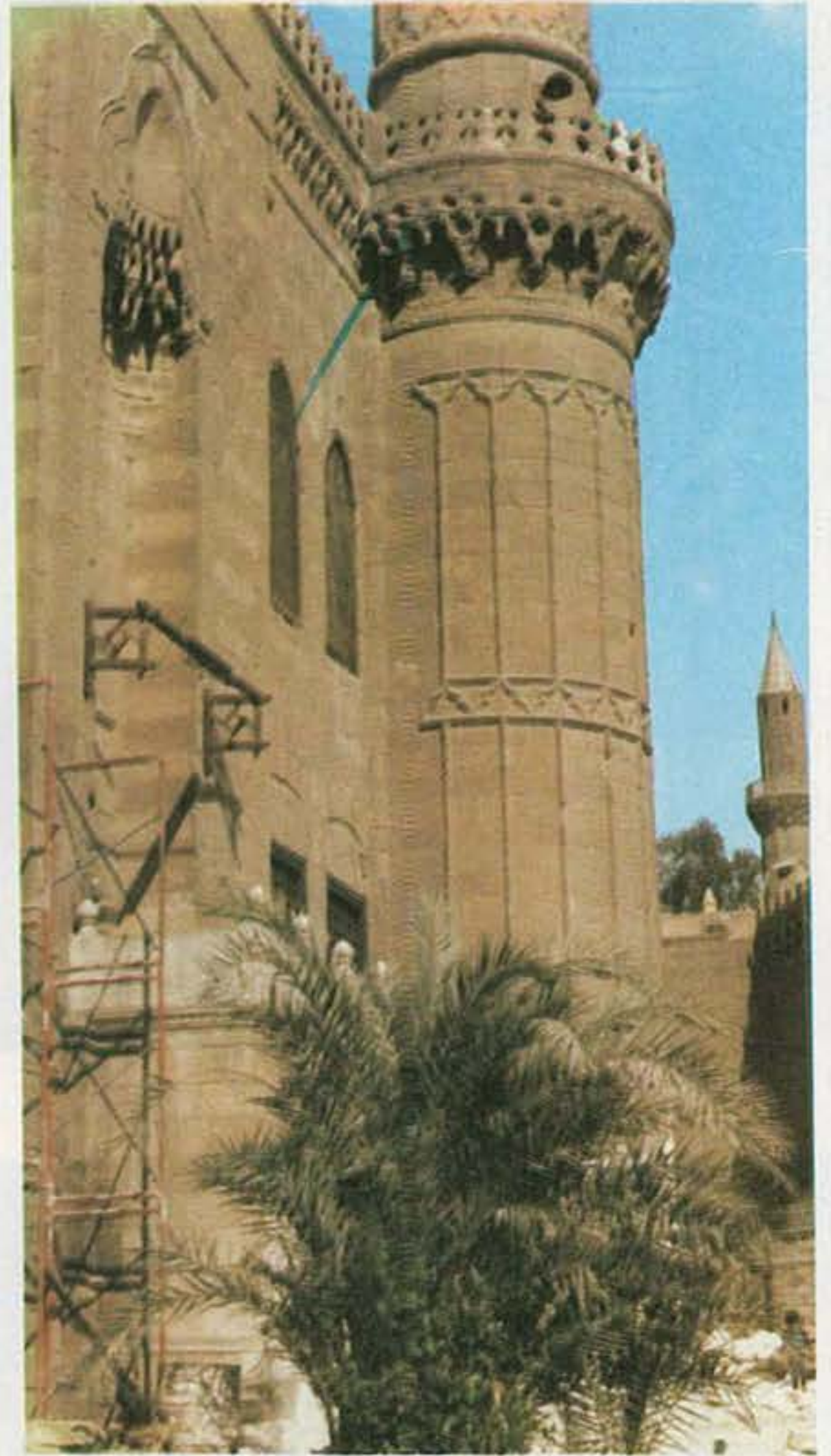
- Northern Facade for mosque and Khankah of Farag Ibn Barqouq before restoration.



- The Restoration of Minaret of Mohamed Ali mosque.



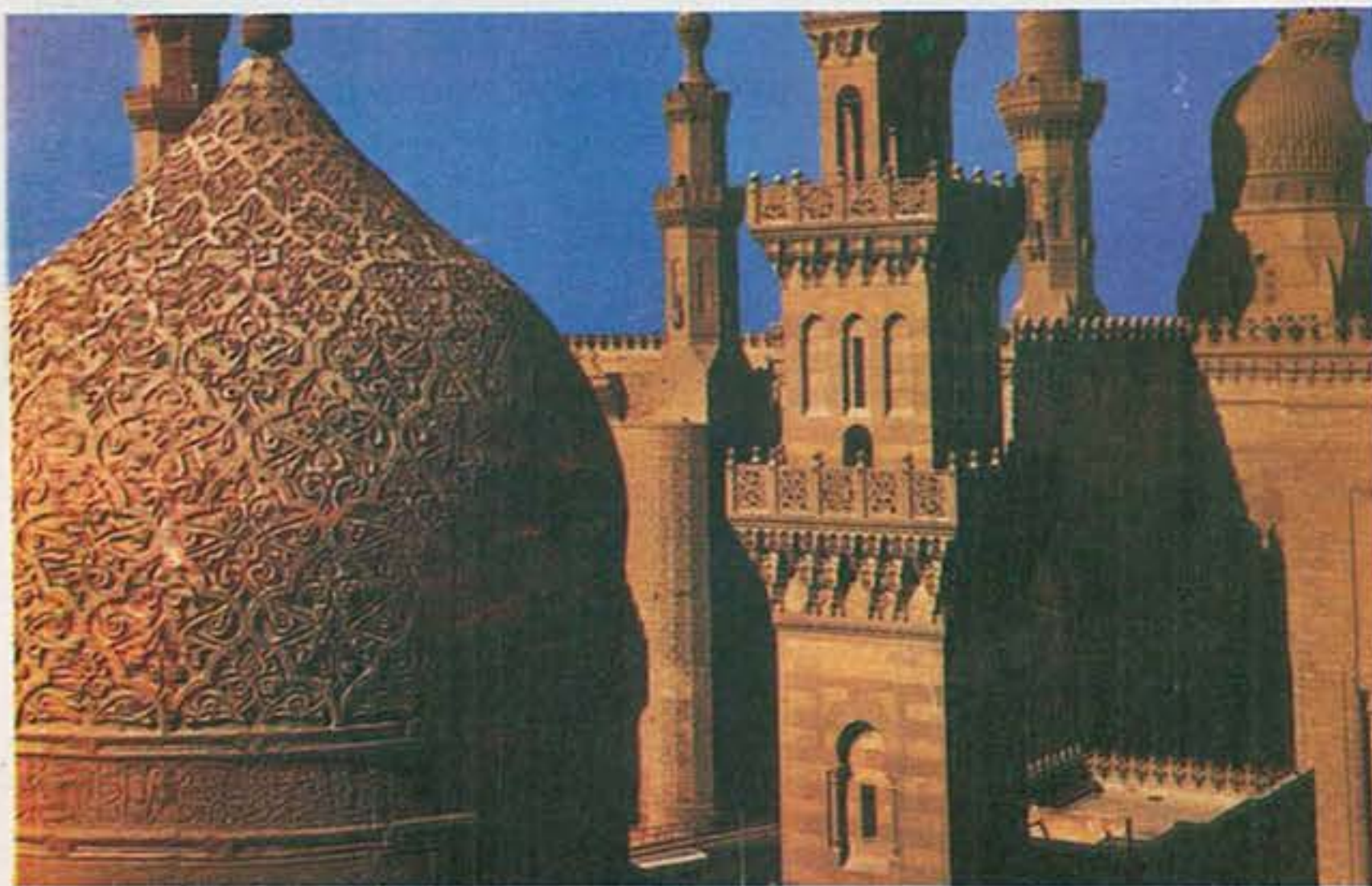
- Clock Tower
- Mohamed Ali mosque.



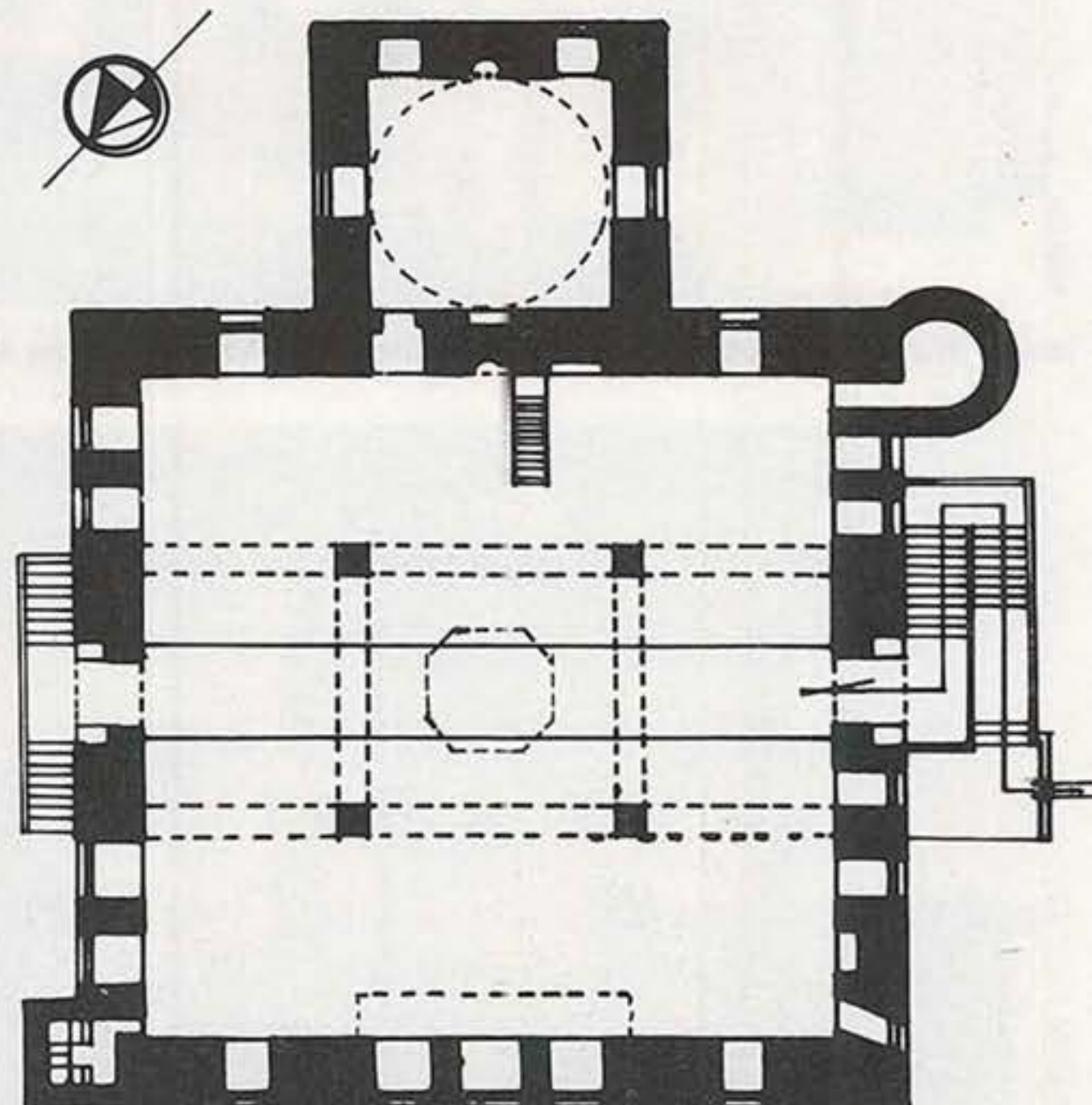
- Al-Mahmoudeya mosque during restoration



- Al-Azhar Square



- The minarets of mosques in the Citadel area.



- Plan of Al-Mahmoudeya mosque - Castle of Salah Al-Din (979 A.H./1567A.H.).

- Cairo (Al-Qahira)

Cairo (Al-Qahira) was founded in 969 A.D. (365 A.H) by Gowhar Al-Seqly, the commander of the Fatimid Caliph El-Moez Ldin Allah. When the new city was established, it occupied an area of 340 acres, in the form of a square each side of which was 1200 yards and was surrounded by a fortified wall. Seventy acres were devoted to the Caliph's palace.

Cairo was surrounded to the east by Al-Muqattam hills, while under its west wall ran a canal (Al-Khalig Al-Masri) from the Nile. Its southern wall extended from Bab Zuweila to Al-Muqattam hills at the east, while the northern wall extended from Bab El-Sah'ariya at the west side uptill Al-Muqattam hills through Bab El-Futuh and Bab El-Nasr.

When Gawhar Al-Seqly established his new capital, he had no intention of building a great metropolis but only a fortified centre for the new Caliphate. This enclosure was designed to contain residents for the Caliph, his household and his officials, and barracks for his army-And so for some time it remained a military city with palaces, government offices, stores and the treasury. Later, in 363 A.H. the Fatimid Caliph, Al-Moez Ldin Allah came from Morroco and took up his residence in the new city with his family. Cairo, then became the capital of an empire. It was a royal city, no one could enter it without a special permit and in definite times.

The newly generated city started to grow gradually until it reached the old site of Fustat, by then it was the biggest Islamic town in the medieval ages. The wall built by Gawhar El-Seqly was later perished and nothing was left from it. In that wall, there opened eight doors, two on each side: On the northern wall there were Bab El-Nasr and Bab El-Futuh and these differ from the ones built by Badr El-Gammali. On the eastern wall, there are two doors Bab Al-Barqeya, Bab El-Qarateen. The former lies below Al-Barqeya hills that were named after some soldiers who came from Barqa (Libya) with Gawhar El-Seqly's army. Bab El-Qarateen lies to the west of Bab El-Mahrouq. On the southern wall lies Bab Zuweila and on the western wall lies Bab Sa'ada and Bab Al-Qantra on the Egyptian Gulf (Khalig). Several historians described the Fatimid Cairo in their writings, its houses, palaces, mosques, markets (suqs)...etc. When Nasri Khisro arrived to Egypt on 439, A.H. the wall built by Gawhar El-Seqly was already demolished. Later, at the beginning of Caliph Al-Mustanser's era, his minister Badr El-Gammali built a new wall enclosing the city and its latest extensions. The new doors were named after the old doors. Nowadays, many parts of Badr El-Gammali's wall are still standing demonstrating the actual form of the wall. Bab Al-Futuh and Bab Al-Nasr are still existing on the northern wall as well as Bab Zuweila at the southern wall showing a wonderful example of the military architecture of the medieval ages.

When Salah El-Din Al-Ayyoubi became Governor (Sultan) of Egypt, one of his greatest achievements was the citadel which he built on Al-Muqattam escarpment to be the headquarters of his new government and then he built a new wall to enclose the citadel together with the four ex-capitals of Egypt within one

enlarged metropolis. Salah El-Din died before completion of the wall, but his nephew king El-Kamel accomplished it in 614 (A.H). Today, some parts of the Salah El-Din wall are still existing.

The Cairo of today

Although the name Cairo was first called after the Fatimid city It is now called after all the capitals of Egypt along the different ages, whereas uptil now and after a thousand years of its establishment the same dominating position at the apex of the Delta, is still the capital of Egypt.

The physical development strategy for metropolitan Cairo uptill the year 2000

The population of greater Cairo region:-

- In 1982, the population in the Greater Cairo Region reached 9.9 million pers. constituting 22% of the gross population of the country and 43% of the total urban population. The annual population increase was estimated to be 300,000 pers.
- The populated areas in Greater Cairo could be classified into three main regions:-
 - a) The major urban mass defined by the city of Cairo and Shoubra El-Kheima. In 1982, this region held a population of 8.6 million pers.
 - b) Six junior cities: Al-Hawamdeya, Al-Badrashien, Osiem in Giza governorate and Al-Khanka, Qalyoub, Al-Qanater Al-Khairya in Qalyoubia governorate. In 1982, this region held a population of 300,000 pers.
 - c) Smaller villages within the agricultural land in the region and its population was estimated to be 1 million pers.

Natural Increase In Greater Cairo's population.

During the period from 1966 to 1976, the natural increase in population in Greater Cairo region reached 2.4% and it increased to 2.8% during the period from 1976 to 1981.

Internal migration to the region.

The internal migration to Greater Cairo region constituted 35% of the total increase in the region's population during the period from 1935 to 1965. This ratio later decreased to 10% during the period from 1966 to 1976, yet the latest statistics indicate that this percentage increased once again during the last five years due to the increase of economic growth rates in the region.

Variation in population distribution in the region:-

- There is a considerable increase in population in old housing areas in Giza and old Cairo accompanied by a slight decrease in population in northern Cairo and northern Giza areas.

Objectives of the planning strategies for the region:-

These Objectives are divided as follows:-



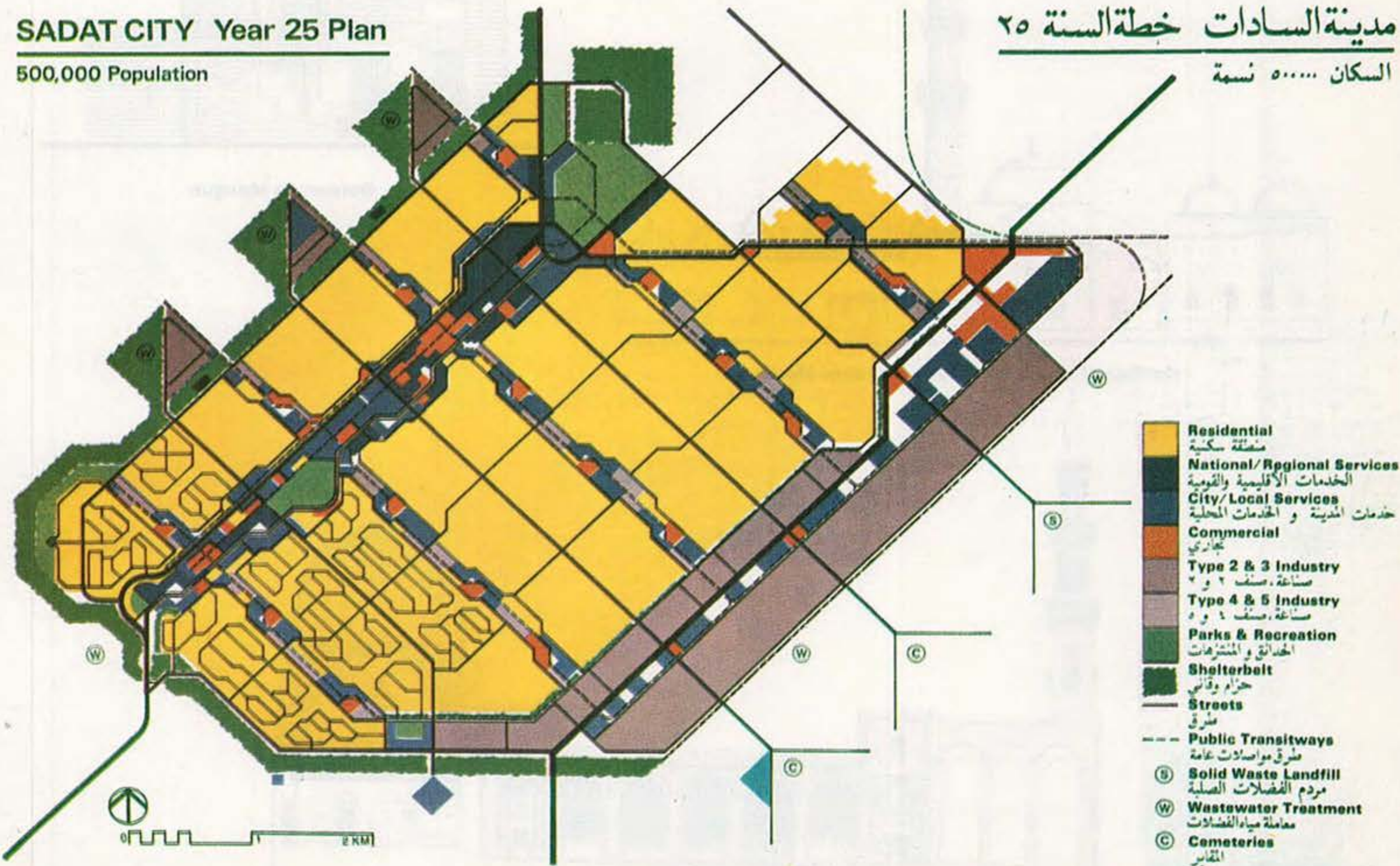
- Master Plan of Tenth of Ramadan City.

SADAT CITY Year 25 Plan

500,000 Population

مدينة السادات خطة السنة ٢٥

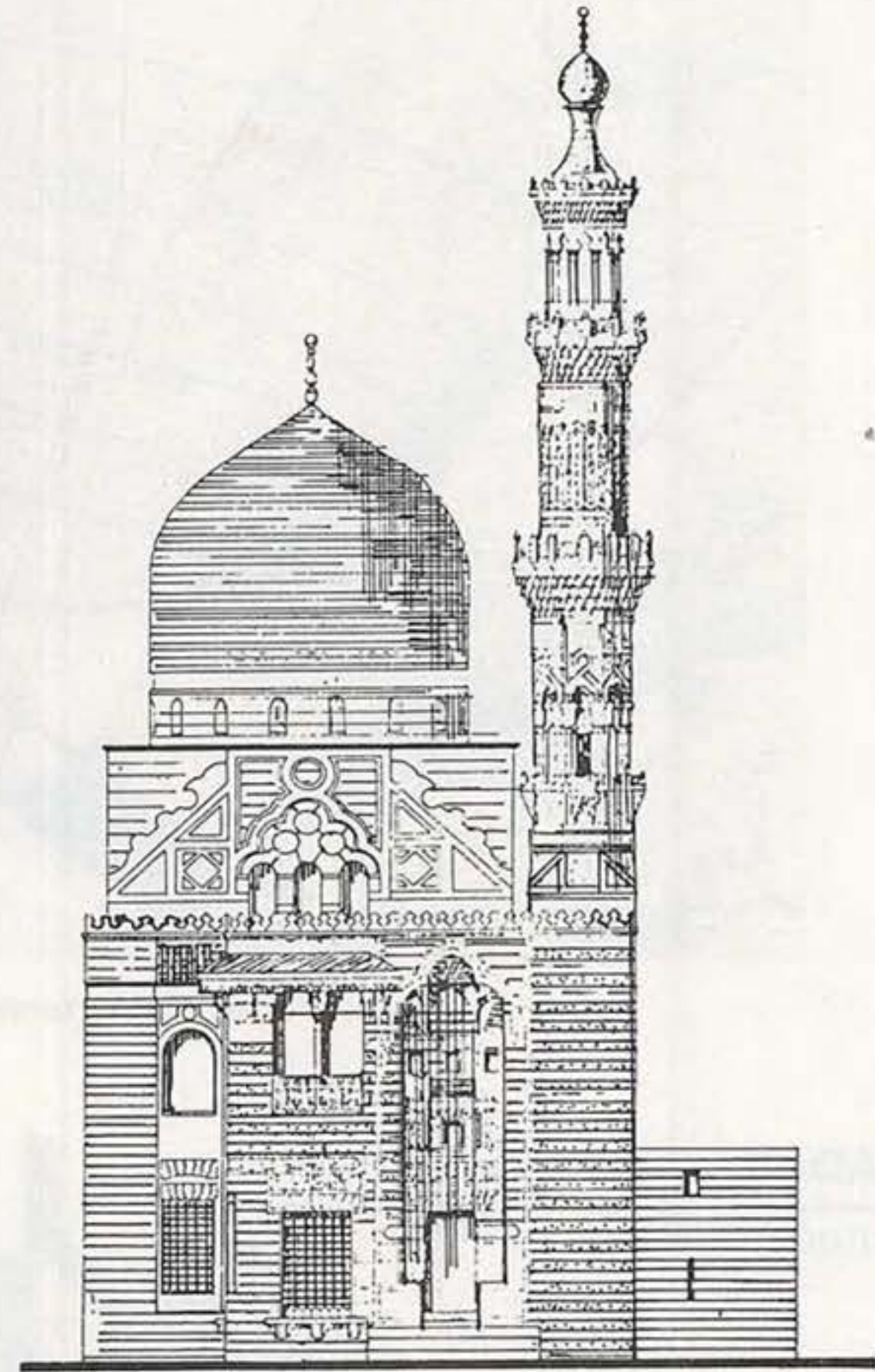
السكان ٥٠٠٠٠٠ نسمة



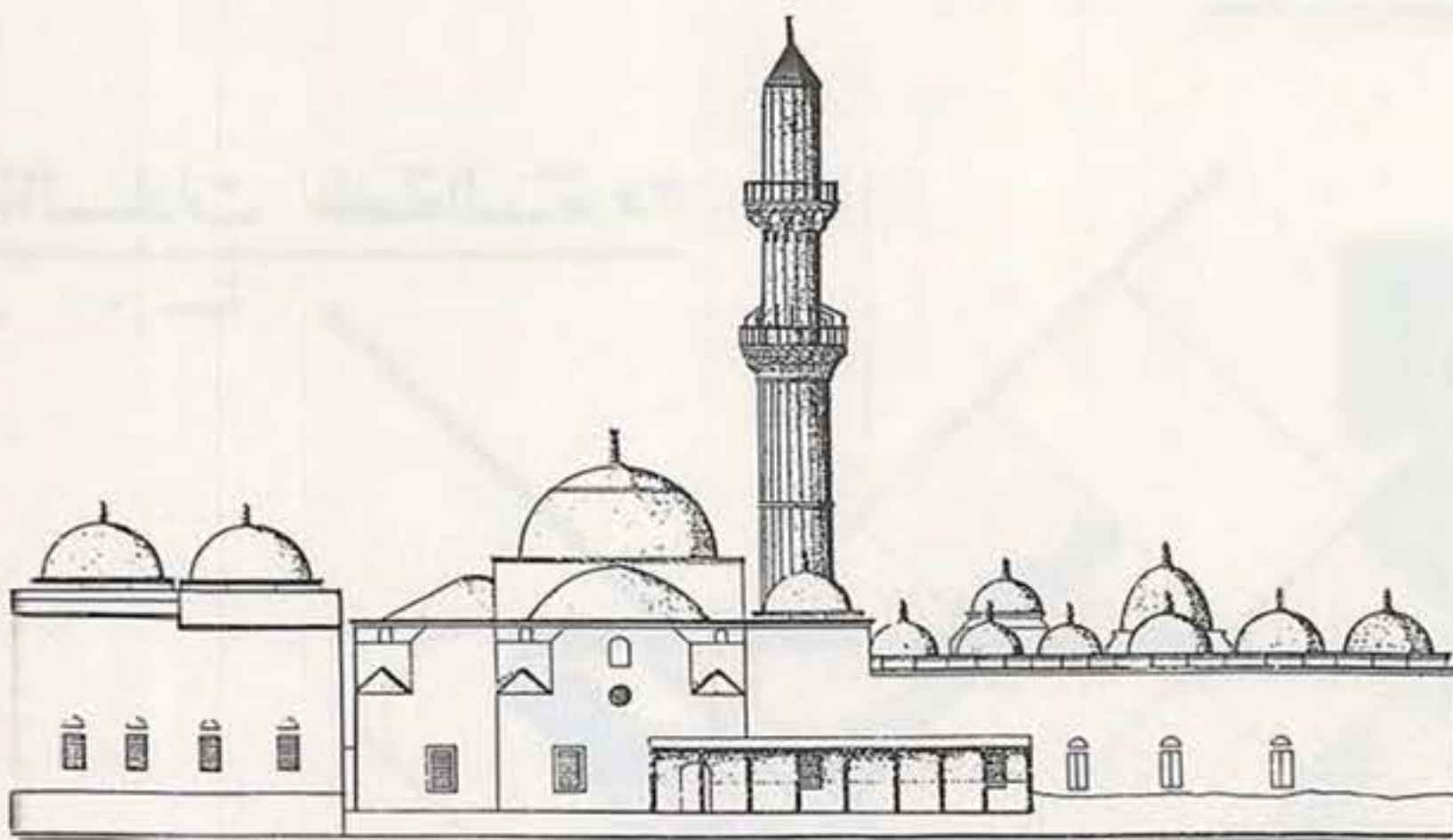
- Sadat City - Year 25 Plan.



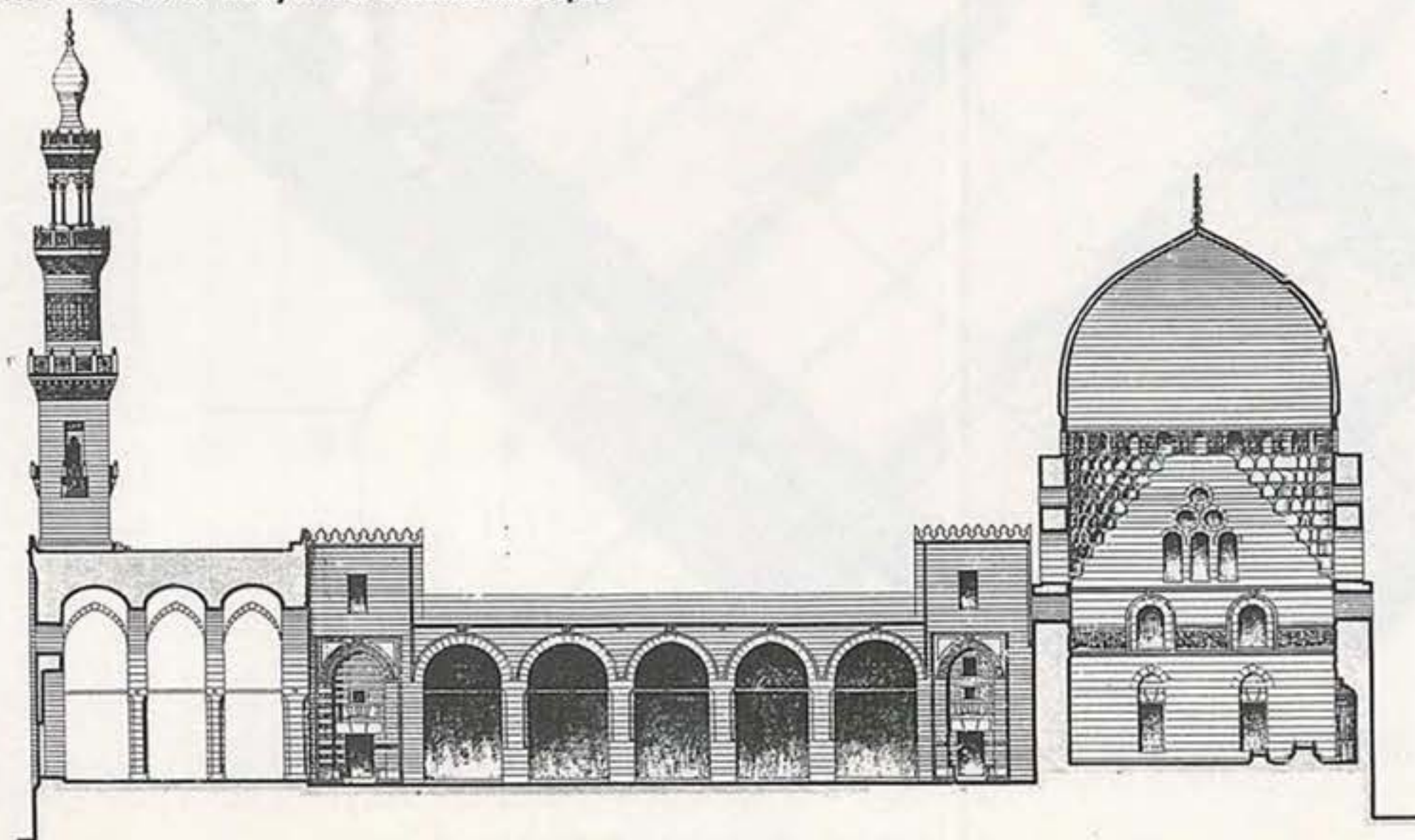
- Hilton Hotel, T.V. Building



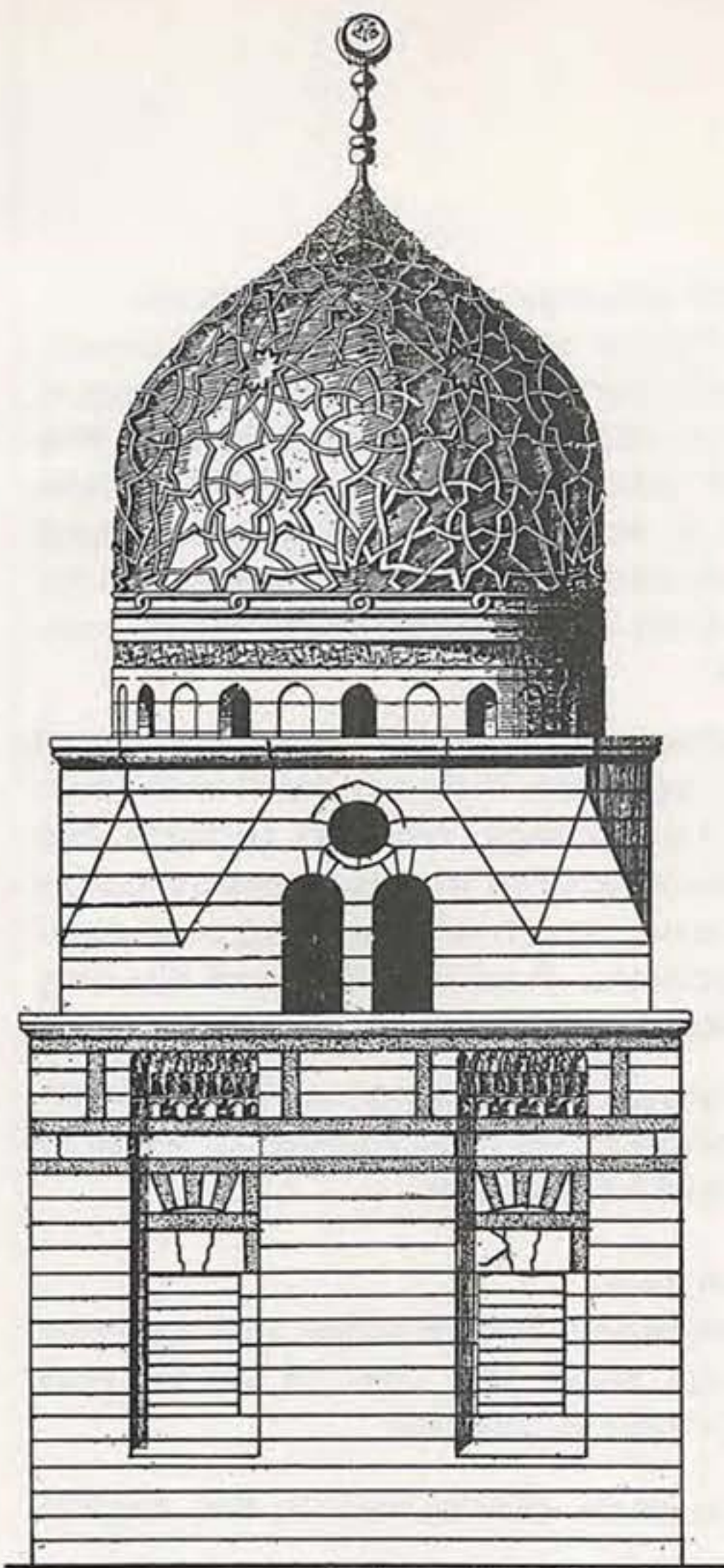
- Qorqomas Mosque



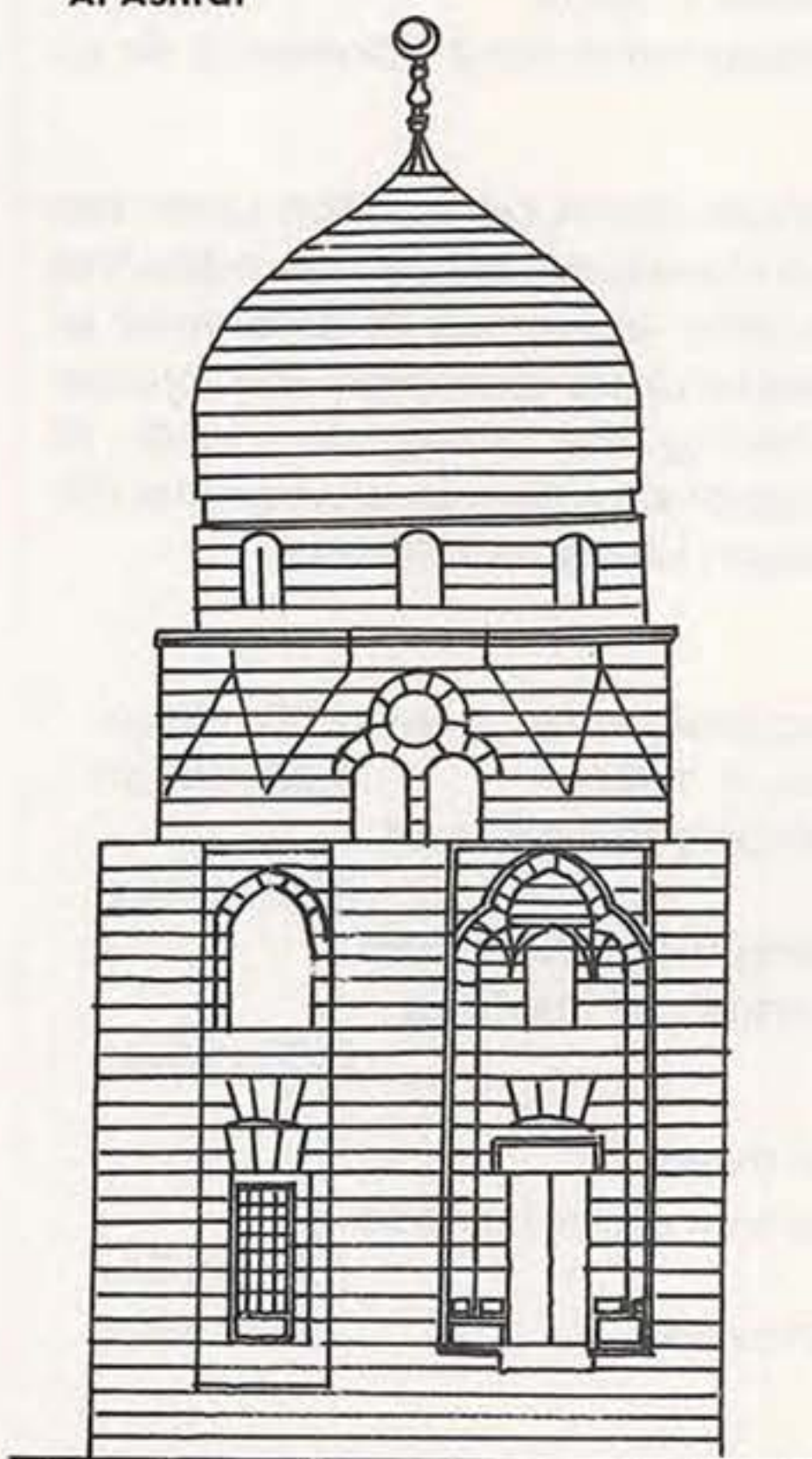
- Northern Facade of Saryet Al-Gabal Mosque



- Al-Mahmoudeya mosque - Section



- Facade of the dome of Gani bek Al-Ashraf



Northern Facade - Dome of Gorgomas

First: Objectives that achieve an economic development and an increase of production within the region through:-

- 1- Preservation of agricultural lands against any violations.
- 2- Development of the industrial dwelling system.
- 3- Co-ordination within the physical framework of the region to decrease the need for transportation of individuals and materials.
- 4- Increasing the efficiency of the existing infra-structure networks.
- 5- Conservation of historical treasures, monuments, and antiquities and buildings having a special character as being major elements of touristic development.

Second: Objectives that improve the living and environmental conditions through:-

- 1- Decreasing the concentration of population within the region and controlling the growth of the major physical mass (Cairo - Giza - Shoubra Al-Kheima).
- 2- Supplying land for limited and middle income groups as an alternative for informal housing to prevent its extension over the agricultural land.
- 3- Providing the existing areas within the region with public services and utilities.
- 4- Increasing the installation rate and connection of the existing dwellings to the public utilities.
- 5- Replanning under-developed areas (dilapidated areas) to elevate the civilizational and environmental standards and regulating the land use within these areas and providing them with the essential public services and utilities.
- 6- Conservation of water resources in the region and preventing its pollution.
- 7- Control of air and noise pollution.

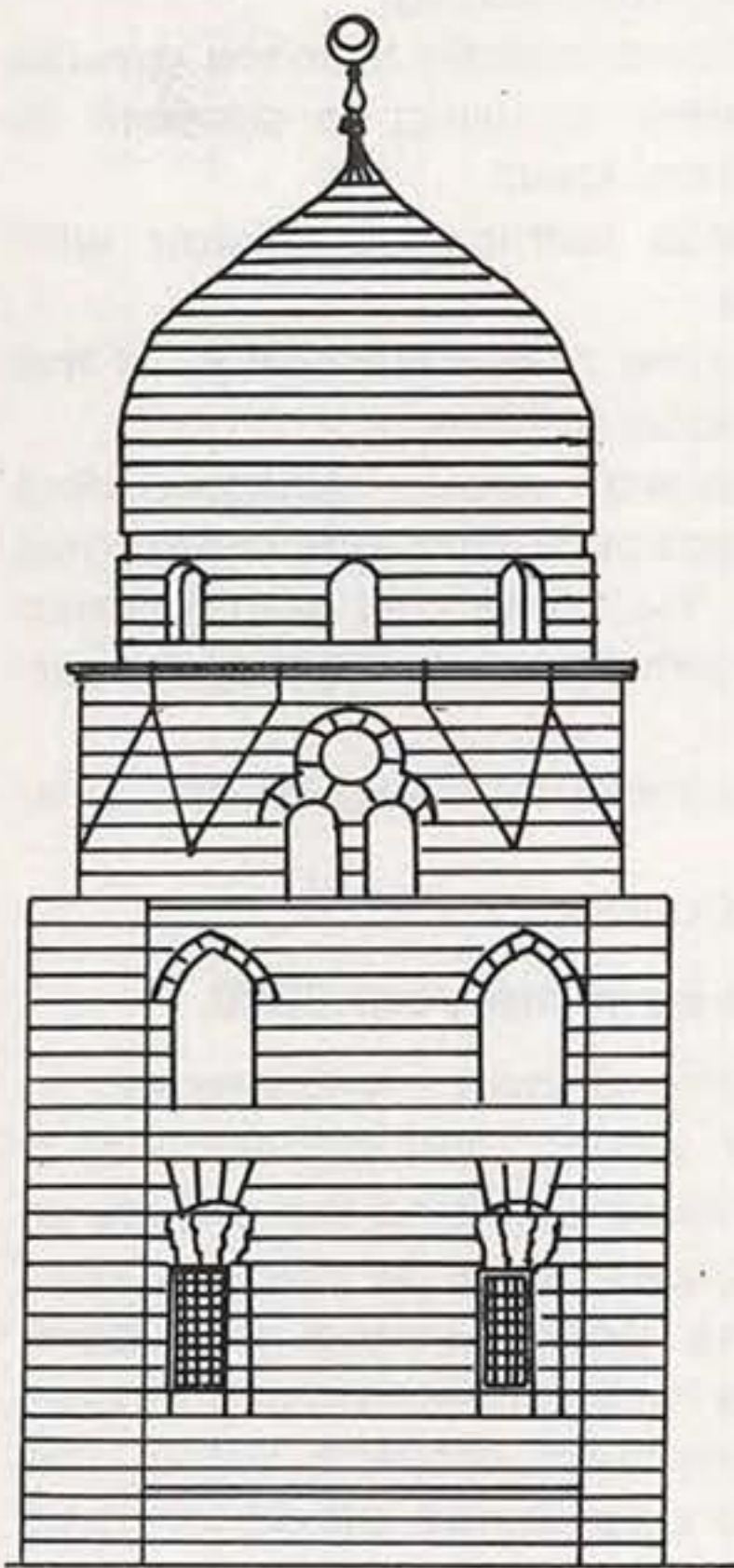
Population prospects in the region up to the year 2000.

The Egyptian National Policy recommended - with respect to the population distribution in urban areas - the provision of a high benefit rate from production investments and the choice of production sites near power resources, service centers and areas providing public utilities. The policy stated that both Greater Cairo and Alexandria will be facing great pressures due to concentration of productive investment projects within the region which will accordingly cause population attraction and increase of internal migration from other regions to both cities. The policy recommended the preservation of agricultural land in Greater Cairo region and its productivity. This will need a re-organization of the physical pattern within Greater Cairo.

After the study of the various possibilities of population growth and its rates in the region, a physical strategy was laid for the region to hold 16.5 million pers. up to the year 2000.

The strategic plan for Greater Cairo

Four main strategies were defined for urban growth in the region as follows:-



Southern Facade - Dome of Qorqamas

- 1- Similar (Harmonious) sectors strategy, whereas the major physical mass is divided into six smaller sectors. This procedure aims to control development within these sectors and to avoid reasons for economic, social and urban diseases. The population of each sector will vary between 1 to 2 million pers. The physical growth of each sector will be controlled through transport and completion of services and essential utilities to stimulate the growth within each sector then connect these sectors together.
- 2- New Settlements strategy which encloses the establishment of new settlements that vary between independent new town and satellite townships. This strategy aims to provide the adequate land for a physical habitat in desert areas, as an alternative for informal housing which is extending over agricultural land. (The latest statistics show that informal housing in Cairo region is not less than 60,000 units/year).
- 3- Development corridors strategy (or Development axes) whereas these axes tend to connect the major physical mass to the new towns and the satellite townships.
- 4- Integrated urban region strategy.
The achievement of these strategies necessitated setting three alternatives for the strategy plan, the best of which was chosen according to the following criteria:-

a) The expected urban population distribution in the region up till the year 2000.
12.00 million pers. east of the Nile in Cairo and Qalyoubia
4.00 million pers. west of the Nile in Giza.
i.e. 1/4 to rebalance the demographic and economic structure of this region.

b) Distribution of the expected increase in population up till the year 2000 — 7.4 million pers on development axes outside the existing major physical mass after elevating its efficiency to hold extra population with reasonable densities. This procedure is accompanied by raising the living standards in underdeveloped areas and reconstruction of environmental spaces and the borders of desert lands as follows:-

i- Inside the physical mass

- * The capacity of the existing residential areas 1.00 million
- * The existing housing areas in 1982. 1.00 million
- * The desert areas after defining the route of Ring Road. 1.50 million
- * The agricultural land during the period from 1982 to 2000 within the borders of the Ring Road. 0.00 million

ii- Outside the major physical mass

- * The new town and satellite townships (related to Cairo) 1.00 million
- * New settlements in Desert areas 2.00 million

This strategy suggests the distribution of population outside the major urban bulk (3 million pers) on 5 axes according to the available development factors for every axis.

- The Western Axis: 6th of October and Sadat City 750,000 pers (500,000 in the 6th of October City)
- The North Eastern Axis: Cairo - Belbeis 360,000 pers (240,000 in Al-Obour New City)
- Cairo - Suez Axis: It is to hold 1 million pers (250,000 in Badr City)
- Cairo - Qattamia Axis: It is to hold 500,000 pers (250,000 in Al-Amal City)
- Cairo - Helwan Axis: It is to hold 450,000 pers (150,000 in the 15th of May City).

This strategy aims to decrease the gross population density to 290/hectare (120 per/Feddan).

Structural plan for Greater Cairo.

This plan aims to achieve the following:-

- 1- Control of centralization and informal extensions and directing the urban growth to new desert areas.
- 2- Conservation of Environmental characteristics by protecting the agricultural areas and natural sites as the Nile banks and monumental buildings.
- 3- Making the best use of satellite towns strategy-under construction around Greater Cairo-by the establishment of new urban masses around the cities.
- 4- In the field of transport, a master plan was laid to achieve decentralization and connect the new towns with the existing urban bulk by a set of regional roads and at the same time elevate the efficiency of the existing roads network. This could be achieved by decreasing the need for transport through attaining self sufficiency within each sector accompanied by linking these integrible sectors by an efficient road network and elevating the efficiency of public transport to diminish the use of private cars and regulating its use within the city centers.
- 5- Determination of the Ring Road route - that will surround the major urban bulk-in order to withstand the heavy transit transport from the regional roads outwards and directing it to the approaches of the six sectors. It should be noted that this road is to be designed in a way that prevents any further extensions outside its borders.

The required increase in the built up areas uptill the year 2000.

The areas required to hold the Greater Cairo's population uptill the year 2000 were calculated based upon the fact that the population density will continue to be relatively high but within the limits of the urban fabric's efficiency. The gross population

density was estimated to increase with an average of 3.5% annually i.e. uptill the year 2000, the growth rate will be lower than that during the period from 1977 to 1982 - 4.9% annually.

Taking these data into consideration, the required areas for industrial functions could be estimated supposing that half of the job opportunities available by the year 2000 could be allocated in areas totally utilized for industrial plots. The other half could be allocated in smaller industries which are intermeddled within other areas, residential, commercial, ... etc. The area allocated for public use was estimated to be 5000 hectares with an annual rate of 280 hectares. By the year 2000, it is expected that the growth rate of built up areas will reach 4.2% per annum due to the increase in the new settlement's share in urban growth though with a low density.

The master plan of Greater Cairo.

The master plan of Greater Cairo tends - more or less to balance the need for provision of better living and environmental conditions on one hand and the available resources on the other.

Regional integration of urban settlements in Greater Cairo.

Integration between different urban areas could be achieved by:-

- 1) Stretching the Delta region along the adjacent desert borders by encouraging growth along development axes, Al-Obour -Belbeis axis to the east and Alexandria desert road to the west. This procedure has two main objectives.
 - a) Establishing development areas in the desert such that the evolving economic activities could be linked to the existing agricultural activities in the Delta.
 - b) Diverting the traffic approaching the Delta from both sides and other marginal areas and heading towards Greater Cairo to desert high ways along both sides of the Delta thus decreasing the existing traffic pressure upon the northern approaches to Greater Cairo.
- 2) Connecting the approaches of Greater Cairo by a Ring Road through which the physical bulk could be served by the use of radial roads evolving from the Ring Road instead of the use of permeating roads running north-south. The residential areas and the economic activities in the Western Desert ought to be linked to the urban bulk in the east. This incorporates the idea of establishing a road that runs across the Nile East-West to link the highways on the two sides of the Delta to the Upper Egypt highway which is planned to run across the Eastern desert.

The major outlines of the plan.

The plan aims to achieve the following:-

- 1) Decentralization and organization of the physical mass to avoid irregularity of physical settlements growth. The new urban areas will not only make use of being near to the major physical bulk in Greater Cairo, but will attain an independent

frame-work motivated by having enough job opportunities for the inhabitants. Decentralization could be achieved as well by attaining a multi-central physical bulk instead of a single center and re-organization of the physical bulk to assure the continuity or discontinuity of the physical environment according to the laid plan. If the planned Ring Road achieved its role as a major spine in the Transport network, then, the physical mass and space could be organized.

- 2) Protection of the living Environment and its conservation in rural areas by regulating the borders of towns and villages within the region. The protection of natural sites is of vital importance such as the Nile banks, Al-Muqattam escarpments, monumental areas and other locations beholding an urban heritage e.g. historical buildings and old areas enclosing a characteristic physical fabric.
- 3) Achieving decentralization on phases whereas the new towns of 6th of October, Al-Obour and 15th of May could be utilized to stimulate the growth of new physical settlements. These new towns constitute three apexes of an equilateral triangle, the centre of which is the city of Cairo which is 25-30 kms far from each apex. The new settlements established around these three towns could benefit from the services provided within them. Accordingly, the new towns could be utilized as focal points that stimulate the physical growth along development axes. The already established 10th of Ramadan, Al-Obour, Al-Amal and Al-Sadat new cities could be a major foundation to encourage the second phase of decentralization. Having these new settlements very near to the major urban bulk - from 45 to 85 kms far from Cairo - provides these towns with the necessary motive for development.

Implementation of the master plan.

The best way to bring this Master Plan into actual practice is by immediate execution of the major projects that incorporate considerable changes to the existing conditions. This is accompanied by the concentration of the available public resources and their efficient utilization.

Some of the important projects are:-

- 1) The Ring Road.
- 2) A Transportation Scheme for Greater Cairo.
- 3) A Master Plan for Water supply.
- 4) Housing and new urban settlements.
- 5) Protection of agricultural land.
- 6) Establishment of a Major Service Centre.

Three of the above mentioned projects have been thoroughly studied while the Master plan has been laid and those are:-

- 1) The first phase of the Ring Road.
- 2) The first implementation phase of Housing.
- 3) Improving traffic in the major commercial centre in Cairo.

A report upon housing projects in Cairo governorate.

The housing problem is considered one of the most important and critical problems in Egypt and specially in Cairo. The Government has devoted great efforts to fulfill the citizens' needs to find the appropriate shelter. The studies that have been carried out upon this problem estimated that the total number of dwelling units needed for the whole country uptill the year 2000 is 3.6 million units a million of which for Cairo only. This number covers up the leap that resulted during the past years as well as the expected increase in population and the cases of evacuation of dilapidated buildings. The studies have assumed that the population of Cairo will reach 16.5 million pers. by the year 2000 if ever the Family Organization Programmes and control of internal migration proved any success.

The total costs of establishing the required number of dwelling units in Cairo is 12 million pounds, inclusive the supply of major utilities and public services. This housing bulk needs a total area of 15000 hectares, i.e. 150 million sq. meters (40,000 feddans). Considering the size of the problem, the State by itself cannot deal with this problem on its own and provide the required capital and investment for the construction of the required dwelling units. At the same time, many individuals own the necessary investments and savings that enable them to participate in solving this critical problem.

Cairo Governorate is working hard on providing the suitable land for the citizens and providing them with the required building materials with affordable prices and presenting loans and credits to improve their financial capabilities. The Governorate has provided these lands with the essential utilities. Applying this procedure, the citizens could participate in solving their housing problem and direct their own savings to the building sector. On the other hand the governorate has devoted a great effort to build houses for limited income groups that constitute 20% - 25% of the total demand for houses.

In the time being, the Governorate in co-operation with the International Bank is working on planning and reconstruction of 5000 feddans in desert areas on phases, each of which encloses 1000 feddans provided with the essential utilities, roads, infrastructure and services. This project is expected to last for five years that could be repeated once more. This area of land is expected to hold 150,000 dwelling units built by the owners. They are supplied by their utilities and services according to their needs and their financial affordability. The co-operative and private sector could be stimulated to participate in this project. The state actually encourages this trend by providing co-operative loans that reach 500 million L.E./ annum.

Uptill the year 2000, the governorate has planned to build 750,000 units on an area of 14.4 thousand hectares other than renovation and replacement work within the existing urban bulk which will enclose an extra number of 250,000 dwelling units.

The governorate's achievements in the housing field.

Cairo Governorate has adopted the problem of economic and shelter housing for low income groups whose investments cannot provide them with a decent dwelling unit. As for the medium and high class or deluxe housing it has been handed over to the private and co-operative sector.

Economic housing.

In 1980, a proposal has been made to build new settlements, fully provided with utilities and service to fulfil the needs of low income people. An area of 1250 feddans (5.25 million m²) has been chosen to the east of Cairo to hold 37500 dwelling units and 125000 pers. The new settlement was called Al-Salam city.

General information on Al-Salam city.

- Area = 1250 Feddans (5.25 Million m²)
- Value of Land = 250 Million Pounds
- Number of dwelling units = 37500 dwelling units on the above mentioned area, which if extended further on adjacent land, will hold 75000 dwellings that could be low cost housing.
- Population = 185000 pers.
- green areas = 500 feddans (40% of the total area of the city i.e. 11.2m²/pers. In Cairo the individual's share is 40 cm²/pers while in Heliopolis it is 4m²/pers.)
- Density = 30 dwelling / feddan, 150 pers / feddan
- Residential Units = First phase = 22500 units (already accomplished)
= Second Phase = 22500 units (4% accomplished)
Total 37500 units.

These units are fully provided by utilities (Roads - Water - Electricity - Telephone), service buildings, markets, public and industrial buildings.

Public utilities.

The main infra-structure network was provided as follows:-

a) Water

The city was provided by an independent system of water supply from artesian wells dug in Al-Marg district. It includes:-
 20 artesian wells to provide 100000m³ cf water / day
 21 Kms of pipes (2 lines) from Al-Marg district to Al-Salam City having a diameter of 1000 mm and 500mm.
 15 Kms of internal water networks for the first phase.
 20 Kms of internal water networks for the second phase.
 4 water tanks each of which has a capacity of 5000m³, such that the total daily storage is 20000m³.

b) Sewage

A full sewage network and pumping stations were accomplished and 4 pipe lines of 1500mm diameter were installed

to replace the two uncovered sewage canals which pass through the city along a distance of 7kms.

c) Electricity

All the inhabited areas were supplied by a network of 3 mega watt, and preparations were made to face further extensions of the city such that the total electrical power is 30 mega watt.

d) Lighting

A full scheme for street lighting within the city has been carried out as well as the part of Cairo-Ismailia road from Ain Shams to the city including:-

- 200 Lamp Posts (3000 by the end of the third phase)
- 38 Kms of electric Cables.

e) Roads

27 Kilometers of main roads and secondary roads were accomplished with an area of 0.5 million m² of Asphalt roads and 50000 mts of pavement plinths.

f) Transport

- A railway station has been established at 11.5 kms on Cairo / Ismailia Road at a distance of 500 mts from the city.
- A bus terminal has been built to connect the city with the major squares in Cairo.
- The city was provided by 300 telephone lines as a first phase devoted to public and service buildings, post office and telegram and telephone offices until independent switch board of 5000 lines is implemented

Service buildings (1st & 2nd phase)

- 41 Schools including 35 primary schools
- 4 secondary Schools
- 1 Commercial Secondary School
- 1 Industrial Secondary School

2000 Commercial and industrial shops (800 were already handed over to their owners).

- 8 Kindergartens.
- 3 Youth Centers.
- 1 Social Unit.
- 3 Public Stores.
- 10 Super Markets.
- 10 Fish Super Markets.
- 10 Public meals shops.
- 10 Ice Shops.
- 10 Bread shops.
- 1 Infirmary.
- 3 Health Centers.
- 1 Hospital (350 beds).
- 3 Post, Telephone and telegram offices.
- 1 Police Station.
- 1 Fire and Ambulance Station.
- 1 Garbage factory (50 Tons/Day).

An area of 37 feddans has been allocated for industrial use enclosing leather factories....etc.

Immediate shelter programme

The governorate has carried out a programme for building dwelling units for immediate shelter-to face cases of sudden collapse or evacuation-as a temporary residence until a permanent dwelling is made available. The governorate has built a full residential quarter for immediate shelter in Al-Doweqa district fully provided with the essential utilities, and in parts of other districts.

New cities

The Ring Road (under construction) that is going to surround Greater Cairo is meant to prevent any informal extensions and to direct the traffic between the northern and southern areas without passing through the residential bulk of Cairo and to decrease the traffic jam within the inner network of roads. The execution of this Ring Road will stimulate the establishment of new physical settlements outside its borders provided by independent utilities and services which will possibly attract the population off the region:-

The state thus established a number of new towns around Cairo:-

10th of Ramadan city

It lies 55 kms far from Cairo on Cairo - Imailia Desert Road. It encloses an area of 50sq. kms. It was planned to be built on four phases to occupy a total of 500.000 pers by the year 2000.

15th of May city

It lies 4kms. to the south east of Helwan. It encloses an area of 27 sq. kms. It is to be built on three phases to occupy a total population of 250.000 pers. by the year 2000.

Al-Obour city

It lies 30kms far from Cairo on Cairo-Belbeis Desert road. It occupies an area of 3000 feddans. It is expected to hold 350,000 pers.

Al-Amal city

It lies 40kms far from Cairo on Al-Qattamia road. It occupies an area of 3000 feddans. It is expected to hold 250,000 pers.

Badr city

It lies 46kms far from Cairo on Cairo-Suez Desert Road.

Provision of building materials.

The state has actually started working on establishing several factories for cement and other building materials so as to satisfy the country's needs by local production by the end of 1986.

Bridges and underground projects in Cairo.

The old city of Cairo has been planned with low population densities and narrow roads. Now The Modern Cairo of today is one of the most over crowded capitals in the world, enclosing a population of 10 million pers. and nearly 1 million carriages of

different types. The modern city is thus facing severe traffic jams which necessitate the use of manufactured structural frameworks (bodies) on different levels either in the forms of cross over bridges or tunnels and undergrounds.

During the last five years, 43 bridges were planned - with a total cost of 320 million pounds. 25 bridges have already been accomplished upon the major development axes with a total of 18kms and a total cost of 100 million pounds. There are 11 other bridges under construction running along a total of 9kms and having a total cost of 100 million pounds.

One of the most important development axes is Salah Salem road which runs along from Giza Governorate across the Giza Bridge uptill Cairo International Airport and Ismailia Desert road. Several Bridges were built along this axis to end the traffic jams at the junctions as follows:-

Giza Bridge across the Nile	Al-Malek Al-Esleh Bridge
10th of Ramadan Bridge	Al-Saida Aynna Bridge
Al-Ferdous Bridge	Al-Orouba Bridge
Ismail Al-Fangary Bridge	Al-Marghari Tunnel

Cairo governorate has already built another development axis which is the 6th of October bridge which connects between the Dokki District in Giza Governorate and Eastern Cairo district. It runs along a distance of 6.5 kms. Nowadays, the extension of this bridge uptill (Ghamra) is under construction with a total distance of 2.5 kms and its further extension till Salah Salem Road with a total distance of 2.5 kms is actually being studied.

Cairo Governorate is also working on another transversal development axis that links between the east and west without any traffic junctions. This axis includes a bridge (15th of May bridge) that links Al-Mohandesseen quarter to Salah Salem Road, There is another bridge (Rud Al-Farag Bridge) (under construction) that runs across the Nile with a total distance of 700 meters. This bridge will divert the traffic coming from northern Cairo and Lower Egypt and heading towards Imababah, Giza and upper Egypt without permeating within Central Cairo.

The Governorate has as well built several pedestrian overhead bridges at the main squares and traffic junctions to secure the pedestrian paths. It should be noted that Cairo Governorate has been concerned with the inner roads whereas it has already paved 150 kms/annum as well as maintenance and restoration works.

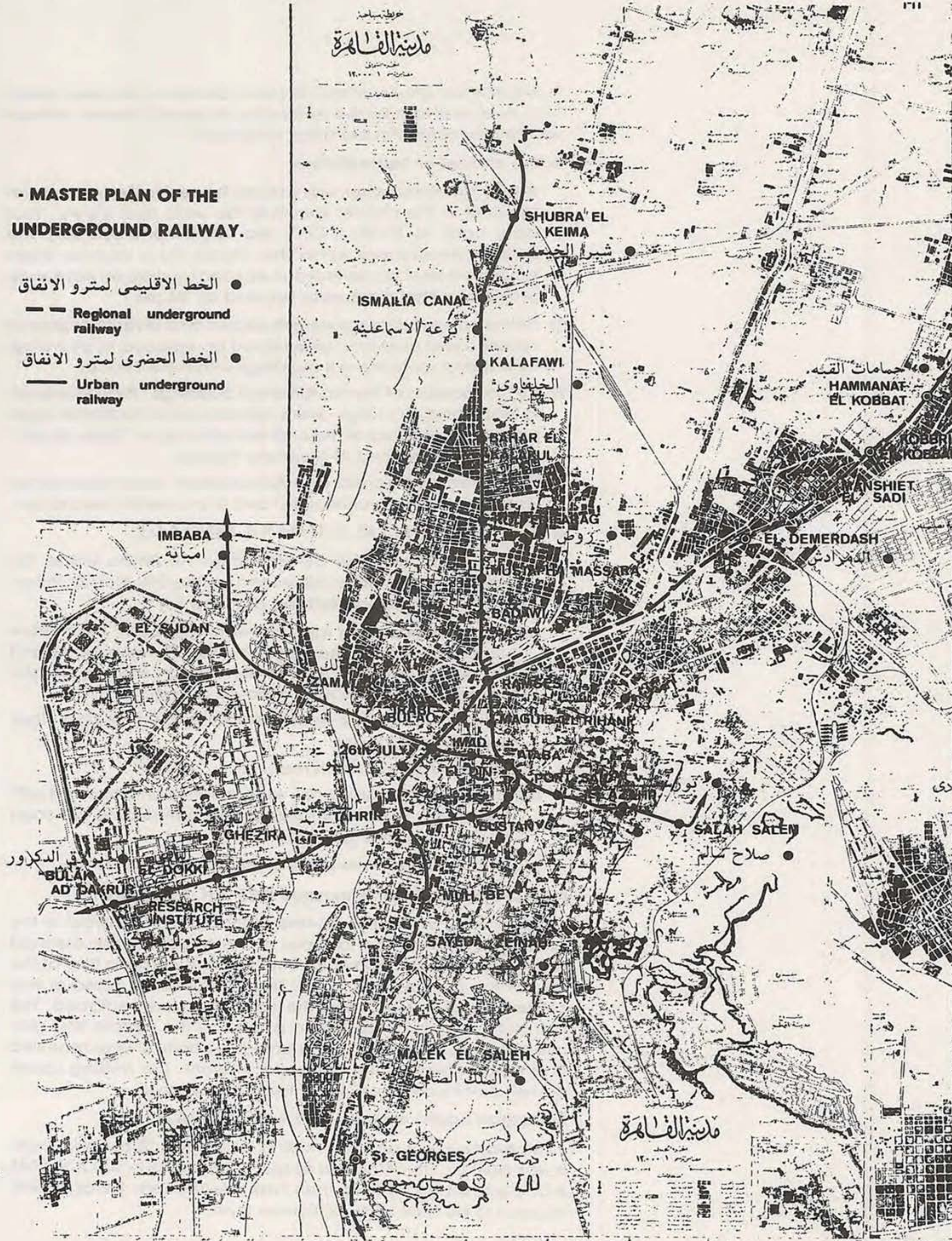
Projects of conservation of antiquities and monumental buildings in Cairo:-

The government has devoted great efforts for the restoration and conservation of antiquities and monumental buildings in order to elevate the cultural and touristic position of Egypt both on the local and international level. The General Organization of Antiquities together with the different concerned parties and governorates accomplished a great deal of restoration projects

مدينة القاهرة
مقياس 1:100,000
1950

- MASTER PLAN OF THE UNDERGROUND RAILWAY.

- الخط الاقليمي لمترو الانفاق
- Regional underground railway
- الخط الحضري لمترو الانفاق
- Urban underground railway



مدينة القاهرة
مقياس 1:100,000
1950

in the different governorates; In Cairo Governorate a very ambitious plan was laid for the restoration of several Islamic Antiquities and monumental buildings as follows:-

1- The citadel of Salah El-Din:-

A very ambitious plan was laid for the restoration and development of the citadel specially the walls and towers - that date back to Salah El-Din's era uptill Mohamad Ali-. The colorful decorations within the citadel have already been renovated besides several cultural and touristic services were provided. Other parts were restored as follows:-

- 1) All the corroded stones were replaced and several destroyed architectural elements were refixed or replaced in all the historical and monumental buildings within the citadel.
- 2) All the facades of the monumental buildings - that date back to Mohamad Ali's reign - were restored either by plastering or painting or renewal of the original colors as in "Saray Al-Adl" (court of Justice) and Al-Gawhara Palace.
- 3) The towers of Al-Tarafa and Al-Muqattam were reopened for visitors after their architectural and monumental restoration.
- 4) Mosque of Mohamad Ali (1246 A.H. / 1380 A.D.).

This mosque was built by Mohamad Ali Pasha inside the citadel. He was greatly influenced by the Ottoman architecture. This mosque was restored as follows:-

- a) All the facades and minarets were cleaned . The marble cladding covering the mosque's wall from the inside and outside was restored, the marble ablutary in the court and the marble columns were restored as well.
- b) The clock tower has been restored and the striking clock has been put to work.
- c) The carpets have been restored.
- d) All the domes, half domes were isolated and covered with lead sheets and the smaller domes surrounding the court were treated and restored.
- e) Stone floorings have been fixed around the mosque.

El-Naser Ibn Qalwoun's mosque (735 A.H. / 1335 A.D.).

This mosque was built by El-Nasr Mohamad Ibn Qalwoun in the Mameluke period. The facades of the Mosque were cleaned and restored till the end of the minaret. The ceramic tiles at the end of the minaret were fixed. The interior of the mosque was cleaned and restored and the floor tiles were replaced. The foundations were consolidated as well as the marble and granite columns. The colors at the columns capitals were renewed and fixed as well as the dome decorations. The missing upper crenellations were renewed in their original style.

Solayman Pasha mosque (935 A.H. / 1528 A.D.).

This mosque was already existing before the citadel was built. It was built by Emir Mortada Magd Al-Khilapha in 535 A.H./1141 A.D.. It was rebuilt by Solayman Pasha Al-Khadem. It was the first mosque to be built on the Ottoman Style.

The corroded stones were replaced and the floors were clad with white marble instead of the old corroded marble. Ceramics were fixed on the domes and the minarets. The marble and wooden elements in the mosque, the court, the mausoleum and the adjacent tombs were cleaned, and restored. The minbar was restored as well as the marble mihrab.

The Museums in the Citadel

1- Al-Gawhara palace

The entrance was re-built as the original that was damaged in 1972. The adjoining Alabaster was entirely restored and the original paintings were renovated.

2- Al-Gawhara Palace Museum:-

The ruined inscriptions, drawings and wall decoration were restored as well as the main entrance, the side entrance, the main hall, the Diorama hall and Al-Kosha hall. A collection of unique monumental masterpieces were restored and renovated.

New Constructions in the Citadel.

1- Guest palace museum:- It was built in the building adjoining Al-Gawhara palace.

2- Royal carriage museum:- It was built to show the royal carriages used by the family of Mohamad Ali uptill king Farouk's era.

3- Antiquities garden museum:- It was erected on an area of 9000m². It contains Islamic antiquities, columns, potteries.... etc which date back to different Islamic periods.

4- Restoration centre for Islamic antiquities:- It was built near the Royal carriages museum to carry out the detailed monumental and architectural restoration work.

5- Internal and External gardens were set and visitors routes were paved. Several wooden Pergolas and seats were put in the garden.

6- A cafeteria, a restaurant and W.Cs were established to provide touristic service. The different areas were provided by guiding signs and posts exhibiting the different touristic sites. A musical circuit has been installed to broadcast light music in the different museums and the cafeterias.

The monuments in memeluke desert.

An ambitious plan was laid for the restoration of the important Islamic monuments in Qait Bey's Desert in Al-Darrarsah District in Cairo. This plan was laid within the comprehensive Restoration Plan. This restoration plan included: The Mosque, the tomb and Khankah of Sultan Farag Ibn Barqouq, the dome of Gani Bek Al-Ashrafy, the dome of Qorqomas, the mosque and Khankah of Sultan Al-Ashraf Persbey, Tekke of Ahmec Abou Yousef, Rabe' of Qait Bey and Mosque of Sultan Qait Bay.

Mosque and Khankah of Farag Ibn Barqouq (801-813 A.H. / 1398-1411 A.D.).

This collection was built by Sultan Al-Malek Al-Nasr Abou El-Sadat Farag Ibn Barqouq. An entire restoration process was carried out for the various architectural and monumental elements. The ruined wooden parts were completed including the decorated windows and the upper crenellations.

The dome of Gani Bek Al-Ashraf (831 A.H./1427 A.D.).

It was built by Emir Gani Bek Al-Ashraf who was one of the Memelukes of Sultan Al-Ashraf Presbey. The dome was mechanically cleaned from the outside and wooden windows were installed as well as silk screens for the upper windows of the dome.

The dome of Qorqomas (917 A.H./1511 A.D.).

It was built by Emir Qorqomas, one of the mamelukes of Sultan Al-Ashraf Qait Bey. The dome was mechanically cleaned from the outside and windows with iron bars were installed as well as a wooden door for the dome.

Khankah Al-Ashraf Presbey (335 A.H./1432 A.D.).

It was built by Sultan Al-Ashraf Presbey. It includes a Khankah for "Sofi" Groups and a big court enclosing tombs, the remains of a dome and a dome of his brother Emir Yashbek and a small prayer area.

The external walls were rebuilt and the wooden and marble elements of the mosque were cleaned and the ruined parts were replaced and treated. Iron Bar windows were installed instead of the missing ones.

Tekke of Ahmed Abou Youssef

The external walls were completed after excavating the old foundations. The two facades of Al-Sabil room were completed sticking to the antiquities regulations and a wooden door was fixed for the Tekke.

Rabe' Qait-Bey (877 A.H./1472 A.D.).

It was built by Sultan Al-Ashraf Qait Bey and was designed for residential use. The damaged stones were removed and rebuilt. Windows with Iron Bars were installed in the upper floor, as well as wooden ceilings for the upper rooms on the main facade. The stones of the facade were cleaned mechanically from the inside and outside.

Mosque of Sultan Al-Ashraf QaitBey (877 - 879 A.H./1472 - 1474 H.D.).

The collection of Sultan QaitBey is considered one of the most fabulous architectural masterpieces in Islamic Egypt. It includes a Medresse, a mosque, a sabil, a tomb, a Kottab and a minaret. This collection has thoroughly undergone architectural and monumental restoration.

CONSERVATION OF AN ISLAMIC CITY LEFKOSA

ENG. A.S. OREK,
ENG. M.A. BERKUT,

DEPARTMENT OF TOWN PLANNING
MINISTRY OF HOUSING - LEFKOSA

Foreward

The early history and archaeology of Cyprus sheds information about the different influences, settlements and movements, through the island of the neighbouring empires, kingdoms, or forces that controlled part or whole of its territory.

Important settlements date back to the 6th millennium B.C. After the appearance of Cyprus in the 3rd millennium, Mycaeneans and Achaens arrived to the island between 2500 and 1400 B.C. Egyptian, Phenconian and Assyrian domination took place between the 9th and 8th centuries B.C. The Roman period started in 58 B.C. and lasted until the end of the 4th century A.D. when the island became part of the Eastern Empire. Muslims attacks occured from the middle of the 7th century and continued for 300 years. In A.D. 649 and 1425, there was probably no Muslim community established, until the Ottoman conquest in 1571. Since then, a Sunni-Muslim community has been established on the Island.

The Muslim Ottoman administration was also established following the "Sharia" rules of the holy Quran. The Evqaf or property appropriated or dedicated to charitable uses and the service of God, is administered by the Vakf administration. The existence of a Muslim Vakf has been proved to be very crucial in protection and continuation of Islamic life and Islamic monuments on the island. Evqaf property is of two kinds: Mazbuta, administered for the general benefit of the Muslim community by the delegates; and Malhaga, property charged with certain definite religious or charitable duties administered by the hiers of the donor who retain the surplus of its income after those duties are satisfied. All Vaqf property is inalienable donor's would revert to Holy Cities of Mecca and Medina. (9)

There is one famous shrine in Cyprus, the Khalat-i Sultan Tekke, about two miles from Larnaca on the western side of the Salt Lake. Ummü Haram, daughter of Mulhan the Ansari, who followed her husband Übadan in the first expedition over Cyprus when the Khalifa Ottoman allowed to cross the sea, was buried, in 649 A.D. in this shrine.

Turning back to the history, before the Turkish-Muslim conquest, the Byzantine Empire controlled again the territory from 965 to 1191 when King Richard I of England conquered the island. Lusignans established a feudal monarchy from 1192 to 1489 when the island became a Venetian possession until Turkish-Muslim conquest in 1570. The Ottoman rule lasted for 300 years until 1878 when Great Britain took over the administration of the the territory.

Cyprus became an independent country in 1960 for the first time in its history. Intercommunal problems between Muslims and Greeks from 1963 to 1974 and the events of that year have led to a physical division of the island and its capital town in two parts.

1. Nicosia (Lefkosa)

The town was originally known as Ledra. In early times it was situated to the south-west of the present town. Ledra was rebuilt at approximately the present site of Nicosia in 280 B.C. by Leucus, son of Ptolemy I of Egypt; it was renamed Lefkotheon, but was also sometimes referred to as Ledron. During the early Byzantine period the town took the name Lefkon, meaning poplar grove. This is said to have been an account of the many poplar trees which then lined the banks of the Kanli Dere (Pedieos River).

Nicosia has been the capital of Cyprus since the first Arab attacks in the 7th century A.D. The central section of the town is the old Venetian City surrounded by walls with eleven imposing bastions. The walls of the old city were built by Venetians in 1567 with the purpose of protecting the city against a possible Turkish-Muslim Attack.

In Nicosia there are a lot of historic monuments dating from the Middle Ages and subsequent eras. Among these are several examples of the Gothic and Ottoman-Muslim architectural structures. Cyprus stayed under the Ottoman Rule about three centuries; all the towns in the island including Nicosia carry the characteristics of typical Turkish-Ottoman towns. Thus prevailing the architectural Turkish-Muslim heritage.

2 The characteristics of Turkish-Ottoman architecture

In the classical Ottoman architecture, elements of buildings are mainly structural and functional, thus the plans of buildings are integrated with their functions. This simplicity is observed mainly in public and religious buildings such as medresses, khans and mosques. In Nicosia, Büyük Kırın and Arabahmet mosque are the best examples of this style. 'It is very rare to find any architecture in the whole history of the world in which the building technique, the roofing of the interior, the spatial layout and the general appearance resulting from the combination of all of these have been so completely fused into one single organic whole as in Ottoman architecture, and it is this quality that distinguishes Ottoman architecture from all other Islamic architectures. One result of this aesthetic attitude was that Ottoman architecture never attained or rather never sought to



- Sarayonu mosque. The adjacent hotel has ruined the architectural and historic characteristic style.



- Selimiye mosque looking over Arasta Street which is the traditional commercial center.

attain the large-scale dimensions and grandiose appearance of Eastern Islamic architecture, and particularly that of Central Asia, India and Iran. The principal feature of Ottoman architecture lies in its refusal to transcend the limits of the essential and in its realisation of its architectural function and requirements with the utmost simplicity and modesty."(14)

3. Turkish-Ottoman historical sites of Nicosia

3.1. Mosques

İplik pazarı mosque:

It was built in the 18th century, and is located near the Atatürk Square. There are two inscriptions on the entrance of its main room. In the lower inscription it is recorded that the mosque had been restored by the governor in 1826; in the upper inscription it is recorded that the mosque had been restored in 1899 by Mehmet Sadik, the director of the office of Evqaf. The minaret is of cut-stone.

Turunçlu mosque:

The mosque is located within the city walls of Nicosia. It was built by Seyit Mehmet Ağa a governor of Cyprus during the Ottoman period. It is transversally planned with four arches carrying the roof. The ceiling has timber ornamentation and the minbar is in Baroque style. The gallery surrounds the mosque at the north and west sides. The minaret is of cut-stone masonry and at the north east corner of the mosque it has four rings on the body and ornamentation underneath the balcony. The construction dates back to 1824. (7)

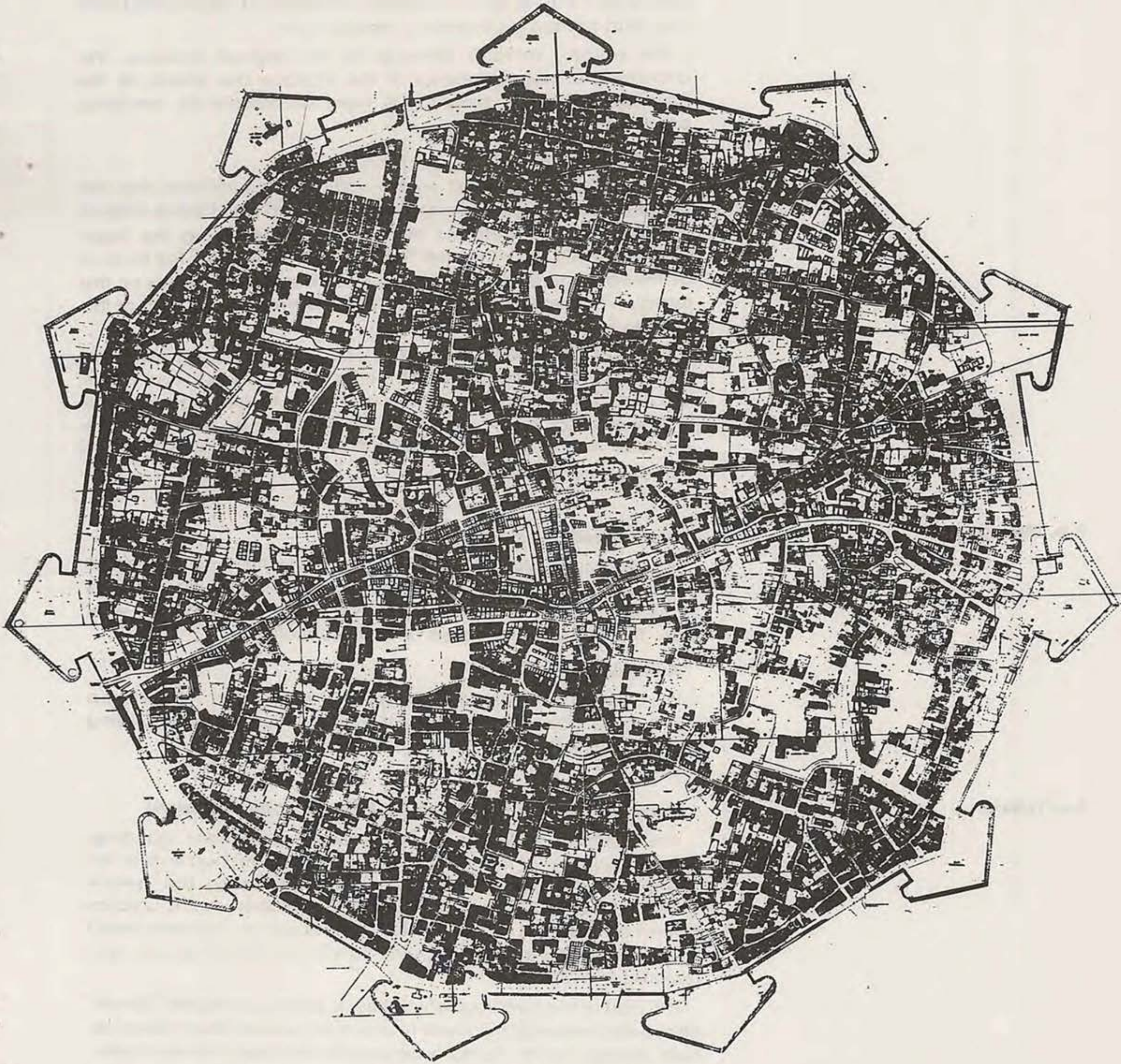
Arabahmet mosque:

The mosque which is located within the walls of the town at the west side, was built in XVI. th or XVII th century, and repaired in 1845 in typical Ottoman architectural style. It is the unique example of this type in the town of Nicosia.

The dome which covers the main building space measures 10.75m. in diameter. It rests on eight piles which are in the form of projections sticking out from the side walls. At the corners of the space, semi-spherical domes exist. The "mihrab" has stalactite ornamentation. The gallery at the front of the main space, is covered with three smaller domes which are carried by four square piles and arches in between them. The minaret is located at the west and its entrance is through the mosque. An octagonal fountain and a number of graves take place within the courtyard of the mosque. One of the graves belongs to Ishak Pasha who is a sailor and another to Kamil Pasha, who is the Grand Vizier of Ottomans. (7)

Sarayönü mosque:

The mosque is located at the western part of the Atatürk Square. The original mosque was first built by Ali Pasha between 1820-1824 during the rule of Sultan Mahmud II. It was called Ordu



- The Old City of Lefkosa

Onü Mescidi, and was built as the mosque of the resident governor of the province. In 1902 it was destroyed, by an earthquake and was rebuilt in 1903 by the director of Evqaf, Musa Irfan Bey, and named as Sarayöü Mosque. (11)

The existing minaret belongs to the original mosque. The architectural characteristics of the mosque are simialr to the Egyptian style. The building is used at present for wedding ceremonies.

Mosque of Bayraktar:

The mosque is located on the wall which surrounds the city over the bastion of Constanza, at the eastern part (Greek side) of the town. It is composed of two parts, one being the main mosque space and the other the tomb of "Bayraktar"; the tomb is at the east and covered with a dome. Its entrance opens on the mosque. "Bayraktar" was martyred in September 9th 1570 at the bastion.

The mosque which was built in 1820 has a rectangular plan, running in north-south direction with a timber pitched roof which is carried by three arches. There is another timber-roofed space at the east, (at the south of the tomb), that also opens on the mosque. The minaret was bombed by the Greeks in 1962 as well as the mosque itself. (7)

3.b. Mesdjids

Kanil Mesdjid and fountain:

It is located in Nicosia between Pencizade street and Tanzimat street. The original building is very small. It has two doors. It has three windows at the east side and two windows at the north-west side. The fountain is located near the building.

Akkavuk Mesdjid:

It is located in Nicosia in Toros street. It was built in 1902. It has a rectangular plan and there is a gallery surrounding the building at the north side.

3.c. Tekkes

Mevlevi Tekke (Cyprus Turkish Ethnographic Museum)

The building which is the monastery of Mevlevi dancing-dervishes, is one of the most important Islamic monuments of the town, even though lost much of its characteristics. The "sema-hane" (dancing hall) part is in a good condition and is used as Turkish art museum at the present. It was built on the area which was donated by a woman (Emine Sultan), in XVII th century, and restored in 1934.

The part of the building, which lies as a wing along the "Girne" Street, includes eight domed rooms side by side which have sixteen graves inside. Along a perpendicular axis to these rooms, other rooms of the "tekke" take place. Since this part had undergone the most alteration, it is not possible to detect the original content and the composition. In the court of the building which is used as museum, the gravestone which were collected from the Turkish graveyards are exhibited. (7)



- Sabil of Kucuk Medresse



- Arab Ahmet Mosque surrounded by Palm trees and Cedars.

3.d. Khans

The Tekke of Aziz Efendi:

The Tekke is located at the south-east corner of the Municipal Market of Nicosia. It was built in the 16th century by Sultan Selim II and is one of the oldest Tekkes known in Nicosia. It was built after Mufti Aziz Efendi, a martyr in Nicosia in 1570.

There are three tombs in the Tekke. One of them is that of Aziz Efendi, while the owners of the other two are still unknown. The main tomb was built in the 16th Century. The small mosque and its rooms are believed to be built later.

Büyük Khan (The Great Inn)

It is located in the centre of the town. It is attributed to Muzaffer Pasha, and is dated to 1572. Muzaffer Pasha was the first governor to be appointed to Cyprus. It is a typical classic Ottoman khan with its square plan layout. The two-storey building consists of a square-open court which is surrounded by the arcaded galleries with rooms opening on to these galleries. There are one-storey high shops at the east part, opening on to the street at the front. Totally, it has sixty-eight rooms and ten shops. In the court of the khan, an octagonal mosque with a fountain underneath takes place. The fountain underneath the mosque, was also built in 1820. (8)

The khan has two main entrances, the main entrance at the east, is used as a shop at the present. The arcaded galleries at four sides of the court are covered with cross-vaults which are carried by cylindrical stone. The masonry columns and the pointed arches in between them and the cross vaults are plastered and white washed and have rib-arches in between them. The facades of the galleries (on the ground floor) are constructed with rubble-stone masonry and left exposed. The cylindrical columns of this floor, continue over the column capitals in a smaller diameter, creating semi-circular projections from the wall surfaces. The facades end at the level of upper storey with stone cornice. The buttresses attached to the two columns at each side of the west entrance and at the center of the north facade, were probably built to prevent the inclination of facades towards the court. The cross-vault at the front of the west entrance was altered to a concrete flat ceiling during the old repairs.

At the north, south, and west wings of the khan, individual rooms which are vaulted at the top, open on to the galleries. These rooms, besides the original rectangular windows opening on to these galleries, also have irregular windows opening on to the exterior. At the east side of the khan, there are shops, opening on to the street. They are vaulted like the individual rooms, with cross-vaulted spaces at their fronts which are considered a continuation of the shop-spaces, at the present. But, it seems likely that the partition walls in between these cross-vaulted spaces had been probably added afterwards, in order to enlarge the shop spaces and originally, this place was in the



- Narrow street and old houses with Turkish Islamic character (Ali-Yuzbasi street)



- Typical Turkish Cypriot houses and Selimiye mosque in the background.



- A typical narrow street and old houses (Darvish Pasha Street).

appearance of an arcaded gallery in front of the shops. Further studies and researches have to be carried on, in order to enlighten the original condition of this portion of the khan.

The upper storey of the khan was also composed of arched galleries which rest on cylindrical columns and pointed arches in between them, and vaulted rooms opening on to these galleries. The rib-arches in between the cross-vaults of the ground floor are not seen on this floor. The individual rooms also continue on the east side of the khan over the shops on the first floor. The room over the entrance at the east, is larger than the rest, and makes a projection from the main body. Rooms on this floor have six windows over the entrance doors. Besides the original rectangular windows opening to the exterior, the rooms on this floor differ as well in having fire places which do not exist in the rooms on the ground floor.

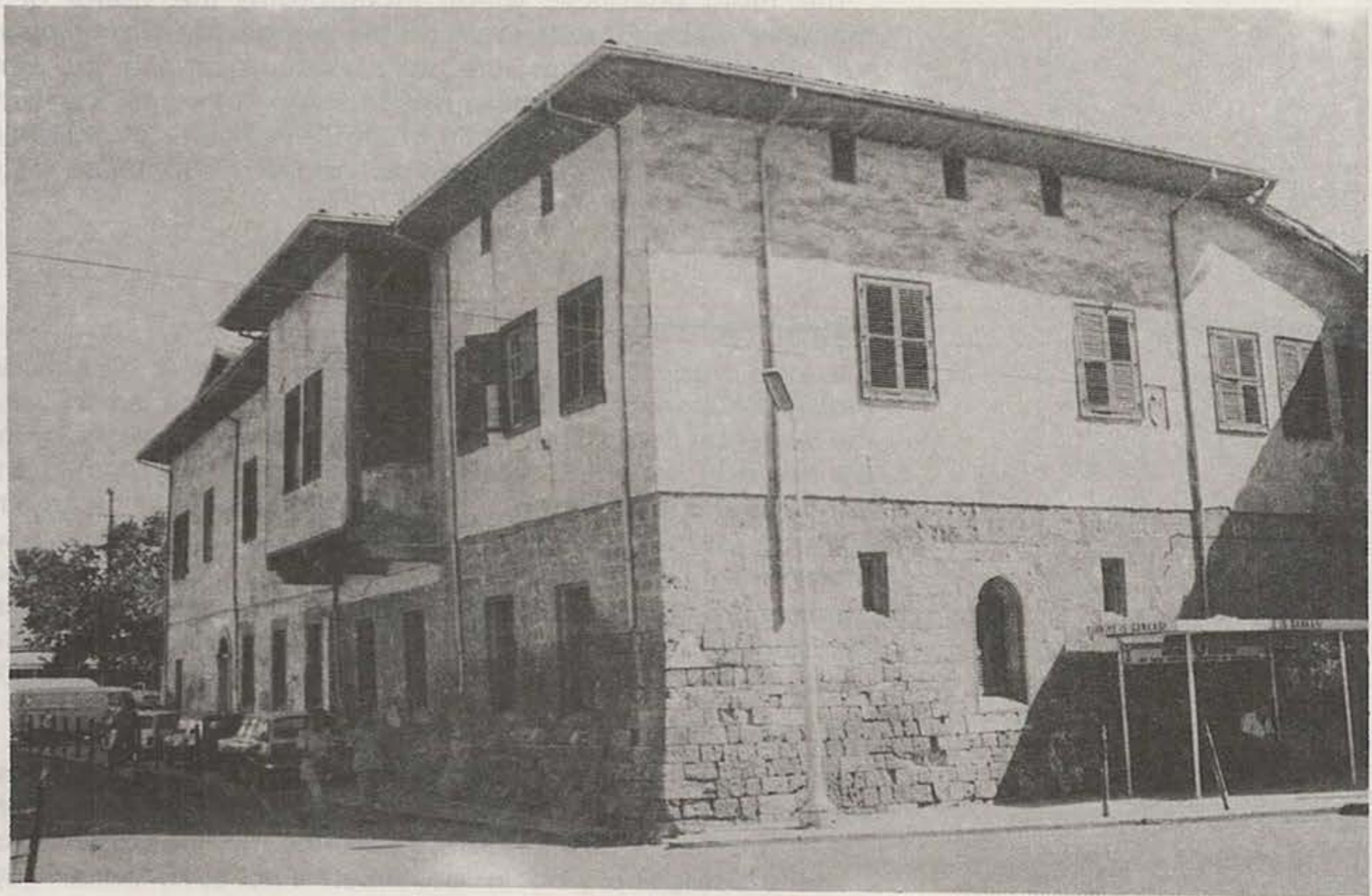
The facades of the arcaded galleries of the upper storey, are constructed with cut stone masonry and end at the top with stone cornice. At a higher level over the columns, stone gutters are seen. The exterior facades of the building, (end at top with cornices of cut-stone masonry.) similar to the facades of the inner court. The roof of the khan had also undergone alteration and lost its original appearance. The cement finish applied as roof-covering cracked at some places, and the flues which are of cut-stone masonry, were replaced from their original positions during the old restoration processes. They are mostly seen over the exterior walls at the present.

The building creates some statical problems. The south facade of the inner court, was damaged by the Greeks for restoration purposes and only the west corner was rebuilt in an incorrect and inexperienced way which does not relate to the character of the building. Most of the facades are left in a pulled-down condition, without any precaution taken into consideration. Since the front facade is not existing, the remaining part of the south wing of the building is inclining forwards and parted from the exterior wall. The same inclination is also seen on the other facades too. The buttresses at the mids of the north and west facades, most probably were added to prevent this inclination. The khan is subjected to another important problem which is the cracks seen on the roof cover. At the present, the khan is under restoration.

Kumarcilar Khan (The Gamblers Inn):

Kumarcilar Khan is a Turkish khan or inn, built at the end of the 17th century on the site of an earlier building. It is located near the Büyük Khan, at the centre of Nicosia within the walls.

The khan is an irregularly shaped building of two storeys with 52 rooms which enter the porticos around the inner courtyard and garden. The rooms on the ground floor were originally used for storage, while the first floor rooms, covered with barrel vaults, were used as the lodging rooms of the inn. Some of these rooms were fitted with a fire place.



- Kucuk Mehmet houses



- A general view for the city center (1982)

The main entrance, which incorporates the portal of the medieval period, faces south on the Asfaltı Meydani (Square). Various parts of the structure have been rebuilt over the centuries, and the entire building was restored in the first part of this century under the supervision of the Department of Antiquities. Since 1976 the khan has served as the head office of the Department of Antiquities, T.R.N.K.

3.ə. Hamams (Baths)

Büyük Hamam:

It is the biggest bath of the city and the plan layout is similar to classical Ottoman baths, where as the entrance portal is from the Venetian Period. The "Caldarium" is composed of a domed central part, to which four vaulted "eyvan" and four domed corner rooms (halvet) are opening. The "Frigidarium" space has a square plan, measuring 9.70m. at one side, and covered with a timber roof which rests over two transversal arches, similar to some of the mosques in Cyprus. The "Tepidarium" lies between the caldarium and frigidarium spaces as in the case of classical baths. Its floor has remained six feet below the street level. (7)

Omerge Hamam:

At the present, the bath is in the Greek zone of Nicosia, nearby the Omerge mosque. The plan layout is similar to "Büyük Bath". The only difference is the dome, covering the frigidarium space and the octagonal pool inside, which is not seen in the "Büyük Hamam".

Emir Hamam:

It is located in the Turkish zone of Nicosia within the walls and used only by women. The building is smaller in size than the previous examples and has a different plan. The caldarium is composed of two small domed spaces opening on to a main space which is vaulted at the top. The tepidarium consists of two vaulted spaces, one being the W.C., where as the frigidarium is a square planned space which is covered with a timber roof, carried by two transversal arches, as in the case of "Büyük Hamam".

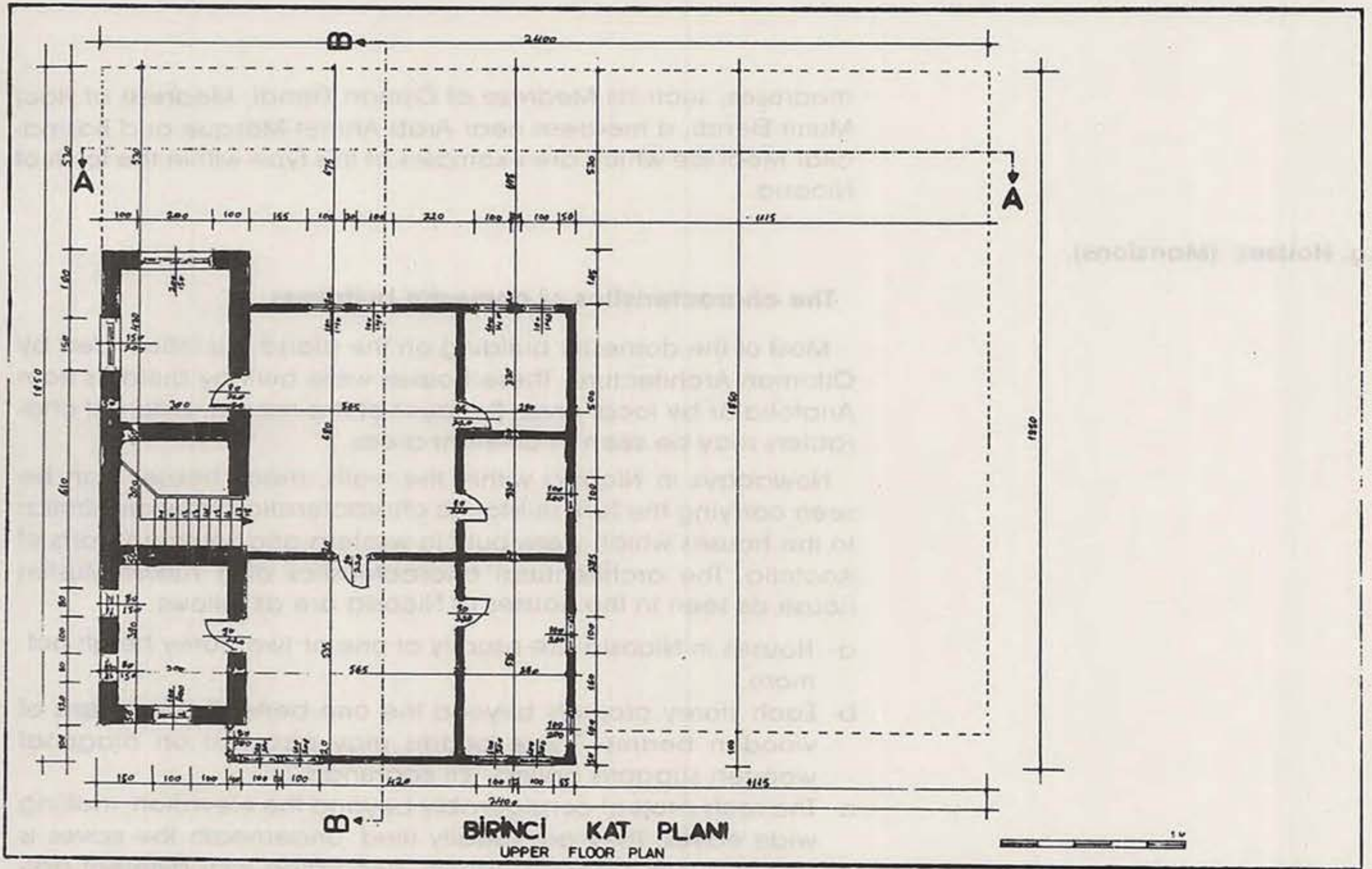
3.F. Library and medreses

Sultan's Library:

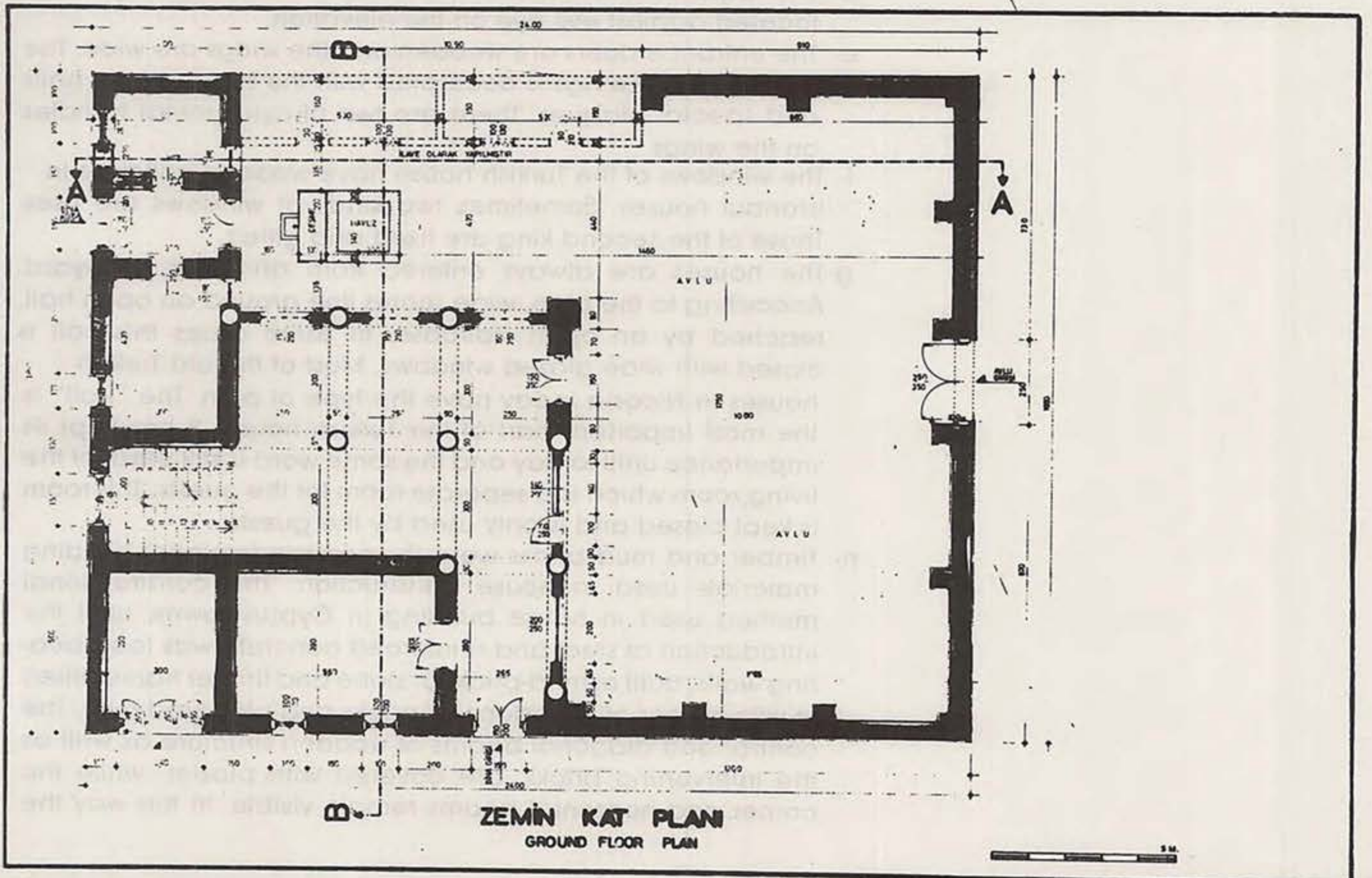
The building is located at the east of the monumental Selimiye Mosque in the city centre. It was built by Ali Ruhi Efendi, during the reign of Sultan Mahmut II, in Baroque style. Today it is in a very good condition and is still used as a library. It has a square plan layout, a domed main space and two small domed entrance spaces. The monogram of the Sultan is set over the entrance door and a gilded ornamentation in Baroque style is seen at the interior of the building.

Medreses:

The "Büyük Medrese" at the north of the previous one, is non-existent at the present. The existing primary school was probably built over the remains of this medrese. Besides there are other



- Upper floor plan



- Ground floor plan

medreses, such as Medrese of Osman Efendi, Medrese of Hacı Munir Efendi, a medrese near Arab Ahmet Mosque and Basmacılar Medrese which are examples of this type within the town of Nicosia.

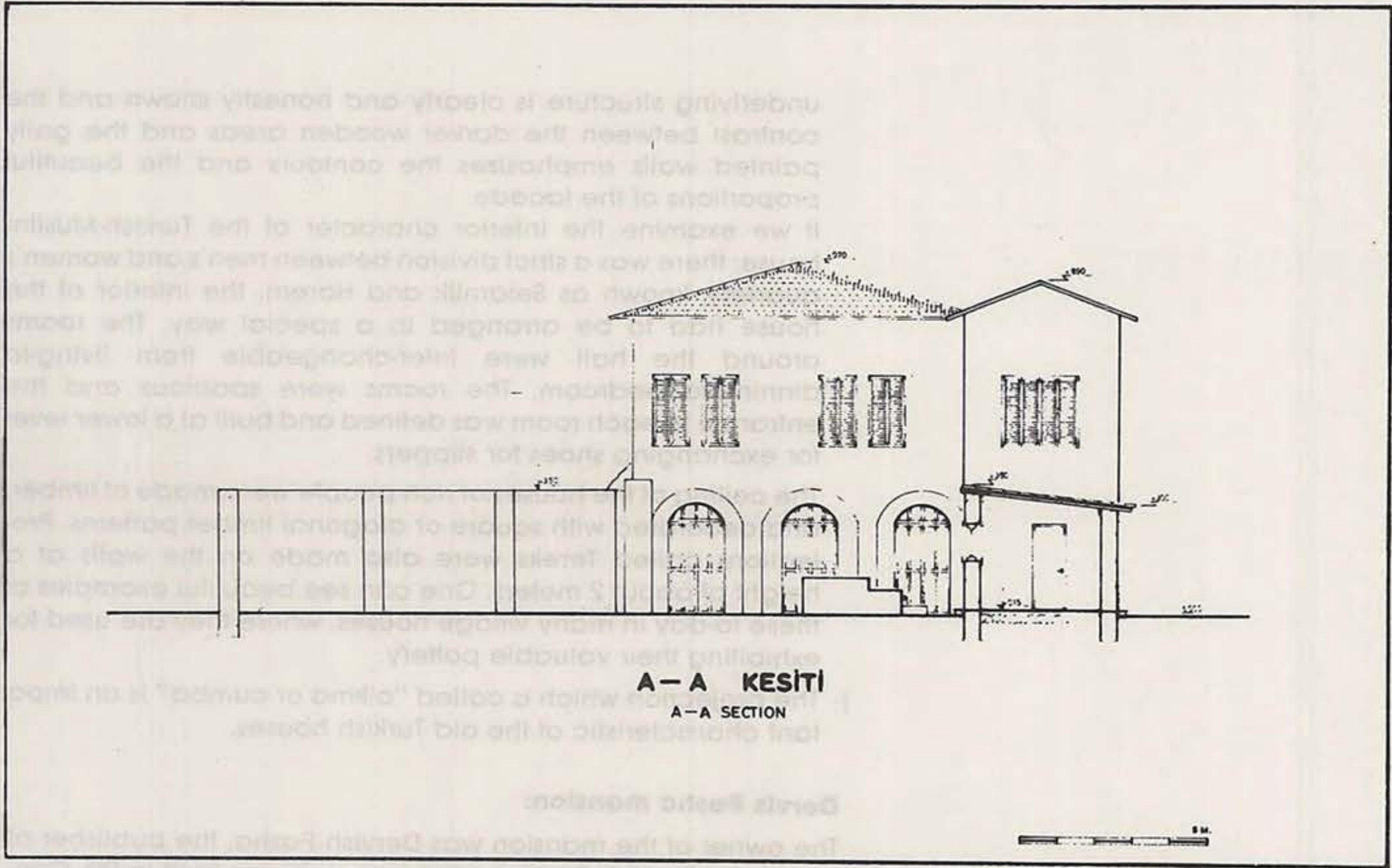
3.g. Houses (Mansions).

The characteristics of domestic buildings

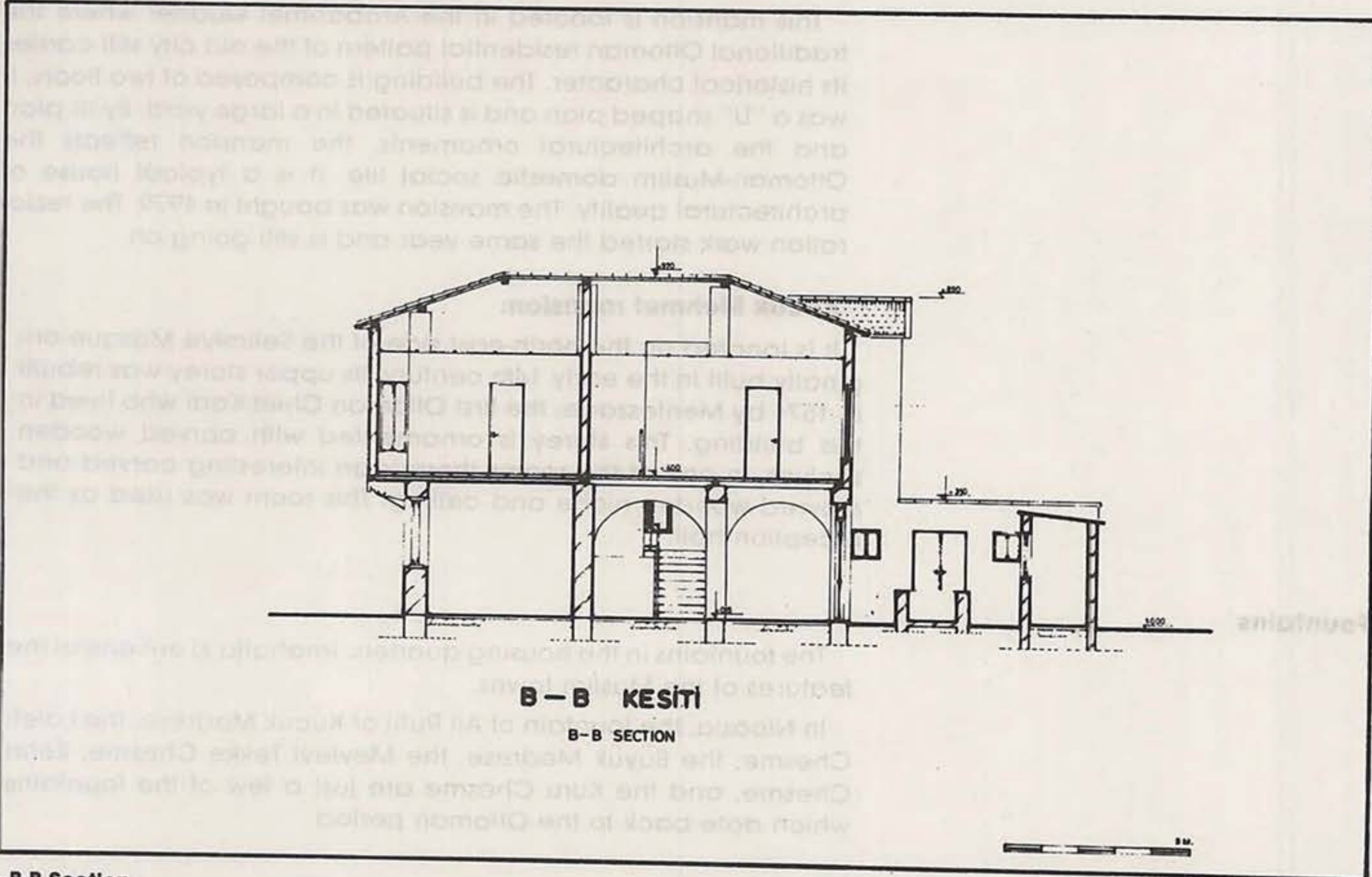
Most of the domestic building on the island are influenced by Ottoman Architecture. These houses were built by builders from Anatolia or by local ones. Because of this reason, different characters may be seen in different areas.

Nowadays in Nicosia within the walls, many houses can be seen carrying the Turkish-Islamic characteristics. They are similar to the houses which were built in western and southern parts of Anatolia. The architectural characteristics of a Turkish-Muslim house as seen in the houses of Nicosia are as follows:


- a- Houses in Nicosia are usually of one or two storey height not more.
- b- Each storey projects beyond the one beneath by means of wooden beams. These beams may also rest on diagonal wooden supports called "Eli Böğründe".
- c- The roofs project considerably beyond the elevation, making wide eaves. They are usually tiled. Underneath the eaves is covered with wooden panels, decorated with different patterns.
- d- The date of the construction and short written signs are located against evil eye on the elevation.
- e- The entrance doors are wooden and the wings are wide. The surface of the wings is decorated with the heads of the nails and special plaques. There are two circular metal handles on the wings.
- f- The windows of the Turkish house have wooden grilles as in Istanbul houses. Sometimes two kinds of windows are used. Those of the second kind are fixed and gilled.
- g- The houses are always entered from an inner courtyard. According to the plan, wide rooms line around an open hall, reached by an open staircase. In some cases this hall is closed with wide glazed windows. Most of the old Turkish houses in Nicosia today have this type of plan. The "Hall" is the most important part of the Turkish house. It has kept its importance until to-day and the same word is still used for the living room which is a separate room for the guests. This room is kept closed and is only used by the guests.
- h- Timber and mud bricks were the two predominant building materials used in house construction. The constructional method used in house building in Cyprus towns, until the introduction of steel and reinforced concrete was load bearing walls, built of mud-bricks or stone and timber frames filled in with pieces of sandstone or bricks and plastered over. The central and diagonal beams of wooden structure as well as the intervening bricks, are covered with plaster, while the corner and horizontal beams remain visible. In this way the



- A-A Section



- B-B Section



underlying structure is clearly and honestly shown and the contrast between the darker wooden areas and the gaily painted walls emphasizes the contours and the beautiful proportions of the facade.

If we examine the interior character of the Turkish-Muslim house; there was a strict division between men's and women's quarters, known as Selamlık and Harem, the interior of the house had to be arranged in a special way. The rooms around the hall were inter-changeable from living-to dining-to bedroom. The rooms were spacious and the entrance to each room was defined and built at a lower level for exchanging shoes for slippers.

The ceiling of the houses of rich people were made of timber, and decorated with square or diagonal timber patterns. Projections called Tereks were also made on the walls at a height of about 2 meters. One can see beautiful examples of these to-day in many village houses, where they are used for exhibiting their valuable pottery.

- j- The projection which is called "cikma or cumba" is an important characteristic of the old Turkish houses.

Dervis Pasha mansion:

The owner of the mansion was Dervish Pasha, the publisher of the very first Turkish Cypriot news paper, it was built in 9th Century.

This mansion is located in the Arabahmet Quarter where the traditional Ottoman residential pattern of the old city still carries its historical character. The building is composed of two floors. It was a "U" shaped plan and is situated in a large yard. By its plan and the architectural ornaments, the mansion reflects the Ottoman-Muslim domestic social life. It is a typical house of architectural quality. The mansion was bought in 1979. The restoration work started the same year and is still going on.

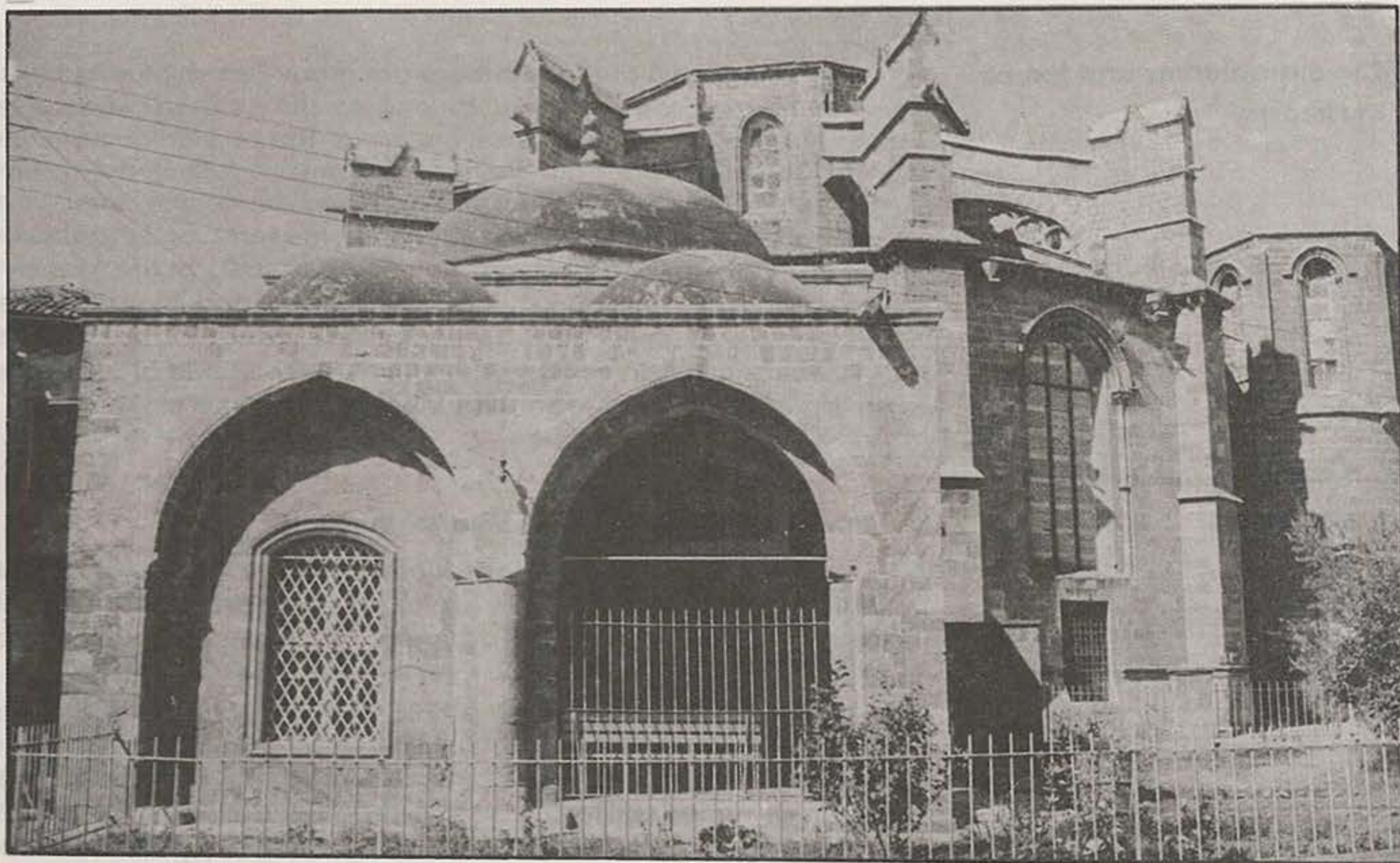
Kücük Mehmet mansion:

It is located on the north-east side of the Selimiye Mosque originally built in the early 14th century. Its upper storey was rebuilt in 1571 by Menteszade, the first Ottoman Chief-Kadi who lived in this building. This storey is ornamented with carved wooden shelves. In one of the rooms there is an interesting carved and clovred wooden niche and ceiling. This room was used as the reception hall.

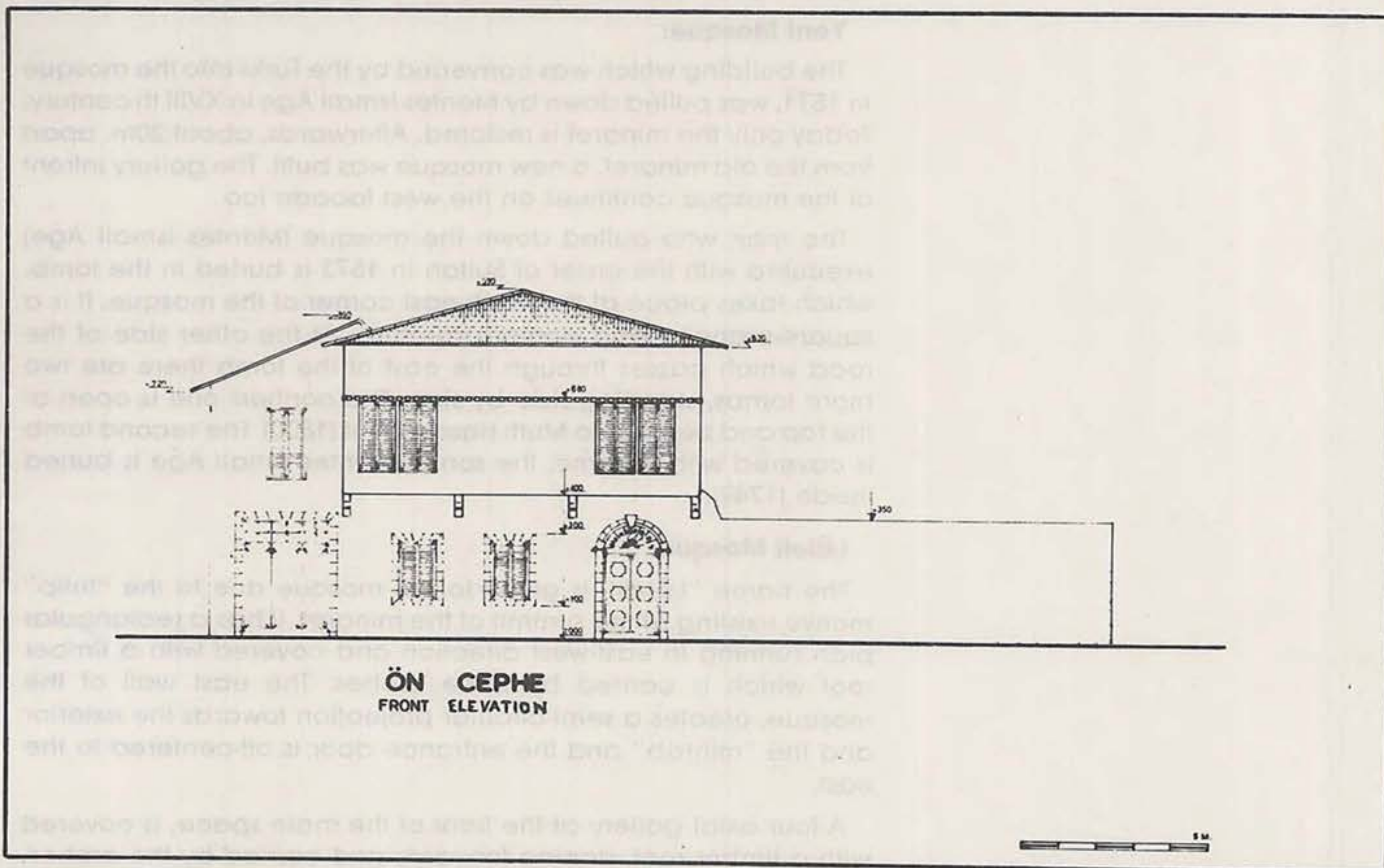
The fountains in the housing quarters, (mahalla's) are one of the features of the Muslim towns.

In Nicosia, the fountain of Ali Ruhi or Küçük Medrese, the Lâleli Chesme, the Büyük Medrese, the Mevlevi Tekke Chesme, Zehri Chesme, and the Kuru Chesme are just a few of the fountains which date back to the Ottoman period.

3.h. Fountains



- Sultan Library



- Front Elevation

3.i. The mausoleums and tombs of Nicosia

In the old town of Nicosia there are many Turkish-Muslim Mausoleums and tombs. These belong to the soldiers who were martyred in the 1570 conquest of Cyprus. The Yediler tombs in the Arabahmet Quarter, the shrine and tomb of Aziz Efendi in the Municipal Market, the tomb of Karababa, 30 Sepitler tombs on the Barbara Bastion near Kyrenia Gate, the tomb of Kurtbaba in the Asmalii Square, the mausoleums and tombs of the Mevlevi Tekke near Kyrenia Gate, the mausoleums and tombs of the Menteszade Family near Yenicami, the tombs of the Grand Vezier kamil Pasha and Ishak Pasha (Governor) and other tombs in the courtyard of Arabahmet Mosque are some of them.

4. The alteration of monuments by Ottomans

Selimiye Mosque (St. Sophia Cathedral):

It is located in the middle of Nicosia. It is the noblest and most striking monument of the city. It was the cathedral where kings of Cyprus were crowned. It is a product of the best French Gothic architecture in Cyprus to survive until the present day.

It was built during the period 1208-1326 as a Latin Cathedral on a plan similar to that of French cathedrals of the same era. After the Turkish conquest it was converted into a mosque and in 1945 it was renamed as Selimiye Mosque in attribution to the Sultan Selim the second. During the Turkish rule many alterations were made and two minarets, a fountain on the western side and the eastern door with inscriptions on it were added to the mosque.

Yeni Mosque:

The building which was converted by the Turks into the mosque in 1571, was pulled down by Mentis Ismail Aġe in XVIII th century. Today only the minaret is restored. Afterwards, about 20m. apart from the old minaret, a new mosque was built. The gallery in front of the mosque continues on the west facade too.

The man who pulled down the mosque (Mentis Ismail Aġe) executed with the order of Sultan in 1573 is buried in the tomb, which takes place at the north-east corner of the mosque. It is a square-planned and domed structure. At the other side of the road which passes through the east of the tomb there are two more tombs, standing side by side. The northeast one is open at the top and belongs to Mufti Hasan Hilmi (1800). The second tomb is covered with a dome, the son of Mentis Ismail Aġe is buried inside (1749).

Lâleli Mosque:

The name "Lâleli" is given to the mosque due to the "tulip" motive existing at the summit of the minaret. It has a rectangular plan running in east-west direction and covered with a timber roof which is carried by three arches. The east wall of the mosque, creates a semi-circular projection towards the exterior and the 'mihrab' and the entrance door is off-centered to the east.

A four axial gallery at the front of the main space, is covered with a timber roof, sloping forwards and carried by the arches.

The entrance of the cut-stone minaret which is at the west, opens on to the gallery. Stalactited ornamentation below the balcony is another characteristic of the minaret, besides the tulip which was mentioned above.

Haidar Pasha Mosque (St. Catherina Cathedral):

It is considered as the most beautiful medieval monument of Nicosia after St. Sophia. It was built in the 14th century. After the Turkish conquest of Cyprus, this Gothic cathedral was also converted into a mosque and named after Haidar Pasha, one of the commanders of the Turkish army of 1571.

Due to the restoration works carried out by the Office of Evqaf in cooperation with UNESCO it was closed to visitors in 1974 and been kept closed ever since. Some time ago it was used as a Marriage Registration office.

The Bedesten:

On the south side of the Selimiye Mosque there is another interesting 14th century Gothic church which is now known as Bedesten. The word meaning of the Bedesten is "a covered market". It is so called because it was used as a market place for the sale of textiles during the Ottoman period. During the Venetian occupation it was the Orthodox Metropolis.

5. The Turkish Ottoman monuments which are damaged

Most of the Islamic historical monuments were damaged, especially during intercommunal events. For example Dükkanlar önü mosque (1816) near Paphos Gate, Baiaktar mosque on the Costanza bastion, Kamil Pasha mansion near the Dervish Pasha mansion, the minaret of Yeni mosque, Deveciler Khan, Büyük medrese, Küçük medrese, Elmasli bath, Arabahmet medrese Karababa Fountain, Kanli Mescit Fountain, Garipler, Musalla-Ayasofya-Haydarpasa and Yeni Mosque mausoleums.

Nicosia today is divided in two parts, the northern part is the Turkish side, and the southern part is the Greek. Most of the historical monuments are in the north.

6. Urban fabric and conservation policy

In the previous sections the potential and the issue of Islamic heritage in Lefkosa (Nicosia) has been studied. Mainly single outstanding public and religious buildings and their architectural characteristics and qualities are illustrated. Also the importance of the conservation of dwelling units are emphasized and illustrated.

However, the conservation of Turkish-Islamic culture in Nicosia, particularly in the walled-city, could not be successful without an overall policy of conservation, rehabilitation and revitalization, which should embrace, the whole of the economic, social, legal and financial issues.

6.a. The urban character of the walled city

Nicosia within the walls as it can be observed from the "preservation plan" is a circular town, encircled by walls with eleven bastions. It is an old historic town and is generally accepted as

an international cultural heritage, one of the most outstanding aspects of this heritage is the Turkish-Islamic character.

The Turkish-Islamic heritage has been carried up today in the form and structure of the urban fabric. Beside the single buildings of architectural and historic character, the structure of urban functions were essentially formed during the Ottoman period.

The organic narrow street pattern is still dominant. The traditional town centre, the "bazaar" area, the traditional market streets of retail merchants, old bedesten and "arasta" are typical examples. The "mahalla" pattern of residential quarters with houses having situated in a garden and a courtyard is of unique quality.

Although archyards have lost their agricultural functions, the town is landscaped with palm and cypress trees. In the general appearance of the town, while the houses seem to be submerged in this green shed the religious monuments with their minarets enhances the towns silhouette.

6.b. Impact of new development on the historical walled-town

The impact of development and population increase on Nicosia-especially after 60's-has been great. Around the walled-city, mainly along the existing transport routes, a scattered new development has been emerged. The new buildings are mostly in a "fashionable architectural" style, of concrete structures.

The local mud-brick and stone buildings stand as the evidences of the old cultural life, within the walled-city. Thus, the aim of planners and architects who favour the conservation of Turkish-Muslim and other cultural heritage in Nicosia is focused on the conservation of the walled-city.

The following specific impacts of the legal, physical, economic and social forces on the walled-city's urban structure and Islamic heritage are of adverse nature.

- The existing street widening plan is incompatible with the urban pattern of organic narrow streets.
- Buildings on the corners of narrow streets are demolished and rounded for car turnings.
- Old buildings are removed for car-parks
- Existing building regulation allows: a 100% usage of plots, thus causing the destruction of gardens and traditional "mahalla's; Turkish-Islamic housing style and degradation of the environment together with the social life. Specifically, in a hot climate like of Cyprus, the residents refuge into the streets to get the cool air; when the traditional green courtyards are not available this results in the loss of privacy that is of a very vital aspect of Turkish-Islamic (housing) culture.

Four-storey high regulation threatens the whole of the urban fabric and functional structure, creating a disruption of harmony. Allowing to build four storeys increases price of plots in town centre and this causes an adverse impact on the conservation policy.

- The landscape of the old town which was dominated by the palm-trees and orchards are now threatened by tall concrete buildings that compete with the minarets.
- Water-tanks of solar-heating systems on top of the concrete building now are in contrast with the pitched and tiled roofs of old buildings.
- Residential rents are controlled and usually low in the old town, People living in old-buildings are mostly poor. When a building is listed as historical, it is not allowed to be demolished. Thus neither the tenant nor the owner could take-care of the building and it is left to disrepair and naturally collapse.
- The old housing areas "mahallas" with a low-rent and a stigma effect, are vulnerable to the invasion of industrial uses and warehouses of maluse. Such a process causes further environmental degradation.
- The architectural design of new buildings is generally incompatible with the characteristics of urban fabric and also with Islamic life style.
- As a compound impact of these problems the deterioration of Turkish-Islamic character in the walled-town has been escalating and without immediate measures it is likely that in few years time the valuable Turkish-Muslim housing heritage will extinct.

6.c. Policy and measures

Without a comprehensive policy and measures, it is not possible to conserve the walled-city and vitalize Islamic culture and heritage. For this aim the following policy is advocated:

- The enforcement of Town Planning Law and Antiquities Law and make necessary alteration towards updating these laws.
- Declare the whole of the walled-city as a "CONSERVATION AREA" and enforce the preservation plan.
- Up-date the listed buildings and application of strict control of the demolishings.
- Aim to conserve and protect the outstanding buildings, and the more humble buildings which are of environmental and cultural value.
- Prepare and enforce, a traffic and parking scheme including pedestrian routes in traditional "Bazaar" and "Bedesten" areas.
- A new flexible building regulation and special planning control in the walled city is to be adopted to check the height of buildings and protection of open and green spaces.
- Protect the existing trees specifically the palm trees which are planted as a muslim tradition in Cyprus after visiting holy Mekka.
- Promote compatible urban uses to the buildings, related to the needs of contemporary hygenic and life standards.
- Aim and promote public participation in conservation of the environment and the cultural heritage.
- Several economic incentives: grants to owners and tenants and creation of a fund in local or central government budget is essential in order to implement the conservation policy.

- Cooperate with international agencies, specially the Islamic agencies to obtain financial and technical assistance.
- Measures of conservation should be coupled and integrated with a policy of rehabilitation and revitalization, other-wise the Muslim-Turkish character of the town is kept just a reminiscence of the past.
- Thus it should also be aimed at, not only having a conservation policy supplying the demands of tourists but also establishing a conscious and contemporary conservation policy embracing social and cultural aspects.
- Specifically beside the mosques, the rehabilitation and revitalization of the housing quarters "MAHALLA"s, is essential in promoting Islamic character of the town.

Notes and references

- (1) Hasmet M. Cürkan "Kıbrıs Tarihinden Sayfalar"
Lefkosa 1982 (Cyprus History)
- (2) K.K.T.C. Resmi Gazete "Yasalar"
(Official Gazette)
- (3) Dr. Arch. Salvador Diaz-Bernio "Nicosia Master Plan-Urban Conservation"
1982 (unpublished)
- (4) T.R. of Northern Kıbrıs Ministry of Education, Culture and Youth: Department of Antiquities and Museums "Turkish Monuments in Cyprus" Nicosia 1982
- (5) T.R. of Northern Kıbrıs Ministry of Education, Culture and Youth: Department of Antiquities and Museums "Büyük Khan and Kumarçılar Khan" Nicosia.
- (6) Milletler arası Birinci Kıbrıs Tetkikleri Konferansı
(14.9. Nisan 1966) "Türk Heyeti Tebliği"
Ankara 1971 (The Turkish Commission Report)
- (7) Esin, Emel "Aspects of Turkish Civilization in Cyprus" (2) Ankara 1985.
- (8) Fikret Cuhadaroglu-Oguz Filiz, Röleve ve Restorasyon Dergisi "Turkish Monuments in Cyprus"
Vakıflar Genel Müdürlüğü, Ankara 1975.
- (9) Sir J.T. Hutehinson, MA, Calude Delival Cobham
CMC "A Handbook of Cyprus" London 1904.
- (10) Memorandum By British Delegate of Evqaf Seager Report.
M.B. Seager. "British Delegate of Evqaf" Cyprus 1982.
- (11) T.R. of Northern Kıbrıs, Ministry of Education Culture and Youth: Department of Antiquities and Museums, "Historical Places of Nicosia" Cyprus 1981.
- (12) Alasya, H.F. "Cyprus History and Turkish Monuments in Cyprus" Ankara 1977.
- (13) Bedevi, V. "Cyprus History" Nicosia, 1966.
- (14) Eldem, Sedat Hakki "Works of Turkish Architecture" Istanbul.
- (15) Zeki, Dr. V. "Cyprus History" Nicosia 1975.
- (16) Preliminary Appraisal "Nicosia Northern Sector" May, 1981.
- (17) Worskett, R. "The Character of Towns" London 1959.
- (18) "Photos" Turkish Republic of Northern Kıbrıs. Public Information Office.

A STUDY UPON THE PROVISION OF HOUSING FOR LOW INCOME GROUPS IN THE MUSLIM SOCIETY.

An applied study on low income housing in Egypt.

DR. HAZEM MOHAMED IBRAHIM

TECHNICAL DIRECTOR OF CENTER
OF PLANNING AND ARCHITECTURAL
STUDIES.
PROFESSOR OF PLANNING - FACULTY
OF ENG. AL-AZHAR UNIV - CAIRO

Foreword

The provision of housing for low income groups constitutes a major problem which greatly aggravates the housing problem in general in the third world. The major cause of this problems is the low income group's financial unaffordability to provide themselves with a decent dwelling unit, specially if the high cost of building materials, land and manpower is taken into consideration together with the decreasing supply of residential units. This problem could be clearly recognised, considering the low national income of most Islamic countries - except for a few ones, which makes them incapable of providing enough capital that could be utilized in the provision of appropriate housing for the low income people. It should be noted that the housing provision is dealt with through the service sector, thus, any utilized capital is totally consumed.

Several attempts and recommendations were set up to solve the low income housing problem, through the construction of permanent or temporary dwelling units or the provision of credits and loans or by working out a programme for the provision of shelter through "Self Help" or any other attempts that aim to achieve the required goals.

The core house system was one of the major attempts which depends upon staged execution starting with a vacant piece of land and gradually developing to satisfy the benefitor's increasing demands until it reaches the complete house. Yet, all these

Acknowledgment

This study was prepared upon the project presented by the Center of Planning and Architectural Studies (CPAS) - Cairo - in the competition for the planning and design of a residential area for low income families in El-Obour new city on Cairo -Suez road. This project won the first prize in the competition.

attempts lack the organizational framework besides being dealt with in a traditional manner. Generally speaking, any untypical problem needs a unique solution which suits the nature of the problem and that could enclose the probabilities of modification according to the surrounding conditions and responses upon application.

This project was based upon three concepts in the Islamic religion, the first of which is the rejection of dependence and unemployment; That is the government would not help any citizen unless he is capable of work that deserves the aid he is given. Consequently if the low income groups are willing to gain governmental aid, then they must devote as much as they can their effort, time, money and experience for solving their problem. The second concept is the mutual responsibility between the muslims; That is, a capable person must help the incapable one and the government would help the needy people as long as they are in need without being dependent on it. The third concept is based upon the individuals being unified in one whole body through co-operations and societies that could co-ordinate their activities and their tasks in solving their problem.

1. Proposed administrative structure:-

The concerned parties:-

The proposed administrative structure for the project depends upon the participation and mutual interrelation between the following parties:-

The Government:- through the Ministry of Reconstruction or any governmental, public, or official agencies which are directly related to the project and its development (public utilities agencies-national banks-ministries of Health, Education, and Interior, ... etc.).

Beneficiaries:- These are the persons living in the city and utilizing its residential units, whether they are from the working classes, government officials, or public officials.

The cooperative Society:

It incorporates the group of beneficiaries- specially the working classes. The society represents the conjunctive element between the government and the beneficiaries, it also regulates the relation between both parties.

2. Responsibilities and mutual interrelations between the different parties:-

Party

Responsibilities

The Government

- It supplies the cooperative society with the following:-
- Legality.
 - Supervision and Pursuance.
 - Technical assistance.
 - Land.
 - Subsidized materials.
 - Machines.
 - Financing (grants and long term loans).

The Cooperative Society

- It is obliged (infront of the government) to the following:-
- Keeping to the laid plan according to the criterias, regulations, designs, and conditions.
 - payment of Financing loans.
 - Undertaking the social role defined for it.

Supplying the Beneficiaries with the following:-

- Prepared land.
- Financing (long term loans).
- Technical supervision and assistance.
- Trained manpower.
- Subsidized materials.
- Machines.
- The Core Unit.

Beneficiaries

They are obliged (infront of the society) to the following:-

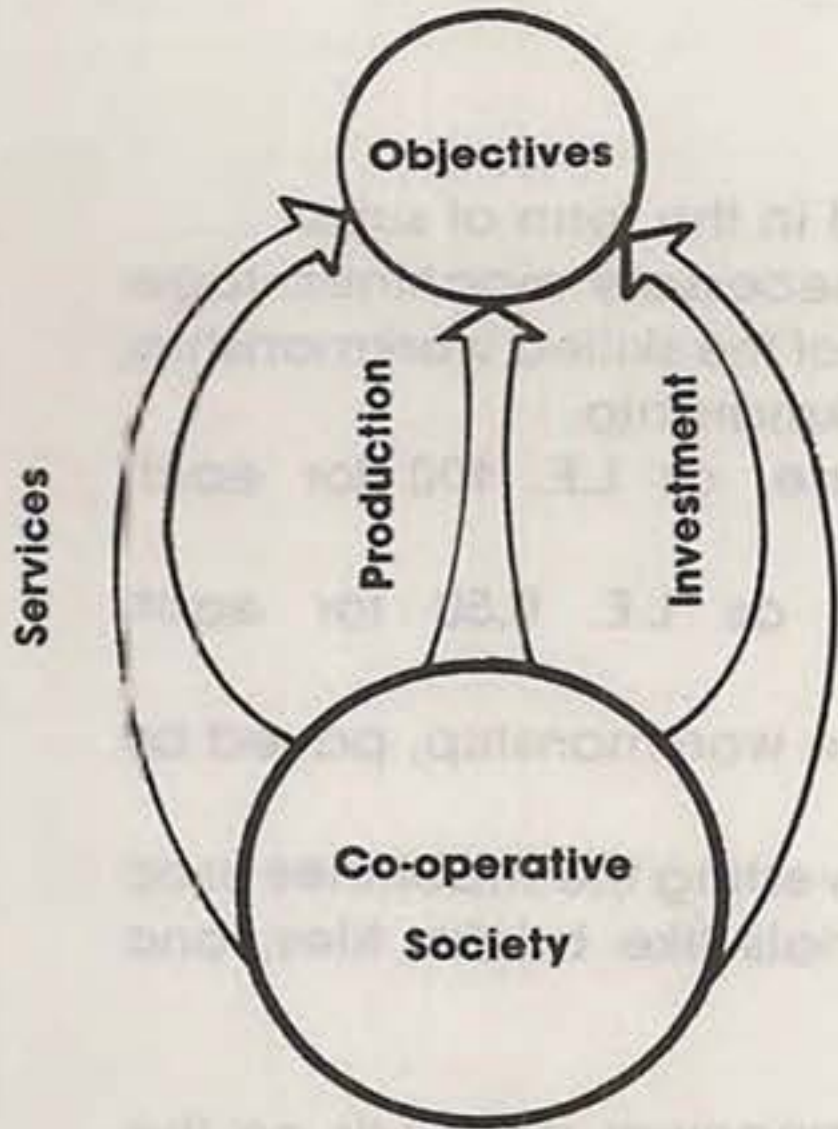
- Paying the establishment fee.
- Paying the periodical fees.
- Paying the long term loans.
- Providing manpower.

3. The cooperative society:-

The basic concept in the proposed cooperative society is transferring it from a mere service society depending on financing and loans from the government and official directions, into a seperate productive identity. Thus the society would be a productive social unit depending upon self financing. Hence, it is clear that the establishment of the cooperative society is the core of the project in addition to its being an investment and a means of production.

The cooperative society carries out its various activities through the following channels:-

First: Services:- Direct services to enable the beneficiaries to build a suitable residential unit, according to the laid plan.



- Nature of the Co-operative Society

Second: Production:- The co-operative society practices production in order to supply the community with its needs of manufactured materials, i.e bricks, tiles, stairs, in addition to trained manpower needed for the building process.

Third: Investment:- It results from utilizing the excess in products and trained manpower to provide others with their needs, in return for the actual costs and a small interest.

4. Sources of finance:-

The co-operative society:-

- Governmental loans:- It is presented in the form of subsidized materials and installations, necessary machines, together with technical supervision, 75% of the skilled workmanship, and 50% of the ordinary (plain) workmanship.
- Establishment fee payed only once, as L.E. 100 for each dweller/unit.
- Membership fee payed monthly as L.E. 0.50 for each dweller/unit.
- Indirect financing represents half the workmanship, payed by the beneficiaries.
- Direct financing from revenues of investing the machines used in the project in producing materials like bricks, tiles, and stairs, and marketing them.

5. Manpower policy:-

* The basic concept in providing manpower depends on the inhabitants of the area, especially the working classes which represent 70% of the total number of inhabitants.

* the advantages of depending on the inhabitants as a source of manpower:-

- Decreasing the percentage of workmanship in the total cost of the residential unit.
- Intensifying the relation between the inhabitants and their residential neighbourhoods.
- A pioneer experiment which if proved to be successful, could be applied in other projects.
- Creating a social entity capable of proceeding with the project and maintaining its facilities on the long run.

* The personal participation of the inhabitants necessitates the organization of working hours, without interfering with the economy of the families and the economical activities of its members. Hence, work could be organized in the form of working camps, especially during laying the foundations furthermore work could be conducted by night; Week ends and vacations with its different categories and school vacations could be utilized in organizing the needed manpower.

* If the beneficiary is untrained for the building work he has got to provide an adult person to be trained for 30 days in the year with a minimum of 2 days a week. He will be trained for one of the trades related to the building operation. After the training

period, the society could make use of his abilities in the execution work, in return for certain wages according to the salaries scale pull down by the society. In this case 1/2 of the daily wage is payed in cash, while the other half is added to the credit of the beneficiary to pay for the cost of the residential unit.

* In case if the beneficiary is a skilled worker, he could work for the society without any training, in return for a daily wage. Half of the salary will be paid in cash while the other half is added to his credit to pay for the cost of the residential unit.

6. Revenues:-

* **Direct financial revenues:-** (Payment by instalments for 20 years).

- The total proceed of selling land for the different uses (free of interest).
- Recovering the capital payed on infrastructure work, as long term loans payed by instalments for 20 years.
- Recovering the capital payed in the building, as long term loans payed by instalments for 20 years.

* **Social revenue:-**

- The participation of the community in solving the persisting housing problem.
- Establishing social reciprocal responsibility among the beneficiaries.
- Establishing the concept of aided self help in solving the persisting housing problem.

* **Economic revenues:-**

- Transforming part of the service projects into producing units.
- Relative saving in the direct expenses of housing, due to the aided self help participation of the community.

* **Urban revenues:-**

- Developing the architectural taste of the public.
- Establishing housing projects and at the same time controlling individual self dependent actions.

7. Land allocation alternatives

Alternative

Evaluation

First alternative:-

Selling the land to the beneficiary for a value representing the expenses of preparing the land with utilities, in addition to the actual value of the land.

- Lays a big financial burden on the low income represented in the value of the land.
- Breaks the principle of social mutual responsibility needed in the project, such that the well to be takes off parts of the burdens laid on the unable... unrecommended.

Second alternative:

Giving the land to the beneficiaries in return for the expenses of preparing the land with utilities.

- It deprives the government of financial resources which could help in providing the necessary facilities for the project or recovering part of the loans and parts given to the beneficiaries.
- Makes equal the wealthy and the unable which is contradictory with the principle of equal chances and social mutual responsibility. unrecommended.

Third alternative:

Giving the land to the beneficiary in return for a relative value for the expenses of preparing the land and its actual value, according to the various income levels.

- Give the beneficiaries a chance to finance the project, each according to his financial capabilities
- Establishing social mutual responsibility between inhabitants.
- Provides a considerable amount of self financing without laying huge financial burdens on the government. recommended.

8- Comparison between the core house and the shell house.

Points of comparison

Core house Shell house

• No high occupancy rate at the initial stages.	★	★★
• Necessitates a technical ability in the beneficiary.	★	★★★
• Limits abuse of land.	—	★★
• Prevents the creation of a spoiled external environment	★	★★
• Prevents the creation of a spoiled internal environment	★	★★
• Decreases the necessity of continuous supervision	★	★★

- Decreases the necessity of technical assistance ★ ★ ★ ★
- The need for a smaller capital to start the project ★ ★ ★ ★
- Total final costs of the Project equal equal
- Decreases the effect of inflation rates and escalation of prices on the estimated total costs of the house. — ★ ★
- Laying a basic financial burden on the beneficiary to complete the building. ★ ★ ★ ★
- Necessity of the beneficiary's participation in completing the structure. — ★ ★
- The risk of the unsafety of the structure (upon completion) — ★ ★
- Time needed for the structure to take its final shape ★ ★

Total points acquired	11	28
Total points	39	39
Percentage	28.2%	71.8%

Preferable system

Points:

- ★ ★ ★ Good
- ★ ★ Above medium
- ★ Medium
- Poor

9. Housing types:-

Land:-

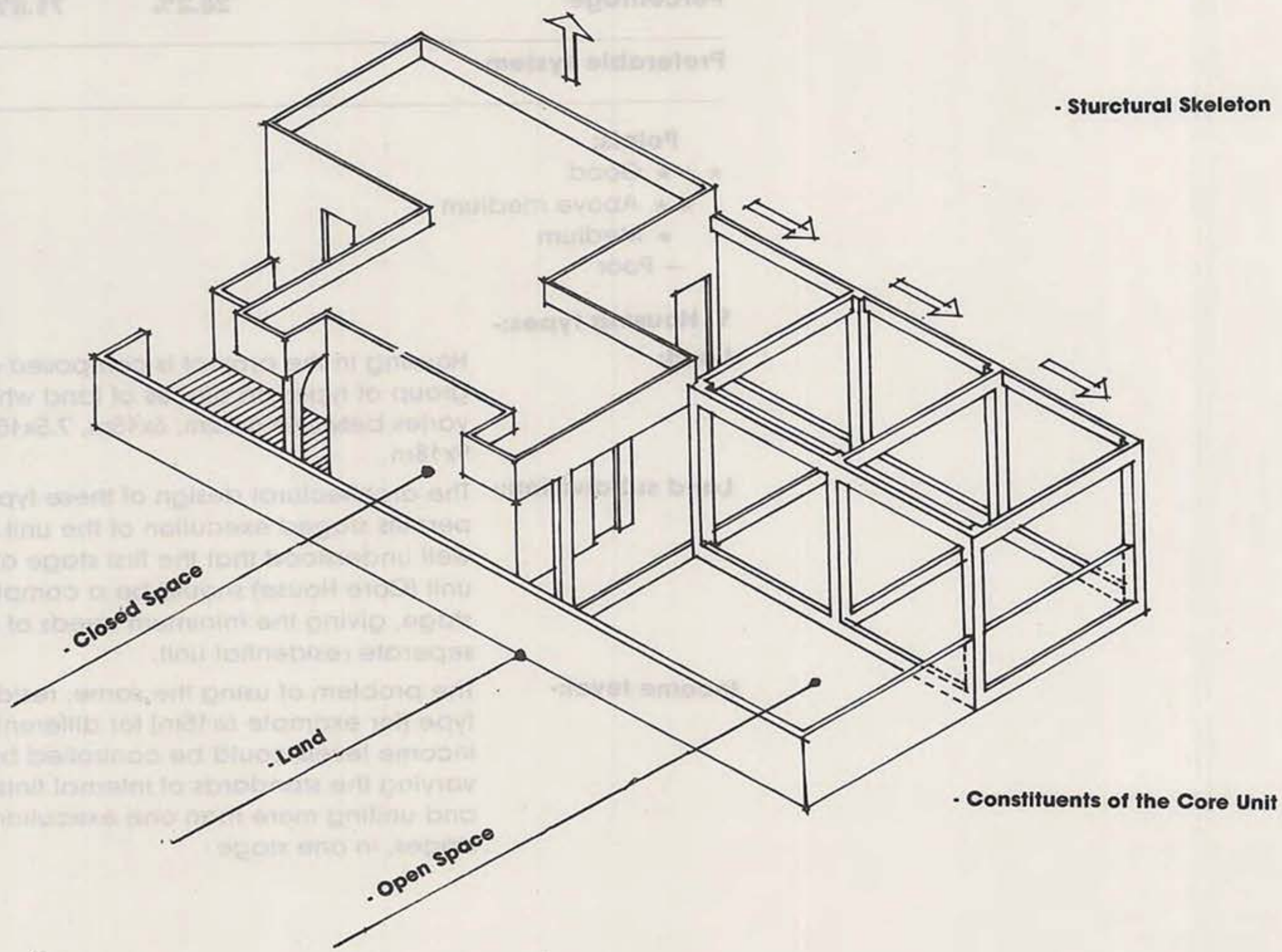
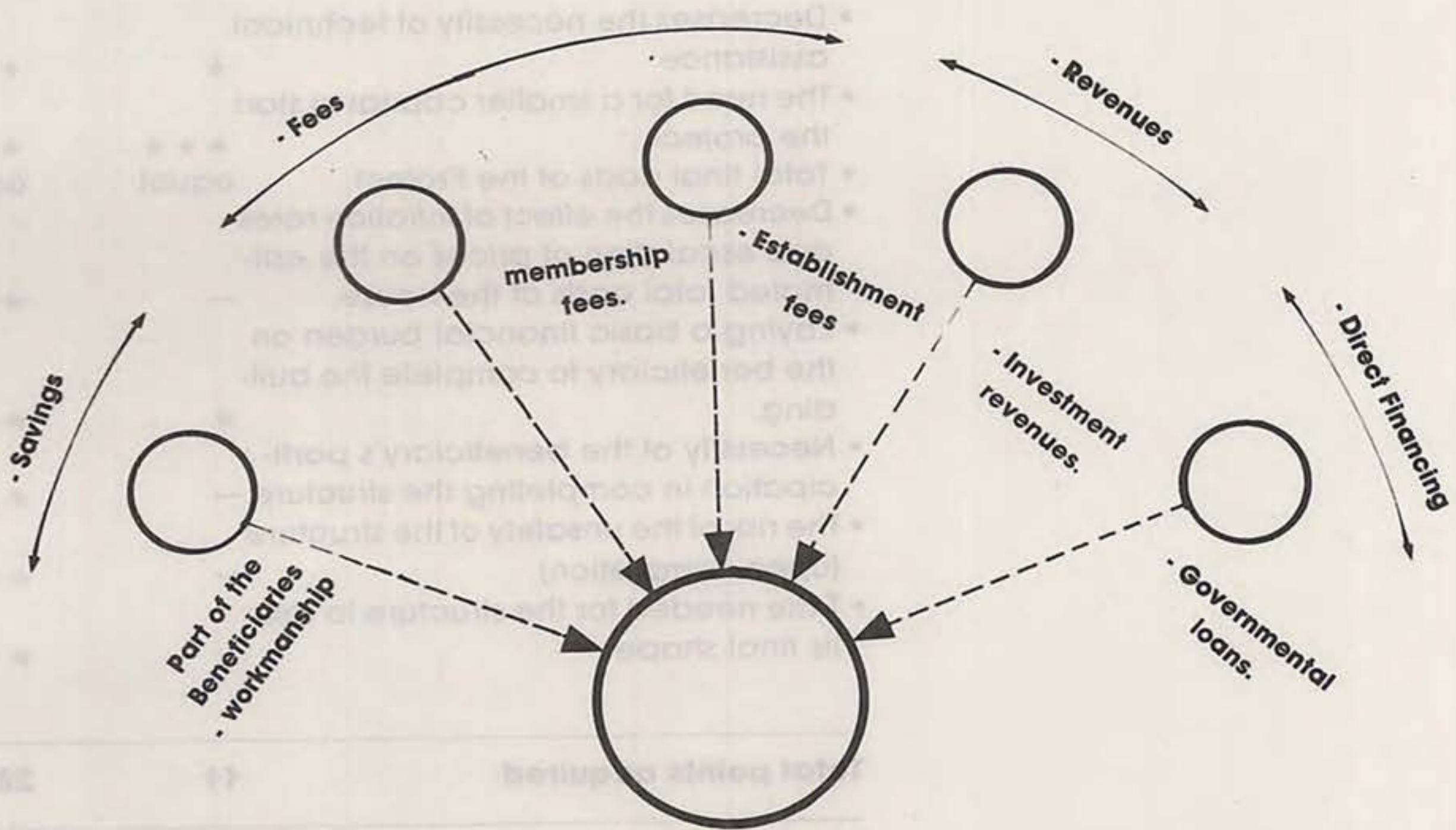
Housing in the project is composed of a group of types on pieces of land which varies between 6x12m, 6x15m, 7.5x15m, 9x18m.

Land subdivision:-

The architectural design of these types permits staged execution of the unit. It is well understood that the first stage of the unit (Core House) should be a complete stage, giving the minimum needs of a separate residential unit.

Income level:-

The problem of using the same, residential type (for example 6x15m) for different income levels could be controlled by varying the standards of internal finishes, and uniting more than one executional stages, in one stage.



Self help:-

The architectural design gives the chance for utilizing (investing) the personal help of the inhabitant in completing the executional work of his residential unit, if his time and financial conditions permit such a thing. This helps in lowering the initial costs of building the core unit, and establishing a strong relation between the dweller and his house.

Ownership:-

In the architectural design and planning of the site the vicinity of pieces of land helps in determining ownership. The external wall of a house makes a fence for the court of the adjacent house, and so on.....

10- Housing:-

Components of the Core Unit:- (the initial phase of the house) it represents the minimum needs of a residential unit and includes:-

1- Land:

A suitable piece of land for establishing a house with the possibility of raising 2 floors in the future. The area of the piece of land varies according to the income level with a minimum of 72m²(6x12m).

2- Structural Skeleton:

To insure the safety of the building, it is important to provide the complete structural skeleton in the core house, since it is quite risky to leave it for the beneficiary, who lacks experience and financial capabilities, to complete the structural skeleton on his own. The structural skeleton includes the foundations, columns, beam, slabs, kitchen and bathroom.

3- Closed Space:

The core unit includes a closed space composed of a room, bathroom, and kitchenette. This closed space suits instant habitability and lies on the street.

4- Opened pace:

It includes the opened court and land for future expansion.

5- Utilities:

The core unit is provided with complete utilities, including external utilities (inspection chamber, gully trap,... etc) and internal utilities which includes preparing the bathrooms with a French toilet a lavatory basin, a shower and a trap, in addition to supplying the kitchen with a sink.

6- Finishes:

Internal: Floor, ordinary concrete raft. Ceiling, Fairface concrete. Walls, facing cement or clay bricks. Bathroom, ordinary concrete raft.

External: Rough plaster for the facades looking on the street.

11- Building systems:-

Building systems are generally divided into two systems, the traditional building system and the prefabricated building system. The traditional building system includes the concrete frame system and bearing wall system. On the other hand, the prefabricated building systems include slip-form systems, systems using standard wall units, ... etc.

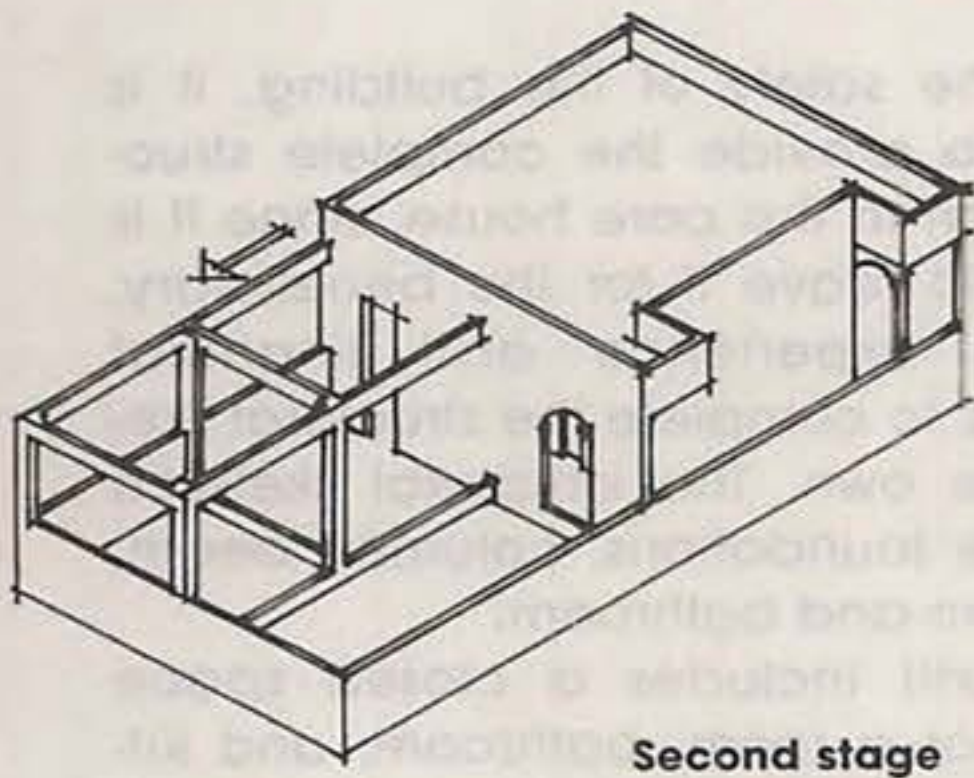
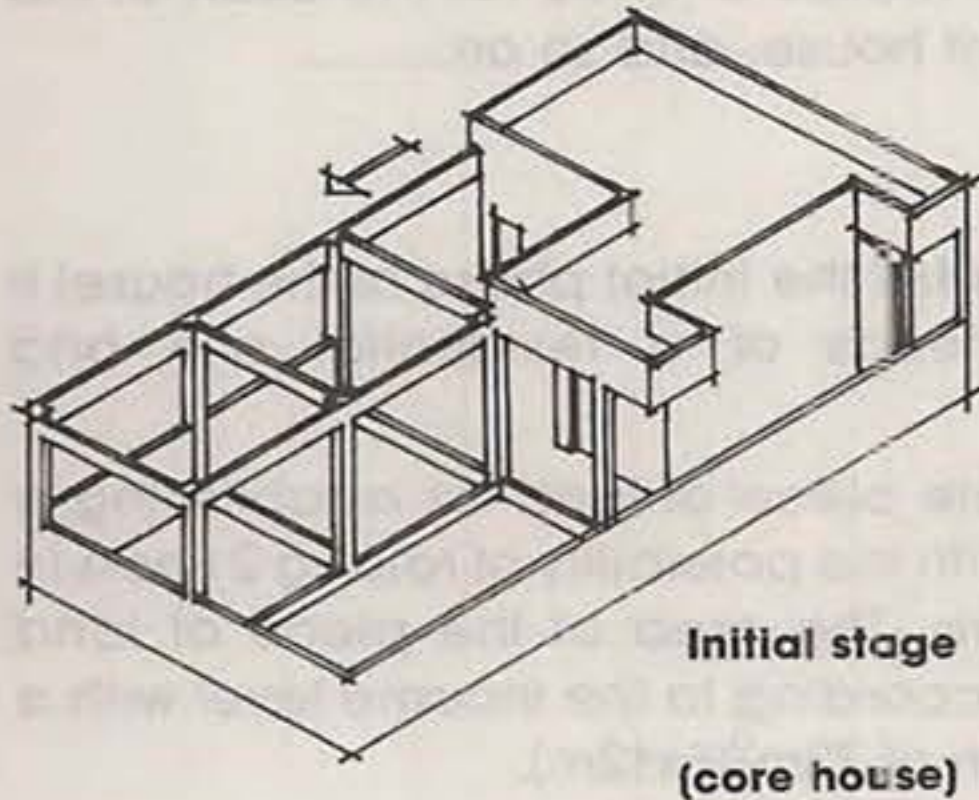
The following table shows the comparison between both systems to choose the best construction system for the low income housing projects.

Traditional building system

pre-fabricated building system

- The technical experience is well known or large sector of the society.
- It does not need any special equipments or machinery or large capitals for execution.
- Junior contractors could participate in the project
- The beneficiary could complete his house on his own.

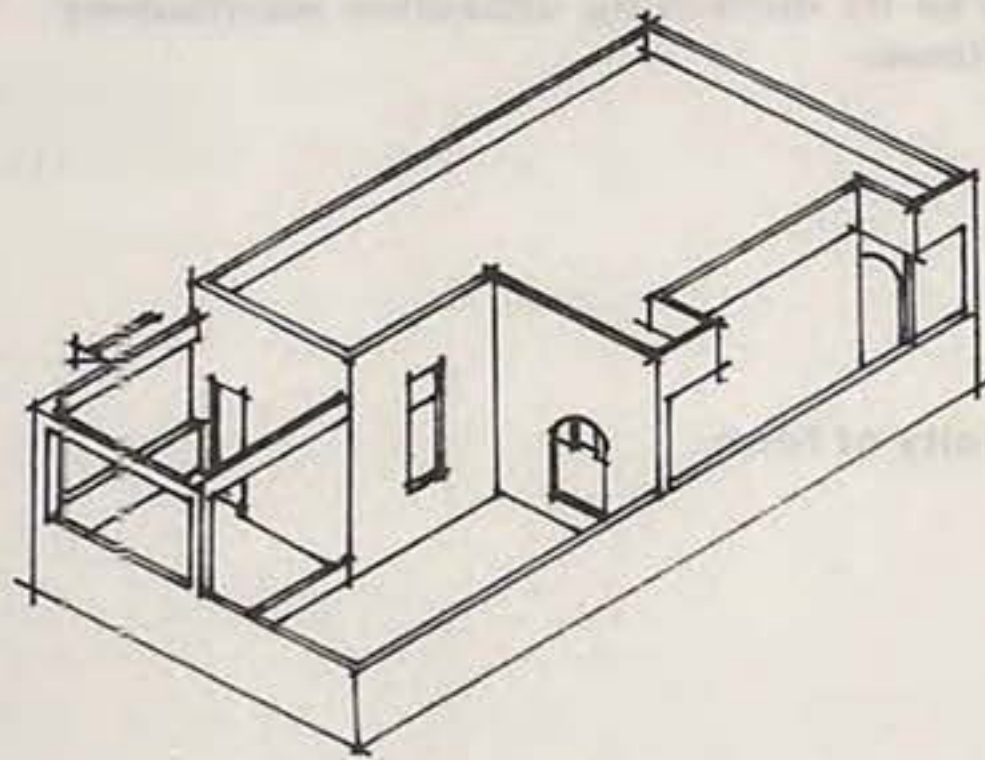
- It needs technical capabilities and experience of the manpower.
- It needs special factories to produce the pre-fabricated units.
- Junior contractors could not work in those projects.
- The beneficiary could not complete his house on his own.
- Not all beneficiaries have the technical expertise.
- The big units need some kind of mechanical device for transportation and installation.
- When the number of smaller units increase, the installation and executional problems increase.



Consequently, the prefabricated systems are unsuitable for the low income housing, but the traditional building system is quite suitable if a system for using standard units for columns, beams doors, windows and stairs was used.

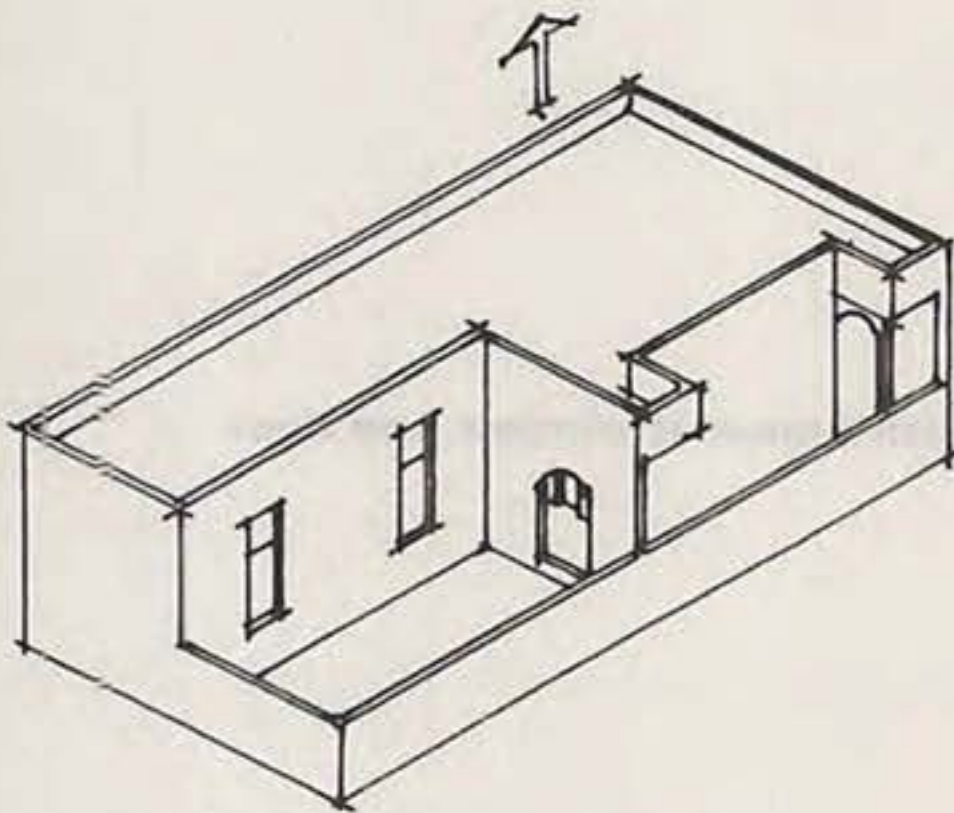
12- Methods of cost reduction.

In a low income housing project, methods of cost reduction are of prime importance. Cost reduction should not be achieved

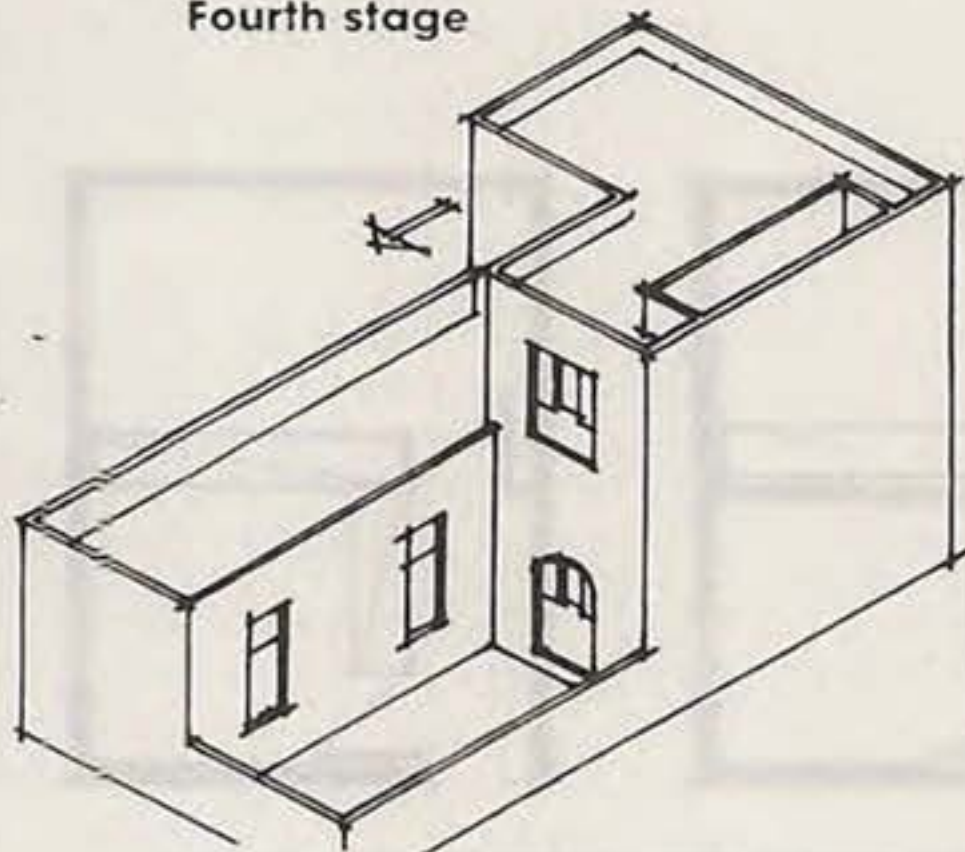


Third stage

13- The executional stages of the project.



Fourth stage



Fifth stage

through decreasing living spaces, or the use of unsuitable materials,.... etc. because this ends up with a dilapidated project which is incapable of satisfying the inhabitant's needs and that will need early repair and maintenance.

The costs could be reduced by using simple forms and collection of service elements together and the even distribution of sanitary installations. Cost reduction could be achieved as well through the omission of many unnecessary building and finishing operations, e.g. the use of apparent building materials omitting the use of plaster and paint as well as the omission of internal walls and using the internal furniture for dividing spaces instead or the use of concrete flooring instead of floor tiles. Methods of cost reduction include the increase of utilization coefficients of the affordable vertical and horizontal spaces through best distribution of doors, windows and internal furniture. The structural operations' costs could be reduced through the use of standard units of columns, beams, windows, doors, staircases and inspection rooms.

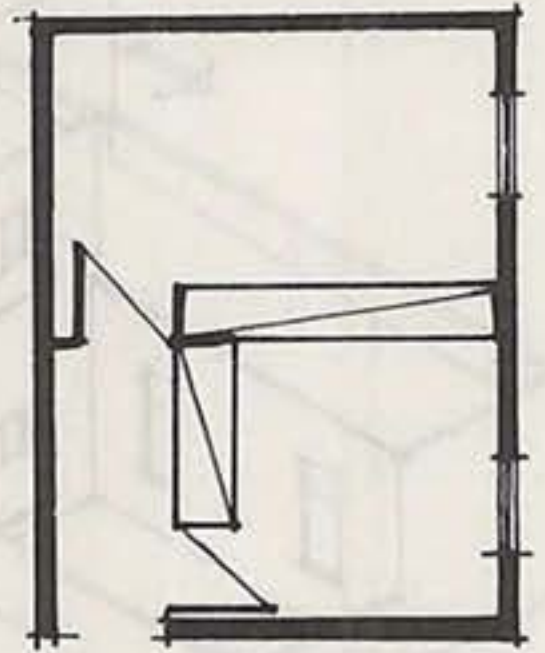
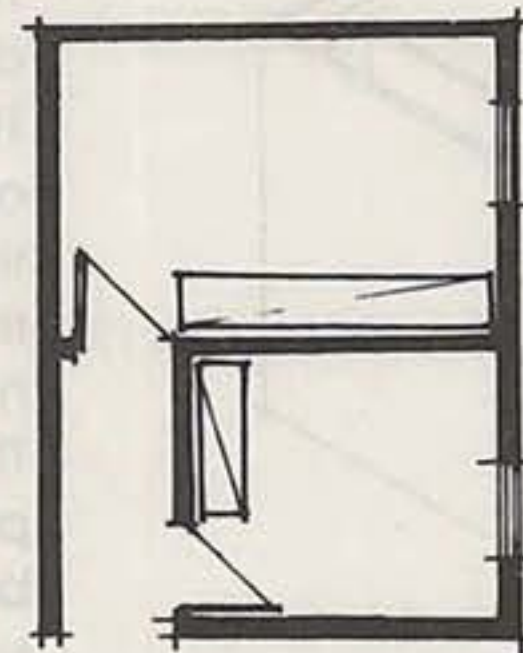
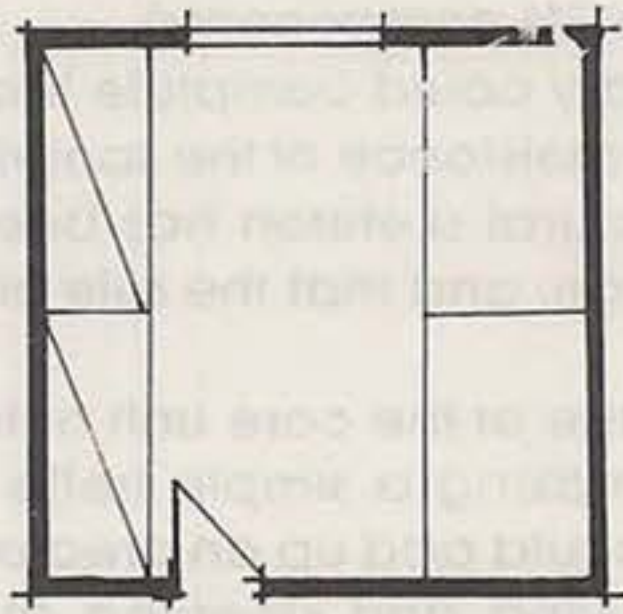
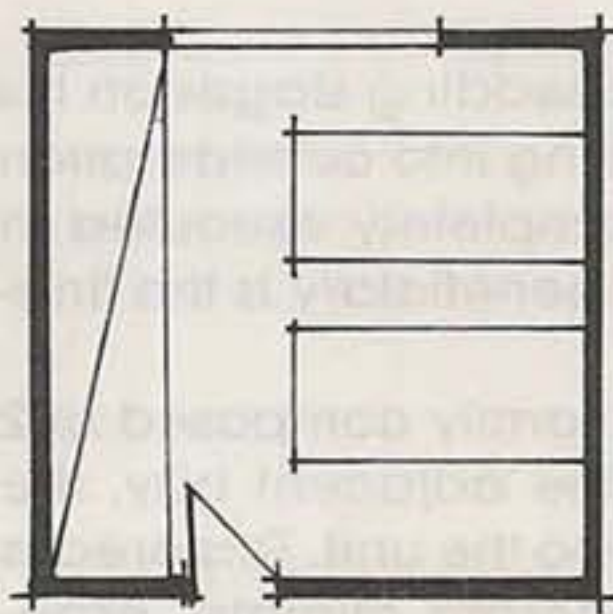
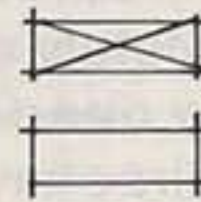
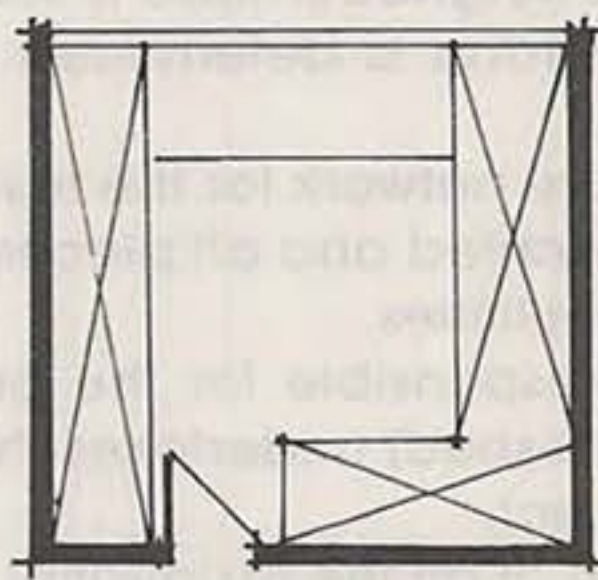
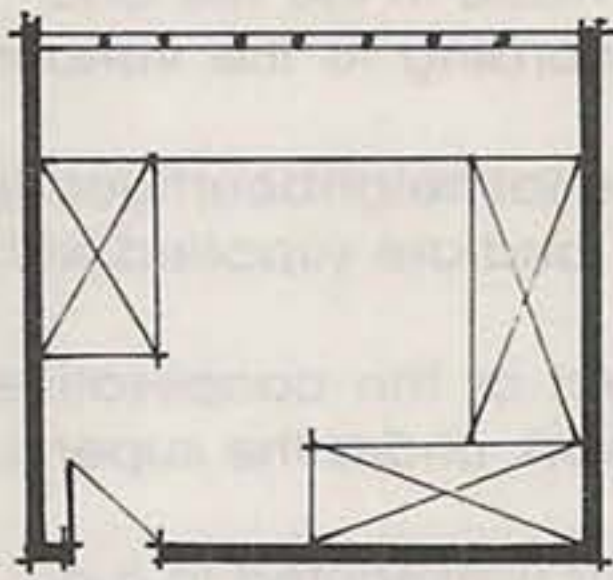
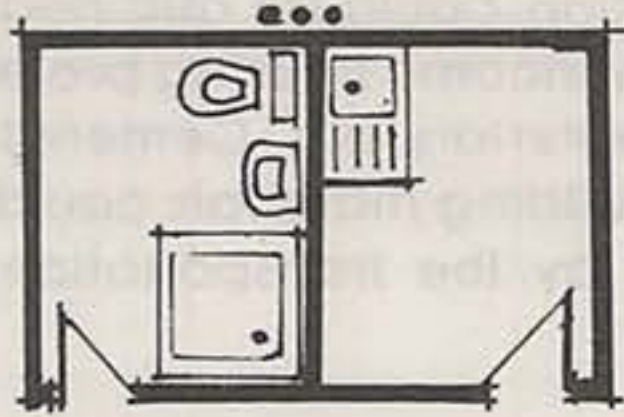
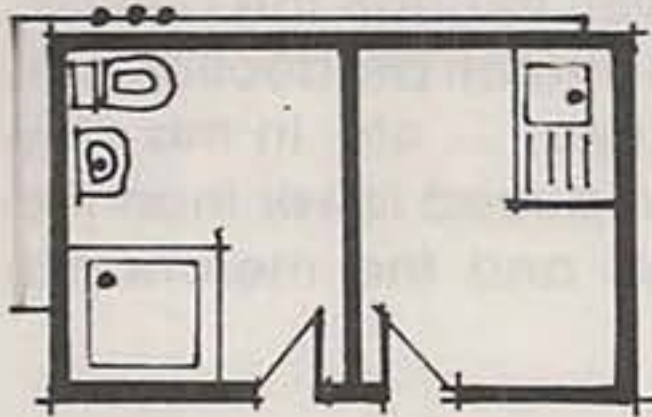
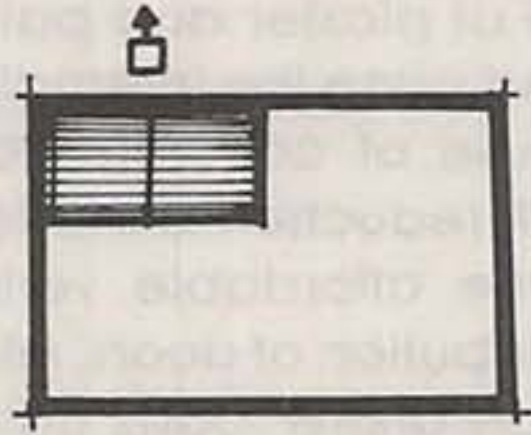
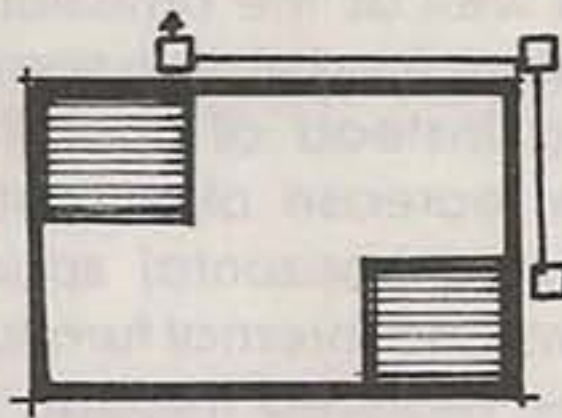
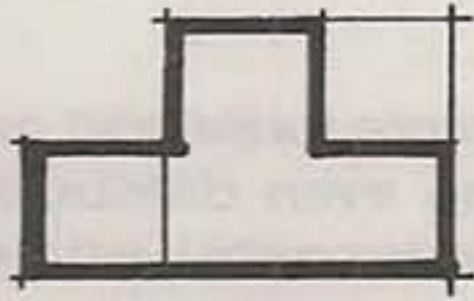
Cost reduction could be attained as well through the conversion of the low income housing project to a small production unit of building materials, e.g. Cement tiles, tiles, etc. In this way the costs of building materials could be reduced lower than the market costs by the transportation costs and the merchant's benefit rate.

The residential neighbourhood:-

- The residential neighbourhood is subdivided in the site and each piece of land is determined according to the various uses.
- The infrastructure network for the residential neighbourhood is completely executed and all pieces of land are supplied with all the needed utilities.
- The directory responsible for the project or the cooperative society (if established) undertakes the work under the supervision of the project.
- The initial stage of all the residential units is executed in a collective manner. Thus, the third dimension of the neighbourhood is created.
- The beneficiary receives his core house unit (kindly review the description of its components).
- The beneficiary could complete the succeeding stages on his own with the assistance of the society taking into consideration that the structural skeleton has been completely executed in the initial stage, and that the role of the beneficiary is the finishing.
- The initial stage of the core unit holds a family composed of 2 persons. By making a simple trellis for the adjacent bay, the beneficiary could add up an area of $9m^2$ to the unit. This area is suitable for living and sleeping at moderate climate, especially as it gives a relative amount of privacy upon use.
- The second stage includes a complete room ($9m^2$). Thus the house could hold a family composed of 3-4 persons with an

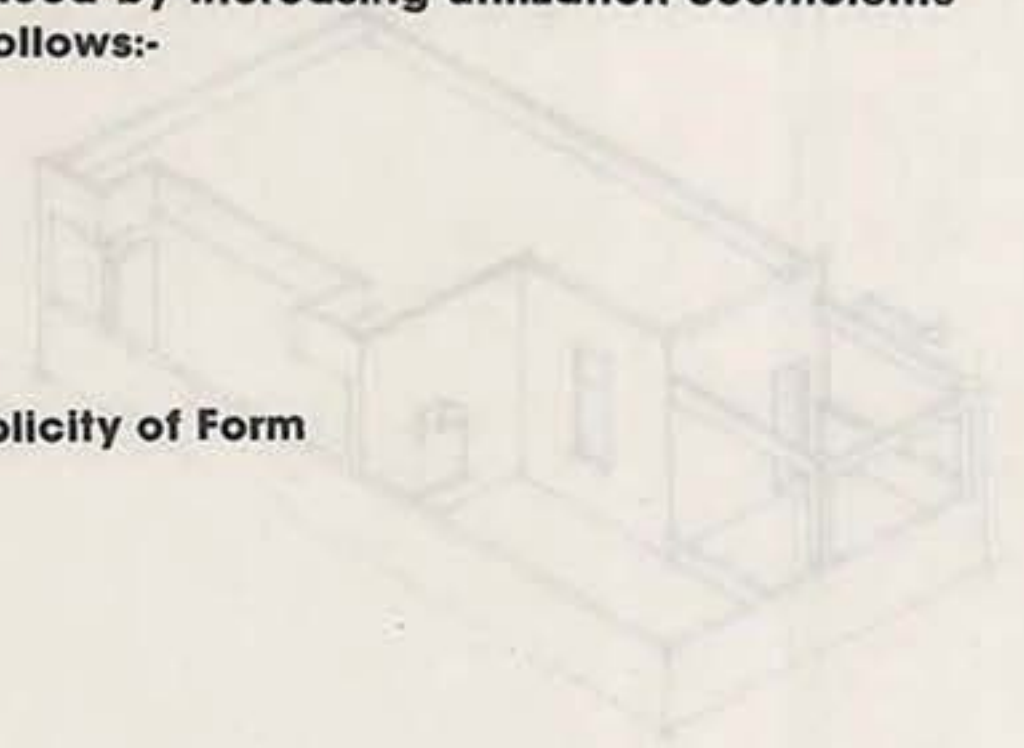
- Poor solutions/

Good solutions



- Methods of Cost reduction
- The relative costs for buildings could be reduced by increasing utilization coefficients as follows:-

1. Simplicity of Form



2. Grouping the services

3. Grouping the Sanitary Installations.

4. Well distribution of window and door position

6. Using furniture as partitions between rooms.

5. Well distribution of furniture in rooms

occupancy rate of 1.5 - 2 (Person/room). In this case also, the beneficiary could add up an area of 5m² by constructing a simple trellis in the adjacent bay to be used as a living or sleeping area.

- The third stage is similar to its precedent and comprises a new room and an additional trellis. It holds a family composed of 5-6 persons with an occupancy rate of 1.7 - 2 for the room.
- The fourth stage is similar to its precedent and includes a new room. Thus, the ground floor is completed and the house holds a family of 5-6 persons with an occupancy rate of 1.25-1.5 for the room.
- The fifth stage is a vertical expansion. The stair case is constructed and the same work is repeated from the initial to the fourth stage for a new family.
- The construction of various types of residential units is taken into consideration. There is the reduced costs unit, which is not completely finished, and the completely finished unit. The reduced costs type is basically used in the first and second stages of the house, while the other three stages are completely finished.

Apartment houses:-

- In the initial stage, the apartment houses are constructed. The completely finished apartments are given to inhabitants whose annual income lies between (L.E. 1870-2750) while, the reduced finishes are given to inhabitants whose annual income lies between (L.E. 1350-1780).
- Each beneficiary receives his unit and or his commercial store. It is preferable for the beneficiary to live in the same apartment house which comprises his store.
- In the second stage, each beneficiary who received a reduced costs unit starts to complete finishing his residential unit according to his needs and his income level.
- It must be taken into consideration not to mix between the reduced costs apartments and the completed ones in the same apartment house.

Total construction costs of type (6x12) distributed according to stages of execution, annual installment and annual income of beneficiaries

Item		First Stage	Second Stage	Third Stage	Fourth Stage	Fifth Stage
Total constructional work	L.E	2068	2314	2793	3210	588
Price of Land	L.E	1656	1656	1656	1656	1656
Total costs of the Building (land + building)	L.E	3724	3970	4449	4866	753 * *

Category of residential unit		Reduced costs	Reduced costs	Complete Finishes	Complete Finishes	Complete Finishes
Value of the Annual instalment for 20 years	L.E.	425.5	451.9	503.6	548.6	1045.8
Total Annual Income of the Beneficiary the monthly instalment represents 20% of the income	L.E.	2127	2259	2518	2743	5228
Annual Income	L.E.	1870-2750	1870-2750	1870-2750	2750 upwards	2750 upwards

The costs of the apartment houses, the annual instalments and the income levels distributed according to the standards of finishes

Item		Complete Finishes	Reduced Costs
Costs of preparing square meter of land with the utilities	L.E.	22	22
Cost of the square meter	L.E.	2.5	1
Total cost of the square meter (land + utilities)	L.E.	24.5	23
Total area of one apartment building	m ²	500	440
Total cost of land (land + Utilities)	L.E.	12250	10120
Costs of constructing the apartment building	L.E.	58000	40360
Total Costs of the apartment building (land + utilities + buildings)	L.E.	70250	50480
Number of residential units in the apartment building		8	8
Total cost of the residential unit	L.E.	8781	6310
The annual instalment of the residential unit (payed for 20 years)	L.E.	439,1	315,5
Total annual Income - the monthly instalment shouldn't exceed 20% of the incomes	L.E.	2195	1578
The Income level of the beneficiary	L.E.	1870 to 2750 upwards	1350 to 1780

Income levels, the annual instalments, and the total cost of the residential unit

1 Percentage	2 Annual Income L.E.	3 Annual Instalment L.E.	4 Total cost of the Residential unit 3x20 years L.E.
30%	1050	210	4200
	1350	270	5400
30%	1350	270	5400
	1870	374	7480
30%	1870	374	7480
	2750	550	11000
10%	2750	550	11000
	3630 (for example)	726	14520

**Relative distribution of attached row houses,
apartment houses and residential units according
to income levels.**

Type	area	No. of pieces	No. of Units	1050	1350	1870	2750
				1320 (30%)	1870 (30%)	2750 (30%)	..more (10%)
6 x 12	72	180	360	100%			
6 x 15	90	180	360	100%			
7,5 x 15	112,5	180	360		100%		
9 x 15	135	180	360			100%	
9 x 18	162	90	270			10%	90%
Attached Row Houses:				16	128		
Reduced category 440						70%	
Complete Finishes 480							30%
Apartment houses				48	180		
Reduced category 450						70%	
Complete Finishes 500						20%	10%

**Distribution of inhabitants according to no. of
families and income levels**

		No. of Inh.	No. of families	Distribution according levels to Income			
Industry Workers	70%	7070	1683	505	505	505	168
Officials	30%	3030	721	261	216	216	73
Total population		10100	2404	721	721	221	241

Evaluation of land costs of residential types

Item	Type	Type	Type	Type	Type	Apartment Houses		Attached Row Houses	
	6x12	6x15	15x75	9x15	9x18	Complete Finishes	Reduced Cost	Complete Finishes	Reduced Cost
Utilities (L.E.)	22	22	22	22	22	22	22	22	22
Lease (L.E./m ²)	1	1	1.5	2.5	3	2.5	1	6.40	5.00
Total (L.E.)	23	23	23.5	24.5	25	24.5	23	28.40	27
Area of Land (m ²)	72	90	123.5	135	162	500	400	480	450
Gross Value (L.E.)	1656	2070	2644	3308	4050	12250	10120	13640	12150

Cost of 1 square meter of built area (land + buildings)	L.E./m ²	176.3	151.8	135.9	125.5	99.1
Category of residential unit		Reduced Costs	Reduced Costs	Complete Finishes	Complete Finishes	Complete Finishes
Value of the Annual Installment for 20 years	L.E.	326.1	349.1	394.1	433.1	683.45
Total Annual Income of the Beneficiary. (The monthly installment represents 20% of the income)	L.E.	1631	1746	1970	2166	3417
Annual Income	L.E.	1350-1870	1350-1870	1870-2750	1870-2750	2750 -----

Total costs of constructing type (9x15) distributed according to execution stages the annual installment , and the annual income

Item		First Stage	Second Stage	Third Stage	Fourth Stage	Fifth Stage
Total Construction Work	L.E.	4280	4789	5780	6643	16187
Cost of Land	L.E.	3308	3308	3308	3308	3308
Total Costs of buildings (buildings + land)	L.E.	7588	8097	9088	9951	19495
Built Area	m ²	36	54	67.5	81	243
Cost of 1 square meter of built area (land + buildings)	L.E./m ²	210.8	149.9	134.6	122.9	80.2
Category of residential unit		Reduced costs	Reduced costs	Complete Finishes	Complete Finishes	Complete Finishes
Value of the Annual installment for 20 years	L.E.	379.4	404.9	454.4	497.5	974.8
Total Annual Income of the Beneficiary (the monthly installment represents 20% of the income)	L.E.	1897	2024	2272	2488	4874
Annual Income	L.E.	1870-2750	1870-2750	1870-2750	1870-2750	2750 upwards

Total costs of constructing type (9x18) distributed according to execution stages, the annual installment. and the annual income

Item		First Stage	Second Stage	Third Stage	Fourth Stage	Fifth Stage
Total construction work	L.E.	4459	4989	6022	6921	16865
Cost of Land	L.E.	4050	4050	4050	4050	4050
Total costs of buildings (buildings + land)	L.E.	8509	9039	10072	10971	20915
Built Area	m ²	37.5	55.5	83.5	97	291
Cost of 1 square meter of built area (land + buildings)	L.E./m ²	253.6	162.9	120.6	113.1	71.9

Built Area	m ²	20	29	38	47	94
Costs of the square meter of built up area (land + buildings)	L.E	186,2	136,9	117,1	103,5	80,2
Category of the residential unit	Reduced costs	Reduced costs	Complete Finishes	Complete Finishes	Complete Finishes	
Value of the annual installment for 20 years	L.E	186,2	198,5	222,5	243,3	376,9
Total Annual Income beneficiary (the monthly installment represents 2% of the income)	L.E	931	992,5	1112,3	1216,5	1884,3

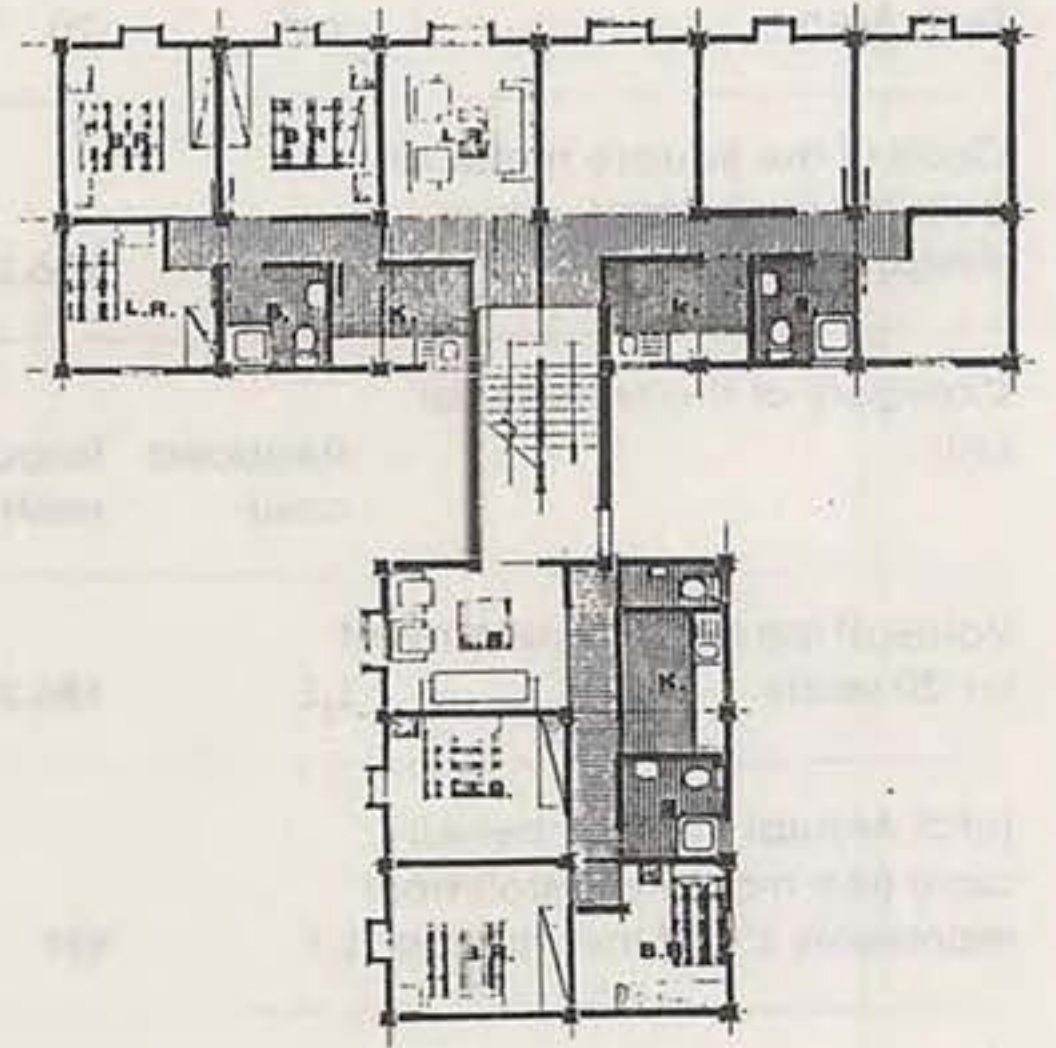
Total costs of constructing type (6x15) distributed according to execution stages, the annual installment, and the annual income

Item		First Stage	Second Stage	Third Stage	Fourth Stage	Fifth Stage
Total construction work	L.E.	3298	3690	4453	5118	9377
Cost of Land	L.E.	2070	2070	2070	2070	2070
Total costs of buildings (buildings + land)	L.E.	5368	5760	6523	7188	11447
Built Area	m ²	29	35	44	53	108
Cost of 1 square meter of built area (land + buildings)	L.E./m ²	185.1	164.6	148.5	135.6	106
Category of residential unit		Reduced costs	Reduced costs	Complete Finishes	Complete Finishes	Complete Finishes
Value of the Annual installment for 20 years	L.E.	164.9	288.1	326.2	359.4	572.4
Total annual income of the building (the monthly installment represents 20% of the income)	L.E.	825	1440	1631	1797	2862
Annual Income	L.E.	1050-1350	1350-1870	1350-1870	1350-1870	2750 upwards

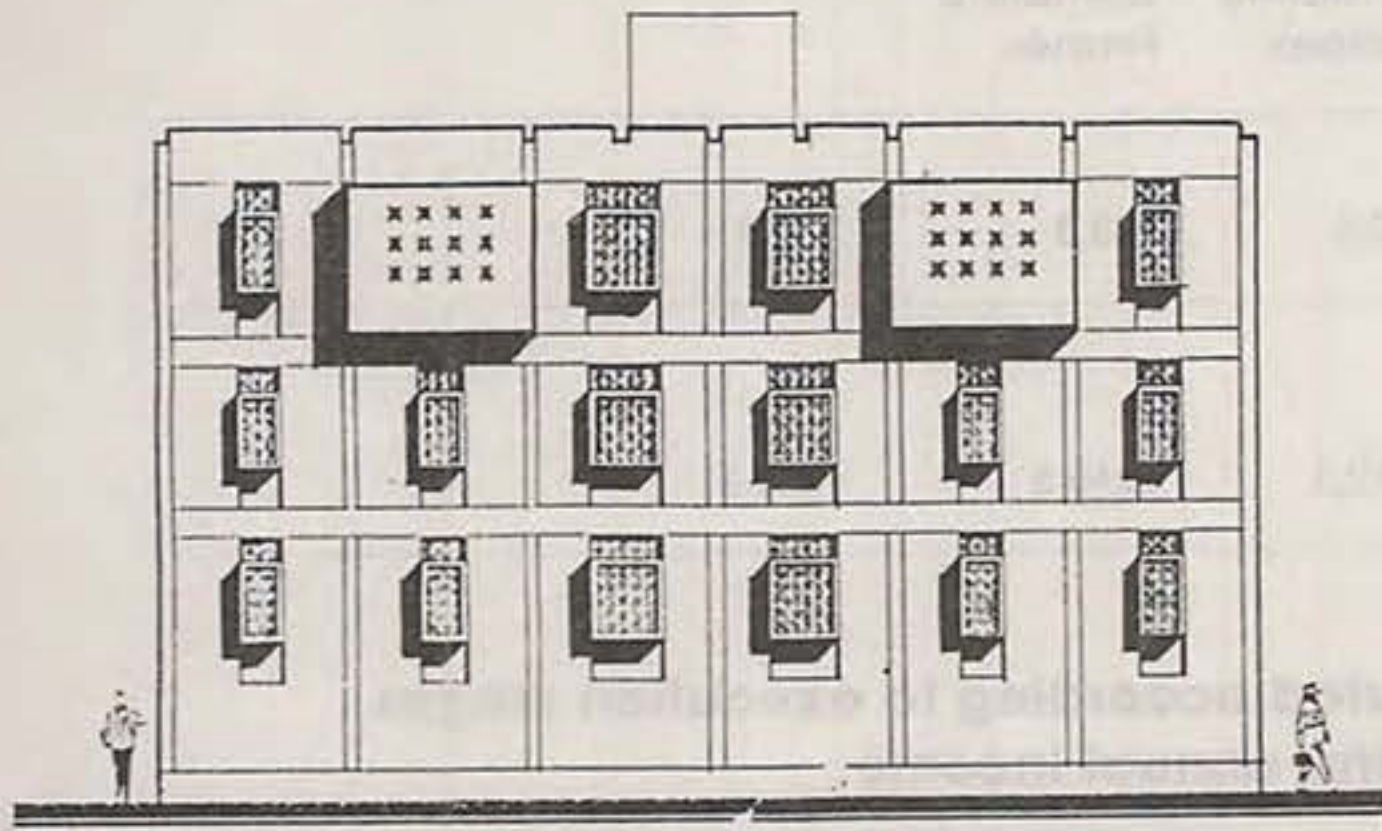
Total costs of constructing type (7.5x15) distributed according to execution stages, the annual installment, and the annual income

Item		First Stage	Second Stage	Third Stage	Fourth Stage	Fifth Stage
Total construction work	L.E.	3878	4339	5237	6018	11025
Cost of Land	L.E.	2644	2644	2644	2644	2644
Total Costs of buildings (buildings + land)	L.E.	6522	6983	7881	8662	13669
Built Area	m ²	38	46	58	69	138

- Apartment buildings.

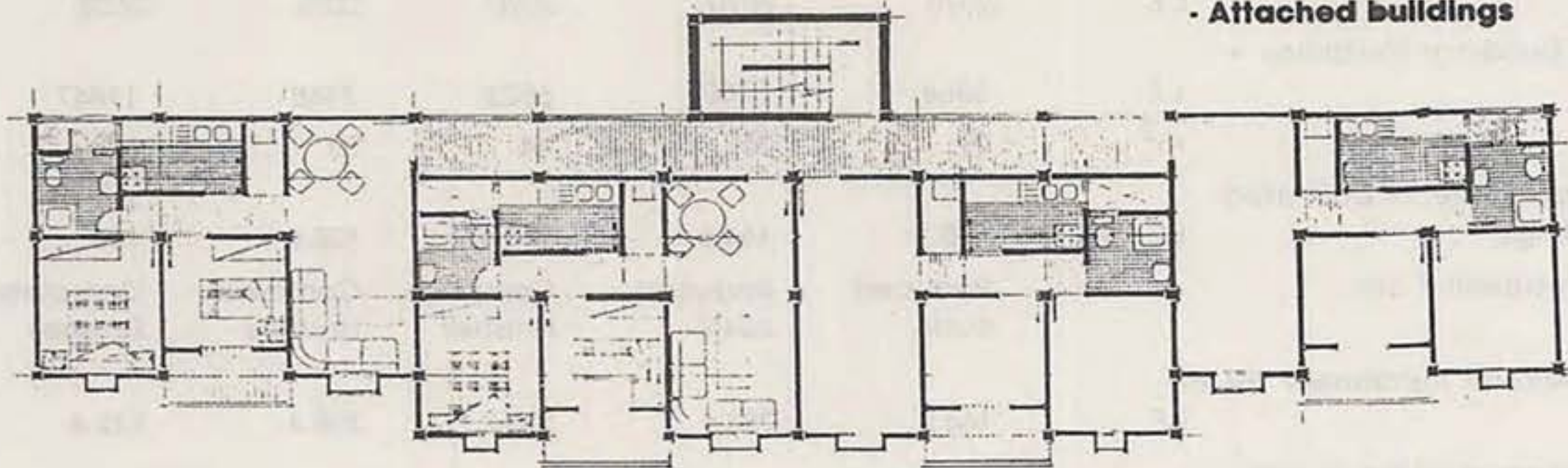


First floor plan.

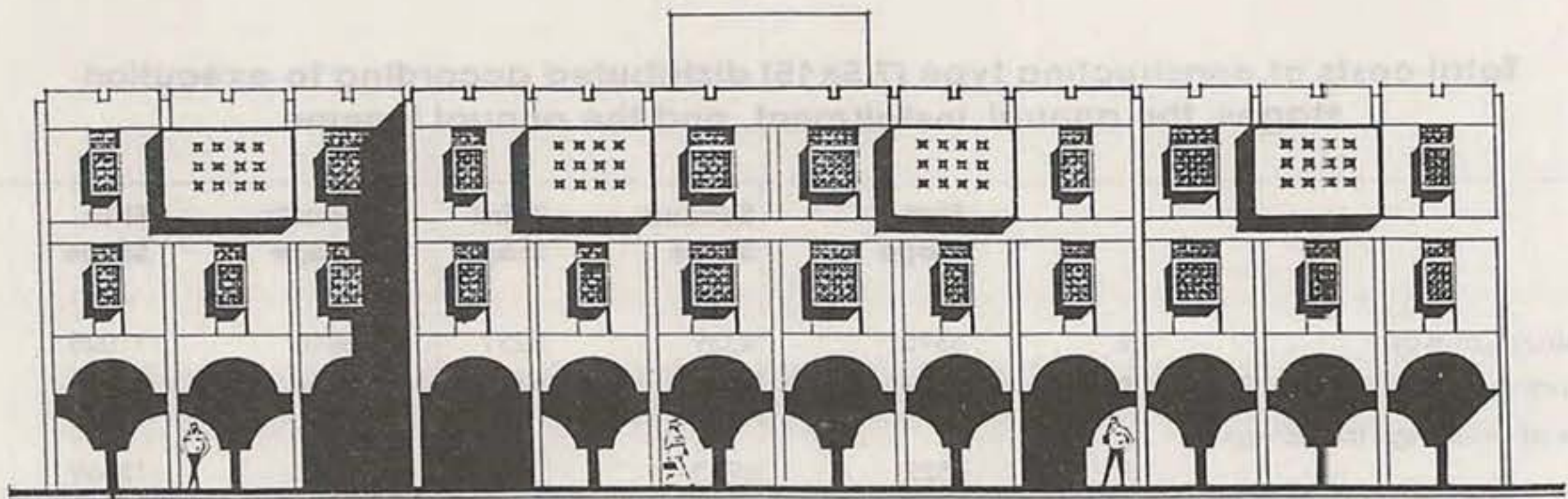


- Elevation

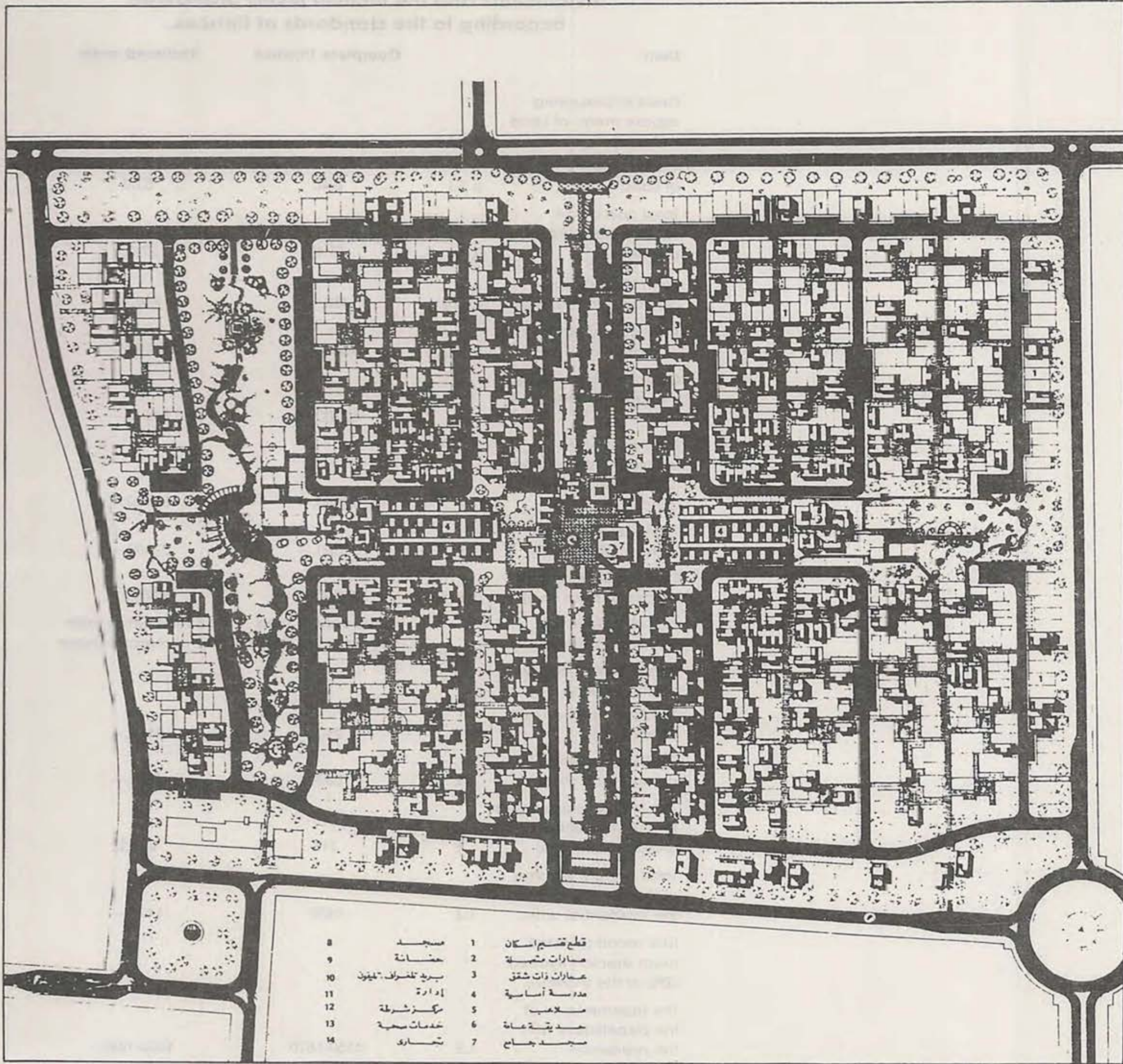
- Attached buildings



- Second floor plan.



- Elevation



- Al-Obour new city - Plan for land subdivision for residential use

The costs of attached apartment houses, the annual installments and the income levels distributed according to the standards of finishes.

Item		Complete finishes	Reduced costs
Costs of preparing square meter of Land with utilities	(L.E.)	22	22
Cost of square meter of Land	(L.E.)	6,40	5,00
Total cost of the square meter (Land + utilities)	(L.E.)	28,40	27,00
Total area of one apartment building	(sq.m)	480,—	450,—
Total cost of land (land + utilities)	(L.E.)	13640,—	12150,—
Costs of Constructing the apartment building	L.E	62200,—	44040,—
Total cost of the apartment buildings (land + utilities + buildings)	L.E	75840,—	56190,—
Costs of residential units (2/3 total cost)	L.E	50560,—	37460,—
Costs of Commercial shops (1/3 total cost)	L.E	25280,—	18730,—
No. of residential units and commercial shops in the apartment building.		8 residential units 12 comercial shops	8 residential units 12 comercial shops
Total cost of the residential unit.	L.E	2106	1560,—
Total cost of the commercial shop	L.E	6320	4683,—
The annual installment for the residential unit (paid for 20 years)	L.E	316	234,2
Total annual Income of the beneficiary for the residential units.	L.E	1580	1171,—
[The monthly installment shouldn't exceed 20% of the income].			
The Income level of the beneficiary with the residence	L.E	1350-1870	1050-1350
Total annual income of the beneficiary with the residence and the shop [the monthly installment shouldn't exceed 20% of the income].	L.E	2370	1756.
The Income level of the beneficiary with the residence and the shop.	L.E	2750	1350-1870

spwards

HOUSING PLANNING AT THE MOUNTAIN'S FEET IN MECCA MUKARAMA

MR. FOUAD OMAR TEWFIK

GENERAL SECRETARY OF MECCA MUKARAMA

1- Introduction

Mecca Mukarama, the holy capital, is the "Qiblah" of all Muslims around the world, whereas God has set the sacred house "Ka'aba" for the muslims to participate worship as God said in the Holy Quran in Sura Al-i-Imran which means: "The first house appointed for men was that of Bekka, full of blessings and of guidance for all kinds of people" (Q.III-96).

The city of Mecca is characterised by a unique geographical situation, having the Holy Ka'aba at its centre (Latitude 21.25 N -Longitude 39.49 E) 300 mt above sea level. The city lies upon one of the most complicated geological compositions, mainly of very hard granite rocks.

Mecca incorporates a variety of housing patterns and locations, that lie at the mountains feet, 400 to 800 mt above sea level, surrounding the sacred "Haram" and in the valleys. Most of the inhabitants in these areas are of low income groups. These housing patterns face a great deal of problems due to the great costs involved for the planning of these areas and the provision of public utilities.

2- The existing conditions in Mecca Mukarama

Having the sacred "Haram" in this particular area of Mecca, is one of the major reasons for the inhabitants concentration around it, specially in "Wadi Ibrahim" or at the mountains feet of "Abi Qabis", "Omar" and "Ka'aba" Mountains as well as other surrounding mountains which reach 300 mt above sea level.

This centralization of population on the mountains feet took place rather informally. This trend to gather around the Sacred "Haram" in an irregular pattern is due to the fact that the distance between these areas adjacent to "Haram" is directly proportional to the rent values during Pilgrimage "Al-Hajj" period and the desire to carry out the different prayers in the "Haram" at their definite times.

The existing housing at the mountains feet is usually occupied by low and middle income groups. The odd pattern of the streets in these areas resulted from the lack of the essential designs or regulations for the street widths and traffic routes by the time

these areas have evolved. These housing areas hold rather a very high density of residential and commercial activities that are distributed along several storeys that reach in many cases 10 storeys... a situation that led to the increase in land prices.

The informal housing phenomenon is quite apparent in the housing areas at the mountains feet in Mecca Mukarama, whereas the inhabitants build their dwelling units rather illegally. This is a common fact in most countries of the Third World such as in South America, India, Pakistan and some Arab countries, although in the case of Mecca, this phenomena spreads along the vertical direction and not horizontally on the city outskirts. This situation is further aggravated through the Saudi Government's legislation that gives the right to own any piece of land as long as it has a legal owner. This tenure-ship takes place at the Judge in attendance of two witnesses. In this way, any one can own any piece of land and there is no other way to deal with such a situation specially when streets are to be founded or an essential service is to be established, except by compensating these owners.

3- Housing planning problems on the mountains' feet:-

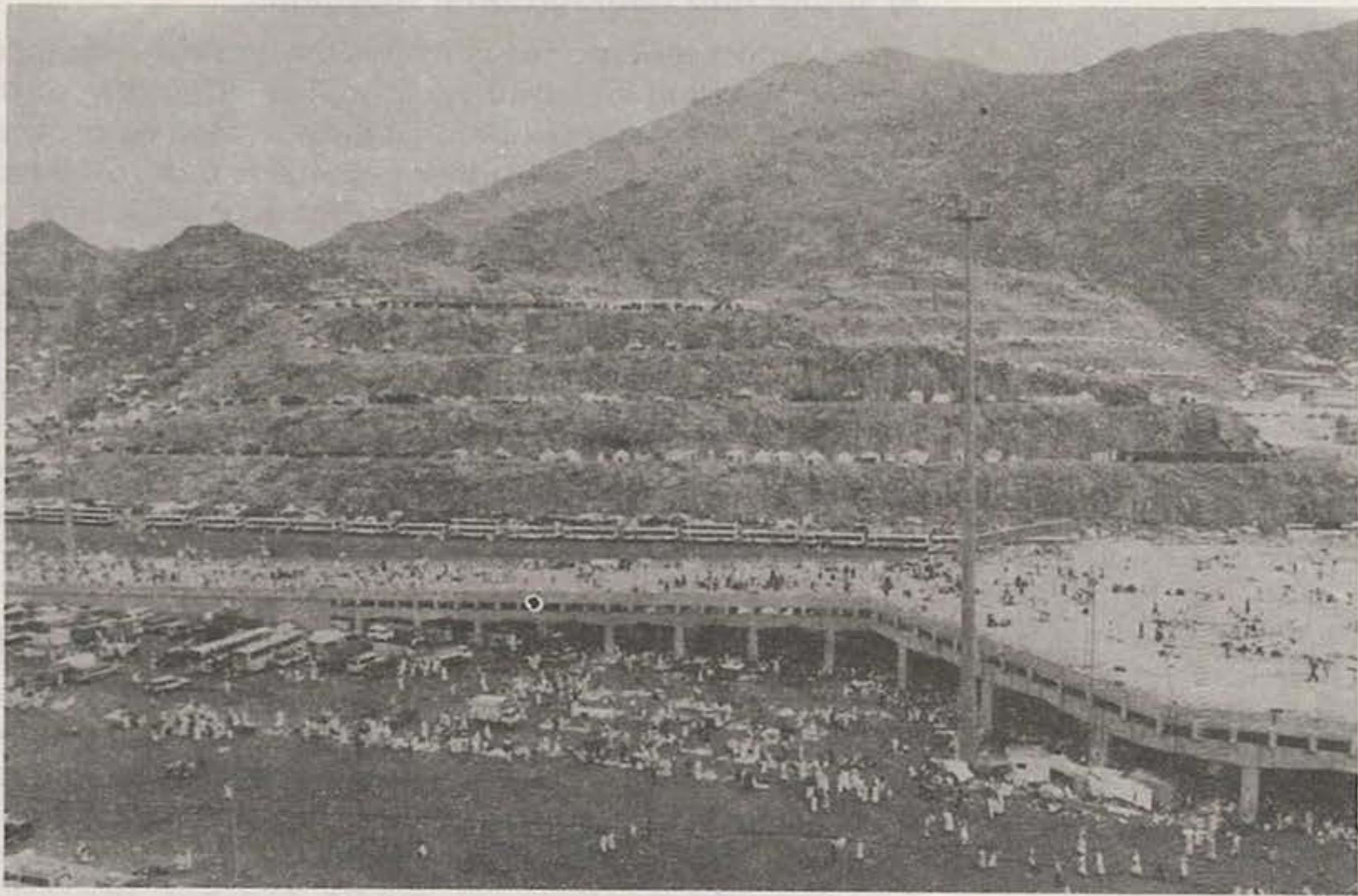
Planning, in general, is an entirely new process in Saudi Arabia; It has first started in Jeddah and Mecca Mukarama where it was limited to a great extent to the main services and utilities. By that time there hasn't been yet any urban or housing extension the way it actually occurs today as a result of the economic leap in the kingdom.

The location, of Mecca Mukarama, its holiness and its religious position stimulated the government to set out a plan for the city. Several studies have been carried out by the Ministry of Municipal Affairs in the Plan of 1384 A.H/ 1973 A.D, prepared by Robert Masatyou Corporation as well as other authorities and associations as the Centre of Hajj Studies - Umm Al-Qura University and other University researches.

The housing planning problems in Mecca Mukarama will be reviewed as follows:-

A) The natural site of Mecca Mukarama:-

Most of the houses in Mecca lie upon the steep slopes of the mountains and in the narrow valleys. Most of these mountains are 600mt. above sea level. Their slope varies between 1/5 to 1/7. which obstructs the co-ordination of streets on suitable levels to avoid traffic accidents; It is rather more difficult to erect spiral roads. Thus the existing location and the narrow streets imposed themselves and made it difficult to provide the houses with the essential communications and transportation. The municipality of the Holy Capital built reinforced cement steps as a solution for the existing situation.



- Pedestrian bridge in Mecca



- Tunnels leading to Mecca

B) Social and demographic situation:-

Mecca Mukarama is rather the unique city that encloses people from different nationalities specially of the Islamic World. The demographic pattern in Mecca is characterized by a special social pattern whereas most of the population descend from ancient origins. Some of these nationalities are of a low social class, whose economic capabilities enforced them to build their homes, at the mountains' feet where a piece of land could be easily bought than that in the valleys.

Thus the demographic pattern encloses different kinds of people who built their houses according to their affordability and their social position in the community. Hence they solved their own problems leaving behind the planning problems for the Government to deal with.

C) Problems concerning the planning of public services:-

The Saudi Government has allocated a large sum of money for the provision of the essential services (water, electricity, sewage, public services....etc) to the housing areas at the mountains feet, yet the geographic nature of these areas and the indefinite out spread pattern of housing obstructed the adequate provision of public services specially sewage networks electricity and telephone posts. These problems could be solved one way or another except for the fire services. This problem seems more critical considering the following:-

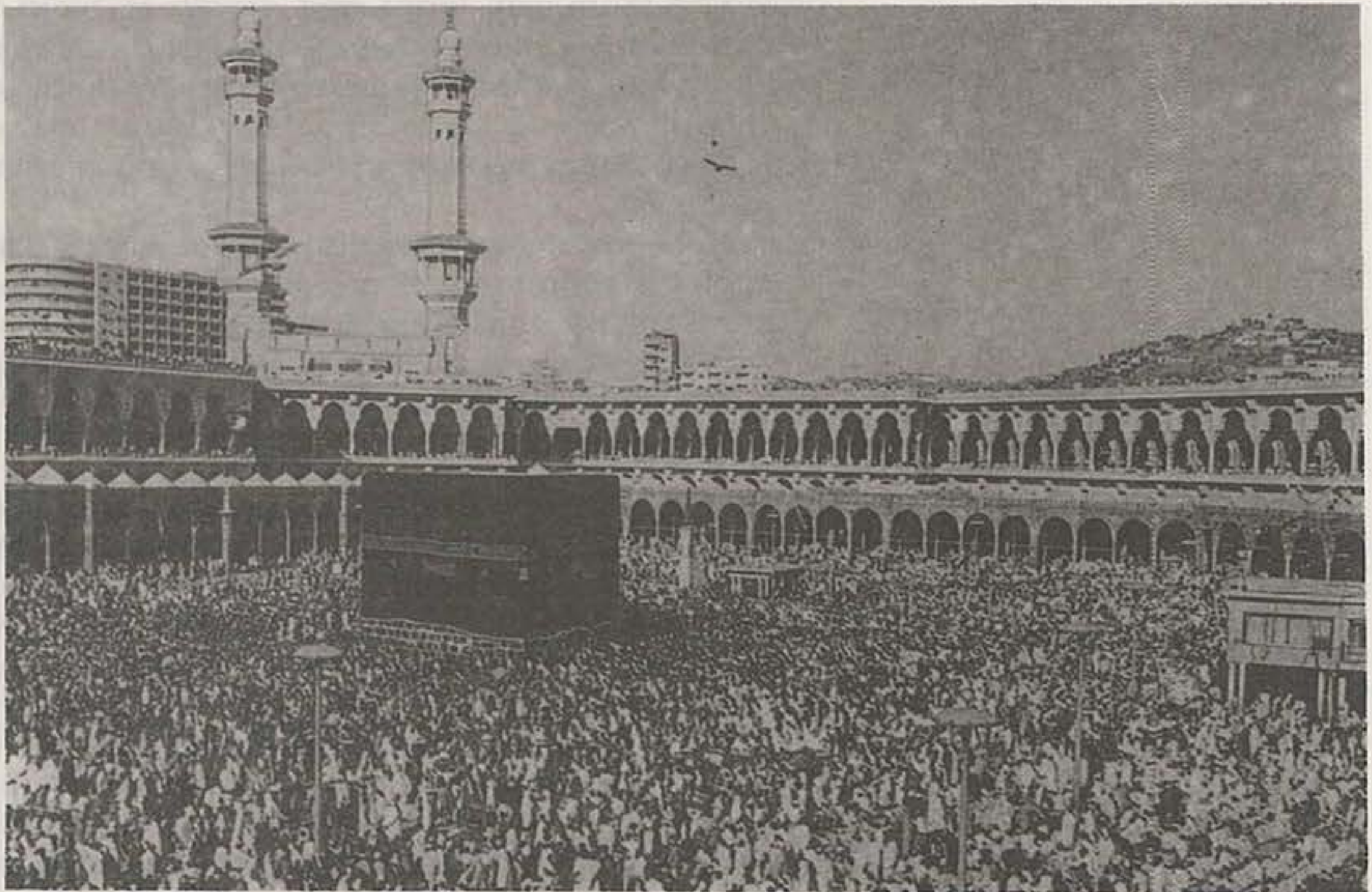
- 1- Most of the dwellings are too close to each other in a way that entirely obstructs the path of fire vehicles and ambulances.
- 2- The difficulty of defining the main outlines for the required area due to the absence of markable main roads on a geographic map by which this area could be identified.
- 3- The absence of building regulations led to the lack of control in some areas and bad aeration.
- 4- The subject of garbage removal is rather more complicated. The existence of many high rise buildings and a high population density, resulted in the presence of a large amount of wastes. Considering the difficulty for garbage removal vehicles to reach these areas, it is obvious that the removal of garbage by hand is the only option. On the other hand, the accumulation of garbage at the high temperatures in Mecca (A. 35°C) causes critical health problems. The process of garbage removal requires the appointment of a large number of Labourers, thus incorporating a larger sum of money.

4- Proposals for the re-planning of the mountains feet

The rough topography of the mountains feet in Mecca should be taken into consideration whilst laying any future plan for the existing conditions.



- The urban pattern around the Holy Haram after the latest extensions

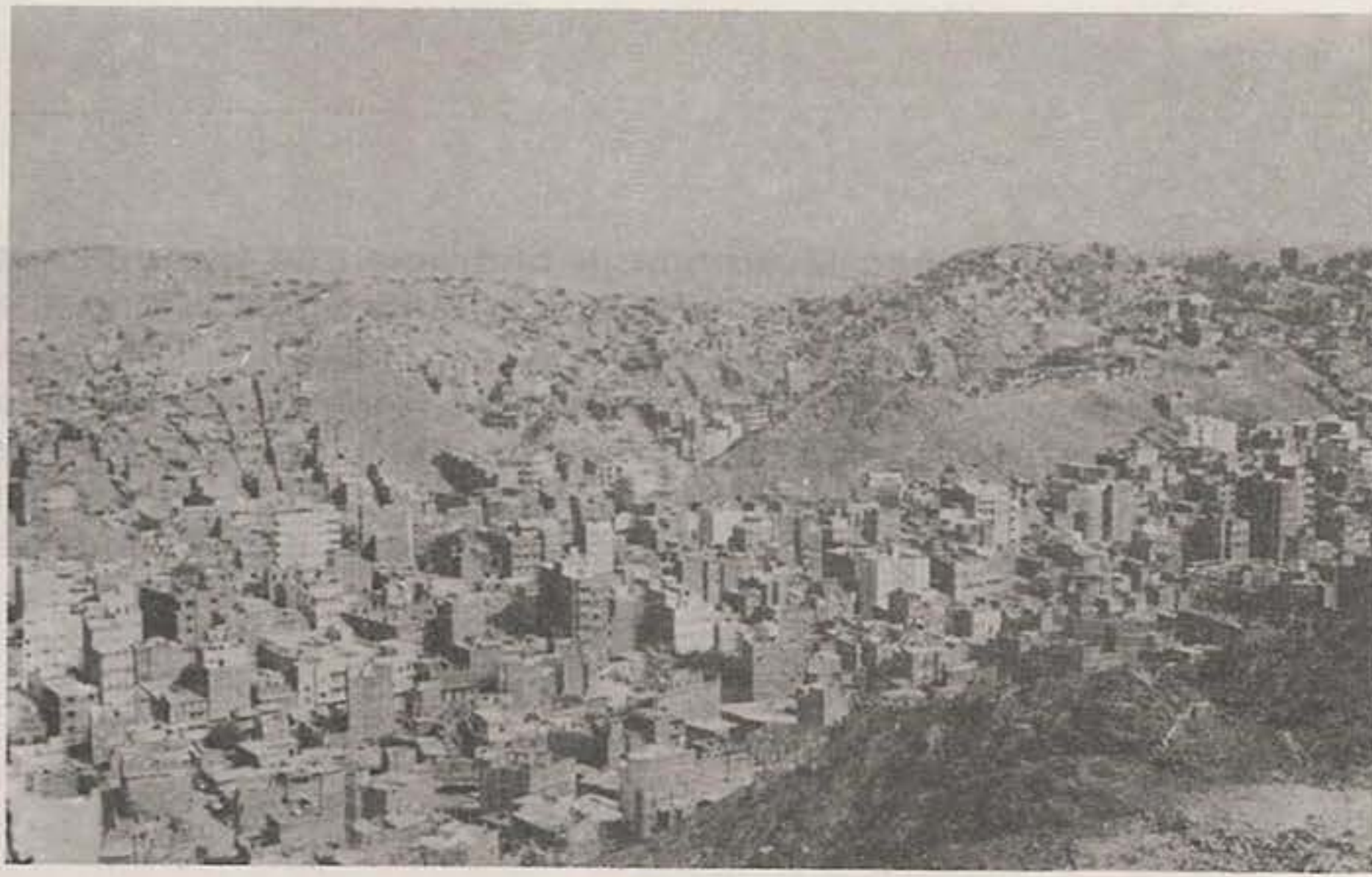


- The Holy Ka'aba

The review of the suggested alternatives for the re-planning of the mountains feet, will deal with the following points of view:-

- 1- It might be very difficult to carry out a re-planning process for the mountains in the city of Mecca Mukarama for two reasons:-
 - a) The existing buildings have erected upon sharp slopes. The re-building of these areas needs a tremendous lot of reinforced concrete and a long time for execution. This process will be further aggravated by the absence of the necessary geo-morphological data. Besides, the sharpness of these slopes obstructs the erection of any transversal or longitudinal roads.
 - b) The costs involved in such an operation are quite heavy considering the large sum allocated by the government for the pilgrimage (hajj) season (nearly 3000 million rials).
- 2- The establishment of master plans in the subrubs of Mecca Mukarama e.g. districts of Al-Shara'ie road, Al-Aziziya, Al-Layeth, Al-Omra Road. These areas will be much easier in planning and the involved costs will be even Lower. There will be enough time to provide the essential public services as well as establishing an appropriate physical fabric based upon urban Islamic concepts. This process will decrease the existing densities upon the mountains feet.
- 3- The process of land distribution upon the inhabitants and providing them with loans and credits to build themselves new dwellings in the above mentioned areas will-indirectly-end the phenomenon of housing on the mountains feet. As for the inhabitants who haven't got legal plans, they will thus be prohibited to end the existing violations and informal housing.
- 4- One of the most vital alternatives but rather difficult is the erection of spiral routes around the mountains near the "Haram" This network will be probably the best alternative but will inevitably enclose a great deal of expenses as long as the land cost remains as it actually is.

Detailed studies and technical researches must be carried out to determine the feasibility of such projects according to the priorities of the Government's development plans. The Saudi Government is working hard on including the different districts in every saudi city within these development plans, but it is concentrating rather more upon the areas at the mountains base which encloses the commercial activities. Thus it seems more feasible to control the extension upon the mountains tops such that it could be limited to areas that could be handled, being considerably near to the main districts in Mecca Mukarama.



- Buildings on the Mountains feet in Mecca



Conclusion

The city of Mecca Mukarama is characterized by a unique geological composition, the demographic patterns and the housing problems specially over the mountains. The latter problem has become the most complicated one as it requires a great deal of time, effort and money. The planning of these areas is based upon moving the inhabitants to plane areas and the erection of spiral roads to end the problems concerning the public services.

References

- 1- الأستاذ/ معراج نواب مرزا - أثر العوامل الطبيعية في النمو العمراني لمكة المكرمة - مجلة العواصم والمدن الإسلامية - العدد الرابع - السنة الثانية - رجب ١٤٠٤ هـ .
- 2- د . غازي عبد الواحد مكي - الحالة العامة للمساكن التي يعيش فيها الحجاج بمدينة مكة المكرمة خلال فترة الحج - اصدارات الجمعية الكويتية - العدد ٦٥ رجب ١٤٠٤ ص ١ - ٣٤ .
- 3- م . عبدالله قاضي ، د . حازم محمد ابراهيم - تخطيط المدة في المملكة العربية السعودية - شركة الطباعة العربية السعودية المحدودة بالرياض - الطبعة الأولى ١٤٠١ هـ . ص ٣ : ٥٢ .
- 4- المملكة العربية السعودية - وزارة الداخلية ، وكالة شئون البلديات - إدارة تخطيط المدن - والمناطق - تقرير المخطط الرئيسي لمكة المكرمة - ١٣٩٣ هـ .
- 5- المملكة العربية السعودية - وزارة الشئون البلدية والقروية - وكالة الوزارة لشئون تخطيط المدن - مكتب تخطيط وتنمية مكة المكرمة - مخطط التنمية الشامل مكة المكرمة - تقرير تحت الطبع ١٤٠٤ هـ . ص ١ - ٣٠ .
- 6- د . عبد العزيز صقر الغامدي - نموذج لتوزيع الخدمات العاملة بالمدن السعودية - مجلة كلية التربية - جامعة القرى - العدد العاشر ١٤٠٣ هـ . ص ١٩٩ / ٢١٩ .

HOUSING PROBLEMS IN THE ISLAMIC CITY

ENG. YOUSSEF EL-SAYEBI

GENERAL DIRECTOR OF REAL ESTATE
AGENCY FOR HOUSING - TUNIS

The geographical zone of the Arab world has been subject to genuine and foreign civilizations - After the Arab conquest, the area had a complete turn-on toward Islam and its ideology. The result was the adoption of the Islamic concepts in all the aspects of life, and hence the islamization of their modes of living. They have invented new patterns for the organization of their cities. They conceived architecture as the forms and functions of the residences, while the traffic organization of crafts, industry and commerce, as a science having rules and laws was unknown.

In the fourteenth century A.D, Ibn Khaldoun has formulated his leading theories in the city organization, or "urban planning" as we call it nowadays, in his famous "muqquadima'h" - Ibn Khaldoun, as he conceived the human being as "civic by nature", found that the city was the goal of prosperity of every nation. It can only be realized at the peak of the dynasty cycle". The "settlement" or the "quidar" becomes then a protection and a utility zone, where the individual develops in peace and prosperity. Ibn Khaldoun describes the internal organization of the city as "the Hisbah" a religious function performed by the "Muhtasib". Among his duties, the Muhtasib will have to maintain order and safety in the city streets by removing harmful activities and preventing the illegal violation of subjects and objects.

Characteristics of the traditional

Arab city

The foundation site of the Arab city was usually bound to vital and necessary conditions for its development. Some were located near water sources and rivers to provide potable water and irrigation for agriculture such as Cairo and Baghdad - Other cities, located on the sea shore such as Beirut and Al-Basrah, served as commercial and trade ports. Cities like Fez and Amman, were situated on cross roads of the caravans, while others were founded on the remains of old towns such as Tripoli and Tunis. The Muslim Arab city was generally walled for protection reasons, except for those situated on the mountains where nature provides the necessary defence.

The mosque is considered an essential element in the foundation and development of the Muslim city. Architecturally distinct with its relatively huge volume and high minarets, it occupies the

heart of the city around which the residential and commercial districts expand. In addition of being a place for prayer and worship, the mosque was confined for scientific, literary and religious education. A vast open space extends at his protals to serve as a gathering space for the inhabitants of the city. The street network of the Arab city is dense and narrow and lacks open spaces and vegetation. The Muslim gave great care and interest to his house more than to the general organization of the city.

Types of housing and their impact on the patterns of life of the Arab Family.


Housing is the most important factor affectirg the development of families and individuals in all societies. In addition of being a shelter, it provides stability and adaptation to the mode of living in the surrounding environment. The difference in modes and patterns of life result in the variation of the dwelling types, which, in turn, influence the psychological and physical development of their inhabitants.

The urban and demographic explosion occuring in the tunisian cities resulted in the social and economic growth as well as the rural urban migration to the peripheries of the capital and other industrial poles. The development policy of the government was primarily set to control such cancerous growth. It was mainly concerned about the amelioration of the living environment of the family. Housing is the basic element in such policies, for its impact in providing a positive action toward the healthy controlled development of society.

The increase of the housing needs, in the sixties, necessitated the application of certain residential prototypes of various economic levels, designed according to the European style and standards. The result was the rejection of such alien types to the local customs and tradition by most of the Tunisian families. The close inter-relationship of the type and function of the house and its patterns of living were not emphasized.

Housing could generally be classified into four categories:-Modest housing, traditional individual and contemporary individual housing and apartment buildings. These categories will be described as follows for a better comprehension for their influence on the lives and development of the family:-

- Modest housing: Modest housing lacks the basic services such as potable water, sewage systems and acequate number of rooms. Such deficiency has a negative effect on the development of family as the deterioration of the health condition as well as the difficulties the children confront in pursuing their education as a result of crowd and inconvenient living conditions. This may lead to various psychological complication such as frustration, malice, deprivation and rejection of their actual social conditions and status. The modest housing type prevails in the squatter settlements as well as in the traditional old city.



- **Traditional individual housing:** The traditional individual housing is known as the typical "Arab Islamic House". Its form and function are highly adapted to the Arab life and nature and also to the Islamic customs and traditions. Having simply decorated facades, they give the impression of serenity and silence. The Arab house is characterized by the presence of a bent entrance respecting the privacy of the Islamic tradition. The entrance leads to a hall connected to an inner court of multipurpose use. The inner facades looking on the courtyard are usually highly coloured and decorated. The surrounding rooms are not dedicated to sleep at first hand, but are designed to suit the daily activities then to be turned into bed rooms at night. The openings and window sills are situated in the upper parts of the external walls and are sometimes covered by wood works (mushrabiya) in order to acquire more privacy for the veiled women. The adaptation to the physical and cultural environment gave the Arab architecture its unique character, which has deeply influenced the mode of living of the Muslim family. The family members live in peace and harmony under the protection of the house master. He is the sole responsible and decision maker of the family. The movement of women inside and outside the house is restricted. That is among the primary negative effects of such housing type women live in isolation from the male sector.

- **Contemporary individual housing:** The contemporary individual housing, known as "Villas", is an independent residence surrounded by a vacant space or garden. It consists of a number of rooms oriented toward the exterior by means of doors and windows to ensure appropriate lighting and ventilation. The housing unit is usually designed for a single family. It is equipped with the necessary services of potable water, sewage systems and electricity. These independent residential units allow positive impact on the physical and psychological development of the family members. Nevertheless, the pattern of life of these individual residential units tends to increase isolation from the neighbouring community as the family is gradually extracted from the local traditions and customs.

- **Apartment housing:** Apartments are residential units in multi-storey buildings. They are oriented toward the exterior by means of windows for lighting and ventilation. They have neither gardens nor courtyards. Apartment housing has many disadvantages such as the feeling of isolation and loneliness. The surrounding noise and air pollution resulting from the neighbours and the adjacent streets also increase the nervous tension and depression of the inhabitants and therefore the increase of agitation of their children.

From what preceded, we can trace that the transition of the Muslim family from living in a traditional house into a contemporary house, especially apartments, may lead to major transformations in its pattern of living. Among these transformations are the dispersion of the family after the complete cohesion and integrity of its members under a sole educational, social and

SEBKHET
ES SEJOUMI

VERS KABARIA

PARC URBAIN
AMENAGE

EL MOUROUJ 2
المروج (ب)

PARC DES
FERRAILLEURS

BRETELLE

EL MOUROUJ 1
المروج (أ)

ESPACES VERTS
مساحات خضراء

EL MOUROUJ 3
المروج (ج)

limite de la zone

EQUIPEMENTS
SPORTIFS

EQUIPEMENTS

ZONE
INDUSTRIELLE
المصانع
الاصناعية

EXTENSION

RESERVE FONCIERE

RESERVE FONCIERE



ECHANGEUR
Sofia Sud - RI

LEGENDE

- R: centre régional
مركز الأحياء
- S: centres de secteurs
مراكز القطاعات السكنية
- V: centres de voisinages

الكثافات	DENSITE	Lot. ha	مستوى
20	20	1000	مستوى 1
40	40	500	مستوى 2
60	60	333	مستوى 3
80	80	250	مستوى 4
100	100	200	مستوى 5

- الشبكة الرئيسية RESEAU PRIMAIRE
- الشبكة الثانوية RESEAU SECONDAIRE
- الحدود الأساسية الحدود الأساسية
- رقم التغطية NUMERO DE L'LOT
- مسطحات خضراء مهيأة ESPACE VERT AMENAGE

EXAMINE PAR UNE COMMISSION PRESIDEE PAR
MONSIEUR LE MINISTRE DE L'EQUIPEMENT LE 10 DEC 78

AGENCE FONCIERE D'HABITATION
وكالة تمويل الاسكان

مخطط التهيئة
PLAN D'AMENAGEMENT
Etudes Préliminaires
الدراسات التمهيدية

EL MOUROUJ
مدينة المروج - الضاحية الجنوبية لمدينة تونس

MASRIE BEN MAMMOUD
BUREAU D'ETUDES
17 rue de la République - 1054 Tunis

Scale: 1/5000

DATE NOVEMBRE 78

economic system. Equally dispersing, is the independence of the off-springs from their parents, thus weakening the family inter-relations and enhancing the personal identity of the nuclear families.

Housing types in the Islamic world.

There are two types of housing prevailing in the Islamic world the typical arab Islamic housing and the modern western housing type. Both types have their own impact upon the lives of their inhabitants. Ideally, the designer of such housing projects must be of high artistic inspiration of the Islamic guiding principles, traditions and customs in order to initiate the positive impact of housing on the development of the muslim individual. Far from such idealism, our muslim world suffers from a severe mixture of alien western architectural types. That is basically the result of our neglect or misunderstanding of the Islamic civilization heritage, despite the presence of highly qualified architects in our world. Or, is it a dialectic mixing up we are living in? The government will have to take the initiative for the encouragement of the adoption of the traditional architectural type for individual housing, instead of the high rise apartment buildings. It also will have to consider the general climatic conditions.

Housing types in Tunis

Tunisian architects, inspired by the traditional Islamic monuments in the traditional city, have tried since the independence to stress the arab Islamic architectural character. The government was equally concerned about the conservation of Islamic architectural heritage. Three years after the independence the "Society for the City Conservation" was founded. It aimed at the face-lift of the urban environment in the traditional districts and reinforcing the original Islamic architectural character. Nowadays, there is "a Tunisian Andalusí Architectural Type" in Tunis. It prevails mainly in individual housing, hotels, and in some residential neighbourhoods.

Property protection laws:-

Problems of land violation and illegal housing

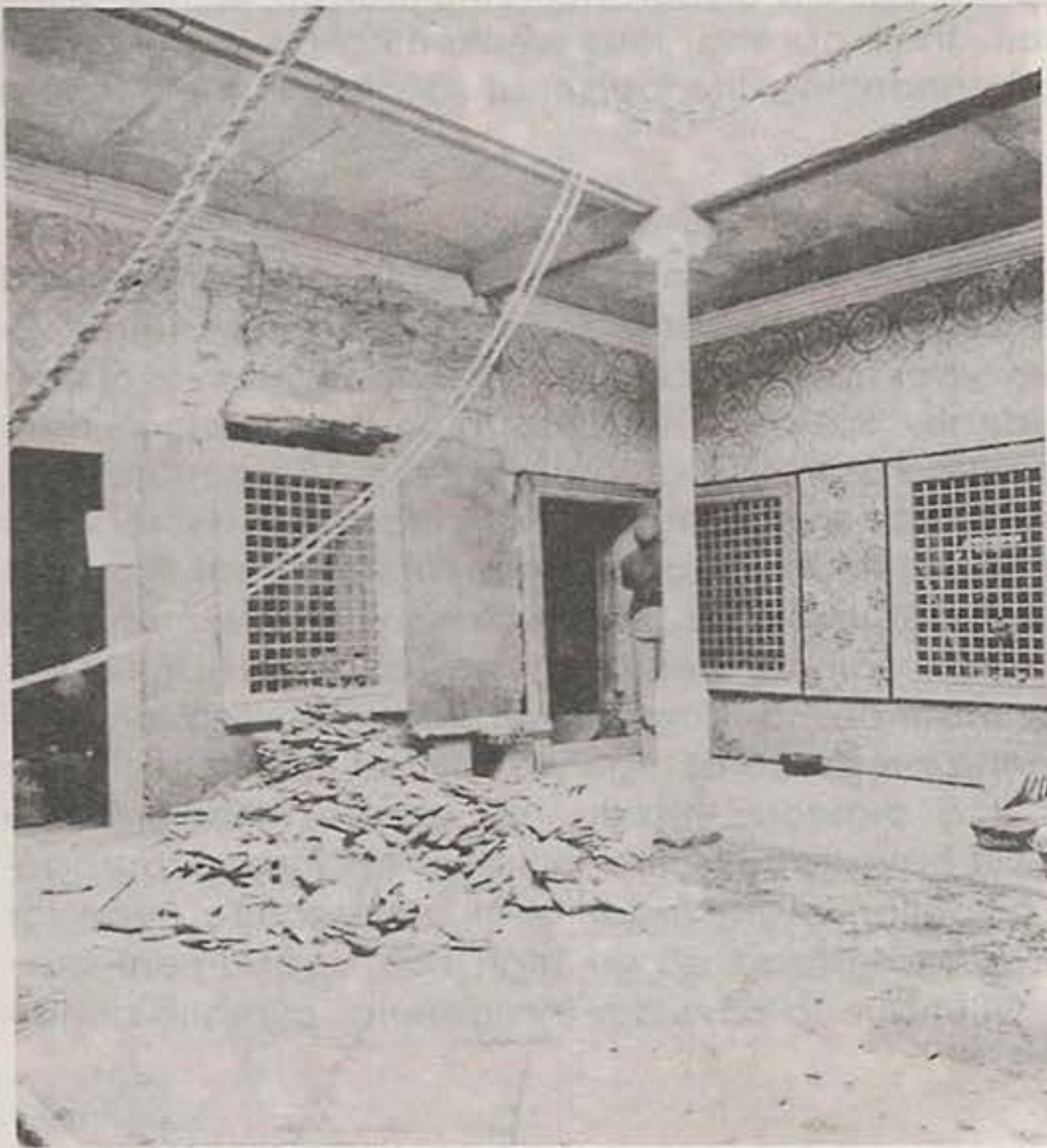
There are serious attempts in Tunis, for the formulation of laws and legislations for the organization of the real estate and the architectural sectors. The followings are some of the major initiatives:-

- Code for real estate rights: (dated February 12th 1965).

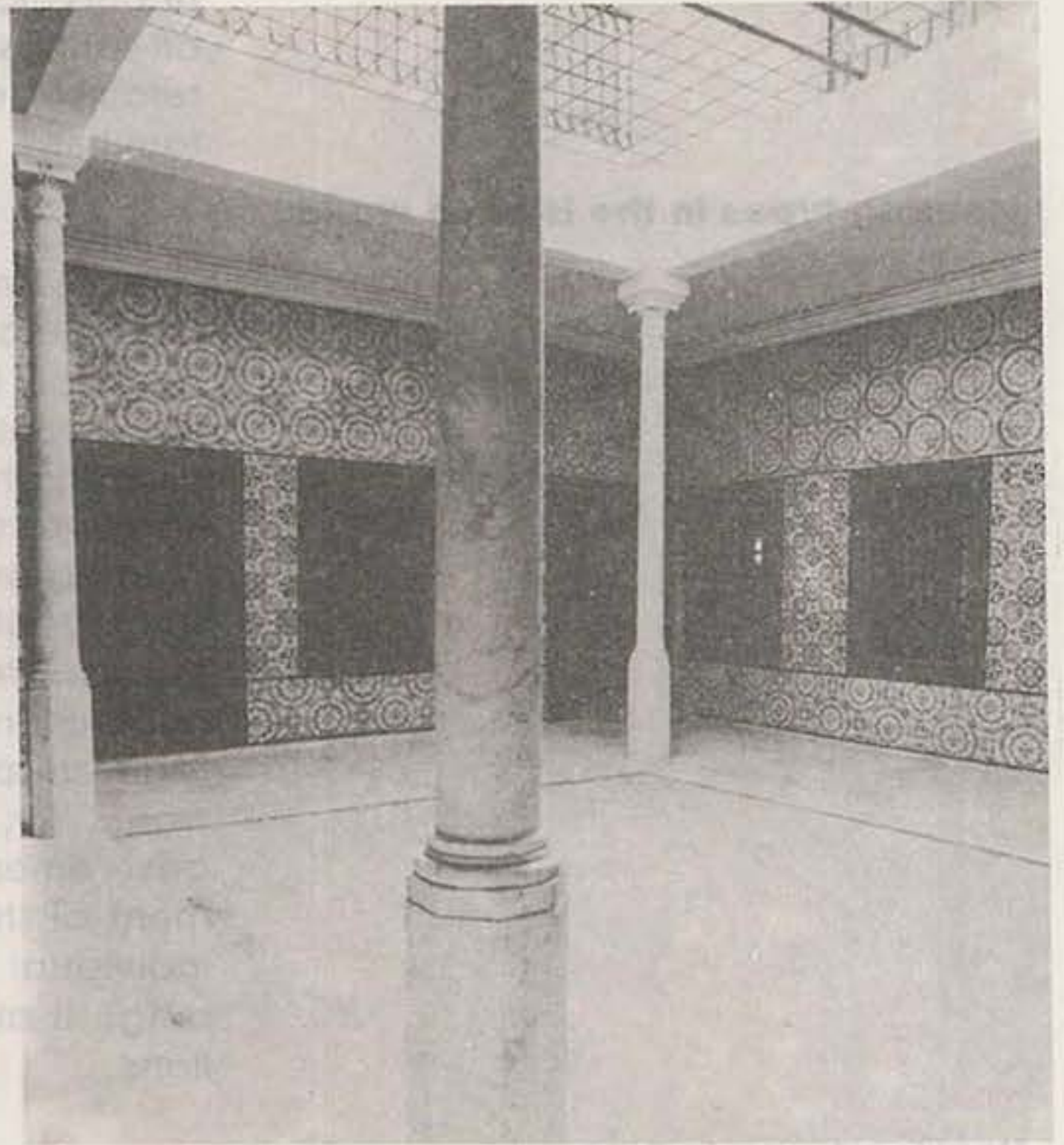
It consists of reglementary texts fixing the rights of real estate property and the possible permutations of mutation. It also fixes the procedures of immatriculation of the real estate property as well as the attributions of the real estate courts.

- Code for urbanism: (issued the 15th of August 1979).

In replacement to the decree of the 10th of September 1943. It consists of reglementary texts determining the general rules of the architectural operations related to Urbanism.



- The Interior of Zawia Sidi Qasem before restoration.



- The Interior of Zawia Sidi Qasem after restoration



- Zawia of Sidi Qasem before restoration - Old City of Tunis

- **Expropriation law:** (issued the 11th of August 1976, in replacement to the law of the 9th of March 1939).

It fixes the conditions and procedures of expropriation for the public utilities, in the cases of impossible land acquisition.

- **Preemption law:** (issued the 14th of April 1973).

It determines the conditions and procedures of the rights of preemption in the residential, industrial and touristic zones. These measures aim at giving absolute priority to the government acquisition of real estate in geographically determined zones. All transactions of real estate must be authorized after the agreement of the beneficant of the preemption right.

- **Law for the creation of three real estate public agencies:**

(Issued the 14th of April 1973).

These agencies are:-

- Real Estate Agency for Housing.
- Real Estate Agency for Industry.
- Real Estate Agency for Tourism.

Each agency is concerned with its specific domain. Each possesses prerogatives of land acquisition and equipment with the necessary basic infrastructure such as road networks, potable water, sanitary sewage system and electricity. These agencies have the right of selling the equipped land subdivisions to individuals and to real estate promoters with their real costs.

- **Government institutions for the application of the former laws:**

- Tunisian National Society for Real Estate.
- Society for the Promotion of Social Housing.
- Agency for the Renovation and Urban Rehabilitation.
- National Pool for Housing Saving.
- National Pool for Housing Help.
- National Pool for Social Security.
- Office for Military Housing.
- Office for Ministry of Interior.
- Office for Ministry of National Education.

- **Resistance to the Spontaneous Housing Expansion.**

The problem of the spontaneous housing expansion, preoccupies the public authorities in general, and the municipalities in particular. It exerts a negative influence on the harmonious development of the city.

Tunis, as a third world city, suffers from the phenomena of spontaneous expansion in addition to the rural-urban migration toward the city as a result of the vast industrialization after the independence. The peripheries of the cities, gave severe instructions to the public security to maintain laws against such spontaneous invasion. In the mean time the government tends to expand the industrial and agricultural development plans in an attempt to limit the rural - urban migration.

In 1981, the Agency for Renovation and Urban Rehabilitation

was charged to face lift the spontaneous anarchaic settlements by rehabilitating the urban tissue, equipping the area with the necessary basic infrastructure and resolving the real estate problems for the land owner and renters.

- Solution for Low-Income Housing:

The adopted policy of the Tunisian Housing Ministry for the provision of low-income housing is based on the Housing Saving Pools for the various socio-economic classes - In the quinquennial plan 1978/1982, the Housing Saving Pool offered 7200 long term loans with an interest of 4 to 5%. These numbers show that more than 30% of the house owners have profited from the Saving Pools.

On the other hand, the adopted policy by the government for the provision of rural housing, aims at the encouragement of auto-construction especially for the low-income peasants. The government offers a sum of 550 Tunisians Dinars in addition to a long term loan of 800 Tunisian Dinars without returned interest.

Briefly, we can conclude that the low-income housing support of the government are on the one hand.

- Direct support as donation.
- Indirect support as reduced loan interest.
- Indirect support as land acquisition and equipment by the National Agency for Real Estate and the National Real Estate Society.
- On the other hand, the government provides, in case of slum clearance, residential units by means of the National Real Estate Society, in addition to donations of 770 Tunisian Dinars and Loans of 2800 Tunisian with 3% interest to be payed back in fifteen years.

HOUSING PROBLEMS IN ANKARA

DR. JOHN D. NORTON

DIRECTOR OF MIDDLE EAST AND ISLAMIC
STUDIES DURHAM UNIVERSITY - ENGLAND

Introduction

Ankara's chronic housing problem grows worse every day. Successive governments have tried to find solutions but failed. The housing provision in the capital remains grossly inadequate in quantity and unsatisfactory in quality. The aims of this paper are to outline the causes for the problems and the solutions that have been proposed, see what has in fact been done to provide houses, and examine the present situation with special reference to illegal building and consider future prospects.

Ankara's housing problem is chiefly the result of a particularly rapid growth in population. When Ankara was made the capital of Turkey in 1923 the city's population was under 100,000. By 1965, it was nearing one million and now it is over two million. Although rapid population growth is a feature of Turkey as a whole (it has had one of the highest rates of increase in the world: up to 28.5 per thousand per annum in the 1950s and currently 20.7 per thousand),¹ and urbanisation has been another marked feature of the Republic since World War II, the pressures upon Ankara have been especially severe. Of course, it is only to be expected that a particularly high proportion of people moving from the countryside to the towns should go to the capital, whose geographical location, moreover, makes it a convenient place of settlement for people from eastern and central Anatolia.

The problem of the old city of Ankara

Even before the effects of general urbanization were felt, the old city of Ankara could not itself accommodate the influx of population consequent upon the removal of the capital from Istanbul. Expansion of residential areas began before World War II and has continued ever since but still it has not kept up with the demands for suitable building land. Shortage of suitable building land remains one of the causes of the housing problem in Ankara and has given rise to land speculation and building in unsuitable areas. Land speculation has in turn contributed to price rises and financial difficulties in the provision of housing. Building in unsuitable areas has become recognised as a major problem in Turkey. It results in serious difficulties in providing the infrastructure needed for modern town life. Contributing to the massive amount of building on inappropriate land are certain legal loopholes and a reluctance to enforce the law which in

turn have led to the establishment of a Turkish tradition of building illegal dwellings, known as 'gecekondu', to meet the housing needs of lower income groups. Shortage of building materials, building tools and equipment and of skilled craftsmen in the building industry compound the difficulties of anyone trying to devise a solution to the ever-worsening housing problem.

The attempts that aim to solve the housing problem.

Many attempts have been made to devise such solutions, some of them within the general context of town planning and some concentrating more specifically on the provision of suitable dwellings. In late 1920s, part of M Heussler's "Löhrler Plan" for the development of Ankara as the Republic's new capital was hurriedly implemented to ease the enormous demand for houses.² This resulted in the building of a new part of the city, Yenisehir, on an area of 150 hectares. At the same time random development took place in the old part of the city, filling in most of the available space. The draining of swamp-land in the course of city development and the consequent eradication of malaria increased the attractions of Ankara and so helped to swell the number of people clamouring for houses there.³ Thus it was not long before the growth of population necessitated another new plan for development of the capital city. In 1932 the Jansen Plan was accepted.⁴ This ambitious project made provision for development around two main axes -N-S and E-W - with areas earmarked for officials' housing, for co-operative housing schemes, for industrial, commercial, cultural and recreational development and for the preservation of the old city. Splendid though this plan was in many respects, it contained one major flaw: it failed to foresee the extent of the rapid population growth that would occur in Ankara. It was based on the assumption that by 1980 the city's population would be around 300,000. In reality it was six times larger.

In 1948 approval was given for the building of a new district, Yeni Mahalle, 7 kms NW of the city centre. This went ahead rapidly: by 1960 its population was 67,000 and by 1980 270,000⁵ In 1957 the go-ahead was given for yet another new city development plan, the Yücel-Uybaydin Plan, but two years later the Ministry for Construction and Housing yielded to pressure to allow the building of higher apartment blocks than had previously been permitted, thus violating the plan. This had profound implications: many sound dwellings were demolished to make way for taller ones that would yield higher profits from rents. As a result, building resources were diverted from other places, while the infrastructure designed for a much smaller population came under increasing strain. Expansion upwards rather than outwards impaired the quality of life for the more densely packed population in the city and increased the serious threat to health from air pollution in winter.

In 1965 a new Metropolitan Area Planning office was established to produce still more plans.⁶ While it was doing so, many housing decisions were taken without reference to it. Population



- A typical gecekondu settlement
Notice the apartment blocks in the background built by the government to relocate the residents (Source - Low Income Housing in Developing Countries: G.K. Payne)



- The provision of a secure tenure, services and public facilities enabled many gecekondu settlements to consolidate rapidly. (Source: Low Income Housing in Developing Countries G.K. Payne).



- Many gecekondu areas are being changed into middle income localities as squatters sell their rights to developers. (Source: Low Income Housing in Developing Countries: G.K. Payne).

densities much greater than the planners had foreseen forced further rethinking of ideas.

The master plan "Ankara 1990" contained proposals for the construction of Batikent, a 1,034 hectare area 15 km W of the city centre, to comprise 50,000 dwellings in which some 20,000 people would live in a healthy environment with all the necessary infrastructure.⁷ It was to cater particularly for low- and middle-income families who would belong to housing co-operatives.⁸

As well as these large, comprehensive plans for development of the city as a whole, a number of other studies and proposals concentrated on housing problems in particular. Many of these were published in the 1950s when the problem began to assume ever more serious proportions. Recommendations included the provision of more information, more finance, more technical experts, and the limitation of support for the building of luxury houses in order to free more resources to house the poor. Often these reports and recommendations were ignored. When action was taken it was usually too little too late.

Proposals for solving the housing problem for low income groups

Nevertheless, a useful initiative was taken in 1968 to provide help for some homeless low-income families. This was the introduction of the "Four-Choice System of Home Ownership". This scheme, brought in by the Ministry for Construction and Housing, enabled the applicant to choose which of four means of acquiring a house would best suit his own circumstances. The choices were as follows:

Choice 1. A cheap building plot to be paid for over ten years. On this plot the applicant was to build his own home to an approved standard design, receiving some technical advice and supervision.

Choice 2. In addition to the cheap building plot, the applicant would receive a building credit of 5,000 Turkish liras at 4.5% interest to be repaid in monthly instalments of 53 T.L.

Choice 3. In addition to the facilities offered in Choice 1, a building credit of up to 10,000 T.L. at 5.8% interest would be given for a ten-year period, but to qualify for this 25% of the required sum had to be deposited with the Emlak Kredi Bank when the credit was obtained. (The Emlak Kredi Bank is the official institution in Turkey which provides most of the credit for house building.)

Choice 4. A house would be built for the applicant, who would choose from a number of standard designs, then pay 2,000 T.L. on signing the contract and another 100 T.L. on the first day of each of the next 14 months. During this time his house would have been built. At the end of the 14 months he would pay a further 2,000 T.L. and receive the key to his home. He would pay off the balance in monthly instalments over the next ten years, 3% interest would be charged. The total cost to the applicant would vary according to the type of house chosen, the lowest monthly instalment being 160 T.L. and the highest 239 T.L. One of the Emlak

Kredi Bank's three subsidiary construction companies would build the Choice 4 applicant's house.⁹

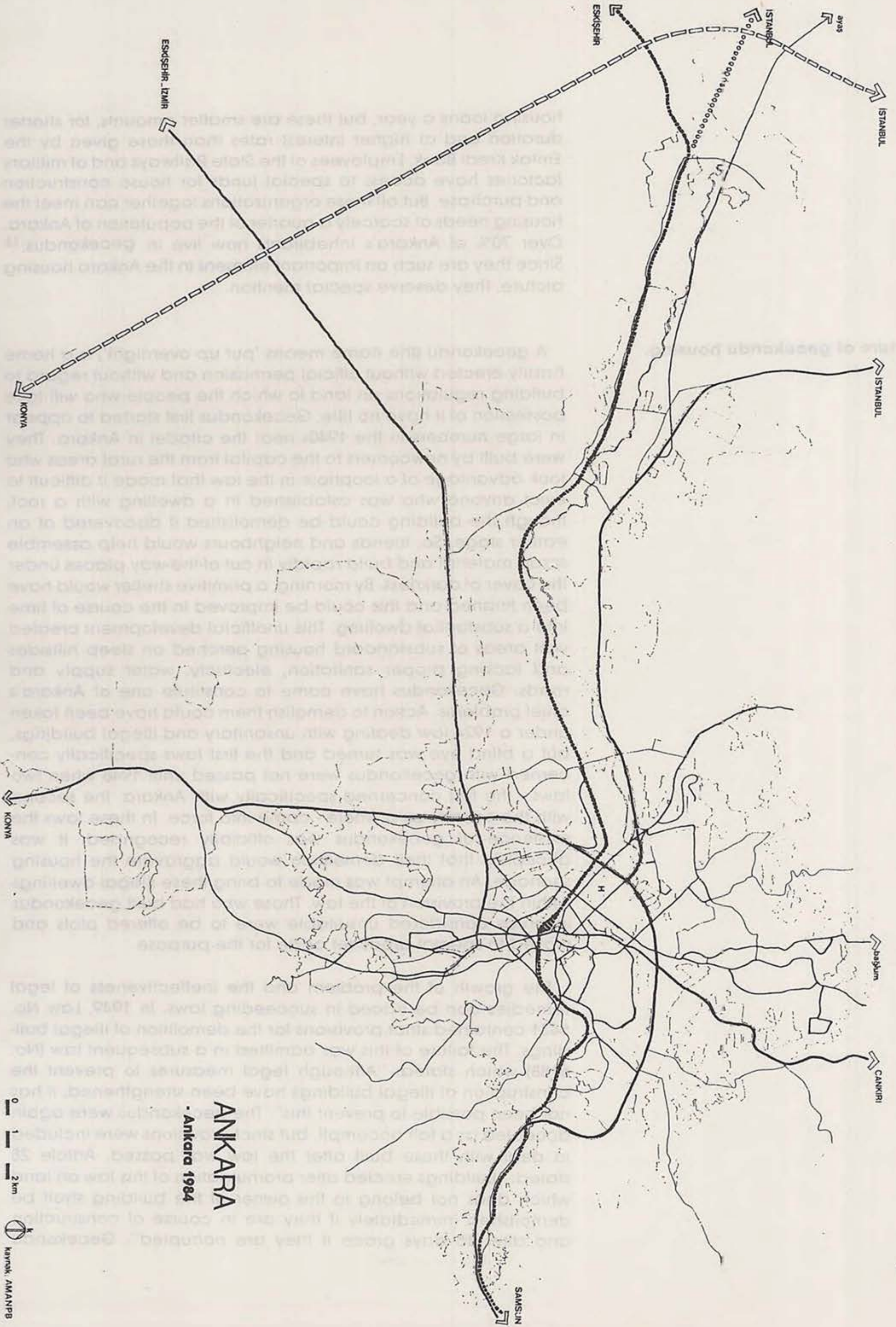
But useful though such schemes proved to be, they accounted for only an insignificant proportion of Ankara house building. Some 95% of Turkish dwellings were then the creation of private enterprise. By 1982 the proportions were 82% private sector, 14% housing co-operatives, and 4% public sector.¹⁰

Housing of middle and high income groups.

For high-and middle-income groups, housing provision in Ankara usually comprises a flat in a high apartment block standing very close to other very similar apartment blocks. The demand for a particular flat will be influenced to a considerable extent by its height from the centre of Ankara, because increased height offers not only a better view but also a lessening of the severity of the smog that smothers the lower parts of Ankara in winter. Today, flats whose size is between 100 and 170 square metres are considered normal. Larger ones are considered luxury flats and may be as big as 350 square metres. Credit can be obtained from official sources for dwellings up to 100 square metres - this is considerably larger than the limit in many other countries, including European countries. To make the available resources go further, a housing bill introduced this year aims to encourage the building of dwellings of under 60 square metres.¹¹ But Turks traditionally prefer large houses and the average number of occupants per room is over two in the country as a whole, with the highest densities in the poorest properties, so small dwellings are not popular. The flats in the apartment blocks almost invariably have large salons and bathrooms. The majority have parquet flooring. Usually they will be purchased with credit obtained from the Emlak Kredi Bank. The proportion of people renting rather than owning their houses fell from around 60% in the 1960s to below 50% in the 1970s because the rapid and continuous increase in rents under the pressure of soaring inflation made renting less and less attractive. Now only 36% of houses are rented.¹²

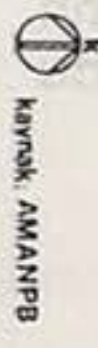
Role of official organizations in housing provision.

A number of official organizations in addition to the Emlak Kredi Bank are concerned with providing houses for the needy. The Sosyal Sigorta Kurumu (Social Insurance Association) has played a useful part in house building in Ankara. It receives its funds from workers, employers and the premium paid by the state. It has provided credit for thousands of housing co-operatives and for individuals too. It has been in the forefront of constructing low-cost, high-density housing for workers to rent or purchase on credit. OYAK - a mutual aid association for members of the armed forces - devotes 50% of its considerable funds to construct prefabricated high-density housing. Another institution, known as Bag-Kur, whose concern is the social security of artisans and the self-employed, has also started giving credit for housing to members who form housing co-operatives. The Emniyet Sandigi (Security Fund) gives an average of 2,000



ANKARA

- Ankara 1984



KAYNAK: AMANPBB

housing loans a year, but these are smaller amounts, for shorter duration and at higher interest rates than those given by the Emlak Kredi Bank. Employees of the State Railways and of military factories have access to special funds for house construction and purchase. But all these organizations together can meet the housing needs of scarcely a quarter of the population of Ankara. Over 70% of Ankara's inhabitants now live in *gecekondus*.¹³ Since they are such an important element in the Ankara housing picture, they deserve special mention.

Nature of *gecekondu* housing.

A *gecekondu* (the name means 'put up overnight') is a home hastily erected without official permission and without regard to building regulations on land to which the people who will take possession of it have no title. *Gecekondus* first started to appear in large numbers in the 1940s near the citadel in Ankara. They were built by newcomers to the capital from the rural areas who took advantage of a loophole in the law that made it difficult to evict anyone who was established in a dwelling with a roof, though the building could be demolished if discovered at an earlier stage. So, friends and neighbours would help assemble scrap material and build rapidly in out-of-the-way places under the cover of darkness. By morning, a primitive shelter would have been finished and this could be improved in the course of time into a substantial dwelling. This unofficial development created vast areas of substandard housing perched on steep hillsides and lacking proper sanitation, electricity, water supply and roads. *Gecekondus* have come to constitute one of Ankara's chief problems. Action to demolish them could have been taken under a 1924 law dealing with unsanitary and illegal buildings, but a blind eye was turned and the first laws specifically concerned with *gecekondus* were not passed until 1948 when two laws - the first concerned specifically with Ankara, the second with the country as a whole - came into force. In these laws the existence of *gecekondus* was officially recognised. It was accepted that their demolition would aggravate the housing shortage. An attempt was made to bring these illegal dwellings within the provision of the law. Those who had built *gecekondus* in areas considered unsuitable were to be offered plots and moved to special areas set aside for the purpose.

The growth of the problem and the ineffectiveness of legal remedies can be traced in succeeding laws. In 1949, Law No. 5431 contained strict provisions for the demolition of illegal buildings. The failure of this was admitted in a subsequent law (No. 6188) which stated: "Although legal measures to prevent the construction of illegal buildings have been strengthened, it has not been possible to prevent this". The *gecekondus* were again accepted as a *fait accompli*, but strict provisions were included to deal with those built after the law was passed. Article 28 stated: "Buildings erected after promulgation of this law on land which does not belong to the owner of the building shall be demolished immediately if they are in course of construction and after 15 days grace if they are occupied". *Gecekondu*

builders became liable to fines and imprisonment. Mayors and municipal officials who failed to apply this article became liable to imprisonment for a period of three to twelve months. There were also provisions for granting building plots and title deeds to gecekondu owners under certain conditions. In 1959 and 1960 the matter of title deeds for gecekondu owners became the subject of heated debate. A bill introduced in the Grand National Assembly in March 1960 would have granted title deeds to owners of gecekondu built after 1953, but this was not passed. The fact was that after each new law intended to deal with the gecekondu problem more of these illegal dwellings appeared. New gecekondu districts sprang up inside and outside the municipal boundaries.

As the number of gecekondu dwellers grew, it became established practice for the ruling political party to try to win votes by offering title deeds to gecekondu owners at election times and turning a blind eye then to new illegal building. After the election, orders would be reversed and attempts would be made to demolish gecekondu in certain areas, though this could provoke serious incidents.

The gecekondu problem.

Although gecekondu are illegal and often unsafe as well as unsatisfactory, they are not like the shanty towns and slums found in some other countries, and it must be admitted that they have made a major contribution to the nation's development by providing housing for workers close to new industrial sites at no expense to employers or to the state, thus serving to keep down wages and taxes. Such considerations made the government less anxious to take firm action against gecekondu, and in the course of time this type of dwelling has changed its nature considerably. With over growing numbers of people unable to afford the rapidly rising rents for legal dwellings, the demand for gecekondu grew. After a time, the gecekondu building operation ceased to be an amateur effort on the part of the future occupant and his friends. In many cases gecekondu were put up by specialists who started to get better materials and build to a higher standard. Subsequently some of these gecekondu were rented out like ordinary houses and others were demolished by their owners to make way for gecekondu apartment blocks, thus mirroring the course of development in the more affluent lawful building sector where nearly all small detached houses have now given way to multi-storey blocks, making handsome capital gains for their owners in the process. By 1979, under 10% of gecekondu owners built their own homes: 65% paid others to build for them, and around 20% bought existing gecekondu. By this time a high proportion had obtained some sort of title to their property and about 34% of gecekondu dwellers were renting their homes.¹⁴ Thus, though still not conforming to regulations and lacking many amenities, the gecekondu had become an integral and - for the time being, at least - an indispensable part of the housing market in Ankara; the unofficial answer to most people's housing problem. Nevertheless,

gecekondus are a very wasteful solution, indeed they actually exacerbate some aspects of the housing problem. The resources put into them - cash, materials, land, time, skills and effort - would be far better employed in well conceived schemes for large-scale, properly constructed, low-cost housing projects.¹⁵

Recognising this fact, important legal and financial developments this year are directed towards gecekondus and the provision of low-cost housing. Under the terms of a special law¹⁶ millions of Turkish gecekondus owners may seek official registration and title deeds for their properties.¹⁷ The Turkish government has advanced plans to allocate more money to low-cost housing, generating the additional funds by imposing a surcharge on certain luxury goods.¹⁸ And following President Evren's visit to Saudi Arabia, the Saudi government agreed in principle to extend Turkey a \$250 million loan to help modernise gecekondus areas.¹⁹

But even the most optimistic forecasts of extra funding for housing fall far short of requirements despite a sharp drop in demand when high interest rates and the erosion of middle class purchasing power made home ownership an impossible dream for many Turks.²⁰ Twenty-five per cent of Turkey's total current housing demand is unsatisfied, and this figure is considerably higher in the major cities like Ankara and Istanbul.²¹ So it is not surprising that the present housing situation in Ankara gives rise to complaints from almost every quarter. Those lucky enough to be in properly built houses on high ground lament the price or the high rent, those lower down the scale find their homes unsatisfactory and their rents even harder to pay. The average Turkish tenant pays over half of his income in rent - a staggering burden when other living expenses are also high and continually rising.²² Moreover, it should be remembered that Ankara is surrounded by hills that form the sides of a bowl which keeps in the unhealthy air pollution that in winter threatens to choke the inhabitants in the city-centre. This problem intensifies as houses become more tightly packed into every available space. It has spurred many inhabitants to escape from the bowl by moving to new residential areas being established beyond the enclosing hills.

This move away from the centre is one of the most satisfactory ways of alleviating Ankara's housing problem. More projects like Batikent and the earlier, more distant (24 km.), social housing project at Sincanköy are needed to relieve pressure on the centre. Even larger satellite towns built on cheaper ground would allow better houses to be provided.

Conclusion

Nevertheless, so long as population growth and rapid urbanization persist in Turkey, it is a delusion to suppose that Ankara's housing problems can be solved. If by some magical means a good standard of housing could be provided for all the present residents of Ankara, there would still be millions more people wanting to move from the countryside that can no longer provide a livelihood for them. Planners and government officials talk

in desperation of preventing the mass migration to the towns, but in practice this is almost impossible to achieve. Harsh reality suggests that for the foreseeable future Ankara's housing problem can only grow worse. Perhaps the most that can be hoped for is improved standards of construction and an increase in the number of rather depressing tower blocks to provide reasonable shelter for the masses at a price they can afford and a size smaller than they are currently accustomed to. The Turkish Constitution (Article 57) states: "The State shall take measures to meet the needs for housing within the framework of a plan which takes into account the characteristics of cities and environmental conditions and supports community housing projects". But Article 65 provides an escape clause: "The State shall fulfil its duties as laid down in the constitution in the social and economic fields within the limits of its financial resources, taking into consideration the maintenance of economic stability". The frailty of the Turkish economy that is struggling to cope with the continuous rise in population is a major constraint upon any Turkish government's plans to tackle the housing problem. Productive industry cannot be starved of funds in favour of housing without serious consequences. This makes it all the more important that resources for housing should be used in the most effective manner. Official credit facilities should be offered only for small dwellings so that more money and resources can be spared for social housing projects. Municipalities should have funds and powers to acquire land on which to build low-cost dwellings with proper amenities. But even though these are rational proposals, people rich enough to buy bigger and better homes have more influence upon any government's policies than do those who can scarcely afford the poorest accommodation, so the chance of significant overall improvement is slight. It seems probable that until Turkey has a thriving economy most of Ankara's inhabitants will continue to be *gecekondu* dwellers.

Notes

1. Source: Devlet İstatistik Enstitüsü, Genel Nüfus Sayımı, and Yurt Ansiklopedisi p. 629.
2. Yurt Ansiklopedisi p. 647.
3. Ibid.
4. Ibid.
5. Ibid. p. 648.
6. Ibid. p. 649.
7. Ibid. and Kentkoop, Batıkent - New Settlement Project, Ankara, 1983. pp. 39-40.
8. Kent-Koop, a union of housing co-operatives formed in 1979 with seven members, had achieved a membership of 54 co-operatives by 1983. (Ibid. pp. 39-40).
9. To give some idea of relative values, when 1968 cost = 100, respective 1984 costs are: Ankara housing expenses 2969.2 and building materials 9144.7. (Source: State Institute of Statistics, 1984 III, Tables 44 and 45.)
10. Kentkoop, Batıkent, p. 20.
11. Konut Yasa Tasarısı. See report in Cumhuriyet 9 January 1984 giving details of plan to give most favourable terms to people applying for homes below 60 square metres, and reports in the same newspaper dated 27 January 1984 and 8 May 1984 of building employers claiming that small houses are unsuited to Turkish family life.
12. Kentkoop, Batıkent, p. 10.
13. Ibid. p. 9

14. Ibid. p. 42, quotes the average 1983 rent for a gecekondu as 10,000 T.L. per month, which was half the rent for a normal dwelling of average quality.
15. The wastefulness of the gecekondu solution to housing problems is convincing argued in S. Kemal Kartal, *Ekonomik ve Sosyal Yönler ile Türkiye'de Kentleşme*, Ankara, 1983.
16. *İmar Affi Yasası*.
17. *Cumhuriyet* 23 January 1984 reported that 1.5 to 2 million people had applied, though 3 million should have done so.
18. *Toplu Konut Yasası*.
19. See Briefing 5 March 1984, p.17. But this is not the first foreign aid received for housing in Turkey. *Batikent*, for example, had credits from the council of Europe Resettlement Fund in 1980 in 1983. See *Kentkoop, Batikent*, p. 41.
20. Ibid. p. 11, and Briefing 2 January 1984, p. 26.
21. See *Cumhuriyet* 24 January 1984 under report of World Bank study and recommendations on Turkish housing.
22. *Kentkoop, Batikent* p. 42, quotes the average salary of of civil servants as 25,000 T.L. net, and the average house rent as 20,000 T.L., and for gecekondus 10,000 T.L.

HOUSING AND CITY PLANNING PROBLEMS IN THE CITY OF TEHERAN

REPRESENTATIVE OF MUNICIPALITY OF TEHERAN

ISLAMIC REPUBLIC OF IRAN

Introduction

The rapid growth and expansion of urbanization and its unpleasant consequences on social and economical systems of the third world is one of the various effects imposed on these countries by the superpowers, who aim to get their own interests. We believe that compromising with these phenomena will not be advantageous for the suppressed countries like us, and however, is nothing but waste of time, money and energy. We understand that the only way to overcome the results of such characteristics is to destroy the roots of the causes of these effects.

The question is why the cities of the third world today are encountering a series of common difficulties in their affairs? The problem of insufficient housing, expansion of poor residential areas in the vicinity of the large cities, illegal possession of the urban areas, unsuitable architecture, air pollution, problem of city public transport, shortage of the welfare services, chaos in the job market, and tens of other problems are quite common in these countries. Why are the oppressed societies and countries of the third world lurching into these conditions? The answer may be clear but it would be probably worth to be repeated; The industrial countries, in order to keep their economy alive, and produce enormous consumable goods, have to find markets to sell their production. In this regard, the superpowers, having enough possibilities for getting information, act through different political, economical, cultural, and even, military channels. In this way they refrain no efforts even inhuman ways. For their interests, the spiritual, material and other life values of the nations are devoted.

One of the most outstanding outcomes of the above mentioned characteristics is destruction of the local production, and consequently the expansion of the populated centres and motivating their rapid growth. Thus the natural and traditional systems of living and production are totally changed and destroyed. The ruling system by applying different policies makes

these countries defenceless to their attacks. The farms and villages are abandoned and the dependent and consumable industries grow. Cities are filled with unskilled manpowers. Consequently the income in these centers increases. Following those chain-like effects, the population of the large cities increases, and this phenomenon is inappropriate to social and economical characteristics of these countries. The imported culture, also destroys the cultural values of the society, one of which is the method of housing architecture which is emphasized in this seminar. Thus following the internal and physical destruction, the quality of living is degraded and thousands of other unhealthy effects spread in the city environment.

With such centralization of population, investment, industries, services etc. in the large cities, the need for services including housing is felt. Heavy expenses and the inadequate possibilities of the governments, cause the rapid growth of housing problems which appear to be the most serious socio-economical and even political problem. The purpose of this preface is to explain the reality and roots of the housing problems in these cities. Emphasis is also made on the fact that there is a cause for housing problem and this problem could not be solved unless a basic action is taken to realize and remove the roots of the cause. Any action taken without considering the above fact will be a failure. Rapid invasion of the cities by the migrants, unables the third world countries to cope with the excessive expenditures of housing, specially when the local and traditional methods of housing are abandoned and the western fashions are blindly imitated. Consequently, due to the rapid increase in housing expenditures, the government is unable to take any effective and fundamental action.

The housing problem in Teheran

The land and housing market in Iran, before Islamic Revolution, was under the management of private sector which was merely monopolized by the groups dependent to the ruling government. Therefore, the stocks of the city lands and buildings were beneficial for these groups. The land price in comparison with the total cost of the building in the year 1355 shiite calendar 1977 A.D. before Islamic Revolution, amounted to 60 percent. The inflation in construction section, inspite of the imported construction material, was always more than other service sections. As a result, obly a small group of citizens could provide housing and so there was a day increase in the residential unit costs. Thus the quality of living was degraded. According to the statistics, in the year 1359 shiite calendar 1980 A.D. the average residential density in Teheran was 1.52 person per room. This figure in different income groups fluctuated from 0.67 persons per room to 3.07 persons per-room has a reverse ratio with the income level of the family.

the portion of investment in housing in gross national products (G.N.P.) in the year 1357 (shiite calendar 1978 A.D. was about 9.5 percent which was a very high proportion regarding the international norms. The interesting point here is the fact that, in spite



of the allocation of such heavy funds for housing-because of the superficial disagreements (and only for the benefits of a special group), the problem of housing has always remained unsolved. The private sector by itself has allocated 2.3% of the gross national income by investing 130 billion Rls., in Teheran in the year 1358 (shiiite calendar) 1979 although Teheran is still facing the shortage of at least 400 thousands residential units.

The proposed policies to confront the housing problem.

The Islamic Republic Government of Iran has faced the housing problem. The lack of applicable plans for housing has persuaded the study for a five year plan. The most important policies for dealing with this problem are as follows:

Firstly: adopting policies toward decentralization in large cities and settlement of population in farms and small service cities. This prevents the expansion of the large cities like Teheran which already has a population about 7 millions.

Secondly: nationalization of cultivated lands of the cities and limiting their ownership and thus terminating urban land speculations.

Thirdly: supporting housing cooperative associations and thus creating facilities for people to provide housing, and also prevent the groups who try to monopolize the affairs of land and housing. In this way, the government will provide all facilities such as preparation of the uncultivated city lands, giving financial aids, and providing construction materials and technical services.

Fourthly: Priority for housing will be given to low income groups, and policies will be toward providing housing units suitable to the conditions of low-income groups through governmental organizations and revolutionary foundations. The area of the buildings will be limited and the luxuries and imitation of western pattern will be prevented. Through the provision of regulated programs, this problem will be relieved by the year 1391 (shiiite calendar) 2002 A.D.

Fifthly: The Government will implement the plans for rehabilitation and reconstruction of the old houses and inhabiting the low-income families in suitable units. One of its examples is the evacuation of the slums and their settlement in residential units. For the low-income groups specific plans are provided which will be executed within the frame of a five-year plan.

A review of activities of Planning and Development Organization' of the city of Teheran

The increase of the population which was accompanied with the "enlargement policy" of the large cities in 1962 A.D in Iran, pushed the flood of the migrants towards Teheran as well as some other large cities. Since then, Teheran has become the most attractive destination for the migrants from almost every corner of the country. The city of Teheran with its abnormal growth is considered to be amongst one of the largest cities in the world. It is interesting to know that the population of Teheran has grown 51 times during a century (from 1861 A.D).

Teheran with about seven million population in an area of almost 525 square kilometers, is one of the largest cities in the world which naturally has different forms of problems and shortcomings. Generally speaking, the concentration of different social-political and economical activities in Teheran may be considered to be the root of all these problems. To give an example, it may be stated that in 1976 A.D, Teheran was the producer of almost half of the gross national production (except for the oil). 40% of the total national capital and 60% of the industrial capital was also used in Teheran. The construction activities in Teheran and the total capital used for these activities is another reliable indicator for the above statement. This shows that Teheran has the largest share of all the properties of the country. It is interesting to know that the private section in Teheran has spent in 1979 A.D, 130 billion Rials for housing activities, which is almost 2.3% of the gross national products and 9.46% of the fixed capital of the country.

The out-scaled dimensions of the concentration of most of the activities in Teheran may be even better recognized if we consider the total governmental budgets which are spent for the construction in this city. Planning and Development Organization of the City of Teheran, at present is responsible for planning in a city with all the mentioned malignant characteristics which stems from the naive political and economical policies of the past regime. This organization being based on the most advanced and recent scientific systems, aims to fight-back and plan for all the unpleasant characteristics of the City of Teheran.

Summary of activities of planning and development organization of the city of Teheran

The historical background of planning of Teheran at city and regional level goes back to the year 1970 A.D when the Comprehensive Plan of Teheran was approved for implementation. This plan was prepared according to the general goals and policies of that time to act as the legal development plan for Tehran until the year 1991 A.D. Different matters caused many changes in the plan which was done in a short time.

The Comprehensive Plan of Teheran was soon changed into a series of complicated regulations. Different reasons like technical shortcomings of the plan, political and economical fluctuations of the system, lack of a unified and coordinated administrative system, lack of sufficiently powerful organizations to

control the development of Teheran and lack of flexibility of the plan itself, caused the above mentioned characteristic. The most essential characteristic of the Comprehensive Plan of Teheran concerning the management of the city was to divide the city physically according to administrative radius or influence of different organizations.

According to this plan, Teheran was given three development boundaries. Five-year boundary, or municipal services boundary, twenty-five year boundary and protection boundary, which the Municipality, Tehran Development Council Secretariat, and the City Council of Teheran were respectively in charge of administration and supervisor of these areas development. However, relations and necessary coordination between these organization were very weak and accordingly a coordinating mechanism for development of the Greater Teheran Region between the concerned organs did not exist. Similarly sometimes administrative organizations were obliged to implement opposing policies which were indicated by various decision-making organizations. Tehran Development Council was formed according to 1973 A.D. Law of development of Teheran consisting of the Prime Minister, the Mayor of Teheran and a number of ministers. With respect to functional character of the council as a decision-making organ for the general development of Teheran, Tehran Development Council needed a well experienced and qualified personnel to support the council technically. Accordingly, experts in different fields were employed in the secretariat of the council. Therefore the foundations for a scientific and operational city planning system was formed. The result of the activities of this organization is various operational plans and programs for the development of the city and in the near future revision of the Comprehensive Plan. It is hoped that the present urban system can be led into the right and proper canals together with the implementation of short-term and long-term policies.

Summary of activities of planning and development organization of the city of Teheran

ANKARA METROPOLITAN AREA MASTER PLAN STUDIES

THE 1990 URBAN DEVELOPMENT STRATEGY

ENG. HALÜK ALATAN

DIRECTOR OF ANKARA MASTER PLANNING
BUREAU - ANKARA - TURKEY.

Ankara metropolitan area master plan studies

1. The establishment of Ankara Metropolitan Planning Bureau (ANPB):

Ankara Metropolitan Area Master Plan Project started in 1969 by the actual establishment of Ankara Metropolitan Area Master Plan Secretariat (Bureau) (ANPB) attached to the Ministry of Reconstruction and Resettlement (hereinafter, the Ministry) in realization of a Council of Ministers legislation preceded by a national security council decision of 1985.

The legislation marks a new and experimental approach to the development planning of 'metropolitan' cities. The Bureaus are given the task of 'master plan making' while the Ministry is concerned with the responsibility of securing the legal framework for "... the exact implementation of these plans".

2. Historical profile of planning in Ankara:

The settlement history of Ankara can be traced back to the 40th century B.C.. The city has been a focal point of varying importance throughout Phrygian, Hittite, Galatian-Greek, Roman, Byzantine and Ottoman ages. Having started declining in parallel with the Ottoman Empire during the 19th century, the city saw new light and was reset on an upward slope by the building of water canals and the railway towards the end of the century. During the Republican era the city was the scene of various desperate attempts at planning its phenomenal growth, and its planning bodies were given exceptional authorities to increase the effectiveness of measures taken. The major events in the planning and administrative history of the city are the following:

- The setting-up of Ankara Construction Directorate in 1928.
- The selection, in the same year, of Prof. Dr. Ing. E.H. Hermann Jansen's design after a restricted competition among three European planners, for the city development plan until the were 1980.

- Between 1930 and 1940 the Jansen plan was used successfully as a tool for development control and its main features were executed.

- Between 1940 and 1955 the planning activity in the capital slowed down to a near complete halt mostly due to the effects of the second world war. This was a period of unprecedented increase in rural-urban migration countrywide and Ankara got much more than its share of it. The 1980 population target of the Jansen plan was reached 30 years before time. The need for a new plan was felt.

- In 1955 an international planning competition was organized. This time the horizon was 30 years ahead: 1985. But it took the city 7 years to achieve the growth foreseen for 30 years. This plan is still in force.

- In 1967 a "provincial programming study" was carried out by the Ministry and an "urban area of influence" for the city was drawn.

- In 1969, ANPB was set up. The Bureau represents a new step in the planning history of Ankara. The target year for the new planning cycle is 1990 with a population forecast of 3.6 million.

- The spatial expansion of the city took place first along the north-south axis of the Jansen plan, i.e. the Atatürk Boulevard, until about 20 years ago. Then peripheral development in the north and the east occurred. The tendency for location in the west especially for industrial enterprises has a history of about a decade. The result is becoming ribbon development along intercity highways.

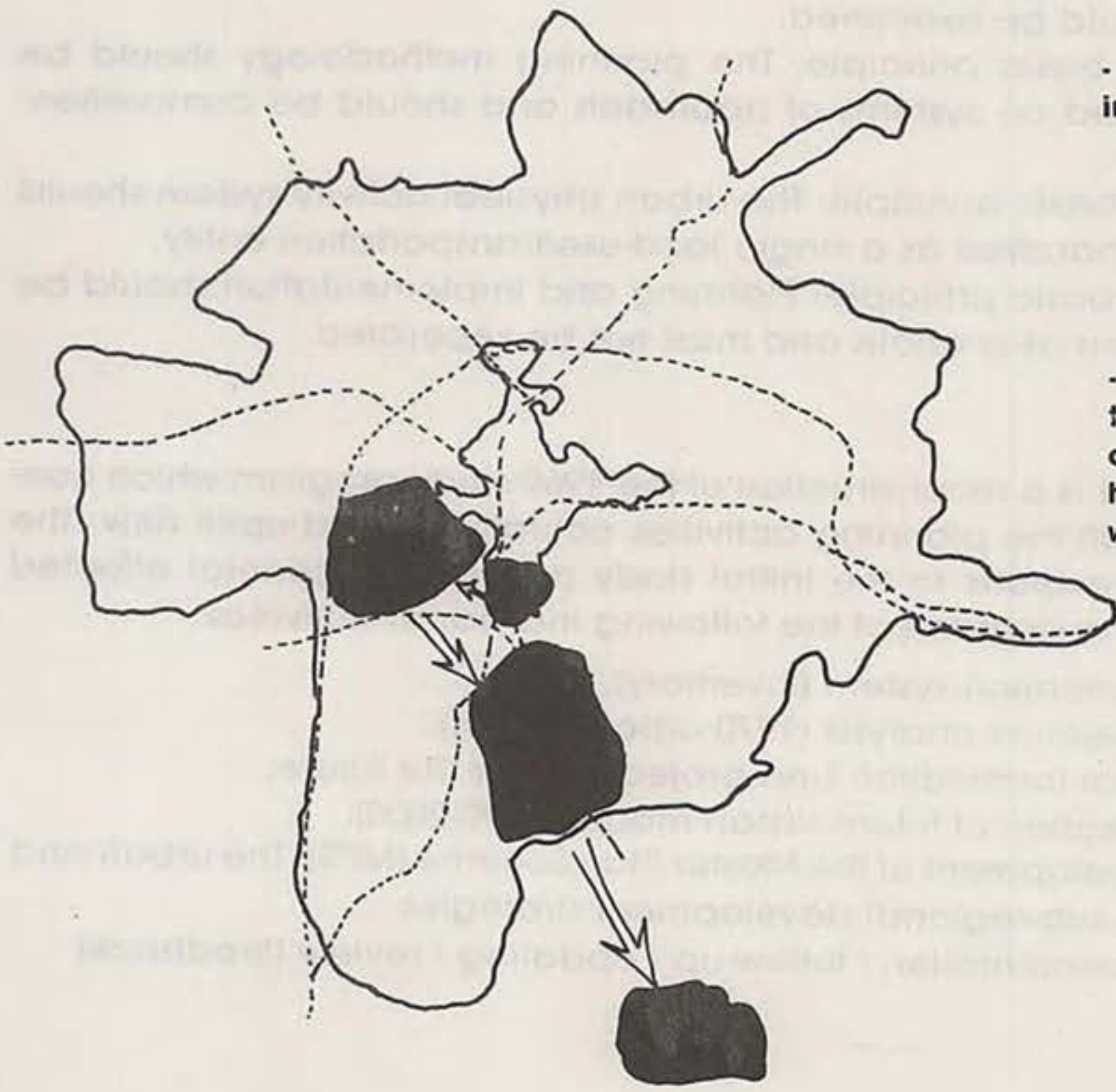
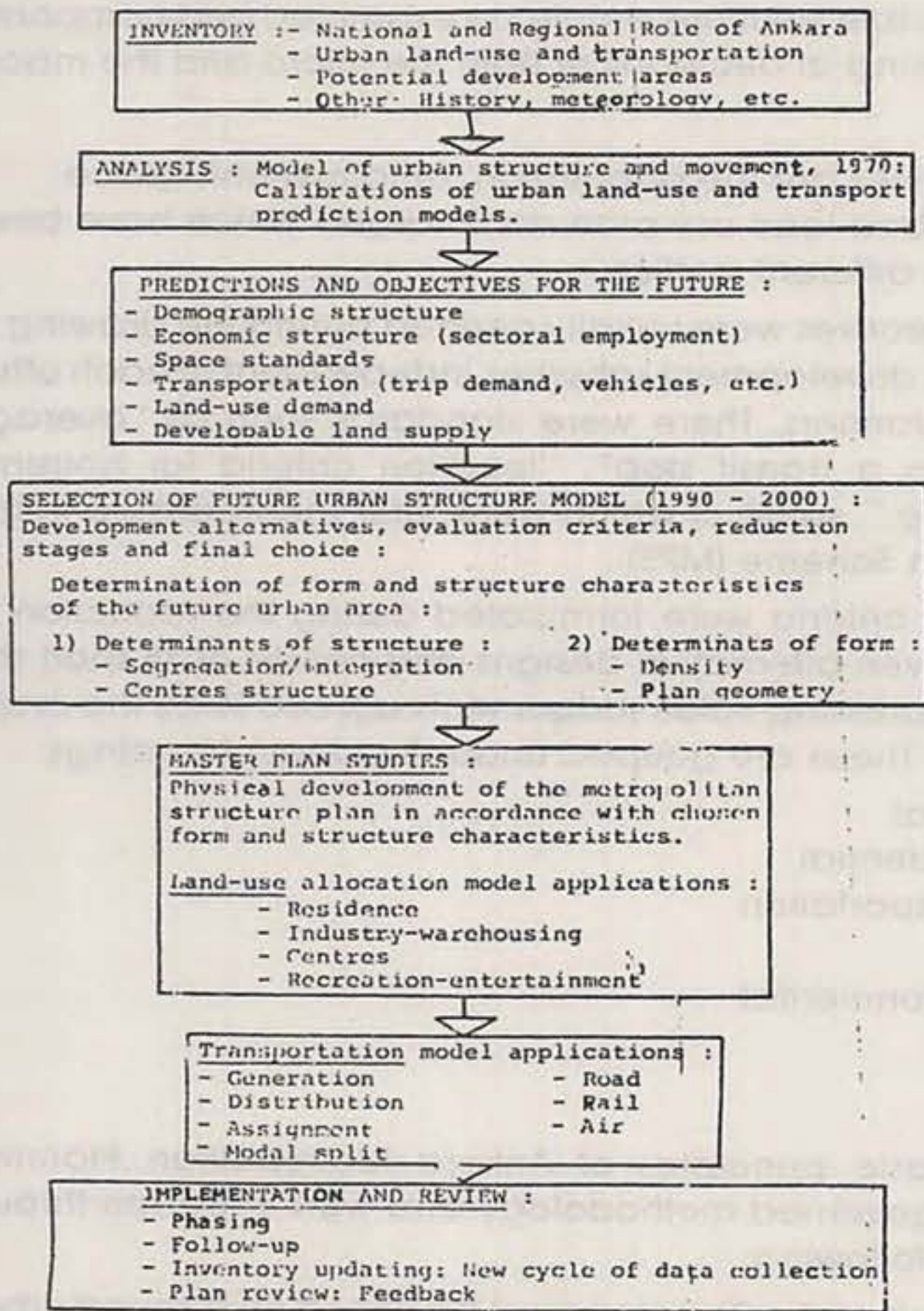
3. Goals and objectives of planning

At the initial stage, rather than starting out with preconceived, general goals and objectives, ANPB gave priority to know the urban society of Ankara through a series of research activities. This would provide a concrete testing ground for the goals the planners inevitably have in their minds. Thus the general contemporary goal-concepts of improvement, would find their appropriate expressions in the context of urban Ankara.

Goals and objectives were formulated and used where and when necessary, thus guaranteeing their maximum utility. The objectives formulated by the Bureau in the work program can be grouped as follows:

1. Methodology objectives characterize the metropolitan planning approach of the Bureau. These are:
 - a) Comprehensiveness, which means coverage of social, economic and legal/administrative as well as the physical aspects of the urban process.
 - b) Integrity of land-use and transportation, which means treatment of these two aspects of the activity pattern as each other's cause and effect and giving them equal weight in the studies.
 - c) Decision-making through analysis of alternative options,

FIG. 1 : INITIAL STUDY PROGRAM, 1969, ANPB



- Ankara Changing locations for middle and upper income groups.

- In many cities, the earliest settlement pattern enabled the upper income groups to enjoy central locations and an attractive environment. As the cities have grown, however these groups have moved progressively outwards from the city centers.

Source: G.K. Payne
Urban Housing
In The Third World
1979

which means that a representative sample of the whole spectrum of possible solutions should be examined and compared before arriving at decisions at both the micro and the macro levels.

2. Size objectives are the population, employment, space standards and land-use plan stock targets which have been subjects to different studies.
3. Design objectives were initially needed during the drawing of alternative development schemes independent of each other by ANPB planners. There were standards such as "average distance to a transit stop", "location criteria for housing, industry, etc.", some of which were later incorporated in the Master Plan Scheme (MPS).
4. Elimination criteria were formulated during the reduction of the first eleven alternative designs and consist of 15 short statements expressing value judgements agreed to by the majority of staff. These are grouped under five main headings:
 - a) Social
 - b) Residential
 - c) Transportation
 - d) Cost
 - e) Environmental

4. General characteristics of planning methodology:

The five basic principles of Ankara Metropolitan Planning Bureau that governed methodology and work program throughout are the following:

1st basic principle: Planning must be based on a sound urban information system.

2nd basic principle: The entire spectrum of alternatives should be examined.

3rd basic principle: The planning methodology should be based on systems of approach and should be comprehensive.

4th basic principle: The urban physical activity system should be handled as a single land-use/transportation entity.

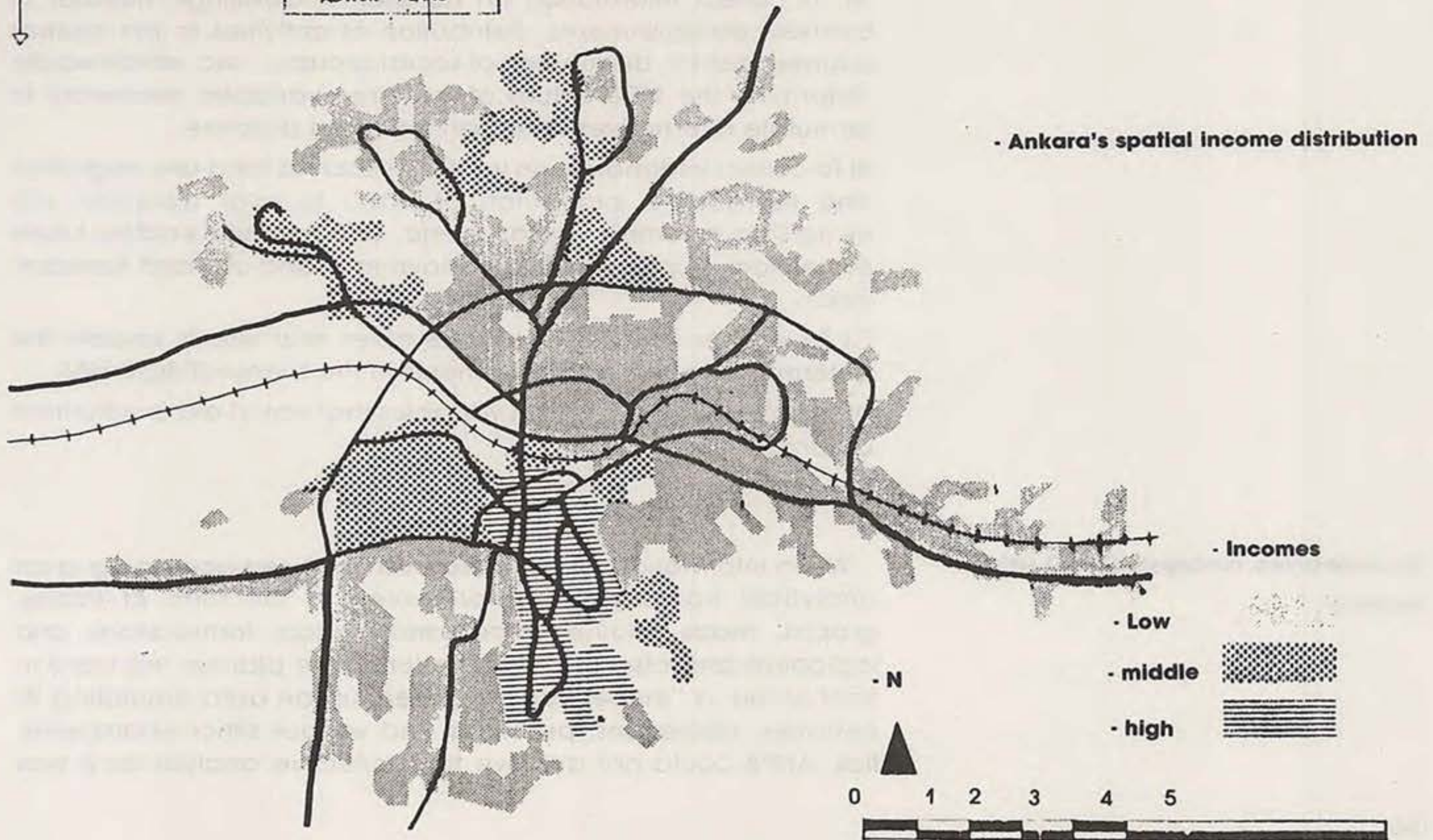
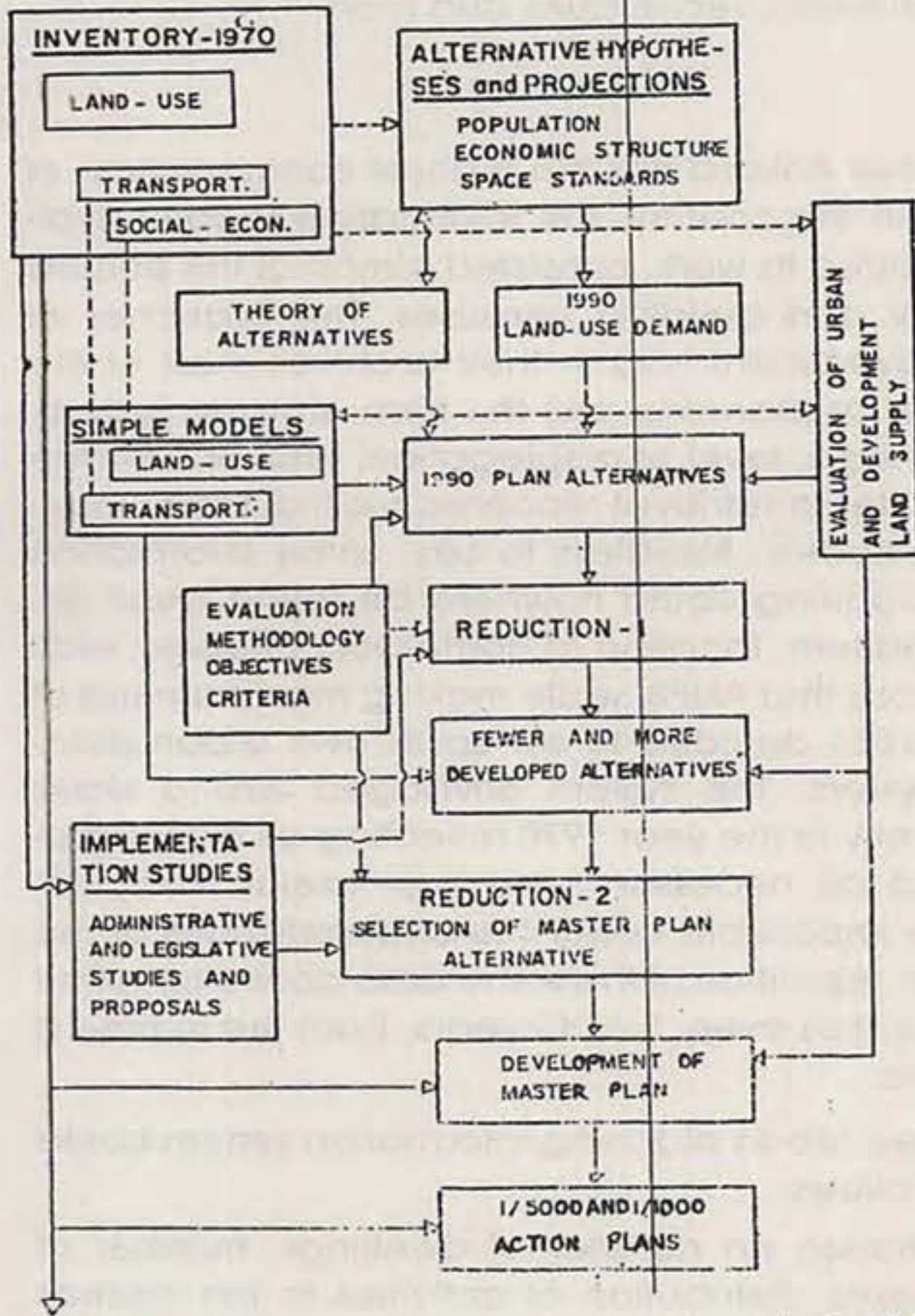
5th basic principle: Planning and implementation should be taken as a whole and must not be separated.

The study program

Fig. 1 is a reconstruction of the 1969 study program which contains all the planning activities actually carried up till now. The later revisions to the initial study program in general effected only the contents of the following individual activities:

- A) Information system (inventory).
- B) Collective analysis (1970 urban model).
- C) Goal formulation and projections for the future.
- D) Selection of future urban model (1990-2000).
- E) Development of the Master Plan Scheme (MPS): The urban and the sub-regional development strategies
- F) Implementation / follow-up / updating / review (feedback)

FIG. 2 : PLAN STUDY FLOW CHART
 DRAFT OF FIRST REVISION
 Main Activities. 1970. ANPB.



The classical planning schemes of research analysis, and synthesis can be traced here to: a) research, b) analysis, c-d and e) synthesis. At the beginning ANPB intended to make use of the recent planning concepts, techniques and tools.

A) Information system (inventory):

Despite the fact that Ankara has the highest concentration of public information in the country, the information readily available when ANPB started its work, consisted almost of the printed population, industry and building censuses. The branches of central and city government had in their archives most of the information needed for planning, but the form, storage system, geographical coverage, level of aggregation, lack of standardization and difficulties of retrieval rendered most of them unsuitable for planning studies. Needless to say, some information that was vital for planning could nowhere be found (such as, activity fields, trip pattern, location of home-work couples, etc). There were the reasons that ANPB, while making maximum use of available data sources decided to set up its own urban planning information system. The system envisaged was a static cross-section of the city in the year 1970 reflecting all of the characteristics selected as necessary and/or useful. Frequent updating would be impossible under the circumstances of the study, but a periodic repetition of the same data-collection effort was thought feasible, say every 5 or 10 years. Even this in time is proved too optimistic.

The goals of the new urban planning information system could be summarized as follows:

A) To collect information on number of dwellings, number of business establishments, distribution of activities in the central business district, distribution of social groups, ... etc, which would determine the 1970 values of the three variables necessary to formulate alternatives for urban form and structure.

B) To collect information on variables such as land-use, migration and its reasons, proportion of basic to total activities, car ownership income correlation etc, which would enable future projections of population, employment, land-use and transportation.

C) To collect information on variables that would enable the determination of future settlements in the surrounding areas.

D) To collect information on variables that would aid or influence urban planning.

B) Collective analysis (1970 urban model):

When information is produced and analysed according to an analytical framework and presented in the form of tables, graphs, maps, mathematical and statistical formulations and indicators and also as written material, the planner will have in front of him a "model" of the present urban area simulating its activities, operations, problems and various other characteristics. ANPB could not achieve this collective analysis as it was

originally envisaged, but many basic tables, graphs, maps and statistics have been produced manually and through the computer. The anticipated benefits from the collective analysis were: a) The planner could be able to comprehend the urban system as a whole, which would increase his manipulative ability in development control, and would correct his misconceptions about the city's operations. b) Mathematical eradiction and planning models in transprotation and land-use could only be calibrated on the basis of this analysis. The former benefit materialized, but almost no use could be made of mathematical models in testing the alternative options and the final strategy. The data-base which is still being worked on is suitable for a variety of detailed model applications and can be used as a historical cross-section in forthcoming planning studies.

C) Goal formulation and projections:

This group of activity was undertaken to estimate or formulate the future in quantitative and qualitative terms. The activity entitled "selection of the future urban model" is also concerned with determining the future, but in a physical or spatial sense, whereas here the emphasis is non-spatial and the concern is primarily with size. The subactivities covered in this group are:

- 1a) The future national and regional role of Ankara.
- 1b) Population and employment structure.
- 2) Space standards for land-use activities
- 3) Future land-use stocks (demand)
- 4) Estimates of future transportation factors (independent of urban form: e.g. car ownership, household income, etc.).
- 5) Land suitable for settlement (supply)

1) As the future place of the city in the country and the region is integral with its demographic and economic structure, the State Planning Organization and the Ministry's Regional Planning Department were consulted for their decisions on the future size, structure and role of the capital, but it soon became obvious that they could only help in the implementation phase by directing investments to Ankara, and could not offer any strategy choice. The Bureau then produced its own forecasts by methods emphasizing trend projections.

2) The level of space standards is one of the most important factors regarding both the level of urban civilization and the cost of urbanization. ANPB's goal in this respect has been to maximize the former while minimizing the latter. Space standards in services are a subject for political decision and legislation.

3) The future demand for land-use activity areas were calculated by the basic formula "population X space standard" Land-use area in which the space standards factor changes its value with land-use type, density of land-use activity and the relative location of the activity within the urban area. The resulting stacks are expressed in terms of geographical type, time periods, density classes, and land-use classes.

4) Goals or predictions relating to transportation planning factors are considered under two heading: a) independent variables and, b) performance standards. The first category includes estimates of factors like car ownership, numbers of other vehicle types, car, truck and bus parking needs, etc.. The second group pertains to factors that are subjects for goal-setting rather than prediction, like, maximum allowable travel time, maximum allowable time-distance to mass transit stops, comfort levels of transit vehicles etc.... As the activity of the transportation sector of ANPB came to a complete halt at the end of the data collection phase in 1972, the only study done within this category has been a "preliminary" forecast of car-ownership.

5) A search for land suitable for development was carried out within a 50 km. radius of the city centre under the study title of "natural land evaluation" aimed at collecting and evaluating data pertaining to the following "natural land factors":

- Topography: altitude and slope.
- Fertility.
- Geomorphology and geology.
- Hydrology: water resources, flood hazard.
- Relative cost of road construction.
- Climate and microclimate.
- Archaeological value.
- Landscape potential.
- Natural ecology.
- Rural settlement and living characteristics.

The information available from the archives of various government establishments was gathered and put on maps, but the factors requiring extensive original field study, such as road construction cost, archaeology, ecology and rural life could not be investigated with the limited manpower available to the Bureau.

The data gathered was analysed and classified with the aid of experts and thresholds decided for each factor including areas of total prohibition and limitation for building. Then all factor maps with threshold lines were superimposed and interpreted in terms of suitability for building construction, after which a "sieve map" was finally produced delimiting only two types of land: Suitable and unsuitable for development.

D) Selection of future urban model:

This activity was concerned with the determination of physical form and structure characteristics of the future urban environment, and as such it had to be a totally creative activity unlike predictions. The planner faced various questions at the start of this activity:

- What characteristics should the urban environment have in order to promote individual and collective development?
- What are the criteria to choose among urban models, i.e. to prefer one to the other?
- What are the possible alternative urban environments?

- How can one objectively answer these and other questions? etc.

In trying to create the future urban environment, it is vitally important that the planner must be totally aware of the following:

- As the future will inevitably be born out of the present, the planner must have complete command of cause and effect relations and tendencies prevailing in today's urban society and must be able to view the present with an eye to the future.

- There exists no "plan-making machine" which takes today's information as input and gives out the future urban structure as output. The land-use allocation and transportation models come closest to being such machines, but of course they only carry out the planner's form and structure decisions. The planner's real problem is how to come to these decisions which will go a long way in determining the daily environment of millions of people.

ANPB's choice of a method for determining plan characteristics was to study and eliminate in steps a whole spectrum of alternatives formulated according to the premises of a well-developed and tested "urban form and structure theory". Professor Catherine Bauer Wurster's theory of basic form and structure dimensions fitted this description perfectly. The theory has passed the test of practice in Northeastern Illinois Planning Commission's (NIPC) plan-making study for the Chicago Metropolitan Area in the sixties. The NIPC was personally visited by a member of the Bureau for discussions on the methodology and later their publications were studied in detail. The original theory postulates two basic dimensions:

- 1) Concentration - Dispersion which is the key to "form".
- 2) Integration - Specialization which is the key to "structure".

The extremes of urban form/structure described by Wurster are a metropolitan super-city at the concentration-specialization end and a group of small self-sufficient urban communities at the dispersion-integration end.

The integration-specialization scale was sensibly subdivided by the NIPC into two sub-dimensions one relating to structure of centers, the other to sub-regional structure, which was also adopted by ANPB. Thus it was accepted that any urban form/structure could be described as a function of three variables:

- A) Residential concentration-dispersion.
- B) Number and structure of central business areas.
- C) Sub-areal integration-specialization.

The rationale and the use of these three basic dimensions in the ANPB studies are explained as follows:

A) The density of residential areas can be brought under planning control easier than the densities of other land-uses. Residential density affects the cost of providing infrastructure and social services. Thus it is useful to investigate the probable impacts of different housing densities on costs as well as on the

quality of individual, family and social life. Theoretical and feasible maximum and minimum levels of density can be established. The concept utilized by ANPB was "feasible gross residential densities".

B) It is possible to concentrate most of the central business activity in a single CBD, or to distribute it to numerous sub-centres each of which may in turn accommodate a large variety or a limited number of central area activity types, i.e. may have an integrated or specialized structure. The concept of "business" or work, defined as "daytime activity" includes industrial areas which may also be either concentrated in large estates or scattered in small groups within the metropolitan area. But industry was kept outside this dimension of centralization and included in dimension C as a characteristic of sub-areas. In fact, during the alternative design studies, the location of large and medium size industry remained practically the same between options. Cases of maximum and minimum centralization can be described on this variable-scale.

C) The second variable characterizing the inner structure of the urban area, i.e. sub-areal integration-specialization, defined the degree of "mixture" of different types of land-uses as well as of other elements such as social groups, income groups, building types, environment types, density types, etc... The scale of the geographical unit is highly important in the evaluation of this dimension. Mixture in a higher unit may coexist with specialization in its subunits. But the reverse is of course never possible. Maximum integration (mixture) is the case of coexistence of all types of elements in the smallest defined unit; whereas maximum specialization (segregation) is the concentration of similar elements together in large "single use" areas thus segregating them from other types. The meaningful size of area for the consideration of this dimension in urban planning may be a social unit, like the neighbourhood or the district, demonstrating subsystem character in its social, administrative and physical correlations. The structure of any urban area can be measured and located on a scale of minimum to maximum integration-specialization.

Thus we have a 3-dimensional mathematical space in which any existing proposed urban structure can be represented by its characteristics on the three axes. The reverse is of course also true, i.e. three characteristics selected each on one of three axes defines an urban structure model as combination of three characteristics. By sampling this total space of urban form and structure possibilities in the form of threesome combinations of basic variables, the planner will have a representation of the whole spectrum of future plan models. When physical designs faithful to those model descriptions are developed for the particular urban setting in deed he will then have a laboratory in which real development strategy alternatives can be discussed, elaborated, measured, compared and eliminated. The possible impact of each alternative way of life can be openly debated

on the basis of cost-effectiveness, life-quality, feasibility, transportation measures and evaluations. This also creates a fertile ground for public participation in plan-making.

In the ANPB study of alternatives, the following characteristics were seen on the three basic dimensions, A,B. and C:

A) Residential Concentration-Dispersion:

- A1-Dispersed residence.
- A2- Clustered (medium density) residence.
- A3- Concentrated residence.

B) Number and structure of Central Business Area:

- B1- Specialized multiple centres (inter-community business trips).
- B2- Integrated multiple centres (intra-community business trips).
- B3- Single centre dominance.

C) Sub-areal Integration-Specialization:

- C1- Integrated sub-areas.
- C2- Specialized sub-areas.

The 18 threesome combinations ($3 \times 3 \times 2 = 18$) of these 8 different characteristics describe as many models, 7 of which prove self-contradictory in closer inspection. These 7 are: A1-B2-C2: A1-B3-C1: A2-B2-C2: A2-B3-C1: A3 B1-C1: A3-B2-C2: and A3-B3-C1. The remaining eleven possible combinations as in the NIPC study) have been the basis for the first stage alternative development strategies.

In the design stage, nos 3-7 and 8-10 were treated together for practical reasons as the only difference between them was in the density scale. The resulting nine descriptions were distributed among nine planners who then were the whole staff for a kind of design competition. They were given the same sieve map and 1990 land-use stocks as the common base, worked independently of each other.

The reduction process

The first reduction in the number of alternatives was done through a "Goal fulfillment test" developed and applied within the Bureau. (see table 2.2) The "best" six designs were then subjected to a free debate in the Bureau which produced four totally different strategies for further elaboration. One of the four was no. 11 which was not included in the best six, but was thought to represent a distinct and controversial tendency of the groups in present day Ankara. These four designs were entitled as follow:

1. Corridor
2. Nodal dispersion
3. Linear
4. Radial dispersion

In this stage the basic urban variables were reduced to:

- Plan form (corridor, nodal, linear, radial)
- Residential density: Low, high.

- Concentration-Dispersion of workplaces (central area plus industry), here-by eliminating the dimension "integration-specialization" from further study. The idea that the degree of mixture of land-uses and other physical/social elements was a highly significant factor of the urban environment and that it could be controlled by planning, had in fact been a subject of heated controversy in the Bureau right from the beginning. While central area structure and residential density are familiar factors in the central area structure and residential density are familiar factors in the country's planning practice (the latter more than the former) this was a totally new idea which undoubtedly contributed to its rejection.⁽²⁾

A third reduction from four to three designs was effected through discussions on the second stage alternatives. It was decided that the corridor and linear schemes could be merged to produce a new corridor design or a finger plan that would be worked out in a more realistic fashion and in greater detail, and that the two dispersion designs in fact represented one basic option that contrasted the dense corridor/finger option, i.e. a satellite-cities scheme. Later it was thought appropriate that a third option of "planlessness" or "trend" should also be produced to bring into sharper focus the seriousness of today's problems that will be aggravated much further if the present trend of partial-incremental decision-making and the resulting in-fill, "demolish and build" and peripheral mode of development continues into the future. Thus, in the last leg of option studies the Bureau had three designs, namely:

1. Corridor
2. Satellite
3. Trend

The next stage was the selection of the master plan design between the corridor and the satellite schemes and this process warranted a more quantitative cost-effectiveness type comparison of these two strategies. And as this was above the Bureau's capacity, expert opinion was sought from outside. The experts were asked to examine, evaluate and compare the two schemes from their own specialization's point of view, i.e. transportation, infra-structure and land-use economy, and collectively decide, in a short time, which of the two would produce higher net benefits. This was a rather unsuccessful exercise for ANPB in that the Bureau's argument that it should be possible for an expert, say in transportation, to make a houristic evaluation of two land-use strategies based on their macroqualities, and recommend one for further elaboration, was summarily rejected by these people who insisted on the necessity of detailed sector projects before they could even start thinking about comparison, whereas the Bureau's problem was exactly this, i.e. to choose between two land-use strategies before detailed sector planning which could then be done only for the chosen strategy thereby effecting a saving of planning effort and cost.

An early decision about the land-use strategy would have countless other benefits for the city in terms of development control and solution of problems, besides providing a sound basis for serious sector planning. For these reasons and after the experts' reaction, it was decided that a "stimulation" of the experts' heuristic evaluation and perhaps even of more technical measurements be attempted within the Bureau. This study eventually took the form of hypotheses expressing highly probable results that should be expected from a technical comparison. It contained a list of premises each stating the superiority of one option over the other followed by (or including) a statement of reasons why the particular premise might carry high probability. After this last evaluation the corridor design was definitely selected to be further elaborated as the urban development strategy. This was the first stage alternative with the characteristics of:

- concentrated residence
- specialized multiple centres, and
- specialized sub-areas
- and the second stage alternative with
- high residential density, and
- multi-centre structure.

E) Elaboration of the urban development strategy

(The Master Plan Scheme: MPS):

The corridor design of the third stage was produced in 1973 and selected as the MPS in 1975. Since 1975 up to mid-1977 when it was officially presented to the Ministry for approval the plan was continuously updated, corrected, completed, measured and verified, but only for its land-use content. A "Services Plan" was also produced showing present deficiencies and possible locations for future local social services at the sub-area level. But the plan still lacked

- a transportation plan
- a technical (infrastructure) plan.
- a policy plan delimiting areas of preservation, rehabilitation, concentration/deconcentration, etc. which the Bureau could not hope to complete within a reasonable period of time with the resources and manpower available to it. For this reason as well as for achieving a certain flexibility in implementation the plan at this stage is presented as a land-use strategy or, in its Turkish wording, as a Master Plan "Scheme" and not as the plan.

F) Implementation, follow-up and review:

The following activities are envisaged after approval of the strategy

- The staging of building in the new development areas and production of 1/5000 local plans by stages plus active directing and control of development in these areas.
- Close monitoring and evaluation of all kinds of tendencies outside the Bureau's control.

- Review of the plan strategy and details in the light of the feedback provided through implementation. To start a new cycle of research activity if necessary.

5. Ankara-1990: urban development strategy

The strategy in general:

The general goals pursued with the new master plan strategy are the following:

- The physical structure should be economic to implement and run.
- The economic structure should achieve a balance between service and manufacturing sectors.
- The socio-physical structure should be equalitarian in the geographical distribution of public services. Today's double-structure of planned and unplanned sectors should be remedied as soon and as much as possible.
- An acceptable environmental quality should be achieved.
- The relations between the man-made and the natural environments should be life-enhancing.

It was concluded that these goals could be achieved if the physical form and structure of the Metropolitan Area fulfills the following objectives or criteria:

- If it makes maximum use of the existing road and rail systems and the technical service (i.e. water, sewage, energy) networks, thus minimizing the need for new investment in these systems.
- If it facilitates economic operation of mass-transit systems.
- If it provides long interfaces between built-up areas and large natural open spaces.

The following conditions should also be realized to facilitate implementation:

- a) The plan strategy should have a high probability of being realized, which means that it should not conflict with strong locational preferences and development tendencies, and should on the contrary, make it possible to organize and give new structure to the present trends.
- b) The public authorities must have a general attitude conducive to implementation. It is especially important that measures be taken to facilitate public acquisition of development land, and public-sector provision of low-income housing.

The study of alternatives showed that the above goals and objectives and the implementation condition "a" were best satisfied by the "CORRIDOR" pattern of development which demonstrates the following characteristics:

1. High passenger densities will be realized along the corridors over long periods of time creating a very favorable context for economic public mass transit operation.
2. It will be possible to make full use of existing road, rail and technical service network capacity that exists along proposed development corridors.

3. It will be possible to economize an infrastructural investment such as water and sewage disposal along the corridors.

4. Natural open space (rural, agricultural and recreational) will penetrate the built-up areas in the form of wedges between the corridors which will facilitate easy access to these spaces for all sectors of the population.

5. It will create the opportunity of organizing the present irregular ribbon development of industry, housing and institutions along intercity highways.

Of course no physical plan however ingenious would do all these by itself. It is vital that the responsible public authorities and investors should realize and make use of the opportunities presented by the selected strategy.

Table. 2.2: goal fulfillment bank ordering of 11 designs

Design No. (Plan form)	Average Score of design
(best) 5 Satellite	22.242
1 Corridor	22.117
10 Linear	21.246
9 Satellite	20.391
8 Linear	19.915
7 Oil-drop	17.818
2 Oil-drop	17.074
11 Scatter-trend	14.550
3 Dispersed oil-drop	12.464
4 Oil-drop, trend	11.252
6 Spread oil-drop	11.149

Proposed spatial distributions:

The proposed urban and sub-regional development strategies have been presented at 1/50.000 and 1/100.000 scales. A total urban land area of 40.000 hectares has been projected for 1990, of which 13.000 is the 1970 urban area and 27.000 is the additional development area.

Of the total 1990 population projection of 3.26 million, 1.97 million or 54% is allocated to the 1970 urban area which means an assumed 0.76 million addition to this area's 1970 population of 1.21 million, and, 1.65 million or 46% is planned to live in the new development areas. Needless to say, the addition of three quarters of a million people to the 1970 urban area will not be an admirable achievement in view of Ankara's pollution, traffic and service problems, but the planner does not have any choice in this respect in the face of present legal codes and the on-going processes of development. Still the figure of 0.76 represents a hinderance option. A non-hinderance option could push it up to 1.5 or even 2.0 millions.

The distribution of the projected 1970-90 additional population to major development areas of the plan is also summarized below:

Major Development Area	Plan Population	Percent of total additional population (70-90)
A) Western corridor	727.940	44
B) Southwestern corridor	416.290	25
C) Southern development area	43.000	3
D) North-North eastern dev. area	127.500	8
E) Eastern corridor	155.380	9
F) Peripheral development areas	182.130	11
Total additional population	1.652.240	100

Residence:

The residential land-use takes up half of all land-use areas. The distribution of social groups within the residential areas is considered inseparable from residential land-use distribution. Taking income level as the best been estimated that 50%, 40% and 10% of the additional plan Population will fall into low, middle and high income groups respectively. Assuming the same level of density for all three groups, low, middle and high income areas will take up 4750, 4000 and 1235 hectares of the total additional residential area. It is highly probable that the western corridor where most of the industry will be located will attract low-income housing demand, and that the southwestern corridor and the southern development areas will offer middle and high-income residences to civil servants, professionals and businessmen.

Industry and warehousing:

The Ministry of Health and Social Aid has classified industries into three groups from public health point of view. This classification was adapted to the needs of physical planning by ANPB and the following groups were described in terms of their spatial relations with residential areas:

- Intra-residential type of industry: Smaller and nonpolluting industries that can be assimilated into residential areas.
- Adjoining-residential type of industry: Medium size and polluting industry which conflicts with residential use but can be located near by at a certain distance.
- Extra-residential type of industry: Large size, heavy and polluting industry which should be located far from residential areas.

In the plan, types "b" and "c" are concentrated in large and small industrial estates mainly in the western and eastern ends of corridors. The distribution of type "a" is very difficult to control with today's zoning regulations. The area, density and manpower distribution of the three in the plan are as follows:

Type of Industry	Land area (ha)	Number of Jobs	Maximum density (employees per ha)
a) Intra-residential	320	111.421	350
b) Adjoining-residential	1.281	126.740	73
c) Extra-residential	2.865	85.969	30
total	4.466	324.130	---

The warehousing demand in 1990 is estimated at 1.036 hectares

Urban services:

Here, the plan distributions of some major city-scale services will be summarized:

Government services: Those services have a very important place in the employment and physical structure of Ankara. In 1970, various sub-groups of this class occupied the following areas with the 33 zone boundary:

- National government services	282 ha
- Military zones	1,478 ha
- Diplomatic missions	49 ha

The plan proposes an additional administrative land-use of the 1,200 hectares which is distributed to the principle development areas as follows:

- Western corridor	41 ha
- Southwestern corridor	715 ha
- Northern development area (Esenboga)	20 ha
- Within and peripheral to 1970 urban area	421 ha
- Total plan addition	1,197 ha

45 hectares of the peripheral area in Cankaya is planned as a new Diplomatic Zone.

Educational Services: Primary and secondary level educational land area is allocated to local districts in proportion to future population. The institutions of higher education in Ankara have a national character. The city has 24 higher education establishments including universities. The Middle East Technical University occupies some 4.500 hectares of land and ranks among the largest in the world in terms of land area. Beytope Campus of Hacettepe University owns 1.085 hectares of land. The higher education function covers 138 ha within the 1970 built-up area. In the plan, 900 hectares of additional land area has been allocated to new out-of-town campuses.

Health Services: Ankara is also specialized in this function and provides countrywide service. In 1970 one hospital bed corresponded to 131 persons of the city population. In area terms the standard was 1.8 sqms per person. Total 1970 land area in health use was 243 hectares. Nevertheless, there is a deficiency of as much as 85% at the local level in institutions serving the city population only. An additional area of 253 hectares is allocated to future health services at a peripheral location in the west.

Central business areas:

The overwhelming weight of the present twin-core CBD and its extensions in the distribution of jobs was exposed in Ch. 6 under "centres" and "transportation". The proposed Urban Development Strategy aims at distributing the central area functions more evenly between the CBD and the district Centres. It is worth having a look first at the 1970 distribution of the retail function and consumer expenditures between the central areas, then at the Plan proposals.

A Metropolitan Central Area (MCA) can be delimited to include the twin-core area of Ulus and Kizilay (Yenisehir), and the Maltepe and Cebeci district centres which are within two kms of Kizilay. Of course the Twin-core Area (TCA) dominates the MCA: 87% of MCA expenditure is concentrated in TCA. The MCA gets 70% of the city's total consumer expenditure, leaving 30% to the District Centres. The TCA alone receives 61% of the total, Ulus 39% and Kizilay 22%.

Of the total commercial service (i.e. personal plus repair services) expenditure, 35% is made in the Metro-Centre and 65% in the District Centres. Commercial service activity is more dispersed than both retail and entertainment. 72% of expenditure in entertainment is concentrated in the MCA and 28% in the district centres.

It is proposed in the Plan that this very high degree of concentration in the MCA or the MCA should be gradually reduced and the central business functions of the Metropolitan Area should be dispersed to both existing sub-centres and new business districts to be created in the development corridors and areas. This will in time reduce the average length of business trips and cause a more even distribution of peak traffic. This transformation of the structure of central area functions will be in keeping with the transition in the city's general character from a medium-size provincial centre towards being a Metropolis.

The Plan proposes the following shifts in the retail trade shares of the Metro-Centre and the District Centres:

Retail expenditure in:	Metropolitan Centre		District Centre	
	1970	1990	1970	1990
Perishable goods	59%	35%	41%	65%
Durable goods	76%	60%	24%	40%
Total consumer goods	70%	40%	30%	60%

Thus, there will be a relative reduction in the share of the MCA, but in absolute terms the physical capacity of the Metro-Centre will expand to 2.5 times its 1970 size. A comparison between the 1970 and the 1990 retail floor areas of the MCA and other centres is given as shown in the table.

Most of the proposed CBD expansion in the Plan takes place to the west of Ulus in an area marked as "allotment gardens" in the Jansen Plan. It is proposed that an area of around 300 hectares should be subjected to a very careful scrutiny to give shape to this expansion. Kizilay's expansion in retail and commercial service activity has been restricted to 20 hectares in the west, between the railway yards and Maltepe Central Area. A Second

Retail floor area (sqms) in:	1970		1990	
	floor area	%	floor area	%
Metropolitan Centre	350.000	70	885.000	40
District centres	150.000	30	1.299.000	60
Total	500.000	100	2.184.000	100

Ministries Zone is proposed adjacent to the present Ministerial Area to accommodate the required expansion of the government activity. The addition proposed is 65 hectares.

A new centre of culture is located in the Plan within the belt separating Ulus and Kizilay, on the present railway yards area which will be relocated in the west about ten kms of the central station. The new centre will provide an activity bridge between Ulus and Kizilay and also complete the presently half-existing "culture-education-health axis" extending east to west from Hacettepe University to the Central Station perpendicular to the Atatürk Boulevard joining Ulus and Kizilay. The new Palace of Justice which will attract big crowds is located in a complementary position adjacent to the Centre of Culture. The area designated for the centre 35 is hectares.

Public open space:

There is a very great deficiency in the provision of urban and local public open space in today's Ankara: The deficiency is as high as 95% and 86% at the local and urban levels respectively measured by the Plan standards. The existing and proposed levels of the standard are shown in the table.

Public Open Space Standard (Sqms per person)	Existing (1970)	Proposed (1990)
Local	0.42	8.00
Urban	2.78	20.00
Total	3.20	28.00

The vast publicly owned areas of the Atatürk State Farm, ETU and Beytepe Camuses have tremendous potential for recreational development. They are located almost ideally in between the corridors of proposed development. The area owned by these three institutions amounts collectively to about 11,000 hectares. Today only a meager 52 hectares of the State Farm is open to the public.

The Ministry of Tourism and Information has undertaken study of the recreational potential within the metropolitan area of Ankara in coordination with ANPB, and produced a recreation Master Plan, the main goals of which are stated as follows:

- Urgent measures must be taken to ensure the conservation and optimal development of the environments of valleys, lakes and water reservoirs in the vicinity of Ankara: The Imrahor-ncesu Valley, Cubuk-I and Bayindir Dans and Lake Mogan in the soath.
- The natural environments of valleys, mountains and water reservoirs in the Marther region must be preserved: Nenek, avli, Hatip, Lalahan valleys, Idris, Müseyingazi and Elmadag fountains and the Kurtboğazi Dam (artificial lake).
- The open space vedges penetrating the urban area as proposed by the ANPB must be studied and developed for urban recreational use.

Implementation

From the beginnings of its studies, ANPB has tried to put into effect the basic principle of the integrity of planning and implementation. This peccesiteted a conflict resolving, directing, persuading and active attitude. The potential for future conflict between the on-going development of the city and a probable long-term strategy was very great at the start when the squatter was in an embrionic stage. Projects with a high generating power, such as large industrial estates, were formulated and promoted through negotiations with potential investors.

The implementation decisions actually taken before the submission of the plan strategy which were facilitated by this active attitude of the committee a considerable proportion of the plan areas to development: 38% of residential, 28% of industrial, 40% of institutional, and 23% of higher educational land-use proposals are thus earmarked for implementation before the approval of the Plan. There were projects over committed the following land areas and populations:

- Residential	: 4,798	hectares	= 770,000 people
- Industrial	: 757	hectares	= 53,000 employees
- Institutional	: 1,235	hectares	= 33,000 employees
- Educational	: 888	hectares	= 25,000 students

Transportation:

The integral treatment of land-use and transportation activities was one of the basic principles guiding the master plan studies. Indeed, transportation criteria such as optimization of land-use/transport interaction, maximum utilization of existing transport network and economic public transit operation, have perhaps been the most important factors determining the selection of the plan macro-form and structure. But regrettably the transport planning section of the ANPB has remained inoperative for a long period from the completion of data collection till the submission of the master plan scheme and approval, i.e. from 1972 until 1977. Therefore, the transport proposals reached to the 1990 Land-use Strategy could be presented only in the form of principles ideas. It is presented as a hypothesis that the proposed network will be able to provide sufficient capacity, high capacity rapid urban mass transit systems are contemplated along the proposed transport corridor to be located within the rights of way of the present intercity highways.

The proposed network is a rationalization and geometric completion of the present system. A series of ring roads are proposed to break up the present radial convergence of all routes towards the city centre. An increase in the capacity of the central area mass transit facilities is foreseen, but up to the level of the demand that will be generated when all of the building rights permitted by the 1957 city plan are used up. The problem of the central area traffic can only be solved through comprehensive and sensitive body. The plan proposals include a north-south transit expressway alignment to the inter-continental route E5, arrived at after a long joint study with the State Highways Department of the Ministry of Public Works.

Social services plan:

A plan to guide the public provision of social services in the 33 analyses/planning zones of the 1970 urban area has been developed. The future service requirements and the present deficiencies were then calculated for each zone separately, Filed maps were made to each zone to delimit vacant land suitable for future services.

THE APPROPRIATE HOUSE FOR THE MUSLIM WITHIN THE MASTER PLAN OF THE CITY

ENG. YACOUB YOUSSEF ALMAS

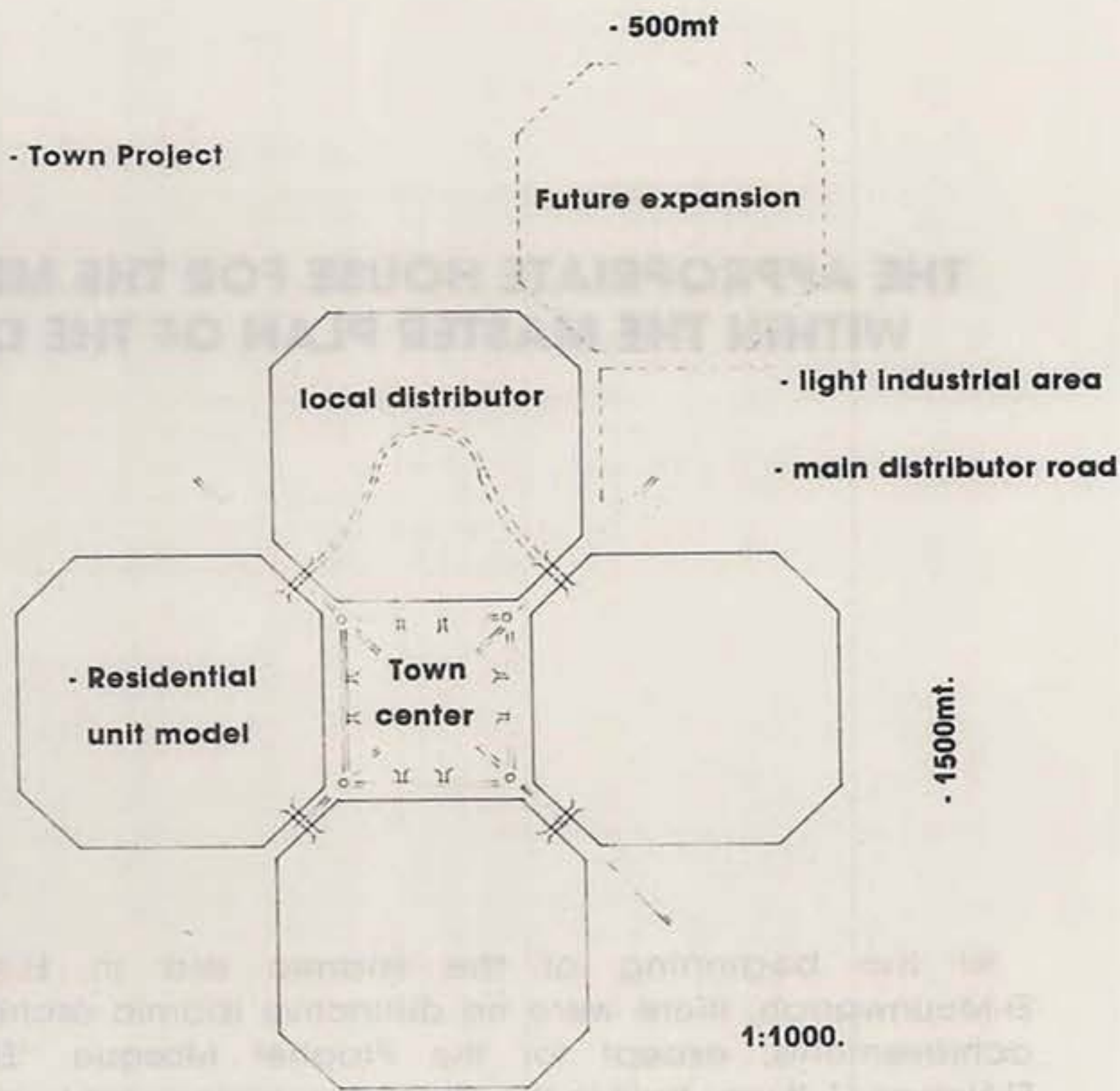
DIRECTOR OF MAYOR'S BUREAU
MUNICIPALITY OF AL-DOHA QATAR

Introduction:-

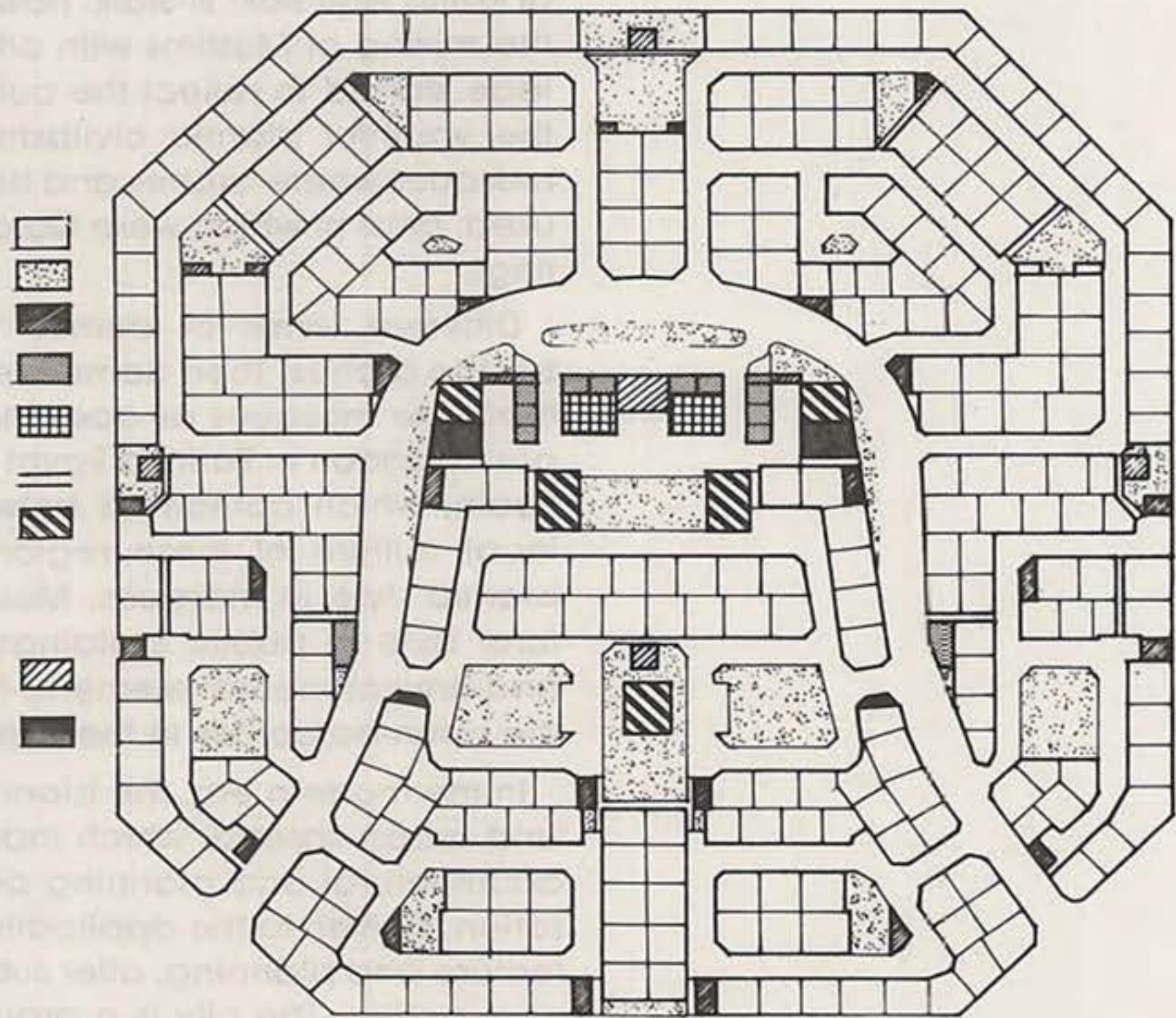
At the beginning of the Islamic era in El-Madina El-Mounwarrah, there were no distinctive Islamic architectural achievements, except for the Prophet Mosque "El-Masjid El-Nabawi". It was built in the simplest architectural form, as the function of prayer was the fundamental reason for its building. This situation continued to a great extent until the end of the rule of Kalifa Abu-Bakr El-Sidik. However, after the spread of Islam and the mixing of Muslims with other nations, the architectural heritage started to reflect the cultures and races which mixed with the youthful Islamic civilization. This was especially clear in mosques where arches and Islamic decorations were intensively used, most of which were Quranic verses in all known Arabic writings.

Different forms of domes "Kubab" appeared in mosques beside arches. Then came the minarets in the Ummayyad era, to mark the mosques as does the minarets of churches. Examples are abundant in Fatimid Egypt and in E-Maghrib, Iraq, Syria, and Spain, which combined between the Islamic culture and the local culture of these regions. After the crystallization of the Islamic style in mosques, Muslims started to use their architectural style in public buildings and houses, adding decorative and environmental elements like mashrabiyyas; which replaced the open-balconies in the western style.

In the modern era, the Islamic city confronts cultural invasions and urban spread, which endanger it with destruction from the architectural and planning points of view, unless due consideration is given to the application of modern technology in architecture and planning, after submitting it to the Islamic character of our cities. The city is a group of separate dwellings together with the necessary services for the inhabitants. There are certain factors that give the city its character, most important of which are its architectural style and urban fabric. Thus, discussing the



- Residential Plots (20 X 20m, 15 X 15m, 12 X 12m)
- Open Green Areas
- Utilities
- Shops
- Local Offices
- Pedestrian Routes
- Cultural Services
- Mosques
- Community Facilities



Residential Model

appropriate house from the economic point of view, which suits the Muslims needs and social life within the general plan of the city, will lead us to discuss the planning of the Islamic city. These will be the subjects of our research.

First: the appropriate dwelling for the muslim from the economic and social points of view:-

There are 3 main factors affecting the design of houses and especially the Islamic house:-

1) Financial capability of the individual or group (economical factor):-

Inevitably, new economical conditions like difficulty in purchasing the suitable land and dwelling, escalation of prices, and crowded cities, affected the quality of dwellings in design form, and size. Modern dwellings are shrinking and cities are expanding vertically, which necessitate the use of low-cost building materials. These conditions should be taken into consideration while designing a dwelling suitable for the Muslim's life. The economical solutions for the Islamic city will be further discussed when we demonstrate the master plan of the Islamic city.

2) Design or architectural value of the unit (architectural factor):-

The preservation of the Islamic style is not intended for preserving certain social, economical, and technological conditions which prevailed in old cities. To the contrary, it is intended for the preservation of deeprooted cultural values of our Islamic civilization.

3) Social needs of the individual and group (social factor):-

As for the social planning of the Islamic house, the traditions and customs which suit the Islamic "Shari'ah" should be taken into consideration. Islam honors the woman and gives her a supreme position in society. Thus, it should be noted in the design of the Islamic dwelling to separate her from foreign men, in order to give her the opportunity to do her domestic duties in complete freedom and privacy. Consequently, we find the Islamic house divided into two parts, part for women and another for men, each having a separate entrance in most cases. The men's entrance leads to the Majlis - reception - and its utilities.

If we direct such a question as "What is the appropriate dwelling?" To the Muslim architect designing an Islamic dwelling, the answer should evolve from the deep conscience of the architect taking into consideration the interaction between Islamic culture and the 20th century culture, the introduction of modern technology in the Islamic house, changes in the economy of Islamic cities, in addition to changes in the every day habits of the Muslim e.x. spending more time inside the house and the usage of modern domestic machines in some houses.

Hence, the appropriate house is that which facilitates the social and environmental life and provides the hygienic aspects, the social services and the link with other elements of the Islamic city.

These factors will certainly lead to the design of a different Islamic dwelling according to the living conditions and the role of man and woman in life. I herewith enclose simple designs for the Islamic dwelling suitable for the medium class Muslim who represents the majority of the Islamic cities inhabitants. Three factors were taken into consideration while putting those designs:-

a) Economical factor:-

- 1) Simplicity and non-extravagance; our awareness of the difficulty of modern living conditions especially for the low-income groups, lead us to the simple design eliminating all external and internal ornaments and leaving such details to the conception of the architect and the capabilities of the owner.
- 2) The possibility of applying these models on different land sizes, according to the capabilities of each individual. There are some other factors to be taken into consideration, however, they are out of the scope of this research.

b) Architectural factor:-

To emphasize the distinguished style of our Islamic architecture, it is necessary to accentuate the cultural and intellectual Islamic values in the planning and urbanization of our cities. To attain this objective, it is important to utilize all types of architectural design, i.e. compound and isolated design, space design, and construction methods in order to give the effective architectural expression. That's what I tried to emphasize in the attached designs.

c) Social factor:-

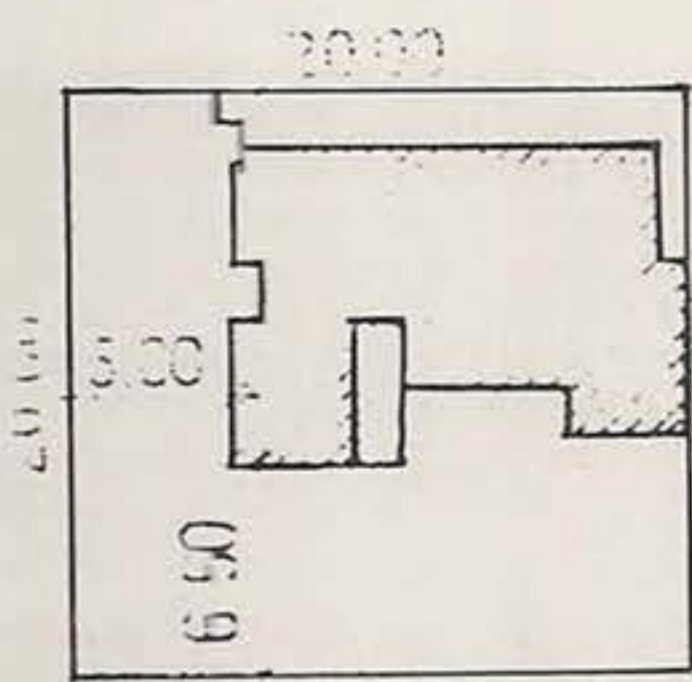
- 1) Developing the distinguished Islamic character in the dwelling: Islamic instructions were taken into consideration in the three designs, as regards the role of man and woman in life and the prevention of the woman mingling with foreign men. Thus, the models comprise two separate entrances for the majlis and the dwelling.
- 2) Creating the suitable environment for accomplishing the domestic duties of the Muslim family:-

It was taken into consideration while designing, that the Kitchen lies in the rear end of the dwelling, so as to give the woman complete freedom and privacy while performing her duties.

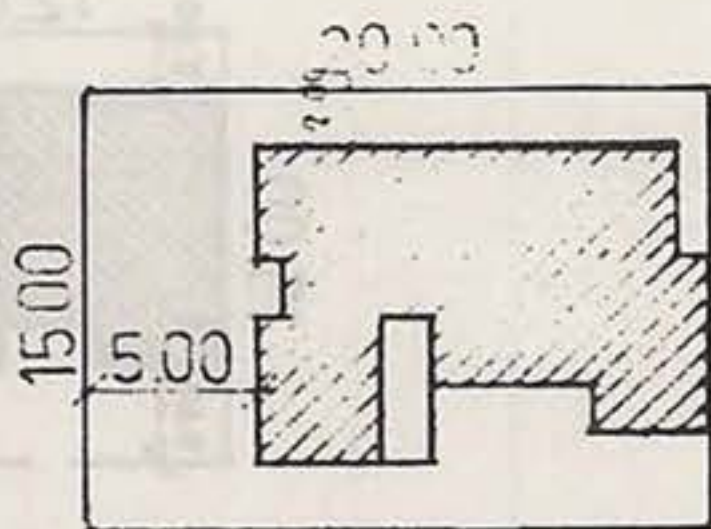
- 3) The staircases were designed so as to allow for vertical expansion, giving the possibility for another family to live in the first floor without any interference between the two families and without interfering with the privacy of each of them.

Second: the master plan of the modern islamic city:-

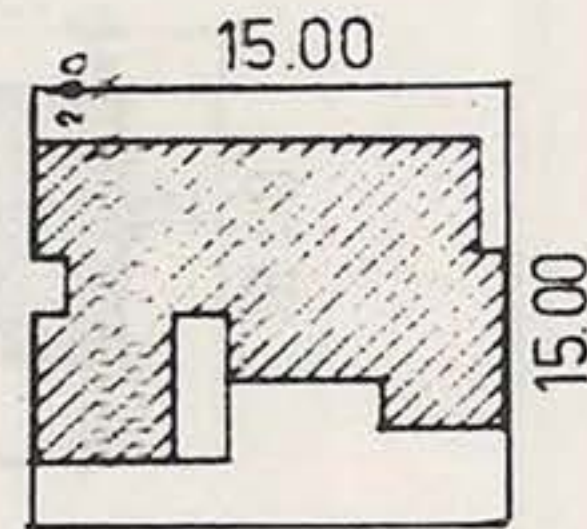
The traditional plan of the Islamic city begins with the great mosque and the Imara palace in the center surrounded by markets then public houses. We could make use of the traditional plan, while putting the master plan of the modern Islamic



C.1

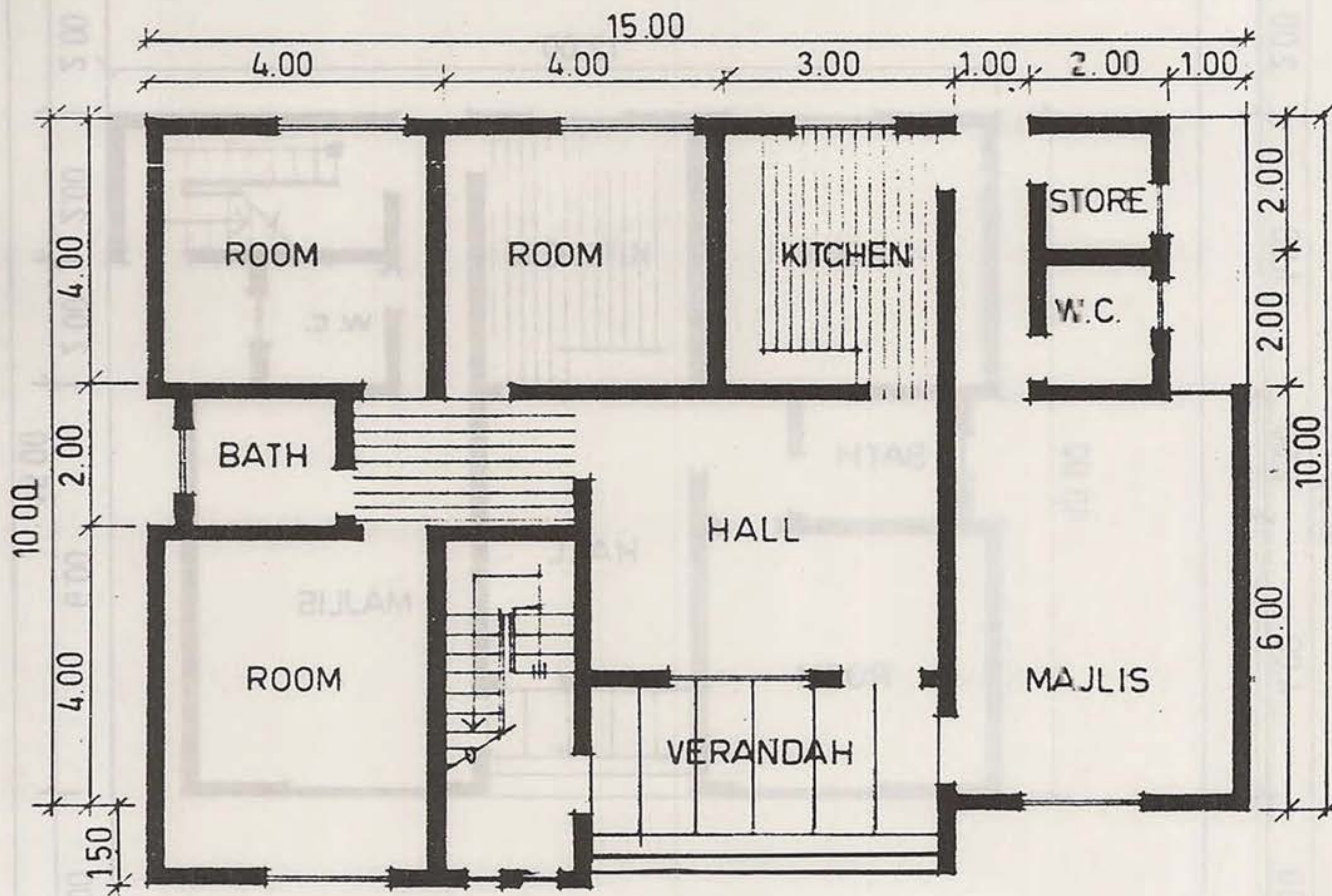


C.2



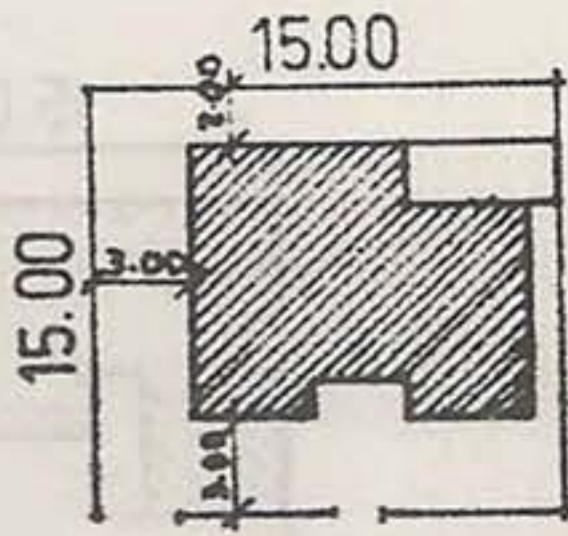
C.3

SITE PLAN
scale 1:500

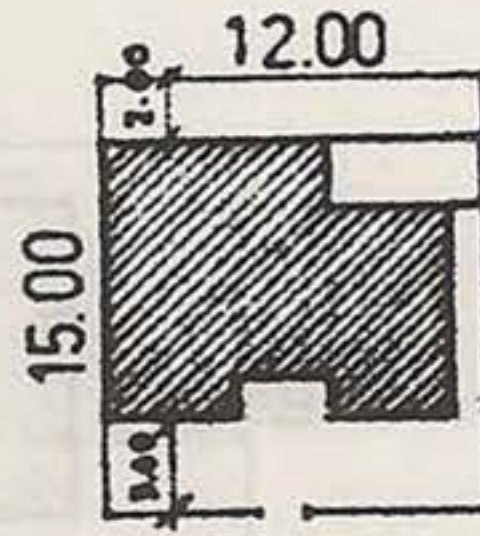


GROUND FLOOR PLAN

STANDARD DESIGN
TYPE _C
SCALE. 1:100

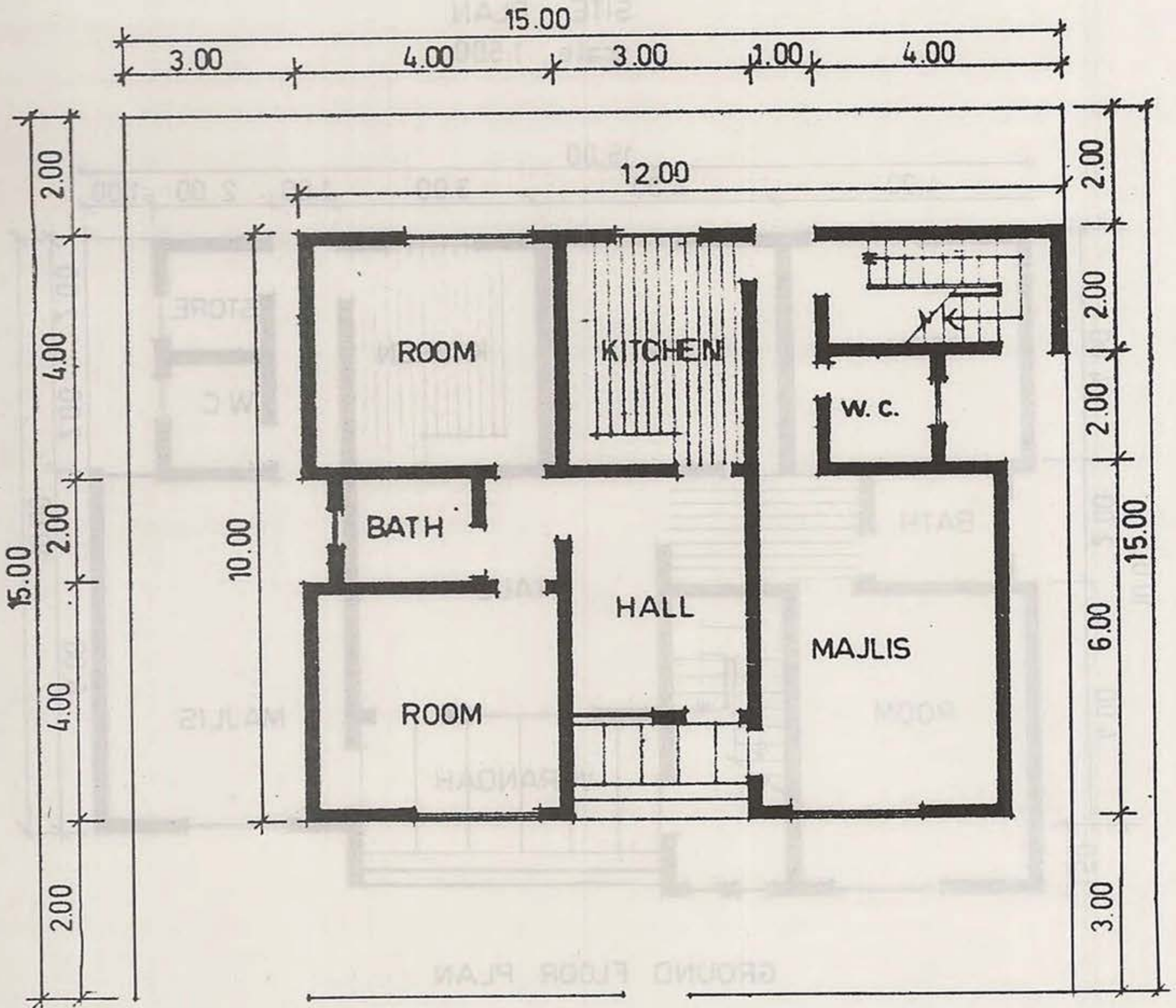


B_1



B_2

SITE PLAN
scale 1:500



GROUND FLOOR PLAN

STANDARD DESIGN
TYPE - B
SCALE 1:100

city, after introducing technology and modern means of life like wide streets for cars, necessary services, parks, and public spaces, etc.

The problems which face the modern city should be taken into consideration, like population growth, unemployment, traffic congestions, high criminal rates, housing and services problems ... etc. Most of these problems are due to economical problems one way or another.

Before discussing the master plan of the Islamic city, one could sum-up the factors affecting the design of the Islamic city, starting with the factors which could help in developing the economy of the Islamic city and consequently the living standards of its inhabitants, in the following points:-

- * Benefiting of the Muslim nations capabilities.
- * Benefiting of the Islamic instructions for the regulation and running of economy (i.e. Zakah and Sadaqah).
- * Works of charity & piety, like Islamic charity Societies.
- * Establishment of specialized scientific research units in the fields of Islamic city and house.
- * Benefiting of the available expertise in the Islamic world and the non-Muslim world, when needed.

We should not neglect, while specking about the modern Islamic world, some important points relevant to our subject, that is the basic means to preserve the general character of the Islamic city:-

- * Linking the new city to the old one.
- * Having a comprehensive view of the Islamic city, which takes its unique form from its materialistic and moral elements.
- * Preservation of the Islamic architectural heritage threatened by urban sprawl and cultural invasion, in order to preserve the deeprooted cultural values and not some economical, social, or technological conditions which prevailed in old cities.
- * Emphasizing the importance of modern civilization in certain aspects which suit Islamic values. Obscurity and isolation from the International civilization is suppressive to nations capabilities and creative aptitudes.

If we try to sum up the fundamental factors linking the Islamic house to the city we find:-

- * Traditional factors which determine the entity of the Islamic house and city.
- * Influence of cultural spread and urban sprawl on the Islamic city.
- * The need for the suitable house from the economic point of view.

At the end of our research we should mention that the development of planning and architecture could not be accomplished except through two parallel and complementary routes which are:-

- * Education and Faith.
- * Work and Organization of the profession.

Islam always urges for work and its perfection, as it links work to worship in many verses and prophetic traditions. An architect who is committed to Islamic values in his architecture, must be committed to Islamic values in his personal life and behaviour. Architecture is the reflection of the community which lives in it, the materialisation of its values and beliefs, the physical structure of its motion and stillness, an expression of cultural continuation, an expression of intellectual and local geographical values, and an expression of the unity of creed and variety in environment.

PROBLEMS OF HOUSING THE LOW INCOME GROUP IN KUALA LUMPUR

REPRESENTATIVE OF THE MUNICIPALITY OF KUALA LUMPUR MALAYSIA

Introduction

This paper is written with three major objectives:

1. To highlight the issues involved and presently faced by the City of Kuala Lumpur with regard to human settlements.
2. To give some of the major roles played by the Kuala Lumpur City Hall as a local authority in Housing.
3. To expose one of the major areas within the context of city development - problems and challenges towards promoting social justice and the improvement of the living standards of the Muslims.

In due of the experience gained from the housing industry, the paper also demonstrates some of the strategies adopted by the Kuala Lumpur City Hall towards achieving the objectives of providing housing for the urban lower income citizens.

The term 'Muslims' used in this paper always refers to the 'Malay' population who are the majority group in Malaysia.

The Muslims of other races and origins are not known in number and the majority of them are of non-citizens and non-permanent domicile of Malaysia.

1. Background

1.1. Kuala Lumpur the capital city of Malaysia, is situated strategically in the centre-western part of the Peninsular Malaysia. Since February 1st 1974, Kuala Lumpur has attained its special status as 'Wilayah Persekutuan' or Federal Territory, covering an area of 243.66 sq. kilometres (94 square miles). Being the largest city of the country, with its prominent role as the seat of the government and administration, the centre of commerce, and the hub of culture and higher learnings, Kuala Lumpur is inevitably facing a rapid development growth as well as rapid population increase.

1.2. The growth of population in the federal territory has been very rapid, especially in the last decade with an average

annual growth of 4.3%. The high rate of population increase is mainly attributed to the continuous flow of the rural-urban drift.

- 1.3. The high rate of population increase has directly produced symptoms of urban crisis such as putting pressure on the already existing inadequacy of housing thus leading to the proliferation of squatter settlements and slums, high price of land, the rising backlog in urban services, unemployment, poverty and other social and economic evils such as drug abusers, crimes and etc.

2. Muslim Population in the federal territory

- 2.1. The population of Malaysia is made up of three major ethnic groups namely the Malays (the majority group), the Chinese, the Indians and others. The Malays are always classified as the Muslims, while the Chinese and Indians are mainly non-muslim. There is no figure available for other Muslim population from other ethnic groups.

- 2.2. Based on the report of survey the number of residents in Kuala Lumpur in 1980 was 1,036,900 and is expected to grow to 1,550,200 by the year 1990 and 2,200,000 by the year 2000. Table I below shows the forecast of the federal territory's population.

Table I: Federal territory - forecast population by ethnicity, 1980 - 2000.

Ethnic	1980 %	1990 %	2000 %
Malay (Muslim)	294,200 (28.4)	501,600 (32.4)	761,100 (34.6)
Chinese	580,400 (55.9)	816,500 (52.6)	1,119,300 (50.9)
Indian & others	162,300 (15.7)	232,100 (15.0)	319,600 (14.5)
TOTAL:	1,036,900 (100%)	1,550,200 (100%)	2,200,000 (100%)

Source: Kuala Lumpur Draft Structure Plan

Table I gives some idea of the total Muslim population which constituted 28.4% in 1980 and the percentage is supposed to increase gradually to 32.4% in 1990 and 34.6% by the year 2000 as projected by the Draft Kuala Lumpur master plan study. The population is in the increasing trend. So far there is no figures available for Muslims in other ethnic groups especially the Muslims of the Indian origins and others. In conclusion, the Muslims are considered as a minority group in the federal territory.

3. Squatter population

3.1. Squatters in general

For the purpose of this paper, squatters are those persons who are in illegal occupation of land whether public or private. Squatter settlements in the federal territory originated

as far back as the Japanese occupation and have grown in size and number into a proportion having a significant influence on overall urban development. The squatter labour force is an indispensable source of manpower for the city's growing economy. However, because of their unplanned and congested conditions, the squatter settlements are not appropriate in the urban modern setting.

3.2. Squatter census

The 1980 squatter population was estimated at 243,200 persons or 23.5% of the total population comprising 48,709 households living in 40,934 dwelling units. The squatter population has been growing at an average annual rate of 9.7% from 1974 to 1980. It has been registered that 32.9% of the squatters are Malays (or Muslims), 52.2% Chinese and 14.9% Indians and others. About 17.2% of the total Muslims in Kuala Lumpur are squatters.

3.3. Physical conditions.

The squatters occupies about 1,771 hectares or 7.3% of the total area of the federal territory of which 94.6% are on government lands. The conditions of the squatter settlements are bad and are generally lacking or deficient in amenities, facilities and basic physical infrastructures.

3.4. Labour force:

Generally speaking the squatters are classified as the low-income groups. The majority of the squatter labour force are employed as factory workers and petty traders. About 49% of the total squatter population is active population ranging from the age of 20 to 55 years.

3.5. Social structure.

The squatter communities are quite socially and politically organized. Each settlement usually has its own village committee.

In the Muslim community each settlement has its own constructed 'surau' (or mosque) and community hall to facilitate the social needs and religious activities of the community.

3.6. Conclusion

The existence of squatters indicates the presence of poverty in the federal territory which is reflected by the nature of their economic activity and their income. Level the characteristics as mentioned above are indicative of why there is higher incidence of disease, juvenile delinquencies, crime and far more serious the drug abusers in squatter areas. This is the type of environment where quite a high percentage of the Muslim population live and such condition demands attention and quick solutions.

4. Kuala Lumpur draft structure plan

4.1. General

4.1.1 The Kuala Lumpur City Hall has finally come out with its first draft structure plan which was recently released on September, 1, 1982. The document includes information on

objectives, policies and proposals on land utilisation, social development, the economy, physical development and traffic management in the city.

4.1.2. It also outlines several functions, among them, the realisation of the national and federal policies within the context of the city.

4.1.3. The problems faced by Kuala Lumpur are essentially similar to those faced by other cities in developing countries. They are actually manifestations of the city's inability to accommodate the rapid population increase and development.

The major problems which have been identified are:-

- rapid population increase
- high land prices
- inadequate housing
- shortcomings in public and private transportation
- rising backlog in urban services
- piecemeal development
- inadequate facilities for leisure and recreation
- declining environmental quality
- unemployment and poverty

The draft master plan guides the authority to plan for a dynamic, efficient and pleasant city. It is always the main objective to promote and regulate development to facilitate the implementation of the new economic policy. Kuala Lumpur is also to be developed as the administrative and political centre of the nation, besides the establishment as the centre for the promotion of national culture and religion.

4.1.4. The structure plan has a prespective period of 20 years up to the year 2000 and will be reviewed periodically in order to ensure flexibility to accommodate the changing circumstances and problems faced by the federal territory.

4.2. Goals of the structure plan

4.2.1. One of the prime goals of the structure plan is 'to promote and regulate development to facilitate the implementation of the new economic policy' the restructuring of society so that the identification of race by demographic composition and distribution, and economic activities / functions can be eliminated and the eradication of poverty irrespective of race.

4.2.2. Housing has also been placed as one of the major goals of the structure plan. The authority has 'to facilitate and encourage the provision of acceptable standard for all income levels. Within this context the scope of activities involved: resettlement, upgrading or improvement of squatter settlements, the gradual abolition of overcrowding, the monitoring and control of house types produced

by the housing estate developers, the construction of low-cost houses and the release of land for new housing. The main emphasis here is on the plan moving towards the improvement of the quality of life in the federal territory.

- 4.2.3. Another important area of concern that has been identified by the structure plan is the provision of adequate community facilities. The goal is 'to provide adequate amenities and facilities for the social and physiological well-being of the city's population, taking cognizance of the need to socially integrate the various community groups'. The principle behind this goal is to achieve a healthier social environment conducive to the attainment of the new economic policy. This involves the provision of public utilities, recreational and community services through properly designed lay-outs and integrated programmes to ensure accessibility to all residents especially for the easy reach of the low income group.

5. Housing for the federal territory

5.1. Housing as a basic need

Every society, developed or developing has a basic need for housing. In the context of Kuala Lumpur the need is for a decent home which is located in a congenial environment. But the problem in the federal territory housing is still beyond the means and reach of the majority of the population especially the low income group.

5.2. Physical characteristics

In the federal territory there is an existing stock of 188,000 houses where 28.4% are classified as temporary and 11.9% classified as semi-permanent and about 54% of all the temporary and semi-permanent housing units are squatter houses.

5.3. Amenities and facilities

About 26.7% of the dwelling units are without direct supply of potable water to the unit, 21% are without electricity and 24% are without toilet facilities.

5.4. Current production level

For the past five years the annual average number of units produced by the public sector was 1,600 units and 9,400 units by the private sector.

5.5. Housing needs up to the year 2000

5.5.1 As for basic consideration, the definition of "housing need" is the number of dwellings to be built or improved to provide each household or family with separate dwellings of acceptable standards. This term should not be confused with effective "housing demand" which is the desire for better housing supported by the economic ability to satisfy the desire.

5.5.2. For the five-year period of 1980 - 1985 the housing need for the federal territory is estimated at 89,100 units. This includes for the clearance of present backlog of 26,300 units (1980), replacing dilapidated units and to cater for the additional household needs.

The total housing needs for the period of 20 years (1980 -2000) is estimated to be 326,300 units.

6. Problems in meeting the housing needs

6.1. The problems faced by Kuala Lumpur are essentially similar to those faced by other cities in developing countries which are due to the manifestations of the city's inability to accommodate the very rapid growth in population and development. The existence of a large number of squatters, the escalation of house prices, the increasing public interest and agitation in housing are symptoms of the current unsatisfactory housing situation.

For analytical purposes, the problems are outlined under three broad categories, namely: Policy and organization, housing supply and cost, and housing demand and price.

6.2. It has been the traditional practice that the main bulk of the housing needs for the low income group is being borne by government agencies. In case of the federal territory, the Kuala Lumpur City Hall is the sole agency for the construction of public housing. For the middle and the high income groups the supply of houses is presumed to be met by private housing developers.

Generally, this traditional approach has proved to be unsuccessful. The government agencies like Kuala Lumpur City Hall failed to deliver the goods as to the total planned targets. In most cases the government agencies are not fully geared - structurally, technically and financially to undertake the job. Similarly, formal intervention in the housing system has so far been limited and ineffective.

6.3. The housing supply side has not been able to cope with the increasing demand due to the limited construction capacity. For 1980 alone, the housing backlog for the federal territory is estimated at 26,300 units. The housing supply is dependent on four major factors, namely: the availability of land, manpower, materials and finance, and these factors directly affect the cost of houses.

6.3.1. Based on the Kuala Lumpur draft structure plan study there is adequate land to accommodate Kuala Lumpur population until the year 2000 (taking at the proposed density of 80 persons per acre). For the period of 1980 - 1985 the plan estimated about 6380 acres of land were required, to accommodate 85,000 units, which were immediately for housing. In short, land is not yet a constraint factor for housing supply in the federal territory for the intermediate need.

6.3.2. Manpower shortage in the construction industry has also been identified as one of the reasons inhibiting faster growth. Increasing wage levels in the industry and also the increase in the employment of migrant workers especially the Indonesians (foreign workers) seem to testify this assertion. The claim for shortage of building materials and steep rise in prices is also not fully justified since they are seasonal and temporary in nature. This is due to the fact that building materials are 'controlled items' and the price increase has been rather gradual.

6.3.3. Finance is another factor which is not really a constraint. Finance has been almost readily available both to developers and purchasers. In fact, the rapid growth of the construction industry in Malaysia is due to the fact of easy accessibility to finance. This facility, on the other hand, tends to cause additional demand on an already sellers' market. Thus, the present recession and the recent credit squeeze to discriminate house buyers though rather belatedly introduced, should force some restraint on the housing market.

6.4. The demand for houses come from two groups: the households for owner - occupiers, and the other coming from the existing house owners and absentee landlords. The second group constitutes approximately 40% which is more for investment and speculative purposes and they are in a way responsible for contributing to the current price spiral.

As a result, at the existing house price approximately 60% of households are effectively priced out of the market and the housing gap is again widened. Therefore, the supply of houses has not been able to cope with the increasing needs.

7. Housing solutions for the federal territory

7.1. The complexity of the problems in housing calls for comprehensive solution. Wider government intervention and involvement are required. In this respect, the Kuala Lumpur structure plan recommendations are as follows:-

7.1.1. The need for a comprehensive housing policy in the federal territory to cover such areas as objectives and strategies, approach, roles and responsibilities of government agencies, financial and manpower requirements, implementation plans and other related areas.

7.1.2. The need for a comprehensive housing master plan to cover the planning period to the year 2000. The housing master plan should identify the total housing requirements, types and sizes of residential units, location, stages of implementation, planned approved procedures, monitoring agencies, and organizational and financial requirements.

7.1.3. The need for short and medium policy package to alleviate the current housing problems with the objective to arrest speculative dealing in land and houses and to maintain house price within a wider range of affordability.

7.1.4. For short-term strategies, the main objective is to stabilise costs and prices of land and house through:-

(a) maximising low-cost and high density housing development in all new planning approvals.

(b) increasing holding costs of undeveloped property through higher rates which increase with succeeding periods.

(c) increasing higher rates on dwelling rents.

(d) ensuring availability of building materials for low-cost housing through a closer monitoring of their distribution.

(e) gazetting layout plans upon approval.

7.1.5. For long-term strategies it calls for a closer integration of efforts between the public and the private sectors rather dispersal of roles.

The approach requires:-

(a) Identifying all areas with potential for low cost housing development and earmarking them as priority or action areas.

(b) Ensuring and monitoring that the low cost and higher density housing in approved layout is undertaken and completed before or not later than the construction of other types of houses or buildings.

(c) Government to continue providing public housing to non-house owners on certain age and income criteria at subsidised rents.

(d) Establishing a non-profit corporation to undertake the sale and resale of all low cost houses. Ensuring that all low cost houses are sold through this corporation and all future transfer of ownership to be done through the same corporation.

(e) Facilitating the availability of cheaper sources of financing through the issue of government bonds, utilization of EPF (Employees Provident Fund) savings to be released.

(f) Enabling residents not eligible for public housing to rent or lease houses through subsidised rates from the corporation.

(g) In view of labour shortage, encouraging the utilization of less labour-intensive construction modes through the approval of larger blocks of low cost houses to obtain economics of scale.

8. Role of Kuala Lumpur city hall in housing

8.1. Planning and development control

The Kuala Lumpur City Hall is the overall responsible of the planning and development control in the federal territory. With this planning power City Hall is able to shape the future growth of Kuala Lumpur by way of its development, as well as ensuring that both public as well as private developments are in line with government policies. To assist in exercising this function City Hall has produced the draft structure Plan (DSP). It is hoped that the problem of unbalanced growth within the federal territory which has caused problems could be solved.

8.2. Public housing

The provision of public housing in the federal territory has been the traditional function of the City Hall. Presently a total of 18,400 housing units has been completed and occupied on rental basis. The housing units are put under the charge of the City Hall housing management department.

8.3. Public housing performance

In terms of housing performance under the third Malaysia plan period (1976 - 80) The City managed to complete **6,634 units** or 48% of achievement rate out of the total target of 13,700 units. For the fourth Malaysia plan period (1981 - 85) up to-date a total of 6,872 units or 19% has been completed and occupied out of the total target of 36,000 units.

8.4. Reasons for the short-fall of housing production:-

8.4.1. Mining land:

Although land is being alienated to the City Hall at a nominal premium but the type of land given is poor in nature, and normally land with mining ponds. Obviously, land of such condition would cause financial burden in terms of development, cost and the preparatory process takes several months.

8.4.2. Squatter land:

Other types of lands alienated to City Hall are lands which are heavily squattered upon and such lands entail for squatter clearance and resettlement which again are time-consuming and constraint.

8.4.3. Bureaucracy:

Poor planning as well as slow decision - making also contribute to projects delay and resource wastage.

8.4.4. Poor coordination with other utility authorities such as electricity and water cause considerable delay for the housing production.

8.4.5. Public housing built by the City Hall are financed mainly through loans from the central government at subsidised interests. The present federal Government weakened financial position as a result of world recession, has launched austerity drive and forced to cutback funds for development (but not stopping the construction of projects which are already underway). Such move thus affected the bulk of City Hall housing schemes.

8.5. Housing management

Through the federal government soft-loan assistance, The City Hall has successfully built a total of 18,400 units of low-cost housing as recorded on January, 1983. More than 85% of the total houses built are for rental purposes (and eventually for sale) which are made up of high rise flats, walk-up flats, double-storey linked houses, single-storey terrace houses and single-storey timber houses (used for transit purposes). These groups of houses require control and management. Below is the summary of the types of houses in a percentage to the total.

High-rise flats (17 storeys)	- 60%
walk-up flats	- 27%
Two-Storey cluster-type	- 5%
Timber single-storey terrace or transit quarters	- 3%
Timber single and semi-detached	- 5%
	<hr/>
	100%

8.6. Role of housing management

8.6.1. The establishment of the City Hall housing management department (HMD) is part of the City Hall strategy in order to implement and to achieve the overall government policies and objectives on public housing. It is through the proper and efficient management that the City Hall is expected to achieve the goals and objectives of housing in the federal territory. The overall objectives of the HMD are as follows:-

- (i) To provide proper administration and management of the low-cost housing for the low income population;
- (ii) To rehouse squatters gradually by giving priority to those areas which are affected by government development projects;
- (iii) To be able, in the long-run, to achieve the over-riding objective of the new economic policy in the promotion of national unity through putting various ethnic groups under one roof in the same housing estate.

8.6.2. The housing management department begins once the houses are completed and handed over by the City Hall special project implementation department and are ready

for occupation. The management functions cover areas such as selection of tenants, collection of rents, the administration and maintenance of the housing estates, as well as other supervisory aspects including social activities, tenants education and general welfare of the flat dwellers.

8.6.3. City Hall housing management has several areas of basic concern. The identifiable problem areas are as follows:-

(i) Heavy subsidy

The HMD is now facing a financial difficulty, experiencing a continuous budget deficit since 1975. In short, City Hall is subsidizing heavily for its low-cost housing. For the year 1979 the subsidy was M£ 749,401 and in 1982 it has increased to M£ 7,463,000.

(ii) Default in rent payment

The HMD is facing a problem of default in rent payment. There is an average amount of 4% of uncollected rent per month.

(iii) Backlog in housing application

There is a continuous increase of registered applicants under the waiting list. At present a total of 28,643 applicants are on the waiting list registry for rental units.

(iv) Lift breakdown

For the high-rise flats there is an endless problem of lift breakdown and causing nuisance to the flat dwellers.

(v) Disciplined community

The question of civic-consciousness and well disciplined community is yet to be achieved.

8.7. City Hall new approach towards housing

8.7.1. Public-Private sector participation in housing

With the recommendation of the craft structure plan, City Hall has introduced a policy, the implementation of a comprehensive and coordinated housing development programme where areas of participation of both public as well as private sectors have to undergo a degree of modification. In this respect, public and private sectors are jointly responsible for the provision of low cost and medium-cost houses.

This new approach is a departure of the past role where the public sector has been concentrating mainly on low-cost housing whereas the private sector has favoured free market housing, catering especially for the middle income as well as the high income groups. The new policy is aimed at balancing housing supply and demand.

The respective aggregate contributions from the public and private sectors have been qualified as the base for comprehensive development programmes as shown below:-

Federal Territory - Summary Housing Need and Supply, 1980-2000

Year	Need	Public	Private	Total
1980-85	89,100	23,100	58,750	81,800
1986-90	68,100	30,000	45,400	75,400
1991-95	76,500	30,000	46,500	76,500
1996-2000	92,600	42,000	50,600	92,600
Total:	326,300	125,070	201,200	326,300

Source: Kuala Lumpur draft structure plan

8.7.2. The comprehensive approach to housing development could be achieved through huge projects of City Hall as well as by the private developers. In such housing project it is built-up of self contained area with higher standard of residential environment. Besides providing open spaces it includes modern facilities and amenities such as local play area, sports facilities, parks and gardens, shopping area, and flatted factories. These facilities provide better environment, high quality of urban life and also the basis for social interaction among the people.

8.7.3. Creation of new-towns or sub-centres

Kuala Lumpur current pattern of development concentrated in the city centre has created new problems relating to urbanization and development such as traffic congestion, property price speculation, environmental degradation and others. Therefore, the creation of new towns or centres is desirable in order to encourage the re-population of the city centre.

The draft structure plan has recommended the creation of three other hierarchy of urban centres such as: major sub-centres, intermediate sub-centres, and local centres. Such move is instrumental for the decentralization of city activities, providing all levels of services, including central government activities, convenience goods shopping, services and repair facilities and other local level public services including social facilities and amenities such as sport complex and places of worship such as mosques for the Muslims. The new thrust in housing programme is to be undertaken as part and parcel of the overall township development. City Hall as well as private sectors will have to provide adequate housing to meet the demands and the requirements of the low-income group.

8.8. City Hall 'big push' strategy - a solution for adequate Housing

The old approach of housing development, the 'pocket-type' has proved to be deficient and unsuccessful. The

City Hall, therefore, has to adopt a new approach, the 'big push' strategy by going into a large-scale housing. Under this new programme a total of 36,000 units of low-cost housing are planned to be completed by 1986.

This massive and ambitious housing programme is made possible through joint-venture between City Hall and the private sector. The first pioneer project is involved with the development of a huge piece of federal government land, the Hawthornden Estate, an area of approximately 1,025 acres or 415.125 hectares. It is situated in the north-eastern part of the Kuala Lumpur city centre.

8.9. Hawthornden new town - a demonstration of public-private participation

8.9.1. The Kuala Lumpur draft structure plan has recommended Hawthornden to be one of three major sub-centres to be developed in the outlying area of the city. This is in line with the policy of decentralizing some of the existing city centre's activities and hence reducing commuting to the city centre.

The task of implementing the proposed new town has been given to a private company, the Peremba Berhad on a joint-venture basis with City Hall. Though a private company it is expected that the tempo of development would be much faster since it is not tied up with any government procedures and bureaucracy.

8.9.2. The planning pattern is towards the promotion of the neighbourhood principle with mixed-type of development. A total of 602 acres (243.81 hectares) or 59% of the total land is reserved for housing of various types.

Basically it is aimed at self-contained town and self-sufficiency not only in the basic necessities, but also in a large measure the recreational and social needs of the residents. Besides providing much ground space for landscaped parks and gardens, it also focuses on places of worship for the Muslims, the mosques and the suraus (prayer houses) to cater for mid-day prayers for the Muslim workers and also Muslim burial ground.

Economically, the creation of employment opportunities is not left out in the planning of this new town. A total of 80 acres or 32.4 hectares (8%) out of the total land is reserved for industries.

In short, the planning approach is not merely one of providing housing but rather one of creating a better living environment.

8.9.3. In line with the government policy, the emphasis on housing development is to be given priority to the low cost housing. About 62% of the total land reserved for housing is planned for the construction of 12,020 units of low-cost housing. It is expected that the goods will be delivered within 3.5 years and the overall completion is scheduled by the middle of 1986. In order to meet the planned target within the specified time-frame the developer is adopting the 'industrialised building system' which concentrates on speed, standardization and good quality housing.

8.9.4. City Hall is also coming up with another new town in the South-eastern part of the city. The new proposed town to be named as Bandar Tun Razak is going to be another self-contained town providing all levels of services for immediate catchment. A total of 7,780 housing units of mixed-type has been programmed and out of which 65% is going to be low-cost. A total of 2,789 units of the low-cost type has been completed recently.

The development of the town centre especially the commercial area is to be given out to the private developers and the programme for parcelling out the land is still being worked out.

In short, the overall development measures thus taken by the City Hall is towards promoting and facilitating the implementation of the new economic policy objectives - the eradication of poverty, and the restructuring of societies.

9. New environment for Muslim community

9.1. It is generally accepted that residential patterns change from time to time. Based on western experience, the modernization of modern cities which is directly linked with industrialization is governed identically by factors like socio-economical conditions, family status and life-style, geographical mobility and minority groups. Occupation, income and education are generally regarded as the best indicators of socio-economic class.

9.2. For the case of Kuala Lumpur it is the already existing city which is undergoing rapid growth and expansion. Basically, it has already developed to some extent on Islamic residential pattern. The mosque is always the centre or the nucleus of the community and is normally situated in the heart of the city surrounded by residential areas. In each residential area there is always a smaller mosque or the 'suraus' and the 'madrasahs'.

9.3. Mosques

In the federal territory there are presently 27 mosques with a capacity of about 35,000, and 183 'suraus' and 'madrasahs'. Except for the Kuala Lumpur National Mosque which is

under the federal government administration, the entire mosques and 'suraus/madrasahs' are under the administration of the Department of Islamic Religion, federal territory. The existing capacity of 35,000 prayers represents approximately 16% of existing Malay ethnic males above 15 years old. But it has been recognised that a higher attendance figure than above is prevailing presently by the evidence of large overflows of prayers in almost all mosques during the Friday prayers. Based on the standards used by the Federal Territory Islamic Department the provision of mosques is based on the presence of the size of muslim population in one area. Normally for a mosque the population size requirement is between 5,000 to 10,000 people, and for a 'surau' the population requirements is between 400 to 500 people. A mosque is usually built for a 500 - 1000 prayers capacity and it occupies a site of 1 to 20 acres. But for the existing mosques in Kuala Lumpur the size varies from 0.25 to 1.0 acre site.

9.4. Special privileges

The Malaysian government has introduced a number of policies that directly or indirectly assist in promoting the progress of the Muslim community. Certain privileges are given to the Malays or the 'Bumiputras' in line with the objectives of the new economic Policy. This could lead to the promotion of social justice and the improvement of living standards of the Muslims. This includes:-

(a) Allocation policy on housing

The 'Bumiputras' are given special quotas and for certain projects the sale of houses are at reduced prices;

(b) Rental subsidies on the low-cost housing

(c) Business opportunities and employment Priority or certain quotas are given to the 'Bumiputras';

(d) Higher education

Quotas are given for 'Bumiputras' at higher institutions, and the provision of scholarships and others.

9.5. Islam is the religion of the federation, and certain privilege is given with regard to its propagation. Financial provisions are given to various religious institutions to function.

9.5.1. Every state within the Federal Territory has the majlis (Council) for Islamic Religion. For the Federal Territory, the Majlis Agama Islam is set up with the following objectives:-

(a) To form and create a dynamic and progressive Islamic society in constant search of ALLAH pleasure;

(b) To promote faith and to strengthen Islamic brotherhood among Muslims particularly in the federal territory and generally in Malaysia for the purpose of attaining the unity of the UMMAH;

(c) To diversify efforts in the field of Islamic welfare, propogating good deeds while curbing social evils in the Islamic society.

(d) Accumulation of assets for the Majlis through investment and the other 'halal' efforts for the benefits of the Muslim Society.

The members of the Majlis include the Minister of the Federal Territory as the Chairman and the City Mayor is among the members of the ex-officio.

In a year at least four meetings are called by the Majlis to discuss policies and issues of the Muslim affairs in the Federal Territory. The Department of Islamic Affairs is the secretariat for the Majlis and also the government department that implements the policies and programmes of various Islamic activities in the Federal Territory.

With the help of the 'Qarish' committee (formed at all mosques and 'suraus') the machinery is capable of reaching the mass, the grass-root level in exercising its role and functions.

9.6. Problems of the muslims in the city

9.6.1. The majority of the Muslims in Kuala Lumpur is still in the low-income group. Their main occupations are as government servants, factory workers, petty traders, drivers and as workers with low-income earnings. So far no study has been made on the effect of low-income towards the process of 'vicious circle'. But it is hoped that with a better living environment the Muslim community should be more progressive and versatile towards changes in the environment.

9.6.2. Affordability is one of the main constraints for the Muslims to grasp opportunities either in business or in owning properties. Much of the quotas for the 'Bumiputras' for the sale of high cost and medium cost housing and business premises are left without enough takers.

9.6.3. Poor education especially in technical fields and lack of capital have caused the Muslims lagging behind the non-muslims and unable to keep pace with the city rapid progress and advancement.

9.6.4. Muslims are still the minority group in the Federal Territory.

10. Recommendations

10.1. There is an urgent need for more coordination among the existing institutional framework in engineering the Muslim lots in Kuala Lumpur to contribute effectively to the process of planning, implementing and monitoring programmes for the advancement of the Muslim community.

10.2. Provision of decent shelter or proper housing should place considerable emphasis on creating a progressive, united and healthy Muslim community.

10.3. The setting up of an association for planning and housing is necessary to give quick response to the urgent need to apply expertise and efforts to the problems of housing in the Islamic cities.

11. Conclusion

For Malaysia, the government has placed considerable emphasis on the socio-economic needs of the low-income groups through the public housing schemes. But the greatest challenge to face in terms of urban settlement is coping up with the constant increase in urban population resulting from rural urban drift. Although all efforts are being made to check and control this trend, yet in the case of major urban centres like Kuala Lumpur the influx of the exodus is still continuous.

Therefore, it is this principle issue that poses a constant and formidable challenge to the local authority like the City Hall of Kuala Lumpur. But the fact still remains that housing has been recognised as an important development tool for the attainment of the objectives of the new economic policy.

It can provide both the vehicle and the avenue which lead to the restructuring of the Malaysian society, and the development of an integrated and cohesive society imbued with the spirit of national unity. Therefore, here lies the role and close cooperation amongst all the concerned policy makers, planners and implementors both in the public and the private sectors plus the proper response from the people themselves.

Case Study: Bandar Tun Razak

This case study will serve to illustrate:

1. City Hall Kuala Lumpur 'Big Push' strategy by going into a large scale housing as a solution for inadequate housing.
2. City Hall Kuala Lumpur efforts in planning and designing new towns that fulfill the needs of the Islamic communities.
3. City Hall Kuala Lumpur efforts in building a healthy Muslim community by providing opportunities in spiritual, social and economic needs of a Muslim society.

1. Introduction

Bandar Tun Razak presently is a new township which is growing rapidly. It is one of the major development projects to be handled, organised, planned and implemented by Kuala

Lumpur City Hall on behalf of the federal government since the creation of Federal Territory. Situated to the southern part of Kuala Lumpur city centre, the new town covers approximately 950 acres. The new town is planned in phases to accommodate areas for housing, industry, commerce, governmental services and public utilities, civic and community facilities, places of worship and educational institutions. When all these development projects have been completed, Bandar Tun Razak will be developed to be a self contained town achieving the objectives of urban decentralisation.

2. History

The idea of creating a self-contained town was first conceived in 1974. It was then also the government objective to intensify the building of houses for the lower income group. A study was undertaken by Kuala Lumpur City Hall for a new township that will basically house the lower income group provided with community facilities to fulfill their social needs. In 1975, Kuala Lumpur City Hall conducted the preliminary survey on 408 hectares government land which is mainly disused mining land. Following these studies a comprehensive development scheme of the area was proposed.

3. Objectives

- 3.1 To achieve the new economic policy by creating new townships of mixed population reflecting the racial composition of the country.
- 3.2 To develop a well-planned satellite town through a comprehensive development scheme consisting of residential, commercial and industrial developments with adequate facilities and services forming the necessary infrastructure of the satellite town of approximately 30,000.
- 3.3 To provide adequate low-cost houses for the low income group to comply with requirements of the 3rd Malaysian Plan.
- 3.4 To provide adequate houses to cater for the lower middle income group.
- 3.5 To achieve decentralisation of urban activities and at the same time bring governmental services to the people in Bandar Tun Razak and the surrounding developments serving a population of approximately 150,000.
- 3.6 To assist in particular the small businesses and industries and the provision of employment opportunities for the residents, not only in Bandar Tun Razak, but also in surrounding developments. This will be the most effective way to provide greater and wider opportunities in commercial and industrial fields to Bumiputras.

4. Planning concept



- Layout of Bandar Tun Razak

To achieve the objectives set out above the following factors were used as a basis of the planning concept:

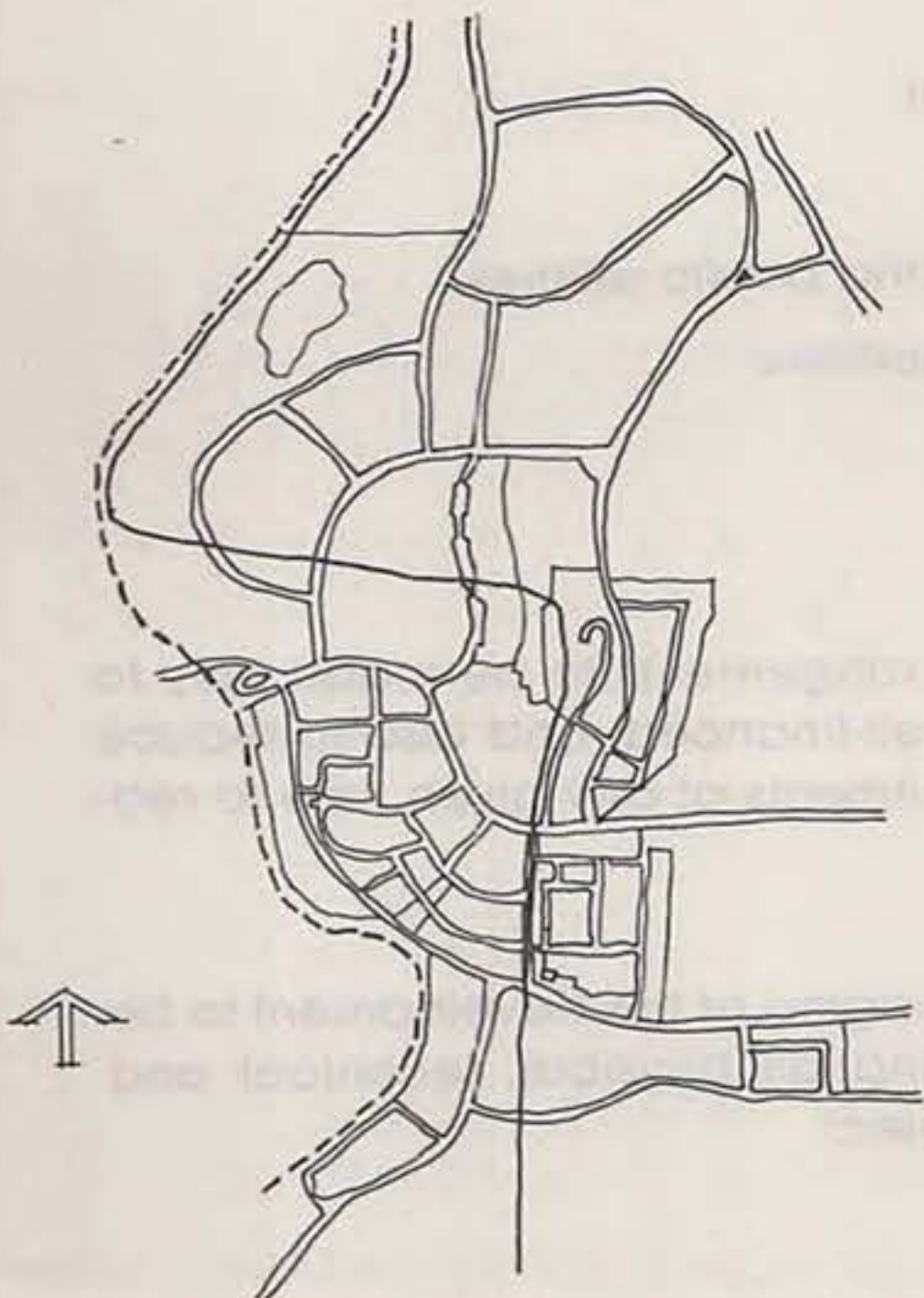
- 4.1 The comprehensiveness of the development which would constitute a new town viz:
 - a. Residential development.
 - b. Industrial development.
 - c. Governmental services and public utilities.
 - d. Civic and community facilities.
 - e. Places of worship.
 - f. Educational Institutions.
- 4.2 Financial planning and arrangements to be made only to enable the project to be self-financed, and also to reduce financial loads and commitments at any given time to reasonable levels.
- 4.3 Appropriate phasing and staging of the development to be undertaken after considering all physical, technical and financial aspects of the project.

5. Development pattern

In formulating the pattern and practical sequence of development the following influencing factors were considered:

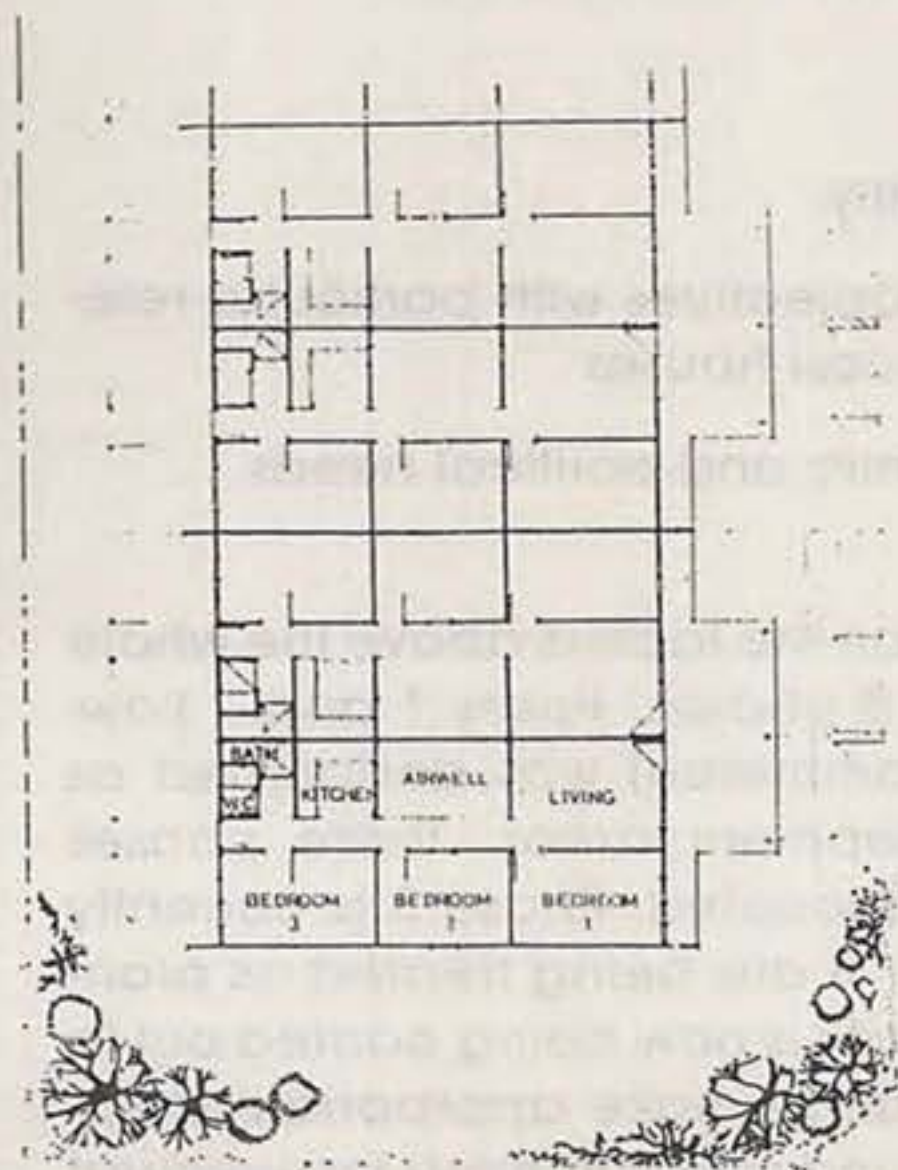
- 5.1 Physical condition of land.
- 5.2 The present situation and site work carried out.
- 5.3 Available infrastructure.
- 5.4 Traffic pattern and accessibility.
- 5.5 Priority of implementation of objectives with particular reference to the provision of low-cost houses.
- 5.6 Achievement of socio-economic and political needs.
- 5.7 Having taken into consideration the factors above the whole development is divided into 8 phases. Phases 1 and 2 (low-cost housing industry and commerce) was designated as immediate and early development areas. These phases have been completed and occupied. Phase 3 is currently under construction. Phases 4 - 8 are being treated as planning areas where detailed study is now being carried out to enable Kuala Lumpur City Hall to make appropriate decisions as the basis of planning and programming for eventual implementation.

6. Private sector participation in the development of Bandar Tun Razak



- Development Plan for Bandar Tun Razak

7. Catering for the needs of the muslim community



- Typical floor Plan

5.8 The phases are as follows:-

Phase	Area	Type of development	Development Stage
1	47.4 hectares	Housing	Completed
2	20.2 hectares	Housing Commercial	Completed
3	25.0 hectares	Industry	Construction stage
4	13.5 hectares	Housing Commercial School	Planning stage
5	41.8 hectares	Civic use Lake Garden	Planning stage
6	63.9 hectares	Industry	Planning stage
7	54.0 hectares	Town centre	Planning stage
8	142.0 hectares	Development Reserve	Planning stage

6.1 One of the present government priority efforts is to forge closer links between government and the private industry. In doing so the government is trying to harness the energy of the private sector in nation building. Proposal for joint-venture projects between the government and private sector include mass transit system, telecommunication and electric power.

6.2 In line with the government thinking Kuala Lumpur City Hall will be embarking on its own joint venture projects to be implemented in Bandar Razak. Preparations are being worked out for the private sector to develop the following phases:

- e. Phase 5 - Lake garden
- b. Phase 6 - Industry
- c. Phase 7 - Town centre
- d. Phase 8 - Mixed housing

Other than the traditional role of building public housing, Kuala Lumpur City Hall plays a role in planning the needs of its housing communities. In areas where the allocation of housing units are predominantly given to the 'Bumiputras' who are Muslims, Kuala Lumpur City Hall is active in planning and providing opportunities to cater for the needs of the Muslim community.

These efforts by Kuala Lumpur City Hall is illustrated in the Bandar Tun Razak completed Phase 1 and 2 where all the housing units are occupied by 'Bumiputras'.

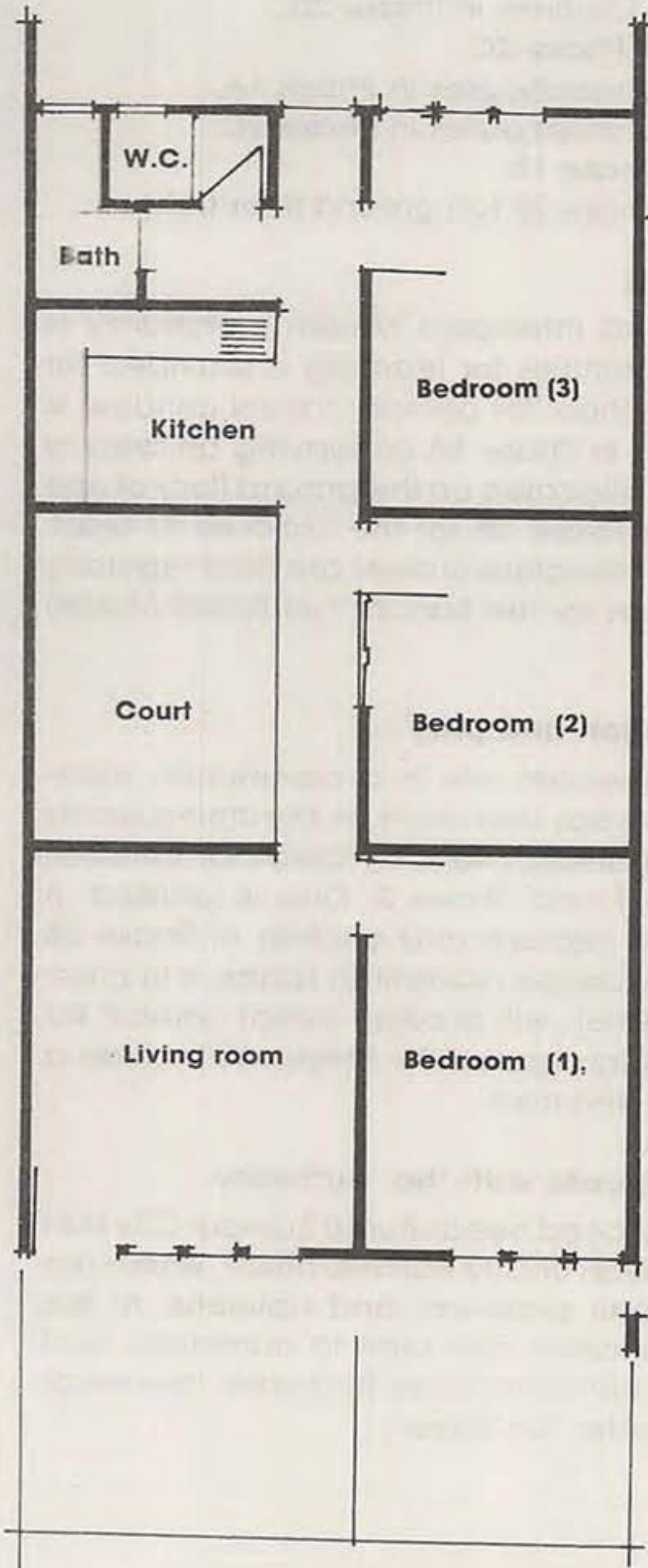
7.1 Opportunity to live in a healthy living environment

One of the objectives of Kuala Lumpur City Hall in creating Bandar Tun Razak is to provide adequate low cost houses for

the low income group. This provision will directly alleviate the housing affordability of the Muslim community living in Kuala Lumpur, since the majority of them are still in the low-income group.

By exercising special privileges given to them in the policy of housing allocation and rental subsidies, all the houses completed at the present moment i.e. Phase 1 and Phase 2 are occupied by the Malays or the 'Bumiputras' who are Muslims - thus creating an 'instant' Muslim community, which enjoys the privileges of all the amenities and facilities of a planned new town.

Various housing types are completed in Phase 1 and Phase 2 to cater for the varied social and financial affordability of the people. These are:



- Typical Floor Plan

Type of Housing	No. of Units	Phase
1. Single-Storey Cluster Housing	504	1B
2. Single-Storey Cluster Housing	500	1C
3. Single-Storey Cluster Housing	532	1E
4. 8 Block Flats 4/5 Storey	640	2B
5. Single-Storey Terrace 3 bedroom	306	1A
6. Single-Storey Terrace 3 bedroom	310	2A

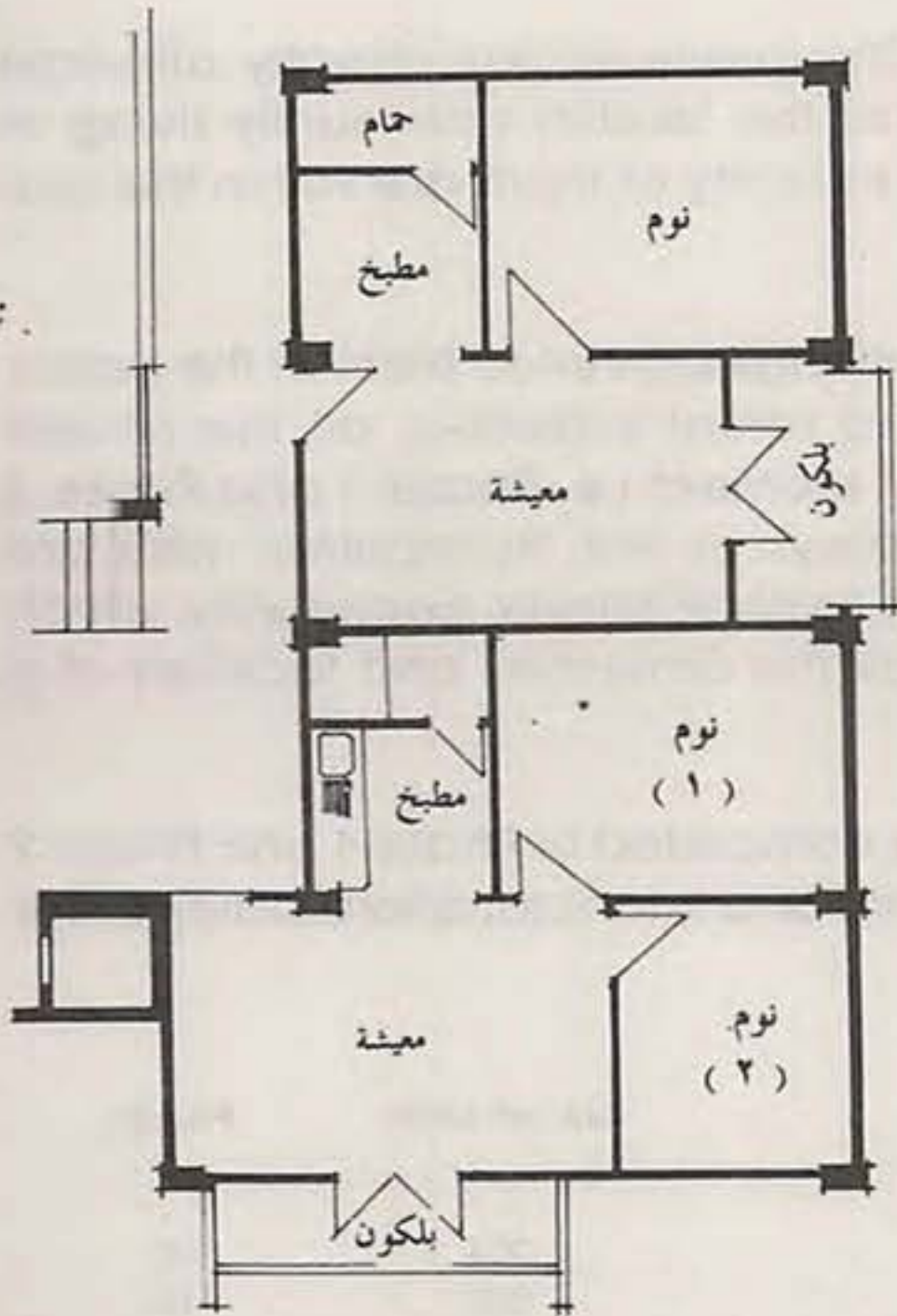
7.2 Opportunity to worship

A mosque is indicative of a Muslim community's presence; a place of worship which the community identifies itself with. To meet this spiritual need a large main mosque is under planning to be centrally located to the community.

The site allocated is on top of a hill, in a parklike setting to serve as an important landmark to Bandar Tun Razak. The mosque is planned to accommodate male and female prayer halls, a common hall, a library and religious classes for the community children. To serve the present need a mosque and two "surau" are built to serve Phase 1 and Phase 2 community. The present mosque is located at the southern part of Phase 1. This is where Friday prayers are held. A two storey building has just been completed to hold religious classes for the Phase 1 and Phase 2 children. Phases 1B, 1C and 1E consist of 1536 Muslim households. The mosque and a surau located at the northern part of phase 1E serve this community. Another surau is built on the ground floor of one of the 4/5 storey flat to cater for the need of the Phase 2B flat dwellers consisting of 640 Muslim households. The recently occupied Phase 2A and 1A holds 616 Muslim households. Provision of a surau to cater for this community is in the planning stage.

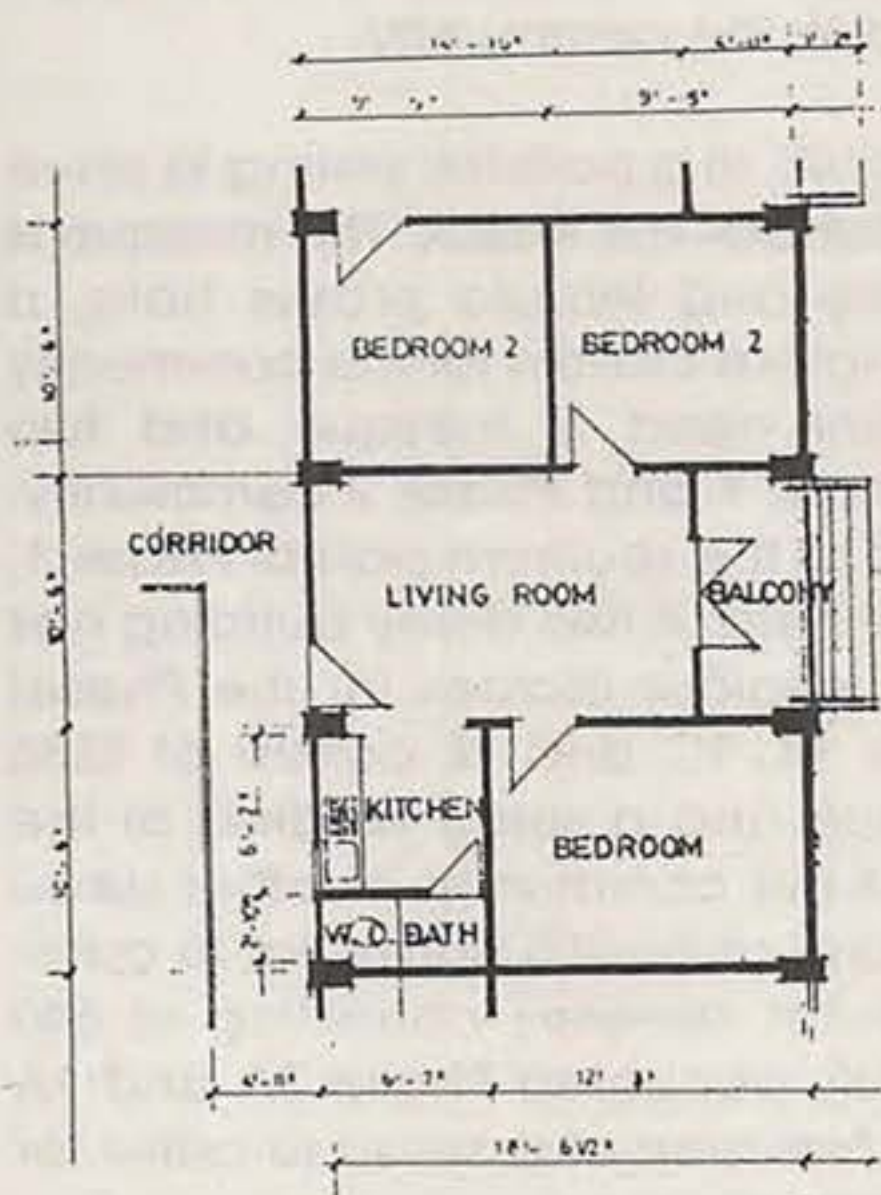
7.3 Opportunity for commerce and industry.

Kuala Lumpur City Hall is providing various opportunities to help not only the Bandar Tun Razak Muslim community but



- Plan for a one and two room residential unit

- Plan for a three room residential unit.



TYPICAL THREE ROOMS FLAT

also those in surrounding developments in finding employment. The muslim community involvement in commerce and industries is a recent development thus the majority of them fall into the small businesses and industries category.

By building and allocating premises for them to operate, Kuala Lumpur City Hall is providing the most effective way to provide for greater and wider opportunities in commercial and industrial fields to the Muslim community.

To cater for these needs, the City Hall has built in the completed Phase 1 and Phase 2 development.

1. 30 units light industry factories in Phase 2D.
2. 24 units eating stall in Phase 2C.
3. 20 units double-storey shophouses in Phase 1A.
4. 50 units double-storey shophouses in Phase 2C.
5. 50 unit shop units in Phase 1B.
6. 20 unit shop units in Phase 2B (on ground floor flats).

7.4 Opportunity for learning

Continuity of healthy and intelligent Muslim community is ensured if ample opportunities for learning is provided for the Muslim children. A school for primary school children is provided and is located in Phase 1A occupying an area of 5.9 hectares. A library is allocated on the ground floor of one of the 4/5 storey flats in Phase 2B for the children to read, study and borrow books. Religious classes are held regularly in the mosque and suraus for the Bandar Tun Razak Muslim children.

7.5 Opportunity for Recreation and play

Recreation plays an important role in a community, especially for children. Play areas also serve as breathing points in high density housing areas. Two play areas for children are provided in Phase 1 and Phase 2. One is located in Phase 1B occupying 0.6 hectare and another in Phase 2B occupying 4.5 hectares. Larger recreation space is in planning and study stage which will provide social comfort for the local and surrounding community. These will include a sport centre, town park and lake.

7.6 Opportunity to communicate with the authority

To serve the above mentioned needs Kuala Lumpur City Hall has set up a local institution or City Hall sub office, where the people can present their problems and opinions. At the same time this local institution also aims to administer and provide governmental services to serve and cater the needs of the population in Bandar Tun Razak.

NEW APPROACH TO HOUSING DESIGN IN MUSLIM CITIES

PROF. CLIFF MOUGHTIN
ENG. TAREK SHALABY

INSTITUTE OF PLANNING STUDIES,
UNIVERSITY OF NOTTINGHAM, ENGLAND.

Synopsis

This paper is in two parts. Part I is a general theoretical statement which develops an approach for designing the built environment and houseform in Muslim countries. The approach is anthropological, that is, it is based on an examination of the human aspects that determine physical form, particularly those related to behavioural patterns and culture. The object of this part of the paper is to introduce scientific methods and techniques for obtaining valid data that can be used for designing new developments based on the analysis of human needs and existing traditional urban form.

Part II is a case study of the Hausa settlements of Nigeria: it explains the houseform of these Muslim people in terms of their history and cultural preferences. Housing is seen as an element of city planning and an activity which cannot be separated from other developments in urban structure.

Introduction

Architecture is concerned with the design of spaces within buildings. The art of civic design or city planning is concerned with the design of external spaces. That is, one of the concerns of city planning is the design of the outdoor rooms in the city where communal activities occur. Architecture and civic design become great art when these internal and external spaces have both a form and meaning which is in harmony with the way of life of the people. The theme of this paper is the design of such spaces from the very private to the most public.

Many professionals working in the field of urban planning would agree that Islamic countries, and indeed developing countries in general, have many examples of housing and other buildings which are totally inappropriate for the people of those countries. Most of this housing has been built using ideas about design developed in the west this century. It is, to say the least,

This paper was also presented at a conference in Roorkee, India, entitled "Low Cost Housing for Developing Countries", November 1984.

puzzling to find this style of architecture persisting in the developing world when it has been rejected in the west as being inappropriate even for our people.

This paper 'towards a new approach' is part of a general and growing movement in our profession, which seeks to relate design to man's cultural needs. The approach we are adopting in my Institute, and in this paper, is anthropological, that is, it is based upon an examination of the human needs that determine architectural form, particularly those related to man's culture and the resulting behavioural patterns. We in the Institute of Planning Studies are, therefore, seeking scientific methods and techniques for obtaining valid data that can be used for designing new developments based on the analysis of human behavioural patterns and existing traditional urban form.

However, a word of warning: the world is getting smaller. There is increasing contact between people. As a result cultures are changing, what is more, they appear to be changing at an increasing rate. Planners and architects are forward looking: we plan and design, not only for the here and now, but also for the future. A backward look or even static view of culture is therefore a highly mischievous occupation. It is the dynamization of cultural change that must be our primary concern. As anthropologists would say it is the process of acculturation, the way in which new ideas are grafted onto existing cultures and the agents of change which should be the prime concern of those planning for the future.

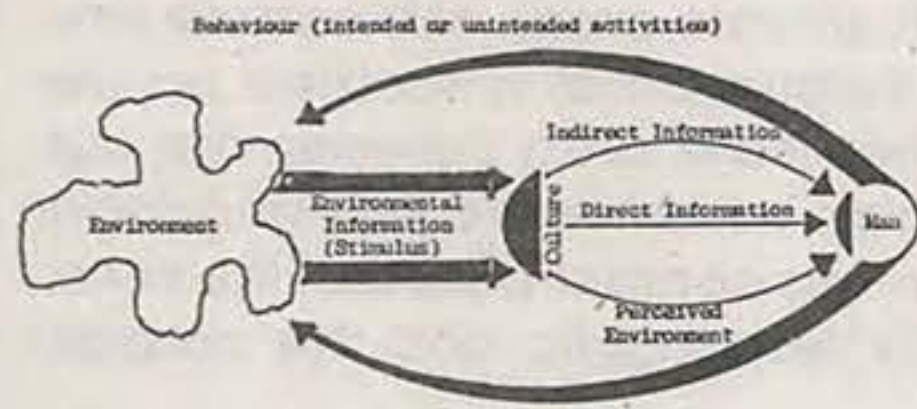
PART I

Theoretical proposition: Activity system as determinants to housing design in muslim cities

Human needs, behaviour and Islamic urban form

The spatial organisation of the traditional Islamic city clearly reflects the needs of the Muslim family and its relation to the whole community (FATHY 1970). With the wholesale introduction of urban development in the "International Style", people found themselves moving from their familiar socio-physical environment to an unfamiliar one. The result of the wholesale use of alien forms has been social pathology, the disintegration of social relationships, cultural shock and the destruction of socio-cultural identity. Most of the ensuing problems which resulted from the incongruence between the old and new life styles show that the question of design requires a far more comprehensive approach. There are social and cultural issues of great complexity and delicacy in addition to the economic dimension. What 'better' means in the vocabulary of officials is not always the same as for people (FATHY 1973). The planner and architect in the Muslim world seem to have rejected the discipline of their culture, unaware of the fact that each community has its specific social and cultural roots. Instead they adopted alien ideas which are unsympathetic to the tradition of the people they serve. The 'good' housing solution is the one that fully expresses the preferences, aspirations and psychological needs of the group for whom it is meant: it has nothing to do with the clever

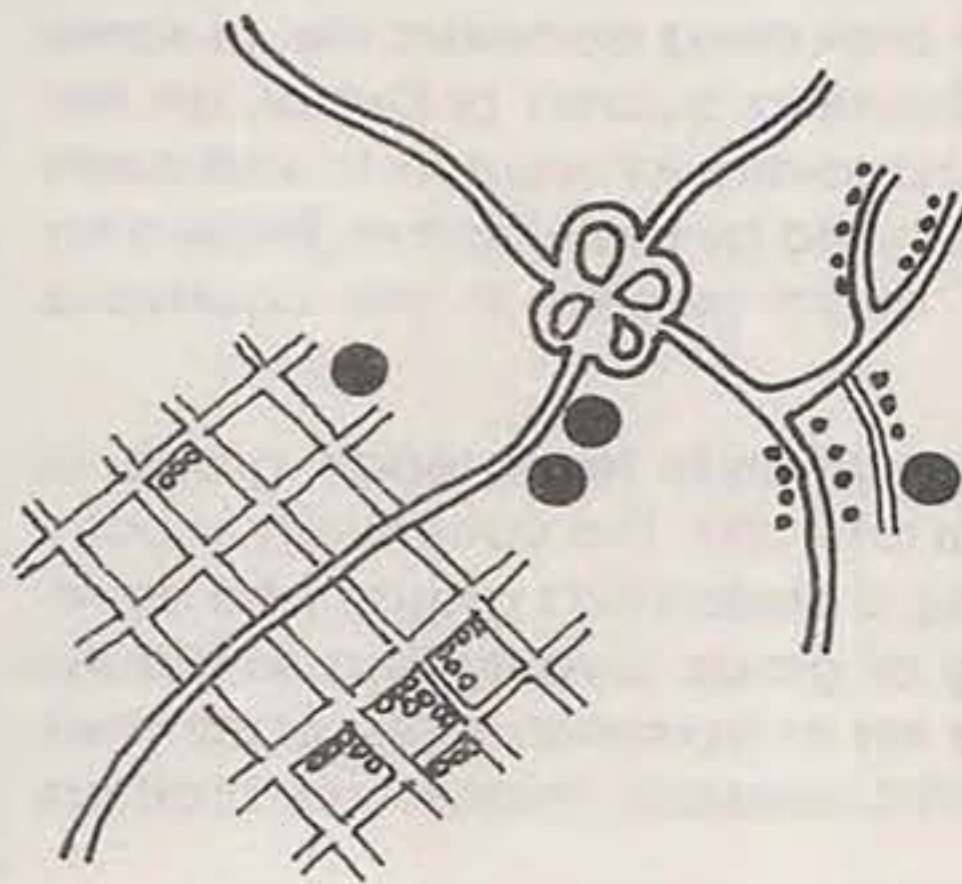
application of principles deduced from an abstract theory of architecture.



- Fig. (1) a diagram for the relationship between behaviour and environment stimulus (Source: Porteous 1977, Rapoport 1977).

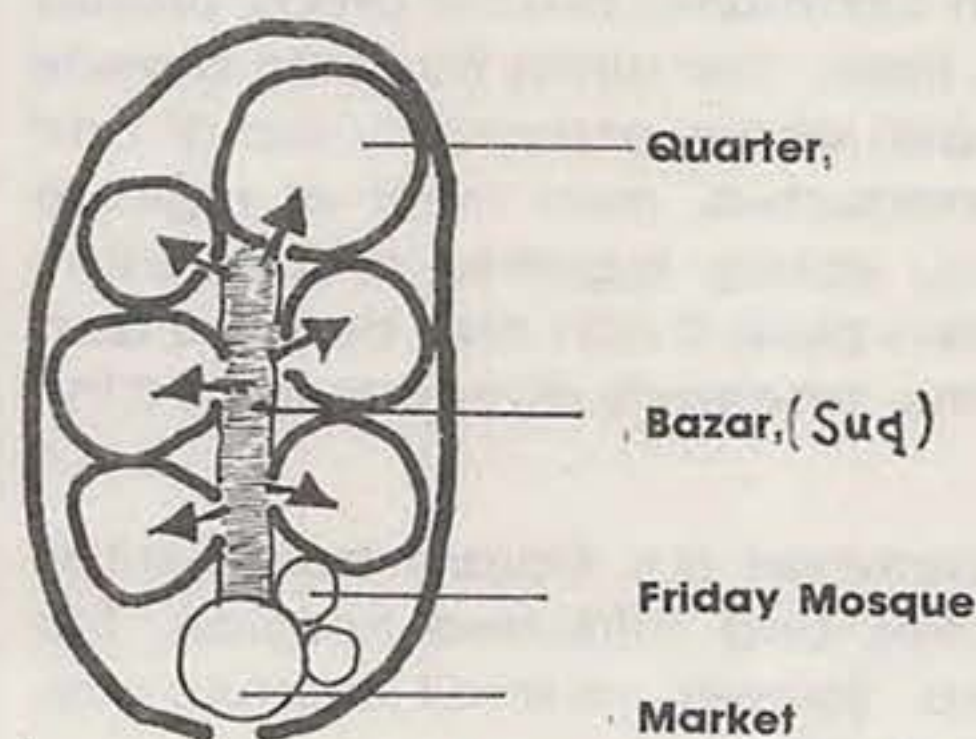
It is assumed here that the main object of design activities is to provide an urban form that facilitates and maintains a functional balance between human needs, environmental factors and financial constraints (ESSER 1976). For the designer, therefore, distinguishing the real human needs that determine urban form is critical. The direct approach to this problem of determining people's needs is to get them directly involved in design and planning (MOUGHTIN 1978; TURNER 1976).

The other approach to the identification of needs: and the one examined here is through studying behaviour - 'the indirect process'. The main idea behind this approach is that since needs (see Appendix I) underlie overt actions, studying behaviour will unveil and give inferences about needs (PORTEOUS 1977). Behaviour usually occurs in response to environmental stimulus, analysing behaviour will therefore afford a useful clue about the way people perceive their environment, what they think about it, how and in what way it affects them, how they react to it, and the role of culture in determining environmental meaning and quality (SAARINEN 1976; RAPOPORT 1979). (Fig. 1).



- U.S. City - Maximum movement and accessibility

Examining traditional Islamic urban pattern in terms of socio-cultural and activity systems shows that the need to control behaviour and social contact is the main determinant in the design of spaces (PETHERBRIDGE 1978; DELAVAL 1974). This can be seen at all levels of spatial organization and from the design of rooms within the house to the way that groups of buildings are organized and whole urban structures are designed (Fig. 2).



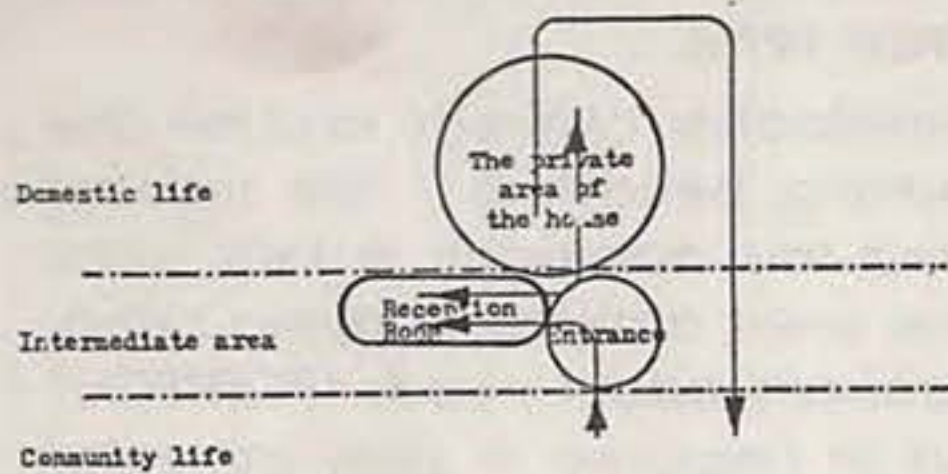
- Fig. (2)
- Traditional Muslim City, Limited movement and control behaviour by controlling mobility

The main design principle of Islamic urban pattern is to resolve the conflict of privacy for the family but solidarity for the community as a whole. For example, while the domestic life of the muslim calls for full privacy which requires maximum segregation from outside activities, he is required at the same time to participate fully in community life (Fig. 3). Thus, according to the traditional values, he has to deal in one design with two extreme poles of need, in which their satisfaction is in conflict. Even in community life, there are different levels of social communication, which require another dimension of control over social contacts. In a traditional settlement these needs are satisfied by arranging spaces in a hierarchy, from, the very private to the very public. The organization of the hierarchy is based on controlling access and mobility, thus controlling social contacts. The number of levels in between is different from one place to another according to size of the group and the degree of privacy required.

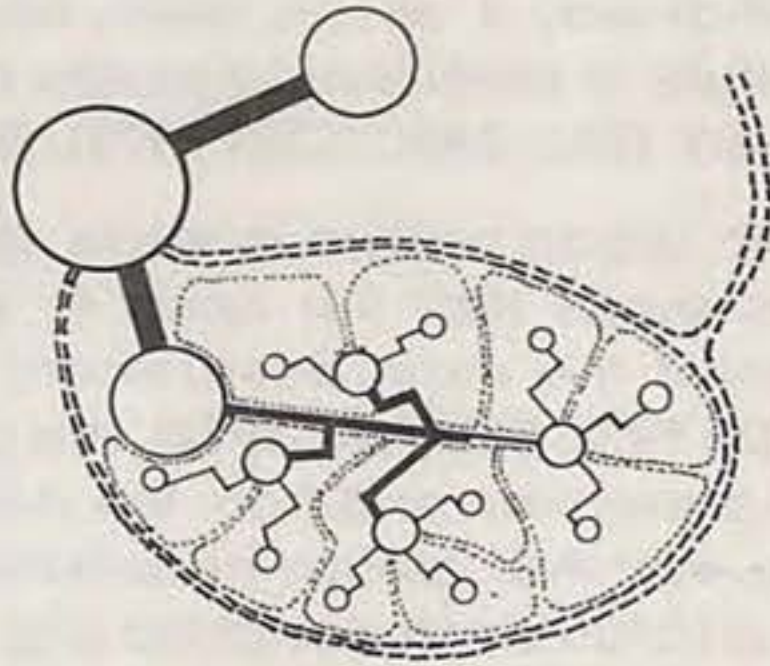
In the house, the space is organised primarily on the separation between private and public areas. If the outside world is the domain of men, the house is the domain of women. The word house in Arabic means "Sakan" which is related to the word "Sakina" peaceful and holy. The word for women, "Harim" is related to "Haram", sacred area, which denotes the family living



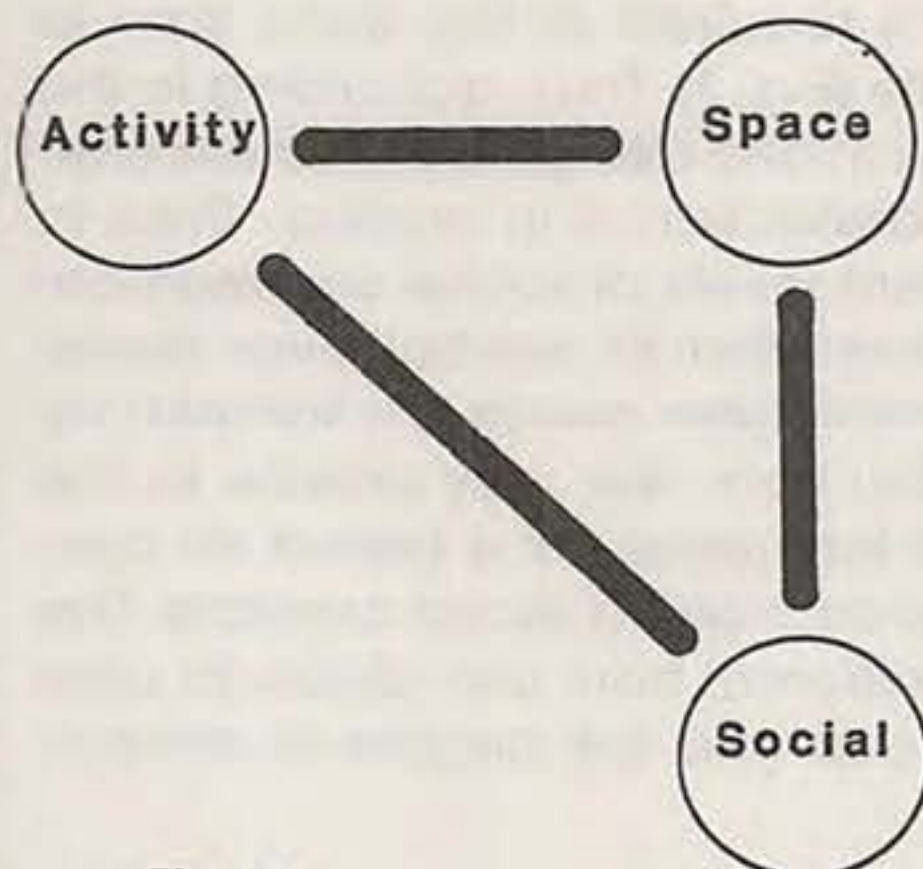
- Fig. (3)



- Fig. (4)



- Fig. (5) The hierarchy of space of Muslim Towns
(Source: Delaval, 1974)



- Fig. (6)

quarter (FATHY 1973; PETHERBRIDGE 1978). The Muslims, thus build their houses inward-looking and enclosed to achieve full privacy and peace for women (the family private area). At the same time a reception room (family semi-public area) is located on the boundary of the house, as intermediate area between the outside and the inside worlds. The main entrance is a very important element in the house since it controls contact between the sensitive areas (family private, family semi-public and the outside) (Fig. 4).

In some cases the entrance took the form of a recessed entry and was provided with Mastaba (a masonry couch or wooden bench) which offers hospitality to the passerby. This leads to a lobby with a staggered entrance or a wall facing the main door to allow direct access to the reception room and prevent a direct view into the courtyard where domestic activities take place. Thus the menfolk can receive friends and visitors, discussing community affairs without disturbing domestic life. In some cases as in the house of the Bustakia quarter of Dubai, on the Gulf, a back door is provided specially for women to visit each other. Since the back door is not used by male visitors, there is no need for a lobby to prevent direct access to the courtyard (PETHERBRIDGE 1978).

On the neighbourhood or community level, each group of houses is clustered to represent one unit. The community usually has a social identity, containing a closely knit group, who developed under the same feeling of group loyalty and solidarity. (HASSAN 1972). They have one set of common rules, obey their community's unwritten laws, and consider themselves brothers with mutual obligations.

In order to assure community privacy and initiate their activities without disturbing house privacy, the houses are clustered along short narrow blank-walled alleys and culs-de-sac (enclosing elements which represent community private areas) usually named after the family living there. The alleys flow into a small square (community semi-private) where community social and recreational activities are conducted; men meet at night to exchange news, drinking tea, eating together at Ramadan; youths gather and talk; children play; it can also be used as a place for marriage celebrations, ceremony of mourning and the like. (Fig. 5).

To fulfil and satisfy these activities the square has a small mosque with teaching facilities and attached hospice. The symbol of hospitality here is the "Sabeel", a small structure offering water and shade to the passerby.

At the level of the quarter, each group of communities is arranged around a small centre (community semi-public) where weekly activities on the quarter level take place. The centre includes a mosque, a school and some local shops. The quarters are not divided according to status, each can be seen as a microcosm, where rich and poor and all classes live together. (PETHERBRIDGE 1978).

Social dimension:

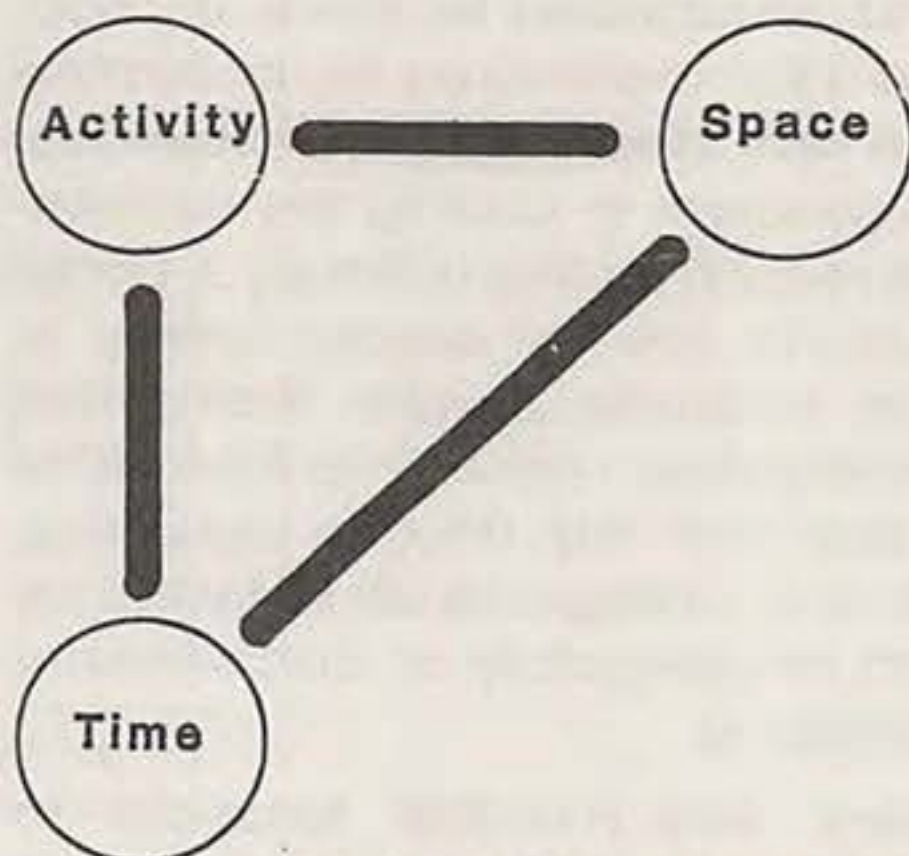
Social Factor	Space	Private	Semi Private	Semi Public	Public	Others
Individual						
Sex Groups						
Age Groups						
Religious Groups						
Ethnic Groups						
Class Groups						
Specific Climate						
Others						

- Fig. (7) Space - Social Factor



- Fig. (8) Activity - Time

Temporal dimension:



- Fig. (9) Space - Activity - Time

At the scale of towns and cities, different quarters are grouped in a way to create the main public area: there is direct access from each quarter to the centre, but no direct route goes through a quarter (DELAVAL 1974). The centre is the domain of men, it is the place where all economic and public activities are conducted (ISMAL 1972). It contains suq, central bazaar, Friday mosque, caravanserai and hammam (SIMS 1978).

The foregoing is a general view of the way in which Islamic urban form is tailored to suit a socio-cultural pattern. It also clarifies that the main question is not only how different places are used, i.e. WHAT people do in spaces; but also by whom, that is, WHO is involved and who is not; WHEN this place is used, or when this activity is conducted; and what this particular activity means for different groups of people, i.e. we are not simply studying behaviour and space but a whole host of complex social factors with temporal, and both manifest and latent dimensions.

Examining and relating social factors to the organization of spaces and activity systems (Fig. 6) provides a useful description and understanding of the ecological neighbourhood (SANOFF 1970). One can establish the relationship between social perception and various spatial organizations. For example, examining activities that are generated from social relations - such as visiting friends - against different urban forms may show the extent to which home range, territorial and/or neighbouring systems affect friendship patterns. This can provide data and give indications of how buildings should be distributed.

Studying the relationship between grouping systems, in terms of space, and behaviour also provides a useful analysis of how specific social groups interact with the built environment (HITCHCOCK 1972). It will help to identify why a particular group of people (related by kin, sex, age and/or other social classifications) conduct certain activities in a particular space and the spatial segregation of those activities (LOFLAND 1976). It will also help answering the questions of how the same space has different meanings for various groups of people, and how spaces hinder or promote activities. The analysis would also give inferences of domains, cultural determinism, and the nature of groups.

The elements involved in studying the social dimension of activity systems and physical form vary and differ from one culture to another. A chart of these elements (Fig. 7) is proposed to show the possible areas of analysis. The diagram is based on three axes, social relations, space, and activity systems. One can examine the behaviour of particular groups in different spaces, or how the same space is used by different groups of people. The result may be very different for different groups and also vary with different physical forms.

Analysing the temporal dimension of activity systems (Fig. 8), can provide a description of how people spend their time; daily,

weekly, monthly and/or yearly. Adding space as a third factor (Fig. 9) extends the scope of the analysis and relates it to environmental design (MACMURRAY 1971; CHAPIN 1965). For example, shopping activities might be analysed in the context of the use of shopping in relation to shops' locations and business hours (ANDERSON 1971).

The analysis can be elaborated to examine the question of how the same space has different meanings at different times. For example, the courtyard of the traditional Egyptian house in rural areas, is used in the morning for housework, in the evening for family leisure and eating, and during summer nights for sleeping. A technical problem of survey might emerge here, that is, when the activities cannot be directly observed because of their spatial and temporal extent. If this occurs it may be possible to use a space-time budget study. In this case people are asked to indicate for the previous day or the most recent weekend the activities they had engaged in, when they had done them and where. This would provide a most fruitful description of activity routines which can be used to inform designing or plan making.

By fixing the time in a study but varying the physical setting, one can examine how different physical forms affect activities. For instance, by comparing behavioural patterns in traditional and modern forms, or finding out why the function of a public area is different from a semi-public one. The main object of all these analyses, is to define the meaning and function of the temporal dimension in relation to activity systems and built form.

Manifest and latent dimensions:

Because of the complexity of human beings the activities may have latent or expressive functions (HERRIOT 1976). Spiro examined the social system in relation to needs - conscious and unconscious needs, he explains that social systems have latent functions which sometimes are more important for society than their manifest function (SPIRO 1961). He then goes on to point out that while the manifest functions are those consequences of role performance which are recognized by the member of society, the latent functions are those consequences which - whether intended or unintended - are not recognized by them. In practice, particularly in using observation techniques for collecting data, it is difficult to discern the real meaning of the activities. This may represent a technical problem in coding the information and later in its analysis. The reason for this difficulty is partly because the values of the observer are not always similar to those of the group, and partly because people themselves under cultural constraints frequently show - either intentionally or unintentionally - different attitudes from real one, so obscuring the meaning. Therefore it is difficult to categorize all activities by a theoretical classification, such as obligatory or discretionary activities (CHRD 1971) (see Appendix II).

For example, there are latent and manifest functions in women's attitudes when going to the market place in Egyptian villages: a woman usually goes to the market once a week to buy what she needs for groceries. If this activity is defined as shopping only - i.e. according to the manifest form of the activity,

then one can argue that a few shops in the village can replace the market place. But looking at the other side of the activity shows that the market day is the 'woman's day', the one day in the week when she can leave the confinement of the house and enjoy the freedom of walking. She will meet her friends and relatives from other villages during shopping and exchange news. She has permission to be a member of the crowd instead of a member of the family (FATHY 1973). This description shows that for the women the market day is more than a shopping day, she is living in society and feeling part of the world. Ignoring this function of the market place in the design of new settlements may have a serious effect on women's satisfaction of the designed environment.

To overcome this technical problem of information gathering, the researcher should try to be fully aware of the culture of the group particularly in the three main steps of the study, cataloguing observed activities, generalising activities into categories for observation, and combining observational categories into analytical categories.

Conclusion of part I

Recently in most of the Muslim countries, many attempts have been made to base designs for new development on traditional Islamic urban form. Stress is frequently laid on the physical aspects of this tradition. This results in representing cultural meaning simply as a sign without any real function, which in turn affects the traditional way of life and culture. Islamic architecture is more than simply a series of arches, domes, and decoration (CRITCHLOW 1976); it is a reflection of culture, religious beliefs, values, social and economic structure, and a rather specialised system of environmental control (DUNHAM 1960). The main principle of our proposed approach is to elaborate the implication of traditional Islamic urban pattern from its physical context to include the analysis of its socio-cultural and behavioural roots. It is proposed that four main factors should be involved in the investigation; the spatial, behavioural, temporal and social factors. The idea is to examine how these factors are combined (Fig. 10) and interact as determinants of Islamic urban pattern. This can provide indicators of the real function of this traditional form, which can be used as valid data for new development.

The object is to generate balance and congruence between traditional life style and the new one; to avoid social shock and the destruction of cultural identity. Thus environmental change is seen as a continuous process expressing traditional values in a modern setting.

PART II: CASE STUDY

Settlements and housing in Hausaland, northern Nigeria

Housing Problems in Nigeria

Unprecedented advances in building technology in the western world over the past century are rooted in economic expansion; but these advances and equally spectacular progress in industry, education and science have not produced solutions to

mass housing problems. As Charles Abrams notes, 'the simple refuge affording privacy and protection against the elements is still beyond the reach of most members of the human race' (ABRAHAMS 1966).

In developing countries, some of the causes of housing problems are rapid expansion of population, inadequate financial resources, weak institutional framework for the organization of an infantile building industry, and totally inadequate urban infrastructure. Furthermore, the process of modernization and change from traditional cultures to a complicated urban society has found both the traditional methods and the still nascent 'Western' methods of housing incapable of satisfying the needs of a rapidly increasing urban population. The result of this process has been provision of housing for the wealthy and the middle classes by the modern sector of the building industry, while the urban poor crowd into existing dwellings or build squatter settlements having few if any of the essential urban services.

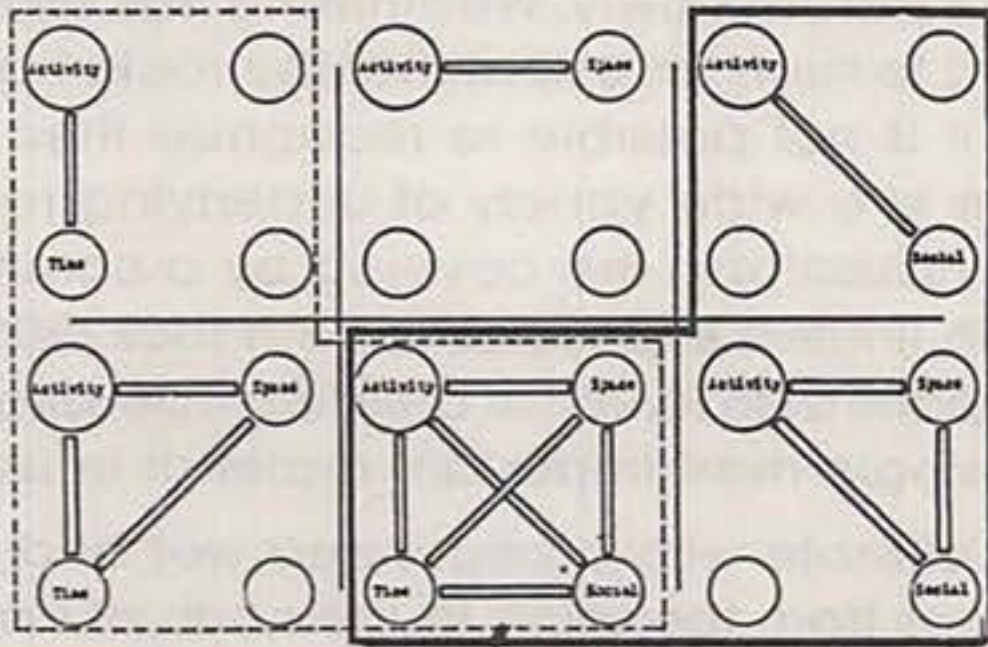
Despite recent wealth created by the oil industry, housing conditions in Nigeria are similar to those found in other developing countries and are summarized in Nigeria's Third National Development Plan as follows:

"Although housing conditions are generally inadequate in the rural areas, Nigeria's housing problem, like those of other developing countries, is essentially an urban problem. Rapid urban growth associated with accelerated tempo of socio-economic development has seriously aggravated the shortage of dwelling units in Nigeria resulting in overcrowding, high rent, slum and squatter settlements which are visible features of the urban scene throughout the country" (F.R. of NIGERIA 1975).

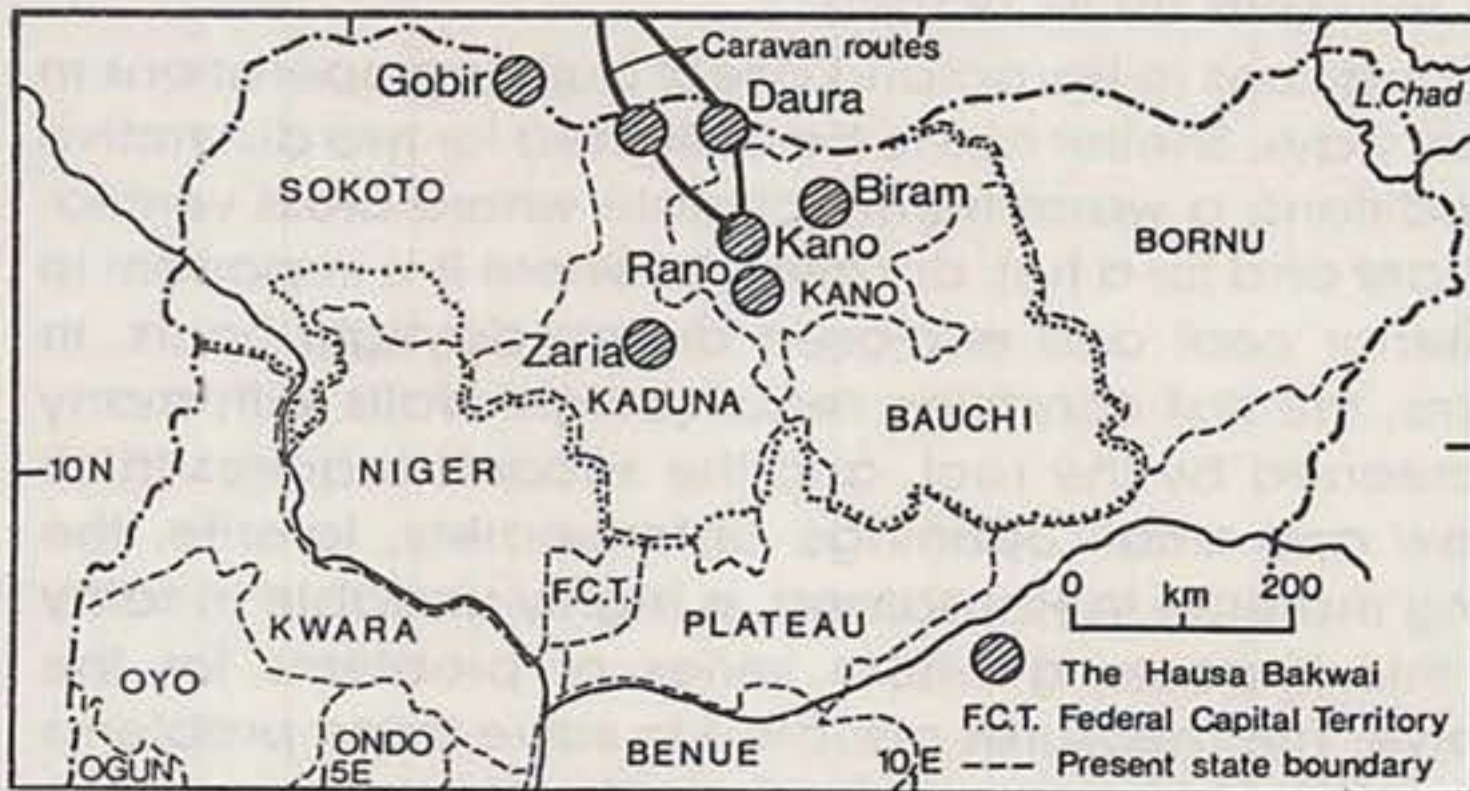
G.A. Onibokun in his article 'Housing Finance in Nigeria' clearly demonstrates that the financial arrangements for the modern sector of the building industry in Nigeria do not meet the needs of the low-income groups:

"The two main sectors that can undertake the responsibility of solving the housing and the associated environmental problems of Ibadan Region are faced with inadequate financial resources. The citizens are bogged down in poverty, the three levels of government are beset with meagre resources, and the public agencies are operating under marginal financial capability, while at the same time, the population is rapidly increasing" (ONIBOKUN 1971)...

It may seem as if the answer to the problem is the channelling of more resources into housing; but even in relatively wealthy Nigeria this is not possible. Clearly, it is out of the question for many less fortunate developing countries (ONIBOKUN 1975). This part, of the paper, sets out to explore an alternative approach to satisfying housing need by questioning the definition of the problem and by examining the ways in which traditional urban forms methods of building can be used in Hausaland, a cultural region of Nigeria.



- Fig. (10) The major aim is to generate balance and congruency between the traditional life style and the new one to avoid social shock and destruction of cultural identity.



- Fig. (11) Location of Hausa states

Location and environment of Hausaland

Hausaland, KASAR HAUSA, is in the northwestern part of the Federal Republic of Nigeria and lies between the confluence of the Niger and Benue rivers. It extends approximately from latitude 3.5 north to latitude 11.0 north - or 525 miles (844 km) - and from longitude 10.5 east to 14.0 east - or 250 miles (400 km) (Fig. 11). Hausaland consists of mature or old-age plains upon which the forces of erosion operate slowly. Weathering has taken place to a great depth and to such an extent that the rocks have been decomposed, and it is not possible to recognise their original type. Although there is a wide variety of underlying rock structure, large areas of Hausaland are covered by a common end product, laterite, with limited exposures of fresh rock (BUCHANAN 1955). From the viewpoint of traditional building operations in the area, laterite is the single most important material in use.

Hausaland has a climate with pronounced wet and dry seasons. The rainfall drops from the south to the north of Hausaland and varies from a savannah type to a sahel climate in the extreme northern districts. Hausaland's climate is influenced by two principal wind systems: a hot dry northeasterly wind blowing from the Sahara and a southwesterly, warm, moist air current from the southern Atlantic Ocean. The Harmattan or northeasterly wind brings dust with it from the Sahara; when it blows from November to April, day temperatures are high in the afternoon and low at night and in the morning (UDO 1970). During this time of the year, humidity is low; it is frequently hazy with visibility reduced - sometimes to less than half a mile. During the remainder of the year the southwesterly monsoon winds bring moist, warm air, most of the rainfall, and high humidity. Surface winds tend to be generally light; the only exception is the line squalls which are at the beginning and the end of the rainy season and can gust up to 90 mph.

Climatic conditions in Hausaland affect building operations in two important ways. Shelter has to be designed for two distinctive climatic conditions: a warm humid climate where cross ventilation is important and for a hot, dry climate where it is important to keep the interior cool and enclosed during daylight hours. In simplest terms, the first condition requires light walls with many openings screened by the roof, and the second requires thick walls with few and small openings. Unfortunately, laterite, the chief building material in Hausaland, is highly unstable in rainy conditions; this imposes a whole series of problems for the builder to solve. The measures adopted to solve these problems give Hausa architecture some of its distinctive features.

The development of Hausa

The built forms evolved by different cultural groups to solve similar environmental problems are many and diverse and are dependent almost entirely upon the perception of those problems (RAPOPORT 1969). Such perceptions can vary from almost totally ignoring environmental problems and placing greater emphasis on socioeconomic or symbolic considerations at one extreme, to an attitude which places a premium on design for optimum internal environmental conditions, in which built form

Fig. (12) Location of Hausa land Nigeria Desert

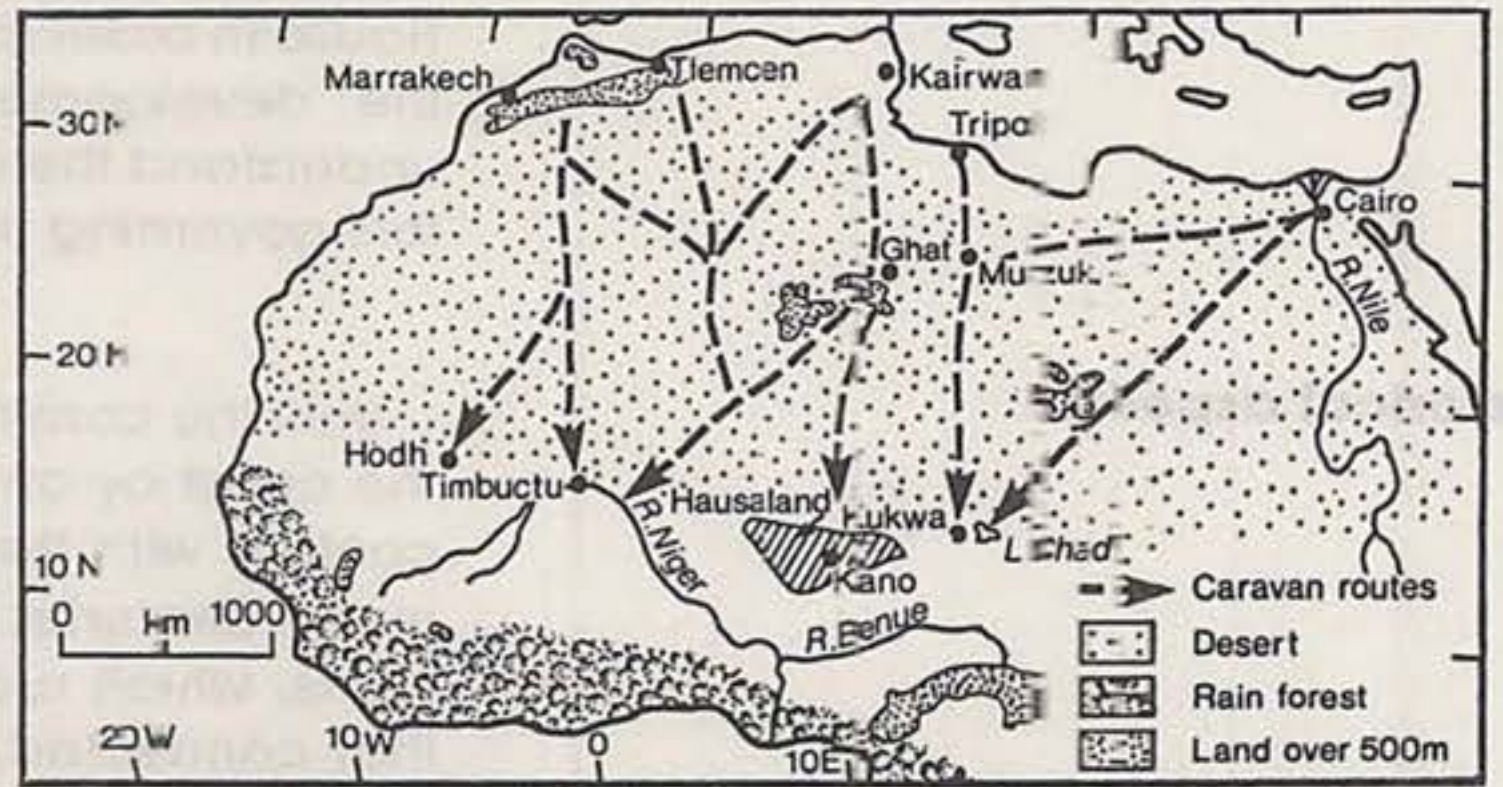
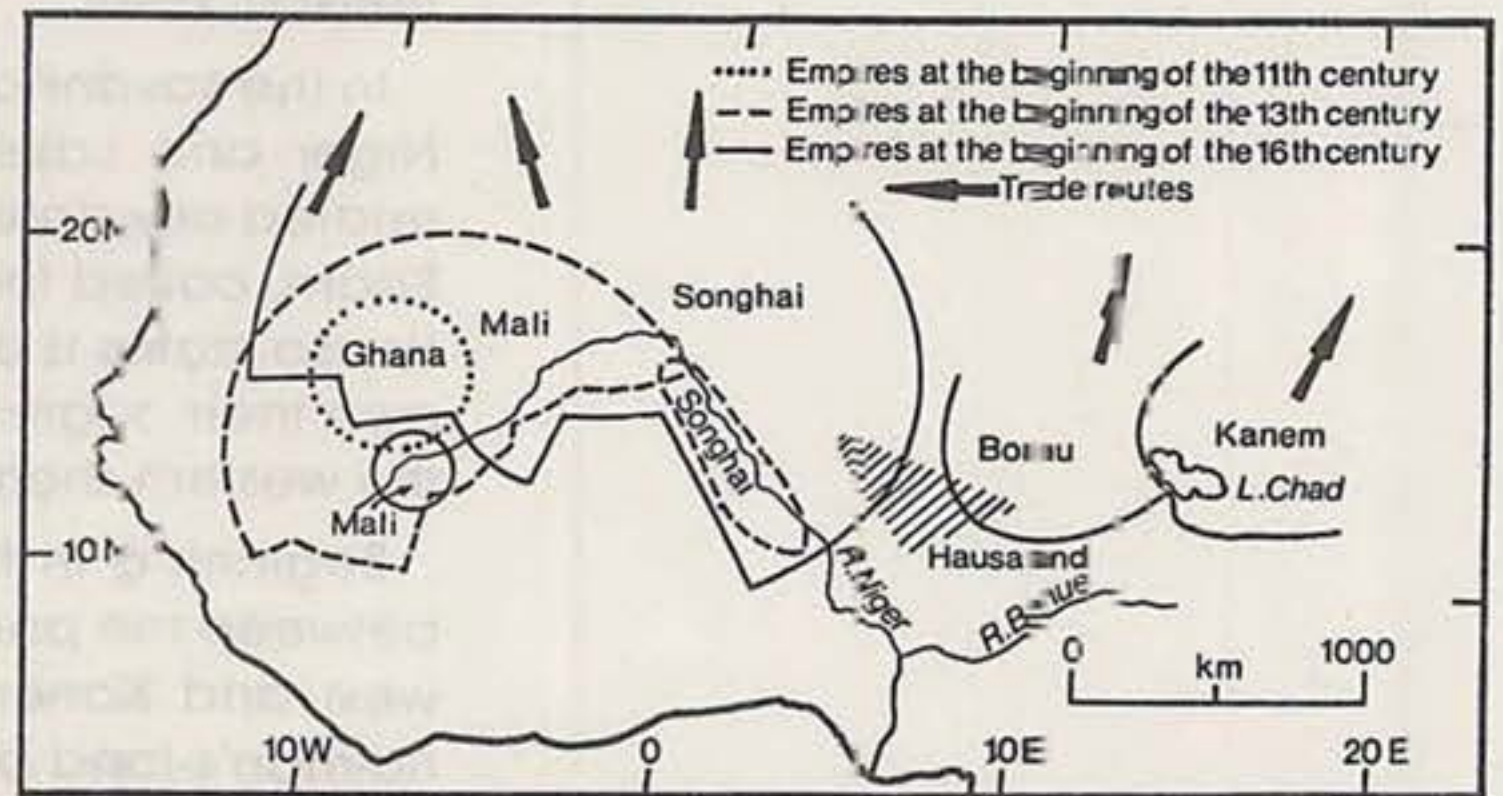


Fig. (13) Location of Hausa land with respect to its neighbours.



takes on the form of a climatic control mechanism. For this reason it is important to understand the cultural history of the Hausa in order to appreciate the attitude of these people toward the development of the architectural programme and to understand the values attached by the Hausa to the design factors governing traditional built forms.

Historical aspects

Until the coming of the Europeans, Hausaland was cut off from the coast by an impenetrable barrier of tropical rain forest; all contact with the outside world was by way of the Sahara. For many centuries the great bullock trains, and later the camel trains, which crossed the Sahara were the commercial lifeline that connected Hausaland to North Africa. Along these routes travelled the wealth of West Africa, gold and slaves in return for salt and Mediterranean products (FAGE 1962; HOGBEN 1966). (Fig. 12). Up to the first millenium AD, the areas just south of the Sahara were undergoing a change in the structure of their vegetation; in part this was due to worldwide climatic changes, but later man's agricultural activity brought about great changes to this region. There was, therefore, in what is now the sahel vegetation zone, a consequent increase of population pressure which produced a southward movement of people in Hausaland and other areas of West Africa (SMITH A, 1978). This great southward movement of people is recorded by the Hausa and other Nigerian people in their legends which generally place their origin in the north (ARNETT 1910).

In the savannah lands between the great northern bend of the Niger and Lake Chad was founded a group of seven small related city states: Daura, Kano, Zaria, Gobir, Katsina, Rano, and Biram, called the Hausa Bakwai or true Hausa. The origin of the Hausa states is obscured by legend, but it is probable that they owe their origins to a series of related invasions of people from the western shores of Lake Chad in the first millenium AD (Fig. 11).

Beginning in the ninth century AD, Hausaland was polarized between the powerful states of Ghana, Mali, and Songhai to the west and Kanem-Bornu to the east. Hausaland occupied the no-man's-land between these two power blocks and acted as a buffer state (Fig. 13), alternating under the domination of either west or east. Although in constant subjection to foreign rulers and despite having their farmlands laid waste and their trade dislocated by the occasional attacks of their more powerful neighbours, the Hausa states managed to retain their identity and their local autonomy which enabled them to develop an elaborate social organization.

Because the Hausa states were located at the terminus of the central Sahara trade route, they were able to develop as a series of high density urban centres with highly structured political and administrative systems of government and with a prosperous economic base. Continual tribal warfare before the British occupation (1900-6) of northern Nigeria added impetus to the establishment of a pattern of densely occupied, walled settlements in areas of unoccupied savannah land. In addition to the

Cultural elements

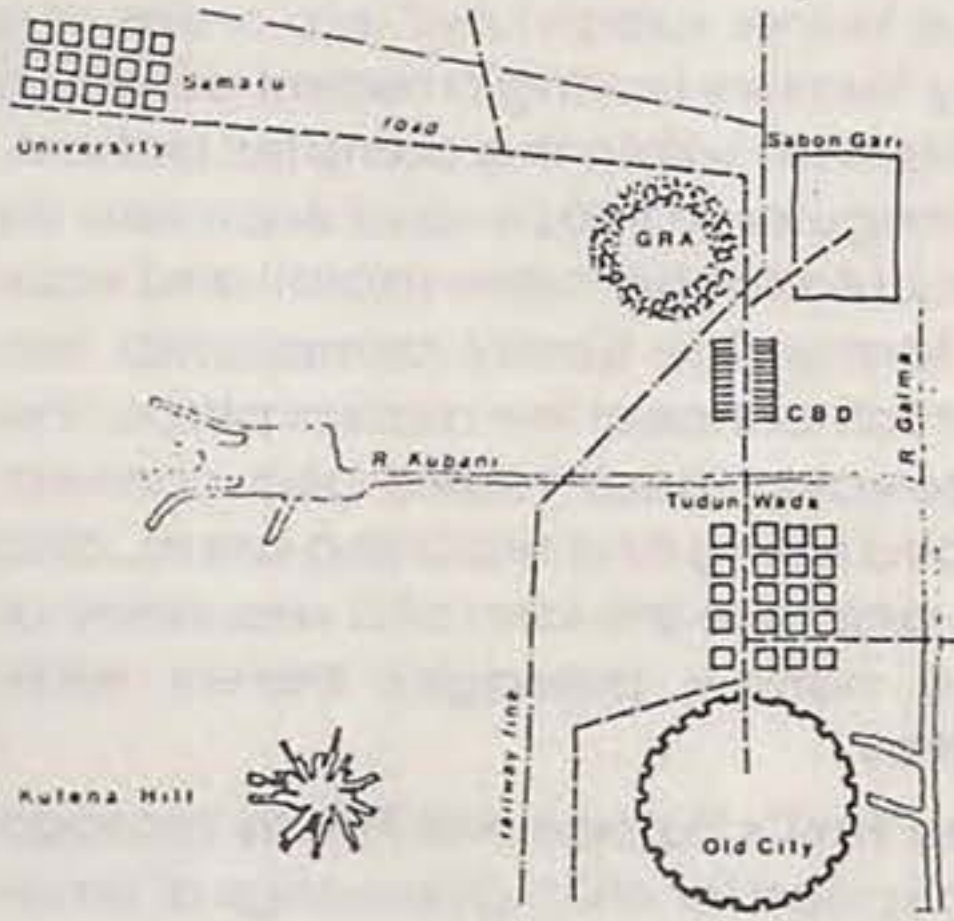


Fig. (14) Layout of Zaria, Hausaland - Old City

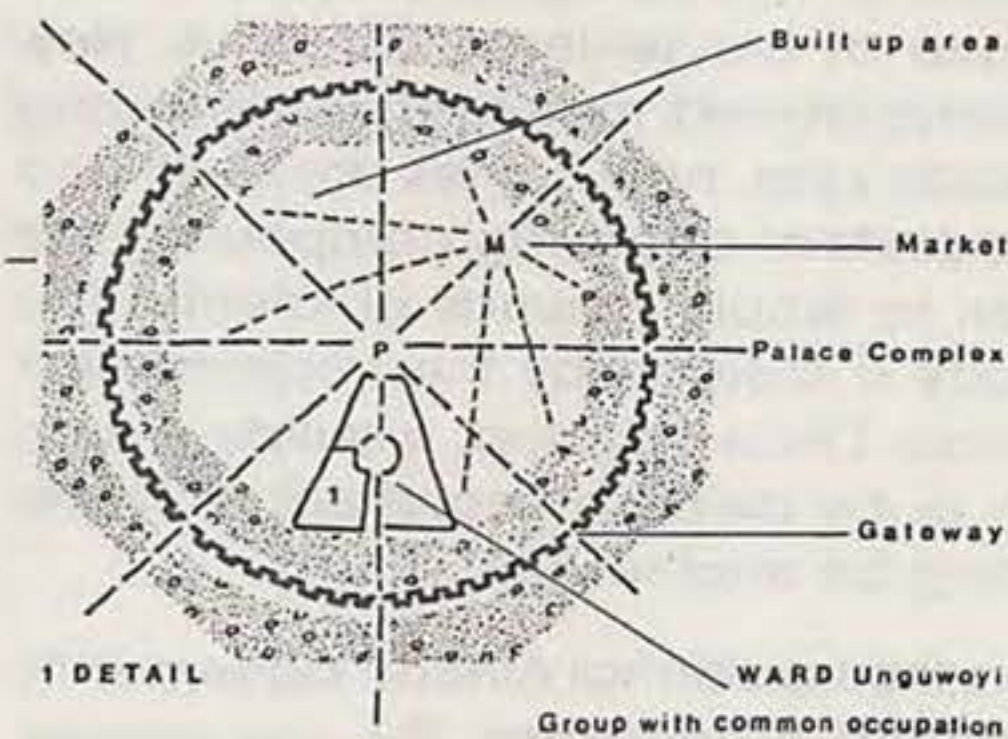


Fig. (15) Built up area

Traditional city of Zaria

Zaria

City structure



major administrative cities such as Kano and Zaria, there are also many smaller walled settlements ringed by bush hamlets (MOUGHTIN 1964).

Islam has had a considerable effect on many aspects of Hausa culture. Building techniques and architectural style are no exception. Imported ideas of what constitutes a good building have changed the indigenous architecture from a savannah style to one that is more suited to an arid Sahara climate. The early contact of the Hausa states with Islam was by way of the western Sudan and the Maghrib; tradition says that Islam was brought to Hausaland by merchants from Mali in the 14th century. For many centuries Timbuctu remained a renowned centre of Muslim scholarship, and it was from this source that the Hausa received their introduction to Islam. In the 16th century the Hausa city of Katsina became an important centre of Islamic learning with its own special quarter in the town for students (HOGBEN 1966).

Long cultural contact between Hausa and the African Mediterranean coast affected building traditions in two main ways. First, the acceptance of Islam, and more particularly, the practice of segregation the sexes (auren kulle) has brought about changes in the detailed arrangement of the various components of the house plan; second the style of Hausa architecture has evolved from a savannah type to one based on the forms usually associated with the Islamic architecture of the Mediterranean world. In more recent times, contact with the West has introduced other ideas and concepts into Hausa culture, particularly the changes brought about in the new suburbs and developments outside the traditional settlements. Traditional building is now being affected mainly in terms of detail or accommodation to imported fittings and fixtures including the motorcar.

It is difficult to generalize about the layout of the major Emirate cities. Most of them, however, have well-defined quarters separated from the old city. The layout pattern of Zaria, in particular, emphasizes the separation of the various quarters. The barriers between the quarters are the railway track, the river, or the city wall. The settlement resembles a cluster of independent urban centres rather than a single unit, and the pattern it forms reflects religious, racial, and cultural differences overlaid by the recent need to accommodate the motorcar, modern educational establishments or administrative and commercial institutions (MOUGHTIN 1964). Outside the walls of the old city are; the one-time European Quarter (G.R.A.); Sabon Gari, a new town occupied chiefly by Southern Nigerians; Tudun Wada, occupied chiefly by Muslim strangers. (Fig. 14).

Within the apparently formless complex of mud dwellings that exist inside the walls of the ancient city, there is a basic physical

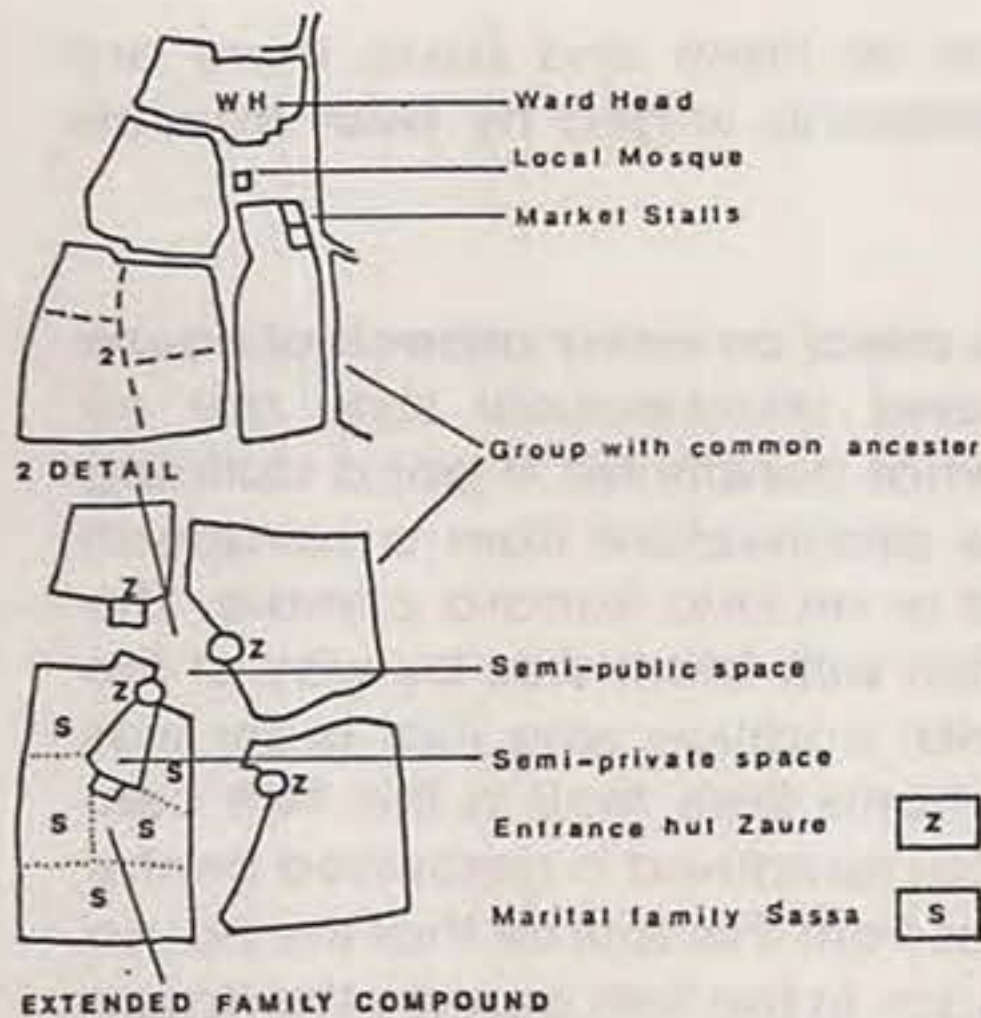


Fig. (16)

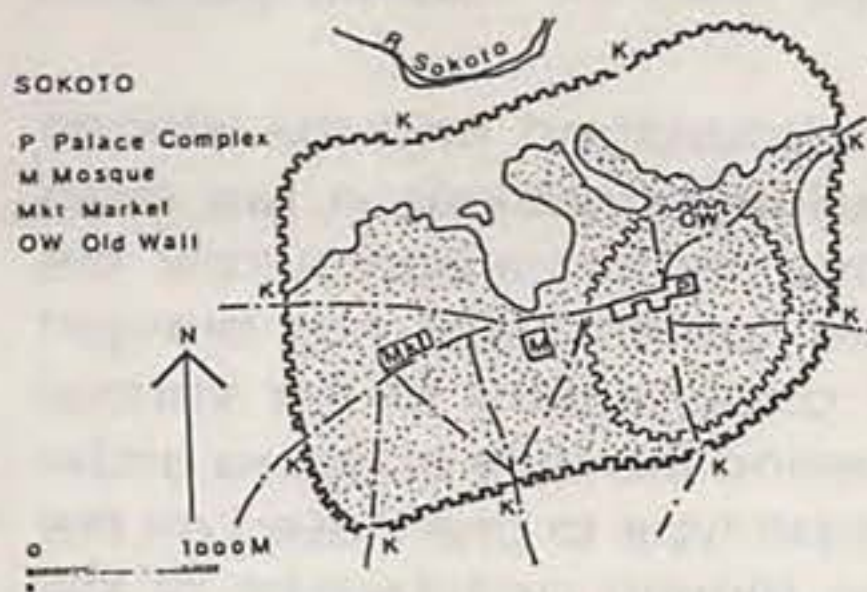


Fig. (17) The Old City of Sokoto-North Sokoto R.

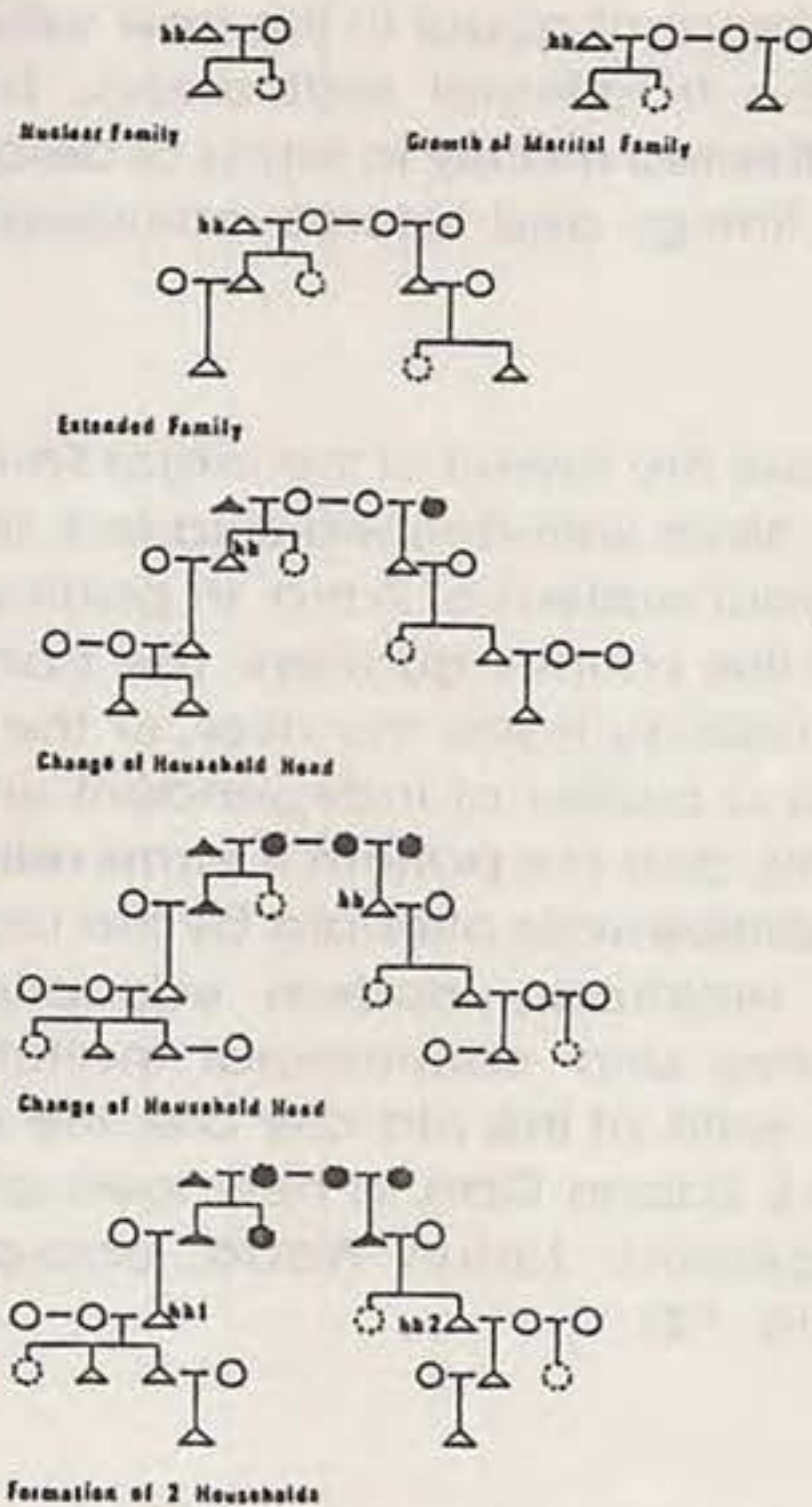


Fig. (18) Chart indicating Hausa co-residential kin groups

framework which reflects its social structure. (Fig. 15). The residential area in the old city is subdivided into zones usually associated with one of the main gateways. Each zone is occupied by groups having certain similarities, common occupation (dyeing, weaving, potting, etc.) or membership in one of the royal families. These zones are further subdivided into areas of a few street blocks occupied by families having a recent common ancestor (Fig. 16). The basic element within this complex pattern, however, is the street block, irregular in shape and enclosed by a high mud wall. The street contains the main social and economic unit of the extended family. The family compounds are linked by pedestrian routes which connect the market place, the Friday Mosque, and the gateways. These routes also connect outdoor praying places, shaded sitting and teaching areas, and the large formless borrow pits and take the form of a sequence of spaces, some of which are narrow passages barely wide enough for a fully laden donkey.

At the centre of the city is the Emir's Palace, the Friday mosque and the dandal, a large open space for civic gatherings at times of the great Islamic festivals. At these times the whole population of the Emirate congregate to show allegiance to the Emir. Around the Friday mosque is the main religious gathering space used by the population of the city at least once a week. These then are the two main civic and religious spaces in the hierarchy. Also within the city is the main market or commercial space used also as a place for socialising. (Fig. 17).

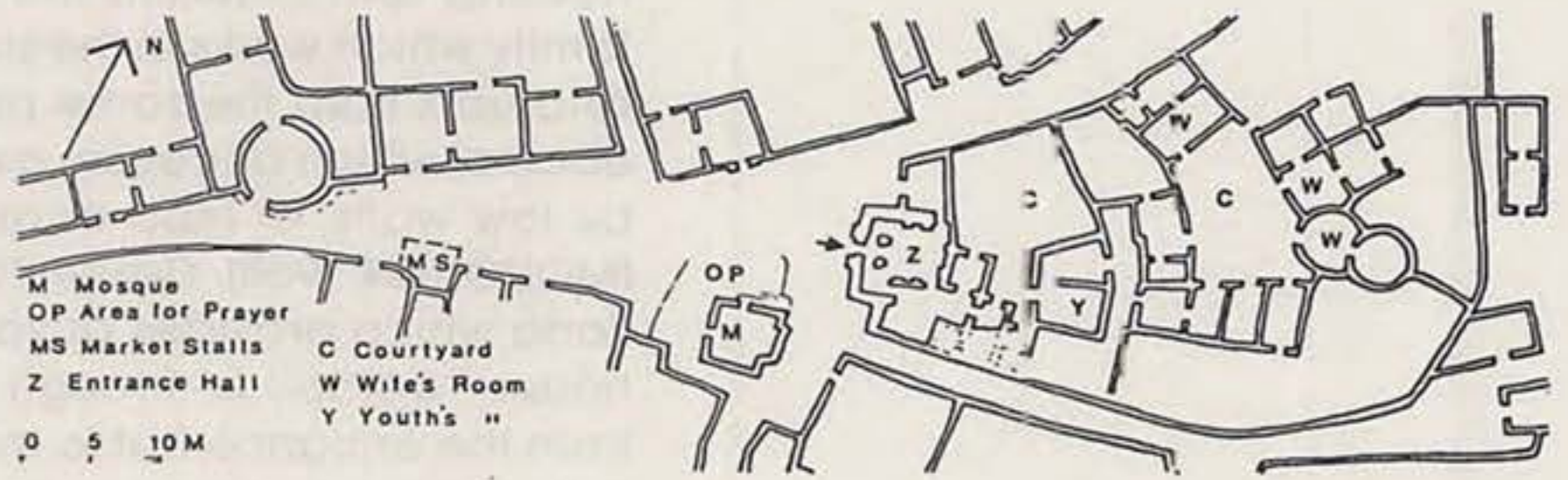
Lower down the spatial scale are smaller spaces outside the homes of ward or district Heads. Here is to be found the **Zaure**, reception room of the ward Head, the local neighbourhood mosque and outdoor praying area, possibly one or two shops and a public meeting place.

Groups of homes are also arranged around a semi-public open space where the men-folk of the local community meet and socialize.

Hausa families are of three types: individual families; a married man, his married sons and their dependents; or a group of collateral agnates and their dependents. These varieties of Hausa co-residential kin groups are not formal alternatives but manifestations of the same rhythmic and dynamic cycles (see Fig. 18) (SMITH, M. G., 1954). The effect of this household cycle is most evident in the organic nature of the settlement pattern. New family units are constantly being formed, maturing and breaking up. During the dry season each year, new homes are built; and during the rains, the unused parts of decaying compounds are reduced, first to rubble, then to simple mounds of laterite. This process of growth and decay is assisted by the impermanent nature of the building materials. Once vacated, a building soon disappears, either naturally or by being demolished; its materials are then used for building on another site.

A typical house plan follows the traditional African pattern with rooms arranged within or around a courtyard. The compound

Fig. (19) Layout of Baban Gowani house Zaria



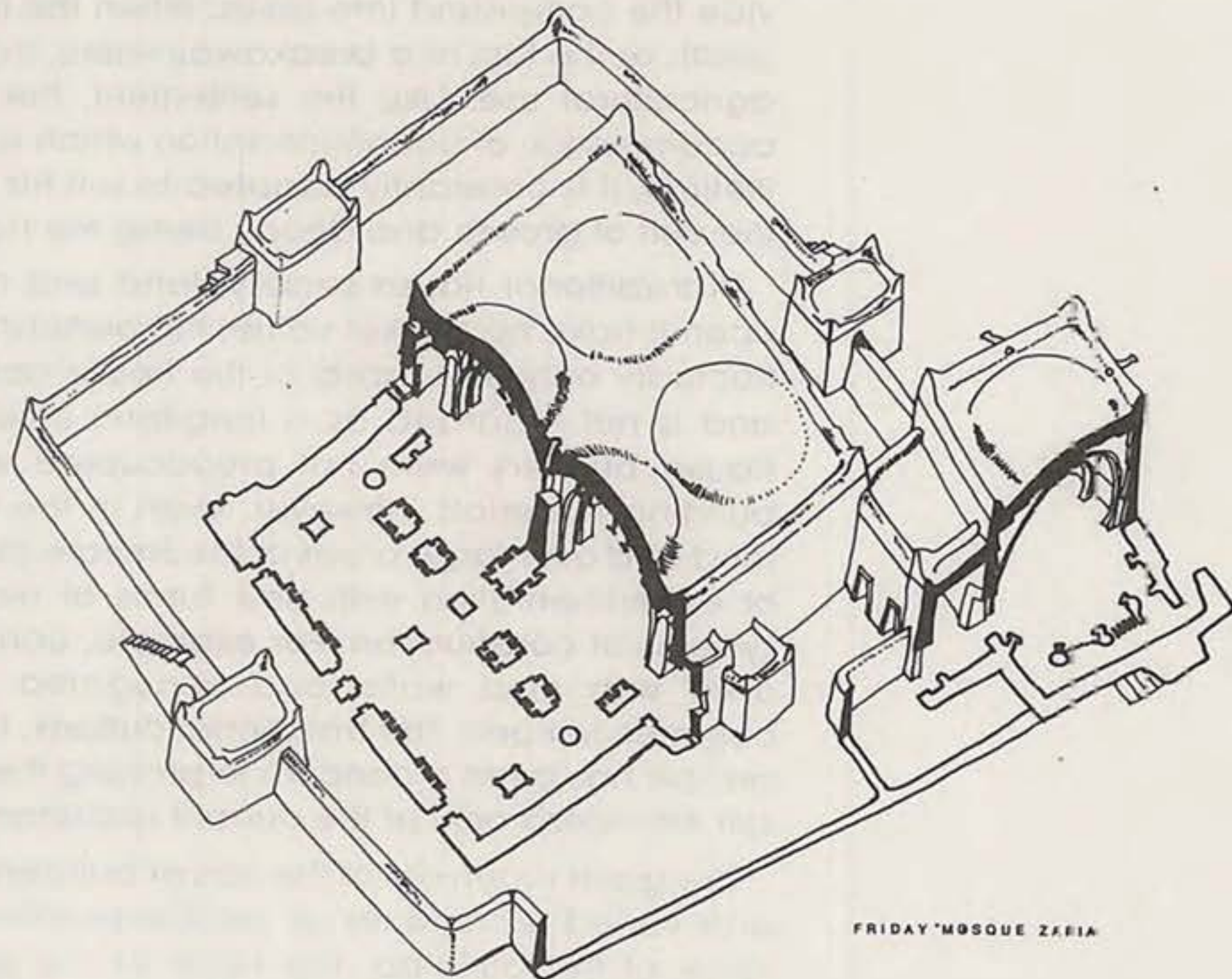
SECTION A-A


Fig. (20) Sections of Friday Mosque Zaria



SECTION B-B

Fig. (21)






within a wall is also an important feature of traditional African housing and contains the main economic unit of the extended family which works in the same fields, shares the same grain store and eats from the same pot. The extended family units or sassa each of which occupies a separate part of the house delineated by low walls, of mud or matting made from guinea corn stalks (MOUGHTIN 1968). Figure 18 shows the plan of a typical house in Zaria which provides privacy for the womenfolk. Entrance to the house "agida" is through the entrance hut "zaure. Circulation from the entrance hut to the family part of the house "ckin gida" is through one or more courtyards. In these courtyards are huts for unmarried youth and male guests, and around them are further huts which are screened entrances to the various quarters of the individual marital groups. Within each sassa each wife has on or two huts which she decorates with her dowry and other belongings and where she sleeps with her children. In addition, there may also be a hut for the husband and huts for his other dependent relatives (MOUGHTIN 1964).

Changes in the family structure result in either the subdivision of the compound between the new compound heads, that is the male inheritors of the estate, or the group may break up completely, and one or more sections build new cells on a new site. If the compound is subdivided, the divisions between sassa become harder, and each new compound has its own perimeter wall and external gateway. Field investigations indicate that the man who sets up a new compound on a virgin site builds first his perimeter wall and then an entrance hut and huts for his wife and himself. As his family grows, he adds huts where and when they become necessary; later still, walls are built to subdivide the compound into sassa. When the family shrinks, through death or the loss of a breakaway sassa, the land soon returns to agricultural use. Like the settlement, the house is not just an accumulation of accommodation which is static during a man's lifetime; it is constantly adapted to suit his changing needs with the unit of growth and decay being the hut (MOUGHTIN 1968).

In traditional Hausa society, land and the buildings erected upon it have no market value, the ownership of land being usufructuary only. The fabric of the house acts mainly as a shelter and is not regarded as a long-term investment. Until recently Hausa builders were not preoccupied with the durability of building materials. However, even in the rural areas of Hausaland and over large areas of the Emirate cities, there is evidence of experimentation with new forms of material and with new systems of construction. For example, concrete block walls are used with mud walls, and corrugated iron roofs are quite common in Kano. The traditional outlook, however, of the Hausa builder has been a concern to prolong the life of the building to suit the needs only of the current occupants.

The great ingenuity of the Hausa builders has produced many and varied techniques of weatherproofing for the critical surfaces of the building. The result of the system of construction which has been developed is a perfect match between the changing needs during the life-cycle of the family and the



Climatic influences on house structure and layout

organic nature of the houseform. Experiments, therefore, with methods of extending the life of buildings either with construction methods or new additives to the existing materials are not entirely appropriate unless confined to such areas of the home as the zaure (entrance hut), which often is expected to outlast the occupants' life-span.

As indicated earlier it is difficult to design for comfort in both types of climate in Hausaland when traditional building techniques are used. To find a solution to this problem in the form a single building type is expensive and can be achieved only by using a modern structure with a mechanical support system. The Hausa, therefore, have adopted a compromise using different structural types for different times of the day or year.

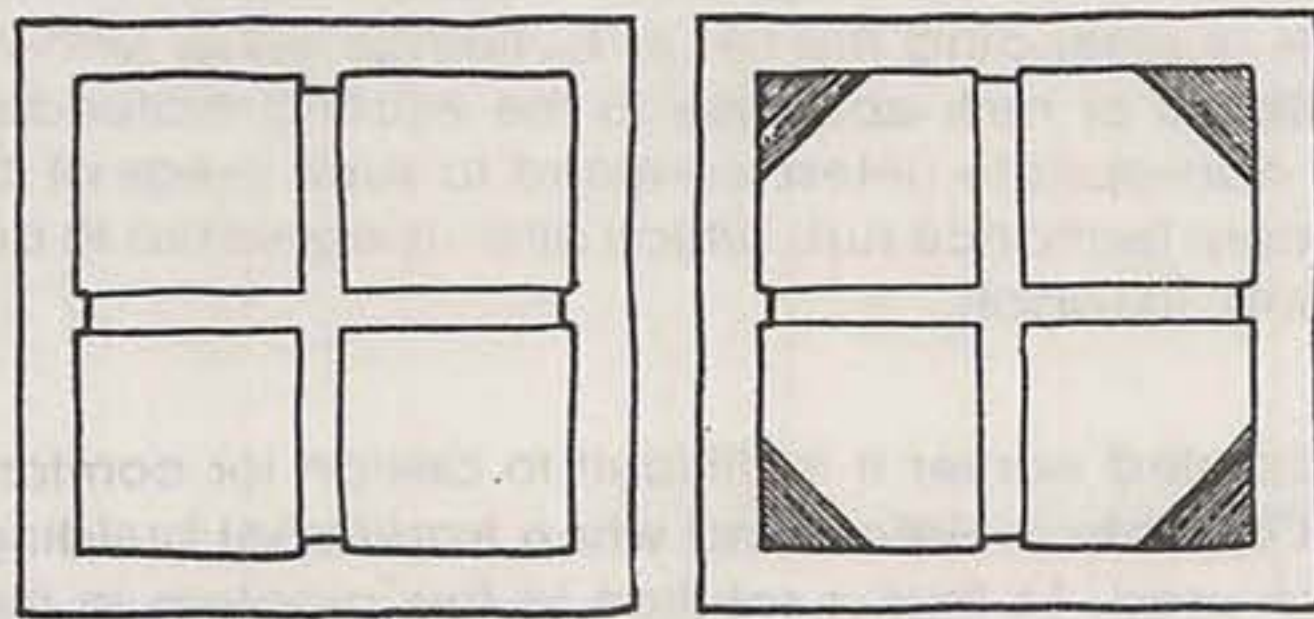
The house normally consists of structures with different properties: rooms built entirely from mud; simple structures consisting of a light frame and a large grass roof with shade trees and large walls providing additional shaded areas. The all-mud building soro has a heavy mud roof and thick walls with few openings which give it good properties of thermal insulation. Within a building of this type, it is possible to trap the cool night air and prevent the interior from being warmed by the sun or external air; conversely, during cold nights the warm air is retained inside the building. In this way, the extremes of external temperatures associated with the dry season are reduced, and a more even internal climate is achieved. In contrast, the areas beneath the shade trees and under the grass-roofed open structures are ideal in the humid rainy season when air movement through the building is important to keep temperatures cool.

In discussing the adaptation of built form to climatic conditions in the case of the Hausa, it is important to consider the complete range of buildings and spaces to be found in the family compound. It becomes clear that the Hausa system of house planning provides comfortable living conditions at all times of the year. Climate control cannot be as effectively achieved with cheap modern materials, particularly on a tight urban site. Therefore, there should be no departing from the traditional system without good reasons.

Construction techniques

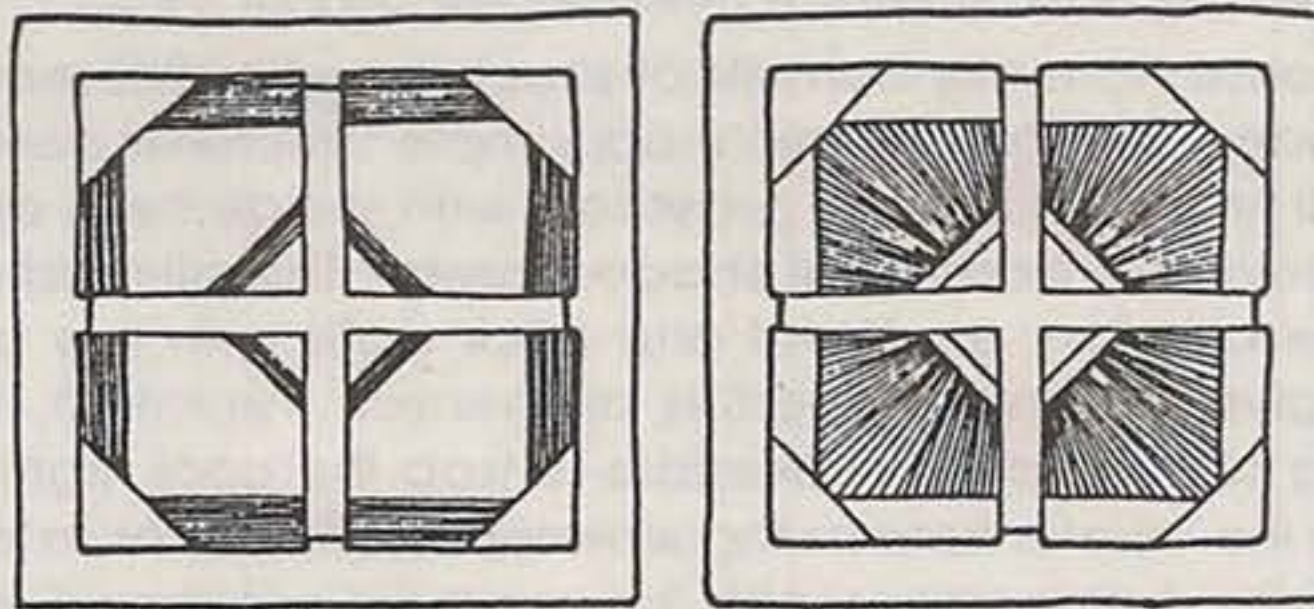
The construction process for a mud building is a long one, and careful preparation of the materials is important. The mud walls are made up of regular courses of unbaked bricks "tubali" laid in rough courses and set in mud mortar. The tubali are coneshaped, and in Zaria they are usually about 15.2 cm in diameter (DALDY 1945). It is considered good practice to lay two or three courses of mud bricks a day; when the wall reaches the height of the door lintel, the work is suspended for 24 hours so that the walls are thoroughly dry before finishing the top courses (Fig. 20).

The normal method of building is for the builder to sit astride the top of the unfinished wall. Mud bricks and bats of mortar are thrown up to him; as he finishes the day's courses which are within his reach, he moves away backwards over that part of the



STAGE 1

STAGE 2



STAGE 3

STAGE 4

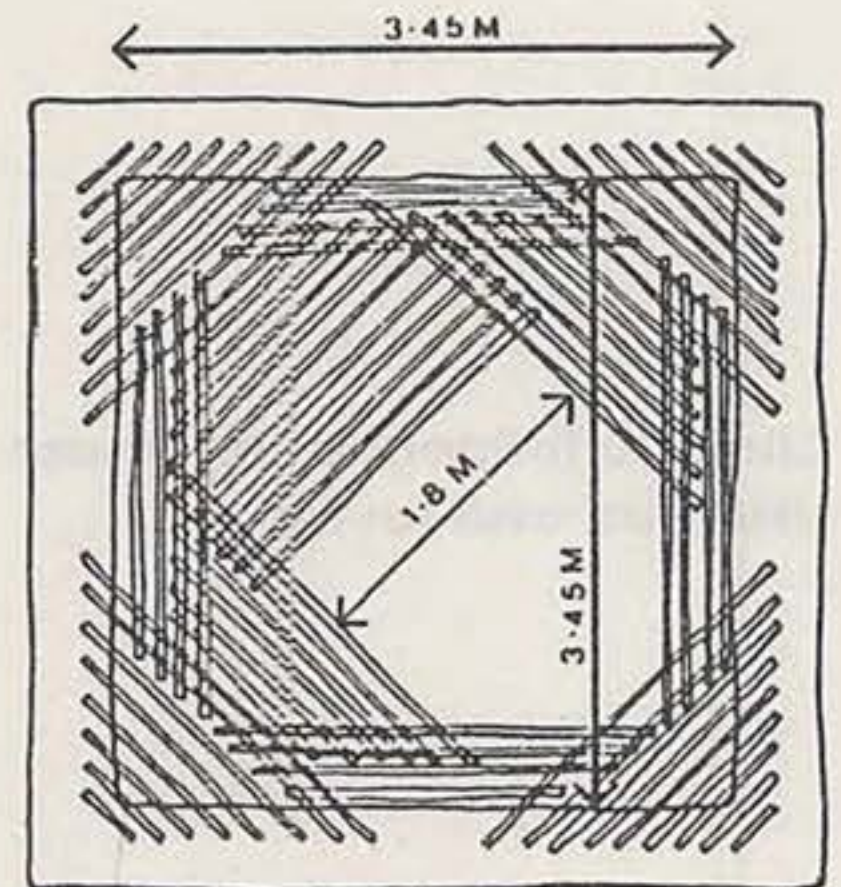
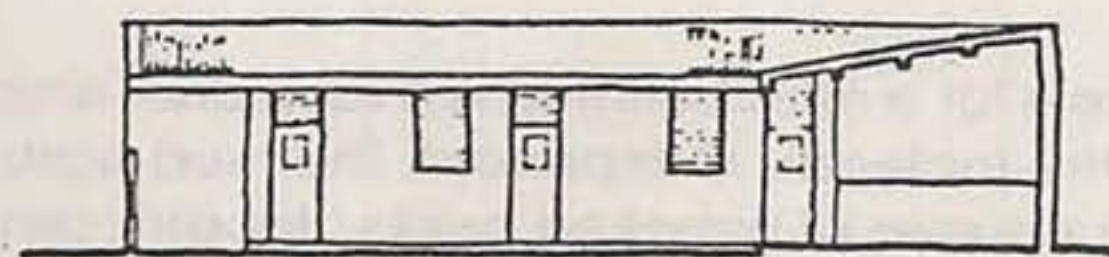
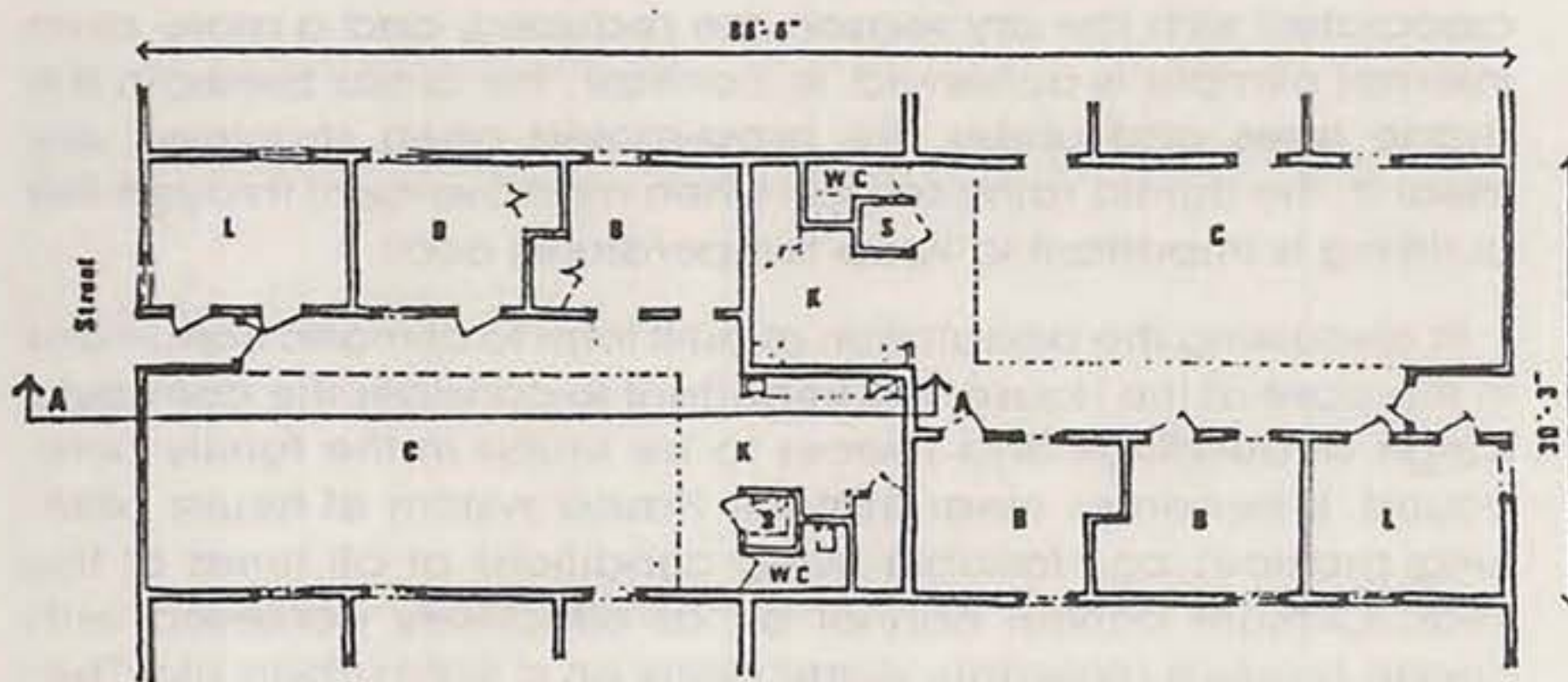
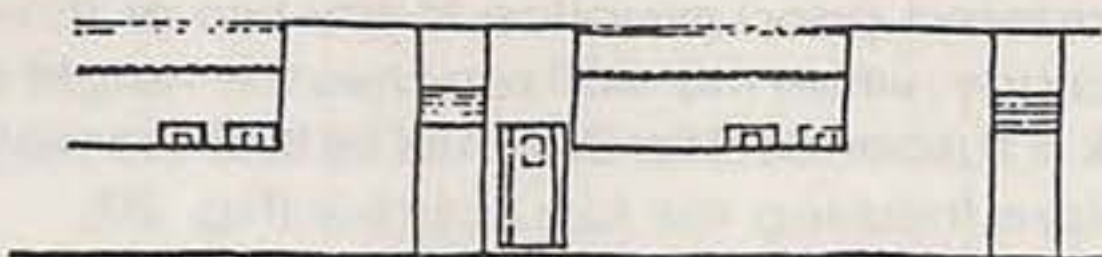


Fig. 24

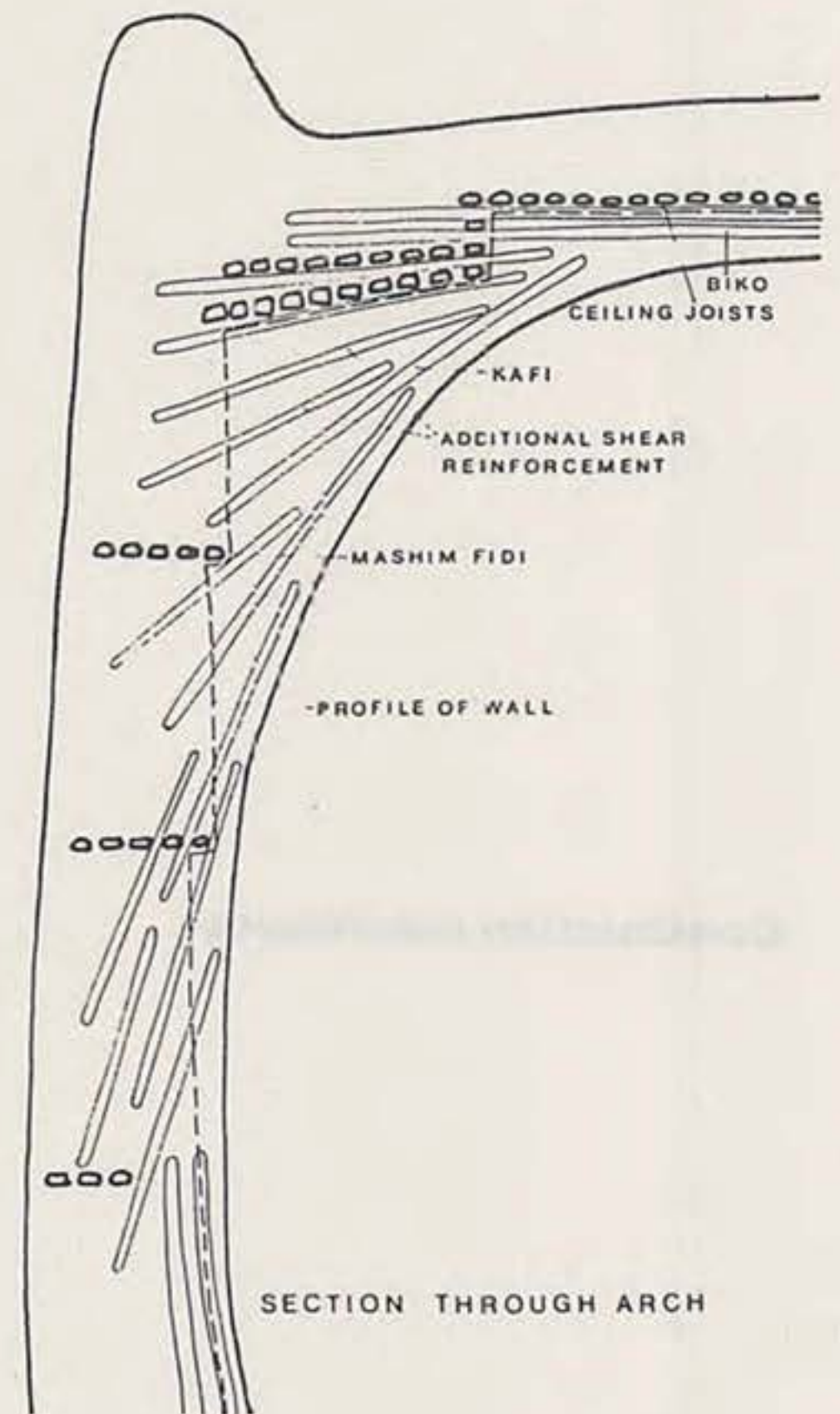


Section A-A

- L Living room
- B Bedroom
- K Kitchen
- S Shower
- C Courtyard



Elevation



SECTION THROUGH ARCH

Fig. 29 Typical low-cost house built on Zaria road, Kano. Based on drawings prepared by the Metropolitan Kano Development and Planning Board.

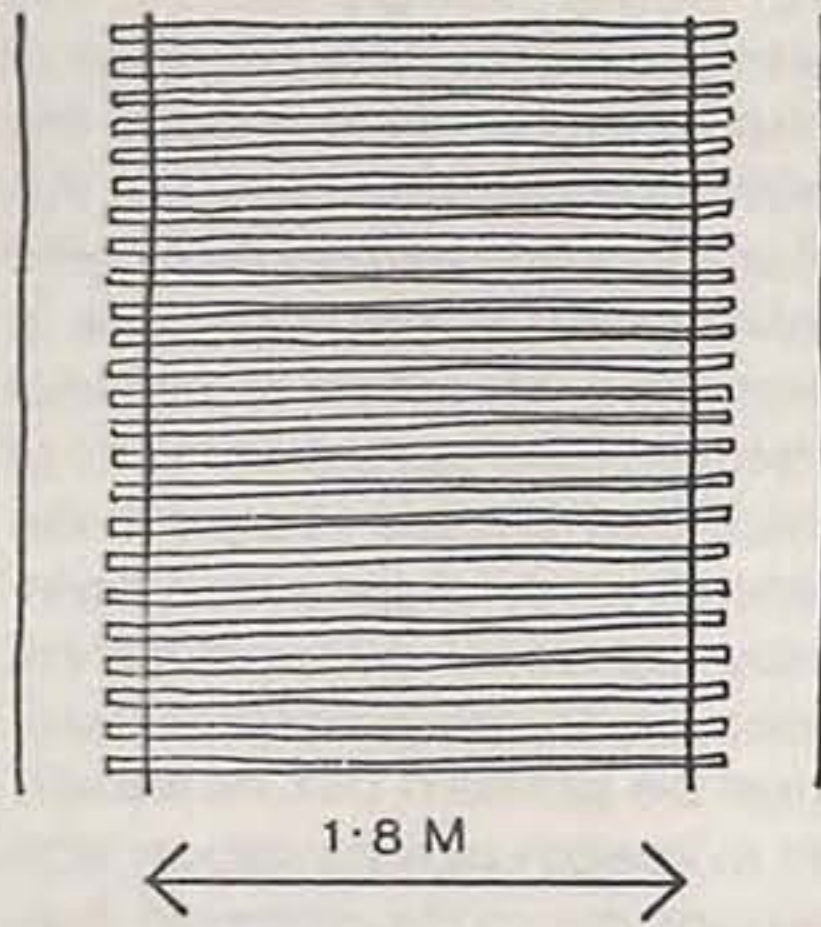
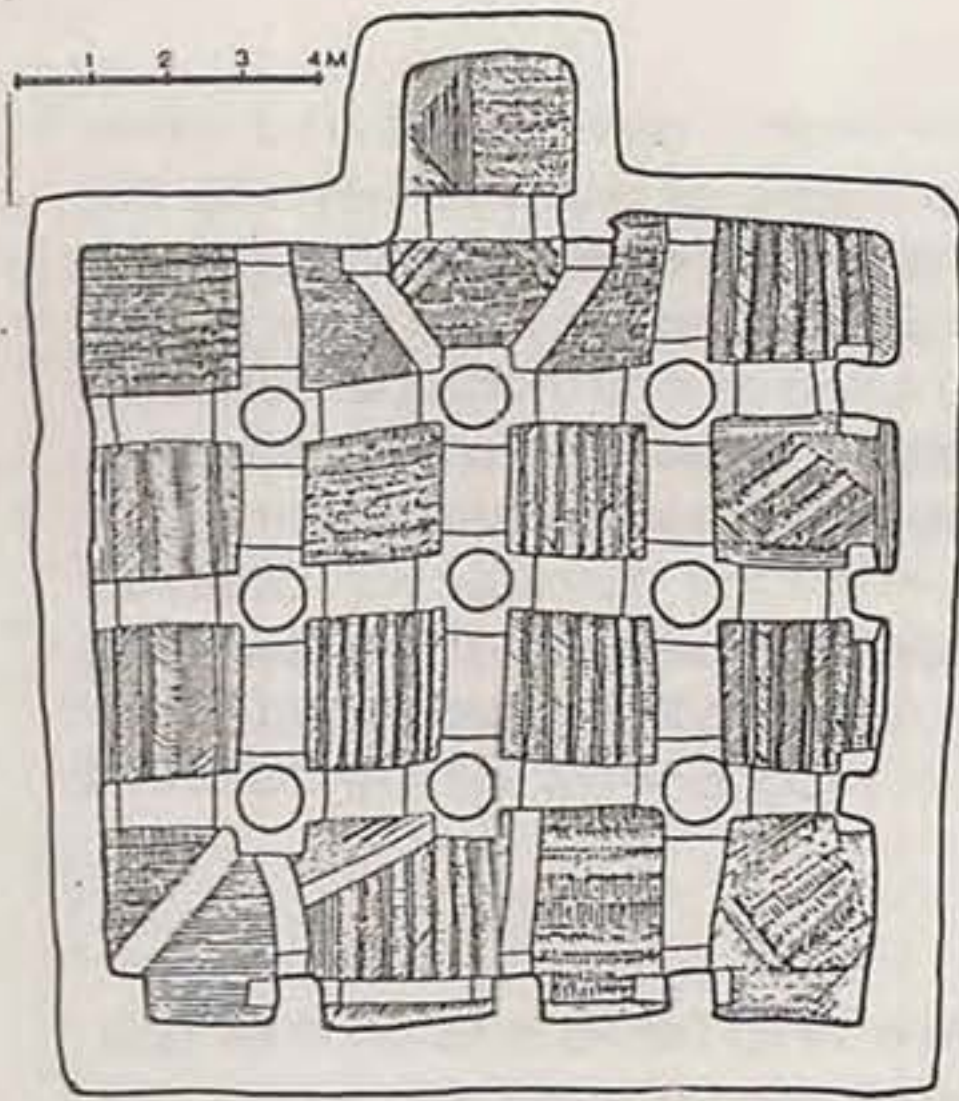


Fig. 23 A

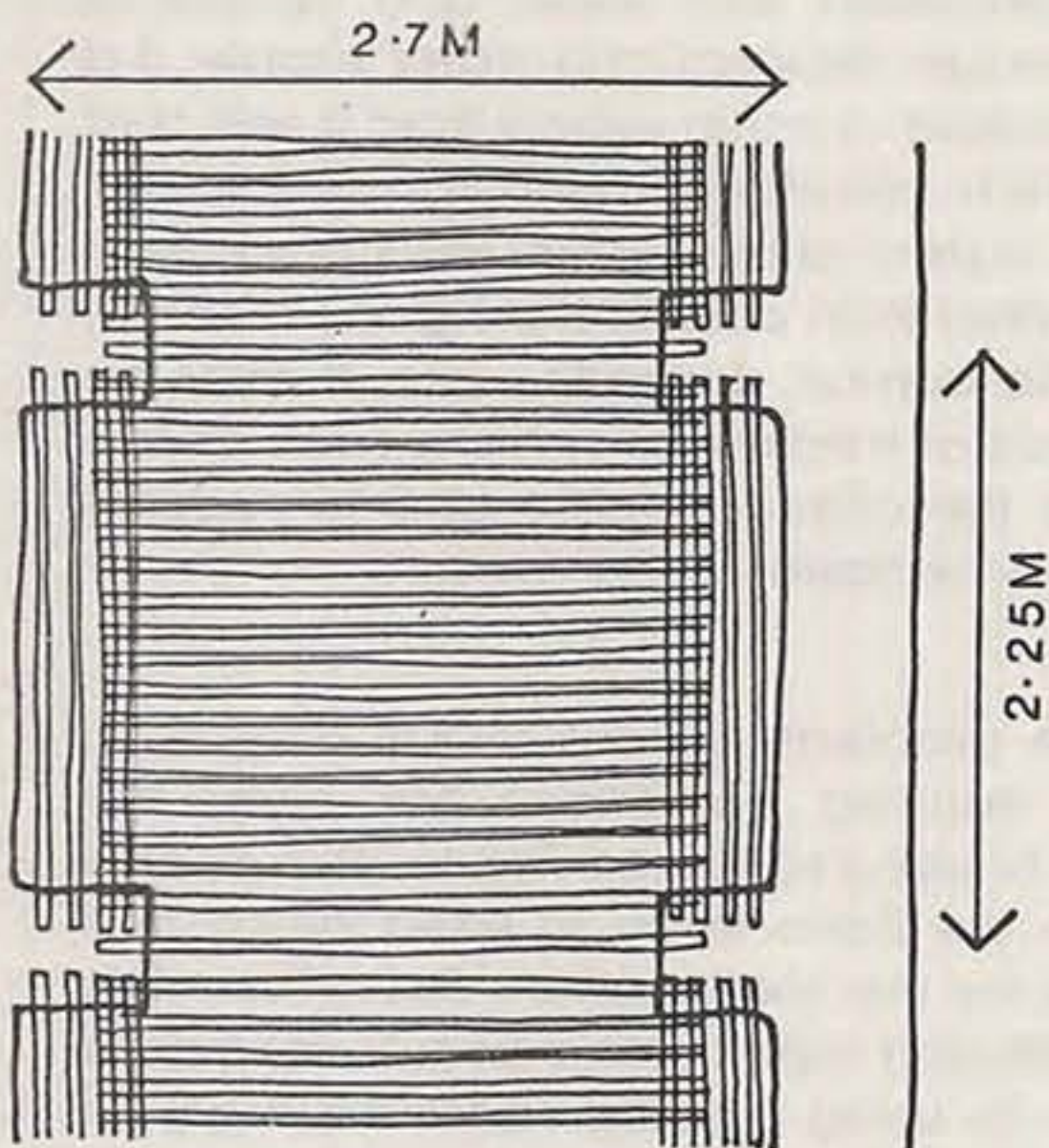


Fig. 23 B

wall which was built the previous day. Scaffolding and ladders are then needed only for the construction of the larger buildings, such as the Friday Mosque in Zaria (Fig. 21A, 213 and 22). Heavy roofs require the construction of thick walls; for example those of the Friday Mosque in Zaria measure 1.2m at the base. All such walls are further strengthened with azara laid transversely across the width of the wall, on top of which are placed layers running longitudinally, at about 0.6-1 m above the ground and again just above the height of the door. Piers and columns are also reinforced by using groups of bound azara banded together with mud mortar and surrounded by a thick coating of mud.

The most basic type of mud roof is formed simply by spanning a space of 1.8m wide between supporting mud walls (fig. 23). Spaces which are larger than this economic span for azara can be made by forming a series of mud corbels at the top of the walls. These mud corbels are reinforced with several layers of azara and project 45 cm on centre, and the space between them is spanned by a beam made up of several layers of azara. From this beam, azara joists span across to the other wall in the usual way. Using this construction system, the room width can be increased to 2.7 m (Fig 23B). To increase the room size to about 3.45m, azara must be placed diagonally across the corners of the room (Fig. 24). For the construction of very large rooms, the roof may be supported on a series of columns connected by beams. The mud column is usually surmounted by a simple capital, consisting of two or four azara corbels which are used in order to increase the spacing between the columns to about 2.4 or 2.7 m. The spaces between columns are spanned by mud beams reinforced in the usual way with azara the roof joists then span between the beams. Figure 25 is a drawing of the roof plan of the Mosque at Kazaure which illustrates the roof form of a building with a simple trabeated construction and with some use of corbelling techniques.

Mud is an extremely unstable building material when used in a climate such as that of Northern Nigeria where rainfall is high and frequent. The Hausa, however, have developed ingenious methods of adapting mud construction to the climate. Rainwater is directed away from the roof in one of two ways, either by long rainwater spouts projecting just over 50 cm from the face of the wall, or down deeply incised vertical channels cut into the face of the wall and lined with a waterproof finish. The base of the wall is usually protected by a plinth projecting about 50 cm. The Hausa, too, have developed many types of waterproof finishes which cannot be described in detail here, but prolong the life of the building (TAYLOR AND WEBB 1932). Each finish has a recommended use and a recognized life-span. For example, laso which is made from katsi, is a by-product of the dyeing trade. It is used for the most exposed surface, such as roofs, pinnacles, zankwaye, and rainwater channels; it has a life expectancy of five to six years when used for walls. The best and most expensive finish for walls is cafe which is reputed to last for many years without maintenance. It usually consists of black earth mixed with the solution of the pounded seeds of the bagaruwa tree.

Hausa building techniques are highly developed and extremely complex; it is difficult to conceive of improvements to the system without destroying its integrity. The extension or continuation of its use will require that building codes will allow its use along with other modes of construction so that it can be confined to those areas and for those problems for which it is best situated. In such circumstances, it will simply involve the management of the basic and necessary resources for the construction process, ensuring that palm plantations are renewed, that the building craft remains attractive to young men, and that proposed developments are properly related to mud borrow pits (MOUGHTIN 1976).

Limitations of the house system

Most technological systems have strict limitations on their use, and the Hausa system for providing shelter is no exception. For example, the Hausa system is thought to contribute to the spread of epidemics such as meningitis. For part of the dry season, the harmattan blows from the desert, bringing with it fine particles of suffocating dust. The only method the Hausa know to reduce the effect of the harmattan is to retire within sealed rooms; it is at this time that dust-borne epidemics occur. Doctors believe that these epidemics are caused by the confinement of many people in overcrowded and stuffy rooms where the chances of contact with affected cases increase. This failure of the system in terms of the control of the spread of epidemics may be due in part to the growth in population and its concentration in large urban complexes such as Kano; as such, it may represent a fundamental limitation of the system's ability to cope with the problems associated with rapid urbanization. It must be pointed out, however, that epidemics are just as prevalent in areas such as sabon gari and samaru where the physical designs are quite different; therefore, eradication of the disease may require more fundamental treatment than a simple change of built form.

Yet another problem associated with scale and density of development relates to sewage disposal and water supply. It is the Hausa custom to provide both a water supply from a well and also a pit latrine within each compound, and it is not known under what conditions this aspect of the system will constitute a health hazard. Therefore, rather than concentrating on research, experimenting with climatic control durability, etc. it may be wiser to investigate the limits of traditional systems such as this one in order to determine the critical factors and to suggest methods for extending the boundaries of the system.

Low-cost housing schemes: kano

The official answer to the problems of rural-urban migration, overcrowding and poor housing conditions has seen the implementation of low-cost housing schemes. Figure 29 illustrates such a housing project on the Zaria Road in kano which was designed and constructed by the Metropolitan Kano Planning and Development Board. While it represents a brave attempt to solve the housing problem by using a design based loosely on traditional house forms, it fails in many respects. The estate is laid

out in a grid pattern with road access to all dwellings and with large open spaces between the blocks. There are one- and two-storey patio houses and a few three-storey blocks of apartments. The buildings are solidly built with all the necessary basic services including kitchen, bathroom and toilet.

Figure 28 Housing costs in the Kundila Housing Estate on the Zaria Road, Kano (1977)

2-room type	N 6082.80*
3-room type	7658.30
4-room type	10918.90
dwelling in block of flats	11987.50

* N Nigerian Niara; 1.18N = 1 sterling

Source: the Metropolitan Kano Planning and Development Board.

Figure 28 shows the costs of the dwelling units in this estate; they are in excess of costs for dwellings in a similar estate in Ibadan which Onibokun analyzed and found to be well beyond the means of the population most in need of such housing.

"Again, the housing experiment, (perse), could not be regarded yet as salvation for really low income groups in terms of their housing needs. Compared with past building costs, the prices of the experimental houses are very low, but in relation to the average income of a substantial proportion of the people in Nigeria, the prices are still too high. Many low income people cannot afford even the low cost homes at the prices indicated. As succinctly put by a messenger, 'the buildings are very good, but can a person like me, a messenger, earning N 900 per annum build or buy such home?' (ONIBOKUN 1977).

In terms of the detailed design of the project, the space around buildings is excessive when compared with the provisions of private spaces within each house. In the traditional Hausa compound, large areas are devoted to private space, while external space outside the compound wall is limited to useful areas such as agricultural land, borrow pits, or small praying areas. This project sharply contrasts with traditional built forms, providing only a 17 x 24 ft. courtyard for each house while lavishly providing for the motor car and public garden space. This layout follows quite closely the typical western pattern illustrated in figure 3 totally ignoring that traditional Hausa and Muslim solution limiting and controlling accessibility.

With so much land devoted to external open space, it is difficult to understand the rationale for introducing such an alien form as the three-story block of apartments into the project. This is particularly strange since the costs of each unit is far more than for the one- or two-storey houses. It must be stressed, too, that the form of the block of apartments is such that many rooms are badly oriented from a climatic viewpoint with unprotected windows facing the morning and evening sun and with no orientation to prevailing winds.

Unlike the scheme in Ibadan analysed by Onibokun, the Zaria road project in Kano has not been the subject of an experiment using local building materials. In the case of the three-storey apartments designed with a reinforced concrete frame, the design is a positive waste of imported resources.

Onibokun calls for additional experiments with local building materials in order to reduce costs; he also suggests the implementation of government loans and the organization of finance to enable people with low incomes to finance and build their own homes (ONIBOKUN 1977). These are necessary steps which must be taken if low-cost housing is to become a realistic proposition, but low-cost housing alone will not solve the housing problem.

Conclusion of part II

There is no single solution to Nigeria's housing problem - no panacea for instant success. The solution, if indeed there is a solution, is the following of an integrated series of policies which treat housing as one aspect of regional planning and which take a radical view of the building industry as a continuum of possible developmental inputs ranging from the traditional informal sector through a series of sectors variously influenced by modern construction techniques or financial arrangements to the completely formal sector. Each element of the building industry which can be distinguished should then be assigned its appropriate role in the development process.

Housing itself, of course, is just one element in a vast web of interconnected problems which can be discussed effectively only as part of a general view of the problem of urbanization facing Nigeria. Inadequate urban services and the formation of a large and growing class of urban poor are among the results of rapid, uncontrolled urban growth with inadequate levels of industrialization. The larger cities in Nigeria thus exhibit many of the evils associated with cities in the West and few of the advantages of the Western metropolises. The 'urban solution', that is, urban growth based upon industrialization, has been the policy for regional and national development in Nigeria as in other developing countries in past years. In the mad rush for urban growth, traditional cultures such as that of the Hausa people are in danger of destruction before truly urban life patterns are established.

A natural consequence of urbanization is the development of a building industry. This is an important employment outlet, but the growth of the building industry often results in the neglect of local building crafts and leads to their ultimate decline. The standard of traditional Hausa building, for example, even in its strongest centre, Zaria, has declined noticeably in the past 15 years. Western building codes and standards of construction and the durability and thermal properties of materials are considered to be important, and building units are designed to fulfill preconceived occupancy levels. As we have seen, the achievement of these standards is an expensive business; when the

cost are compared with the ability to pay, standards are inevitably lowered. When the full dimension of the problems is perceived, governments react by providing site and service schemes. The system results in individuals fending for themselves in the urban market in order to procure inferior materials from which they build their homes. This then, is the new realism in housing.

The problem of shelter in a developing country can take on an added dimension provided attitudes to urbanization itself are changed. The self-fulfilling prophecy of urban growth must be challenged and balanced by a goal for achieving rural development. In Nigeria an important aim, therefore, should be to retain the population in rural areas wherever possible. This, of course, would mean urbanization of rural areas by developing the rural infrastructure to an extent that the need and desire to move to overcrowded urban areas would be checked. Having established such a policy, the method of building shelter in a Third World country takes on a new meaning; and once more, traditional crafts has an important role to play. The expansion of indigenous settlement patterns in ways which conform to the tradition of a particular community gives a new perspective to the whole set of problems associated with housing. Western standards are no longer the goal by which success is measured; instead, the existing system is examined in detail, and the points which can, and should, be improved are noted.

It is safe to assume that the growth of urban areas will continue despite any effective rural development programme. In order to utilize Hausa life-styles in an urban situation, the first requirement is the designation of sufficient land for housing purposes. Most of this land should be allocated as private space within the control of individual householders; any additional space available on the periphery of all new residential areas should be reserved for the development of urban farms. It is also important to maintain the traditional attitude toward user rights to land in order to keep housing costs within the reach of all classes of people.

The traditional system of water supply and sewage disposal is largely based upon pit latrines and wells, often sited within short distances of each other. This dual system of water supply and sewage disposal is probably an important factor in the cause of many diseases in northern Nigeria and should be the subject of a concentrated research and development project. For the Muslim Hausa practising wife seclusion, the provision of communal standpipes for water would be totally inadequate and would probably lead to the digging of private wells in the compound. A solution to this problem, therefore, may be the provision of a piped water supply to each compound. If water supply to individual compounds is economically feasible, and if urban farms are a recognised part of each residential layout, then the pit latrine could continue its traditional function of providing an essential source of manure for agricultural purposes.

The single feature which has had the greatest effect on Hausa settlements in the most recent past has been the increasing use of the motorcar. The effect of the car in the future will probably

continue to change Hausa settlement form; any plan which does not take the automobile into account is hardly likely to provide for the basic needs of the future. It seems unlikely that there will be funds available to provide surfaced roads to each small group of houses in every urban area in Hausaland; a sensible alternative would be the planning of large areas (by Western standards) of traffic-free housing where the traditional mode of movement would prevail: foot, bicycle, or mule. If such a system is found practical, the resulting pattern would be a series of wholly pedestrianized housing areas separated from each other by large allotments and strung like beads along the sides of a few well-made roads (MOUGHTIN 1968).

If this proposed system of housing for the Hausa is to be successful, then the role of the planners and administrators must be kept in low profile to permit an ancient culture to adapt itself through the experimental response of its citizens to the problems of providing shelter for their families.

Appendix I

Maslow (MASLOW 1954) has put forward a preliminary framework to relate need and action. He divided and arranged needs in a descending hierarchy of priorities, from strongest to weakest. His idea is that when the need on the top of the ladder is satisfied, the next one emerges as the new priority of the individual.

1. Physiological needs: which include hunger, thirst and shelter.
2. Safety needs: such as physical protection, privacy and promoting self-orientation within the urban environment.
3. Affiliation needs: the need for group membership and comfortable interpersonal interaction.
4. Esteem needs: which include personal integrity and the ability to personalize one's own environment.
5. Acquisition of knowledge and aesthetic needs: which is related to beauty and need to learn.

When needs are translated into activities, either one or a combination of them underlie overt action. The difficulty in using this framework in research analysis is the higher-order of needs, because the order of priority changes in relation to time, and varies from one place to another according to cultural differences, values and also personality. (Yi-Fu Tuan 1979; Saarinen 1976).

Appendix II

Chapin describes activities as outcomes of human effort to provide for subsistence and to achieve a satisfying life (CHAPIN 1966). He divides activities into two main categories; firstly, unintended activities, those which can be initiated by chance such as meeting people in the street; secondly, intended activities, or those initiated by the person himself (Fig. 3). The intended activities extend from those which are highly obligatory and related

to survival (such as sleeping shopping and going to work), in many cases they do not reflect attitudes, to those which are more discretionary (such as sitting outside, visiting the neighbours or watching T.V) which express attitudes and choice.

Notes

Notes Part I

- Anderson, A., 'Space-Time Budgets and Activity Studies in Urban Planning', *Environment and Planning*, Vol. 3, 1971, pp. 353-368.
- Chapin, F. S. and Hightower, H. C., 'Household Activity Patterns and Land Use', *Journal of the American Institute of Planners*, 1965, pp. 222-231.
- Chapin, F. S., *Household Activity Systems* (Chapel Hill: Centre for Urban and Regional Studies, University of North Carolina, 1966).
- Committee on Housing Research and Development, *Activities and Attitudes of Public Housing Residents: Rockford, Illinois, University of Illinois at Urbana-Champaign, 1971* pp. 4-5.
- Critchlow, Keith, *Islamic Patterns*, (London, Thames and Hudson, 1976).
- Delaval, Bernard, 'Urban Communities of the Algerian Sahara' *Ekistics* 227, October 1974, pp. 252-258.
- Dunhama, Daniel, 'The Courtyard House as a Temperature Regulator', *The New Scientist*, 1960, pp. 663-666.
- Esser, A. H., 'Design for Man-Environment Relation', in *The Mutual Interaction of People and Their Built Environment: A cross Cultural Perspective*, Amos Rapoport ed. (Paris, The Hague, Mouton, 1976), pp. 127-143.
- Fathy, Hassan, *The Arab House in Urban Setting: Past, Present and Future* (Essex, University of Essex, 1970), pp. 10-13.
- Fathy, Hassan, *Architecture for the Poor*, (The University of Chicago Press, 1973).
- Hassan, Riaz, 'Islam and Urbanization in the Medieval Middle-East', *Ekistics* 195, Feb. 1972, pp. 108-112.
- Herriot, Peter, *Culture's Influence on Behaviour*, (London, Methuen, 1967).
- Hitchcock, J.R., 'Daily Activity Patterns: An Exploratory Study', *Ekistics* 204, November 1972, pp. 323-327.
- Ismail, A. A., 'Origin, Ideology and Physical Patterns of Arab Urbanization', *Ekistics* 195, February 1972, pp. 113-123.
- Lofland, L. H., 'The Modern City: Spatial Ordering' in *Environmental Psychology: People and their Physical Settings*, H. M. Proshansky and others eds., New York, Holt, Rinehart and Winston, 1976) pp. 508-527.
- MacMurray, Trevor, 'Aspects of Time and the Study of Activity Patterns', *Town Planning Review*, Vol. 42, No.2, April 1971, pp. 195-209.
- Maslow, Abraham, *Motivation and Personality*, (New York, Harper & Row, 1954).
- Moughtin, J. C., *The Planster's Vision*, (Nottingham, University of Nottingham, February 1978).
- Petherbridge, G. T., 'Vernacular Architecture: The House and Society' in *Architecture of The Islamic World*, George Michell (London, Thames and Hudson Ltd., 1978) pp. 176-208.
- Porteous, J. D., *Environment & Behaviour: Planning and Everyday Urban life*, (Reading, Massachusetts, Addison-Wesley, 1977).
- Rapoport, Amos, 'An Approach to Designing Third World Environments', *Third World Planning Review*, Vol. 1, No.1, Spring 1979).
- Saarinen, T. F., *Environmental Planning: Perception and Behaviour*, Houghton Mifflin Company, Boston, 1976).
- Sanoff, Henry, 'Social Perception of the Ecological Neighbourhood', *Ekistics* 177, August 1970, pp. 130-132.

- Sims, Eleanor, 'Trade and Travel: Markets and Caravanserais' in *Architecture of The Islamic World*, George Michell ed. (London, Thames and Hudson, 1978), pp. 80-111.
- Spiro, M. E., 'Social Systems, Personality, and Functional Analysis' in *Studying Personality Crossculturally*, Kaplan, B. ed. (Illinois, Row Peterson and Company, 1961) pp. 93-127.
- Tuan, Yi-Fu, *Space and Place*, (London, Edward Arnold, 1979) pp. 118-135.
- Turner, John F. C., *Housing by People*, (London, Whitstable Litho Ltd. 1976).

Part II

- Abrams, Charles, *Housing in the Modern World: Man's Struggle for Shelter in an Urbanizing World* (London: Feber, 1966).
- Arnett, E. J., trans., 'A Hausa Chronicle' *Journal of the African Society*, 9, no. 34 (1910), 161-67.
 - Buchanan, K. M. Pugh, D., *Land and People in Nigeria* (London: University of London Press, 1955).
 - Church, R. J. H., *West Africa*, 6th ed. (London: Longmans, 1957).
 - Daldy, A. F., *Temporary Buildings in Northern Nigeria*, technical paper no. 10, (Lagos: Public Works Department, 1945).
 - Fage, J. D., *An Introduction to the History of West Africa* (Cambridge: Cambridge University Press, 1962).
 - Federal Republic of Nigeria, *Third National Development Plan, 1975-80* (Lagos: The Central Planning office, Federal Ministry of Economic Development, 1975).
 - Hogben, S. J. and Kirk-Greene, A. H. M. *The Emirates of Northern Nigeria* (London: Oxford University Press, 1966).
 - Moughtin, J. C., 'The Traditional Settlements of the Hausa People', *The Town Planning Review*, 35, no. 1, (April 1964), 21-34.
 - Moughtin, J. C., 'New Homes for Old Societies', in *Proceedings of the Town and Country Planning Summer School*, University of Manchester, 1968, pp. 74-75.
 - Moughtin, J. C., 'The Friday Mosque, Zaria City', *Savanna*, 1, no. 2 (1972), pp. 143-163.
 - Moughtin, J. C., 'Building Materials in the Third World: a Case Study in Northern Nigeria', in *Proceedings of the Town and country Planning Summer School*, University of Nottingham, 1976.
 - Onibokun, G. A., 'Housing Finance in Nigeria, a Critical Survey of Private and Public Sources', *Town Planning Review*, 42, no. 3 (July 1971).
 - Onibokun, G. A., and Adeniyi, Oloruntobi, 'Housing and Inflation', unpublished paper, Nigerian Institute of Social and Economic Research, Ibadan, 1975.
 - Onibokun, Adepoju, 'Low Cost Housing: An Appraisal of an Experiment in Nigeria', *Journal of Administration Overseas*, 16, no. 2 (April 1977).
 - Smith, Abdullah, 'The Early States of the Central Sudan', in *History of West Africa*, Ajayi, J. F. A. and Crowder Michael ed. (London: Longman, 1978) I, pp. 158-201.
 - Smith, M. G., introduction to Mary F. Smith, *Baba of Karo: a Woman of the Moslem Hausa* (London: Faber and Faber Ltd., 1954).
 - Taylor, F. W. and Webb, A. G. G., trans., *Labarun Al'Acun Hausawa Da Zantatu-kansu* (Accounts and conversations describing certain customs of the Hausas) (London: Oxford University Press, 1932).
 - Udo, R. K., *Geographical Regions of Nigeria* (London: Heinemann, 1970).

HOUSING IN THE ISLAMIC CITY Case of Marrakech

ENG. NOUR. EL-DIN EL-OUADGHIRI

MINISTRY OF HOUSING MARRAKECH - MORROCO

The founders of Marrakech, by choosing a genius location for their city ten centuries ago, have provided a rich cultural, economic and political environment for the growth of their civilization. It reflected their basic needs and noble ambitions, which offered Marrakech its ambiguous character of discretion and simplicity. Symbiosis and harmony between the city and the site reinforced their solidarity and belonging to each other. It affected all aspects of life and civilization, and was reflected in its crafts, arts and culture.

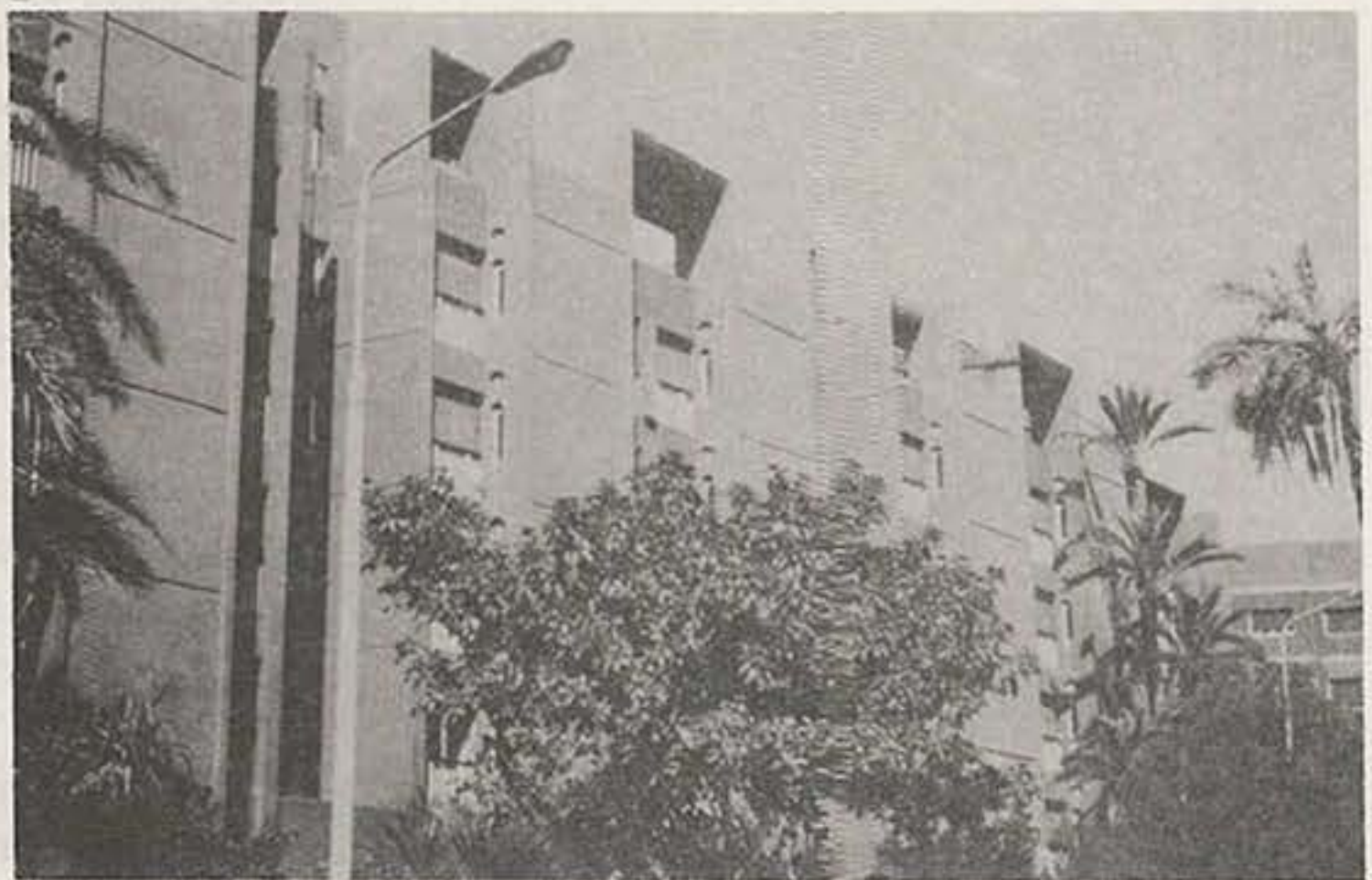
Since the beginning of the 20th century, deep perturbation within the city equilibrium occurred as a result of the colonialist interferences and their commercial plans. Actually, the situation is aggravated due to the increasing division of labour and alienation within the city and society. The development programmes became aimless due to the inefficiency of the essential life elements in providing a respectable human life for the citizen and society.

The old city of Marrakech has a high dense population of 270000 inhabitants, consisting more than 3/5 of the total population of the city, while previously it did not exceed 100 000 inhabitants. As a result, most of the green patches disappeared to be replaced by relatively high rise apartment buildings. Meanwhile a decrease in efficiency in the water - sewage systems and the other services led to the deterioration of the urban environment, and socio-economic status of the old city inhabitants. Though deteriorating, it is considered an attraction rejection zone, where most of the migrants from the country side are tempted to be settled, on the other hand the wealthy inhabitants tend to abandon the city to more comfortable modern parts of Marrakech.

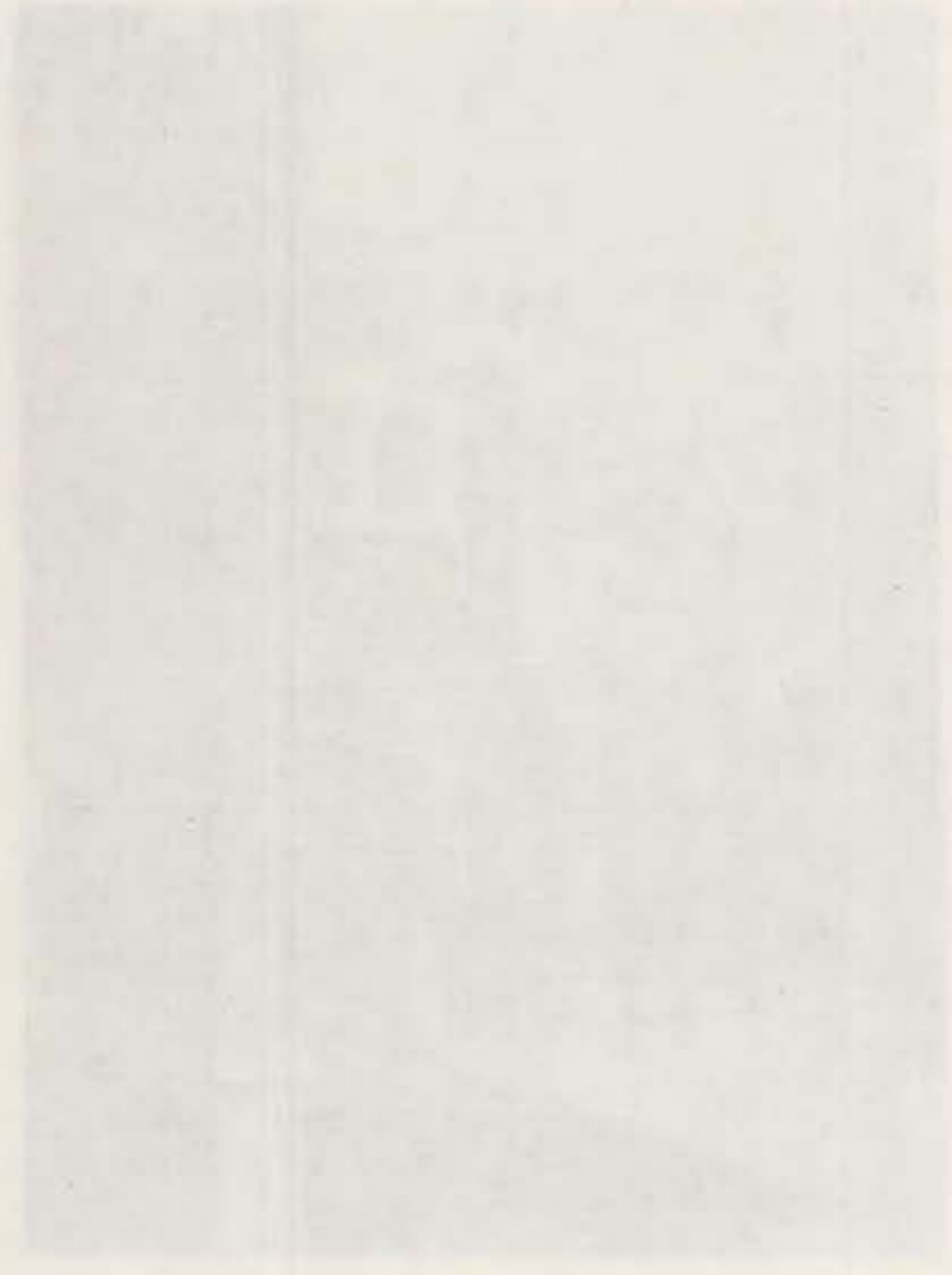
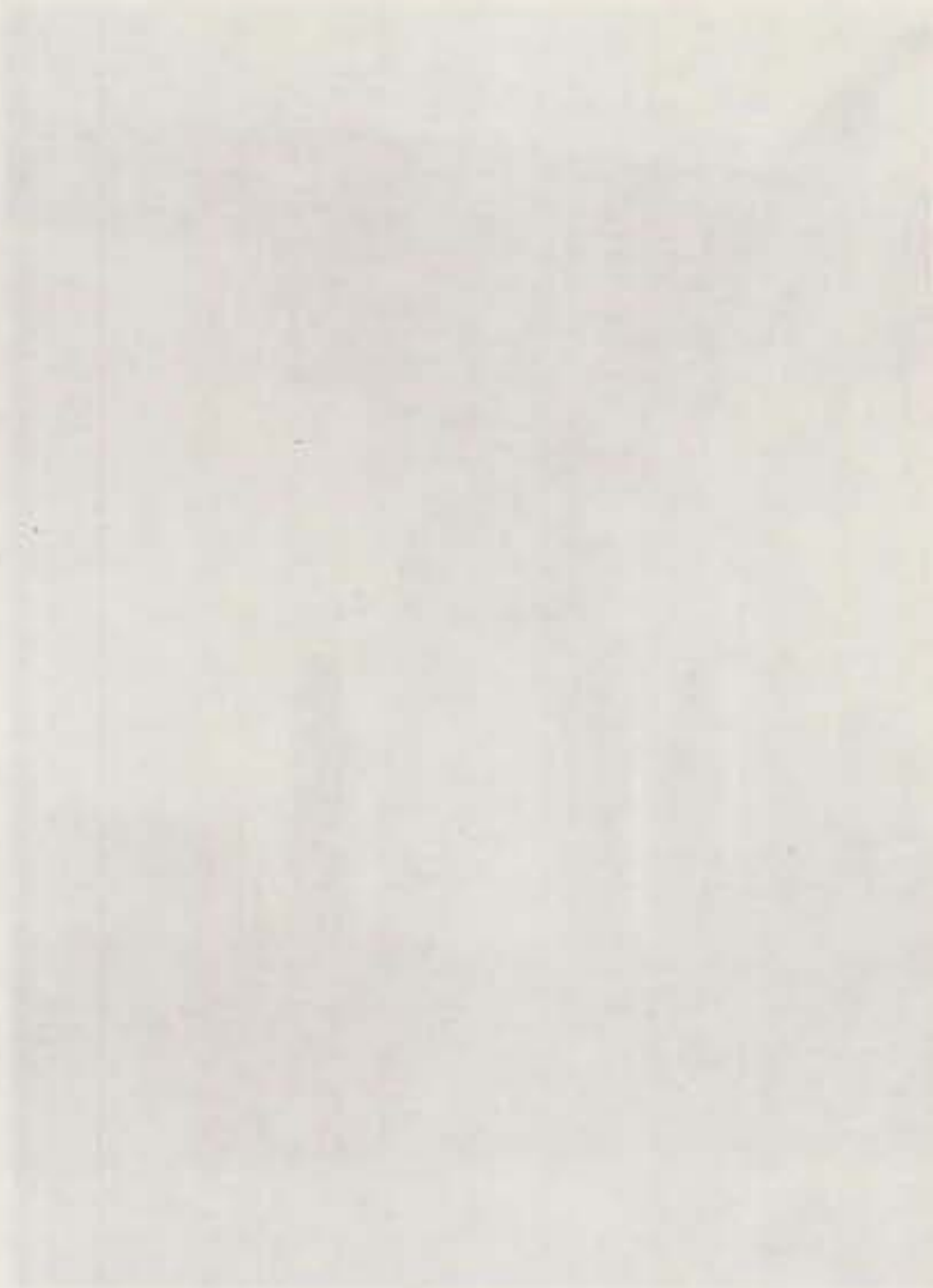
Nevertheless, the old city is still graciously maintaining its identity as a concentration site for more than 60% of the work opportunities in traditional handicrafts and trade. As a preserved historical memory, it represents a nostalgic view of the past with its narrow winding streets, its private houses, Islamic schools, hammams and wekalas. Monotony was unknown within the permanent surprise of the combination of spaces.

The regeneration of such rich urban tissue was the concern of

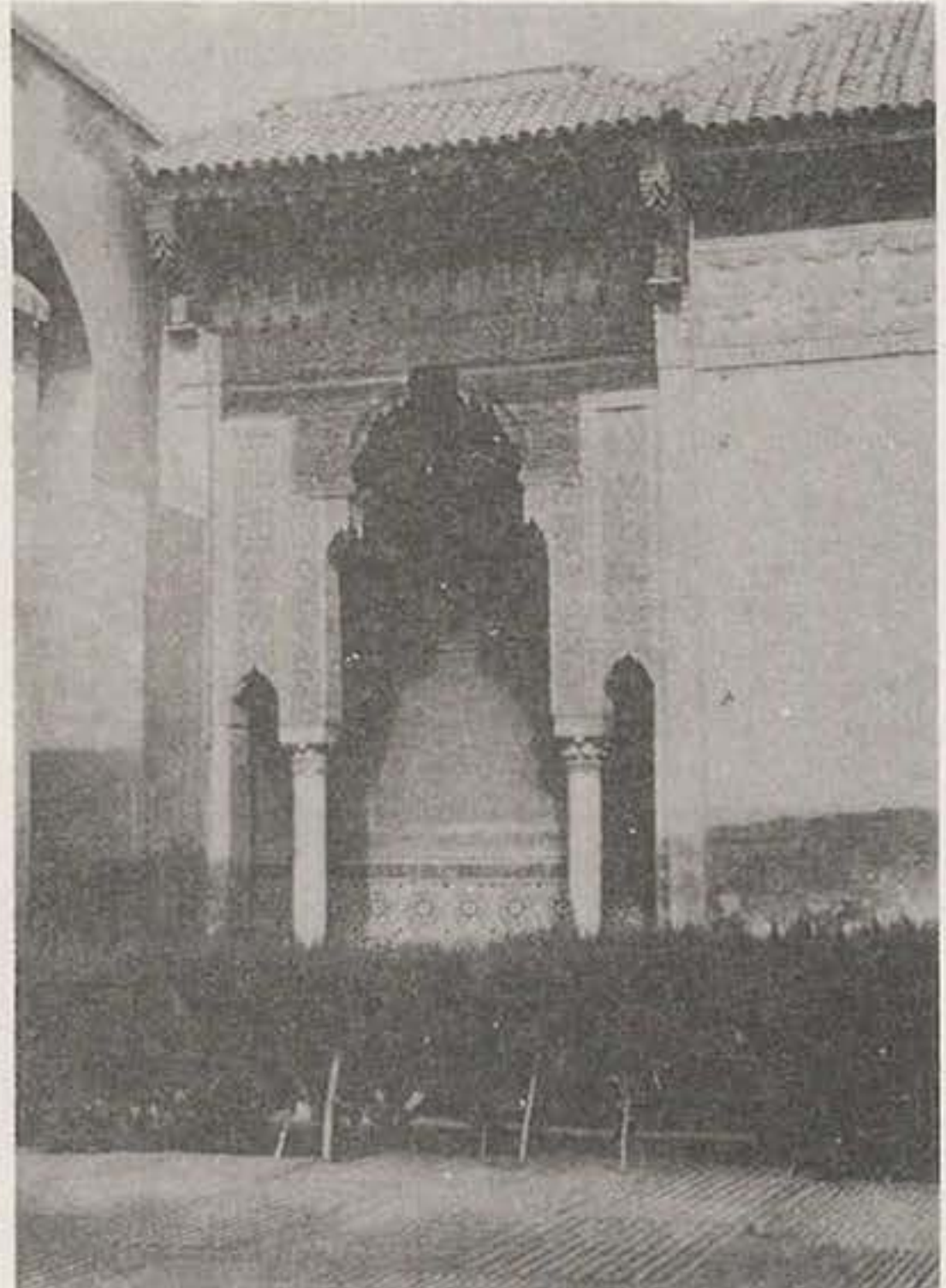
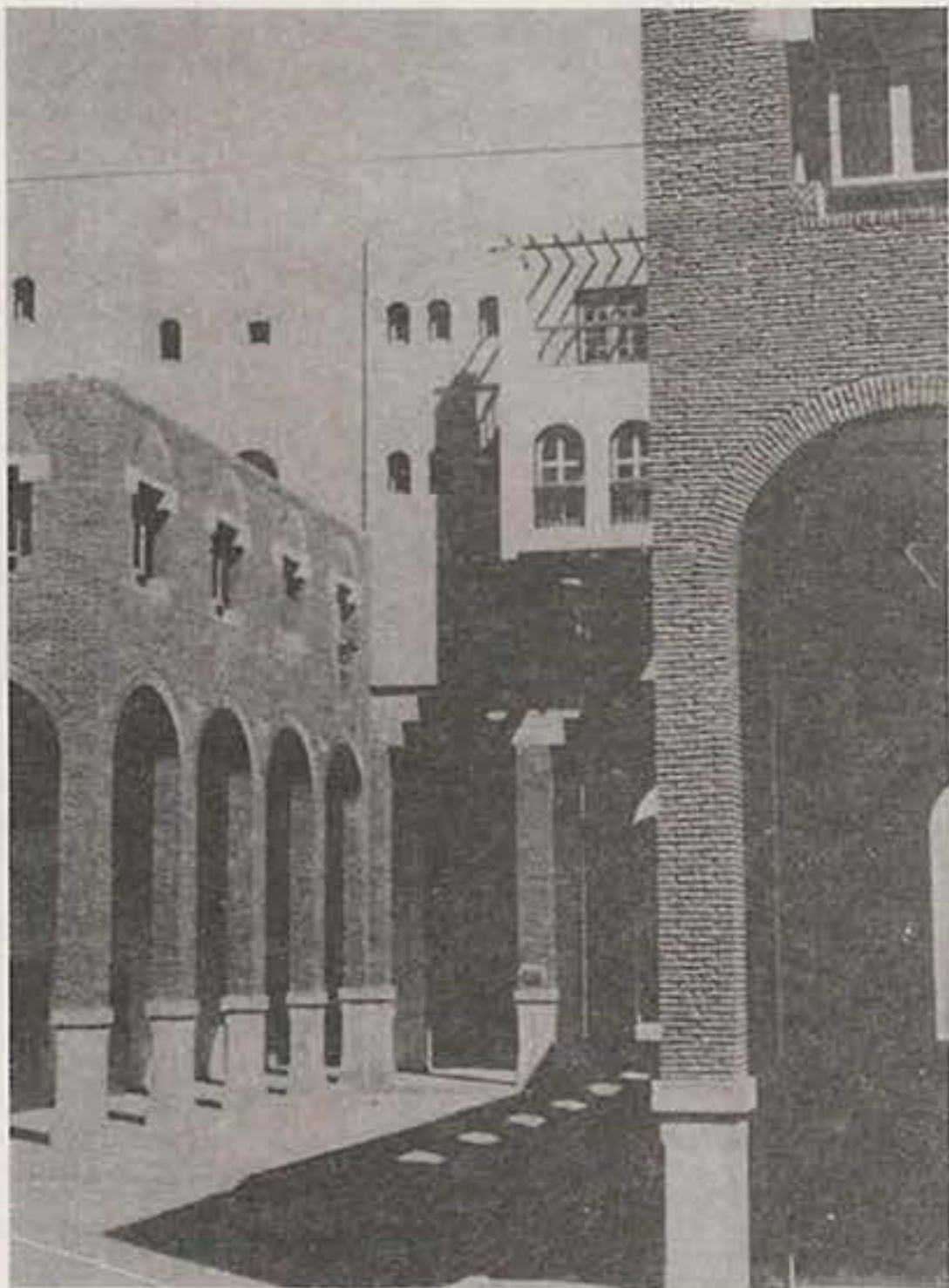
HOUSING IN THE ISLAMIC CITY Case of Islamabad



various governing planning designs. It aimed mainly at the preservation of the symbiotic dense environment characterizing the old city. This goal was partially achieved, on the one hand, by the amelioration of the private and public sector of housing, the expansion of tourism in the area, and the foundation of four colleges and schools to enhance the interest in the traditional crafts and trade. On the other hand, the agricultural development of the surrounding orbit of Marrakech reinforced the effects of these achievements by limiting the migration to the Old City. But still, these goals of the planning designs are incomplete even in the new parts of the city where there is an increased consciousness of the problem and where some traditions regress in front of the mere reality of life.



Various government planning designs. It aimed mainly at the preservation of the symbolic sense environment characterizing the city. The goal was partially achieved, on the one hand, by the preservation of the palace and public sector of housing, the expansion of tourism in the area, and the foundation of four elite high school schools to enhance the interest in the traditional crafts and trade. On the other hand, the agricultural development of the surrounding area of Marjeh reinforced the effects of these developments by making the migration to the Old City, but the final goal of the planning design was incomplete even in the case of the city where there is an increased consciousness of the problem and where some traditional regents instead of the modern one were typical of life.



PLANNING NEW TOWNS USING TRADITIONAL PROTOTYPES Case of Ibn Khaldun district in Tunis.

ENG. LOTFY BELHAJ

REAL ESTATES SOCIETY - TUNIS

Urban growth in the third world is usually considered a negative aspect, especially when resulting from uncontrolled expansion with no industrial development. The difficulty of control, the inherited urban structure imposed by colonialism and the unproductive capitals reserved for it, represent a basic handicap to development.

In Tunis, the urban disequilibrium is characterized by a spontaneous expansion of urban agglomeration, in addition to the deterioration of the traditional city and the invasion of rural dwellings to the urban setting. Such phenomena were due to the demographic explosion and the rural - urban migration after the alteration of the traditional means of production and agricultural property. It led to the appearance of the following:-

- A- The expansion of spontaneous illegal rural dwellings in the urban setting.
- B- The transformation of the traditional city into slums.
- C- The raise of the residential density of economic dwellings necessitates the provision of capitals devoted to housing projects.

The situation, being so complex, the government initiated the following measurements within the framework of low housing:-

- Controlling the expansion of spontaneous rural and squatter settlements.
- Compensating the inhabitants of the squatters and providing economic residential units in the same location.
- Financing housing projects with loans.

Based on the previous outline, the concept of planning of the Ibn Khaldun district was derived. It was meant to fulfill low-income residents within a developing arab-Islamic pattern of life. The study of the tunisian traditional residence was of crucial importance for the choice of the various prototypes. In the following paper a theoretical and applied review of the amelioration project of the urban environment of the Ibn Khaldun district will be presented.

Historical background:-

The new city of Tunis was built according to the European architectural style on the sea shore to the north of the traditional

city. The parallel expansion was occupied by the business center, while the adjacent lands to the port were confined to industrial and commercial purposes. In 1920, the growth of the industrial zone was toward South, while the residential districts expanded toward North and West to give place to newly designed districts for the European settlers. In 1930, Tunis became structurally divided into three main zones: the traditional and the European city and the new residential districts. Such division was congruent to the economic and demographic development of people.

In the 30's, the countryside was subject to a major crisis due to the demographic explosion resulting from the alteration of the traditional means of production and property by the newly introduced capitalist agrarian economy. Landless peasants were then forced to migrate to the city where they were illegally settled in the suburbs. In the mean time, the traditional crafts of the old city regressed in front of the highly competent modern products and industries which resulted in the disfunction of the traditional city and the enhancement of the civic status of the European city becoming the basic economic and financial center in Tunis. A desertion of the traditional city to more attractive areas, took place, leaving the vacant spaces to rural migrants to transform it to a rur-urban environment within the urban structure of Tunis.

The growth process remained intact after the independence, keeping the European city as the central business district. Few illegal squatter settlements appeared around the residential expansion among which is "Al-Gabal Al-Ahmar" settlement. It is a deteriorated slum area of 50 Hectares, situated near high-standard residential districts. "Al-Gabal Al-Ahmar" was chosen as a pilot project for the amelioration of the hygienic and social conditions of the urban environment.

The project has social economic and political goals. The social goals are as follows:-

- Provision of residential units for low-income inhabitants that ensure suitable social conditions.
- Integration of the various social classes within the same urban milieu.
- Provision of social service that ensure social and cultural development.

The economic goals are as follows:-

- Provision of suitable residential units to the various income levels of the inhabitants.
- Excluding the low income resident from the pay back of the interest of housing loans.
- Organizing housing loans to be for the profit of the inhabitants.

The political goals are as follows:-

- Provision of a social atmosphere that ensures a healthy cultural development.
- Controlling the class struggle in order to achieve a social equilibrium within the community.
- Eliminating the extremely deteriorated areas where various social and health diseases are spreading.

Fieldwork studies:-

The field work studies covered the following aspects:-

- Complete social statistics of the inhabitants of Al-Gabal Al-Ahmar.
- Defining the social and economic classes.
- Defining the pattern of life and traditions of the inhabitants.
- Defining the problems of the environment as well as the network of basic infrastructure.
- Defining the expenses of the residential units according to the income levels of their inhabitants.
- Defining the potentials of the actual residences and their suitability to the needs of families.

Project of Ibn Khaldoun

The project of Ibn Khaldoun is situated to the North East of Tunis. It is 400m far from "Al-Gabal Al-Ahmar" slum which will be removed. It covers approximately 150 Hectares. The new project is enhancing the urban pattern of the traditional Islamic city. The major characteristics of the urban tissue are as follows:-

- Controlling and organizing the functions of the residential districts.
- Providing residential groups in order to activate social relationship.
- Imposing a typical Islamic architectural character on the buildings.
- Preventing through-traffic within the residential district, and the provision of convenient parking spaces on the external peripheries of the district to control the motor vehicular traffic in depth of the community.
- Only municipality and public services vehicles are allowed to go through the district.
- Avoiding straight wide streets in order to limit the high speed of cars.
- Avoiding large open spaces.

Residential Prototypes:-

The socio-economic study helped the preparation of three basic prototypes as follows:-

- ★ Type A = The area varies between 100 and 185m². It consists of four or five rooms ready for immediate residence. Three rooms could be added consecutively when needed. All services: kitchen, bath-room and toilets are fully equipped.

★ Type B= The area varies between 80 and 110m². It consists of two or three rooms ready for immediate residence. Three rooms could be added consecutively when needed. All services; kitchen, bath-room and toilets are fully equipped.

★ Type C= The area varies between 65 and 95m². It consists of two rooms ready for immediate residence. Three rooms could be added when needed. All services are available and fully equipped.

The heights of the various prototypes vary between a ground floor only to a ground floor with two stories. The project is built on phases. The first phase covered 5000 units, the second 600 units. The three other phases covered 3000 units.

Evaluation of the projects:-

- The disintegration of the pattern of life and the traditional social relationships as well as the appearance of some ethical and social problems.
- More than 90% of the residential units were subject to violations, such as roofing the open court for the addition of new rooms, or changing some of the land uses or the internal division of spaces. Also, some illegal extensions of the ground floor have occurred.
- Some of the rooms of the ground floor have been turned to serve as shops.
- The internal pedestrian roads are used for vehicular traffic and parking. The decision of keeping the motor vehicle outside the district was ignored by the residents. Most of the external parking places on the peripheries were abandoned.

IMPROVEMENT OF THE RESIDENTIAL ENVIRONMENT BY INTEGRATION OF ILLEGAL SUBDIVISIONS

Case of Mont-Fleuri

ENG. ABDEL AZIZ EL-FELALY

TECHNICAL DIRECTOR OF THE NATIONAL
AGENCY FOR PREVENTION OF INAPPROPRIATE
HOUSING MORROCO

The improvement of the environmental conditions of Mont-Fleuri by integrating the illegal land subdivisions into the general plan of the area is considered a leading experience in the field. A series of studies and researches covering the various aspects and details of the problem were necessary for restricting the spread of the phenomena in the presence of the low potentials of the area. The roles played by the authorities, the planning directorate and the inhabitants committee were of crucial importance to the success of the experience.

Mont-Fleuri is situated to the south of the urban orbit of Fez. Its area exceeds 300 hectares. It is considered one of the greenest spots outside the city. The General Plan of the city insisted, therefore, on preserving such character by allowing a low residential density in the area. The expected population in year 2000 is not to exceed 15000 inhabitants.

In the period 1977 - 1980, more than 80 hectares were subdivided into parts less than 100m². Illegal spontaneous buildings began to appear, away from the supervision and interference of the authorities. The situation was aggravated by the housing crisis and the existing constructions laws for the peripheries of the city. In 1979, the Residential Planning Directorate began a thorough study of the area. It was found that most of the spontaneous houses built on subdivided lands, on Oed Mehratz, lacked the simplest hygiene conditions, including the essential services such as street networks, potable water and sanitary systems, lighting and garbage collection, in addition to the danger of the river flooding. Enlarging the scope of the study to encompass most of the factors affecting the aggravation of the problem was then necessary, in an attempt to find suitable legal solution. The following points were covered in this study.

A- Real estate property.

The existing Real Estate Property map did not reflect the actual situation due to difficulties in tracing the continuous

land subdivisions of unregistered lands. As a result, the construction - land value raised from 80 million centimes per hectare to 240 million centimes in three years (according to the Registration Office documents). Such increase of land values led to the appearance of high rise apartment building. On the other hand, the consecutive land subdivisions left almost no room for streets between the houses, their width did not exceed 2m, in most of the cases.

B- Residence

The violation of local construction laws and the speed of such violation are considered the most important problems leading to the deterioration of the residential and hygienic conditions in the area.

C- Residential environment.

The surrounding environment suffers a continuous deterioration due to the destruction of trees and vegetation, in addition to the neglect of hygiene conditions by using polluted wells and spreading garbage, which will affect the inhabitants as well as the residential environment.

D- Social environment.

Mont-Fleuri suffers from a partial destruction of the houses of the deceived migrants by the owners and brookers, and also from the low building quality of the houses generally built by their inhabitants during their leisure time.

Applied and methodological solutions suggested by the authorities and the residential directorate.

Several preset planning designs, taking in consideration built up and vacant lands, failed to fulfill the total and partial ongoing construction projects. The expected solution relied, then, on a day by day experience of daily activities of the inhabitants of the area. They have organized a committee for the development of the place. The authorities, on their side, have conducted firm supervision of land subdivision, while preparing an aerial photograph. In the mean time relevés of the illegal subdivisions were collected in order to update the Real Estate map to serve the restructuring of the area. The inhabitant committee with the help of the responsible planning directorate and the authorities started by regenerating the following committees:-

- Committee for raising the consciousness of the inhabitants.
- Committee for Infrastructure (hot water and streets).
- Committee for potable water and public lighting.
- Committee for garbage collection.
- Committee for the contact with the local directorate.

The committees have covered various tasks in the following domains:-

1- Real estate domain:-

The authorities have cancelled all informal real estate contracts. In addition most of the owners and brookers agreed on selling and subdividing their own properties after receiving the authorities permission or the directorate consultation. In the mean time, the Agency for Topographic Studies was responsible for inhibiting any violation of these rules.

2- Urban domain:-

The inhabitants committee began using a group of private architects for technical and engineering consultations. Meanwhile, the Local Committee for The Integration of Illegal Land Subdivision, required a document including the releve of the land subdivision, the design of the existing or the ongoing built up houses with the various alternatives for their imporvement. Also a technical paper is to be prepared for each building in order to enable the technical committee to decide for the suitable solution. A set of conditions is prepared for the owners of the vacant lands. Both the directorate and the committee have suggested a policy for work relying on the division of the area into several parts, for each gradual improvement will take place.

3- Basic infrastructure domain:-

The inhabitant committee is responsible for the execution of the main infrastrcuture sewage network to cover up the first half of the area, i.e. 150 hectares, and connecting it to the sewage canals in Fez. It also encouraged the informal quarter - associations in installing their own services and connecting them to the main service system. In the mean time, the Independant Agency for Water and Electricity took part in covering the area with potable water and public lighting.

4- Street network domain:-

The inhabitant committee began the works in the street network in 1984 with the help of the topographic engineers to facilitate the follow-up of the improvement projects.

5- Residence and construction domain:-

The area is expected to serve more than 12000 equipped houses of various levels: apartment buildings, villas and low cost housing in order to absorb 1/5 of the residence lack in Fez. Around 6000 houses are actually totally equipped, 1800 building licences are issued, in addition to the legalization of more than 3400 illegal spontaneous houses after their reparation and improvement to fit the requirements of the construction law.

6- Social domain:-

Three mosques, two Hammams and four Islamic schools (Kottab) were newly built. An elementary school was enlarged and improved, in addition to a transportation line between

the area and Fez. The inhabitant committee took siege in site, where the members could discuss the daily and weekly problems and direct their co-habitants toward the increase of consciousness against illegal housing and toward the understanding of the construction law. Also, a design and documentation office was installed in its siege.

7- Financing domain:-

The contribution of the owners in the basic public services is of 25 Dirhams (i.e. 3 U.S. Dollars) for each m² of previously built up lands, to be put on the account of the inhabitants committee at the general treasury in Fez. As for the new legal subdivisions in the area, the contribution is of 10 million centimes (i.e. 11000 U.S. Dollars) for the hectare. The inhabitant committee is allowed to offer the informal quarter associations loans to help them install their internal services. All sums received from the inhabitant committee must be by consent of the majority of the board, the committee president and the local authority representative. This agreement and the signed cheque are to be put in the public treasury in Fez.

8- Investment domain:-

Organized building programmes for the area encouraged the investors for the initiation of major residential projects in the area. Their budget varies between 12 to 20 milliard centime (i.e. 12-13 million U.S. Dollar) which, in turn, provided further work opportunities in the area.

Scope of the experience after four years:-

Continuous co-ordination and integrated programming between the inhabitant committee and the local directorate led to the success and progress of the Mont-Fleuri experience. The improvement of the area is of crucial importance within the framework of the preservation of Medinet Fez, where the historical concept of preservation relies on the inhabitants contribution according to their means. In Mont-Fleuri the inhabitants are mainly concerned by the regeneration of the social urban tissues to help the maintenance and improvement of the area. For them, the project is a reflection of the environmental and traditional conception of the Muslim.

SOLVING THE HOUSING PROBLEM FOR POOR GROUPS IN ISLAMIC CITIES

DR. ROUHI AL SHERIF

PRESIDENT OF BUILDING RESEARCH CENTER
AMMAN - JORDAN

1- Housing crisis:-

Housing crisis is a worldwide problem, though it manifests itself more clearly in the developing countries, especially the poverty-stricken countries. The world population in 2000 is to become (6.5) billion persons, of which (5.06) billion persons live in the developing countries. It is expected that the world population in 2025 will be (11) billion, of which (9) billion people will be in the developing world. The number of dwellings required for the developing nations in 2000 is estimated to be about (730) million units. The population of the Arab countries is estimated of about (160) million, and it will become in 2000 about (250) million, thus in need of (41.3) million dwellings.

The United Nations' studies have made it clear that the states should render dwellings copious for their people, and that such dwellings should range from five to ten dwellings per one thousand citizens a year to satisfy the dwelling needs. Most of the industrial nations have realized or nearly realized such target, whereas the Arab countries did not exceed such rate, since they managed to build one, two, or three dwellings per one thousand citizens. Thus, the need for housing has increased, and the number of houses required to accommodate people has grown. In India, for instance, it has been noticed that the shortage of housing in 1978 was about (17) million dwellings. The shortage in Bangkok in 1981 was (180) thousand dwellings, in Iran it was approximately two million dwelling units, and in Philippines the figure reached (3.7) million dwellings. It is expected that the shortage in Asia will be of (80) million dwellings in 1985.

The shortage of dwellings and inability of the states to supply the needs resulted in the spreading of unhealthy and unsafe agglomeration areas, where people flocked together in settlements far from necessary facilities and utilities which cannot be afforded by those people.

2- Causes of the housing problem:-

1. The steadily increasing growth of population. For example, the annual growth rate is 3.2% in Jordan, 3.3% in Iraq, and 2.5% in Egypt.
2. Social development and increase in the number of families, and their separation in quest of independence.

3. Continuous migration from rural to urban areas in pursuit of livelihood, where industries have concentrated in towns and the need of manpower in the countryside has diminished especially after the introduction of agricultural technology.
4. Forced migration as a result of the Zionist occupation and wars as was the case directly with Jordan, Lebanon, Syria, and Egypt.
5. Forced migration due to constructional changes such as construction of High Dam in Egypt.
6. Governments cannot afford the needed capitals for Housing. On the other hand investors are repulsive to housing project investments.
7. Housing is not given the priority in development plans in the poor countries, where efforts are concentrated on other necessities of life, such as food and garment.
8. There is a lack of comprehensive housing plans which determine priorities and needs.
9. Housing costs cannot be afforded by the ordinary citizen.
10. There is a sharp rise of land values, and prices of building materials. The available building materials can not meet the requirements of housing construction.
11. There is continuous migration of skilled building labour which resulted in increase of building prices, decrease of production, and reduction of their quality.
12. There are many delapidated houses which must be removed every year.
13. Inflation, which the countries have recently suffered, resulted in rise of prices and reduction of currency purchasing power.

3- Review of housing condition

in some Arab countries:-

The Arab states chosen to represent all Arab countries for lack of adequate information. Egypt was selected as a poor populous country, Iraq as a petroleum rich country, and Jordan as a country of medium quality. Studies were made on the three countries. In what follows we bring up some observations on such studies.

3-1 Jordan

1. Population in 1978 was two millions and is expected to reach five millions in 2000.
2. There is a concentration of population in the Jordanian Capital Amman where as 56.4% of the population live.
3. The National income in 1977 was (14) million dinars, and there is a deficit in the balance of payments, which is estimated at (371) million dinars.
4. The Individual income is relatively low, and it is a little lower than the poverty extent internationally determined at one thousand dollars a year.
5. The statistical study made in 1976 on housing in Jordan has shown the following:
 - a) The average number of family members is six persons and a half, with an average of (2.4) persons per room.
 - b) 27% of houses consist of a single room.

- c) 28% of houses consist of two rooms.
- d) 45% of houses consist of more than two rooms.
- e) The floor space of the dwelling may reach 25m².
- f) Houses with more-than-100m² floor space do not exceed 15%.
- g) 35% of the dwellings are without bathrooms.
- h) Half the dwellings have electric connections.
- i) 35% of the dwellings lack water.
- j) A large section of dwellings are in need of heating.
- k) Houses in the camps and the heavily populated areas are below the standard, since there are whole families living in one-room dwelling units, most of which are devoid of electricity, water, and sewerage.
- l) Urban areas are overcrowded, and there are more than one family living in one house.
- m) A study made in 1978, of 300,000 house has demonstrated that only two thirds are permanent houses built in concrete and earthy or cement blocks, while the remaining houses are tents and tin structures.

3-2 Arab Republic of Egypt.

The housing problem in Egypt is due to the same previously mentioned reasons, and it is more acute in Egypt because of the great number of population mainly concentrated in urban areas. The low level of individual income, as well as the increasing deficit in the balance of payments, wars and migration, aggravate the urban crisis. The statistics of 1976 show the following:-

- The number of population in Egypt in 1976 reached (38.2) million person, and is estimated to reach (62.4) million in the year 2000.
- Half the house are not supplied with water, and there is an immense shortage in other facilities such as roads and sewerage.
- Quarter of the houses are far from water sources.
- The house sharing rate may reach four families.
- The average occupation rate is two persons per room in urban areas, and more than that in the dwelling agglomerations.
- Rural areas are more underdeveloped than urban areas, as they are in need of roads, facilities, water, electricity, and sewerage.
- There are groups of people living in the graveyards.
- The country stands in need of (one) million and a half dwelling units in the year 1978.

3.3 Iraq

Iraq suffers from the housing problem for reasons similar to those mentioned before. The population of Iraq in 1978 was (12.5) million and estimated to be (25) million in the year 2000, and the growth rate is 3.3%. Iraq has suffered from the housing problem because of insufficiency in the building materials, lack of the skilled labour, immigration to the town, as well as the rise in land values, materials, and wages.

Synopsis of the problem in the three countries:-

It has become clear from the statistics and studies that Arab countries are afflicted with the same problems. Many houses are below the required standard. The countries suffer from immigration to the towns, population growth, and decrease of individual income due to inflation. The inability of individual to build his own house, the lack of housing strategies and inadequate skilled technical labour aggravate the situation.

Having the numbers in view, it becomes clear that Jordan stands in need of (18,000) dwelling units every year from now on and up to the year 2000. Egypt is in need of (340,000) dwelling units every year up to the year 2000.

Enlightened by the available statistics. Table No. (1) shows the amounts of money required for building houses considering that 65% of the units are in the urban areas and 35% in the countryside, and the average costs per unit is ten thousand dollars.

TABLE (1) AMOUNTS OF MONEY REQUIRED FOR BUILDING HOUSES IN SOME ARAB COUNTRIES.

	NUMBER OF DWELLINGS ANNUALLY REQUIRED	BUILDINGS COSTS IN RELATION TO THE ANNUAL AVERAGE INCOME OF THE INDIVIDUAL	THE AMOUNT ANNUALLY REQUIRED	THE RATIO OF THIS AMOUNT TO THE ANNUAL NATIONAL INCOME
JORDAN	18,000	9.7 times	180 million dollars	8.4 %
EGYPT	340,000	17.3 times	3400 million dollars	15.4 %
IRAQ	160,000	7.9 times	1600 million dollars	11.4 %

It is difficult for those countries to spend such a percentage of their annual national income for housing. Iraq may afford such amount of money, and Jordan may with difficulty be able to realize this, but Egypt is not in a position to afford it.

4 Construction sector

4.1. If housing and its problems are to be considered, there is a strong relationship between housing and construction sector which undertakes building houses, roads, railways, hospitals, irrigation networks, barrages, dams, systems of electricity, sewerage, factories etc... Studies have shown that there are two sectors for construction a formal sector, sector of companies and contractors who get an official permission to carry out their work, and participate in competitions. They are also qualified and classified. There is another sector which is informal, and includes the builders and craftsmen who work without official authorization due to the fact that there are hundreds of people who build houses.

4-2 The problems faced by the construction sector:-

We cannot ensure houses and utilities without the participation of the formal and informal construction sector. These sectors are confronted by the following problems:-

1. The building process is intricate and includes many activities, and any lack or hindering of one of those activities may result in stopping the work.
2. There is shortage of raw and industrialized materials, which induced the import of materials of low quality, and other new materials that are unsuitable for the local circumstances of the country nor for the capacity of its employees.
3. There is shortage of information about building materials, factories, geology, foundations, and technologies.
4. There is shortage of skilled and semi-skilled labour.
5. There is shortage of the necessary training and qualifying aids for preparation of cadres and removal of the deficiency in skilled manpower.
6. Development of the traditional building technologies is very slow, because such technologies have become inadequate and tardy to satisfy the needs of the community.
7. Management of the construction sector is weak, since it depends on individuality, in addition to the fact that most contracting companies are owned by individuals who want to undertake labour management, organization, financing.
8. There is a deficiency of capital, and an incessant rise of prices.
9. Control over the construction sector is feeble and insufficient, which plunges the sector into difficulties and impedes its course of action.
10. There is no adequate means of protection and safety on construction sites, which leads to a high incidence of accidents, and results in obstruction.
11. It has been noticed that a good measure of materials are wasted as a result of misloading, transportation, and warehousing.
12. There is insufficiency of support industries such as those of floor tiles, bricks, and paints.
13. Lack of national standardized specifications and employment contracts which take into consideration the conditions of the country, its labour capacity, their notions and traditions. Such lack induced people to resort to foreign standards quoted from diverse sources.
14. Local engineering consultancy firms do not play their part in support and development of the construction sector.
15. There is shortage of researches and studies for development.
16. Inadequacy of laws and regulations for the development of the sector of construction .

5- The appropriate house:-

- 5.1. It has been clear, from what preceded that there is a housing problem. The costs of house building are too high to be affordable by every citizen, and even the government is unable to ensure the required dwellings. The construction

sector is unable to follow up the development plans because of insufficient materials, labour and funds.

The importance of dwelling to man has been recognized since 1948 through declaration of human rights, among which is the right of each individual to enjoy a proper standard of living which is quite sufficient to maintain his health and his family's health, including food, garment, housing, and medical care. It is the condition of the dwelling that established the type of life man leads. Human needs are categorized as the basic needs essential to his life, and the secondary needs such as the facilities and utilities which are necessary to meet the basic needs.

Two concepts have appeared regarding the dwellings. The first considers the dwelling to be, like a car only used for some hours. The other concept, considers the dwelling as a living organism, which is born, and then grows, consumes energy and materials, discharges waste products, and then undergoes corrosion and dies down. Therefore, it must include the human factor which distinguishes man from the machine.

The first concept is undesirable, whereas the other is difficult to be put into practice, since mass production reduces costs, while producing individual housing is rather difficult.

5-2 Factors used as bases for the appropriate house:-

The type of the appropriate house depends on the following factors:-

1. Financing housing projects and expecting low interests result in the indifference of people toward such offered houses.
2. Financing; Before we specify the appropriate house, the financial capability of people should be identified. Studies have indicated that a family can afford as much as 40% of its income in payment of the house value by monthly installments.
3. Climate: The climate affects specification of the appropriate house.
4. Social, cultural, and spiritual traditions, the appropriate house should be in agreement with the customs and traditions of the community as well as its spiritual life. A house in town is built according to urban requirements, although it is known that there is large scale migration from the countryside to the towns, and a great number of house dwellers come from rural areas.
5. Firmness and durability: some people think that the low-priced house is that built of cheap undurable materials, whereas the right approach is to build the house of durable and lifelong materials. The economy is done at the expense of the floor space and finishing, because a firm house made up of strong foundations, walls, and materials must be built without floor tiles, plaster, and electric wiring. Afterwards, further additions could be made to improve the house.

6. Modular co-ordination between the furniture, room dimensions and floor space, in order to reduce costs and increase production.
7. Psychological factors should be taken in consideration.
8. Environmental milieu also affects housing.
9. Availability of materials and the degree of people's familiarity affects the used technology and the type of the prepared housing.
10. Availability of building labour, and familiar technology.
11. The building codes affect the appropriate house.

5-3 Specification of the appropriate house:-

The appropriate house must have the minimum requirements that satisfy the following needs:-

1. Masterplanning, since we must build houses or residential areas with a view to realize utmost utilization of land; As also we should take into account population density. Traffic, necessary services, anticipations, growth, and protection of the area against smoke and noise.
2. Buildings should be planned in such a manner as to ensure them easy access, light, and privacy. Buildings should be supplied with necessary utilities. Future expansion of the house must also be taken into consideration.
3. The dwelling unit must ensure fundamentals such as sleeping room, sitting rooms, kitchens, bath rooms, guest rooms, store rooms, and a suitable height of the building.
4. The internal walls must be clean, smooth, and fitting, quite as windows should be of proper wideness. The external doors should be durable, and the building should allow the possibility of improvements and additions which raise its value.
5. The type of furniture suitable for the house should be born in mind.
6. Since an appropriate house contains a cooking stove, a water heater, a radio set, and a refrigerator, it must be supplied with electricity in addition to the necessary water supplies and sewers for drainage.
7. The house must resist to external factors without continuous maintenance. As also it must be properly insulated both in summer and winter. It must be flexible enough to allow making changes, expansion, and additions. Materials used in building must be of those kinds which enjoy people's approval and satisfy their need of prestige, pride, and ease. Any person, for example, cannot be content with living in a house of asbestos, wood, or earth, despite the fact that houses made of wood and asbestos, for instance, are more expensive than those made of bricks and concrete. We can, also, overlook the outward appearance of the building if we managed to achieve strength for such building. Walls, too, should give the dweller a sort of acoustic insulation that makes him feel in private and well protected.

8. Potable water should be available either directly in the house or on a gathering site amid the dwellings' area.
9. The house must have recreational areas such as balconies and verandahs, in addition to a little garden with fences so as to satisfy the inhabitant with the feeling of being safe. Moreover, there must be a road and public areas in the neighbourhood.

5-4 Areas and costs:-

It is possible, to define a building's minimum area which ensures the individual basic needs. Having defined the acceptable floor-space of sleeping rooms, living rooms, the kitchen, the bathroom, the salon, and the store room, it is possible to define the surface extent of the dwelling unit realizing the basic requirements.

**TABLE (2) ROOMS' FLOOR-SPACE
IN THE APPROPRIATE HOUSE**

Type	Dimensions		Floor space m ²
A sleeping room	3.6 x 3.9m	=	14.04
A sleeping room	3.6 x 3.6m	=	12.96
A living (as sleeping) room	3.9 x 4.2m	=	16.38
A kitchen and dining	2.4 x 3.6m	=	8.64
A bath room	2.4 x 1.8m	=	4.32
A salon	2.4 x 1.9m	=	16.38
A storeroom	1.5 x 2.1m	=	3.15
toilet	1.2 x 0.9m	=	1.08
OR Shower	1.8 x 0.9m	=	1.62

Table (2) shows the floor area of the constituent parts of the houses.

**TABLE (3) COST OF THE
APPROPRIATE HOUSE**

The house	Surface Country- side	m ² Towns	Costs in Country side	Dollars Towns- side
- a house of a sleeping room used as a salon and facilities	37.04	38.99	5672	7272
- a house of a sleeping room with salon and facilities	53.89	55.84	7905	9861
- a house of two sleeping rooms + salon + facilities	69.44	71.39	9943	12074
- a house of two sleeping rooms + salon + sitting + facilities.	89.10	91.04	12378	15189

Table (3) shows the area of houses, and the estimated costs for construction, furniture and facilities.

6- An attempt to solve the housing problem:-

The solution of the housing problem lies in developing a low cost method construction, through use of local building materials and new technologies. Low cost housing, is then a house which is comparable to the rest of the strong houses having good foundations and made up of durable materials with low-costs. The inexpensiveness could be achieved by the following facts:-

1. A house should be designed according to the acceptable minimum floor area for the appropriate house, using modular co-ordination between rooms and furniture. Windows, doors, and corridors should also be distributed in such a manner that ensure the maximum utility, increases the utilized surface, and reduces any waste in area.
2. The building may be designed to make use of the solar energy in winter and to reduce the effect of heat in summer. Such economy will reduce the costs and ensures comfort.
3. The costs may be reduced by concentrating on the available raw materials, which should be improved, upgraded, and suitably utilized. New raw materials should also be searched for, mined, and utilized.
4. Foreign experiences should be considered and directed toward the proper direction. If people, for instance, have got used to building with cement blocks, development of building techniques should be achieved in the direction of cement blocks utilization, together with improving such kind of blocks and developing its methods of use.
5. Any building should need light maintenance in the future.
6. Any developed house should inevitable be tested, as also an experimental model of it should be made, in order to be informed of the most appropriate methods of building as well as the problems.
7. House designing must be achieved in such a manner as to avoid costly and sophisticated matters which need money time, and impede the course of work.
8. The used technology must be uncomplicated, and comprehensible by the unskilled labour. The process of preparing the building material must be simple, and rapid.
9. There must be means for control of materials, quality, and methods of preparing, fabricating, and final assembly of the components, in such a way as to keep up the building and protect it against such ruin leading to illrepute and people's mistrust of construction.
10. Researches should continue to develop any building method and improve it. They should ease and improve materials to elevate the house standard.
11. The design should be so flexible to allow further horizontal and vertical extention for the house.

7- Traditional building:-

If we take Jordan as a case study and look at the traditional buildings, we see that such traditional buildings are built of stone, concrete and reinforced concrete walls, concrete

columns and structures, in addition to filling the walls with stones, cement blocks, burned or sandy bricks, or load bearing walls made of cement blocks. There are buildings of earth, where the walls are 20-60cm thick. There are also some mudbuilt houses which are still existing up to now.

Considering such traditional buildings we notice that they suffer from the fact that the method of building with such materials is difficult. It takes a long time, and needs skilled labour since the stones, for example, need to be cut, squared, and trimmed so as to have shapes suitable for building.

Hence it becomes clear that traditional building method requires a long time, as also achievement is small and requires great skills. It also requires use of the wooden or iron toubar, in addition to waiting until the concrete becomes dry. Moreover, it needs continuous maintenance. And that is the reason behind the rise of building costs as well as retardation of achievement.

Any attempt to solve the housing problem for low-income people makes it necessary to overcome such impediments so as to do away with mortarring through achieving good smooth surfaces, quite as tobar must be done away with. Local materials should be used. The materials must be strong that the building does not need much maintenance in the future. Building method should also be so simple that any person is able to do. The process of building must not be complicated, and the number of the parts used in building should be small. There, also must be quality control of materials so as to remain strong, as also there must be studied floor areas and all dimensions.

- Building of earth is another proposal since earth is abundant, cheap, easy to form, and convenient for use, as well as its being a good insulation. But it is not strong, and cannot resist weather changes, winds, and rains. Besides, earth undergoes corrosion in the course of time, and the house stands in need of continued maintenance, and if neglected, it is threatened with collapse, and thus, the housing problem comes to a head.
- There is a proposal for establishing works of pre-fabricated houses, which requires high technology as well as equipment for casting, lifting, transport, and installation, and that is to make the building process very costly.
- Therefore, it is necessary to have recourse to a solution for the problem of building that brings together facility in building, strength of materials, low maintenance, abundance of materials, acquaintance with people, and the r desires, we do not want to teach people how to build houses by self help we would rather want building to be so easy that all people could use without pains.
- We do not want complicated and rare materials, but available materials which we use in the r places of existence. We want to learn of the available technologies and develop them, taking into consideration quality control of the materials so as to remain strong and recsize the targets.

8- The role of the Building Research Centre:-

The researchers at the Building Research Center. The Royal Scientific Society, Jordan, have been working hard upon the elaboration of an economic house system. Their major concern was directed towards the study of the required raw materials and their quality control as well as the existing cement brick industry and its quality control.

The Center has carried out several studies which included the existing house designs, family habits and traditions, the manufactured building materials being used such as stones, concrete and cement brick as well as the newly introduced materials in building construction, such as pre-cast facades, concrete facades, prefabricated units, sand bricks and advantages and disadvantages of each. The available raw materials such as flint pebbles, gravel, sand and cement were also studied together with the construction methods and procedures, the existing man power's capabilities and experiences.

Enlightened by these studies, a house model was developed so as to satisfy the previously mentioned conditions and that could adapt to the existing resources and capabilities. The best material to be used under this system was the locally manufactured cement brick.

8-1 The house model:-

1. The Building Research Center has developed a house model made up of concrete parts and cement bricks using local technologies. The house is based upon the core house concept, whereas it is designed to enclose the fundamental elements constituting a room, a kitchen and a bathroom. The structure is made strong enough to withstand later additions of rooms, services or any further finishings till the house is entirely complete and satisfies the required needs. This system incorporates the use of industrialized methods but on a limited scale.
2. The application of the proposed house system eliminates any loss or waste in space, time and materials.
3. The proposed system eliminates the need for sophisticated technologies to avoid any delay in the building operation due to any equipment or machine disorders; besides, these technologies need large capitals and highly qualified and experienced technical labour.
4. The proposed system depends upon the erection of a small workshop for the manufacturing of moulds and equipment. It provides adequate areas for storage and transport. This system will then need minimum labour.
5. The reduction of price could be achieved through the maximum utilization of space and reducing the need for qualified labour rather than the reduction of qualitative considerations.
6. The proposed system depends upon the use of modular co-ordination whereas standard pieces are used e.g. a room consists of 6 pieces with standard window and door openings.
7. The application of this system depends upon the use of a minimum number of pieces and moulds such that the mould could be used more than once for several purposes.

8. The standard units used in this house system could be used for several purposes, as a bearing wall or as a partition... etc.
9. The proposed system needs the least technical experience and is least reliable upon heavy equipment.
10. In this system, a workshop or a factory could be established by a small capital, where it could produce a large number of pieces in a short time.
11. This system ensured the best utilization of space through the efficient use of furniture and circulation and elimination of waste areas.
12. This system necessitates the supervision and production's quality control.
13. To ensure the best handling of pieces, they were produced with a net weight of 25kg/man i.e. If the weight of one piece is 25 kgms, then one man can handle it while if the weight is 50kg, then two men would be needed for handling and so on.

8-2 Quality control:-

The proposed building system needs a process of quality control to ensure maximum strength and minimum future maintenance. The quality control includes intensive supervision upon manufacture areas and control upon the raw materials utilized in the building process. The building system applied by the Building Research Center showed that using cement brick or concrete units is the most appropriate procedure due to the availability of materials and familiarity with the cement brick industry. Besides, people have already built houses using cement brick and lived in them for years. Hence it was necessary to develop the cement brick as a local building material and control the quality of its raw materials.

8-3 The cement brick industry:-

The cement brick industry is one of the most important industries in Jordan. There are 700 factories producing 75.5 million bricks per annum, with a minimum cost of 25 million dollars annually. This industry is quite familiar to the people; it utilizes the available local materials. The Building Research Center has co-operated with the Standards and Specifications Directory in the organization and quality control of this industry in order to identify its major problems and weak aspects and how it could be utilized to solve the housing problem. A referendum has been made and samples were examined and analysed, the following results were drawn:-

1. There is a weak supervision upon mixture consistencies, the water percentage, water-cement percentage, settling, particles grading, transport and storage. These bad conditions resulted in the decrease of the bricks strength.
2. The brick density varied between 1.7 - 2 gm/cm².
3. The Compression break force for the bricks after 28 days varies between 12-104 kgm/cm².

The Building Research Center aims to overcome the existing unsatisfactory conditions through the building system development. This meant further supervision upon the brick strength, mixing procedures, water percentages, mixture percentages and storage.

8-4 Raw materials - gravel:-

8-4-1 Material's quality control:-

Sand and gravel constitute the fundamental materials used in buildings and in the house parts in particular. The Building Research Center has made an account of the existing quarries in Jordan and their evaluation and quality control to identify the types and quantities of gravel produced. There are 265 quarries made up from layers of gypsum rocks. They produce 18 million cubes of gypsum gravel, half of which is used in building while the other half is used in paving roads. The Center has already started a supervision project upon quarries in cooperation with the Natural Resources Authorities. This projects aims to:-

1. Study the characteristics of gravel, its types and uses.
2. Elevate the production quality and make the best use of gravel.
3. Collect data upon quarries, their production, quality size and investments involved.
4. Identify methods of quarrying and reasons of low gravel quality and proposals for solution.
5. Determine certain specifications to protect the consumer taking the available local materials into consideration.

8-4-2 Quality control method:-

The Building Research Center made an account study for the existing quarries and made several visits to their sites whereas samples were taken from every site and examined as to their corrosiveness, permeability, particles grading, percentage of soft particles and the actual specifications with respect to the regulated specifications. If the examined gravel turned out to be of a bad quality, the quarry owner is then asked to repair the quarry and remove the dust and impurities. If the quality continued to be below standards, the quarry is then closed.

The Natural Resources Authorities was declared as being responsible for giving quarry licenses which are given in condition of presenting certificates from the Building Research Center to certify the gravel's good quality.

8-4-3 Results analysis:-

The analysis ended to the following results:-

1. Most of the grinding machines are locally manufactured with a grinding capacity that varies between 50-400m³/day, whilst larger grinders produce 600-1000m³/day.
2. When the samples were examined with respect to their corrosiveness, the results varied between 20-55. The Ministry of Public Works then determined a maximum limit for corrosiveness such that it does not exceed 30%, 35%, 40% when used in concrete whose forces after 28 days reaches 420kg/cm², 350 kg/cm² and 265 kg/cm² respectively. The specifications limited the corrosiveness for ordinary concrete to be not more than 45% when its force varies between 70-140kg/cm². Accordingly it was found out that 89.6% of gravel is unsuitable for use in reinforced concrete whilst 4.7% of flint pebbles are unsuitable for use in any kind of concrete or brick.

3. Although the Ministry of Public Works did not specify certain limits for specific weights - as being indicated for by corrosiveness, yet the Natural Resources Authority defined a minimum limit for specific weight, that would be not less than 2.35, 2.3 for harsh and soft gravel respectively. Accordingly, it was found out that 30% of the existing quarries do not satisfy the requirements for harsh gravel whilst 50% of them do not satisfy the specifications for soft gravel.
4. Concerning water permeability, the specification department in Jordan and the Natural Resources Authority have defined maximum limits for permeability being 4% and 6% for harsh and soft gravel (specifications department) whilst they were 3.5% and 4.5% respectively (Natural Resources Authority). Accordingly, it was found that 40% of the harsh gravel does not satisfy the specifications put by the specifications department whilst 50% of the harsh gravel does not satisfy those put by Natural Resources Authority. As for soft gravel, it was found that 50%, 65% of the gravel do not fulfil the specifications put by the Specifications Department and the Natural Resources Authority.
5. The Ministry of Public Works and the Specifications Department have each laid maximum limits for the size of particles passing through the sieve 0.75 mm as follows 20%, 5% respectively. It was found that 50% of the quarries do not fulfil the specifications laid by the Ministry of Public Works whilst all quarries do not fulfil those specifications laid by the Specifications Department. The increase in the quantity of soft gravel causes a decrease in concrete strength. This case could not be improved except by sieving flint pebbles and removal of soft matter or by washing gravel which is expensive. These expenses could be omitted, and the sieving and washing process were compensated for by an increase in the concrete strength.

8-5 Use of materials and data in developing economic housing:-

The studies carried out by the Building Research Center were based upon three fundamental elements:-

The first element deals with the appropriate economic house that could solve the housing problem. The economic house was defined as that of an appropriate area that could be increased to fulfil the increasing demands of the family. It is designed to satisfy the inhabitants needs and is oriented so as to make the best use of solar energy in winter, and reduce its effect in summer. The studies showed that the economic house consists of easily fabricated parts, few in number, locally manufactured with simple equipment of little maintenance and increasing production as well as easy handling.

The house could be economic in its space and in postponing further additions and finishes.

The second element is the maximum utilization of a simple and available industry that is the cement brick industry which is widely distributed in the country depending upon the available

resources and manpower. It was a necessity to identify the characteristics, distributions of this industry, and its problems.

The third element is the basic raw materials such as flint pebbles and its characteristics and location. A quality control project for these materials has been made.

The newly erected house system incorporated the three basic elements so as to satisfy the inhabitants requirements, within the same traditional pattern in which he lived and survived for many years. The solution of the housing problems for poor communities depends upon bold concepts whereas any dwelling unit ought to be strong enough to live as long as possible; It could start small in size and develop gradually without finishing, heating or tiling. These accommodations could be added in later stages.

9- House provision.

9-1 General

The major goals of studies and development researches are the development of local technologies and the elaboration of proposals for the organizations and associations planning for construction of buildings. Through these researches, the most appropriate construction procedure could be deduced. Inevitably, the building plans and allocation of capital could not end the housing problem due to the insufficiency of the allocated capital with respect to the increasing building costs and the construction sector's uncapability to proceed in the execution of the laid plans, even if the necessary capital was allocated, due to the complexity of the utilized technologies.

Hence, the housing problem could be solved along different procedures as follows:-

1. The governments will direct their concern towards the provision of houses according to definite plans, allocation of necessary capital, provision of land and utilities.
2. Investors, housing associations and societies could participate in the provision of house for certain sectors.
3. The development of building procedures and utilization of the available local materials. The applied building system should be simple, economic with minimum maintenance.

9-2 Development plans.

9-2-1 Plans

The subject of housing was of major concern to several countries. In Jordan, the state was concerned in its 7 year plan (1964-1970) with housing whereas it established a Housing Association. In the three year Plan (1973-1975), a bank for housing was established and 16.844 dwelling units were built as follows:-

- 11.411 dwelling unit built by the private sector and cooperative housing societies.
- 2.529 dwelling unit built by the Housing bank loans.
- 2.904 dwelling unit built by the Housing Association.

These in addition to the Estate Bank loans. The five year plan (1975-1980) enclosed within its goals the erection of 31,000 dwelling units.

In Egypt, the private sector was responsible for the construction of houses uptill 1960. The Government then laid a five year plan (1960-1965) for the erection of 250,000 dwelling units. In the second five year plan (1965-1970), 172,000 dwelling units were built. Later, in the development plan 1976-1980, a sum of 850 Million Egyptian Pounds was allocated for housing by the private and public sectors together with co-operative societies.

In Iraq, the housing plans have been implemented since 1956. The housing societies, existing since 1948, owned the land whilst other companies bought the land, provided it with the essential utilities and then sold it again to the citizens later, the government laid a five year plan (1976-1980) and allocated the essential capital for housing. In Iraq, the housing projects are executed through the public sector (Ministry of Housing and Construction) and other ministries and association who build for their employees.

9-2-2 Capital

The financing policy is similar in most Arab countries, whereas, a certain association is responsible for giving loans such as Real Estate Banks, Housing Banks, Housing Associations... etc. Yet all these procedures are unfeasible as to the low income groups.

9-2-3 Management

In Iraq, a central management system was applied in designing planning and execution. In Jordan, the management centralization is limited. As for Egypt, it continued for a long time to be centralized but later the open door policy was applied, consequently the low income groups gained no benefits.

9-2-4 Land

The increasing prices of land led to the erection of apartment building and high rise buildings. On the other hand, the considerably low land prices on the peripheries of cities led to the erection of houses upon agricultural land which in turn caused service and utility problems.

9-2-5 Building materials

Raw materials used for the manufacture of cement, brick, stone and gravel are available in most Arab countries, yet there is a shortage in other essential materials and the utilized bricks and cement cannot satisfy the increasing demand in building processes. In addition to these factors, the costs of imported materials are continually increasing causing a consequent increase in building costs.

9-2-6 Working Labour

There is a critical shortage in well trained working labour, accordingly building production has decreased and prices have increased.

9-2-7 Planning and management

Most Arab countries face a lack of comprehensive planning and qualified administrators for project management. The comprehensive planning is a necessary procedure to ensure the best distribution of resources, materials and working labour. On the other hand, the perfect management of building projects,

eliminates any loss of time or waste in materials and guarantees an increasing production.

10- Solutions

Enlightened by the housing problem review and its causes, several proposals could be made as follows:-

1. The evolution of opposite migration to overcome the continual migration to the city and the concentrated population growth in cities and industrial locations. This could be achieved through erecting projects in areas away from cities and housing settlements to stimulate migration from the city.
2. Provision of the necessary capital from rich countries through long term loans with low credits. Investors could be encouraged to utilize their capital in housing projects and exempting them from taxes in return.
3. Development of Rent Laws so as to encourage investors to build and rent the houses.
4. Development of comprehensive planning upon national and regional level.
5. Increasing the building materials production, through elevating the industries efficiency and ensuring its maintenance and opening new factories.
6. The best utilization of materials and the continual research for alternative materials. New factories for the production imported materials are to be built. Since the materials industry is rather complicated and needs large capital, then the developing countries could co-operate together in the building materials industry each according to its capability and the available raw materials.
7. Provision of well trained working labour through erection of technical training institutions. Most arab countries suffer from the continual migration of technical labour from one country to another whereas they leave their positions for non qualified labour.
8. Decreasing land prices by the enactment of taxes to prevent land speculation and by decreasing areas for individual houses. The land could be sold to institutions which in turn would supply the essential utilities and divisions and then it could be distributed.
9. The continual research for improving the characteristics the existing materials. This involves the support of research centers and their co-operation.
10. Supporting co-operative societies financially and technically to enable them to proceed with their participation in solving the housing problem.
11. Encouraging self help efforts through the organized co-operation between individuals and the government in such a way that if the individual can provide the land, then the government would provide him with the required materials, utilities, loans and working procedures.
12. Application of local specifications for local materials and in local industries and its quality control. This system tends to overcome the troubles initiated by the use of foreign specifications which do not suit the local environment. The provision of local standards and specifications encourages the erection of local industries to compete the foreign products.

13. Quality control of materials and products to ensure the erection of well built structures and to diminish any future maintenance.
14. The Modular Co-ordination in buildings ensures an increase in production, a decrease in execution time and easy transportation of materials and products.
15. The use of the appropriate technologies that suits the local environment and conditions to avoid sophisticated maintenance. The best technologies could be adapted to the local conditions of labour, equipment roads... etc. In Jordan, the people cannot yet accept the concept of pre-fabricated houses. Thus the public acceptance is another factor to be taken into consideration whilst applying modern technologies.
16. The Regional co-operation between neighbour countries through exchanging technical experience, materials and financing.
17. The application of the core house system. The basic house consists of fundamental elements, a kitchen, a bathroom and one, two or three rooms. The costs of this house are very expensive, they might reach ten thousand dollars. The reduction of costs could be achieved by either two ways the reduction of space or decreasing the building quality. Yet, both procedure could be preceded by reduction of land cost, increasing the building materials production, provision of credits and loans and choosing the appropriate technologies

In all cases, the building must be structurally strong and any decrease in cost could be achieved by eliminating unnecessary finishes i.e. a house could be built with a strong structure and without tiling. The reduction of space could be achieved by building the essential parts in the first stage and then future additions could be made in the later stages according to the individual's capability.

References:-

1. Technologies and Organization for the Sustainable Provision of Basic Shelter by Dr. Sharif and Dr. Jabaji, BRC, of RSS Amman, Jordan, Presented to Alecso, Aspan and UNEP joint Seminar, November, 1979, Nairoubi.
2. The Role of Building Research in the Development of Indigenious Construction Sector by R.L. Sharif, Director, BRC of RSS, Amman Jordan. Submitted to Ad-hoc expert group meeting on development of the indigenious construction sector, Nairoubi, 1981.
3. A Proposed System for Housing Low Income Groups in Jordan Building Research Center, Royal Scientific Society, Amman.
4. Construction Industry Seminar, 4-6 Nov., 1978, Amman.
7. The Vancouver Declaration on Human Settlement. Habitat: United Nations Conference on Human Settlement Vancouver, June 1976.
8. Iraqi Ministry of Housing and Construction the study for the Housing Program for Iraq. Report presented to the Third Conference of Arab Ministers of Housing and Construction. Tunis, June 1978.
9. Housing Corporation. Jordan. Five Year Plan - Housing Sector 1976-1980. Amman - May 1976.
10. Arab Republic of Egypt. Statistical Yearbook. Cairo, October 1974.

SERVICES AND PHYSICAL PLANNING IN TUNIS.

MRS. NAGAT KHANTOUSH

DIRECTOR OF PHYSICAL PLANNING - TUNIS

Physical planning in Tunis

The physical planning in Tunis aims to control the geographic distribution of the economic and social development policy in order to eliminate the gap between the different regions. It aims at conserving the equilibrium between man and his environment through controlling the technical and economic progress and maintaining harmony within the surrounding atmosphere.

The above mentioned objectives, could be achieved through the study of the distribution of residential communities, the different activities involved and the major infra-structure networks within the following conditions:-

- The existing conditions
- Control of the residential expansion to adapt the existing fundamental services.
- Protection of the productive agricultural areas.
- Preservation of the local character and heritage.
- Allocation of the best areas for reconstruction.

Accordingly, the physical planning policy could be achieved in three levels, each of which acquires different, but integrable procedures.

1- National and regional level.

It encloses a comprehensive plan for the whole country. The physical planning department has already studied the different national and regional alternatives for physical planning in order to deduce the best alternative that controls the relationship between the metropolitan city and the different towns on one hand and the coastal areas and the countryside on the other hand. Accordingly, the activities in the fields of housing, employment, fundamental services, infrastructure and reconstruction could be integrated between the different parts of the country, and the accelerated growth of some cities could be controlled.

This comprehensive plan ended in a report in two parts, the first of which reviewed the different data concerning the economic, physical, human and social fields, while the second part reviewed these data from the physical planning's prospect. When this report is published, it will be the fundamental base for the different regional and national planning projects. In the

meantime, the directorate in co-operation with the Royal Academy in Stockholm has laid the general map of flooded areas and is actually working on the map of monumental areas and local heritage. These sets of mapping help the determination of the essential planning projects that tend to preserve the agricultural land. Five regional departments have been established dealing with the planning studies for the entire state and participating in laying the regional and national planning projects through data collection and follow-up of executed studies.

Hitherto, several achievements have been made as follows:-

- a) **In the administrative field:** several state centers and municipalities have been established, as well as technical offices to consult the different ministries and public associations in the different programmes in order to achieve decentralization.
- b) **In the financial field:** a rural development fund has been established and financed for the development of the different interior areas to elevate the living standards and control the internal migration between towns. Similarly, "Diwan" of Middle Tunis and North Western area has been founded to help the rehabilitation of the poor areas.
- c) **In the physical field:** An urban code was issued to determine the regulations controlling the city growth and assuring better living conditions.

2- Local planning level:-

It covers the preparation of physical planning projects for the residential clusters to control the physical growth in these areas. This accelerating physical growth, that took place since independence, was merely a result of the fast demographic growth and the internal migration that covered most coastal cities especially Tunis. Thus the provision of a legal and practical framework was necessary for the different municipalities to control the migration trend on one hand and to satisfy the new development requirements on the other, and these include:-

★ Provision of adequate areas for housing, business, entertainment and transportation achieved through 166 projects of physical planning for cities and towns, and 134 other planning projects are due approval for further control of the accelerating physical growth.

★ Study of new physical planning projects concerning 44 residential clusters. Several administrative projects have been prepared for Tunis and Safages. Soussa and Benzart are to be programmed for such projects.

3- Detailed Applied level:-

It covers the study of detailed planning projects that guide the authorities and concerned departments, e.g. local public societies and regional associations to the execution of the development programmes. These detailed projects have been financed to accommodate the growth of residential clusters.

The Ministry of Services has accomplished 199 topographic maps in cooperation with the land survey department, mapping department, specialized technical offices and survey teams in the different regional departments in the Ministry. This task is actually going on to up-date the old maps that date back to the forties and fifties where as 56 maps are due programming for the whole country.

Hitherto, it became vitally important to determine the services standards to adapt the housing projects to the needs of the co-habitants. The preparation of a physical planning project for a certain area necessitates its division into sectors according to their physical fabric and economic activities. Detailed projects for each sector are prepared prior to the application of the typical planning project.

II- Infra-structure and physical planning:-

1- Introduction

The Ministry of Service during the preparation of the physical planning projects has followed the services standards determined by the Physical Planning Department in 1976. These standards are to be up dated especially when dealing with major and future physical projects. Through supervision, the physical planning experts discussed the static standards schedules and suggested its replacement by a flexible standard schedule according to the nature of the physical plan.

2- Physical fabric

The detailed housing studies in Tunis showed that there are two major types of housing, the individual housing and the community housing. These types in turn are divided into six physical patterns as follows:-

- a) Individual housing, that exists in the old city. It is enclosed within a compact residential fabric in which the buildings are horizontally attached to each other. In each dwelling, the rooms gather around a court.
- b) Clustered individual housing, in this pattern, the attached houses are built within a compact residential fabric enclosing open spaces for gardens and small squares.
- c) Continuous individual housing. In this pattern, the houses are built within a residential fabric of moderate density, in the form of continuous row houses.
- d) Detached individual housing. In this pattern, the houses are built within a low density residential fabric in the form of separate or double villas.
- e) Continuous community housing, it is a compact housing pattern in which houses are built in the form of attached high rise apartment buildings.
- f) Detached community housing, It is a dense housing pattern in which the houses are built in the form of single apartment buildings separated from each other.

3- Residential density:-

The residential density constitutes an indicator for the evaluation of space and land utilization in a certain area. It is mostly known as housing density or population density. It is measured by the number of houses per hectare. This density reflects various values with respect to the area of land, size of population and essential services. Hitherto, it is vitally important to identify the net density and the gross density.

The Net Density - It is the housing density defined for an area allocated for housing only, including the different housing areas, approaching paths and parking areas.

The Gross Density..It is the housing density defined for an area allocated for housing including the open spaces, paths, car parks, utilities and services.

4- Infra-structure and land use:-

The execution of any housing programme necessitates the determination of the infra-structure's requirements that satisfy the citizens' needs. The determination of these infrastructure requires the preparation of a list of fundamental infrastructure involved within the detailed planning projects, e.g. major infrastructure and services as hospitals, universities, sports centers... etc. The required areas for these services have been determined after the following processes:-

- a) Determination of the average service standards used by the physical department.
- b) Conducted Studies and researches by the municipality of the region of Tunis concerning the cohabitants' needs of services.
- c) Through the master achievements of the Tunis Real Estates company and the Housing Real Estate Agency.

5- List of services:-

- Educational Services
 - Primary School
 - Secondary Institute
 - Technical Education Center
- Social Services
 - Kindergarten
 - Nursery
 - Social Centre
- Health Services
 - Hammam
 - Infirmary
 - Maternity Center
- Sports Services
 - Play Grounds
 - Sports Courts
- Cultural Services
 - Youth Center
 - Cultural Center
 - Library
 - Cinema
- Administrative Services
 - Municipal departments
 - Police Stations
 - Post, Telegram and Telephone Offices

- National Organizations
- Community Services (Public departments)
- Religious Services and Public Markets (Suqs)
- Commercial Center for Primary needs
- Secondary Commercial Center
- Major Commercial Center
- Green Areas
- Green Piazza
- Public Garden
- Public Parks
- Technical Industries.

6- The application of the services standard schedule:-

The different services are situated on the horizontal axis of the schedule while the size of residential buildings lies on the vertical axis. This schedule determines the area of each kind of service according to the density of the physical fabric. Each element in the schedule is considered as an independent unit that could be duplicated. The number of cohabitants mentioned in the schedule represents the maximum residential population for the available residential units.

III Conclusion

This paper has presented the efforts exerted in laying physical and applied projects, to satisfy the cohabitants needs for utilities and infrastructure in order to provide better living conditions. The municipal departments play a major role in the implementation of planning projects in the area. The service standard schedule guides the technicians working in the field of physical planning. Projects prepared away from regional and local frameworks need periodical revision to adapt to the accelerating city growth.

The implementation of the public services projects depends upon the availability of financial resources and Real Estate savings. Eventually, the Urban Code, chapter 62 has founded a planning fund for the state and public associations for the acquisition and transaction of lands allocated for services and infrastructures. This fund is being financed to enable the local communities acquisition of land for the establishment of the essential public buildings.

**LIST OF SERVICES
(AREA OF BUILDINGS IN m²)**

Kind of Service	Area of Services m ²	
	Low density physical pattern	high density physical pattern
Kindergarten	600	150
Nursery	800	200
Primary School	3000	2000
Secondary Institute	15000	10000
Hammam	700	300
Infirmery	600	200
Maternity Centre	300	300
Nursing Center	1000	400
Playing Grounds	500	+
Sports Court	3500	+
Youth Center	2500	1000
Cultural Center	1000	500
Library	600	150
Cinema	2500	1000
Post Office	600	200
Preservation Center	500	150
National Organizations	400	100
Public Departments	400	100
Mosque	400	+
Congregational Mosque	1400	+
Primary Commercial Center	400	150
Secondary Commercial Center	600	200
Major Commercial Center	800	350
Urban Functions	150	80
Green Areas	1500	+
Public Garden	2500	+
Public Park	20000	+

SOLVING THE PROBLEMS OF LOWCOST HOUSING

FOR THE LIMITED INCOME GROUPS: BATIKENT CASE STUDY

**ENG. MURAT KARAYALCIN,
ENG. BÜLENT ILIK,**

UNION OF HOUSING CONSTRUCTION CO-OPERATIVES
BATIKENT - ANKARA - TURKEY

Present outlook of Ankara metropolitan area:

After World War II, Turkey passed through period of rapid urbanization. During 1970-1980, the urban population has reached almost 50% of the total population, but it was not a healthy urbanization. Several big cities (Metropolitan areas; Ankara, Istanbul, Izmir) were subjected to rapid urbanization in that period. The cities were not ready to absorb the flow of people from rural areas or from other cities. Thus, the metropolitan centers were demolished by an unexpected rapid population flow.

Demographic, social and economic profile

By evaluating the historical development of the population structure in the city, it becomes clear that the increase in population growth is very high. The increase in the urban population of Ankara from 1927 to 1975 is 22 times, which is higher than the increase in Turkey's urban population ratio. Immigration which reaches up to 70-75%, is the main source of this rapid growth. During 1955-60, the population increase reached an average, of 40.000 persons/year, and during 1960-65, it was 50.000 persons/year. It is estimated that the population of Ankara will be 3,6 million in 1990 and over 5 million by the year 2000. The employed population is making up around 50-60% of the active population. While the service sector is rapidly developing, the development in the industrial sector in comparison with the other large cities is lower. Only 13,6% of the active population is employed in industry.

The income groups in the city are as follows: (with 1977 figures)
52% with low income.
39% with middle income,
9% with high income,

Meeting the housing needs for the low and average income groups (comprising together 91% of the total population) is quite clear when the socioeconomic conditions of the country is considered. The following table shows Ankara's urban population in comparison with "Gecekondu" (irregular-unhealthy housing) population.

Year	Population	Gecekondu Population	% of the Gecekondu population to total population
1950	288.536	62.400	21,6
1960	650.067	364.000	51,0
1965	905.660	520.000	57,4
1970	1.236.000	748.000	60,5
1975	1.701.004	1.103.000	65,0

Residential areas:

The low income group, which represents 52% of the urban population, occupies 45% of urban settlement area. The majority of this group (73%) lives in the periphery areas which are more than 4 km away from the city center. The average income group or 39% of the urban population occupies 36% of the total urban settlement area; 46% of this group lives in the inner 4 km belt and 54% lives in the outer belt which is 4-10 km. 40% of the average income group lives in "Gecekondu" areas. The high income group, 9% of urban population, occupies 10% of the settlement area and the majority of this group (74%) lives in the inner 4 km belt. As illustrated in the table, 40% of the average income group and 73% of the low income group i.e. 65% of the total urban population lives in the "Gecekondu" areas around the city.

Environmental standards are degrading because of overpopulation, as a result of rapid speculations on planned residential areas, and consequently the establishment of the necessary service areas is getting difficult. On the other hand, irregular residential areas (gecekondu areas) are providing an environment without any infrastructure and public service areas. Gecekondu areas are set up on the lands around the city which are comparatively unfit for construction, having very limited infrastructure facilities and usually belong to the municipality or to the treasury. Tendency of getting over-crowded is preventing the establishment of necessary service areas in the city. The standards of the present urban services are very low. In terms of the city scale, the area of 240 hectares for cultural and social services; 1778 hectares for green areas (parks, play-grounds, recreation areas); 206 hectares for educational services are needed up to year 1990. During the same period of time, the following additional residential areas are needed;

- 6280 hectares for low income groups,
- 2690 hectares for average income groups,
- 870 hectares for high income groups.

Model design and planning process:

The concept of participation is very much emphasized in Batikent. From the very beginning Batikent was not looked upon as a municipality project only. Therefore, the project now enjoys the support of unions, trade and business organizations, professional associations, universities and the ordinary people who demonstrated their trust by applying in large numbers.

The Batikent model, therefore, aims the recruit of both public and private enterprises to mobilize their resources within Batikent. There is an on-going research to determine the organizational and psychological aspects of the social structure to evolve in Batikent, including possible participative mechanism and the administration of Batikent, when it has reached the envisaged size of approximately 300.000 inhabitants.

The project is being executed jointly by the Union of Housing Cooperatives in Batikent, as called Kent-Koop and Municipality of Ankara. The Municipality provides the land and infrastructure (the costs of the land and technical infrastructure are paid by the members of Kent-Koop and Kent-Koop provides demand and supply organization of housing with the other aspects of the; healthy and worth-living place of Batikent.

Legal status of the organization:

The project is the biggest one in the history of our country and it is one of the biggest in the world. The two biggest trade union federations of Turkey contributed and the organizations of the government officials and the (Union of the Chambers of Engineers) and the (Association of Artisans and Manufacturers) took part in the project. The Middle East Technical University, and Faculty of Political Sciences of Ankara University contributed to the project.

According to the two-level organization model, at the first level housing construction cooperatives should be founded separately. In the second level these cooperatives would set up together the union of housing cooperatives in Batikent (Kent-Koop). The house ownership of the city residents, ranging over professional and nonprofessional backgrounds from lower to middle income groups is the main objective. These groups are listed as follows:

1. Workers belonging to the social security fund.
2. Tradesmen and artisans belonging to their social security fund.
3. Government officials and army officers.
4. Those belonging to a social security organization but having no right to receive housing credit.

Kent-Koop

In October 1979, Kent-Koop has been founded and now it has 53 cooperatives having 15.000 members. While organizing the people wishing to participate in the project, members are informed on their responsibilities and rights and the urbanization problems. In order to inform the masses about the developments in the implementation of the project in time, briefings, seminars and press meetings are held and a monthly newspaper is issued.

The studies on training and organization aim to achieve the specialized knowledge on urbanization problems from the resources and its social dimensions and to set up an information center with sufficient quantitative peculiarities to respond to the necessities of the country on this important subject. An archives and documentation service has been founded, to support research on housing. The training and organization activities are arranged to change the negative image of previous unsuccessful housing cooperatives and to change this fact. Cooperative managers are supported by continuous training programs of Kent-Koop staff. Kent-Koop itself has an inspectors group, who give advise to cooperatives for bookkeeping, consults them for their troubles and inspects regularly their official papers and accounts. The highest authority of Kent-Koop is obviously the annual General Board, which elects the Board of Directors. The Board appoints a paid General coordinator. More than 100 people are working as technical and administrative staff of Kent-Koop. There are around 40 technical personnel on the construction site. The construction of 10.000 units have been started. The cost of the project is over 1 billion U.S. dollars in today's rate of exchange. As we mentioned before, Kent-Koop is a non-profit organization.

One of the important aspects of Batikent Project is the financial dimension. Financial matters have been considered in two different categories as internal and external credit resources. For external credit possibilities, foreign credit institutions have been surveyed and Resettlement Fund of European Council has appeared to be the most convenient opportunity. After a series of successful talks a credit of U.S. \$ 28 million has been given for the project in 1980. In 29-30th March of 1983, Kent-Koop got \$ 38 million new credit from Resettlement Fund of European Council.

As internal resources; the credits which are provided by social security institutions (SSK, OYAK etc) and the credit which is provided by the government through the new law on housing, called as Mass Housing Law "Law No: 2487/July 10th, 1981" are in the scope. With this law a housing fund has been established. Savings of the members of the cooperatives and credit of Kent-Koop are initiating factors of the implementation. But, because of the lack of financial sources the law does not work very well. The cost of a dwelling (with 1983 prices) is \$ 8.000 and the finance of it, is provided 20% by individual savings, 30% by internal credits, and 50% by foreign credits.

Due to the inflation rate, the costs of dwellings increase each year. For 1983 the price rise in construction sector is estimated about 40%. Besides, the value of land increases very rapidly in cities. But in Batikent Project the value of land is fixed. The members of cooperatives pay a dollar for each (m²) of the land which includes its infra-structure. The value of land is very high especially in city center.

District (In Ankara)	The worth of Land/m ²	Distance to City Center
Batikent	\$ 1	10 km.
Sincan	\$ 18	25 km.
Y. Mahalle	\$ 24	7 km.
Cankaya	\$120	5 km.
Kizilay	\$220	(city-centre)

Kent Koop and its cooperatives achievements:

- The construction of the first houses on experimental bases began on 1980 and construction of the houses have continued at low density housing area while multiple storay houses construction began on 30th May 1982.
- On 17th October 1983, 2000 people began to settle in 500 furnishing homes, which belong to four cooperatives.
- The construction of 10.000 houses are actually going on in Batikent area. In the fourth anniversary of Kent-Koop, those indicators are of great importance for the housing sector of developing countries and Turkey.
- By the year (1984) the construction of 8.000 houses will be completed and 40.000 people will begin to live in Batikent.
- Kent-Koop carries on social institutions and environmental arrangement works.
- Between 1982-1983, 15.000 trees were planted in Batikent. On 24th April 1983 children, from thirteen different countries, planted trees in Batikent Peace Forest.

Kent-Koop started building shopping-centers kindergartens and schools by using Resettlement Fund of European Council credits.

- Whenever new credit sources are available kent-Koop will build mosques, cultural and sports centers.

The results of an inquiry carried on families of Batikent

An inquiry was carried out on 15.000 members of Batikent in 1983. And the results were as follows

- 86% of the members of Batikent has immigrated from other cities to Ankara. The main cause of this immigration was to find a job (48%), or appointment (17%) or nomination by the government or to get better educational conditions (12%).

- 22% of the population of Batikent is of three members families, 29% is of four member families, and 19% is of five member families. 70% of the population of Batikent has 3-5 persons family size, 19.5% has 6 or more persons family size.

- For 4% of the families at Batikent, the total monthly incomes are at the minimum wage level which is approximately (\$ 40-80),

\$ 80-120	14,5 %
\$ 120-160	28 %
\$ 160-200	22 %
\$ 200-240	12 %
\$ 240+	19,5 %

- 70% of the members of Batikent pay monthly rents. Members of Batikent who don't pay rent, either have their own or relatives houses (90%) or are staying in the houses built by their work institutions (9%). 7% of the families of Batikent lives in gecekondu.

- The above mentioned indicators show that the people who were organized in the Batikent Project, are the limited income groups, they immigrated from other cities to Ankara and they spend an important part of their incomes to pay their monthly rent.

Some aspects of Batikent physical

planning:

Batikent is located at the north of Ankara-Istanbul highway, between Macunköy and Atatürk Forest Farm. It is 10 to 17 km far from the city main center (Ulus). In Batikent, the smallest units are the neighbourhoods about 5,000 to 7,000 population, including a nursery school for 0-3 age group, a small shopping center for daily requirements, or park and a play ground. Two neighbourhood units form a quarter which includes extra services additional to the neighbourhood unit like the preliminary education (primary, secondary schools and kindergarten), several extra playgrounds, larger parks and shopping facilities. Five quarters form a larger unit of about 50.000-70.000 population. The extra services and school amenities are: a market place, a health center, a high school, parks, playgrounds, cultural units, a bigger shopping center which will serve for more specialized needs. All these services and social amenities are located in a way to provide equity in their usage. 52% of the total area is reserved for services and the rest 48%, for dwellings.

There are three density zones:

- High density residential areas 690 person/hectar

- Medium density residential areas 530 person/hectar
- Low density residential areas 300 person/hectar

There are three types of dwelling units. 37 500 units of high-rise dwellings, 18.000 units low-rise dwellings and 4.500 units of rental housing were planned.

The shopping centers will be under the patronage of Ankara Municipality. The city inner accessibility and connection to the main city are provided. The main connection (masstransport) will be by metro. In the inner vehicular transportation system a hierarchical model is applied, from the local and district roads that serve for the quarters and neighbourhood units, the traffic is collected to the main transport road leading to Ankara. Attempts have been made to separate Pedestrian and vehicular traffic routes. A Similar hierarchical model is applied for pedestrian traffic as well. It is so planned that main pedestrian axis extends to the main shopping center.

Conclusions

As mentioned above, Batikent is a new kind of organizational system heavily depending on civilian organizations that have been applied for this development. The success of Batikent Project will not depend only on those working in the administrative bodies but also upon those who will live in Batikent.

It could be stated that the success of big projects depends mainly on four factors, whether it is related to the housing sector or to another. First of all, the possibilities of the implementation of the project must be higher when its technical, economic and social dimensions are considered. Secondly, there should be a kind of public support for pushing the project. Thirdly, state officials at all levels must be informed about the project, thus providing the interest and support to these groups. Fourthly, a common belief and passion must be held between project officials and participants.

Kent-Koop has tried to provide these factors at high level and important results were achieved at the end of her third year of action. Probably the most important one within these results is the verification of the model.

Kent-Koop has accepted the principle of the association of participants in civilian organizations, putting forward their self-intensions and self-savings, instead of waiting their requirements to be met by the state, and has proposed the coordination of local governments, central government and cooperatives in order to solve the housing problem. One of the long term goals of Kent-Koop is to establish a national union of housing cooperatives,

since its model has been successful within a short time (1979-1982) and other provinces demand to apply the model. Up to now, it was demanded by the municipality of Izmir, Union of Housing Cooperatives in Antalya, and Eskisehir Union of Housing Cooperatives. Batikent type of model was adapted to Antalya New Settlement Project. Thus projects have already started under the assistance of Kent-Koop technical staff.

Finally, Batikent model which has attracted an international interest through the world will certainly be enlarged in Turkey. Furthermore it could be a leading example for the world as well.

Conclusions

ZONING AND LAND-USE CONTROL IN THE ARAB-MUSLIM CITY

DR. SALEH AL-HATHLOUL

DEPUTY MINISTER FOR TOWN PLANNING MINISTRY
OF MUNICIPAL & RURAL AFFAIRS RIYADH, SAUDI
ARABIA

This paper investigates the origins of zoning concepts, analysis of the mechanism of land use control and shows the implication of both on the traditional physical environment in the Arab-Muslim city.

The paper consists of two parts. The first deals with markets: their location within the city and their arrangements, the development of the "Qaysariyah" and the specialized areas. The second part deals with the relationship between residential areas and industry within the city; the key factors determining this relationship such as sources of damage, i.e., smoke, odor, sound and vibration; the types of sources of damage, their origin, and their necessity to the livelihood of the inhabitant.

The analysis shows how certain rules or social conventions were established to deal with what we, today, call zoning districts, explains the themes implied by these conventions and the reasoning behind them.

Markets

The idea of designating a certain site for the market within the city was started by the Prophet himself in Medina. There he chose "baqi al-Zubayr", which is very close to the mosque, as the site for the market, but because of the opposition of "Ka'b b. al-Ashraf", he moved it to what is known in present-day Medina as "al-Manakhah". When the Prophet declared the site of the market, it is reported that he said: "This is your "suq", it is not to be built or acquired, and no tax is to be levied on it." The market of Medina continued to occupy the same site without being built on until the reign of Muawiyah. (41A.H/ 661A.D-60A.H/ 680). The same pattern was followed in the "amsar" towns. In each of the three towns of Al-Kufah, Al-Basrah, and Al-Fustat, the market was located from the beginning in the areas surrounding the mosque or near it. The markets in the "amsar" were left open without any building in their early years. The first building of the markets of

Al-Kufah, for instance, is reported to have taken place during the reign of Hisham b. Abd al-Malik. (105A.H/ 724A.D-125A.H/ 743A.D). In al-Fustat, on the other hand, building activities in the market are reported to have taken place in the reign of Abd al-Malik (65A.H/685A.D-86A.H/705A.D).¹

The earliest development of covered markets, or "qaysariyah" we know of took place in Medina. There, it is reported, Muawiyah b. Abi Sufyan built two buildings within the market area and levied taxes on those who occupied them. The two buildings were known as "Dar al-qatran" and "Dar al-nuqsan". The market of al-Fustat seems to have been next, where during the reign of Abd al-Malik b. Marwan, it is reported that his governor of Egypt built several "qaysariyat" (pl. of "qaysariyah"). Among them were those of "al-casal" (honey), "of al-hibal" (ropes), of "al-kibash" (rams), of "al-bazz" (textile). Al Qayrawan, founded during the reign of Muawiyah in the year 50A.H(670A.D, seems also to have had a covered suq around the end of the first century (beginning of the eighth century). Al-Bakri (d. 487A.H/1094A.D) relates that al-Qayrawan had a "suq" abutting the mosque on the "qiblah" side and that this "suq" had a roof which encompassed all stores and crafts. As to when this was first built, he does not say, but he relates that the roof had been exposed to some damage, and that Hisham b. Abd al-Malik ordered to renovate it in the year 105A.H/724A.D.²

The previous cases of Medina, Al-Fustat and Al-Qayrawan show that the tradition of having covered markets within the Arab-Muslim city began in the early Umayyad period. However, this tradition seems to have reached its peak during the reign of Hisham bin Abd al-Malik (105A.H/724A.D-125A.H/ 743A.D). He undertook a huge building program of markets in Medina and in all the "amsar" towns. In Al-Qayrawan the above mentioned renovation of the roofed market was carried out in the first year of his reign. And in Al-Fustat it is reported that he built a large "qaysariyah" which was known by his name. The most ambitious projects, however, were those of Al-Kufah and of Medina. In Al-Kufah, it is reported that Khalid al-Qasri, the governor of Iraq during most of Hisham's reign, was the first to have the markets built and covered. He is also reported to have assigned the sellers of each trade to a "Dar" with an entrance of their own within the market area, and to have levied taxes on the markets. In Medina, Hisham, on the advice of his governor there, undertook a development of the whole market area. This development was known as "dar" Hisham. It abutted the "al-musalla" area on the "qiblah" side and extended all the way to "thaniyat al-wadaa" in the north. Ibn Zabalab reports that "dar" Hisham blocked all the houses and quarters in the western part of Medina; therefore, passageways with gates were provided within it in front of the quarters of each tribe and opposite to the streets and lanes of the city as well. Some lanes are reported also to have been provided with doors which could be closed when needed. The "dar" is reported to have been built in the form of "buyut" (pl. of "bayt," a residence) of two storeys; the ground floor was used for

shops, which were rented to merchants and shopkeepers, while the upper floor was rented as apartments for residential purposes. Ibn Zabalāh also reports that Hishām did the same thing with the open area of "baqi al Zubayr" where this open area was built, the lanes were provided with gates that could be closed, and the whole complex was rented.³

It seems that specialized areas within the "suq" developed simultaneously with, if not earlier than, the development of covered markets and the involvement of the state in their building. The names of the "qaysariyat" built during Abd al-Malik's reign in Al-Fustat could have been an indication of the activities taking place inside them although no explicit reference to this effect is made. In the case of al-kufah's market, it is explicitly stated that when Khalid undertook the building of the market area, he assigned the sellers of each trade to a "dar" of their own with a separate entrance. Baghdad and Samarra's markets were also laid out with specialized areas. For Baghdad it is reported that when Al-Mansur decided to transfer the markets from both the circular city and al-Sharqiyah to al-Karkh, he called for a wide garment and traced the plan of the market on it. He also assigned for the sellers of each trade a place of their own where they were confined to one kind of trade. Describing the market areas at Al-Karkh, al-Yaqubi relates that for the traders of each specified good or services there were defined lanes, and that no group or trade mixed with any other nor was a category being sold with another category. He also relates that the crafts within the market area were kept separate from each other, with each type of craft having its own lane. As to the markets of Samarra', Al-Yaqubi reports that they were laid out around the congregational mosque with wide lanes, with each trade being separate from other types of trade, following the same pattern of the markets of Baghdad.⁴

By the time Samarra' was founded, in the early third century A.H, it seems that the system of covered markets with their specialized zones had become the tradition within the Arab-Muslim city. These markets were either developed by the State at once, such as the building of al-Kufah's markets or the laying out of the markets of Baghdad; or they followed an incremental process of development, such as in the case of Medina after the demolition of dar Hishām, or the case of al-Fustat where parts of its market were built by the State at different intervals while the rest was probably developed privately. Such a system most probably developed out of the need for a steady income for the State and the cities. Thus, during the Umayyad period and especially during Hishām's reign, we have the huge building programs, referred to earlier, where markets were built and rented to shopkeepers in several cities. In other cases taxes were levied on shopkeepers too. Such was the case in Baghdad where Al-Mahdi is reported to have levied taxes on the Al-Karkh markets after Al-Mansur's death.⁵

Once the State and the cities began to look at the markets as a source of income, an administrative machinery had to be created to supervise the markets' organization and to ensure a steady flow of income. This was to be found in the person of the "Muhtasib", an already existing post which had been in use since the Prophet's time, and whose main concern then was to supervise the quality of merchandise and to ensure that the process of buying and selling within the market followed prescribed religious principles.⁶ It appears that the importance of this post gradually increased with the growth of the specialized market system within the Arab-Muslim city. Very soon, the role and duties of the "muhtasib" and his responsibilities in the market areas began to be specified in treatises. The treatises developed into manuals instructing the "muhtasib" on how to conduct his duties and responsibilities. Of these manuals, the earliest referred to, are two books written by Al-Sarkhasi (d. 286A.H/899A.E) who assumed the post of "hisbah" in Baghdad during the reign of Al-Muctadid (279A.H/892A.D-289A.H/902A.D).⁷ The manuals of the "hisbah" provide a fairly elaborate set of customary land use zoning regulations for the Arab-Muslim city. These regulations seem to have been exacted from an already existing pattern whose development we saw above.

Regarding the organization of the markets, Al-Shayzari (d. 589A.H/1193A.D), informs us in his manual that

...(the "muhtasib") should see to it that producers or retailers of the same kind of goods have one of the market lanes completely for themselves, so the lane will be known by their trade, since this will make it easier for their customers and will make their product more saleable. As for the artisans whose products need the setting of fire - such as bakers, cooks, and blacksmiths - it is preferable for the "muhtasib" to place them at a distance from the dealers in perfumes and the drapers, since they share no similarities and because of the possibility of causing harm⁸.

The order in which the several trades follow one another in the layout of the market evolved, it seems, from the concept of similarity as well as from the notion of avoiding harm or damage to anyone. Also, the grouping together of retailers of similar goods made it easier for the "muhtasib" to control the quality of goods and to collect taxes. As for the retailers themselves, the grouping gave them a greater opportunity to organize themselves and to control their trade. Finally, it was clearly easier and more convenient for the consumer, as Al-Shayzari points out, to shop in one place.

The concept of need is also invoked. Regarding those products and crafts which are not suitable for the main market, the manuals specify that they must be located either outside the walls or in places within the town accessible to those who need them, while at the same time causing no harm to the passersby. For instance, firewood "should be sold in certain places So

should plaster and comparable materials. All should be sold in well known places so people can go there when they need them."⁹ The "muhtasib" should also see to it that bakers and breadmakers "are distributed throughout the neighbourhoods, lanes, and the far reaching points in the city, since they are considered to be part of the general services and because of the inhabitants' great need for them"¹⁰

Other items which the manuals deal with specifically can be classified as causing harm and damage, such as slaughtering livestock and fish, or creating smoke. Butchers must not slaughter at the doors of their shops, for they shed the roads with blood and dung and obstruct the roadway and do harm to the public by the splashing of unclean matter; the slaughterhouse is the proper place¹¹. The fish market must be far from the main street because of its bad odour and because of the manner in which its sellers are usually dressed.... The "muhtasib" should also prevent the dyers from having their ovens on the street since the smoke causes discomfort to the passersby....¹².

Thus, three themes can be identified as underlying the regulation pertaining to the location of goods and services in the market. The first, the concept of similarity, has been applied to the market arrangement. The second, the relative frequency of the need of inhabitants to avail themselves of certain products as well as the need of these businesses, was instrumental in choosing their locations. The third, avoiding causing harm and damage, was the determining factor in locating all businesses that were considered to be the source of either smoke or repulsive odours. This concept coupled with that of similarity, helped to keep sources of damage within the market near each other.

Residential areas and industry

The concept of causing harm and damage invoked earlier seems to have been decisive in determining the location of industries and in separating them from residential areas within the city. This concept was elaborated and developed by the "fuqaha" (pl. of "faqih" jurist). They invoke the tradition of the Prophet which states "There shall be no damage and no mutual infliction of damage" ("la darar wa-la dirar"). The Maliki jurists look upon damage as falling into two categories: preexisting and new. All the Malikis agree that a new source of damage has to be removed. As for a preexisting source of damage, they identify two subcategories. The first concerns cases of activities which were established before the surrounding properties were developed. As generally regarded by the "fuqaha", prior occurrence confirms the continuation of the activity since the source of damage existed before others came (li'annahu dararun dukhila alayh). The second sub-category concerns cases of activities which commenced after the development of

neighbouring properties but existed for a long time before any objection was lodged by the neighbours. In this subcategory, there are two possible rulings. If the damage is considered severe, such as the smoke from bath-fires and furnaces, the dust of threshing, or the odour of tanneries, then the activity does not have the right to continue. If, on the other hand, the damage is considered minimal or necessary for a livelihood, such as the smoke from a baking oven or a kitchen in a house, then it should be accommodated.¹³

Ibn al-Qasim (d. 191A.H/807A.D) was told about a hypothetical individual who wished to build a bath house a furnace or a flour mill in his vacant lot. Since the neighbours would object, he was asked whether, according to Malik (d. 179/795), the neighbours had the right to prevent him. He responded, "if it would cause a damage for the neighbors such as smoke or comparable matters, then they have the right to prevent him from doing so, because Malik said that one should be prevented from causing harm to his neighbours."¹⁴

Additionally, Ibn al-Qasim was also asked if the hypothetical individual were a blacksmith, and he were to build a bellows or an oven to melt gold and silver in the lot, or set up a quern for milling that would cause damage to the neighbour's wall or dig out wells or set up a latrine near his neighbour's wall they have the right to prevent him from doing so. He said, 'Yes, that is what Malik said in more than one of these cases, regarding smoke and other comparable matters.' However, when asked whether, according to Malik, he would consider the smoke of a baking oven damaging, he replied, "I heard nothing about it from Malik, but I would consider it very slight."¹⁵

Muslim jurists considered extensively the sources of damage, i.e., smoke, odour, sound, and vibration. They discussed the types of sources of damage, their origin, and their necessity to the livelihood of their owners.

1. **Smoke:** Smoke of all kinds was considered harmful because of the reference in the Quran to it as a 'penalty grievous.'

(Then watch thou for the day that the sky will bring forth a kind of smoke (or mist) plainly visible. Enveloping the people: this will be a Penalty Grievous.) (Q, XLIV, 10, 11)¹⁶

Smoke coming from new and preexisting sources was treated separately. Two types among the preexisting sources of smoke were identified: the smoke of the baking oven, the kitchen and similar things considered to be necessities was to be allowed; the smoke of bath - fires, furnaces and comparable matters was to be suppressed.¹⁷ In this latter category are the mills, mentioned by Ibn al-Rami, in which barley was boiled in the streets and the houses of Tunis at his time. He refers to a case of a group of individuals who complained to the judge, Ibn Abd al-Rafic (d. 733A.H/1333A.D), about the damage caused by the smoke of such mills. Ibn al-Rami relates.

..... the judge asked us to investigate the matter, and we wrote in a document that it produced too much smoke, and that it caused damage to the neighbours. The judge, then, ordered the mill to be stopped.

Regarding the damage caused by the new or unobjected to sources of smoke which originated later than other uses, of an area such as baths and furnaces, Ibn Abd al-Fafi said.

"It has to be stopped, or they (the owners) should manage to remove the damage caused for neighbours, be it old or recent, since such damage cannot be justified by being old¹⁸".

Now if the jurists agree that a preexisting source of damage has the right to continue, what if the owner of such a source wants to create a new source within the same place or to enlarge the old one? According to Ibn al-Qattan (lived in Tunis in the late seventh, early eighth century A.H.) new or additional sources should be prevented. In an actual case, which took place in Tunis, Ibn al-Rami relates that:

... an individual owned a lime-kiln (kawshah) with a fireplace. He decided to make another fireplace and to connect it to the chimney of the existing one. His neighbours objected on the grounds that he created a new source rather than an addition to the old one. They sued him before the judge Ibn al-Qattan, who ordered the new fireplace closed¹⁹.

2. **Odour:** The origin invoked for preventing impurities and repulsive odour is the tradition of the Prophet which states: "He who eats from this tree should not come to our mosque; [he] annoys us with the garlic's smell."²⁰ If the individual who eats garlic should not go to the mosque because he annoys others by the smell, then it would be obvious that repulsive odours that spread throughout the city and cause harm to the inhabitants should not be tolerated. Mutarrif (d. 220A.H/835A.D), Ibn al-Majishun (d. 213A.H/828A.D) and Asbagh (d. 225A.H/840A.D) were asked about an individual who had set up a tannery in his house. His neighbours complained about the odour and asserted that this caused them harm and damage. Did they have the right to stop him? All three argued that the neighbours had the right and that the tannery should be closed. Also considered to be harmful was the setting up of a latrine, an uncovered canal, or anything with an offensive odour near the house of a neighbour. All these, according to Ibn Itab and Ibn Abd al-Ghafur "should be stopped and one should be compelled to cover them in order not to annoy his neighbours, since the offensive smell hurts the nostrils and annoys human beings."²¹

In an actual case that took place in Tunis, Ibn al-Rami relates the story of an individual who built an arwa²² for a small animal behind his neighbour's house. The neighbours complained about the damage caused to him, and the judge ordered Ibn al-Rami to investigate the case. By looking into the case, he found that the arwa was new and so told the judge. The judge then ordered both the arwa and the animal removed. However,

the animal's owner appealed on the grounds that his livelihood depended on the animal, and requested the opinion of experts to ascertain if there might not be some way to protect his neighbours while keeping the animal. The experts, including Ibn al-Rami, ordered the owner to dig a foundation behind his neighbour's wall to a depth of the height of a man, to build on his own property a wall which should begin five palms below the ground's level, with a thickness of two palms, and with about half a palm of air space left between the two walls for ventilation. The air space was required to start five palms below the ground level and continue up to the roof. The experts informed the judge of what they said to the owner and, when it was done, the damage to the neighbours was considered removed.²³

3. Sound and Vibration: Damage caused by these two sources is divided into two categories. One is vibration which causes damage to the building. This is considered dangerous and, as generally regarded, should be prevented. Ibn al-Rami related that a group of people in Tunis built a gate for their lane, where the door opened against the wall of another person. This person sued them in the court on the grounds that the continuous opening and closing of the door caused him damage and discomfort. Ibn al-Rami was ordered by the judge to investigate the case, and thus he looked to whether the wall vibrated when the door was opened or closed, and the wall did. Once this was proved the judge ordered the gate demolished and the door removed.²⁴

The other category is the sound which causes only discomfort to the inhabitants. On this matter, the Malikis differ. The earlier jurists did not consider sound to cause any kind of harm. For instance, Mutarrif, Ibn al-Majishun, and Asbagh had the opinion that the laundryman and the hammerer (*al-darrab*) should not be stopped only because the neighbours were annoyed by their noise. Ibn al-Qattan goes even further to say that "one should not be prevented from hammering iron in his house, even if he will do so day and night, provided that his livelihood depends on it."²⁵ However, the later jurists seem to have had a different opinion. They look upon sound, echo and noise as some sort of harm that should be prevented. The judges of Toledo, according to Ibn al-Rami, ruled to stop the applicers of hot packs [*al-kammadin*; pl. of *kammad*] when the neighbours were annoyed and harm was caused as a result of hearing their sounds.²⁶ And Ibn Abd al-Rafic, the judge of Tunis, states that "one should be prevented from establishing a stable beside his neighbour's house because ... the animal's movement during the day and night prevents one from sleeping."²⁷ Thus, noise seems to have been considered by later jurists as a sort of harm, which should be prevented.

From the previous cases one can see that Muslim jurists differentiated among the types of uses in the city. Since they were concerned with the fulfillment of the inhabitants' needs as well as with preventing harm and damage that might be caused to

them, they looked at the uses in two ways: One was according to the needs of the inhabitants where two types are identified: the frequently needed and the rarely needed business or industry. This can be seen in almost any Arab-Muslim city of the 19th century, where large industries which were rarely needed such as those of building materials and comparable factories were located outside the city walls. Such was the case in Medina of 1303A.H/1885A.D, where factories of building materials and pottery were located on the south-eastern side outside the quba gate, while other factories were reported outside the shami gate in the north.²⁸

The other, in which the jurists looked at the uses, was from the point of view of the causing of harm or damage, where also two types are identified: that causes harm or damage and that which is harmless. By locating the rarely needed industries outside the city, or granting those which caused harm or damage the right to continue when they originated before the surrounding properties were developed while preventing new ones from taking place in areas where neighbours would object to them, Muslim jurists accommodated the idea of declaring zones for specific types of uses within the city. Based on the concept of avoiding the causing of harm or damage, they give priority to the use which originated first, whether it was residential or industrial. Once this specific use had been established, then other types might move in provided that they would not cause harm or damage to existing users. However, it should be pointed out here that the jurists always tended to support the right of residents more than those of industry. Even when they granted a certain industry the right to continue since it originated before the surrounding properties were developed, they still would not allow this industry to expand nor would they allow new ones to move in when neighbours would object to them since this would mean an increase in the amount of harm or damage cause to the residents of that area. This attitude explains the continuous tendency of industries and places of production to move to the peripheries within the Arab-Muslim cities whenever expansion and physical growth takes place. This was the case in Aleppo, where places of production moved from areas within the central bazaar to an eastern suburb, and later to the northern Christian quarter.²⁹

NOTES

1. For Medina, al-Samhudi (d.911/1505), *Wafa' al Wafa'* 2nd ed., Beirut, (1971), v. II, pp. 747-750. For al-Kufah, al-Yacqubi (d. 284/897), *Kitab al-Buldan*, Leiden (1860), p. 96. For al-Fustat, Ibn Abd Al-Hakam (d. 257/871), *Futuh Misr*, Leiden (1920), pp. 113, 136.
2. For Medina, al-Samhudi, op.cit. v.II, p. 750. For al-Fustat, Ibn Abd al-Hakam, op.cit., p. 136. For al-Qayrawn, al-Bakri (d.487/1094), *al-Mughrib fi Dhikr Bilad Ifriqiya wa-al-Maghrib*, Paris (1911), p. 25.
3. For Al-Fustat, Ibn Abd Al-Hakam, op. cit., p. 136. For Al-Kufah, Al-Yacqui, op.cit., p.96. For Medina, Al-Samhudi, op.cit., ci. II, pp. 750-652. Ibn Shabbah relates that when the news of Hisham's death reached Medina in the year 125/743, the people demolished his dar and took its wood and its doors, and that it was leveled to the ground within three days. Ibid., p.753.
4. For Baghdad's market, Al-Khatib, (d. 463/1071), *Tarikh Baghdad*, 12 vols., Beirut (1966), v.I., pp. 79-80; Al-Yacqubi, op.cit., p. 18. For Samarra Al-Yacqubi, op.cit., pp. 32, 35.
5. Al-Khatib, op.cit., p. 81.
6. The Muhtasib is the traditional inspector of the market in Arab-Muslim cities. He derived his authority form the religious injunction hisbah: "to promote good and forbid evil." The post of hisbah existed at the Prophet's time." It is reported that he assigned cUmar b. Al-Khattab to the market of Medina, and Said b. Al-As to the market of Mecca. Al-Kittani, *Al-Taratib Al-Idariyah*, 2 vols., 2nd ed., Beirut, (1971), v.I, pp. 284-290.
7. Al-Sarikhasi, Abu Al-Abbas, Ahmad b. Muhammad b. Marwan (d. 286/899), K. Ghish Al-Sinacat wa-Al-Hisbah Al-Saghir, and K. Al-Aghshash wa Sinacat Al-Hisbah Al-Kibar. See, K. Awwad, "Al-Hisbah fi Khizanat Al-Kutub Al-Arabiyyah" *Majallat Al-Majma Al-Ilmi Al-Arabi*, v. XVIII, No. 9 and 10; (1943) pp. 417-428, p. 420. A bibliographical account of the manuals and treatises written on the hisbah.
8. Al-Shayzari (d. 589/1193), *Nihayat Al-Rutbah fi Talab Al-Hisban*, 2nd ed., Beirut (1969), pp. 11/12.
9. Ibn Abdun (d. first half of 6th/12th century). "Risalat Ibn Abdun fi Al-Qada' wa-al-Hisbah," E. Levi-Provencal (ed.), *Thalath Rasa'il Andalusiyah fi Adab Al-Hisbah wa-al-Muhtasib*, Cairo (1955), p. 38.
10. Al-Sharyzari, op.cit., p. 24.
11. Ibn Al-Ukhuwwah (d. 729/1329), *Macalim Al-Qurbah f Ahkam Al-Hisbah*, R. Levy (ed. with an English abstract, Cambridge, Cambr. Univ. Press (1938), p. 99.
12. Ibn Abd Al-Ra'uf (d. 6th/12th century), "Risalat Ibn Abd Al-Ra'uf fi Adab Al-Hisbah," in Levi-Provencal, op.cit., p. 97-111.
13. Ibn Al-Rami, (d. 734/1334). K. Al-Ilan bi-Ahkam Al-Bunyan, manuscript of Rabat, Dar Al-Khizanah Al-Ammah, No. A80 2834, p. 20.
14. Malik (d. 179/795) Sahnun's compilation (d. 240/854), *Al-Mudawwanah*, 16 vols., Cairo (1323/1905), v.XIV, p. 235.
15. Ibid. XIV, p. 235.
16. Ibn Al-Rami p. 20. However, the word smoke should not be taken here on its simple meaning. According to A.Y. Ali "The 'smoke' or 'mist' is interpreted on good authority to refer to a severe famine in Mecca, in which men were so pinched with hunger that they saw mist before their eyes when they looked at the sky....." A.Y. Ali, *The Holy Quran*, Cambridge, Mass., 1964, II, p. 1345, ft. n 4696.
17. Ibn Al-Rami, p. 20.
18. Ibid., p. 21. Old, here, does not imply that the activity took place before other uses in the area, but that it continued for a long period before an objection was lodged by neighbors.
19. Ibid., p. 21.
20. Ibid., p. 22.
21. Ibid., p. 22. Ibn Al-Rami uses the term Khayashim, literally translates as gills, to mean nostrils.

22. Arwa as used here by Ibn Al-Rami refers to a sort of a stable. However, arwa, pl. of urwiyah is the female of the mountain goat. See: bn Manzur, *Lisan Al-Arab*, Beirut, 1968, vol. 14, pp. 350-351.
23. Ibn Al-Rami, p. 24. The palm referred to as a unit of measurement in Muslim literature, is not precisely defined. However, it is believed to be approximately 22 cm.
24. *Ibid.*, pp. 22, 45.
25. *Ibid.*, pp. 22, 23.
26. *Ibid.*, p. 22, Kammadin, pl. of Kammad from the verb Kamada, that is, to apply a hot compress or a hot pack to a limb.
27. *Ibid.*, p. 24. In his statement Ibn Abd Al-Rafi also invoked the damage for the neighbour's wall and offensive odors that usually result from stables. He says, "one should be prevented from establishing a stable besides his neighbour's house because of the damage that is usually caused, the urine of animals and its movements during day and night which prevents one from sleeping."
28. Ali b. Musa, "Wasf Al-Madinah Al-Munawwarah," (wr. 1303/1885) in H. Al-Jasir (ed.), *Rasa'il fi Tarikh Al-Madinah*, Rayadh (1972), pp. 45, 48.
- 28.E. Gaube, work in progress on the "Bazaars and Commercial Establishments of Aleppo." Lectures on Aleppo, Sept. 15-24, 1980, Dept. of Arch., M.I.T. Also see, Sauvaget, *Alep*, Paris, (1941), pp. 221/231. With in the same city, Sibt b. Al-Ajmi (d. 884/1479) records an instance of a qad removing a slaughter house from a location where it inconvenienced the residents of that area. Sauvaget, *Materiaux pour servir a l'histoire de la ville d'Alep*, Beirut (1933-50), v.II, p.54.

CO-ORDINATION BETWEEN THE NEW BUILDING LAW IN THE OLD CITY OF TUNIS AND THE ARAB ISLAMIC URBANIZATION CONCEPTS.

MRS. GAMIELA BAYNOUS

DIRECTOR OF THE RESEARCH DEPT.,
SOCIETY OF CONSERVATION OF TUNIS.

Foreword

The new building law for the old city of Tunis was set as an attempt to link the past, present and the future of the old city together considering the historic values and the existing conditions. This law was set by the society of conservation of Tunis through the deduction of the constants and variables imposing themselves in the modern life.

Although the old city of Tunis is a part of an expanded urban body, yet it arises today as a characterised example of the arab Islamic urban pattern. This unique pattern represents three major aspects worth studying, the urban and architectural heritage, the residential quarter and the important economic center.

1- The urban characteristics of the city of Tunis.

The housing sector in the old city is suffering a great deal of problems:-

- a- A remarkable shortage in the number of dwellings considering the existing population and the reasonable density standards. The whole city encloses 15000 dwellings while the actual number of families is 28000.
- b- The dilapidation of the existing buildings where as 6500 dwelling are in a drastic condition and need partial restoration while 1000 dwellings are severely damaged and need entire renewal.
- c- Severe shortage in sanitary accommodations where as 2000 dwellings are not connected to any sewage canals while 3000 dwellings are not connected to any water supply network.

Inspite of the above mentioned deteriorating housing condition in the old city, and being in a central location and having a dynamic economy, it became in the last decade the center of

interest to many owners who were ready to carry out reparation work for the dilapidated buildings and reconstruction in the vacant lands. Hence, it became of prime importance to confront this new trend by setting an appropriate legislation by which building leases are given for new buildings or for renewal work or restoration of an existing building.

The ex-law, set during the French occupation, was entirely conflictory with the basic concepts of the Arab Islamic Urban pattern; According to Athens Covenant, the city was divided to residential and business sectors without considering the intermeddling nature of both functions, previously illustrated in the Islamic urban pattern. The unsuitability of the ex-law is also expressed in the ranging concept of dwelling demolition for the modification of room networks of the city to achieve the gridiron pattern of the western towns. Yet traditional recent studies proved that the typical urban pattern of the Arab city, besides its aesthetic values, has a unique climatic treatment. The narrow winding paths give daytime shade while the dead-end routes help to preserve the cool night breeze within the mass.

2- The major elements of the architectural and urban framework of the city:-

The house:-

The house is the family's abode and residence for peace and comfort. It usually surrounds an open internal court (atrium) which is the main source for light and air. This court is the most suitable adaptation for air-conditioning in hot dry climate. When several houses cluster together, they form a residential neighbourhood which opens on unpermeable narrow routes thus forming one big internally enclosed house. The Neighbourhood being strictly residential, does not enclose any commercial or industrial activities.

Roads network

The Islamic city is characterized by an interpenetration of functions between housing and work. The residential neighbourhood is encompassed by a road network - which hold the other non-residential activities - There exist:-

- A) The Markets (Suqs) network: These markets are in most cases covered, specially, those of traditional trades which are distributed according to their specialization each trade has its own location within the suq where production and marketing takes place.
- B) Commercial routes: In those routes, different trades, warehouses, stores and smaller industries take place as well as religious buildings as the mosques and "Mosalyat". There are also places for cultural and recreational activities as schools, cafes, hotels and hamams.

- C) Residential routes: Those routes usually lead to a number of houses of a low quality than those in the residential neighbourhoods. Several shops gather along these routes selling daily requirements e.g. groceries etc.

All the above mentioned elements are still existing in the old city of Tunis.

3) Conservation concepts:-

The conservation policy does not aim to bring the existing architectural status to a stand still, but its main objective is to identify the criteria upon which the architectural and urban pattern was based taking into consideration the essential developments.

These rules deal with the following aspects:-

A) The traditional housing framework:-

This rule calls for building around an internal open court (Atrium) thus sticking to the height regulations appropriate to the open spaces.

B) Horizontality of buildings:

This means sticking to the concept of suitability of volumes to the surrounding built up mass. This concept forbades any sudden breakdown between the built-up mass of the old city and those of the surrounding buildings. The existence of high rise buildings side by side to the old city's built up mass ruins the traditional character of the old city.

C) Co-ordination of residential spaces:-

This means the preservation of the functional differentiation between the private and the public mass which is considered one of the main characteristics of the traditional urban pattern. This segregation is apparently seen in the neighbourhood unit.

D) Conservation of the differentiations hierarchy of routes:-

It is quite essential to stick to the concept of segregation between areas of different functions and to avoid any irregularity in the system of spaces such as changing their traditional functions specially those of commercial nature on behalf of the residential areas.

E) Conservation of the routes' character for pedestrian use:-

F) Determination of restoration and renewal area:-

The external walls of the old city form the maximum extensions for the old city although these walls have almost demolished yet the external roads network can form the external borders for this area, surrounding the city and separating it from the rest of the residential cluster.

District hierarchy:-

The different areas were divided considering two measures, function and morphology. Considering the first factor, three major functions were defined, the residential administrative and the economic function. In the second phase, the morphological

factor is taken into consideration whereas new divisions were obtained forming a better and more detailed idea of the actual urban character of the city.

In the residential sector two modes of residential quarters existed. Each of which has its district morphological characteristics. The first type is that holding the traditional pattern - previously named as the neighbourhood unit while the second type is the modern quarter known by Cité Jardin.

The administrative sector is divided into two areas, the lower administrative area having a historic character dating back to the last century. The upper administrative area - the modern area - is characterized by its independent urban pattern.

In the economic sector, the economical activities have clustered together at the terminals of the routes which were divided into three types.

a) Residential routes which play an important role in attracting commercial activities (daily activities) besides its main role by leading to the dwelling quarters.

b) Covered suqs' routes: these routes are characterized by dense commercial activities and an independent morphology.

- Uncovered Commercial routes they tend to attract different commercial activities.

It was noticed that there exists other areas lying within the traditional pattern of the city. Besides the above mentioned divisions, they need a process of up-grading or re-accommodation as Al-Hafsia, Al-Kharaba. Those renewal programmes included joint projects for renovation and reconstruction. There are also other areas (surrounding the city). They are divided into two types, the traditional and the modern architectural pattern.

5- Important regulations.

After defining the historical areas which need preservation and up-grading. The new building law set up a series of regulations concerning the whole city and others concerning certain areas according to their circumstances.

The most important regulations concerning the city are as follows:-

- a) Preservation of the existing planning of the major and secondary routes and forbidding any new ones except within the renewal plans.
- b) Omission of the ranging concept and the erection of new buildings on their existing boundaries.
- c) Restricting the building heights to two storeys except for the new areas where three storeys are allowed as a maximum height.
- d) Buildings should stick to the continuous row housing except for the new quarter known as Cite Jardin.
- e) Forbidding the presence of any balconies except for the traditional windows (Qanaria), on condition that the street width is not less than 3.5 mt, the window's protrusion is less than 0.80

mt and that the window constitutes one third of the facade but not more than 3mt.

- f) Forbading the use of unfamiliar building materials specially in the facades (e.g. glass, aluminium, ... etc).
- g) Forbading the use of advertising boards, Neon signs ... etc.
- h) Forbading the existence of factories, workshops and polluting industries within the city.
- i) Conservation of all green patches and open spaces within the city. There are also some regulations concerning certain districts.

1- The residential neighbourhood

- The neccesity of the presence of an atruim respecting the following measures:-

for a gound floor house = The area of the court 24m².

for a single storey house = The area of the court 36m².

for a double storey house = The area of the court 100m².

In all cases the atrium must not be less than quarter of the piece of land.

- The activities allowed within the neighbourhood are residential and cultural activities. They might take place in the restored and renewed palaces in the area.

II- Traditional markets (suqs).

- Forbading the extension of any shop by enclosing the areas of two adjacent shops except within an area of 30m². If any trade requires a larger area such as carpets trade, then the suq takes the form of a "Wekala" around a court and is treated as a residential quarter.
- Forbading any storey above the ground level to prevent the misuse of roofs that might ruin the general view of the centre where the congregational mosque lies.
- Sticking to the specialization of the suqs as follows Suq Al-Lafa-suq Al-Qomash (Cloth) - Suq Al-Nessa - Suq Al-Attarin - Suq Al-Balaghgia - Suq Al-Shawshya - Suq Al-Bay - Suq 'Al-Baraka - Suq Al-Kababgia.

As for the commercial routes outside the suq, several regulations were laid for their locations, their activities the building regulations, width and according to their type and their approaches to the residential quarter and their traffic accessibility, etc.

ISLAMIC VALUES STRUCTURING THE SOCIETY

ENG. TAREK WALI

AL-MANAMAH - AL BAHREIN

The Islamic society.

Islamic is not only a belief but also a whole civilization, that has produced urban societies in which Islamic values have flourished. The question arises: what gives a society an Islamic character? The answer lies in understanding the attitude and behaviour produced by the divine system in the Islamic society. In this system, the law of the cosmos is coherent and submits to the perfect divine order, This order applies to the human beings, who are the servants of God. They submit to the divine cosmic order, exercising free will only within its limits. That order is defined by the Holy Koran and Sunnah, which call the human being to accept and submit to the divine order of his own free will without fear or pressure. Those who submit are the Muslims who together form the Islamic society and its institutions.

This society is unique in that it arises from a deliberate act, through a covenant between man and God. On the other hand, the material and social aspects of an Islamic society also respond to the different local cultures, that distinguish one society from another.

The structure of the Islamic society

The Islamic Society comprises various institutions; each of which has its own domain and role in the community that is not essentially related to a certain material form (such as committees and ministries), but includes as well a set of characteristics that determine the community's needs (such as individual behaviour, social relations, ways of thinking, laws, patterns and regulations,.... etc). Experts have agreed to classify these institutions as political, economic, social, religious and intellectual institutions. Through these institutions the Islamic society will achieve its goal. If anyone follows the Koran and Sunnah he will realise the characteristic features of the Islamic society.

Those Islamic features could be described as follows:-

1- Equality:-

Every individual is a Khalifa (that is he inherits sovereign rights, duties and responsibilities in his own life). There is no discrimination on grounds of social class or religious sect. All members of

society are equal, and no favours are given to any single individual or single group except by virtue of his merits or talents.

2- Justice

In the Islamic society, no individual or single group will seize absolute power depriving the individual's right to be a Khalifa. Islam requires a ruler who is elected by the Muslims to carry-out the laws, uphold justice and truth in running the State. He would be responsible on one hand to God and on the other hand to the Muslims who elected him.

3- Fair opportunities:-

In an Islamic society, each individual has the right to be promoted (self fulfillment) within the limits of his capability without preventing others from doing the same and without giving any consideration to the individuals origin or position in the society.

4- Freedom

Every sane individual has the right to practice objective freedom in the Islamic society, as every individual has his share of general Khalifa which God has not made conditional upon wealth or power, but rather upon belief and good work. All Muslims have an equal right of self expression.

The islamic values in political institutions.

The religious belief of the individual is considered a moral measure and an expression of the absolute values of the society, its relations and institutions in general and thus it constitutes the political institutions which regulate the individual and the group.

This applies to the Muslim and his worship as it applies to others, but with one significant difference as these political and social values have not existed during the pre-Islamic period in those lands which later turned to Islam. Therefore, the Muslim individual's understanding of equality, justice, fairplay, and freedom etc. arises from his belief. The Muslim believed in a powerful and just God before he envisaged any image of those earthly institutions. Accordingly, the image of Government was derived from his belief and that image was the ideal model of political institutions. The ruler of the cosmos is the Creator. The Government has descended orders and laws from the Creator and has valid justifications for them. There is also the individual man, who is responsible for his own actions.

The Islam has established the political institutions based upon four absolute values:-

- 1- The Individual's responsibility.

- 2- General rights and duties equally distributed among the subjects.
- 3- The obligation of Shura (or consultation) upon those in charge.
- 4- An obligation to mutual aid between citizens regardless of status or belief.

Having stated these four values, we can describe the Islamic Government as public Shurania, (consultative process) which is not the same thing as the western political democracy: which differs due to the Islamic character, origin and purpose. The public Shurania is a particular type of democracy because it depends on the nature of man and his responsibility toward his God and his conscience. The Shurania can be outlined in three main dimensions:-

1- Political values:-

The core of the Islamic rule is Shura in the choice of the Ruler, and even more important is Shura in running the state. Shura in Islam is a vital process: It is meant to work organically. Several social reformers called for Shura led by: Gamal Al-Din Al-Afghani who said:-

“ Shurania will exist one day when the world has gained true knowledge. Then the individual will discover that all people come from one source. Social position will reflect genuine merit and value to society, and not authority, wealth, slaves, armies, or any other false attributes or passing glories: rather it will reflect that true reputation which lasts for ever”.

2- Economic values:-

Some people have argued that Shurania cannot be achieved with unequal distribution of wealth. But actually differences between people are various and not limited to wealth. Some differences are innate, and therefore cannot be altered by laws, systems or Governments. If Shurania is valid with such innate differences, then it has even more reason to exist given an ever-changing distribution of wealth. In the Islamic society, the rich cannot exploit the poor. The Shurania takes account of those who are incapable through no fault of their own. It requires Zakat which is regular contribution giving to the poor as a rightful portion of total assets.

3- Social values

People will cooperate in order to pursue social obligations, which are not limited by the wishes of the Governor or the rules of the Government. No one person has the right to pursue these obligations more than any other person, but the obligations are pursued according to the individual capability. The opportunity for promotion is equally open to the Governor and his subjects.

The definition of Shurania can be given in one word: Commonality, of the source, and in application and validation. The structure of the Islamic society was never based on ethnic origin. The philosophy of the society was based on divine order. The basic character of this society was given by its own objectives and principles. Whoever accepted those principles and followed them became a participant, responsible in running the society, regardless of his origin or nationality. If our claim to build true Islamic societies is serious, then we should revive the Islamic values of the political institutions.

With the fall of more than thirty Islamic states, the political institutions of Islamic societies have changed, getting closer to (or further from) the basic Islamic concepts, and thus also from Shurania as a political institution. They reached a peak in the era of Kholafaa Rasheedeen, which marked the beginning of Islamic civilization. The values of Shurania at this time legitimated the political system and so enabled its continuity. When Islamic societies had collapsed during the Ottoman era; the political institutions more or less abandoned Shurania. They then declined towards certain western values which are alien to Islam. Individual dictatorship violated the rights of individuals and groups and since then the society has lost its Islamic character.

Islamic civilization has oscillated since its beginning with a decline followed by a recovery. This has caused a reformation, in the urban fabric of the community. By detecting certain patterns of Shurania, one can define its role in the structure of the urban society:-

1- Individual responsibility

After Islamic social and political values were established, harmony was achieved between the individual building and the whole urban fabric. The different features of the various functions or events produced variant architectural patterns, which in turn acquired their own dimensions and features. A mosque differs from a school, a house, a hamam; a wikala a Khan or a rabat. It would be easy for the public or experts to identify or describe any of these buildings. However, they all undergo one comprehensive framework which gives the fabric its Islamic character derived from the legality of its institutions and the commonality of the source. This further expresses the harmony between individual responsibility and positive freedom; that is the creativity and self development of both individual and groups.

When the society departed those values then equality gave way to discrimination. This limited the individuals ability and freedom to create, and caused the appearance of urban distinctions within the urban fabric. This distinction resulted from following alien architectural styles (western or eastern) far from the creative abilities of the Muslim architect. This can be illustrated

by the influence of Byzantine architecture which prevailed during early ottoman era: the buildings lost their identity and the typical urban fabric decomposed. This marked the start of the total collapse of a civilization.

2- Individual freedom and legality of society

Shurania has defined the relationship between the individual and the society in entire harmony. Individualism is not violated, as in communist regime neither does the individual freedom violate the rights of the group, as in capitalist regime. This harmony between the individual and the group has characterised the birth and the rise of the Islamic civilization. Shurania has not neglected the group's rights whilst granting individual freedom. It allowed Muslim creativity to flourish and was associated with urban development on different levels, such that no work, however small, violated the rules of the craft or the legitimacy of the craftsmen to which he is related. The rules and application emerging from one involved source, allowed architectural creativity to reach relative perfection, not only materially but also morally. When the individualistic trend dominates society, allowing the individual to override the social laws, the society then loses its shurania and thus lack of harmony between architectural elements of the urban fabric. Regardless of the extent to which individual elements reach the highest technology or aesthetic values, they are no more isolated artifacts which fail to express the comprehensiveness of the society. When the individual loses his freedom, the urban fabric loses both its solidarity and momentum for renewal and revival and the whole society disintegrates.

3- Universality of rights and duties

The source of Shurania and its values is both the divine laws and the core principles of Islam, which depend on the commonality of the origin and universality of application. The residence of Khelafa (government) as a political urban component had a strong relation with the Masjid-Jamii (Friday Mosque), as a source for legal divine rules. The Prophet's Masjid, which is established in Medina was the first residence of Islamic government. This political religious component was the center of the urban fabric. It derived its existence and continued legitimacy from this location.

The Islamic societies had a strong relation between political institutions and Shareea, which varied from the superficial to the profound. Consequently the centers of most Islamic cities are formed by the Masjid - Jamii and the residence of the government or the headquarters for Khelafa. Both formed the urban core; they integrated and interacted as in Fustat, Qata'e and Kufa. In other cases, they were totally separated from the urban fabric but still they were located in the centre, as in the circular city of Al-Mansour in Iraq.

4- The necessity of shura consultation between the governor and the people.

Shurania was based on the individual's right and responsibility in front of God and his conscience. It also guaranteed the coalescence of different social groups and organizations and the universality of mutual rights and duties of Governor and people.

When the values of Shurania were into the life of Society, the residence of the government became related to the center of urban life in the community. It derived its existence and urbanistic meaning through the spatial pattern of the community. This pattern was broken only when function required it and never for the purpose of discriminating between the official architecture of the Governor and the public architecture of the people.

Shurania has experienced eras of high civilization which relapsed and revived several times. With the collapse of the Islamic states, political institutions were diverted from the values of Shurania. The cult of personality and dictatorship underlined the relationship between the Governor and people. This led to the appearance of fortresses and royal cities, which were grossly extravagant and separate from the rest of the urban community. This separation, moreover, was enforced by physical barriers either natural or man-made, or by moral, social or economic obstacles. True Islamic Societies have never experienced this before. This separation is illustrated by the Cairo fortress established by Gohar El-Seqly. This comprised a royal city and a political community separated from patterns prevailing in popular architecture as displayed in Fustat. Thus in the Islamic society an official political architecture emerged which was hitherto unknown.

Political institutions and the structure of Islamic society in Egypt.

Political institutions fluctuated between the general Shurania on the one hand and the cult of personality and dictatorship on the other. This led to the appearance of various urban communities starting in Fustat, which appeared with its urban forms reflecting the ways of life as delineated by Islamic values. This brought together the Governor and people in an urban fabric springing from these values. The compatibility between the individual building and the general layout of the whole city was apparent. The city core enclosed the Masjid - Jamii representing the religious, political and educational centre as well as law court and treasury. This centre was related spatially to the government's residence. Around these buildings clustered the market places and the commercial and production centres of the society. Together these formed the centre of the urban community.

In the year 133 of Hijra, (751 A.D.) following the fall of the Ummayid state in the east, the Abbassids entered Egypt and established the city of Askar, North - east of Al-Fustat, and established their new capital. Al-Askar was an extension of the old

capital, being a new community fused with the existing one. In the year 256 of Hijra (870 AD), the Egyptian Islamic society was separated from the Abbassid political structure and a new city was established which seemed to bring together the Governor and people in one urban framework. Its urban forms actually led to their segregation, as a result of the diversion of political institutions in the new community towards the cult of personality and dictatorship, disguised by an outward display pretending to reconcile the rulership with Islamic Shareea. Therefore the residence of the government became related to the Masjid Jamie (Ibn-Toulon Mosque). The Governors' life was separated from the people and thus individual urban patterns appeared for official buildings for the Governor that were different from those built for the people.

Individualistic trends prevailed throughout the society where uncontrolled individual freedom ruled out community legitimacy. The Society lost its Shurania therefore giving up harmony among ingredients making up its urban fabric. Copies of alien architectural character appeared in Egypt however it was later comprehended within the Egyptian character. Upon the temporary revival of Shurania values after the Islamic Society had almost lost it, the three urban settlements of Fustat, Askar and Qata'e melted in one urban formation. This revival had hardly settled in when Islamic Society witnessed a severe relapse caused by the most individualistic dictatorship with the birth of the Fatimid State in Egypt 358 - Hijra (969 AD). The Cairo Fortress was established as a royal city separate from the society and its structures. A fake outer shell displayed the Islamic character. When political institutions started to decline with all its individualistic and class discrimination values, public urban settlements enclosed political urban elements in a trial to bring Islamic values to political institutions.

With the deterioration of the Fatimid state, Salahuddin Al-Ayubee, the Fatimid Minister - succeeded to overthrow the Khaleefa in the year 567 of Hijra (1171 AD). He declared the birth of a new state headed by him. It witnessed military activities to face outside threats for the Islamic society as a whole. This led to the appearance of new values in political institutions never known to the Islamic Egyptian Society before Salahuddin tried to encompass all urban settlements with a single entity, by erecting his Citadel which presented the political/Military headquarters separated from that settlement. This was how the political military urban element appeared as an expression of the return to dictatorship or a similar system which was separate from the legality of its Shurania among its common.

Cairo of Salahuddin formed the start of modern Cairo that evolved through Mamluks and Turkish eras. The different evolution stages of Cairo were not different in essence of their values of forms from the values of political institutions of the Cairo of

Salahuddin. These values diverted from the Shareea of Islamic Society.

Structure of modern islamic societies:-

Political Institutions have influenced the structure of the Islamic city and the society as well. Therefore, defining whether these societies were Islamic or not has been dependent upon what values these institutions expressed and how close or remote these values were from Islamic civilization laws and absolute values. The construction of the modern Islamic society is embedded in the establishment of political and public Institutions of the society. The general framework of the Islamic society is naturally based upon the urban and spatial relation with legalizing institutions of Shurania state on one hand and religious Islamic institutions, mosques, Jumma mosques on the other.

HOUSING PROBLEM IN TURKEY: FUNCTION OF REAL ESTATE CREDIT BANK OF TURKEY

ENG. BAHADIR AGÇA

HEAD OF CONSTRUCTION AND TECHNICAL
PROJECTS
GENERAL DIRECTORATE OF REAL ESTATE CREDIT
BANK OF TURKEY

Introduction

In the last twenty years (1960 - 1980), due to the rapid population growth in our country, the population living in cities has increased three times from 6.9 millions to 20.3 millions. Urbanization in Turkey develops as enlargement of big cities and therefore the total demand for houses in big cities becomes more curcial. In the twenty years period which includes the years from 1980 to 2000, it will be necessary to produce 6 million units of houses in order to satisfy the demand for housing in big cities only.

In this perspective, rapid population growth, urbanization due to industrialization, changes in techniques of production, collective settlement based on population movements, necessity to replace the old house stock; a construction process which is to satisfy the total demand for housing must be handled in a dynamic and up-dated manner based on the contemporary needs and planning methods. In the 49th article of the Turkish Constitution it is stated that: "The state should take measures in order to satisfy the needs of families of poor and low income groups for houses with proper health conditions." Therefore this task rests with the state.

In the period of planned economy which started in 1960, the housing problem has been evaluated as an economic activity related to development and it has been planned to devote 20 percent of the total public investment to this sector. During this period, in meeting housing need, the main aim was to reserve and to plan new settlement areas near the cities under supervision of house - cooperatives and municipalities in order to provide low-cost houses with proper health conditions. Moreover

house production by individual private enterprises has also been given due consideration.

In the period of planned economy, in which state rental houses besides property houses have been encouraged through tax policies, it has been thought to give the public loans for housing to the collective housing establishments with similar time and interest conditions. In the third plan period (1973 - 1977) Real Estate Credit Bank of Turkey has produced 40 percent of the total housing production through public institutions, without having received any subvention from the state. However, the increase in the prices of building materials, and the cost of land shares which reached 50 percent of the total cost of a house, have rapidly increased the cost of houses. Having begun to bring about some problems both for producers and consumers, this state of affairs has caused inadequacies in the effective housing demand and has also exerted negative influence on making new housing production decisions.

Eventually, by the law of "Collective Housing" which had come into force towards the end of 1981, the housing problem has, for the first time, been handled in a holistic, comprehensive and multilateral manner in close relation to the other sectors of the economy. With this law, it has been stipulated that the state will support and direct the housing problem and also a "Public Housing Fund", the greatest one in the history of Turkish Republic, has been founded-A significant progress has been made in financing the sector through the inclusion of all banks in the housing loan system.

On the other hand, care has been taken to differentiate the interest and maturity conditions of loans to be granted to homeless citizens, in accordance with the size of the house and the population of the settlement. And it has also been tried to arrange the terms of repayment with due regard to the financial status of citizens. With "Housing Saving System" which the Real Estate Credit Bank of Turkey has been applying successfully since 1951, the principle of granting by state "Incentive Premium" to house saving has been adopted in approximately the same manner as in applications of West European countries.

The framework of house production and organization in Turkey

The production processes in our country may be handled in two main groups:

- 1) The houses which have been built either by the landowner himself or by the contractors, and their living environment in the regular house-market:

This production process satisfies the housing needs of middle and high level income groups by way of renting or buying under the control of landowners and individual private enterprises in the market mechanism. This production process is regarded as a

slow one both in respect to technology applied and the application level. While the prices and supply of houses have increased in the short run, due to the increase in demand for houses, a remarkable increase in the total cost of house in the last 10 years has been observed. The houses which are produced directly or indirectly by such non-profit institutions as Ministry of Reconstruction and Settlement, General Directorate of Houses, Social Security Institutions, Local Administrations, House Cooperatives and Real Estate Credit Bank of Turkey are also subject to the same production process. These institutions are planning new settlement areas and sites which include a great number of dwellings and non-residence urban uses.

In the last years, the example in our country has been "Batikent New Settlement Project" for 300,000 people organized under the leadership of Ankara Municipality and Kent-Koop.

2) This production process, which has been adopted and applied by those people who are in need of a house by using their own labor, knowledge, and skills together with the minimization of labor and raw materials bought from market, has experienced a permanent change in conformity with the newly arising needs and facilities. In this process which appears in rural and gecekondu areas (squatter settlements of large urban areas), it is necessary to expend nearly \$4000 per house. These houses which have been built by the needy people themselves are regarded as unsatisfactory in respect of technical and sanitary conditions. The living environment created by these houses is also considered as being poor as far as social, urban and technical infrastructure is concerned.

However, in order to rehabilitate and to raise the living standards of these areas regular new settlement areas called "Gecekondu Prevention Areas" are being constructed on the reserved growth areas of cities by the Ministry of Reconstruction and Settlement. On the other hand, Real Estate Credit Bank of Turkey has been granting housing loans to people with 12 percent interest rate and 15 years maturity for the houses which are to be built on building land whose infrastructure has been completed by the Ministry of Reconstruction and Local Administration. A lot of families have been able to acquire a proper and healthy house through the organization of cooperative unions which made use of those loans granted by the Bank.

Basic aim of real estate credit bank of Turkey and its studies on housing:

Real Estate Credit Bank of Turkey has been established with a special law in 1946, after the model of developed countries, in an attempt to meet housing needs which rapidly increased together with the development in each field and to spread the housing service all over the country. Real Estate Credit Bank of Turkey is the most important public institution which sells to citizens the houses which have been built by the housing companies with which the Bank is a partner, on its own building land by

drawing on its own financial sources without receiving any subvention from the state. On the other hand, in order to create financial sources for construction, the Bank also deals with several kinds of banking activities such as establishing insurance partnerships, buying or selling building land, etc.

The housing loans which are granted by the Bank are as follows:

1. Housing loans:

It is being granted to homeless citizens with 20 percent interest rate and 10 years maturity provided that these are newly built and social houses.

2. Housing savings loans:

It is being granted to homeless citizens who have deposited quarter of the total amount which is foreseen in the contract signed with the Bank for a period of at least one year, with 16 percent interest rate and 15 years maturity.

3. Housing saving loans which are granted to the workers working abroad:

It is being granted likewise with 16 percent interest rate and 15 years maturity to citizens who work abroad and have opened an account in the Bank to which they transfer their house savings as foreign exchange.

4. Housing loans for the retired:

It is being granted as a sum which amounts two times of retirement gratuity with 12 percent interest rate and 20 years maturity, to retired people who have opened an account in the Bank on the condition that credit payment will be made in the first year.

5. Housing cooperative loans:

It is being granted with 20 percent interest rate and 10 years maturity for every partner of cooperative, 100,000 families have acquired houses with this loan.

6. Housing loans for gecekondu prevention areas:

It is being granted with 12 percent interest rate and 15 years maturity for the houses which have been built on the building land allocated by the Ministry of Reconstruction and Settlement and Municipalities. Moreover, loans which are called construction repair and completed building loans are also being granted with 34 percent interest rate and 3 - 5 years maturity.

On the other hand, the bank helps citizens to acquire houses by offering several kinds of loans in house sector, it also builds new settlement areas with high housing and environment conditions through its collective housing implementations.

A retrospective evaluation of the studies which the Bank has carried out after its establishment:

The period 1946 - 1950:

14700 families have been provided with house units through granting various loans which amount to \$3' 850,000.

The period 1950 - 1960:

In this period, the bank has put into application with similar conditions a new loan called a "Housing Saving System" which has been implemented in an orderly manner particularly in Western Germany. The main principle of this system is to accustom the people to save and to make use of their savings thus created. In this period, 98,000 families have been granted loans amounting to \$374 650 000. "Housing Saving System" which came into force in 1951 has become immediately popular and there has been a remarkable increase in the amount of loans granted. On the other hand, in this period an impetus has been given to collective housing production and the Bank produced 3000 units by using its own financial sources.

The period 1961 - 1970:

In this period, although a decline in house investment has been observed, there has been an increase in housing loans which have been granted to 82000 families with an amount of \$238450 000.

In the same period, studies on collective housing projects has been intensified and the number of houses produced has reached 12000 at the end of 1970.

The period after 1971:

There has been an increase in the cost of houses due to the oil crisis of 1973. Rapid inflation rate, decline in housing supply, inadequacy of effective housing demand and other factors have made it difficult to make decisions on new housing investments. In the period of 1971 - 1981 our bank has granted to 150000 families loans amounting to 212 650 000 and also has produced 7 000 units again by drawing on its scarce resources. For the time being, 5 000 house units are under construction.

The Bank has taken on the task of general coordination for the construction of 2000 dwellings belonging to Ministry of Defence. On the other hand, the Bank has also been carrying on the tasks related to the planning and construction of state rental lodgements included within the rental house policy which has been put into application by the state in solving the housing problem. The project for Sincanköy, a suburb of Ankara which includes 3000 dwellings, will start next year. While providing citizens with houses through several loans and building houses by its own resources, the Real Estate Credit Bank of Turkey also encourages initiatives which allow construction technologies to be produced in accordance with the technological development level of our country, believing in the necessity of industrialization (prefabrication) in collective housing production. By arranging conferences, seminars and meetings related with the problem of housing, the bank tries to encourage persons and institutions involved in this matter to produce new ideas and solution proposals.

Conclusion:

In general, we believe that determining the policies directed to the solution of the housing problem in our countries due consideration for the interrelations between such factors as, the development level of the country in the industrialization process, spatial distribution and characteristics of the problem, changes in the nature of the problem with the advance of time, is a primary requirement. We also think that production of rental houses for fixed and low income groups rather than providing every one with a property house is a much more rational way, if the underlying aim of a consistent housing policy is the satisfaction of the demands of every social group for a proper and healthy house.

As a result we are of the opinion that:

1. Ensuring the coordination between the production of urban houses, urban infrastructure, and urban building land, with urban planning.
2. Giving priority to production of houses for low income groups which satisfy their needs related to the size and form.
3. Utilizing the experiences, labor and knowledge of petty producers and low income groups in the production of their houses.
4. Setting up a link between urban planning and provision of urban building land with a view to be able to use house production as a tool in the realization of urban plans.
5. Supporting the house producers with long-run and low interest loans, if possible.
6. Encouraging both the citizens to save for the purpose of house acquisition, and provision of cheap low interest and long-run loans, if possible.
7. Ensuring the coordination in the application of house loan granting associations and institutions.
8. Making sure that the housing investments will encourage savings, reduce consumption and stimulate the development of employment creating building industry and its affiliated branches.
9. Giving due importance to such moral values as customs, traditions, cultural heritage and historical background as well as the climate, topography, building materials and construction technologies, is necessary and of primary importance.

THE FOUNDATION OF THE MUSLIM ARCHITECT

ENG./ ABDELKADER HAMZA KOWSHAK

GENERAL SECRETARY OF ORGANIZATION
OF ISLAMIC CAPITALS & CITIES.

In the last fifty years, the western architecture has been based upon the theories of Le Corbusier, Mies Van Der Rohe and Walter Gropius. Those pioneers adopted the concept of functionalism where form follows function. It was then noted that the actual application of these theories resulted in the erection of similarly looking buildings though different in function. Later, a new trend of post modernism appeared. It included many intellectual concepts as follows:-

- a) The expressive architecture led by Robert Venturi. It depended upon self expressive forms that come in harmony with the surrounding environment.
- b) The ornament and symbolism. The pioneers of this concept were characterized by a romantic style and an appreciation of classic forms.

The architectural intellect and the architecture of the Islamic community.

Islamic architecture is nothing but the architecture of the Muslim world, as Islam did not define regulations for arts or design so as to distinguish them as being Islamic or non Islamic. However, the architectural outcomes in the muslim community must reflect the ideological concepts of Islam. There are many mausoleums, and even entertainment centers built with an Islamic style; Yet these cannot be considered as an Islamic architecture. The same applies to the mosques that are richly decorated and ornamented with pure silver and gold. These examples are entirely conflictory to the simple and rather humble concepts of Islam. In the Holy Kuran, God has prohibited the manufacture of bodily or magnified statues. The prophet as well prohibited photography and sculpture. Hence geometrical and plant decorations (Arabesque) were favoured as well as calligraphy.

There are certain concepts which influence the architecture of the muslim community and these are the neighbourhood rights, privacy, women's isolation from foreigners, orientation towards qibalh and street rights.

There is no doubt, the non muslim architect has a different understanding of the architecture of the muslim community than that of the muslim architect who depends upon his Islamic Ideology. Many architects have lately erected buildings based upon form rather than function, for example an arts center was built with domes, arches and vaults appearing as if of an Islamic style, yet producing human statues which Islam has strictly prohibited. Many examples of these kinds of buildings have been built along the different Islamic ages in different countries having no relation whatsoever to the architecture of the muslim community and to the Islamic Shari'a.

Discussing the architecture of the muslim community, is of vital importance to reconsider especially with respect to the architectural education. In most colleges of architecture, the undergraduates are supplied by an inadequate historical review of the architecture in the Islamic world. They are found to study the minute details of the Pharaonic Greek and Roman architecture. Consequently, architecture students graduate with the least knowledge of their local heritage. It will then be unsensible to ask them to elaborate an appropriate crchitecture to their muslim community.

However, this aggravating situation could be remedied by the following:-

1. Collection and registration of all Islamic regulations related to architecture and planning including the neighbourhood rights and street rights. This task could be done through a legal committee including muslim architects.
2. Registration by sketches and detailed reports of the most important architectural examples which agree with the Islamic ideology.
3. Working out references for the architecture and planning in the muslim community with respect to history, design and working details these references are then made available to architecture professors, teaching staff in colleges of architecture and undergraduates.

The existing archtiectural chaos in the arab city cannot be confronted except by realizing the culture crisis as a whole; it is the human individual that is the core of the problem. Together with this case is the revival of the local architecture which constitutes in turn a serious problem.

Every nation has developed its characteristic architectural form by which it could be distinguished similar to its language, folklore and customes. Uptil the end of the the last century, every country had its local characteristic style thct reflected the needs of its inhabitants. In many cases, certain forms were adopted and repeatedly used in a variety of forms. The result was a characteristic visual compound by which no one could be mistaken for example no one could mix up between the persian domes and vaults and those of the Syrian, Egyptian and Morroccan architecture.

In a more particular view, the muslim regarded the interior court in his house to achieve security, freedom and privacy. Thus the house was looking into an interior space in which water played a vital effect in providing a scene of beauty and tranquility that differs from the external tough atmosphere. No wonder the house in arabic language is called 'Sakan' that comes from the arabic word "Sakina" that means peace and tranquility. This atmosphere provided women with freedom to practice their daily domestic activities away from foreigners; the house was then known as the womans's kingdom.

Houses should then be designed around open spaces (courts) in addition to each house's private court. The main court could be utilized for reception of visitors and ceremonies and as a sitting area, thus consolidating the neighbourhood relationships, as well as a safe playing area for children away from vehicular traffic. It is regretful to find nowadays many trends not only attacking the internal court concept but setting as well peculiar regulations for town planning and land subdivision. The owner is bound to leave a minimum space around the building resulting in an overcrowder interior design including very small attached rooms looking onto the street leaving no place for privacy or peace. Furthermore, the vacant land around the building is divided into 4 sections instead of one whole area in the introvert. In this way, the entire privacy of the individual is ill respected.

The influence of islam upon architecture.

Lifts

Considering the use of lifts in high rise buildings, from Islam's point of view, we find that the lifts being in the form of closed chambers in which women are brought solemnly in attendance of foreign (strange) men do not agree with the concepts of Islam. Herewith it becomes necessary to design buildings with the least number of floors to avoid the need for lifts. But, if necessary, lifts could be used with certain precautions as having them installed within the stair case well and with transparent walls.

Windows:-

In the contemporary housing in the arab city, the designed wide windows and glass facades give no choice for privacy or peace. These facades are no doubt conflictory with the traditions of the muslim community. The use of these windows must be developed to fulfil the needs of the muslim family. Modern technological procedures could be applied for such development, but without affecting the major needs of aeration, lighting, view, insluation and protection against external weather and respecting individual privacy.

Balconies:-

Nowadays, many architects tend to blindly immitate the western architecture in the use of open balconies in high rise buildings. Such an immitation neglects the traditions of the nation or the muslim family which finds great discomfort in sitting in an

open terrace. Consequently, many families had to close down their balconies or terrace and enclosing space to their apartment to achieve some privacy. Such an act, besides reflecting the inappropriateness of the design, ruins the external facade. It would be more appropriate if the use of balconies or terraces was restricted to the hanging of laundry and looking onto internal courts. Modern louvering techniques could be used to prevent direct view into the house and at the same time permit the path of sunrays and air breeze.

The influence of Islam upon

architecture

Life

houses would then be designed around open spaces (courtyards) in addition to each house's private court. The main court could be utilized for reception of visitors and ceremonies and as a place for socializing with the neighborhood. The courtyard should be well shaded and as a safe playing area for children away from vehicular traffic. It is regretful to find nowadays many houses are still designed with internal courtyards but sitting or well shaded. Regulations for town planning and land subdivision, the owner is bound to have a minimum space around the building resulting in an over-crowded interior design including very small courtyards. Rooms facing onto the street leaving no place for privacy or peace. Furthermore, the vacant land around the building is divided into 4 sections instead of one whole one in the layout. In this way, the entire privacy of the individual is ill respected.

Considering the use of light in high rise buildings, the main point of view, we find that the best thing in the form of closed chamber is when women are brought solemnly in open dance of fashion (sari) and do not agree with the concept of Islam. However, it becomes necessary to design buildings with the least number of floor to avoid the need for lift. If necessary, lift could be used with certain precautions or having them installed within the lift shaft and with transparent walls.

In the contemporary housing in the Arab city, the designed wide windows and glass facades give no choice for privacy or peace. These facades are no direct conflict with the needs of the Muslim community. The use of glass windows may be developed to fulfill the needs of the Muslim family. Modern architectural procedures could be applied for such development, but without affecting the most needs of decision, lighting, view, insulation and protection against external weather and noise and physical privacy.

Windows

Interiors

Nowadays, many architects tend to build multiple floor buildings with a minimum of 10 to 12 floors. Such an approach neglects the concept of the Muslim house which is built with low level structure. It is in an

MUSLIM LOW-INCOME HOUSING IN BAMAKO

ENG. ALPHA BOUBACAR TRAORE

BAMAKO - MALI.

This paper aims to cover the attempts of solving the problem of migration of low income muslims from rural to urban areas, especially during the period 1973-1983, as well as the opposing counter currents to the proposed solutions.

Historically, Bamako was founded in 1908 according to the needs of colonialism. It fulfilled a military function due to its strategic location with respect to the other colonies, and a commercial function as a market for raw material. The third function was to provide residence for the military troops and their families. Bamako reflected both the needs and ideology of the colonial empire. Bamako was to play local and international roles; Locally, it had to enhance and activate development, as well as raising the standards of living of the low-income Muslims. Internationally, it had to maintain its leading political, administrative and economic role among west-african capitals.

Lately, the situation in Bamako has deteriorated due to the demographic explosion accentuated by a decrease of production. These problems have threatened the national economy. The role of the government is in the re-organization and up-grading of the urban tissue. In the mean time, it tends to prepare new locations for the reception of the low-income migrants to the city.

La formation de l'architecte musulman

L'habitat dans le monde musulman

En ce qui concerne le monde musulman, l'habitat est un sujet d'actualité car il est au cœur de la vie sociale et économique. Les conditions de vie dans les villes et les villages sont très différentes. Les conditions de vie dans les villes sont plus difficiles que dans les villages. Les conditions de vie dans les villages sont plus faciles que dans les villes. Les conditions de vie dans les villes sont plus difficiles que dans les villages. Les conditions de vie dans les villages sont plus faciles que dans les villes.

Les conditions de vie dans les villes sont plus difficiles que dans les villages. Les conditions de vie dans les villages sont plus faciles que dans les villes. Les conditions de vie dans les villes sont plus difficiles que dans les villages. Les conditions de vie dans les villages sont plus faciles que dans les villes. Les conditions de vie dans les villes sont plus difficiles que dans les villages. Les conditions de vie dans les villages sont plus faciles que dans les villes.

Les conditions de vie dans les villes sont plus difficiles que dans les villages. Les conditions de vie dans les villages sont plus faciles que dans les villes. Les conditions de vie dans les villes sont plus difficiles que dans les villages. Les conditions de vie dans les villages sont plus faciles que dans les villes.

Les conditions de vie dans les villes sont plus difficiles que dans les villages. Les conditions de vie dans les villages sont plus faciles que dans les villes. Les conditions de vie dans les villes sont plus difficiles que dans les villages. Les conditions de vie dans les villages sont plus faciles que dans les villes.

Resumé En Français

1. La formation de l'architecte musulman est un processus complexe qui implique une connaissance approfondie de la culture, de la religion et de l'histoire. Les architectes musulmans doivent être capables de concevoir des bâtiments qui reflètent les valeurs et les traditions de leur société.

2. La formation de l'architecte musulman est un processus complexe qui implique une connaissance approfondie de la culture, de la religion et de l'histoire. Les architectes musulmans doivent être capables de concevoir des bâtiments qui reflètent les valeurs et les traditions de leur société.

3. La formation de l'architecte musulman est un processus complexe qui implique une connaissance approfondie de la culture, de la religion et de l'histoire. Les architectes musulmans doivent être capables de concevoir des bâtiments qui reflètent les valeurs et les traditions de leur société.

4. La formation de l'architecte musulman est un processus complexe qui implique une connaissance approfondie de la culture, de la religion et de l'histoire. Les architectes musulmans doivent être capables de concevoir des bâtiments qui reflètent les valeurs et les traditions de leur société.

5. La formation de l'architecte musulman est un processus complexe qui implique une connaissance approfondie de la culture, de la religion et de l'histoire. Les architectes musulmans doivent être capables de concevoir des bâtiments qui reflètent les valeurs et les traditions de leur société.

6. La formation de l'architecte musulman est un processus complexe qui implique une connaissance approfondie de la culture, de la religion et de l'histoire. Les architectes musulmans doivent être capables de concevoir des bâtiments qui reflètent les valeurs et les traditions de leur société.

7. La formation de l'architecte musulman est un processus complexe qui implique une connaissance approfondie de la culture, de la religion et de l'histoire. Les architectes musulmans doivent être capables de concevoir des bâtiments qui reflètent les valeurs et les traditions de leur société.

Prof. Ahmed Elmaghrabi
Université de la Méditerranée
Département d'Architecture
13288 Marseille Cedex 09, France
Téléphone : +33 (0)491 835300
Fax : +33 (0)491 835301
E-mail : ahmed.elmaghrabi@univ-marseille.fr

La Formation de L'architecte musulman

L'habitat dans le monde Musulman

Ing: Abdel Kader Kowshak.

Secrétaire général
de l'organisation des capitales
et des cités musulmanes

En conclusion du symposium "L'habitat dans le monde islamique" qui a eu lieu à Ankara dans le cadre de la troisième conférence générale de l'Organisation des Capitales et des Cités Musulmanes, les participants voudraient exprimer leur appréciation au gouvernement turque pour son hospitalité et son accueil.

Les participants voudraient également souligner l'importance de l'incorporation des efforts techniques et scientifiques pour la réhabilitation des standards de l'habitat dans le monde islamique, ainsi que la nécessité du renforcement des valeurs musulmanes dans les différents aspects de la planification et de l'architecture. C'est là, où l'espoir repose sur la compréhension des organes décisifs aux gouvernements du monde islamique.

Résolutions et recommandations du Symposium:-

1. La publication des essais et des papiers présentés au symposium en arabe, anglais et en résumé français.
2. La fondation d'une comité formée par les experts des différents pays musulmans en but de la coordination des efforts avec les organisations arabes à intérêts semblables.
3. L'organisation et la préparation de "l'année de l'habitat musulman" en 1987 dans le cadre de l'année de "l'Habitat" déclarée par les Nations Unies.
4. La co-ordination des recherches et des publications par la fondation d'un groupe de travail représentant les experts des différents pays musulmans afin de publier la magazine "l'Habitat Musulman Humain" et de souligner les valeurs islamiques dans l'éducation et la formation architecturale et dans la législation du code de l'habitat.
5. L'allocation des prix moraux et matériaux pour les meilleurs recherches, oeuvres architecturaux et pièces d'art qui pourraient contribuer à la revitalisation des valeurs islamiques dans la cité musulmane contemporaine.
6. L'échange des experts techniques et scientifiques et des étudiants entre les capitales et les cités islamiques afin d'aboutir à une compréhension des réalisations et des connaissances dans le monde musulman.

Declarés à l'aide de Dieu à Ankara, la capitale de la Turquie.

Vendredi 20 Shawwal 1404 H.

20 Juillet 1984 AC.

Que Dieu nous aide tous à la prospérité de l'Islam et des musulmans.

Al-Salam Aley Kûm

L'architecture musulmane n'est que le produit de la communauté ou elle prend part. Elle reflète donc l'idéologie de l'Islam et non son faux style richement décoré qui contredit son esprit. Mais, l'architecte musulman, qui a subi une formation plutôt occidentale qu'originale, pourrait donc difficilement atteindre son but d'architecture représentative. Il devient donc nécessaire de fonder une base pédagogique respectant les concepts de la communauté musulmane dont l'architecture et les projets de planification respecteraient les droits du voisinage, la privacité, l'isolation des femmes ainsi que l'orientation vers la qiblah. Le chaos architectural actuel pourrait être remédié par la formulation de nouvelles législations qui imposeront l'idéologie de l'Islam, ainsi que la préparation d'une littérature convenable à son esprit. Cependant, cette crise de civilisation restera à priori un problème individuel auquel tous nos efforts devraient être orientés.

Ing. A.M. Sherif
Municipalité du Musil
Iraq.

L'habitat typique au Musil

Le Musil a souvent été le but des invasions des civilisations environnantes. Un mélange homogène de traditions, coutumes et idéologies locales ont influencé les éléments architecturaux de base. Le tissu urbain de la cité, bien qu'irrégulier, contient deux masses résidentielles compactes le long du Tigre. L'habitat typique traditionnel au Musil satisfait les besoins socio-économiques, politiques et environnementaux. Les éléments constituant la maison au Musil, tels que la cour intérieure entourée par les iwans, les tunnels liant les différentes unités résidentielles et les réseaux piétonniers internes de la cité, reflètent tous l'instabilité politique ainsi que l'effet de l'idéologie locale. Les motifs de décoration soient florales, abstraites, géométriques ou calligraphiques, ainsi que les couleurs employées sont dérivés des concepts de l'Islam.

Quant à l'architecture moderne, en particulier à partir de la première guerre mondiale, elle a acquis de nombreux traits architecturaux occidentaux grâce aux architectes européens ou arabes de formation occidentale. Une régression rapide de l'habitat traditionnel a donc pris part à la suite des conflits culturels entre l'occident et l'orient. Le style et la fonction de l'architecture traditionnelle se sont évadés laissant place aux mélanges culturels continus dans la région.

La revitalisation des valeurs islamiques dans l'architecture islamique contemporaine

Dr. Abdel Baki Ibrahim

Président du Centre des Etudes
de planification et d'architecture
Egypte

Plusieurs essais ont eu lieu afin de lier l'architecture et l'urbanisme arabo-musulman contemporains à leur héritage civique et islamique. Les efforts cherchent, au premier plan à renforcer l'identité de cet héritage architectural au milieu des structures modernes, ainsi qu'à la liaison de l'architecture et de l'urbanisme des villes musulmanes contemporaines par l'intégration des monuments historiques dans la vie quotidienne.

Les essais, bien que parfois superficiels, surtout par l'emploi malplacé des motifs décoratifs islamiques, et par le traitement artificiel des façades, ont aidé à l'expansion de cet appel de revitalisation des valeurs islamiques. Sur le plan intellectuel, le problème est aggravé par la difficulté de groupement des conceptualisations des architectes intéressés par le sujet dans le monde arabo-musulman. Ayant rarement dépassé le niveau des discussions profondes, ces rencontres intellectuelles ont bien aidée à la croissance de la conscience collective des citoyens. En même temps des critiques et des contre-appels de la, ainsi dite, "régression architecturale" se sont levés, handicapant ainsi la cristallisation de ces concepts dans le domaine de l'architecture et de l'urbanisme. Sur le plan concret, quelques exemples ont été sérieusement réalisés en Iraq et au Maghreb. Les pays du Golfe et la Péninsule Arabe ont également été siège pour de nombreuses expériences conçues par des architectes et urbanistes de formation occidentale qui, manquant les mesures d'organisation adaptées au mode de vie arabo-musulman, ont échappé à la réflexion des valeurs islamiques de l'héritage architectural.

Les caractéristiques islamiques de l'architecture domestique en Arabie Séoudite.

Ing: Michael Earls

Université du Roi Faïsal.
Arabie Séoudite.

L'architecture domestique en Arabie Séoudite est caractérisée par la diversité de style. Cette diversité provient des différences climatologiques et géologiques ainsi que des conditions socio-économiques variées. Il en est de même pour les relations de voisinage, de commerce et d'occupation militaire qui ont influencé les styles et les motifs architecturaux. Cet essai analyse l'architecture domestique des différentes régions du royaume en dénichant ainsi les facteurs influençant leur style.

Jérusalem ... La cité musulmane entre le complice de de judaïsation et les dangers des établissements résidentiels permanents

Ing. Assem Ghosheh

Municipalité de Jérusalem.

La cité traditionnelle sacrée, le noble sanctuaire à son coeur, est considérée le symbole de résistance arabo-musulmane contre l'occupation Israélite. Les voies pié-onnières, les suqs et l'habitat vernaculaire reflètent par leur simplicité et l'harmonie entre leurs matériaux locaux et les espaces internes ouverts, les caractères uniques de l'architecture originale du pays. La cité, a donc été soumise à de nombreuses pressions zionistes en vue de sa judaïsation.

Les habitants ont subi des mesures d'exodes forcées et des confiscations foncières et financières afin d'atteindre la destruction physique et démographique des quartiers arabes. Les plans de judaïsation ont pris lieu dans le cadre de la cité traditionnelle et dans la municipalité du Grand Jérusalem à la suite de l'invasion israélite en 1967. Dès sa déclaration comme capitale officielle d'Israël, ces plans d'expansion se sont étendus au domaine urbain environnant. Le but essentiel de ces plans était d'aboutir à une isolation complète de la cité sacrée du reste de la Cisjordanie et de son voisinage arabe. En même temps, cette capitale déclarée, est considérée comme le centre de concentration des facteurs d'attraction et de pôlcrisation des activités d'investissements juives dans les domaines touristiques, industriels et agricoles.

L'identité islamique de la maison à cour

Dr. Saleh Lamei

Université de Beirut
Egypte

Cet étude s'agit non seulement d'expliquer la philosophie et les principes soulignant l'héritage islamique architectural, mais surtout d'accentuer le caractère islamique de cette architecture. Bien qu'ayant commencé à partir des affluents culturels de la région, cette architecture a bientôt acquis sa propre identité, inspirée par la loi islamique (El-Chari'a) et dérivée du Coran et du Hadith.

Il est à noter que l'architecture islamique s'est basée surtout sur le principe de "l'introversiion", dans le sens de l'intégration des éléments dans la direction de l'espace intérieur (patio) qui a joué un rôle important dans la conception architecturale des

bâtiments religieux et civils, en particulier les différents types de maison. Une analyse des facteurs socio-économiques et climatologiques engendrant ce type d'habitat dans les différentes civilisations forme une base de recherche pour l'interprétation de l'expression de ce modèle dans le monde islamique. Abou-tissant à la culture islamique, une analyse de sa philosophie et sa réflexion sur les traits architecturaux et les activités journalières, prend part. Une évaluation de l'architecture islamique contemporaine et sa relation avec les valeurs enracinées de l'Islam prend lieu dans la discussion.

Le Caire.. la nouvelle perspective de l'an 2000

La municipalité du Caire

La région du Grand Caire est considérée une zone de polarisation de la population rurale et urbaine de la République Arabe d'Égypte. Sa population constitue plus de 22% de la population totale de la république et 43% de la population urbaine. Dans ce cadre de centralisation aigüe de population et de ressources, une stratégie de développement a été formulée afin d'augmenter la productivité et l'économie de la région, diminuer la concentration populaire, et limiter l'expansion cancéreuse de sa masse urbaine. Cette stratégie sera réalisée par la conservation des terrains agricoles, l'amélioration de l'efficacité des réseaux de l'infrastructure, la conservation de l'héritage historique et monumentale dans la région. Le concept de développement est supporté par la fondation de nouvelles communautés urbaines telles que les villes indépendantes ou satellites, afin de prévoir des terrains consacrés à la construction résidentielle dans le désert comme alternative de l'expansion de l'habitat spontané qui envahit les terrains agricole aux alentours de la ville.

La conservation de la cité musulmane de Lefkosa (Nicosia)

Ing. A.S. Örek
Ing. M.A. Berkut

Municipalité de Lefkosa
Chypres.

Dès sa fondation, l'île de Chypres a été envahi par de nombreuses civilisations. Les grecques ont laissé quelques traces qui ont plutard été devasteés par L'Islam au septième siècle. Les premières communautés musulmanes apparurent avec l'ère Ottomane qui influença profondément la société et l'architecture locale. En 1879, La grande Bretagne occupa l'île et pris part dans sa direction jusqu'à son independance en 1960. La periode 1963 - 1975 a vécu des controversions de dénomination religieuse qui se sont terminées par la division de l'île et de la

capitale en deux. Lefkosa a été déclarée capitale de la république musulmane.

L'architecture traditionnelle de la cité est caractérisée par une harmonie entre la technique, la composition spatiale et la forme générale dans une masse organique intégrée. L'architecture contemporaine, comme résultat du développement continu et l'expansion démographique souffre la présence d'un mélange urbain menaçant, surtout dans la périphérie de la cité traditionnelle emmûré. Cette menace a été aggravée par la violation continue des sites historiques par le nouveau code urbain permettant la dense construction sur les terrains designés pour l'habitat. Cette situation a nécessité la formulation d'une stratégie de préservation des sites historiques. La réalisation d'une telle stratégie devrait être supportée par la déclaration de la cité historique comme zone protégée où les lois de préservation et de restauration seraient imposées afin de maintenir les valeurs culturelles et environnementales distinguées de l'architecture originale.

La provision de l'habitat pour les couches sociales à faible revenu.

Application en Egypte.

Dr. Hazem Ibrahim

Centre d'études de
Planification et d'architecture
Egypte.

La provision de l'habitat pour les couches sociales à faible revenu représente un problème complexe pour les individus ainsi que pour les gouvernements. Faisant part du secteur de services publiques, les capitaux consacrés pour l'habitat sont considérés des sommes consommées loins du secteur d'investissement, surtout dans les pays du tiers monde au revenu national relativement bas.

L'auto-construction se présente comme l'une des solutions les plus valides pour le problème de l'habitat. Ces prototypes de maisons "nucléaires" sont proposées aux propriétaires résidents qui auront toutes possibilités d'extention horizontale ou verticale selon leurs besoins et leur capacité pécunière. Cependant, cette solution manque d'organisation sur le plan exécutif.

Cet essai présente une stratégie générale et une définition des responsabilités et des rôles mutuels du gouvernement, de la communauté et de l'individu, ainsi qu'une conception des sources pécunières variées. Ce projet d'habitation proposé est traité comme une unité économique indépendante et intégré du point de vue de l'organisation politique, la planification et l'architecture. Au niveau de l'unité de voisinage résidentiel, le modèle urbain est conçu afin d'assurer une société musulmane saine qui satisfait les besoins d'une vie respectable dans les prototypes architecturaux proposées.

L'habitat aux pieds des montagnes de la Mecque

Mr. F.O.Tewfik

Municipalité de la Mecque
Arabie - Saoudite.

La Mecque, la capitale du monde islamique située à 300 ms d'altitude, est caractérisée par une composition géologique et démographique unique. Elle est fondée sur une base de granite. Ayant la Ka'abah sacrée à son coeur, sa densité résidentielle se concentre à son entourage. L'habitat, en particulier les allocations consacrées aux habitants à bases ethniques diverses possédant des revenus faibles, est centralisé sur les pieds de montagnes en forte pente, causant ainsi des problèmes intenses d'aménagement urbain. Le programme d'amélioration proposé par la municipalité pour la solution de ce problème urbain complexe est basé sur le relogement des habitants dans la plaine, laissant ainsi les pieds des montagnes pour l'exécution des routes en spirale et la provision des services publics et les utilités de base.

Les problèmes de l'habitat dans les villes islamiques

Ing. Youssef El Sayebi

Agence Foncière de l'habitat.
Tunisie

Le monde musulman n'est pas considéré comme étant une zone vierge pour la planification urbaine. Grâce à son aire géographique médiévale, il a subi autant de civilisations originales qu'étrangères. A la suite de la conquête musulmane, les arabes ont mis au point des méthodes d'aménagement des villes différemment de leur prédécesseurs, en se basant sur des principes inédits de localisation, de planification, d'urbanisme, et en particulier d'habitat.

A présent les villes arabo-musulmanes, entre autres les villes tunisiennes, connaissent l'explosion démographique et urbaine due au progrès économique et social accru, ainsi qu'à la croissance accélérée de la population résultante de l'exode des populations rurales vers les centres industriels. Des occupations illicites des terrains, des constructions non autorisées et anarchiques en résultent et aggravent la complexité de la situation. Le gouvernement tunisien cherche donc à imposer les lois et les règlements qui régissent les domaines de l'immobilier et de l'urbanisme. Entre autres, peut-on évoquer les codes des droits réels, les codes d'urbanisme, la loi de l'expropriation, la loi de préemption ainsi que la création de quelques agences foncières étatiques et d'autres institutions assurant l'application de ces lois. En même temps, la politique suivie par le ministère de l'habitat dans la construction du logement pour les personnes à faible revenu repose sur, soit des aides directes tels que les

dons et les subventions, ou soit des aides indirectes tels que les abaississements des taux d'intérêts des prêts octroyés, et l'acquisition des lots de terrains prêts à la construction. Dans le cas de gourbification, les autorités font construire des logements remplaçant pour les anciens occupants des gourbis.

Les problèmes de l'habitat à Ankara

Dr. John D. Norton

Universite de Durham
Bretagne.

La ville d'Ankara souffre, à présent, d'un problème complexe d'habitat. Des sa déclaration comme capitale de la Turquie, sa population a dépassé toutes estimations de croissances prévues par les plans de développement. Le problème de provision de l'habitat convenable s'est donc intensifié. Des unités résidentielles illégales "les gecekondu", où 70% de la population résident ont apparu aux alentours de la capitale.

Cet essai analyse les différents types d'habitat y compris les "gecekondu", les causes de ce problème et les alternatives de solutions proposées. L'exposé démontre que les "gecekondu", bien qu'une solution instantanée du problème, ne lui représente qu'une complication, surtout au gouvernement et à la municipalité qui manquent de ressources financières pour d'autres alternatives. A présent, la tendance est de construire des demeures à prix modestes en se basant sur des législations formulées pour un financement raisonnable des projets d'habitat.

Les problèmes de l'habitat et de la planification urbaine dans les pays du tiers - monde

Cas de Téhéran

La municipalité de Téhéran

Iran.

Le tiers - monde confronte, au delà de son explosion démographique, des affluents imposés par le monde industriel développé afin d'affaiblir le système socio-économique de ces pays et y maintenir leurs marchés de produits de consommation. Le problème est donc, d'une part, la monopolisation des sources d'information, des organes politiques, culturels, militaires et économiques par le monde développé. D'autre part, les pays non-développés résistent à la destruction de leurs productions locales, l'inflation des centres urbains et la détérioration du mode de vie exprimés dans l'expansion spontanée des agglomérations urbaines et l'apparition de l'habitat illégal dans les périphéries des villes. Cette situation, constamment affaiblie, maintient à son tour l'incapacité de résistance des

pays du tiers monde contre ces invasions industrielles, culturelles et sociales et la difficulté de consacrer des capitaux et des investissements dans les secteurs des services publics.

Dans ce cadre, le gouvernement de la République Islamique d'Iran a formulé un plan quinquennal de développement basé sur les principes suivants:-

- L'adoption de la stratégie de décentralisation des villes et le développement des terrains agricoles.
- La nationalisation des terrains agricoles situés dans les milieux urbains afin de contrôler la monopolisation territoriale et foncière.
- La fondation des sociétés co-opératives de l'habitat et fournir au peuple surtout les couches à faibles revenus, toutes opportunités d'acquies un habitat convenable.
- La formulation et l'implémentation d'un plan intégré pour la conservation et la rénovation des sites historiques, et la réallocation des habitants des bidonvilles dans des quartiers résidentiels convenables.

Le plan général de la région de la capitale Ankara:

La stratégie de développement urbain - 1990.

Mr. Haluk Alatan

Municipalité D'Ankara
Turquie.

Le projet du plan général de la région de la capitale Ankara a commencé en 1969 par la fondation d'un secrétariat annexé au ministère de la construction. Ce projet représente une méthodologie expérimentale pour la compréhension de la planification développementale de la région. Ce plan, fondé sur une base d'information reflétant la réalité socioéconomique et politique, est formulé comme une approche intégrée du réel et du réalisé. Cette méthodologie analytique conduit au choix des alternatives et des buts. La stratégie du développement urbain 1990, dans la région d'Ankara, a donc été formulé afin de réaliser l'économie interdépendante et l'intégration des différentes activités en vue d'atteindre un équilibre entre les secteurs des services et de l'industrie, assurant ainsi l'égalité de la distribution géographique des services publics et l'élimination de leur duplication dans les secteurs planifiés et non-planifiés.

L'habitat musulman idéal dans la conception du plan général de la cité islamique

Ing. Youssef Al Mas

Municipalité de El Doha,
Katar.

La cité islamique contemporaine confronte une invasion socio-culturelle qui menace son identité. L'habitat, étant le noyau de cette cité, devrait assurer à l'individu musulman la satisfaction de ses besoins économiques et culturels. Un prototype loyer moyen devrait être suggéré dans le cadre de ces besoins. Il serait caractérisé par une simplicité et une flexibilité d'application, assurant le respect de sa nature originale, ses coutumes, traditions et idéologie, pouvant ainsi résister à la marée occidentale accompagnée par l'expansion urbaine spontanée.

Les problèmes de L'habitat pour les couches sociales à faible revenue et le défi de la fondation d'une société musulmane saine

Cas de Kuala Lumpur

Municipalité de Kuala Lumpur

Malaisie.

La municipalité de Kuala Lumpur souffre d'une explosion démographique et d'une exode rurale vers les villes comme la plupart des villes du tiers-monde. Cette situation est aggravée par l'apparition des bidonvilles et de l'habitat spontané illégal, souvent occupés par les couches musulmanes à faible revenue.

Les établissements résidentiels, illégaux sont caractérisés par une harmonie sociale et une organisation politique distinguée. D'autre part, ils sont loin d'avoir un caractère urbain convenable dû à l'innéficacité des réseaux infrastructuraux, des services publics, la densité croissante des unités résidentielles illégales et la spontanéité de leur croissance.

La municipalité de Kuala Lumpur a adopté une stratégie de développement afin de résoudre ces problèmes, à priori l'habitat loyer moyen à haute densité désignés aux couches musulmanes à faible revenue, supposé la cause engendrant des complications de développement. Un plan de restructuration a été formulé, ayant pour but la reconstruction de la composition sociale et des activités économiques. Ceci est physiquement exprimé dans les projets de réallocation et de

rénovation des quartiers détériorés et le contrôle des propriétés foncières et territoriales.

Lors de la réalisation tentative de ces projets, la municipalité de Kuala Lumpur s'est trouvée incapable du financement entier, surtout en ce qui concerne le secteur de l'habitat qui nécessite une expérience structurale, technique et économique élaborée. D'autre part plusieurs problèmes se sont présentés tels que la présence excessive des mines, la bureaucratie et la manque de co-ordination entre les agences responsables. A présent la municipalité cherche à réunir les efforts des secteurs privés et publiques pour la solution de ce problème, la fondation de cités satellites autour de la capitale et la création d'un nouvel environnement pour la société musulmane à faible revenu.

La conception de l'habitat dans les cités musulmanes.

Vers une nouvelle approche

Dr. Cliff Moughtin

Ing. Tarek Shalaby

Université de Nottingham
Bretagne.

La première partie de cet essai présente un exposé théorique général des principes de conception de l'environnement bâti et de la forme de l'habitat dans les pays musulmans - Cette approche anthropologique est basée sur l'examen des aspects humains, surtout ceux qui représentent les modèles culturels, qui déterminent la forme physique de la cité. Le but essentiel de cet essai est la formulation d'une méthode scientifique et technique permettant l'obtention d'une base d'information valide pour la conception de nouvelles formes basées sur l'analyse des besoins humains et la structure urbaine traditionnelle.

L'étude détaillée des établissements de la Haussa en Nigérie représente la deuxième partie de cet essai. Elle observe les formes architecturales de cette société musulmane en terme de leur histoire et de leurs préférences culturelles.

L'habitat dans la cité islamique

Exemple de Marrakech

Ing. Noureldin El-Ouedghiri

Municipalité de Marrakech.
Maroc.

Le choix du site de Marrakech a assuré la présence des matières premières de la civilisation. La cité s'est donc caractérisée par une symbiose profonde, tant entre la cité et son environnement naturel, qu'entre le milieu aménagé et bâti et sa collectivité humaine.

Depuis le début du siècle, des perturbations provoquées par des desseins à prédominances mercantiles et coloniales ont rompu cet équilibre. Marrakech a donc confronté une dégradation quasi-universelle des relations humaines qui fût accélérée par la division extrême du travail, l'insuffisance de la co-ordination ainsi que l'isolement artificiel des éléments au dehors de leur contexte. Ces perturbations ont été accentuées par la dégradation du milieu aménagé et bâti, et atténuées par la dislocation des structures et des relations sociales, familiales et économiques provoquées au cours de la période coloniale.

A présent, la cité contemporaine a reconnu des efforts organisés pour l'aménagement du tissu urbain détérioré en particulier l'habitat et la maintenance de ses caractères traditionnels.

D'autre part, des écoles supérieures pour l'étude des arts traditionnels ont été fondées. En même temps, des mesures ont été prises pour limiter l'exode rural vers la cité par le développement de la zone agricole aux alentours de Marrakech.

Utilisation des modèles urbains traditionnels dans une ville nouvelle

Ing. Loffy Belhag

Société immobilière de Tunis
Tunisie.

Cet exposé présente les concepts intentionnels escomptés de la réalisation de la cité Ibn Khaldoun. Ayant adopté comme principe le relogement sur un terrain limitrophe, le choix s'est fixé sur une réserve foncière de 150 hectares au Nord-Ouest de Tunis et distante de 400m du gorbiville d'Al Djabal Al-Ahmar. L'expérience Ibn Khaldoun, comme tentative des principes traditionnels dans un contexte urbain nouveau, conciliant une mode de vie en pleine mutation et une coproche socio-économique rationnelle. Etant un essai d'urbanisme nouveau défini dans un cadre géographique, culturel et temporel précis, sa programmation et sa production ont nécessité une approche technique

fondée sur une analyse typo-morphologique des exemples d'habitat ancien et nouveau, engageant ainsi les études vers des solutions issues et adaptées aux contextes tunisiens. Le concept est basé sur des principes dont la transposition de la structuration d'une ville nouvelle refléterait le dynamisme d'une société en pleine mutation.

La réalisation de l'opération a été divisée en cinq branches successives. La conception du projet étant axée sur des trames évolutives multi-directionnelles en planimétrie et bi-tridimensionnelles en volume, a nécessité l'emploi d'une méthode de construction employant les matériaux locaux, et une technique non-sophistiquée et économique. Le résultat final a quand même montré quelques aspects négatifs. L'insertion des groupements sociaux dans un contexte urbain vaste a créé une notion d'anonymat inexistante dans les structures sociales traditionnelles, engendrant ainsi une dégradation manifeste des mœurs. Mise à part les extensions prévues par les plans, et matérialisées sur terrain, les acquéreurs ont entrepris des modifications qui dépassent le cadre de la réglementation et qui rencontrent les principes architecturaux, telles que la fermeture des espaces découverts, des chambres remodelées dénotant ainsi l'inadéquation des types proposés et les modèles souhaités.

Amélioration de l'environnement résidentiel par l'intégration des subdivisions illégales Cas de Mont-Fleuri

Arch. Abdel Aziz El-Felaly

Agence nationale de la lutte
contre l'habitat illégal. Fès
Maroc.

L'expérience de Mont-Fleuri est considérée d'une importance majeure dans le domaine de l'amélioration des circonstances urbaines par l'intégration des subdivisions illégales dans le plan général de la cité. Nombreuses études et recherches concernant les facteurs aggravant la situation urbaine, telles que la propriété immobilière, les résidences, l'environnement urbain et social, ont été profondément couverts. Ceci a permis la limitation de l'expansion de ce phénomène de détérioration continue.

Les autorités gouvernementales, les associations des habitants ainsi que les représentants locaux, ont tous aidé, en jouant chacun son rôle respectif, à la régénération des activités sociales et économiques quotidiennes à Mont-Fleuri. Les buts atteints dans les différents domaines urbains et infrastructurels ont été le profit de la co-ordination et de la programmation simultanées entre les trois parties responsables.

Solution du problème d'habitat pour les groupes à faible revenu

Dr. Rouhi El Sherif

Centre de recherches.
de construction - Amman.
Jordanie

Le monde islamique confronte un problème sérieux de manque d'habitat. Ce problème est aggravé par l'exode rural vers les villes, la manque de ressource et les prix exagérés des terrains, des matériaux de construction et de la main d'oeuvre. L'inflation économique et l'inefficacité des stratégies conçues pour la solution du problème augmentent la complexité de la situation. Le centre de Recherches de Constructions à Amman a pu concevoir un prototype d'habitat idéal satisfaisant les traditions et la technologie moderne, assurant ainsi la réduction des surfaces gaspillées et l'utilisation optimum des matériaux. Ce prototype est construit en béton préfabriqué de dimensions standardisées rangées en piles sans mortier laissant un vide qui sera ensuite rempli de béton. Un angle en acier complète l'espace dans les coins, où des tiges d'acier sont plantées pour la formation des colonnes. Le plafond, formé de briques spéciales, est formé par une couche de béton armé. Ce prototype est caractérisé par sa convenance aux conditions financières et les possibilités d'extentions futures.

Les services publics et L'aménagement urbain en Tunisie.

Ing. Nagat Khantoush

Ministère de l'équipement
Tunis.

Les projets de planification physique en Tunisie, tendent au premier plan au contrôle de la distribution géographique équilibrée des projets de développement économiques et sociaux, afin d'éliminer les différence entre les régions et de conserver l'harmonie de l'homme et son enviromnement. Les projets sont préparés sur trois niveaux interdépendants: le plan natio-regional, local et détaillé. L'interdépendance de ces niveaux a pour but la formulation de standards flexibles et compréhensifs pour les services publics et l'aménagement urbain en Tunisie. Les standards devraient être révisés périodiquement en vue de leur adaptation aux besoins quotidiens des différentes régions en développement.

Solution du problème de l'habitat pour les couches sociales à faible revenus

Cas du Bati-Kent.

Ing. Muraþ Karayalçin

Ing. Bülent Ilik.

Bati kent Turquie

La solution du problème de l'habitat, pour les couches sociales à faible revenu a été envisagée dans le cadre du plan général de la ville d'Ankara en 1990. Le projet au Bati Kent est situé à l'Ouest, de la ville. Le nombre d'habitant estimé est de 300.000 personnes en 60.000 unités résidentielles. Le voisinage résidentiel est équipé pour les réseaux infrastructuraux et les services publics éducatives, sanitaires culturels et commerciaux.

Dès l'expropriation du site en 1978, la municipalité d'Ankara a commencé la réalisation du projet qui présente une perspective intégrée de la région de la capitale. Les études préparées proposent les stratégies de développement, sa classification légale, et les responsabilités administratives de la nouvelle banlieue du Bati-Kent. L'exposé termine par une analyse des conditions de 15.000 residents à partir de 1983.

Le contrôle des zones et de l'utilisation des terrains de la cité arabo-musulmane

Dr. Saleh El-Hathloul

Ministère des affaires
municipales et rurales.
Arabie Séoudite.

Cet essai analyse les principes gérant la répartition des zones et le contrôle des usages des terrains dans la cité arabo-musulmane au moyen âge et leur influence sur leur environnement physique. L'étude commence par l'analyse des locations des souqs (les marchés) par rapport à la ville. Leur organisation interne, leur développement et la création de nouvelles zones pour les activités spécialisées ont également été étudiés. La relation entre les usages résidentiels, industriels et commerciaux est ensuite revue en terme des facteurs nuisantes qui affectent leur location tels que l'odeur, le bruit, les vibrations etc.... Les analyses ont assuré l'importance des règles et des conventions établies dans la société arabo-musulmane au moyen âge.

La co-ordination entre la loi de l'urbanisation arabo-musulmane et la nouvelle loi de construction dans la cité traditionnelle de Tunis

Ing. Gamilah Baynous

Société de la conservation de Tunis
Tunisie.

La cité de Tunis est caractérisée par un mélange problématique urbain, résidentiel et monumental, d'où la société de conservation de la cité de Tunis a suggéré la nouvelle loi de construction dans la cité traditionnelle afin de conserver la nature originale de cet environnement urbain unique dans les circonstances actuelles de la cité. Cette loi est concernée à priori par l'unité de voisinage résidentielle ainsi qu'aux réseaux des rues entourantes. La stratégie suggérée pour la conservation a pour but l'identification de règlements contrôlant les plans de développement urbain et économique. Elle est concernée par les espaces résidentielles et la détérioration des zones à rénover ou à restorer tout en tentant de conserver le caractère et les matériaux locaux et la limitation de la présence des usines et des industries nuisantes et polluatives à proximité de la cité.

Le rôle de la banque de crédit dans la solution du problème de l'habitat en Turquie

ING. BAHADIR AGÇA

Banque de Crédit en Turquie
Turquie.

Dès les années soixantes, l'ère de la planification économique, dans laquelle le problème de l'habitat a été présenté comme une activité économique directement liée au développement, a pris part. La Banque de Crédit de L'habitat en Turquie, dès sa fondation en 1946, s'est fixée comme une agence publique responsable pour la provision de l'habitat pour les différentes couches sociales. La stratégie adoptée pour la satisfaction des besoins sociaux, économiques et hygiéniques, est basée sur la co-ordination entre l'efficacité de la réalisation des réseaux de services publics avec les plans des projets d'habitat. Ces stratégies cherchent à assurer la continuité des emprunts monétaires à faible intérêt, tout en encourageant les caisses d'épargne dédiées à l'habitat et l'investissement de ces sommes dans les projets de l'habitat social. Ces efforts ont pour

but de minimiser la consommation, exposant ainsi le problème à une nouvelle stratégie de développement respectant les traditions et l'héritage culturel en considérant les conditions climatiques et environnementales et la technologie locale, assurant ainsi la réussite de ces projets et leur adaptation à l'entourage.

Les valeurs islamiques dans la structure de la société musulmane

Ing. Tarek Wali

Muric palité de Manamah

Al Bahrein.

L'Islam, étant une civilisation entière et non seulement une religion, offre à la vie musulmane, conçue à la suite d'un acte consciencieux, une légalité divine qui envahit les cultures, les traditions et les civilisations locales. La société musulmane repose sur les valeurs dérivées du Coran et de la Sunnah, telles que l'égalité, la justice et la liberté, et d'où parvient le concept de la "Shurah" régnant la vie politique et sociale. La cité islamique, dans son état natif, symbolisait ces valeurs musulmanes ainsi que les circonstances politiques, économiques et religieuses. L'intégration de l'habitat individuel dans le tissu urbain exprime l'interdépendance et la responsabilité mutatives des membres de cette société. La présence du siège de règne divin et mondain au centre de la ville, exprimé par la grande mosquée adjacente à la "Dar Al-Emarah", renforce le système du "Shurah". Dès l'ère des Fatimides, les conditions politiques et sociales influencèrent la conception de la ville. La cité royale emmurée et isolée de l'habitat rôturier, regressa l'interdépendance sociale devant la nouvelle dictature. Plus tard, les conditions défensives, imposèrent la structure de la cité royale "citadel" et par suite la disparition des concepts islamiques de base: l'égalité, la liberté et la justice.

Le mécanisme de production de logement pour les couches musulmanes à faible revenu

Le cas de Bamako

Ing. Alpha Boubacar Traore

Bamako - Mali

C'est à la recherche de solution pour le problème d'accueil des couches de population à faible revenu qui émigrent de façon permanente, vers la capitale, Bamako, que cet essai est présenté.

L'histoire de la ville de Bamako et la formation de son cadre physique ont été orientées par les besoins de la colonisation. Les premiers plans de base de la ville en 1908 repondaient à de fonctions militaires, commerciales et résidentielles. A présent, la spécificité de la ville de Bamako, et son rôle en tant que marché d'emploi, font qu'elle exerce une fonction nationale, en jouant son rôle politique, administratif et économique, ainsi qu'une fonction locale, en initiant les actions de développement et d'amélioration du cadre urbain.

Vu le phénomène de l'explosion démographique de 1973 à 1983, les calamités naturelles ont conduit à une baisse du niveau de production. Le but du gouvernement s'est donc orienté vers la réadaptation et l'amélioration du cadre bâti existant, en tant que l'organisation du site d'accueil des émigrants vers la capitale.

