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**CULTURAL ISSUES AS AN APPROACH TO FORMING AND
MANAGING THE FUTURE NEIGHBOURHOODS**

CASE STUDY : THE CENTRAL REGION OF SAUDI ARABIA

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**THIS THESIS IS SUBMITTED TO THE CENTRE FOR PLANNING, UNIVERSITY
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REGIONAL PLANNING**

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" Read not to contradict and confute, nor to believe and take for granted, nor to find talk and discourse, but to weight and consider"

Sir Francis Bacon (1561-1626)

ABSTRACT:

The purpose of this study was to formulate a guideline for developing and managing the future neighbourhoods in the Central Region of Saudi Arabia based on the cultural norms of its residents. The initial cause for this study is the conflict between the imported new planning system and the restricted culture and behaviour of the people involved.

In order to achieve the main objective of this thesis, a series of studies was undertaken. The theoretical background relating to the main issues of this study are reviewed and the notion of these issues defined according to the Saudi Arabian's belief and way of life which is essential to understanding. The thesis discussed, analysed, and evaluated three types of neighbourhoods planning systems which occurred in the study area. These were the traditional, the contemporary, and the new trends planning system. These studies were primarily formulated in light of the literature review and the analysis made from the information obtained via questionnaires, interviews, observation, and public and community consultations (carried out by the researcher in the summer 1988 and summer 1989).

From the analysis, the thesis concludes that the future planning of the neighbourhoods should be formulated according to a man-surrounding relationship and his needs. In order to clarify this, the thesis defined a set of recommendations for forming and managing the future neighbourhoods. These include considering the socio-cultural and the individual requirements of the residents, making the plan open-ended, and establishing a local community authority to control the implementation and the growth of the neighbourhoods.

Finally, the thesis briefly explains how to implement some of the recommended guidelines which need to be clarified through using a specific case study. It recommends also some further studies in order to reinforce and generalise the findings of the thesis.

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INTRODUCTION : THE RESEARCH PROBLEM AND THESIS APPROACH

0.01 As a result of the development of sociopolitical thought which emerged from the social movements of the nineteenth century, and from the Industrial Revolution, a change in the design principles of architecture and planning was introduced and called "the international architectural style". Such architecture and planning though was associated with the Modern Movement taught in many schools, each of which was concerned with certain orientations such as with technology and transportation modes (as the orientation of the Futurists of Italy), functionalism (of the Bauhaus in Germany), and with abstract expressionism (of the Cubists of France, the Rationalist and Constructionists of the Soviet Union, and the De Stijl group of Holland).

0.02 Some of the influential ideas of the architectural style include those propounded by people such as Gropius of Germany, Le Corbusier of France, and Aalto of Finland. In terms of urban design and planning, the influential ideas include the concept of city and neighbourhood layout such as Howard's "Garden City", Frank Lloyd Wright's "Broadacre City", Le Corbusier's "Radiant City", and the ideas of CIAM in the 1930's (Lang 1987). Each proposal whether architecture, urban design, or planning was a response to both the principles of the Modern Movement and the problems at hand at that time such as the uncontrolled growth of the city, long trips to and from

work for the poor, overcrowded dwellings, the negative impact of automobiles, and how to house large populations in a short time. Accordingly, many of the modern buildings and urban places are very pleasant places, however, much has failed to work out as it was predicted. This led to much criticism of the modern ideas of the Modern Movement.

0.03 Lang (1987) has categorised the issues of this criticism into five categories:

The first is that the roles of professional-client relationship in providing information and making decisions need to be rethought in order to understand successful fits between users and spaces. This need is due to the discrepancy between the values of the clients and those of the professionals.

0.04 The second is that the concept of function in the dictum "form follows function" has been limited. This indicates that they limited the meaning of function to be efficient in terms of circulation distances and construction techniques and not to other human purposes served by the built environment such as the need for identity, security, and the need for self-expression. To explain this, Lang stated

"... Le Corbusier and Walter Gropius argued for a machine aesthetic based on the functional purity of engineering products such as airplanes, ships, and grain elevators. The result was that, although the modern movement was claiming to serve people, its

primary concern more often focused on technical efficiency and the internal consistency of building components rather than on meeting a broad range of human needs". (Lang 1987, p.8)

0.05 The third is that the work of architects and planners is based on a limited model of human nature and behaviour. This indicates that they limited the issue of human nature and behaviour on a number of activities and neglected the cultural differences between people. To support this, Le Corbusier (1923) stated that

"... All men have the same organism, the same functions. All men have the same needs. The social contract which has evolved through the ages fixes standardised classes, functions and needs producing standardised products... I proposed one single building for all nations and all climates". (Cited in Lang 1987 p.10)

0.06 The fourth category is that architects and planners have an inadequate understanding of the person-environment relationship. This is due to the inadequate theoretical basis for designs, which is considered the fifth category.

0.07 Although the criticism of the Modern Movement started in the 1940's, the Modern Movement of architecture and planning concepts has been introduced to many parts of the world as a result of many factors such as a colonising power, market forces, the means of modernisation or by other internal or external political, economical, and

social factors.

0.08 Some of these concepts have been modified to fit the local environment while other concepts have been introduced as there is no cultural and environmental differences between sittings. Saudi Arabia is an example of a Third World country which have experienced an accelerated process of urbanisation based on modern technology and borrowed principles of modern western architecture and planning by the means of modernisation. This is as a direct result of the exponential increase in oil revenues.

0.09 Throughout the pre-oil era, the traditional towns and villages of Saudi Arabia were built as a response to the needs, spiritual beliefs, and aspirations of their inhabitants. The pattern of these settlements consists of very densely attached buildings, planned around courtyards and separated by narrow streets to meet the need for movements and communications. The overall pattern of these settlements is a tight cellular matrix and could be split into four sequential spatial levels, starting with the single dwelling passing through the neighbourhood, community, and ending with the settlement centre level which consists of the main activities of the settlement such as the market and the main square with its dominant buildings.

0.10 The physical environments of Saudi Arabia grew, modified, and changed to fit new needs and purposes, while the socio-cultural norms

were maintained to match with the Islamic teachings. Accordingly, the growth, modifications, and the changes of the traditional settlements were regulated by common, whether explicit or implicit, principles. Those principles emerge from the Islamic legal tradition, The Shariah, which formulate them in a flexible way that insures the satisfaction of Islamic socio-cultural and religious conventions (Al-Hathloul 1981).

0.11 During recent decades, Saudi Arabia's physical environments have experienced radical and sudden changes based on modern technology, modern materials, and borrowed architecture and planning principles based on western ideologies. Accordingly the contemporary neighbourhood planning is a representation of the international modern urban style which is based on new ideology such as the segregation according to new values, for instance income and race, while the overall structure of the neighbourhood consists of planned streets and plots. Streets are mostly designed in a grid pattern - vertical and horizontal roads crossing each other - provided for unlimited volumes of cars. Automobiles are not only used as a mode of movement but also used as the scale which the spaces and activities of the physical environment are based. While plots are mostly private domains each of which has a villa built according to the new rules and regulations. The model of neighbourhood planning became the major model used in most of the new neighbourhoods throughout the Kingdom. As a matter of fact, it has become the origin of most of the settlements there (see Appendix B).

0.12 As a consequence, the traditional forms have been relaxed and the modern forms have replaced them comprehensively.

THE PROBLEM STATEMENT OF THE RESEARCH:

0.13 In spite of the fact that modern neighbourhood planning provides the inhabitants with better services than those of the traditional neighbourhood, it does not comply with both the various cultural requirements, whether individual or social requirements and with the local, urban, and regional characteristics. For example, the privacy of dwellings has been destroyed, social interaction has been weakened, the territoriality boundaries have been neglected, and the family size and structure has not been considered. Not only this, but the individual and group participation in controlling their environment has been avoided and the sense of identity ignored. In other words, the man-surrounding relationship and the concept of responsibility have been limited. All those problems have emerged from the kind of planning system that has been used and from the modern type of management that has been used to control the implementation and the growth of the neighbourhoods.

0.14 The modern model of neighbourhood planning which applied all over the kingdom was chosen as the best to satisfy the desire of the Saudi Arabian government to improve and raise the quality and standards of living. The negative impact of the contemporary concept

was not seriously questioned in the first stage by the authorities for several reasons some of which are due to the fact that there was not enough information and research dealing with the best plans to fit the Saudi Arabian environments nor was there a clear understanding of the various cultural issues of the Saudis and defining what was best to satisfy them. Along with the wealth which helped to speed up the process of change, the problems of the contemporary neighbourhoods planning spread all over the kingdom. Recently, government authorities have started to give more attention to solving the dilemma and have tried to avoid problems that may arise in the future.

0.15 This research is an effort to focus on the problems of modern neighbourhood planning in the Central Region of Saudi Arabia and find out key answers for such a dilemma.

0.16 Before clearly stating the aims of the research, it is essential to define the major hypothesis of this study. There are two major hypotheses. The first is, the existing neighbourhood planning system has failed to produce an urban pattern that is compatible with the cultural issues of the residents, whether individually or socially.

0.17 The second is, the existing management system for controlling the neighbourhood implementation and growth has been inadequate to adapt with the changeable factors over the time.

0.18 Testing these hypotheses will be presented through the context of the research which has been conducted to achieve the main aims of the research.

THE AIMS OF THE RESEARCH:

0.19 Decision about the future neighbourhood planning should be handled very carefully and efficiently. It is my belief that in order to avoid problems and to provide a more desirable and satisfactory environment, one should understand, fully, the linkages between the cultural factors of the inhabitants and their physical environment. This study is conducted in order to achieve three aims:

1. To assess the relationship between the cultural factors and the physical environment in order to provide a better understanding of the significance of these issues and to use this assessment to evaluate such settings. This will be achieved through reviewing the theoretical background of these issues from the relevant fields with reference to Islamic teaching since the Islamic society, such as the Saudi Arabian society is a theocentric society. Therefore it does not function on two different systems of materialism and spiritualism. The findings will be applied for analysing and evaluating all the process of the developments of the neighbourhood planning in the study area.

2. To develop issues for planning implications which can be utilised by designers and architects to design desirable and satisfying living environments.
3. To develop issues and methods for managing and controlling the implementation and the incremental growth of the future neighbourhoods that will be compatible with both the cultural issues and the changeable factors, whether predictable or unpredictable, over the time factor.

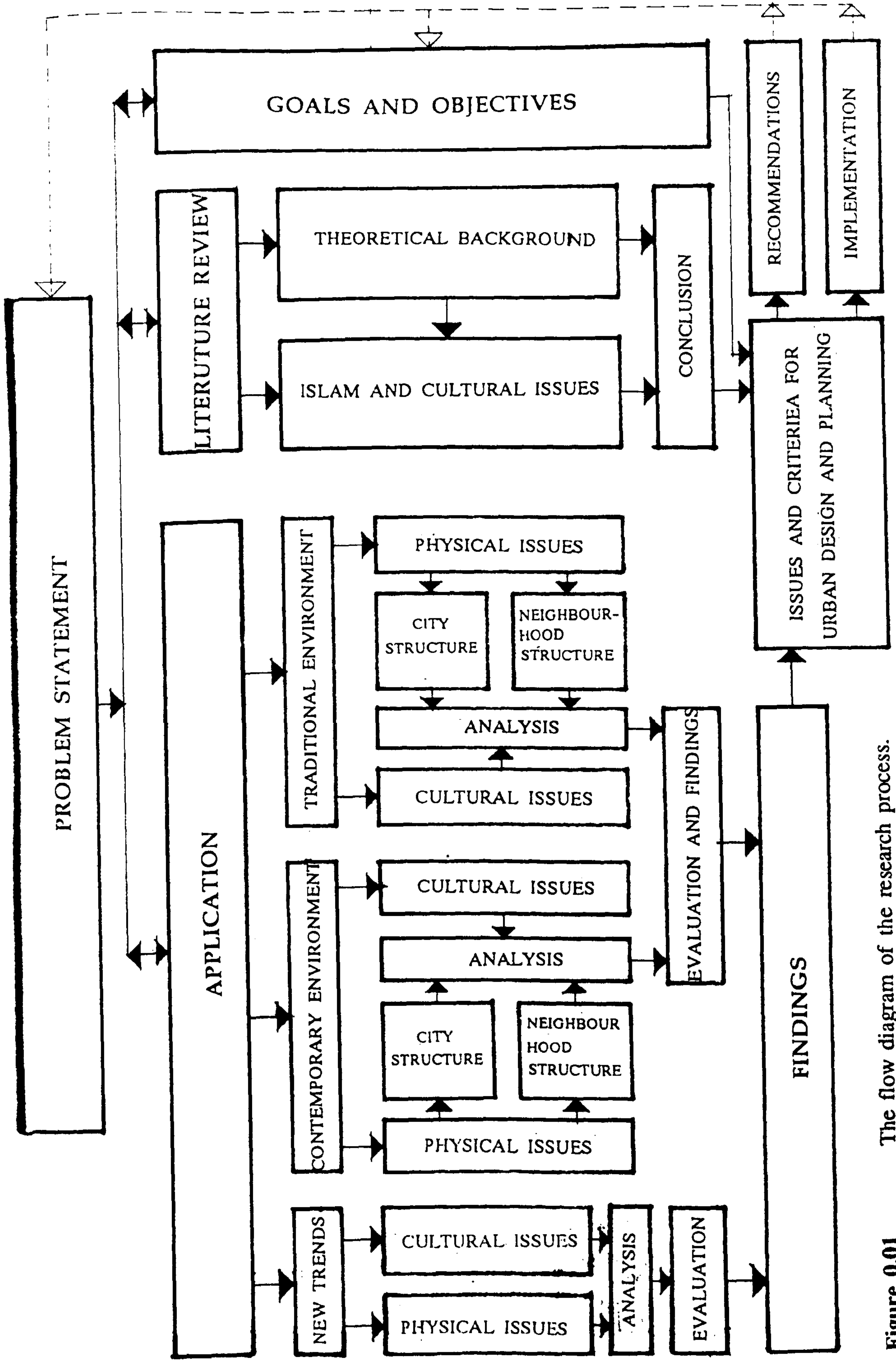
THE ORGANISATION OF THE THESIS:

0.20 In order to solve the problems and achieve the above mentioned aims of the research a clear structure is required to present the researcher's way of thinking. Therefore this section will describe the overall organisation of the intended studies, and the aims and contents of each part of the research.

THE FLOW DIAGRAM:

0.21 Figure (0.01) illustrates diagrammatically the type and sequence of procedures by which the research will satisfactorily fulfil its aims.

0.22 The flow diagram (Figure 0.01) represents the structure of the research precisely and clearly. The diagram suggests that the literature review, which deals with the theories of culture and the impact of Islam on its components, is essential for an understanding of the philosophies



The flow diagram of the research process.

Figure 0.01

which initially play a role in structuring the pattern of the Saudi built environment.

0.23 Having defined the main philosophies, the diagram suggests dealing with the three stages of neighbourhoods' development in the study area. The first is the traditional environment, the second, is the contemporary environment, while the third is the new trends. Each built environment will be described, analysed, and evaluated based on the philosophies provided. The emphasis of these studies will be on the neighbourhood structure and its management.

0.24 Based on the final findings of the case study and the literature review, the diagram suggests proposing issues and criteria for urban design and planning future neighbourhoods.

0.25 Having briefly described the flow diagram of the research (with reference to Figure 0.01), it is worthwhile highlighting the aims and contents of each part of the intended three parts in the thesis.

PART ONE : AIMS AND CONTENTS:

0.26 The first part of the research, which deals with the literature review, is a fundamental one since it attempts to fulfil the following aims:

1. To provide a knowledge of the various issues of culture and how

they could affect the peoples' activities and spaces.

2. To shed light on how Islam affects the way of life of Saudis' people and how this, in turn, could affect, and could have affected the built environment in general and the neighbourhood in particular. The findings of these will lead to structuring issues for evaluating a certain action that could be achieved through a physical structure.
3. To adopt a realistic methodological approach to data gathering and data analysis techniques which will guide the second part of the research.

0.27 In order to meet these aims, Part One comprises of two chapters. Chapter one will attempt to examine the main theories which deal with the culture and the built environment. The emphasis will be on the effect of Islam, as a religion, on the way of life of Saudi society and how it affects the built environment. Generally, this chapter will cover the definition of culture and its characteristics followed by the various components of culture. These components include the mental activities, the intellectual orientations and cosmology, and the social behaviour processes.

0.28 The second chapter will deal with the methodologies and techniques of data gathering and analysis. In precise terms, the

intention here is to justify the selection of case studies and to define the processes and techniques that were used to collect and analyse primary and secondary data.

PART TWO : AIMS AND CONTENTS:

0.29 The second part of the research, which deals with applications, has several aims to fulfil. However they can be aggregated into four fundamental objectives:

1. To shed light on the various patterns of neighbourhood developments that occur in the study area. These developments include the traditional, and contemporary environment in addition to the new trends.
2. To define the conflicts between the various patterns and the inhabitants' culture.
3. To shed light on the peoples' reactions and desires.
4. To evaluate each concept of the various neighbourhoods' planning to draw conclusions to guide the formation of the final recommendations of the future neighbourhoods.

0.30 In order to satisfy these objectives, Part Two comprises of four chapters. The first chapter discusses the formation of the traditional

neighbourhoods in terms of the original layout and its elements. This chapter covers the main elements of the residential neighbourhoods such as the traditional dwellings, cul-de-sacs, streets, shops, and mosques in addition to the management processes which guided the implementation and the growth of the traditional neighbourhoods.

0.31 The second chapter of the second part deals with the contemporary neighbourhood environment. This chapter discusses the reasons and the factors behind introducing the contemporary neighbourhoods. This is followed by a description and analysis of the various elements of the contemporary environments in addition to the current management processes which guide their implementation and growth.

0.32 The third chapter evaluates the traditional and the contemporary environment in terms of how they satisfy or dissatisfy the cultural requirements, whether individual requirements or social requirements, of the residents.

0.33 The fourth chapter of the second part discusses and analyses the new trends of neighbourhood planning in the Central Region. This chapter focuses on the reasons behind changing the contemporary neighbourhood planning and on the type of themes that guide the concepts of the new trends. Following this, there is an evaluation of the new trends based on the analysis made from the information

obtained via a questionnaire and interview survey which was carried out by the researcher in both the summer 1988 and 1989, in addition to the researcher's analysis of the built environment and his experience.

0.34 The findings of the last two chapters of the second part in addition to the theoretical bases will be utilised to form new guidelines for forming and managing the future neighbourhoods.

PART THREE : AIMS AND CONTENTS:

0.35 The third part is the prescriptive part of the research. It is a fundamental section of this research since it will attempt to cover the following aims:

1. To develop issues and criteria for urban design and planning which should be utilised by designers and architects to form desirable living environments.
2. To develop issues for managing the implementation and the growth of the future neighbourhood environment.

0.36 In order to meet these aims, Part Three comprises of two chapters. The first will set up various recommendations which will guide both the design processes and techniques, and the management procedures of the future neighbourhoods. While the second chapter will shed light on how some of these recommendations could be

implemented using a specific case study.

0.37 The third part will end up by stating the general conclusion for the research in addition to suggestions for future research which is needed in order for the findings to be reinforced and broadened in all their scope.

PART ONE : LITERATURE REVIEW

The first part is considered as the fundamental building block in this research. It will provide most of the bases for analysing and evaluating the various concepts of the neighbourhood planning in the study area. Not only this but it will also guide the final recommendations of the research.

The bases for manipulating and evaluating neighbourhood planning will be achieved when answering the following two main questions:

1. What is the culture and how could it affect peoples' activities and spaces?
2. What is the notion of the various issues of culture of the Saudi society and how do they affect their way of life?

Answering these two questions will be presented in the context of the first chapter of this part.

Moreover, this part continues to define in the second chapter what is the best realistic methodological approach to data gathering and the data analysis techniques that fit the nature of the research and its objectives, and are compatible with the cultural norms of the residents.

The second chapter also will provide general scope in terms of the location and the characteristics of the study area.

CHAPTER ONE : THEORETICAL BACKGROUND AND SAUDI WAY OF LIFE

INTRODUCTION

1.01 The relationship between human behaviour and the physical environment has captured the interest of many researchers from different disciplines such as social science, anthropology, psychology, ecology, and other environmental professions. These researchers have recognised the work of the social and behavioural sciences since 1950's such as Sommer (social psychologist), Stea (environmental psychologist), Baker (ecological psychologist), Gans (sociologist), Hall (anthropologist), Rapaport (architect and anthropologist). Other professionals have been influenced by social and behavioural science research namely interior designers, architects, urban designers, and urban and regional planners.

1.02 This chapter contains a discussion of the relationship between man, culture, and environment. This chapter reviews the theoretical backgrounds on the issues of physical environment and culture as well as the relationship between them. The meaning of physical environment and its components will be discussed in the beginning of this chapter. Following this, the meaning of culture and its characteristics and components will be clarified. The discussion will emphasise the effect of overt behavioural issues, at a social level, on the environment.

1.03. The theories discussed in this chapter will be related to the teaching of Islamic religion and its impact on behaviour. This is relevant since the case study is the Central Region of Saudi Arabia.

1.04 The purpose of this chapter is to give background and knowledge and to pose questions on the approach to manipulating the problem at hand, and to ascertain the objectives of the research. However, it is important to point out that statements from the Qur'an and the Sunnah will be stated here in order to explain the Islamic point of view and teaching in terms of certain issues. The Qur'an (Recitation) is the scripture literature. It is the foundation of the religion of Islam, while the Sunnah is the second source of Islamic teaching. The Sunnah represents the way, practice, rule of life, and the action of the prophet Mohammed himself. It is considered as the "hidden revelation". The documentations of the Sunnah have been transmitted and reported, by the Islamic scholars, in the form of hadith from generation to generation. In other words, the hadith is the storerooms of the Sunnah of the prophet.

1.05 It is important to mention here that the statements of the Qur'an and the Sunnah are highly respectful and not disputable among Muslims, thus such statements will be treated here as given strong regulators tools of Muslims' actions and behaviour.

THE PHYSICAL ENVIRONMENT

1.06 The physical environment comprises both natural characteristics and built features. The natural characteristics consists of geographic features, climatic factors, and flora and fauna. Some places are characterised by certain natural elements that can provide a good place for humans to adopt and help them to achieve their basic needs, while other places do not. The natural environment, however, can have psychological and behavioural effects on people's activities. People's use of space, for example, can be affected by the climatic changes. In general, there are many psychology researchers, who have studied the effect of the ambient (e.g. the light, sound, and temperature) environment on people. Their research indicates that ambient factors affect the comfort level and the performance of human mental activity, for example, Holahan (1982) mentioned that many researchers indicate that heat adversely affects on people's performance.

1.07 The built environment is the outcome of people's actions and behaviour. It includes buildings, neighbourhoods, cities, transportation systems and others of man-made environment which usually are constructed and altered to meet perceived needs of "activity systems". However, the layout (e.g. the location and the arrangement) of environmental features, in turn, can have behavioural and psychological effects on people's activities (Altman 1975; Altman and Chemers 1984; Hall 1966; Holahan 1982; lang 1987; and Sommer 1969). Activity systems embody a hierarchy of "behaviour settings" linked together to

complement behaviours (Chapin and Kaiser 1979). In the light of this statement a house can be seen as a place for sustaining activities, socialisation activities, recreational activities, social interaction activities, human development activities etc. But, what is meant by "Behaviour Settings"?

1.08 "Behaviour Settings" is an ecological approach that focuses on the everyday environment of people. It deals with the social and built environmental issues together. In other words, it deals with the activity location. Behaviour settings, as it is discussed by Baker (1968), is the unit of combination of activity and place. Baker's definition of the behaviour setting is as a standing pattern of behaviour at any moment along with the environmental features that surround the behaviour. Accordingly, behaviour settings consist of a standing pattern of behaviour to satisfy certain needs such as eating, sleeping etc; spatial environment in which a standing pattern of behaviour exists with, at least, minimal level to afford the standing pattern of behaviour; and a time period. The advantages of the behaviour setting concept is that it adds considerable clarity to discussions of physical design and its functions since it looks at activity location.

1.09 The combination between the behaviour settings and the linkages between them, in certain locations, reflect people's motivations, and attitudes, limited by their incomes, competence, and culture (Lang 1987). People's motivation is, actually, the guiding force behind certain

behaviour. It exists in a hierarchical order from physiological needs to what are called the aesthetic needs that have been suggested by psychologists such as Abraham Maslow.

1.10 Abraham Maslow (1975) has pointed out that humans have a set of basic needs which are organised into a hierarchy of relative prepotency. He stated that if the most basic need is relatively well gratified, it becomes unimportant in the current dynamics of the individual, then the needs shift to less basic ones. His hierarchical order from the most basic need to the least is as follows:

1. Physiological needs, are the needs for food, water, comfort and others, in order to maintain a constant and normal state of the blood stream. This type of need can be gratified through certain activities such as eating, drinking, sleeping, etc.
2. Safety needs, such as security, protection from physical harm and freedom from psychological fear. This type of need can be gratified by any means of using the environment in the course of satisfying the needs for security or safety such as building shelter, controlling territory, and forming legible environment as well as looking for a healthy environment that has a minimal pollution and ecological disruption.
3. Belongingness and love needs, are the needs for affectionate

relations with people such as being a member of a group or family. This problem can be addressed by any means of the socialisation processes and the needs to be given the right to own property. The concept of ownership serves to create a sense of belonging and leads to personal pride.

4. The self-esteem needs, are being taken into consideration by oneself and by others. One such need is a feeling of self-confidence, strength and usefulness in the world as well as the desire for prestige, reputation and dignity.
5. The needs for self-actualisation, are the needs for freedom of choice and of action. Self-determination is one example of the needs of self-actualisation, since self-determination is based on the representation of interests.
6. The desire to know and understand. This can be addressed through given opportunities for learning, exploration and self-testing.

1.11 Finally, the aesthetic needs or the desire for environmental beauty comes from its sensory, formal, and symbolic aesthetics, which serve to please the eye and inspire the spirit. In fact, space can favour conviviality or solitude depending on the way of handling and organising it's elements as well as it's geometrical form and proportion.

1.12 This hierarchy of needs appears to span physiological, socio-cultural, and personal bases of motivation (Chapin 1974). The basic human needs are universal and each of them can be met and gratified in many different ways. Accordingly, these needs are manifested differently in different societies and different groups of people for example, in a culture like that of the Saudis, people eat on the floor using hands; while in others eat on tables using forks. This gives an insight into society and highlights the fact that each society has its own identity and differs from the other societies in many dimensions depending on their physiological character, culture, and their competencies (Lang 1987).

1.13 Saudi Arabia is one of those countries in which the cultural dimension is the most guiding norms for the behaviour of the individual and the group. What is meant by culture here is the topic of the next section.

THE MEANING OF CULTURE

1.14 The notion of culture is rooted in the study of anthropology and sociology and recently has attracted researchers from the environmental design disciplines.

1.15 A classical anthropological definition of culture is that it refers and indicates the whole range of the conventional understandings that

are shared by the members of a group of certain society (Bock 1974). Taylor (1958) is one of the classical anthropologists who defined culture. He stated that:

"culture ... is that complex whole which includes knowledge, belief, art, morals, law, custom and any other capabilities and habits acquired by man as a member of society" (Taylor 1958, p.1).

1.16 Recently, culture has been variously defined throughout much of the social sciences literature. Most definitions of culture depend on the situation and the problem that they try to solve. These definitions stress that culture is a shared system, ideas and symbols, learned behaviour, or an adaptive system.

1.17 The anthropologist, Hall (1977), offered a simple definition of culture which:

"... is man's medium" (p.16).

for more explanation, he stated that:

"There is not one aspect of human life that is not touched and altered by culture. This means personality, how people express themselves (including shows of emotion), the way they think, how they move, how problems are solved, how their cities are planned and laid out, how transportation systems function and are organised as well as how economic and government systems are put together and function".

1.18 The term culture is difficult to define precisely, but through these definitions an understanding of its characteristics and components may be reached.

CULTURE AND ITS CHARACTERISTICS:

1.19 The concept of culture has several characteristics that can be summarised as follows. Firstly, it is a system composed of shared categories and plans carried in the form of norms, rules, and codes. These categories and plans do not exist in isolation, but serve as organisational links between people, and between people and things. People use this system to interpret and evaluate their behaviour and the behaviour of others to know whether they are using the system correctly or not (Hall 1977). Secondly, culture does not exist separately from people. Culture is set in the minds of people and carried by individual while invented and sustained by a group (Maanen and Barley 1985). Thirdly, culture is not an innate subject, it is grasped, applied, and transmitted by social learning (Bock 1974).

CULTURE AND ITS COMPONENTS:

1.20 Culture is the outcome of several factors amalgamated. These factors are the mental activities of the people, the intellectual orientation and cosmology, and the social behavioural processes of certain society (Altman and Chemers 1984). Each factor consists of many issues and

sub-issues which are explained fully in this chapter. These issues and the sub-issues as a whole are not only inseparable, but they are also reflections of one another. In other words, each issue may serve as either a cause or an effect of the another. For example, having the sense of being involved in a certain religion is the result of a feed-back process of decision-making. The process involves certain classes of activities; beliefs, attitudes, intentions and actions (Fishbein and Ajzen 1975).

1.21 The first phase of this process is the beliefs. The beliefs deal with the information and the background about an object. The second phase is the judgement or the evaluation phase which leads to a set of intentions which considered the filter and the director of the action. For example, when a religion becomes the identified religion of a group of people, then it may become more than intellectual orientations. It may modify certain beliefs or social activities. It may become a way of life such as the Islamic religion.

1.22 The following is a discussion of the major components of culture. Culture itself should be understood in terms of how the whole system is put together and how they are interrelated.

Mental Activity And Environment

1.23 Mental activity refers to the relationship between environment and behaviour at an individual level. It concerns the internal processes,

including the process of perception, cognition, and attitude. These processes may be considered as the fundamental building blocks in our conceptual framework (Fishbein and Ajzen 1975).

Environmental Perception

1.24 Environmental perception involves the process of obtaining information, from and about one's surroundings through the various senses - vision, hearing, smell, touch, taste, and the sense of position and movement of body parts (Altman and Chemers 1984; Holahan 1982). A good example of environmental perception has been presented in the work of Hall (1966). Hall explained that the personal space or the physical distance maintained between people is linked to differences in the way they perceive each other.

1.25 There are two goals of perception discussed by Hilgard (1970). The first is to have the world about us, the objects and the environment, remain constant to know where we are, where we are going, and where we put things. The second is to achieve definiteness in what we perceive to identify things from partial cues in order to direct our daily activity. Accordingly without the ability to perceive the environment, we would be unable to carry out the activities for sustaining our lives.

1.26 There is a set of theories of perception established during this century. The first was established during the early part of this century

by three German psychologists : Wertheimer (1945), Kohler (1929) and Koffka (1935). This is called the Gestalt theory. The Gestalt theory of perception emphasises the point that our perceptions are organised into different parts. The parts have to be understood as functions of the whole.

1.27 Gestalt psychologists compiled a list of principles of organisation. Some of these principles are the principles of proximity, similarity, symmetry, closure closedness and good continuance. Accordingly, any work of art results from a principle of organisation (Norberg-Schulz, 1965).

1.28 Recently, there are two basic sets of theories of perception. The ecological theory by Gibson (1979) and the probabilistic theory by Burnswik (1956). The ecological theory of perception emphasises that perception is the result of the stimulation that reaches us from our surrounding and received through our senses. While, in contrast, the probabilistic theory of perception emphasises that the stimulation that reaches us from our surroundings and received through our senses is never perfectly correlated with reality. Therefore, we resolve it by coming to a probabilistic estimate of the true nature of our surroundings. Our estimation is resulted from our sensory experience which is based on our memory. According to Holahan (1982), the probabilistic approach, which emphasise the importance of memory in explaining how people perceive the world, seems to be the base for the

current perceptual theories. However, Lang (1987) believes that the assumption that perception is completely determined by the characteristics of external stimuli is a dubious one, therefore he argues that there is a need for the development of positive theories of the person-environment interface and positive theories of aesthetics in order to recognised the factors that determine the environmental perceptions.

Environmental Cognition

1.29 The perceived objects in order to become part of our understanding and experiences must go through a series of processes called environmental cognition.

1.30 Environmental cognition concerns the acquisitions, organisation, and storage of knowledge and experiences through recalling and remembering them. It focuses on many issues such as learning, remembering, feeling, and mental development (Lang 1987). So, we obtain information from and about our surrounding through the various senses then we select, organise, and endow meaning to what we perceive to help to build images of the environment in our minds (Lynch 1960). Therefore, Lynch argues that the planning of the environment should be legible and imageable, that is, to make the environment easy recognisable and as representing a unified pattern.

1.31 Lynch has identified five elements as the fundamental building blocks for the design of legible environments. The five elements are

paths, edges, districts, nodes, and landmarks. These elements, according to Lynch, are important since they contribute to the images that people have of their surroundings.

1.32 Lynch's recognition of these elements are appreciated. However, he did not tell how many elements are enough for such setting nor has he discussed the affect of the incremental growth from the initial stage to the consolidated stage on structuring such elements.

1.33 To conclude, there is agreement, implicit and often explicit, in the work of Altman and Chemers (1984), Holahan (1982), Lang (1987), Rapoport (1974, 1982), and Sommer (1969) that the processes of perception and cognition are affected by the competencies of the individual, the social life, and by the environmental structure.

Environmental Attitudes

1.34 The environmental attitudes deal with the emotion and judgement that concern the favourable or unfavourable feelings toward features of physical environment (Holahan 1982, as influenced by Berkowitz 1975). According to Holahan, they are composed of beliefs and values. Lang (1987) has explained that there are three primary emotional responses including pleasure, arousal, and dominance. Pleasure deals with the feeling of liking and disliking. Arousal emphasises the interest-evoking qualities of environment, while dominance deals with the individual's feelings for freedom of action.

1.35 Holahan (1982) also stated that people's satisfaction as well as their preference play a central role in shaping both their decisions and their choice in terms of what people will use and enjoy in their environment. The decision and the choice of a certain environment depends on people's perceptions and images of how well the physical environment affords certain activities as well as the comfort levels in addition to the symbolic meaning of the environment. Symbolic meaning depends on both the quality and the non-material attributes of the built environment, e.g. place-names or that the designer or the developer of a certain area is well-known (Lang 1987).

1.36 In addition, belief may affect people's choice and decisions about certain aspects of the environment. The Islamic view upholds this statement. Islam prohibited keeping statues (e.g. complete solid figures) in the environment of Muslims. According to Islamic belief, their presence is considered sufficient to drive away the angels. The prophet said "...Assuredly the angels do not enter a house in which there are statues or figures"! This example does not imply that luxury is forbidden. Muslims are certainly free to desire beauty in their environment, however, Islam disapproves of excess.

The Intellectual Orientations And Cosmology

1.37 The intellectual orientation and cosmology (world views), which

depend mainly on the intellectual and modes of thought, are some of many issues that people use for classifying, evaluating, and manipulating phenomena (Firey 1960). These issues present the philosophy behind the way of life at any given point in the history.

1.38 According to Florence Kluckhohn (1953), Clyde Kluckhohn (1951) defines value orientation as follows:

"a generalised and organised conception, influencing behaviour, of nature, of man's place in it, of man's relation to man, and of the desirable and non-desirable as they may relate to man-environment and interhuman relations" (Florence Kluckhohn 1953 p.357);

1.39 The intellectual orientations represent the very broad scale, while the cosmology represents the specific attitudes and beliefs of the world views (Altman and Chemers 1984).

1.40 Kluckhohn (1953) has stated five common human problems, two of which are man's relation to nature and the dominant modality of the relationship of man to other men.

1.41 Three aspects of the range of variation in the man-nature relationship have been discussed by Kluckhohn. The first is that, man is subjugated to nature (e.g. accepting the inevitable as the inevitable); the second is that man and nature are in harmony (e.g. each is an

extension of the other and both are needed to make the whole); and the third is that man dominates nature (e.g. man has a right and responsibility to control and subjugate the environment to make it serve his needs).

1.42 According to these ranges of variation in the man-nature relationship, Proteus (1977) defined four philosophical models regarding the relationship between the environment and behaviour. The first of these models is the "free will approach". According to this model, the environment has no impact on behaviour. The second model is the "possibilistic approach". Here the environment is full of opportunities, and people are completely free to act on their perception of these opportunities. In this case, opportunities may or may not be realised. The third is the "probabilistic approach". This approach assumes that the behaviour of every individual is based on his motivations and competence while being conditioned by the natural as well as the social and cultural environment. The fourth model is the "deterministic approach". It assumes that people's actions are controlled and directed by their environment.

1.43 Free will, possibility, probability, and determinism are the major theoretical positions for approaching the relationship between man and his environment. The probabilistic approach, according to Proteus (1977), seems to be the most useful model. The probabilistic approach underlies most of the recent research on the relationship between

behaviour and the environment Lang (1987).

1.44 The following is a discussion of the Islamic view of the world in terms of the man-nature relationship. Muslims look at nature as events which follow a concept of habit rather than a law of nature. God has established in nature certain events which follow other events and all of them obey God's commands. Moreover, God mostly allows natural events to follow their habitual course with exceptions. The exceptions may occur for two purposes either to represent a miracle or to represent a sign and message.

1.45 Muslims believe that heaven and earth were a united whole, like smoke, in the beginning. Then God created the heavens in two days and the earth in two days by separating the smoke into two parts. The Qur'an² states:

"... say: is it that ye deny Him who created the earth in two days? And do ye join equals with Him? He is the Lord of all the worlds. He set on the earth, mountains standing firm, high above it, and bestowed blessings on the earth, and measured therein all things to give them nourishment in due proportion, in four days, in accordance with the needs of those who seek sustenance. Moreover, He comprehended in His design the sky, and it had been as smoke: He said to it and to the earth: come ye together, willingly or unwillingly they said: we do come together, in willing obedience. So He completed them as seven

firmaments in two days and He assigned to each heaven its duty and command. And we adorned the lower heaven with lights, and provided it with guard. Such is the Decree of Him the Exalted in might, Full of knowledge".³

1.46 Muslims look at mountains as elements which contribute to the internal equilibrium of the earth. The Qur'an says:

"... And we have set on the earth mountains standing firm, lest it should shake with them".⁴

1.47 The sun, moon, and stars, according to the Islamic view of the world, are events that move in their own orbit. God has created them for different purposes. The sun and moon are for reckoning the time. It is for this reason Muslims use the Lunar calendar for defining their months so that they fast during "Ramadan" the ninth month or perform the pilgrimage during the twelfth month. The stars are used as beacons to help humans navigate to land. These purposes have been clearly identified in the Qur'an. The Qur'an states that:

"... He it is that cleaveth the daybreak from the dark, He makes the night for rest and tranquillity, and the sun and moon for the reckoning of time: such is the judge, And ordering of Him, the Exalted in power, the omniscient. He is He who maketh the stars as beacons for you, that ye may guide yourselves, with their help, through the dark spaces of land and sea: we detail our signs for people who know".⁵

1.48 Muslims have been taught by the Qur'an that every living thing is made of water. The Qur'an states that:

"... We made from water every living. Will they not then believe?"⁶

1.49 The above were examples to illustrate Muslim's views of the world towards nature, but what is the Islamic view of humanity itself and what is the purposes of its creation?

1.50 The human, according to Islamic teaching, has been created from clay as mentioned in the Qur'an that:

"... We created man from sounding clay, from mud moulded into shape. And the Jinn race, we had created before, from the fire of a scorching wind"⁷

The purpose of human creation is to worship God. Moreover, to do God's bidding and to obey his commands as the Qur'an illustrates that:

"... I have only created Jinns and men, that they may serve me".⁸

Therefore, the most essential belief in Islam is the concept of man as the slave of God. The Arabic word for slave of God is "Abdallah" which is the commonest name among Muslims.

1.51 Islam has six basic beliefs. These beliefs include the belief in Allah, in His angels, in His books, in His messengers, in the Last Day

(the day of judgement), and the belief in the almighty. This means that a Muslim should believe that everything whether good or bad is decided by Allah. The belief in the Last Day (the day of judgement) indicates the continuation of life after death which means that the body's death is not an end of human existence. Life after death is a new indeterminate duration where man could be in paradise or in Hell depending on his action and attitude during his life on his earth. According to Islamic teaching, there are two angels, one on the right side and the other on the left side, accompanying each human being throughout his life on the earth. They are busy observing and recording every single word he says and every single action he takes. To illustrate this from the Qur'an, God says:

"... Behold, two guardian angles appointed to learn his doings learn and note them, not a word does he utter but there is a sentinel by him, ready to note it. And the stupor of death will bring truth before his eyes: This was the thing thou was trying to escape! And the trumpet shall be blown: that will be the Day whereof warning had been given. And there will come forth every soul: with each will be an angel to drive, And an angel to bear witness".⁹

1.52 Thus, the belief in the last day exerts a major influence on the Muslim's behaviour. In other words, every Muslim tries to rise in spiritual stature by following the ways of Islam since he carries the fear of God in his heart.

1.53 The relationship between people, according to Kluckhohn (1953), has three sub-divisions: The lineal, the collateral, and the individualistic. She stated that all societies and groups must give some attention to all three principles. The lineal, collateral and individualistic principles - but one of these principles may be stressed over the other depending on the goals of the society. She stated that:

"... if the individualistic principles is dominant and the other two interpreted in terms of it - as in the case in United States - individual goals will have primacy over the goals of either the collateral or Lineal group". (p.352)

1.54 In contrast, the Islam community is based on a strong feeling of brotherhood and a sense of harmony. The Qur'an states:

"... And hold fast, All together, by the rope which Allah stretches out for you, and be not divided among yourselves; and remember which gratitude Allah's favour on you; for were enemies and He joined your hearts in love, so that by His Grace, ye became brethren,...".¹⁰

Moreover, the concept of brotherhood has been stressed in many "hadiths" (e.g. the storerooms of the Sunnah of the prophet). The prophet said:

"... There are indeed people who boast of their dead ancestors; but in the sight of God they are more contemptible than the black

beetle that rolls a piece of dung with its nose. Behold, God has removed from you the arrogance of the time of ignorance "jahiliyyah" with its boast of ancestral glories. Man is but a God-fearing believer or an unfortunate sinner. All people are the children of Adam, and Adam was created out of dust".¹¹ (Cited on Asad 1980).

1.55 The previous statements represent the concept of brotherhood and the sense of being equals even if the community comprises many people from different tribes or classes. The reason behind not stressing the concept of Lineality, because they may have a negative connotation such as encouraging social injustice. There are many examples of the actual application of the concept of brotherhood in Islamic communities. An example of overt behaviour is whenever two Muslims meet they say to each other "al-Salamu-alaykum" (e.g. peace and the mercy of Allah be on you). Other examples can be illustrated through mentioning the other rights of Muslim over one another. The prophet said:

"... There are six rights of Muslims over one another" Someone asked "... what are they, o prophet of Allah?" The prophet replied "... when you meet a brother Muslim, salute him; when he invites you, you should accept his invitation; when he asks for sincere advice, you should advice him sincerely; when he sneezes and utters "Alhamdu-lil-lah" (All praise be for Allah), you should also reciprocate saying "Yarhamukallah" (blessings of Allah be

upon you); when he falls ill, you should visit him; and when he dies, accompany his funeral".¹²

All these six rights represent bases for forming a unity and livable community. A unity that every one is strengthening the other as the prophet described the way Muslims should be. He said:

"... The faithful are to one another like parts of a building each part strengthening the other".¹³

1.56 In terms of the other two principles, the collateral and the individualistic principles, Islam looks at the individual as independent as well as a member of the community. The relationship between man and the community is based on the concept of reciprocal responsibility. An example of this is when members of the tribe usually shared equally the payment of the blood money if one of them committed unpremeditated murder. On the other hand, they usually inherited collectively the property of any heirless member. The individual, according to the teaching of Islam, has the right to protect his life, honour, and property as well as having the necessary freedom to develop his potential. The prophet said:

"... The blood, property and honour of a Muslim must be sacred to every other Muslim".¹⁴

But not to transgress against the public rights. Thus, the individual is shown a way to attaining abiding peace with his fellow-men. The Qur'an states that:

"... Thus have we made of you an ummat justly

balanced, ..."¹⁵

While the prophet said:

"... Do not harm others or yourself, and other should not harm you or themselves".¹⁶ (Cited in Hakim 1986).

In order to explain the relevance of this hadith (the prophet's saying) to the spatial use, Al-Hathloul (1981) states that:

"... Ibn al-Qusim¹⁷ was asked whether or not an individual could be prevented from opening a door or a window in his own wall, from which he looked upon his neighbour and therefore inflicted some damage to him. He related the following to Malik¹⁸:

"... one has no right to create something that will inflict harm or damage to his neighbour, even when what is done is within his own property". (Al-Hathloul 1981 p.108).

1.57 The previous paragraphs explained the concept of orientation and some of the human problems that were proposed by Kluckhohn (1953) with reference to Muslim's beliefs. The following paragraphs deals with the concept of cosmology.

1.58 Rapoport (1969) provides many examples to explain the concept of cosmology and how it is associated with house and community forms, plans, spatial arrangements, and orientations. In one of these examples he stated that:

"In Africa the distribution of round and rectangular houses is

related to the distribution of religion, and many examples can be found, like the ZULU where orientation is unimportant, round houses are used, and there many not be any straight lines. An extreme contrast is the Trano of Madagescar which is oriented through strict axes and astronomical rules". (Rapoport 1969; p.41).

1.59 There are many aspects of cosmology associated with people's activities and lifestyle as well as the orientation of certain elements of the Muslim's built environment.

1.60 Here I will examine how Islamic teaching can affect two different activities, praying and eating, and how they can affect the daily life and the layout of Muslim's environments. Other examples of how certain activities can be dealt with according to Islamic religious sanctions will also be presented.

1.61 Prayer is the second of the foundation pillars of Islam. It covers the five compulsory daily prayers which are repeated to remember Allah, to be close to Him and to gain His favour. It also conveys both a social and an individual meaning. Muslims pray five prayers on fixed times a day. These fixed times are Al-Fajr (from dawn until just before sunrise); Al-Thuhr (after mid-day until afternoon); Al-Asr (from late afternoon until just before sunset); Al-Maghrib (after sunset until daylight ends); and Al-Isha (night until midnight or dawn). These fixed

times prayers play a major role in the daily life and schedule of Muslims.

1.62 These prayers may be performed individually or in congregation but a prayer with congregation is twenty-seven times superior to prayer performed individually. In order to stress the importance of performing the prayers in one of Gods houses (the mosques), the prophet said:

"... Who he cleans and pures himself in his house then walks to one of the God houses to perform his prayers, God will reward him on each step he makes to and/or from mosque".¹⁹

The reason behind this emphasis is to encourage Muslims to perform their prayers in congregation to develop a unity as well as to give them an opportunity to meet, discuss, and solve their community problems.

1.63 In order to perform prayers, one must face a specific direction (The gibla). The Ka'bah in Makkah is the direction towards which worshippers should turn their faces in prayer as the Qur'an stated:

"... We see the turning of thy face for guidance to the heavens: now shall we turn thee to a qibla that shall please thee. Turn then thy face in the direction of the sacred mosque: whenever ye are turn your face in that direction ...".²⁰

Accordingly, all mosques in each settlement around the world ring around this centre which is the Ka'bah (the holy place) in Makkah where Islam's Grand Mosque is located. The qibla is highly respected among Muslims, thus they do not face the qibla when they defecate or

urinate. The prophet said, while he was in Medina:

"... If you want to defecate, then do not face the qibla or turn your back to it".²¹

Therefore, it can be concluded that the concept of qibla represents the horizontal dimension that indicates a guideline to designing a mosque or locating a toilet in Muslim communities.

1.64 There are other occasions for prayer. Prayers are also held on Fridays in congregation, which is an occasion for the assembly of the Muslims of an area; and on special occasions like festivals, after the fasting month (Ramadan); and also on the tenth day of the twelfth months in the lunar calendar; and funeral prayer when a Muslim dies.

1.65 The second example discussed is the eating activity. Eating is one of the most important human activities. The need to eat can be met and gratified in many different ways. Here I will examine how the Islamic sanctions can affect eating habits.

1.66 Muslims always begin their meals by saying Bismillah Al-Rahman Al-Rahim (e.g.; in the name of Allah, the most merciful and the most kind). In order to meet the purity and cleanliness requirements, the prophet asked Muslims to eat with the right hand and to wash the hands before and after meals. How these recommendations can affect the layout of certain buildings of the Saudi built environment is

discussed in the next part.

1.67 After focusing on the issues of the mental activities and the intellectual orientations and cosmetology aspects of culture-environment relationship. The next topic to be dealt with the behavioural process involving in people's relation to environment.

Social Behaviourial Processes

1.68 The social behavioral process involves the mediation between the environment and people's behaviour at the social level. This includes any means of the socialisation processes which people use to manage and regulate their relation with both the social and physical environment, such as privacy and territoriality. Through this they achieve an optimal environment that fulfils their range of goals and needs.

1.69 The subject of the social behavioural processes (e.g. the overt behavioral actions) in relation to environment has interested many scholars and researchers from a variety of disciplines (Altman and Chemers 1984) including architecture, urban design, and planning.

1.70 The need for privacy, personal space, territory, social interaction is universal and contributes to the meeting of human needs. However, these needs are manifested differently in different societies and by different groups of people (Hall 1966, Altman 1975, Altman and

Chemers 1984).

1.71 The following will shed light on some of the theories and the Islamic point of view of the social behavioural process that affects the perception of the environment comfort and quality starting with the concept of privacy followed by the concept of personal and social space, territoriality, social interaction and family structure.

Privacy

1.72 Each human's activity requires a certain level of privacy. The notion of that level of privacy differs from culture to culture (Hall 1966). Altman (1975) provided a broad definition of privacy. He stated that privacy is a "... selective control of access to the self or one's group" (p.18). This definition includes the various types of privacy proposed by Marshall and Westin.

According to Holahan (1982), Marshall has provided a six point scale of privacy. Three of them emphasise withdrawal from other people and the seeking of isolation. These are "solitude", "seclusion", and "intimacy". Whereas the remaining types of privacy emphasise the idea of control of information. These are "anonymity", "reserve", and "not-neighbouring".

1.73 Westin (1967) provided a systematic analysis of privacy by identifying four levels of privacy, including both withdrawal and control

of information, which are associated with specific types of activities. The four types of privacy are "solitude", "intimacy", "anonymity" and "reserve", which will now be described in more detail.

1.74 "Solitude" : The state of wanting to be alone and free from observation by others. An example of this type of privacy that has been stressed in the teaching of Islam is looking at awrah (the private parts of the body) of another person has been prohibited. The prophet said:

"... A man should not look at the awrah of another man, nor a woman of a woman, nor should a man go under one cloth with another man nor a woman with another woman".²²

1.75 The awrah of a man is from his navel to his knee, while the awrah of a woman is her entire body except her face and hands. Accordingly, public toilets and bathrooms, for example, of the Muslim's environment always guarantee complete privacy for everybody whether male or female, even if the users are of the same sex. This is done in order to safeguard people's privacy.

1.76 "Intimacy" : The state that desires to be separated from the outside world with one's family (e.g. a husband and wife or a small group of people).

1.77 According to Islamic teaching, the prophet strictly forbade looking

into other people's houses without their permission. He said:

"... He who looks into a house without the occupant's permission, and they puncture his eye, will have no right to demand a fine or ask for punishment".²³ (cited in Hakim 1986).

Also, the prophet said:

"... He who pulls the curtain and looks into a house without permission to enter has committed an offence".²⁹

An example from the Islamic history, to illustrate the Islamic principles, that according to Akbar (1984), the Hanbali (one of the scholars of Islamic law) compelled the owner of a roof terrace that is higher than his neighbour's roof terrace to build a parapet or to wall it since he would view his neighbour's house if he used his roof terrace.

1.78 "Anonymity" : The state that desires being unknown in a crowd (e.g. the desire not to be recognised in a crowded or in public place).

1.79 In order to satisfy our need not being recognised in a crowded or in public place, we may use non verbal modes of communication. For example, sometimes we regulate our privacy by orienting our bodies facing away from unwanted people or using a newspaper to cover our faces and so on.

1.80 "Reserve" : The state of employing a psychological barrier against unwanted intrusion. To illustrate the recognition of this type of privacy

from the Islamic viewpoint, the Qur'an says:

"... O ye who believe! Enter not houses other than your own, until ye have asked permission and saluted those in them : That is best for you, in order that you may heed what is seemly. If ye find none in the house, enter not until permission is given to you : If ye are asked to go back, go back : That makes for greater purity for yourselves : and Allah knows well all that ye do".²⁵

This statement is a general guideline for Muslims behaviour in order to recognise the importance of this type of privacy even the one who was unwelcome that time is a close friend or one of the relatives.

1.81 Most definitions of privacy emphasise the idea of control of information. This not required a physical and environmental isolation, but it may be expressed behaviourally and psychologically.

1.82 There is another type of privacy according to the Islamic way of life, that is the Islamic value of privacy for women which can be represented by the concept of segregation of the sexes.

1.83 Muslims cannot tolerate mixed social functions, co-educational schools or courtship before marriage. The male and female are forbidden to intermingle freely unless the male is one of the "Mahrem". Mahrem denotes a relationship either by marriage or close blood ties as

they identified by the Qur'an. The Qur'an says:

"... Say to the believing men that they should lower their gaze and guard their modesty : that will make for greater purity for them : And Allah is well acquainted with all that they do. And say to the believing women that they should lower their gaze and guard their modesty; that they should not display their beauty and ornaments except what must ordinarily appear thereof : That they should draw their veils over their bosoms and not display their beauty except to their husbands, their fathers, their husband's fathers, their sons, their husband's sons, their brothers or their brother's son or their sister's sons, or their women, or the slaves whom their right hands possess, or make servants free of physical needs, or small children who have no sense of the shame of sex;..."²⁶

1.84 Sex segregation also occurs between boys and girls of the same family, in the place of sleeping, to provide complete privacy for girls.

The prophet said:

"... Order your children to pray at seven, and beat them about it at ten, and in sleeping separate them".²⁷

1.85 As a result of the concept of sex segregation in the Islamic way of life, one may recognise the effect of this concept on the Islamic build environment.

1.86 To conclude the concept of privacy, Lang (1987) has provided a summary to the definitions of privacy. He stated that:

"Definitions of privacy has one thing in common : They stress that it has to do with the ability of individuals or groups to control their visual auditory, and olfactory interactions with others". (p.145)

1.87 Holahan (1982) identified two psychological purposes served by privacy. The first, to manage and regulate social interaction between people, such as regulating the disclosure of personal information and maintaining group order. The second, to establish a sense of personal identity.

1.88 The notion of privacy, whether its type or degree of privacy desired depends on two factors, according to Lang (1987). The first is the standing pattern of behaviour in a certain culture, while the second is the personality and aspirations of the individual who is involved in that type of behaviour. Accordingly, failure to achieve the desired level of privacy may lead to negative consequences. For example, when achieved privacy is less than the desired, then intrusion can not be controlled. On the other hand, when achieved privacy is greater than the desired, then boredom or isolation may occur. Both situations may lead to heightened stress levels as well as reducing a person's self-

esteem (Altman 1975, Altman and Chemers 1984, Lang 1987).

Personal And Social Space

1.89 Personal space has been defined as "... the space with an invisible boundary surrounding the person's body into which intruders may not come" (Sommer 1969 p.26).

1.90 Hall (1966) has identified and described four spatial zones for regulating social interactions between people. These zones include "intimate distance", "personal distance", "social distance", and "public distance".

1.91 "Intimate distance" is the zone from zero to the point of physical contact, to eighteen inches. It can be defined, according to Hall, as the zone where:

"... sight (often distorted), olfaction, heat from the other person's body, sound, smell, and feel of the breath all combine to signal unmistakable involvement with another body" (Hall 1966 p.110).

1.92 "Personal distance" is the zone from eighteen inches to four feet from a person. This distance is the proper zone for interaction between close friends while they make conversations for example (Altman 1975, Hall 1966).

1.93 The third zone is "social distance" which ranges from four feet

to twelve feet around the individual. It is considered as the formal distance at which business, for example, is conducted. According to Hall, at a distance of more than twelve feet, communication between people might be difficult.

1.94 Finally, the "public distance" is the zone extending twelve feet beyond a person. The public distance used for very formal contacts such as those between a public speaker and an audience.

1.95 These four spatial zones are not solidly valid for every culture. They may differ from culture to culture depending on the way that the people of the same culture perceive each other as well as in the individuals involved. Therefore, they may overlap or be defined differently. For example, the personal and social distance might be included in the intimate distance in a certain society such as Muslim societies. According to the Islamic teaching, Muslims during congregational prayers should stand in rows and fill the gap between them to present each row as a solid unit. As a result of this requirement, every one appears to be standing at an intimate distance to the one who is standing next to him. In order to solve the negative impact of this, the Qur'an and Sunnah asked every Muslim to wear his beautiful apparel as the Qur'an states:

"... O children of Adam! wear your beautiful apparel at every time and place of prayer..."²⁸,

while the prophet recommended all Muslims not to eat onions or garlic

without being cooked since their smell bothers other worshippers as well as bothering the guardian angels. To illustrate this, the prophet said:

"... who have eaten garlic, onions, or leek should not come near our mosque because angels are bothered by their smell as are children of Adam".²⁹

1.96 Another example from Saudi culture is that during special occasions like festivals, they may kiss or hug each other even on the first time they meet.

1.97 Holahan (1982) stated that the personal space functions as a buffer zone that protects a person against both physical and emotional threats from other persons. Accordingly, maintaining personal space is important for people to feel comfortable thus, an understanding of personal space is essential for the environmental designers, especially, when designing fixed-features (Hall 1966).

Territoriality

1.98 Altman (1975) has identified some of the common themes of various definitions of animal and human territorial behaviour. Holahan (1982) has defined territoriality (as influenced by the common themes identified by Altman) as follows:

"Territoriality is a pattern of behaviour associated with the ownership or occupation of a place or geographic area by an

individual or group, and involves personalisation and defence against intrusions" (Holahan 1982 p.256).

1.99 Several basic characteristics of territories have been defined by Altman and Chemers (1984), and Lang (1987) which can be put as follows:

1. Territory could be personal or group property of a place or object on a temporary or permanent basis, whatever the size of the place or object is.
2. Territory is often personalised or marked.
3. Defense may occur against intrusion.
4. Territory allows the fulfilment of many of the basic needs graded from physiological needs to the cognitive and aesthetic needs, mentioned previously.

1.100 Lang (1987) stated that the territoriality serves as a basis for the development of a sense of "identity", "stimulation", and "security" as well as a basis for a "frame-of-reference". "Identity" involves belonging, self-esteem, and self-actualisation. "Stimulation" is concerned with self-fulfilment and self-actualisation. "Security" is to be free from censure and outside attack as well as to possess self-confidence, while a "frame-of-reference" is that which maintains one's relationship with others and the surrounding environment.

1.101 One the basis of the observation of territorial behaviour,

Newman (1972) has developed the concept of "defensible space". He has defined "defensible space" as:

"... A model for residential environments which inhibits crime by creating the physical expression of a social fabric that defends itself" (Newman 1972, p.3).

According to Newman, the goal of the defensible space is to translate the latent territoriality and sense of community into responsibility for ensuring a safe, productive, and well-maintained living space. Also Newman identifies several characteristics of the layout of the environment in order to satisfy the goal. Some of these characteristics are:

1. Encourage people to care about their surrounding through the subdivision of the residential environment. the subdivision of the residential environment should consist of a well-defined and a clear graduation of territories that are graded from private to semi-private to semi-public to public. Such hierarchies of territory, according to Newman, are essential to a feeling of well-being as well as providing people with a sense of security.
2. Encourage people to keep watching over their territory - what Jacobs (1961) calls "eyes on the street" - in order to optimise natural surveillance.

1.102 It is interesting to read Newman's theory, but it seems to be based on the assumption that residents are always in homogeneity. The question which I would like to stress is if the residents are

heterogeneous what should we do then? The answer of this question, according to my understanding, will be raised in the final part of the research.

1.103 Islam defines legal aspect when dealing with each type of territories. These include:

1. Private territory is owned, used, and controlled exclusively by individuals or groups. The concept of private territory is approved by Islam since it is important to a person's or group's well-being. The prophet said:

"... The blood, property, and honour of a Muslim must be sacred to every other Muslim".³⁰

To illustrate this from the Qur'an. God says:

"... O ye who believe! Enter not houses other than your own, until ye have asked permission and saluted those in them: That is best for you, in order that you may heed what is seemly. If ye find none in the house, enter not until permission is given to you: If ye are asked to go back, go back: That makes for greater purity for yourselves: and Allah knows well all that ye do".³¹

1.104 Accordingly, the owner of property is entitled to defend it when uninvited intrusions occur, even if such defense results in death of the aggressors since such a situation may present a threat to the owner's self-identity.

2. Semi-private territories: They tend to be owned, controlled, and used in association with their inhabitants. Muslim jurists always make distinctions between public spaces and semi-private spaces in judging the legality of residents actions. Akbar (1984) concluded that the consensus among all jurists is that a dead-end street is considered private property in which action by any partner will be permitted if all partners agree and the principle of damage does not occur. The principle of damage is according to the hadith that the prophet said:

"... Do not harm others or yourself, and other should not harm you or themselves".³² (cited in Hakim 1986 p.152).

3. Semi-public territories : are those that are owned by a large number of people or by institutions. The close residing users exhibited some possession and control over them such as the thoroughways or the open spaces of certain neighbourhood.

1.105 According to Islamic law, action by any individual in a semi-public territory such as a thoroughway will be permitted as long as no one objects and the principle of damage does not occur (Akbar 1984).

4. Public territories: are those areas that may be used by individuals, groups, or by the residents of the whole village or town collectively with no exception. The responsibility for those territories, according to Islamic teaching, are legally owned, used, and controlled by the public collectively and not owned by the authority in order to freeze owning them (Akbar 1984). So,

public territories in urbanised areas may not be revived by any individual whatever the size is since they relate to the Muslims interests such as mosques and public streets. On the other hand, public territories such as wide streets could be used for sitting, selling, or buying goods since it does not harm the passer-by. To illustrate this, the prophet said:

"... Avoid sitting on thoroughfare, they said it is difficult to avoid as it is our gathering places where we spend time talking",

then the prophet said:

"... but if you insist then you should respect the rights of thoroughfares".

"What are these rights", they asked, the prophet said:

"... Avoid staring, do not create harm, salute those who salute you, bid to honour and forbid dishonour"³³ (cited in Hakim 1986).

1.106 In general, the importance of existence of the various types of territory is to help people to predict the types of behaviour and activities that can be expected in a particular territory. For example, one may feel released from all public obligations in the private territories, whereas in public territories, certain behaviour is required propounded by certain norms and obligations. Moreover, they help to develop and maintain social organisation.

1.107 It is important to realise that in order to achieve and form successful territory types one should understand the nature of the man-surrounding relationship in each case since each type is usually accompanied by certain levels of responsibility.

Social Interaction

1.108 Social relationships have been identified as the out-put of engaging in recurrent forms of either symbolic or co-present interaction between two or more people as distinctive individuals, based on some functional fit between their respective roles and/or selves (McCall, McCall, Denzin, Sutties, and Kurth, 1970). Therefore, social interactions are necessary for maintaining the social relationships in order to meet the needs for affiliation and belonging.

1.109 Social interaction requires a place where people get together to find friendship and support since social behaviour cannot be separated from physical space (Esser, Aristiole, and Greenbie, eds 1978). Neighbourhoods and buildings are considered as the most important space that could encourage meeting and contacts between people.

1.110 There have been many theories identified to present the issues that lead to interaction, which is the basis for forming friendships, sharing feelings, and providing mutual help.

1.111 Lang (1987) has discussed many of these concepts. Some of

these are the concept of propinquity (proximity), the concept of homogeneity (unity), and the concept of functional distance between units and the functional centrality of commonly used facilities.

1.112 Propinquity (proximity) can exert a major influence on formation and development of friendship between people. Propinquity refers to the spatial distance between different settings such as house units. Propinquity leads to visual contact between neighbours and helps to produce face-to-face social contact (Gans 1967). Gans also stated that:

"... propinquity may thus be the initial cause of an intensive positive relationship, but it cannot be the final or sufficient cause" (Gans 1967, p.503).

1.113 He has concluded that homogeneity will determine how intensive the relationships will be in the future, either positive or negative. His conclusion can be supported by the work of Kuper (1953) when he explained that propinquity can lead to negative contacts between people when they are not homogeneous in character.

1.114 The Islamic view is that there are certain obligations between people, whatever their characteristics are, when they live in proximity. Hospitality, fair treatment, and protecting each other from harm and dishonesty are examples of such obligations. To illustrate these, the prophet said:

"... By Allah, he has not faith (the prophet repeated it three

times) whose neighbours are not safe from his wickedness".³⁴.

Another hadith that the prophet said:

"... He is not a believer who eats his full while his neighbour remains hungry by his side".³⁵

1.115 The prophet has stressed, several times, the importance of treating the neighbours well. He said:

"... The angel Jibrail has been recommending fair treatment towards neighbours, so much that I thought he would give him the right to inherit".³⁶

Evidence from the Qur'an, Allah says:

"... And show kindness to your parents and to near relatives, orphans, the needy and to the neighbour who is your relative and the neighbour who is not your relatives...".³⁷

1.116 One may ask to whom should we give the most respect and help if there is more than one neighbour? The answer is given by the prophet when his wife Aisha asked him:

"O Messenger of Allah, I have two neighbours, to which one I should give this present? The prophet said:

"... To the one whose door is nearest to yours"³⁸ (cited in Hakim 1986).

1.117 The concept of homogeneity (unity) refers to a group of people who share one or more of different characteristics such as common

backgrounds and attitudes or similar interests, or shared values. Gans (1967) has suggested that, some degree of homogeneity in a neighbourhood would seem to be desirable in order to help people to find friends in their vicinity. Homogeneity is considered as one of the factors that encourages positive relationships among neighbours.

1.118 To discuss the implication of the concept of homogeneity according to Islam teaching, the neighbourhood could be based on the concept of homogeneity in terms of social organisation or social homogeneity such as being of the same tribe or profession. It is not based on a radical separation of class, colour, or wealth.

1.119 In order to illustrate, Al-Hathloul (1981) has discussed the process of physical development within the traditional Islamic cities, such as in Medina and Al-Kufah which was based on the subdivision of the land into "Khitat" (e.g. grants) which was usually given to tribes, army detachments, or individuals. Each one of these Khitat seems to be the origin for city quarters. While the sub-division of land within each one of these territories of Khitat was left to its inhabitants.

1.120 The process of the sub-division was started by the prophet himself in Medina, Saudi Arabia. According to Al-Hathloul (1981 p.31). Yaqut (d.626/1229) says:

"... When the prophet arrived at Medina he granted the "dur" and quarters to the people. Thus, he marked a "khittah" for Bani

Zahrah in a part of the place behind the mosque, ..., and granted Abdallah and Utbah the sons of Masud Al-Hudhali their well-knowns "Khittah" near the mosque, and granted Al-Zubayr bin Al-Awwam a large spot and granted Talha bin ubaydallah the site of his "dur", and for Abi-Bakr Al-Siddiq the site of his dar near the mosque. And he granted each of Uthman bin Affan, Khalid bin Al-Walid, and Al-Miqdad and others the sites of their dur ...". cited in Al-Hathloul, 1981 p.31).

1.121 Homogeneity should not be based on discrimination in terms of class, colour, or wealth. The prophet encourages being close to the poor since man's wealth has no relevance to his intrinsic merit as a human being. The prophet gave Abu-Dharr a sevenfold admonition the first of them was "love the poor and be near them". Moreover, the prophet said:

"... Allah does not look at your physical features or your wealth, but He looks at your hearts and your deeds".³⁹

To support this from the Qur'an, Allah says:

"... Is it they who would portion out the Mercy of thy Lord? it is we who portion out between them their livelihood in the life of this world: And we raise some of them above others in ranks, so that some may command work from others. But the mercy of thy Lord is better than the wealth which they amass".⁴⁰

1.122 Beside the concepts of propinquity and homogeneity, functional

distance between units and the functional centrality of commonly used facilities play an important role in encouraging relationships among neighbours (Lang 1987).

1.123 Functional distance refers to the degree of difficulty when one moves from one point to another such as paths and corridors, while functional centrality of common facilities refers to the ease of access to common facilities such as a laundry area, a stairway, entranceway, a lounge, a court area, or a mosque in a residential cluster. According to Holahan (1982), Festinger provided an example of how functional distance can affect social relationships among neighbours. He states:

" In order to have the street appear lived on, ten of the houses near the street had been turned so that they faced the street rather than the court area as did the other houses. This apparently small change in the direction in which a house faced had a considerable effect on the lives of the people who, by accident, happened to occupy these end houses. They had less than half as many friends in the project as did those whose houses faced the court area. The consistency of this finding left no doubt that the turning of these houses toward the street had made involuntary social isolates out of the persons who lived in them". (cited in Holahan 1982 p.326).

1.124 Accordingly, the importance of the mosque in the Islamic communities is to help to produce face-to-face contact (five times a

day) which may lead to the formation of friendships.

1.125 Other issues which can be discussed here are the importance of the festivals events as well as the hospitality in producing face-to-face contact in the Muslims community.

1.126 Like all other societies, Muslims have a number of special occasions to celebrate. Some of the festivals are held at fixed times of the year such as the religious festivals, while others are special occasions such as weddings.

1.127 There are two religious festivals in each year. The first, "Id Al-Fitr" (at the end of the fasting month in the ninth month of the lunar calender) and the second, "Id Al-Adha" (on the tenth of the twelveth month of the lunar calender).

1.128 During these festivals people express their pleasure by wearing their best clothes and offering a congregational prayer. After prayer, special dishes are prepared and often shared by all residents of an area. It is customary to visit relatives and friends to exchange good wishes. Children are given gifts on these festivals by their parents, brothers and sisters, grandparents, and other relatives and neighbours to let them celebrate with their families.

1.129 Another type of celebration is a wedding and the marriage

feasts. This type of celebration is recommended by the prophet in order to announce the marriage to the public. The prophet encouraged "walimah" (marriage feasts) and singing in order to create an atmosphere of joy. The prophet said:

"... The bridegroom will have to give walimah".⁴¹

In Saudi Arabia, traditionally, such festivals used to be held in the same neighbourhood where the bride's father resided. At present, however, marriage feasts are usually held in a special building, designed for this purpose, located in different parts of each city.

1.130 The second important issue that leads to social interaction and encourages strong social bonds is hospitality. According to Islamic beliefs, hospitality reflects faith. The prophet said:

"... Who believes in Allah and the Day of judgement, should be hospitable to his guest".⁴²

From the Qur'an, Allah has described the hospitality of the prophet Abraham. Allah said:

"... Has the story reached thee, of the honoured Guests of Abraham? Behold, they entered His presence, and said: "Peace!" He said, "Peace!" (and thought, "these seem unusual people".) Then he turned quickly to his household, brought out a fatted calf, and placed it before them. He said, "Will ye not eat?"⁴³

Accordingly, hospitality has become a kind of prestige in Saudi Arabia. Every one likes his hospitality to be praised. The luxury of the guest room, in most of Saudi Arabian houses, are some of the physical

manifestations of hospitality that reflect the symbol of welcoming. The effect of these manifestations of hospitality on the built environment is discussed in the following part.

1.131 To conclude this section, buildings and neighbourhoods can be designed to afford face-to-face meetings and contact between people but some catalyst is needed to form the interaction. Such catalysts may be waiting for laundry, praying in the mosque, marriage feasts or festivals.

Family Structure

1.132 Some sociologists try to define the family as a set of ends while others as a kind of social structure. Leslie and Korman (1985, p.3) offered a broad definition of family:

"... The institution to which we owe our humanity".

1.133 Institution refers to a structure of social norms which represent the rules of conduct for its members.

1.134 The nuclear family is the basic building block in family structure. It refers to two adults of opposite sex living with their own children. Each individual is a member of two different, overlapping nuclear families (Leslie and Korman 1985). The first is family of orientation (e.g. father, mother, brothers, and sisters), and the second is family of procreation (e.g. spouse, sons, and daughters).

1.135 There are four universal functions of the family defined by sociologists. They are : sexual, reproductive, economic, and educational institution for the children.

1.136 Nuclear families could be combined to form larger units in one or both of two ways. The first is through being in an extended family form (e.g. extension of the parent-child relationships) in order to form three or more generations. The second is through plural marriage (e.g. polygamous families) either polygyny or polyandry.

1.138 Polygamy refers to the ideas of acquiring more than one wife, while polyandry refers to the idea that the woman could have more than one husband at the same time.

1.139 According to Islamic teaching, the family is the most fundamental unit of society, since it achieves the development of the individual and his transition into society. In Saudi Arabia life revolves around the family. When someone asked how many people live in a community, the residents will reply not in terms of individual members but in terms of the number of families living there.

1.140 There is no role to define the size of family in Islamic principles thus, the family could be nuclear, extended or polygynous only but not polyandrous. Polyandry is prohibited by Islam since it involves the problem of determining paternity. Although a man is

permitted to acquire up to four wives, Islam does not require a polygynous society; it is not even encourage it as the Qur'an says:

"... And if you fear that ye shall not be able to deal justly with the orphans, marry women of your choice, two, or three, or four; but if ye fear that ye shall not be able to deal justly with them, then only one..."⁴⁴

Accordingly, the majority of Muslims practice monogamy. However, it does have an influence on the size of the house or the pattern of the neighbourhood.

1.141 Islam explicitly expresses the importance of being close to relatives in order to help each other. To illustrate this, A man came to the prophet and said:

"... I take the oath of allegiance to you for "hijrah" (emigration to Medinah) and "jihad" (seeking reward from Allah). The prophet enquired whether either of his parents were living there. His reply that both of them were, the prophet said "... Are you really seeking reward from Allah?" Yes, the man said. The prophet said "... Go back to your parents and be a good companion to them".⁴⁵

To illustrate the requirement in Islam for such respect and submissiveness as well as treating one's mother, father, and relatives kindly, the prophet said:

"... Indeed Allah has warned you about your responsibility to your fathers, indeed, Allah has warned your about your responsibility

to your mothers (He repeated this three times), indeed Allah has warned you about your responsibility to your relatives; so your relatives".⁴⁶ (cited in Schleifer 1986).

1.142 The implication of these teachings plays a major role in forming the Islamic family structure and the way of living. One of their effects on the built environment is that some Saudi families live in the form of extended families or as nuclear families of the same tribe in close proximity.

1.143 The father, according to Islamic teaching, is the head of the family who is responsible for his social and economical duties outside the home. The mother is the most respected person in the family. Her responsibilities are reproductive and educational. Such responsibilities have been defined by the prophet himself. He stated that:

"... Behold, everyone of you is a shepherd; and everyone is responsible for his flock. Thus, the Immam (i.e. the governor) that has been placed over the people is a shepherd, and is responsible for his flock; and every man is a shepherd over his family, and is responsible for his flock; and the woman is a shepherdess over her husbands household and his children, and is responsible for them; and the servant is a shepherd over his master's property, and is responsible for it. Behold, every one of you is a shepherd, and everyone is responsible for his flock".⁴⁷

1.144 Grandparents are greatly appreciated and respected by all the family members for their wisdom and experiences. The grandfather is considered as the symbolic head, while the grandmother as the symbolic social-emotional leader of the family.

1.145 The children are extensions of their parents and the bearer of their characteristics. According to Islamic teaching, the parents should give their children good names, treat them equally, and be generous to them as well as providing them with piety, good conduct and morals. The prophet said:

"... Be generous to your children, and excel in teaching them the best of conduct".⁴⁸

Therefore, children, always, are indulged and smothered with affection from parents, grandparents, and other relatives.

1.146 Having defined the culture and its various issues and the way of life of Saudi society, the question which could be asked is "How can the Islamic teachings solve the social problems of it's society?" The next section is proposed to answer this.

THE ISLAMIC PRINCIPLES FOR SOLVING SOCIAL PROBLEMS:

1.147 Although some of the solved problems have been stated previously, it is worthwhile focusing in more detail on the Islamic principles (which is called Islamic Shariah) for solving social problems.

1.148 The Islamic Shariah, generally, not only guides the problem solving techniques but it also guides the political actions. It is essential to state here that the shariah does not prescribe political patterns to which Muslims must follow nor does it define, in detail, a constitutional theory (Asad 1980). However, the chosen action, whether political or social actions, must match with the explicit shariah laws.

1.149 The shariah refers to either obligatory, forbidden or allowed acts. The obligatory acts refer to the omission of which constitutes a sin, the forbidden acts refer to the commission of which constitutes a sin, while allowed acts refer to the commission or omission of which does not make man a sinner. There are three kinds of allowed acts those which have been recommended (Mandub) but there is no sin in omitting them, those which are undesirable (Makruh) but there is no sin in committing them or those which have been left unspecified (Mutlaq). Therefore, to define whether the action is obligatory, forbidden, or allowed, one must refer to the sources of Shariah.

1.150 There are three main sources of the Shariah. These are the Qur'an, the Sunnah, and Ijtihad. The Qur'an (recitation) and the Sunnah (the practice, rule of life, and the action of the prophet) are the main guidelines for treating any action. Pronouncement about what is lawful and unlawful should be based on these two sources unless there is no clear statement, then the Ijtihad becomes a source of judgement.

1.151 The Ijtihad as a source of the Shariah has been confirmed by the prophet himself when he sent Mu'adh ibn Jabal (one of the prophet companions) as governor to the Yemen, the prophet asked him "How will you decide the cases that will be brought before you?" Mu'adh replied : "I shall decide them according to the Book of God. Then the prophet asked "And if you find nothing concerning a particular matter in the Book of God?" Mu'adh replied: Then I shall decide it according to the Sunnah of God's Apostle". Then the prophet asked "And if you find nothing about it in the Sunnah of God's Apostle?" Then, replied Ma'adh, "I shall exercise my own judgement without the least hesitation". Thereupon, the prophet slapped him upon the chest and said, "praised be God, who has caused the messenger of God's Messenger to please the latter!".⁴⁹ (cited in Asad 1980).

1.152 The Ijtihad is one of the factors that help to form a flexible and a dynamic law to match with the changing needs of people through the passage of time, as long as it is not in conflict with the Qur'an and the Sunnah.

1.153 The Ijtihad is the use of individual or group of acknowledged jurists and scholars reason and judgement. The outcome decision of the ijtihaad source may result from many techniques or process. The first is through ijma or concensus. It indicates the general recognition of certain practices by the community whether they should continue or not,

whether should be applied or not and so on. The second is through qiyas or reasoning by analogy. In other words, extending the legal injunction found in the previous sources regarding one case to the parallel cases. Although the qiyas always based on fully understanding the Qur'an and sunnah, it is considered as subjective judgement rather than objective one since the finding of such a case is different from one scholar to another since each finding usually resulted from the scholar's personal approach to, and interpretation of, the legal source of Islam, as well as by his social and intellectual environment. The third is through the urf which means the recognition of the local customs, usages, and law for any people or any place on condition that they do not conflict with the Qur'an and the sunnah as well as no clear statement from the previous experience or from the scholars that they are unlawful.

1.154 The above sources are the guidelines in which Muslims usually solve their community problems, whether the problems relate to individuals or to the community as a whole. Some cases from history have been presented previously. Others will be highlighted in the second part of the thesis.

CONCLUSION

1.155 According to environmental design principles, to design a good

environment for people requires a full understanding of both human nature and the environment in terms of what different configurations of the built environment which afford people.

The previous sections and sub-sections have brought together some of theories presented by researchers and scholars in the field of environmental design. The purposes of this chapter was to provide a knowledge of the theories concerned with the subject of human behaviour, mainly the cultural issues, to know how they affect the peoples' activities and spaces with reference to Saudi culture. Accordingly, the previous sections shed light on the meaning of the physical environment and the meaning of culture. The issue of culture extended from internal psychological and physiological behaviour to external behavioural responses. Internal psychological and physiological behaviour includes issues of environmental perception, cognition, attitudes, and intellectual orientation and cosmology. While the external behaviour responses (including the external individual behaviour and the external social behavioural responses) include the privacy, personal space, territoriality, social interaction and family structure.

1.156 In terms of the internal issues of behaviour, these are mostly affected by social life and by the environmental structure of the community, in addition to the individual competencies. Therefore, the theories emphasis that the environmental structure should be handled in

a way to lead to a satisfactory living environment, designing a legible and imageable environment is one of the issues recommended by Lynch (1960) to reach that goal.

The external behavioural responses include all the actions which may occur at the social level. The theories conclude that the designer should understand such behaviour in order to achieve a balance between the overt behaviour of the people and their environment. Therefore, this chapter defined a full discussion and analysis of the various issues of the social behavioural process not only in terms of what the scholars, of the concern disciplines, have said but also in terms of how the Islamic people look at each issue and how it regulates them.

1.157 In terms of privacy, there are, generally, four types of privacy. These are solitude, intimacy, anonymity, and reserve privacy. Islam has looked at each type in a specific manner. For example, Islam prohibited looking at awrah of another person, forbade looking into the intimate privacy of the other without their permission, and prohibited the intrusion of the other property without permission. Not only this, but Islam stated another type of privacy that was the privacy for women which indicated that the male and female are forbidden to intermingle freely unless the man is one of the Mahrem.

In terms of territoriality, there are different types of territory have been identified, each of which should, in principle, indicate certain behaviour

and responsibility. These types are the private, semi-private, semi-public, and public territories. According to Newman's theory of the "defensible space" (1972), the creation of well defined territories that are graded from private, to semi-private to semi-public to public is essential to secure and maintain the living environment. However, I would question the success of this when the people involved are heterogenous in character.

1.159 Islam has not defined a clear regulation and guideline to show how and when to form such types of territory in urban areas, but when it has been formed it has to be respected and considered according to what has been stated previously. Here, the researcher would like to stress that understanding the character of the people is essential to form a suitable territory for them.

1.160 Social interaction is one of the important issues of the social behavioural processes which can be supported by several methods. The first is through the concept of propinquity. However this concept could lead to negative social interaction, so the use of different techniques of propinquity to fit the different characters of people is essential. The second is that people's character should not be understood according to their class, colour, or wealth but should be realised in terms of social structure and social organisation.

1.161 The third issue is the use of the functional distance between units and the functional centrality of common used facilities as tools for encouraging social interaction.

1.162 Family structure is another important issue of the social behavioural processes. Knowing the size of the family involved and the nature of their relationship is very important in order to form or modify any setting, whether in architecture urban design, or planning levels.

1.163 Finally, the chapter discussed the general principles of Islam for solving the social and community problems. Although the shariah does not stipulate any detailed laws, it defines general laws and principles and allows for ijtihaad to be the third source of shariah, beside the Qur'an and sunnah, to decide what is lawful and unlawful actions.

1.164 To conclude, it is my belief that the built environment can be formed and managed in a way to provide people with, at least, acceptable levels of comfort if the designer understands fully the way of life of the people concerned and their environment. Therefore, the issues that have been discussed in this chapter will be utilised to evaluate the traditional and the contemporary environment as well as the new trends of the neighbourhood planning in the Central Region of Saudi Arabia in order to come up with issues to guide the final recommendations of the research.

1.165 Prior to discussing and evaluating the three types of the neighbourhoods planning, the next chapter will provide general scope of the location of the case study and justification, in addition to highlighting the processes and techniques by which primary and secondary data were collected and analysed.

NOTICE

1. Reported by Al-Bukhari and Muslim
Reported means collected and compiled since the death of the prophet. There are six collections of hadith are regarded as the most authentic. They are:
Al-Bukhari (1940258 AH), Muslim (202-261 AH),
Abu-Dawud (202-275 AH), Ibn-Majah (209-273 AH),
Al-Tirmidhi (not known - 279 AH), and
Al-Nasai (215-303 AH).
2. The Qur'anic verses and saying are originally written in Arabic. The selected Qur'anic verses that have been stated in this chapter have been quoted from "The meaning of Glorious Qur'an : Text and translation" by Abdullah Yusuf Ali (1983.).
3. Qur'anic verses (41:9-12)
4. Ibid, (21:31)
5. Ibid, (6:96-97)
6. Ibid, (21:30)
7. Ibid, (15:26-27)
8. Ibid, (51:56)
9. Ibid, (50:17-21)
10. Ibid, (3:103)
11. Reported by Al-Tirmidhi and Abu-Dawud, on the authority of Abu-Hurayrah.

12. Reported by Muslim.
13. Reported by Al-Bukhari and Muslim, on the authority of Abu-Musa.
14. Reported by Muslim on the authority of Abu-Hurayrah.
15. Qur'anic verses (2:143).
16. Reported by Ahmad and Ibn-Majah.
17. Ibn al-Qasim was one of Islamic jurists. He learned from Immam Malik and his disciples. Born and died in Egypt (132/750 - 191/806).
18. Immam Malik was one of the four sunni Immams and the founder of the Malkik School. He was born (93/721) and died (179/795) in Medina. The others sunni immams were Abu-Hanifah, Ahmad bin Hanbal and Al-shafi.
19. Reported by Muslim in the authority of Abu-Harairah.
20. Qur'anic verses (2:144).
21. Reported by Ahmad and Muslim in the authority of Abu-Hurayrah.
22. Reported by Muslim Abu-Dawud, and Al-Tirmidhi.
23. Reported by Ahmad and Al-Nasai on the authority of Abu-Hurairah.
24. Reported by Ahmad and Al-Tirmidhi.
25. Qur'anic verses (24:27-28).
26. Ibid, (24:30-31).

27. Reported by Abu-Dawud on the authority of Amr ibn Shuaib on the authority of his father, on the authority of his grandfather.
28. Qur'anic verses (7:32).
29. Reported by Abu-Dawud on the authority of Jaber.
30. Reported by Muslim on the authority of Abu-Harairah.
31. Qur'anic verses (24:27-28).
32. Reported by Ahmad and Ibn-Majah.
33. On the authority of Abu-Said al-khadari.
34. Reported by Al-Bukhari.
35. Reported by Baihaqi on the authority of Ibn-Abbas.
36. Reported by Al-Bukhari on the authority of Aisha (the wife of the prophet).
37. Qur'anic verses (4:36).
38. Reported by Al-Bukhari.
39. Reported by Muslim.
40. Qur'anic verses (43:32).
41. Reported by Ahmad on the authority of Buriydah.
42. Reported by Al-Bukhari.
43. Qur'anic verses (52:24-27).

44. Ibid, (4:3).
45. Reported by Muslim.
46. Reported by Ahmed in the authority of Al-Miqdam Ibn Ma'dkarib.
47. Reported by Al-Bukhari and Muslim on the authority of Abd-Allah Ibn Umar.
48. Reported by Ibn-Majah on the authority of Anas Ibn-Malik.
49. Reported by At-Tirmidhi and Abu Da'ud, on the authority of Mu'adh ibn Jabal.

CHAPTER TWO : RESEARCH LOCATION AND METHODOLOGY

INTRODUCTION:

2.01 Having defined and clarified the fundamental issues of culture and environment and how they are related to each other, this chapter intends to explain and justify the selection of the Central Region of Saudi Arabia as a practical case study and to define the processes and techniques that were used to collect and analyse the data.

2.02 In order to achieve these purposes, this chapter comprised of two main sections. The first will explain the general scope of Saudi Arabia and the location of the chosen area. The second section will define the applied data gathering techniques and justifications. This will include the applied sampling techniques and justifications in addition to explaining the processes of the data collection and analysis. Following this, the limitations of the applied data gathering methodologies will be explained.

GENERAL SCOPE

2.03 The kingdom of Saudi Arabia occupies most of the Arabian peninsula. It is bordered to the west by the Red Sea; to the east by the Arabian Gulf, Qatar, and the United Arab Emirates; to the north by Jordan, Iraq, and Kuwait; and to the south by North Yemen, South Yemen, and Oman.

2.04 The western coast which extends from the Gulf of Aqaba to Yemen is more than 1760 kilometres (1100 miles) long, the eastern coast from Ras Mishab to Qatar is 480 kilometres (300 miles) long. The northern boundaries, Aqaba to Ras Mishab are 1360 kilometres (850 miles) long. The southern boundaries, Maydi to the Arabian Gulf, are 1280 kilometres (800 miles) long.

2.05 The population of Saudi Arabia, in 1984, exceeds eleven million, as stated in the World Development Report (1986). Saudi society is based on the social structure of Arab tribes and clans which is always controlled by the Islamic traditions. Saudi Arabia is the most significant country of the Islamic world as it contains the two holy cities for Muslims : Makkah and Madinah. Makkah is the place where all Muslims should turn their faces towards when performing prayers, while Madinah is the city of the prophet Mohammed.

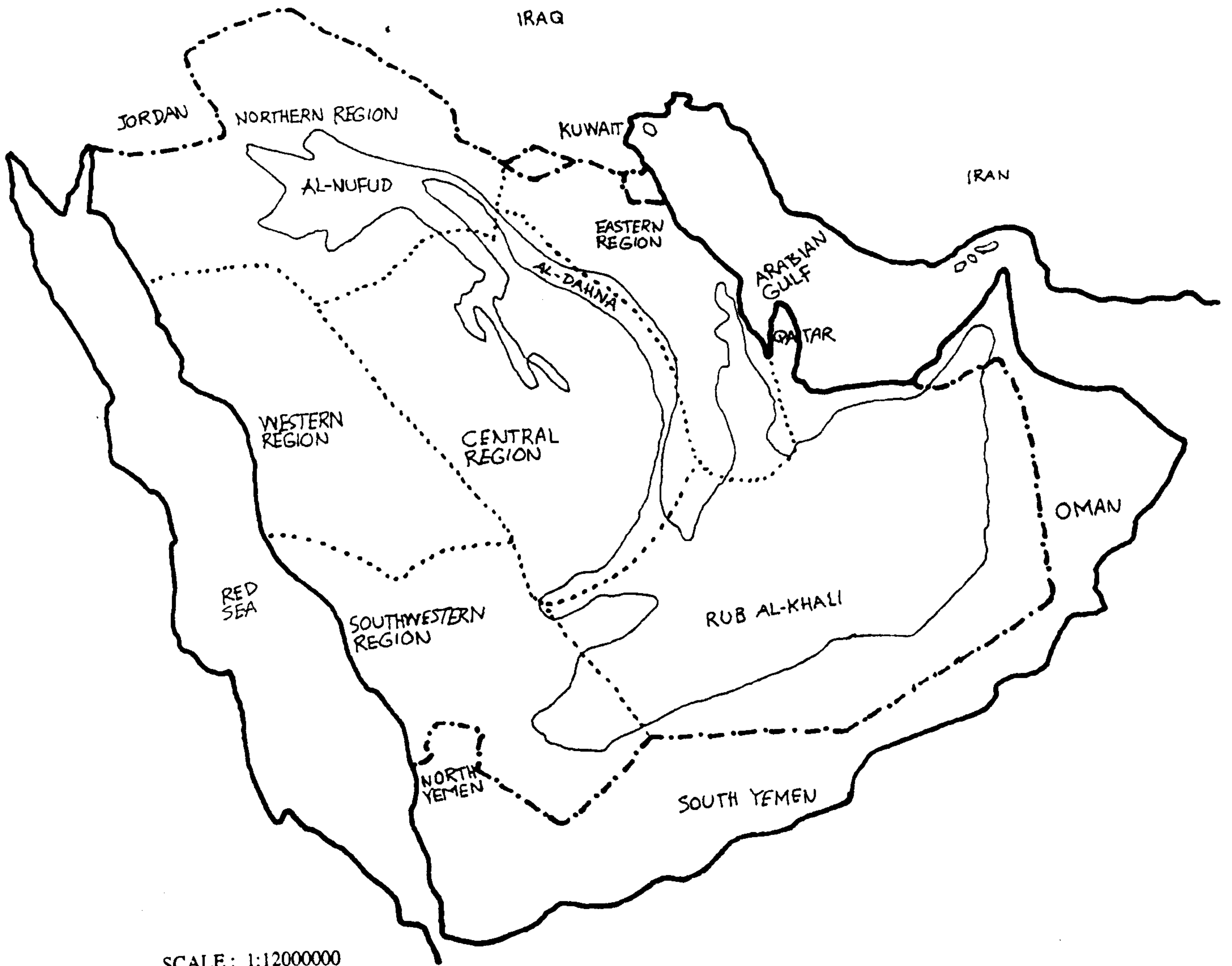
2.06 Overall, the topography of the peninsula is characterised by the highlands which run parallel to the Red Sea Coast; a series of major escarpments crossing the centre of the peninsula and three great deserts are located in the heart of it.

2.07 Saudi Arabia is organised into five habitable regions for planning purposes. These are the Northern, the Southwestern, the Western, the Central, and the Eastern region. These regions are separated by three

great deserts inhabited by tent-dwelling Bedouin. The Al-Nwfud desert is to the north side, Al-Dahna desert is to the east side, and Al-Rub-alkhali desert is on the south side of Saudi Arabia (Figure 2.01).

2.08 Each region has its own community and architectural style as a result of different social and cultural conditions, climates, building materials, and land form. Cultural differences must be taken into consideration in designing and planning a satisfactory community, therefore, the Central Region has been chosen as the case study of the research.

2.09 The reason behind choosing the Central Region of Saudi Arabia as a case study stems from three main considerations: the first is simply my greater familiarity with the context of the this region of Saudi Arabia; the second is the fact that all the settlements of the Central Region are similar in many factors such as the building materials, construction, technology, and in natural characteristics, as well as similarity in the social milieu, such as their values, social organisation, ideological conviction ... etc. The third reason is that the traditional settlements still survive in the Central Region, in the form of dwellings, neighbourhoods, communities, and often whole settlements that can be visited now. These settlements could clearly show us, in real life, how each element of the settlement has been used according to their cultural and social conventions without the need for going back to historical reconstructions.



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Figure 2.01 Saudi Arabia and its main regions.

2.10 The Central Region is identified roughly as the whole of the Najd which lies between the geographic coordinates of 29° 11' and 18° 14' north, and 40° 5' and 48° 43' east.

2.11 From north to south the Central Region is approximately 1,100 Km long and approximately 850 Km wide from east to west. The total area of the Central Region is approximately 380,000 square kilometres. This represents about 17% of the total land area of Saudi Arabia. It is the largest and most forbidding sand desert of the peninsula.

2.12 The Central Region is divided into three physical sub-divisions based on topography and geology. The east escarpments (the height of its face averages about 250m). The Arabian shield in the west (occupies the western part of the region) is an ancient landmass, and the central plains which are located between the east escarpments and the Arabian shield to the west. (see Figure 2.02).

2.13 The northern part of the region is characterised by the existence of Wadi-Ar-Rimah which originates near the extreme northwest of the Central Region and terminates in the sands of the Nafud Ath-thuwayrat. The total length of this Wadi is about 400 Km. It is one of the largest continuous wadi systems in the Kingdom. There are other wadis in the region such as Wadi Hanifah and Wadi Nisah in the east, and Wadi Ad-Dawasir in the southern part of the region. In terms of the climate,

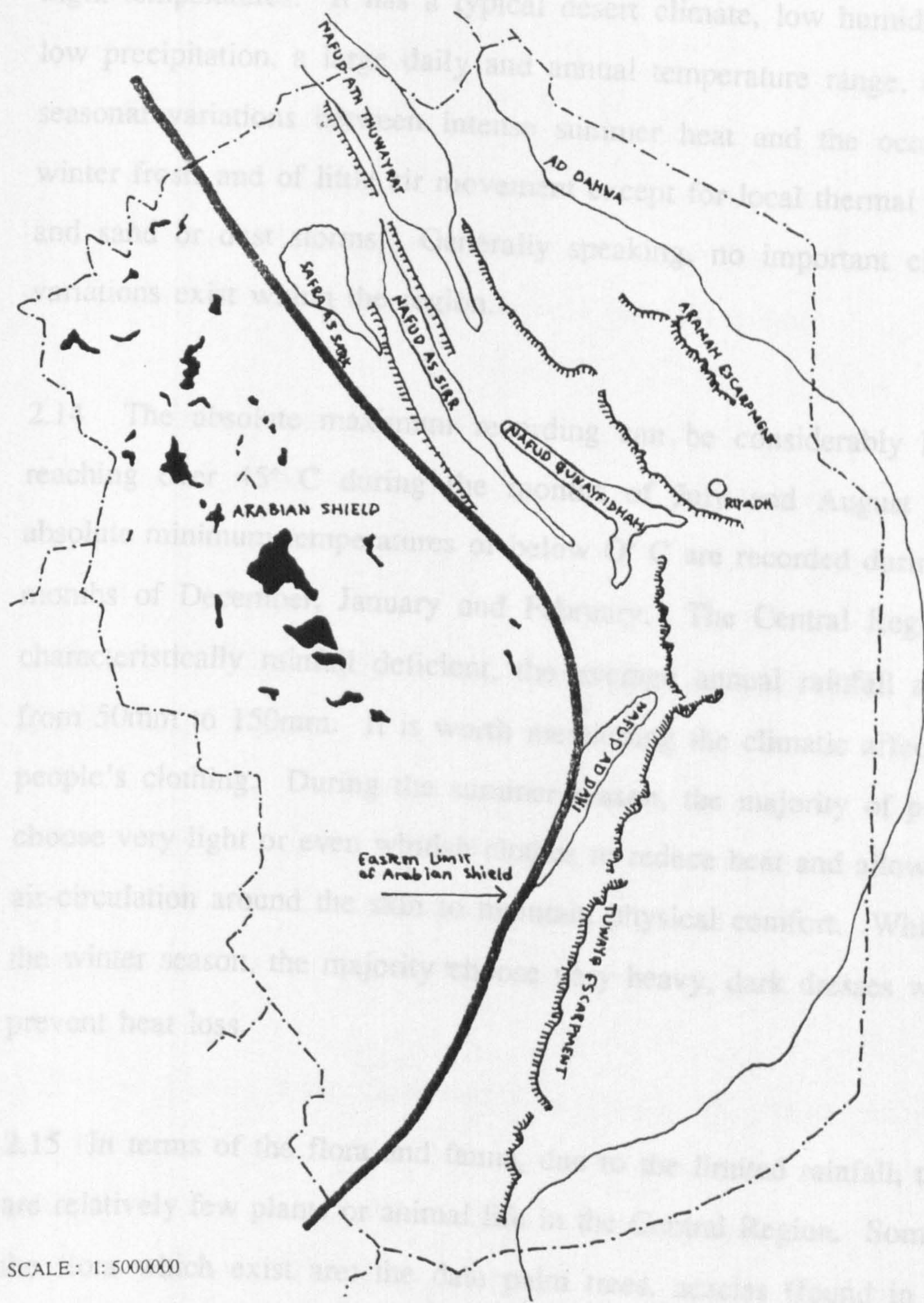


Figure 2.02 Geographic features of the Central Region.

the region is exposed to extreme fluctuations of very high day and low night temperatures. It has a typical desert climate, low humidity and low precipitation, a large daily and annual temperature range, distinct seasonal variations between intense summer heat and the occasional winter frosts and of little air movement except for local thermal winds, and sand or dust storms. Generally speaking, no important climatic variations exist within the region.

2.14 The absolute maximum recording can be considerably higher reaching over 45° C during the months of July and August while absolute minimum temperatures of below 0° C are recorded during the months of December, January and February. The Central Region is characteristically rainfall deficient, the average annual rainfall ranges from 50mm to 150mm. It is worth mentioning the climatic affects on people's clothing. During the summer season, the majority of people choose very light or even whitish clothes to reduce heat and allow free air-circulation around the skin to maintain physical comfort. While in the winter season, the majority choose very heavy, dark dresses which prevent heat loss.

2.15 In terms of the flora and fauna, due to the limited rainfall, there are relatively few plants or animal life in the Central Region. Some of the flora which exist are: the date palm trees, acacias (found in and near wadis), the Eucalyptus, and the Tamarixaphyalla (found in alluvial plains). The jackal, fox, hedgehog, lizards, dhab, waral, snake, camel,

Najd sheep and herds of goats are some of the fauna that exist in the Central Region.

2.16 Finally, the settlements pattern of the Central Region is basically linear in a north-south direction and centred on Riyadh, the capital of Saudi Arabia. The location of most settlements has been dictated by the availability of water and arable land for cultivation.

2.17 Settlements are quite often compact and inward looking. This compactness reflects the need to be protected from both natural and human elements.

THE APPLIED DATA GATHERING TECHNIQUES AND JUSTIFICATIONS:

2.18 Collecting data from the real world is required to carry out practical research. Data needs to be collected from primary sources based on field research and secondary sources based on books, journals, periodicals, scripts and government publications and documents.

2.19 The selected approach of sampling the physical communities and the people of a traditional and a modern environment has to correspond to the research goals and objectives as well as to the cultural norms of the residents of the Central Region such as privacy, dwelling accessibility and other factors such as the availability of well defined traditional neighbourhoods. Therefore adopting a realistic

methodological approach to data gathering is important since methods considerably determine results.

2.20 This section aims to highlight the applied data collection techniques during the survey made for the purpose of collecting primary data. In other words, the intention of this section is to achieve two purposes. The first is to justify the selection of sampling techniques and second, the highlight the processes and techniques by which primary and secondary data were collected and analysed.

2.21 In order to accomplish these aims, this section comprises of three sub-sections. The first will describe the chosen sampling techniques and justification, the second will focus on the process of data collection and analysis, while the third sub-section will shed light on the limitations of the applied data gathering techniques as the researcher feels during the field trip.

SAMPLING TECHNIQUES AND JUSTIFICATIONS:

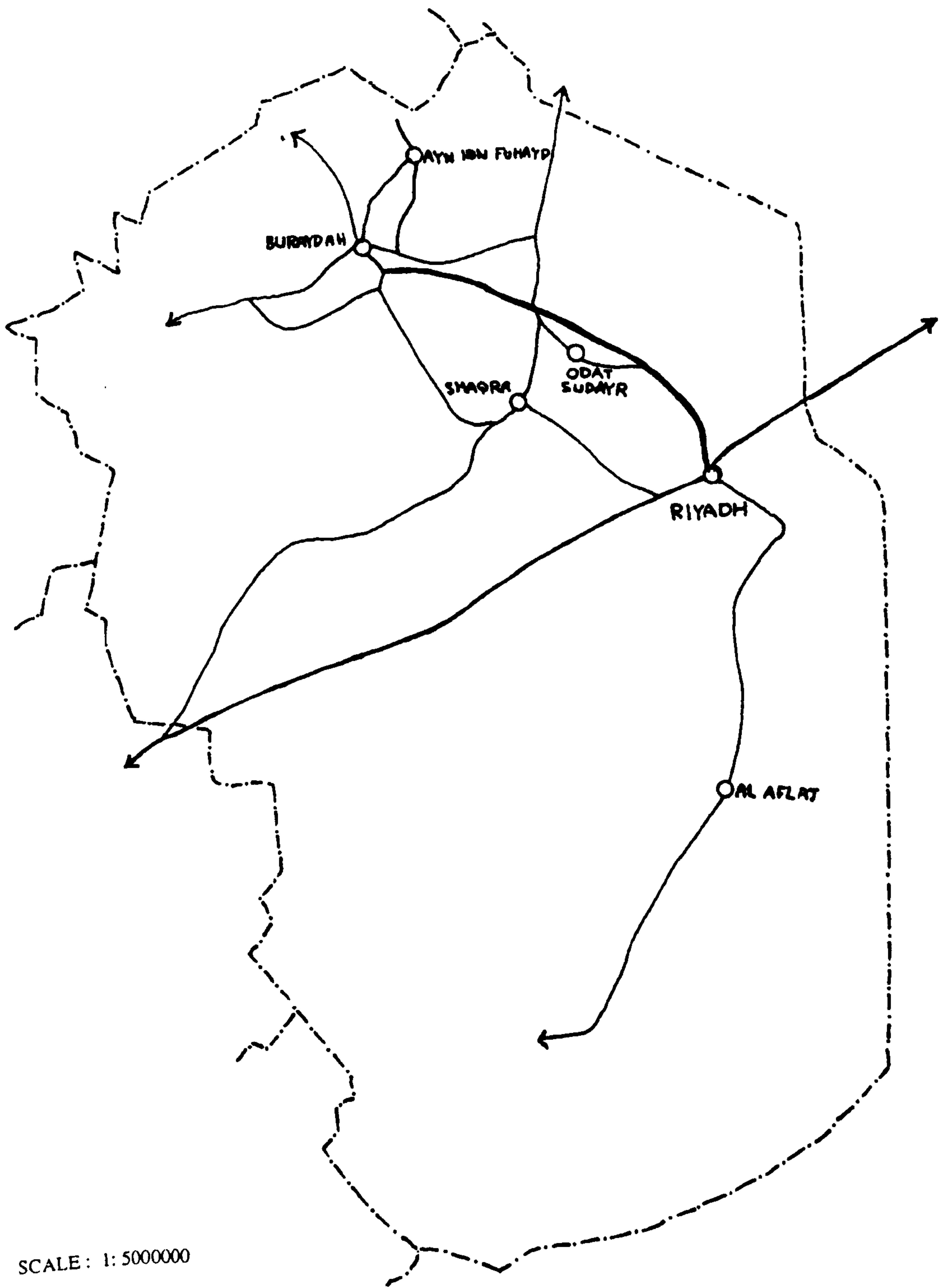
2.22 Sampling techniques and justifications: The researcher met with a number of acknowledged people in the Ministry of Municipal and Rural Affairs, Deputy Ministry for Town Planning. These included Abdulaziz Al-khedheri and Mohammed Al-Enzi who worked hard to find out where one can find surviving traditional communities since most of the traditional streets and cul-de-sacs had been widened to provide automobile access through the traditional towns.

2.23 After contacting most of the municipalities authorities, five towns from different parts of the Central Region were chosen as places where traditional environments can be taken from as samples for the research. These towns are; Buraydah and Ayn ibn Fuhayd in the north side, Odat Sudayr and Shaqra in the middle, and Al-Aflaj in the south side (see Figure 2.03).

2.24 In terms of choosing a modern environment, there were no difficulties since all towns and cities have been built in a similar way around the country, however, to focus on specific examples, Riyadh, Ayn Ibn Fuhayd, and Shaqra were taken as samples of a modern environment.

2.25 The questionnaires and interviews have been carried out according to a quota sampling for several reasons;

1. It is impossible to do all the questionnaires by contacting the inhabitants only through their homes since there is no clear mail box for each house nor is it permissible to knock at each door for the reasons of security and privacy.
2. Most people at home are not keen to be involved in such an unfamiliar and incomprehensible procedure since carrying out a real survey is rare in the Central Region.
3. A quota sampling gives the opportunity to contact people at different locations such as at government offices, on the streets, at home (if given permission) and at other people's gathering



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Figure 2.03

The Central Region and the location of the chosen towns chosen as samples for the research.

places which may provide a good way to find different people in terms of their age, education, and other characteristics.

4. It is considered by the writer to be one of the best methods with its flexibility and suitability for a society like that in the centre region which is characterised by an extreme degree of privacy as well as being a good method for a situation that has a very high vacancy rate as is the case of the traditional communities.

Having briefly described and justified the sampling technique, the next sub-section will describe the procedures that have been used to obtain the information needed and the type of analysis that were used.

THE PROCESSES OF DATA COLLECTION AND ANALYSIS, AND JUSTIFICATION:

2.26 Figure (2.04) illustrates diagrammatically the type of techniques that were used to collect and analyse data which was deemed essential to carry out in order to satisfy the aim of the thesis.

2.27 The diagrammed Figure (2.04) suggests that three gathering techniques should be achieved. The first is survey research, the second is the observation technique, while the third is public and community consultations.

2.28 Survey research includes two main processes : the first is the use of questionnaires while the second is interviews. Questionnaires and

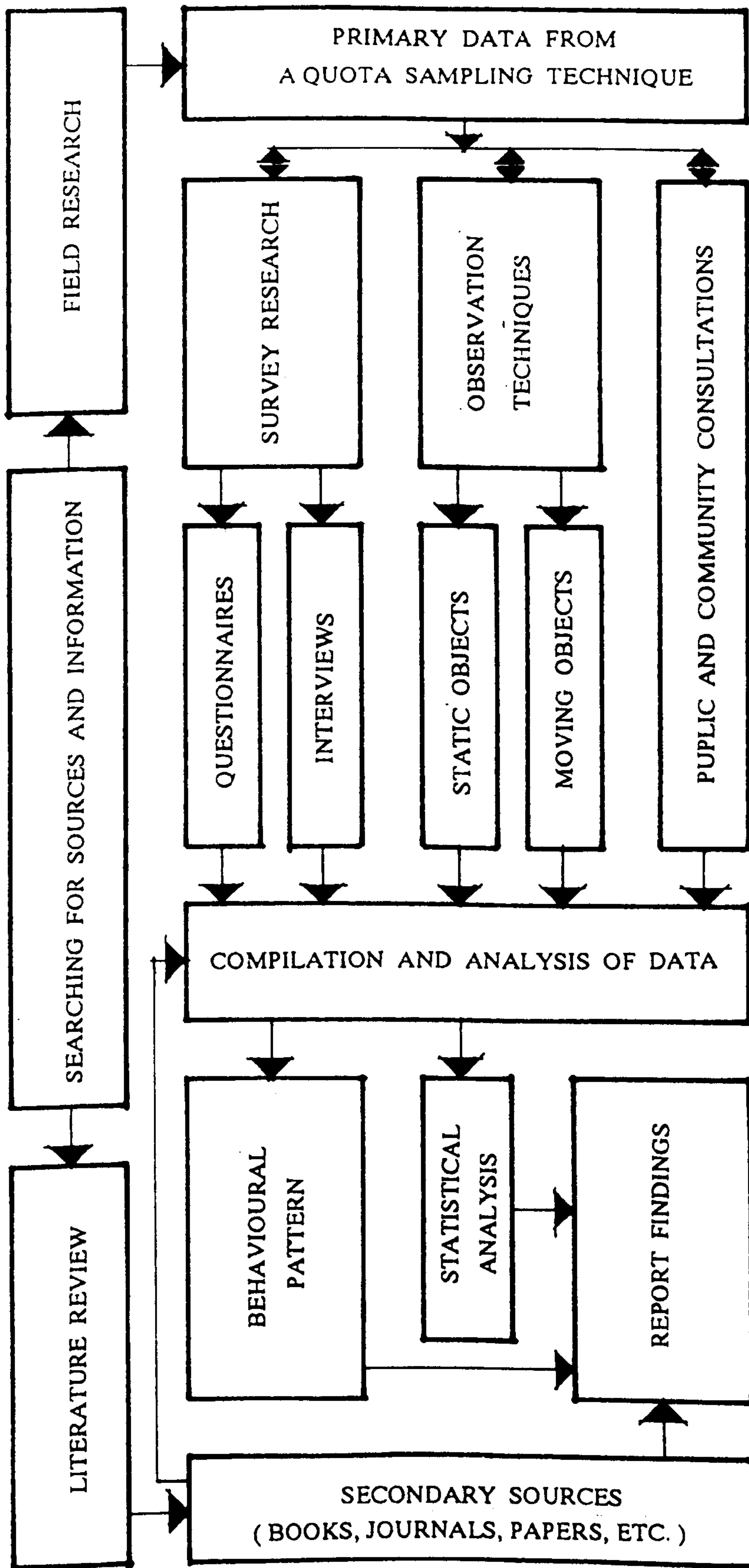


Figure 2.04 The process of data collection and analysis.

interviews are very important tools for gaining information which can describe how the environment is used, how the people behave - such as what people do, feel, and believe - in addition to discovering people's opinions and desires. During the field work, 400 questionnaires' forms were distributed in the five towns which have been chosen as examples for the traditional neighbourhood, in addition to Riyadh city (the capital of the country and the largest city in the Region). 261 (about 65 percent of the total number of forms) were completed and returned, which is more than was expected since filling up a questionnaires' form (by the inhabitants) is an unfamiliar procedure.

2.29 Face-to-face interviews have been completed by the researcher himself to gain more detailed answers depending on the location of the interviewed persons as well as on the type of the activities. Written questionnaires have been carried out by the researcher with assistance from friends and volunteers since there was no sufficient financial aid to cover the expense of hiring interviewers. (See Appendix C).

2.30 Since the research deals with the physical environment, the observational technique is one of the most important tools to know what is happening in a setting, and to gain an approach and access to research questions and problems. The observational technique includes observing dynamic and static objects. Observing the dynamic objects means watching people and describing how and where people spend

their time and maybe how they behave and where they interact with each other. Observing static objects is a means of seeing how people have behaved in a place, such as observing how people adapted, destroyed, preserved and constructed elements. In other words, observing the elements of the built environment in terms of what are they?, how they were built? and why? In addition to that, observing the non-defensible spaces will tell more stories. For example observing a space that has been designed to fulfil a specific activity which then became a non-defensible space or one that may be used for functions other than what was designed for, would all clearly lead to underlying problem issues. Photographs and behaviour maps will be used in order to trace such observations.

Public and community consultations and hearings will play a major role in the creation of the future community's guidelines. The public and community consultations have been carried out through interviews and games simulations with people in order to suggest and develop issues for future neighbourhoods in light of what they desire. The collected data was manipulated and analysed in a consequent stage, that was based on behavioural pattern and statistical analysis (see Figure 2.04). Behavioural pattern analysis depends on the use of anthropological and psychological philosophy and theories, which have been discussed in the first chapter (the theoretical background), in order to understand the meaning of a certain action at a certain place and time.

2.31 A selection of the collected data was analysed by using some of the statistical techniques appropriate to the research, since the use of the statistical techniques will tell us how safe our predictions are before we start to draw or illustrate such decisions about such variables.

2.32 Parametric tests (e.g. Pearsman correlation) and non-parametric tests (e.g. chi-square) were used in breaking down and in analysing the intended data. The chi-square gives a preamble for whether the differences are significant or not, while the correlation test is helpful in measuring the degree of association between many variables.

2.33 In general, the results of the field trip will be utilised in examining many issues through the second part of this thesis in order to establish issues for forming the final recommendations of the research.

2.34 It is worth mentioning here that during the formation of the questionnaire, which was distributed among the people of the Central Region (refer to Appendix C), it was proposed to be presented in one form. This would consist of a variety of questions which related to both the traditional and the contemporary environments rather than proposing two different forms to deal with these two different environments separately.

2.35 The reason behind this was due to the following facts. The first was that, there are few people who live now in a traditional environment around the Central Region. Accordingly, it is very difficult to find where their houses are unless one goes to knock at each house which is impossible for security reasons. In addition to the length of time and effort involved searching for an occupied house in such a neighbourhood which has a very high vacancy rate. The second is that, there were no clear indications which can tell whether the recipient of the form lives in a traditional or a contemporary environment.

2.36 It is also worth stressing here that the differences between the answers of those who live in a traditional environment and those who live in a contemporary one have not been considered during the analysis stage. This is due to the fact that when the researcher received the completed forms, he found that thirty forms (out of 261) were completed by people living in a traditional environment which is statistically not enough to make a comparative analysis.

2.37 Having described the processes of data collection and analysis, the following sub-section will focus on further limitations of the applied data gathering techniques.

LIMITATION OF THE APPLIED DATA GATHERING METHODOLOGIES;

2.38 Naturally, the research survey is faced with many problems and limitations, since the subject deals with human behaviour. Some of these limitations are:

1. Scarcity of written documents dealing with the subject.
2. Confidentiality and unavailability of secondary data dealing with facts about some issues related to the Central Region of Saudi Arabia.
3. Some antipathetic behaviour by respondents towards interviews and questionnaires.
4. Some of what people profess to desire may not be what they really choose.
5. Finally, each municipality should, at least in principle, have a detailed plan for traditional neighbourhoods. Unfortunately, such plans, which could have enabled the researcher to save time, money, and effort, were not available. Under these circumstances, the researcher felt that there was no other choice but to enter each house of the chosen areas and to draw their interior plans to see how such houses were designed and how each unit related to the others.

6. The above limitations are mentioned for honesty as well as to demonstrate that not every forward-planned survey method can be accomplished accurately and easily in the field. However, the studies conducted are considered reliable enough to achieve the purpose of this research.

PART TWO:

APPLICATION : THE NEIGHBOURHOOD ENVIRONMENTS OF THE Central Region OF SAUDI ARABIA

The previous part dealt with theoretical background of the issues of cultural and social norms. This part will focus on environmental places which people create for their living.

The Central Region neighbourhoods in Saudi Arabia are used as a practical case study for the research and the contribution of socio-cultural factors and the various activities of its inhabitants in each element of the neighbourhood are considered.

This part consists of four chapters : the first will deal with the traditional neighbourhood environments which were built as a response to the needs, spiritual beliefs, and aspirations of their inhabitants. The second chapter will look at the contemporary neighbourhoods which were built and controlled by certain regulations and imparted planning systems. While the third chapter will evaluate these two types of environmental sittings according to the socio-cultural norms and the individual requirements of its people. This will be followed by the forth chapter which will explain, analyse and evaluate the new trend in neighbourhood planning in the area.

The findings of this part will be utilised to formulate issues and guidelines for urban design and planning of the future neighbourhoods.

CHAPTER THREE : THE TRADITIONAL NEIGHBOURHOOD ENVIRONMENTS

INTRODUCTION :

3.01 The Central Region still has many traditional neighbourhoods with remarkable architectural characteristics which can be preserved. However, it is unfortunate that the traditional neighbourhoods are being demolished day by day in order to provide either new development structures or to widen streets through these neighbourhoods. The ruined parts of houses on both sides of the affected streets show the remarkable structure until they are replaced by modern parts of very poor aesthetic quality (see Figure 3.01).

3.02 The traditional built environment has been influenced significantly by the Islamic way of life, resulting in a balance of social homogeneity and heterogeneity. The mosque is centrally located to provide easy access to worshippers who pray five times a day and which used to include a school and a court of justice.

3.03 The traditional neighbourhoods are characterised by a system of spaces which range from public, semi-public, semi-private, and private domains, with varied levels of accessibility and enclosures that are built to satisfy certain needs and socio-cultural requirements.

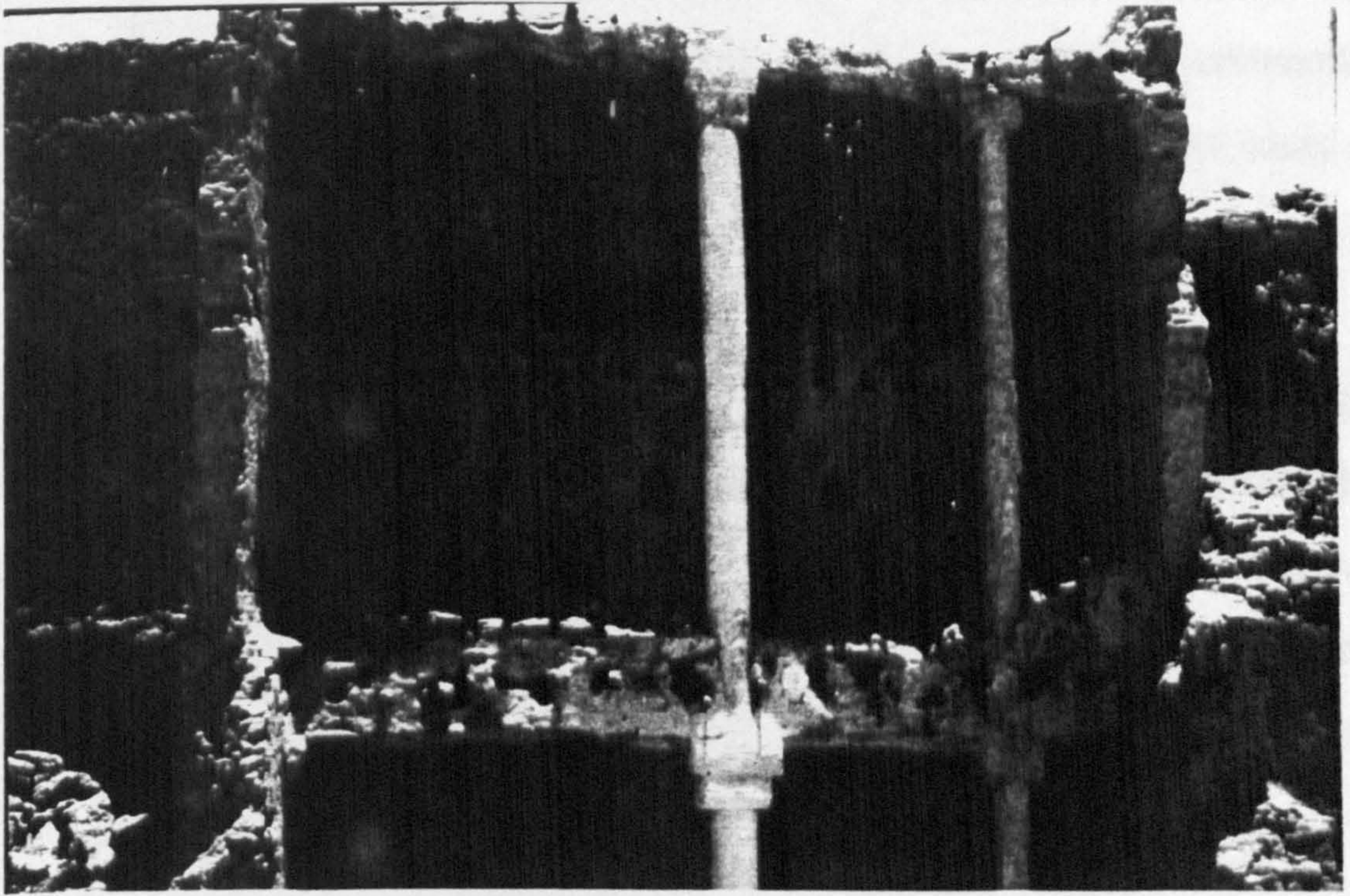


Figure 3.01

The ruined parts of the traditional house show the remarkable architectural characteristics.

3.04 The traditional communities were based on social homogeneity or bound by occupational ties which helped to produce coherent neighbourhoods and cooperative communities, but not based on socio-economical issues.

3.05 For a more detailed explanation and analysis, the following intends to discuss the various elements of the traditional neighbourhoods and how they were affected by people's lives as they mesh with, social, cultural, and religious functions as well as with optimising the utilisation of indigenous building materials and natural environmental systems to achieve a certain level of comfort and harmony.

3.06 Before focusing on the characteristics of neighbourhoods in the Central Region, it is important to review the processes of formulating the original layout of the traditional Arab-Muslim cities and their neighbourhoods.

THE ORIGINAL LAYOUT OF THE TRADITIONAL TOWNS :

3.07 According to Akbar (1984), Von Grunebaum (1961) classifies the Arab-Muslim towns into two types according to their evolution, the first type are the spontaneous towns, in fact most, if not all, of the Central Region traditional towns are of this type. The second type are the created towns or planned towns.

3.08 Due to the lack of literature dealing with how the spontaneous towns were developed from the initial stages, this section will represent examples from the created towns to shed light on the main factors that affect the formation and growth of the Arab-Muslim towns. This will aid the research to understand the factors that may have affected the development of the traditional towns in the Central Region of Saudi Arabia since the human dimensions, human contacts and human life of Arab-Muslims were somewhat similar.

3.09 Mavrakis (1984) stated that Al-Madina was the first Islamic community built by the prophet Mohammed when the leaders of Makkah forced him to emigrate. This first step was to define the location of his mosque and residence. He built a structure consisting of a large courtyard with two shaded areas in the south and east side of the structure. The south shaded area and the courtyard of the structure became the meeting place for Muslims and place for worship. While the east shaded area consisted of small rooms occupied by the prophet and his family. After defining the structure of the mosque and the prophet's house, the prophet marked the areas around the mosque as quarters and houses (Al-Hathloul 1981). The quarters were granted to tribes, while the houses were given to individuals. The size of each quarter and house depended on the needs of the people involved.

3.10 To start by defining the mosque and the administrative and religious centre (the house of the prophet), and marking the surrounding

areas as quarters, became the ideal pattern for the development of later towns such as Al-Basra, Al-kufah, and Al-Fustat during the reign of the second Caliph Umar Ibn Al-khattab after the death of both the prophet and the first caliph Abu-Baker.

3.11 The following will explain the original layout of Al-kufah which is in Iraq, about two hundred kilometres from Al-Basra, as an example of these towns.

3.12 Al-kufah was formed in the year 638 by Saad Ibn Abi Waggas according to Umar's advice.

3.13 According to Akbar (1984), the first step was defining the mosque followed by defining the house of Saad who served as the governor of the town. The mosque had been located in the middle of a squared open space marked through ordering a man to shoot an arrow towards Makkah (Al-qiblah) and another arrow towards the north, the south, and the east direction respectively.

3.14 The mosque size was then defined by the spots where each arrow had fallen. The commercial activities were located on the open space which was adjacent to the mosque. The governor's house was separated from the mosque by a narrow lane. Other major roads radiated from the mosque to form the major roads of the city which in turn formed the borders of several residential quarters. Al-Hathloul

(1981) stated that the widths of the roads were formed according to Umar's orders which were as follows: The main roads were to be forty cubits (20 metres), those following the main roads were to be thirty cubits (15 metres), those in between were to be twenty cubits (10 metres), and lanes were to be seven cubits (3.5 metres). The quarters (Khittat) of the town were distributed among the tribes (See Figure 3.02).

3.15 Similarly, Al-Mansur (the second Abbasid Caliph 136/754-158/775), followed the same principles to form his round city (Akbar 1984).

3.16 To conclude, the created Arab-Muslim towns were formed to follow similar principles in terms of defining the location of the main mosque, commercial activities and the governor's house in the centre of the town while the other parts were divided into many quarters (khittat) and distributed among the tribes. Each quarter was named after the tribe that occupied it. As a matter of fact, Al-Hathloul (1981) deemed the system of dividing the towns into khittat and distributing them among the tribes as a system of planning applied in the Arab-Muslim towns.

3.17 The land sub-division and the management of each quarter were left to the tribe who occupied it. The leader of the tribe and his followers dealt with the land sub-division and management of their

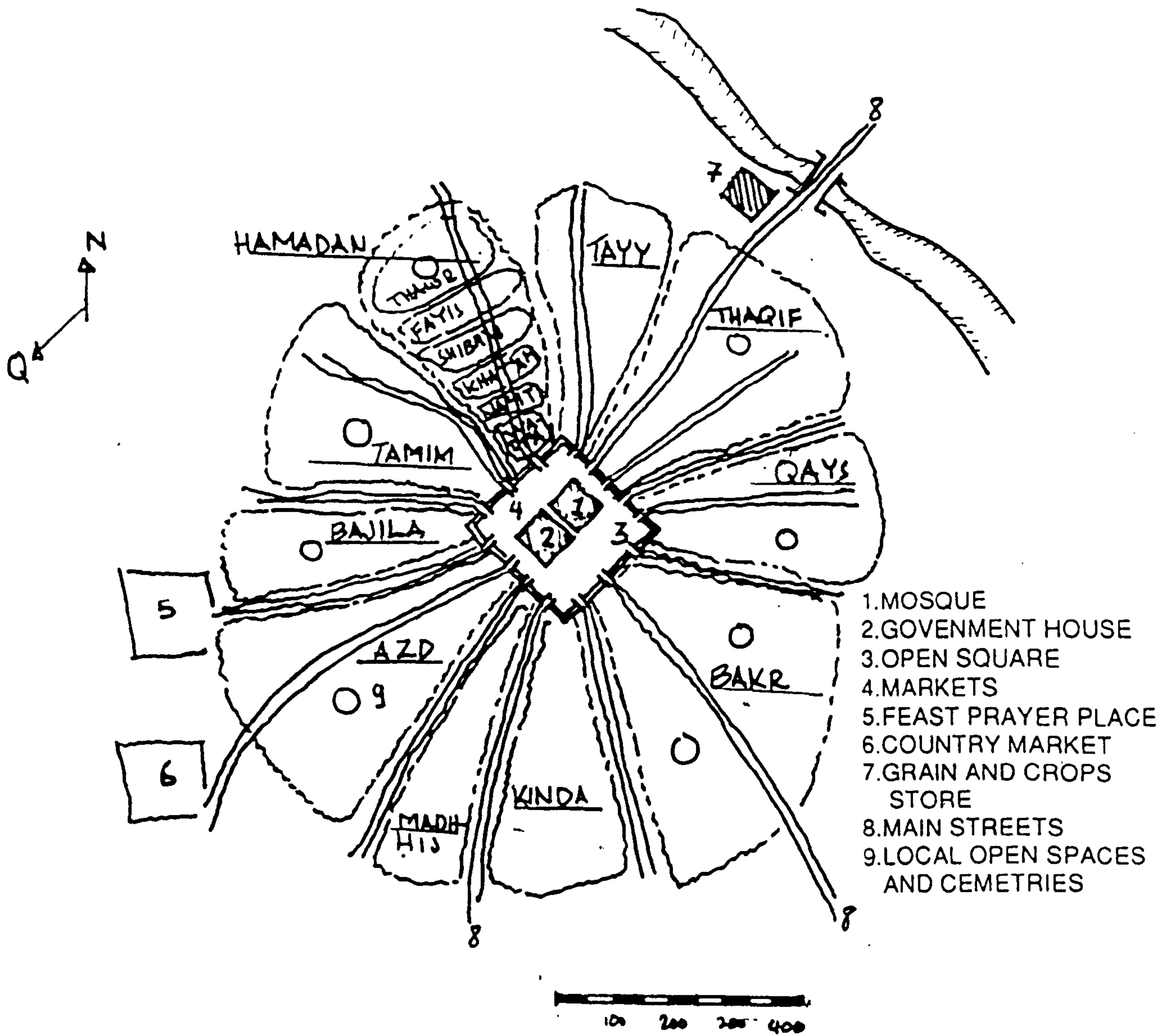


Figure 3.02 Al-kufah at the time of its foundation (source Amireh 1990).

quarter according to their socio-culture and the actual needs of each family of the tribe (Akbar 1984).

3.18 Solidarity is one of the tribes characteristics. For example, members of the tribe usually shared equally the payment of the blood money if one of them committed unpremeditated murder. On the other hand, they usually inherited collectively the property of any heirless member. These aspects of their social conventions were transformed into their physical environment. Accordingly, each member of the tribe shared a common responsibility in controlling, maintaining, and securing their quarters.

3.19 Having reviewed, briefly, the processes which guided the formation of the Arab-Muslim towns and the way the tribe used to manage their quarter, the following will focus on the various elements of the quarters or the neighbourhoods of the traditional build environment in the Central Region to show in more detail how the way of life determined the structure and the growth of the neighbourhoods, since the Central Region is the concern of this research.

NEIGHBOURHOODS ELEMENTS :

3.20 The pattern of the traditional neighbourhood consists of very densely backed buildings, planned around courtyards and separated by narrow streets and cul-de-sacs to meet the need for movement and communication. The buildings of the neighbourhood are characterised

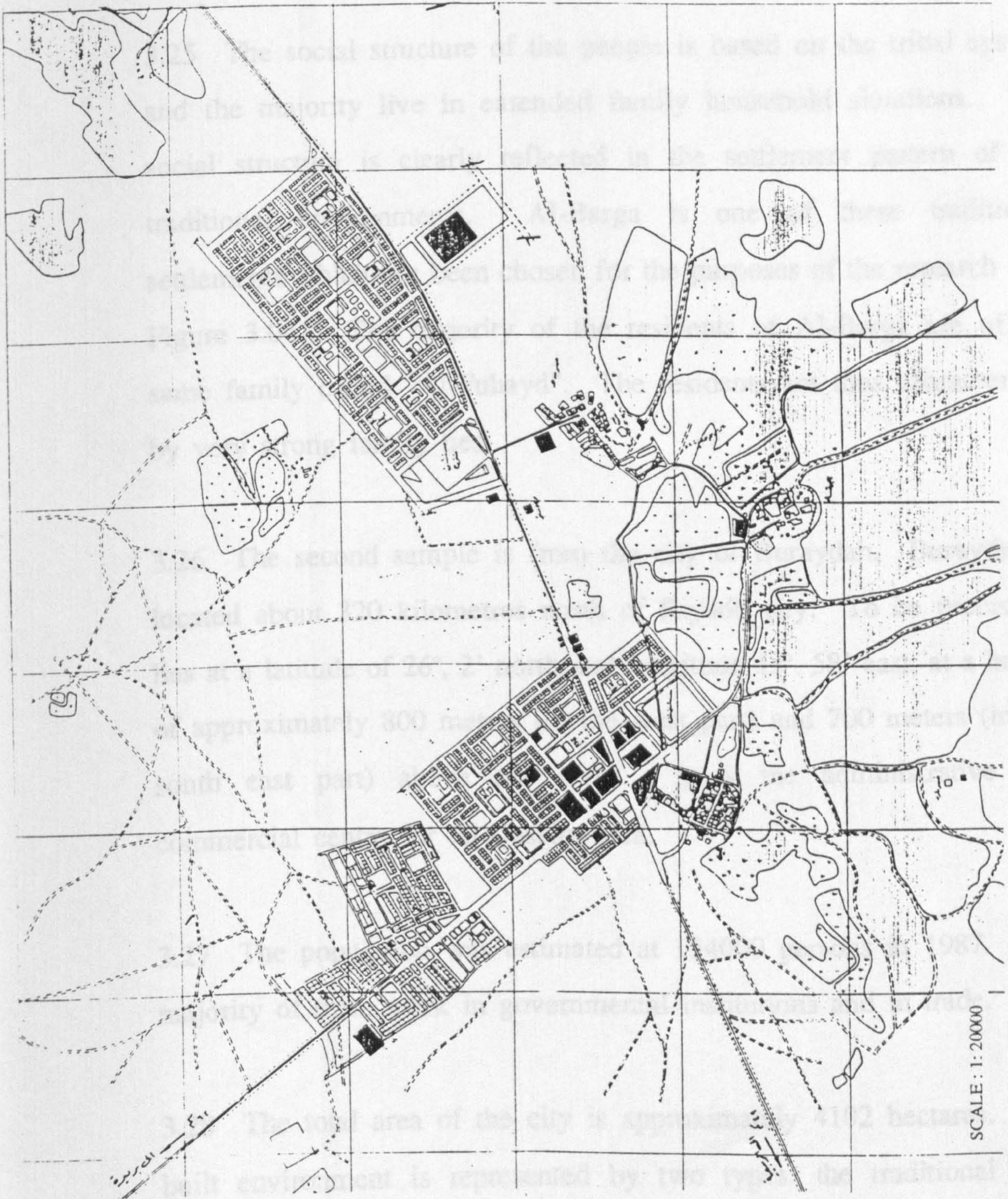
by a mixture of elements such as mosques, houses, and shops which expresses the integration of the various components into the fabric of the social, cultural, and physical relationships.

3.21 Before starting the description and analysis of the main elements of the traditional sector, it is important to shed light briefly on the location and the characteristics of each chosen town of the Central Region in addition to presenting their detailed plans.

3.22 Five traditional neighbourhoods were chosen for the research. The first neighbourhood was chosen from the town of Ayn Ibn Fuhayd. It is located in the north part of the Central Region, about 60 kilometres north east Buraydah (the capital of the north part of the Central Region). To be precise, Ayn Ibn Fuhayd lies at latitude 26°, 47' north and longitude 44°, 13' east, at a height of approximately 540 meters above mean sea level. It was one of the main water sources for the pilgrim caravans which come from Al-kwait and Iraq to Makkah and Al-Medina, and is currently the centre for the surrounding villages.

3.23 Ayn Ibn Fuhayd is divided into two distinct built environments: the traditional environment which is characterised by the very densely packed buildings of mud, and the modern ones which are planned according to new planning systems to match with the needs of modern technology and building materials (see Figure 3.03).

3.24 The current population of Ayn Ibn Fuhayd was estimated in 1987 at 3300 person, most of whom work in trade, government services, and agricultural activities.



The master plan of Ayn Ibn Fuhayd.

Figure 3.03

3.24 The current population of Ayn Ibu Fuhayd was estimated in 1987 at 3300 person, most of whom work in trade, government services, and agricultural activities.

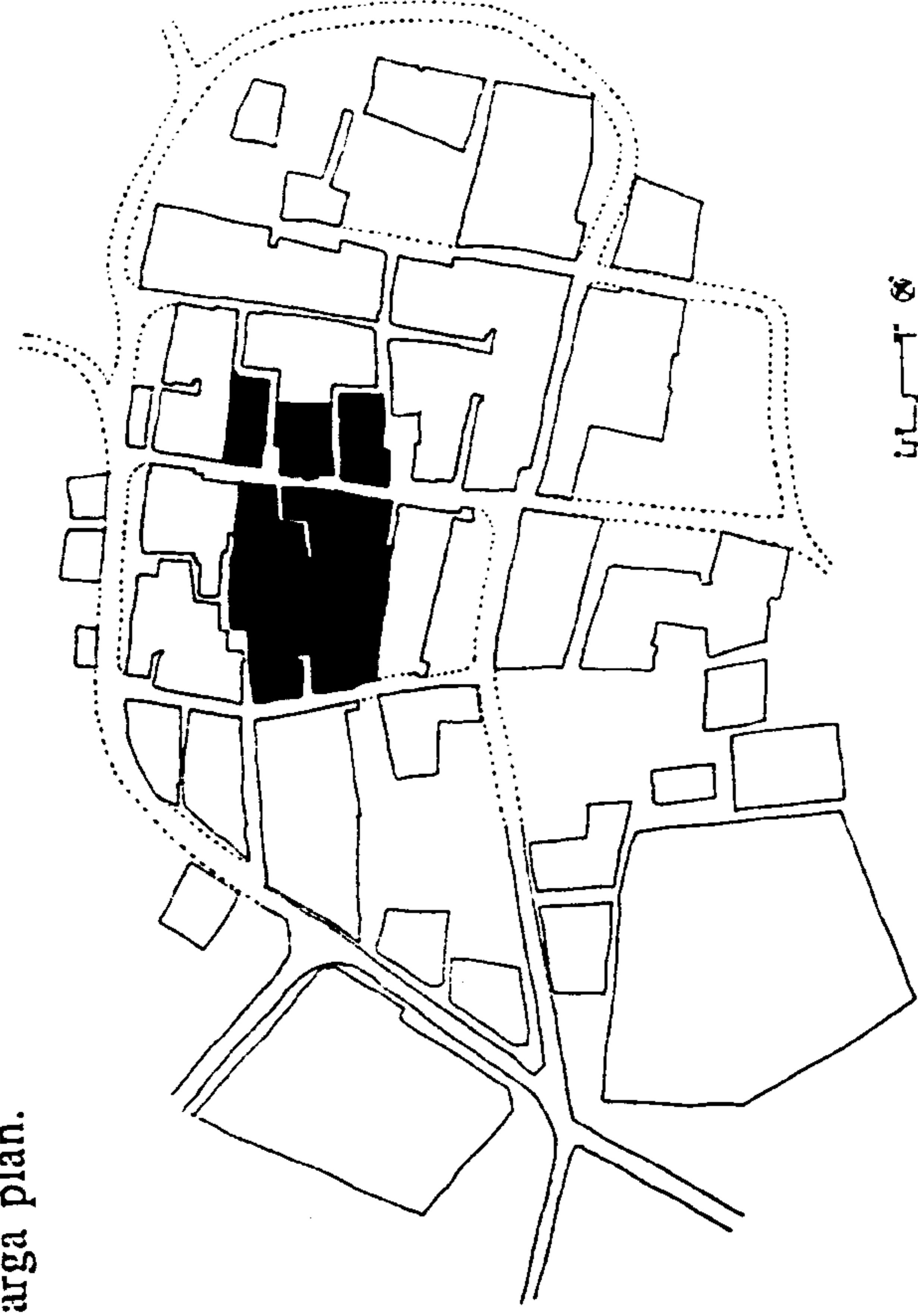
3.25 The social structure of the people is based on the tribal system and the majority live in extended family household situations. The social structure is clearly reflected in the settlement pattern of the traditional environments. Al-Barga is one of these traditional settlements which has been chosen for the purposes of the research (see Figure 3.04). The majority of the residents of Al-Barga are of the same family called "Al-Fuhayd". The residents are thus characterised by very strong family ties.

3.26 The second sample is from the city of Buraydah. Buraydah is located about 320 kilometres north of Riyadh city. To be precise, it lies at a latitude of 26°, 2' north and longitude 43°, 58' east, at a height of approximately 800 meters (in the west part) and 700 meters (in the south east part) above sea level. It is the administrative and commercial centre for Al-Qassim area.

3.27 The population was estimated at 154000 persons in 1987. The majority of them work in governmental institutions and in trade.

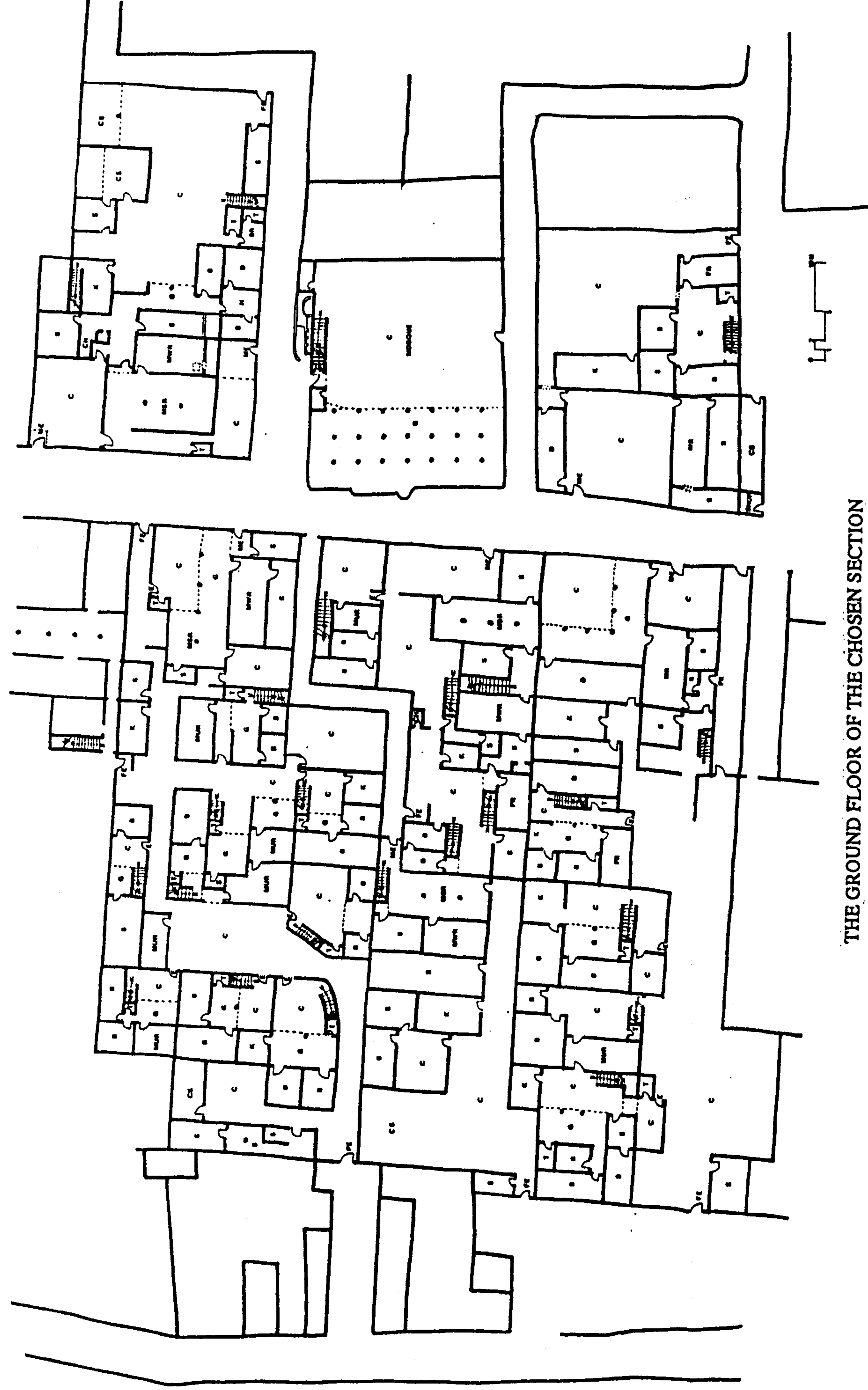
3.28 The total area of the city is approximately 4102 hectares. The built environment is represented by two types: the traditional built

Figure 3.04 A part of the traditional sector in Al-Barga plan.

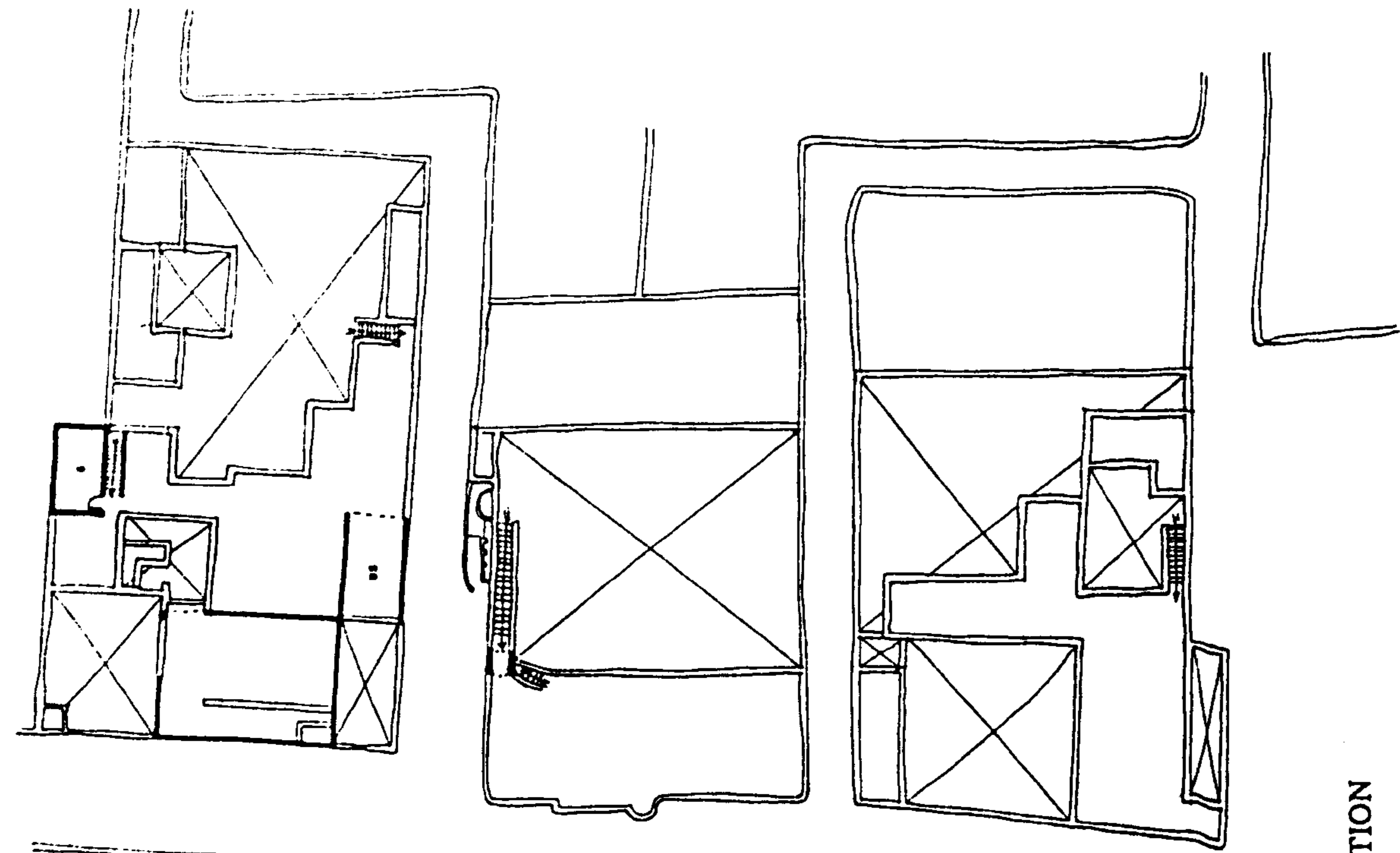


- KEY :
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 - CS : CATTLE'S SHELTER
 - CH : CHICKENS' HOUSE

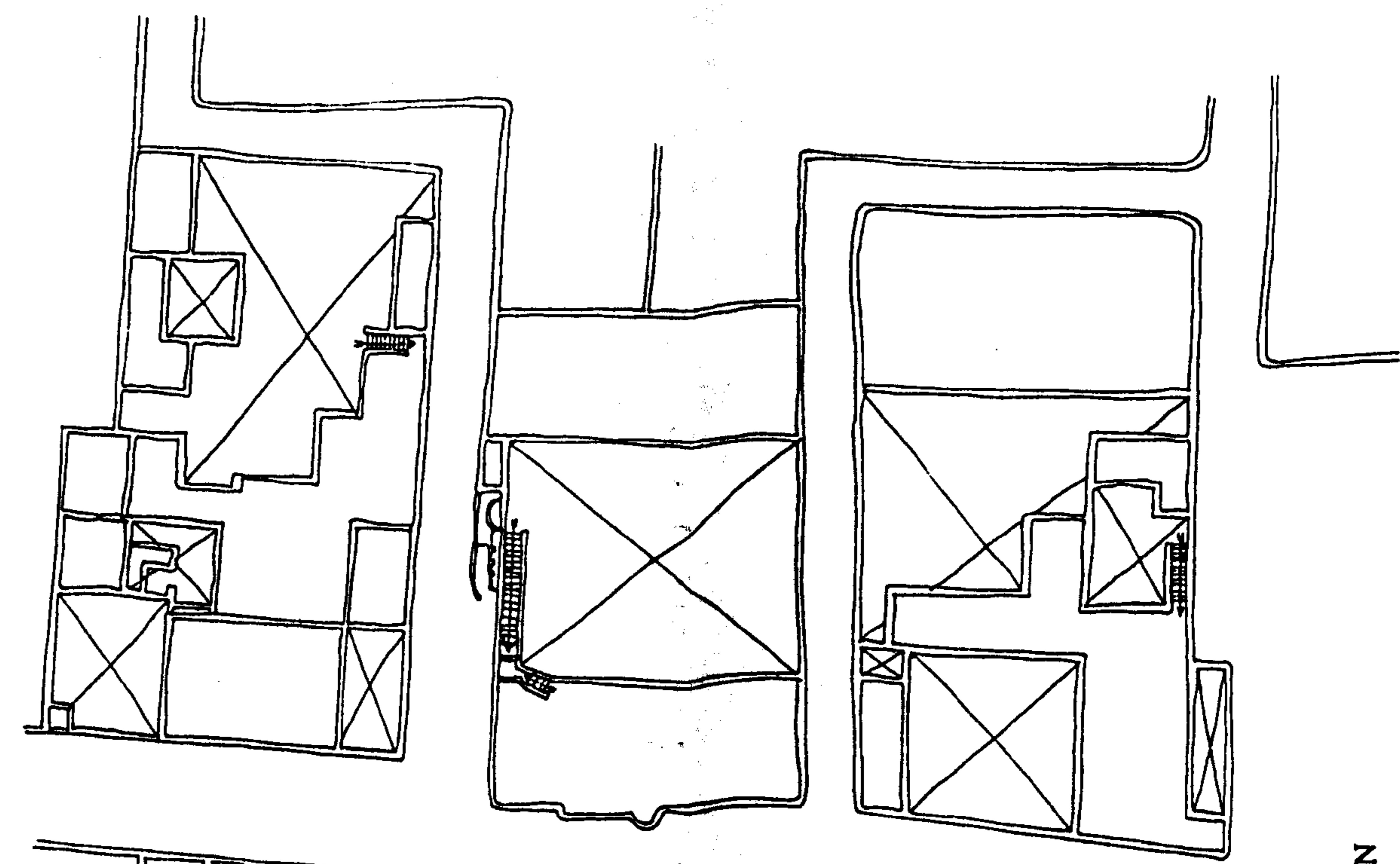
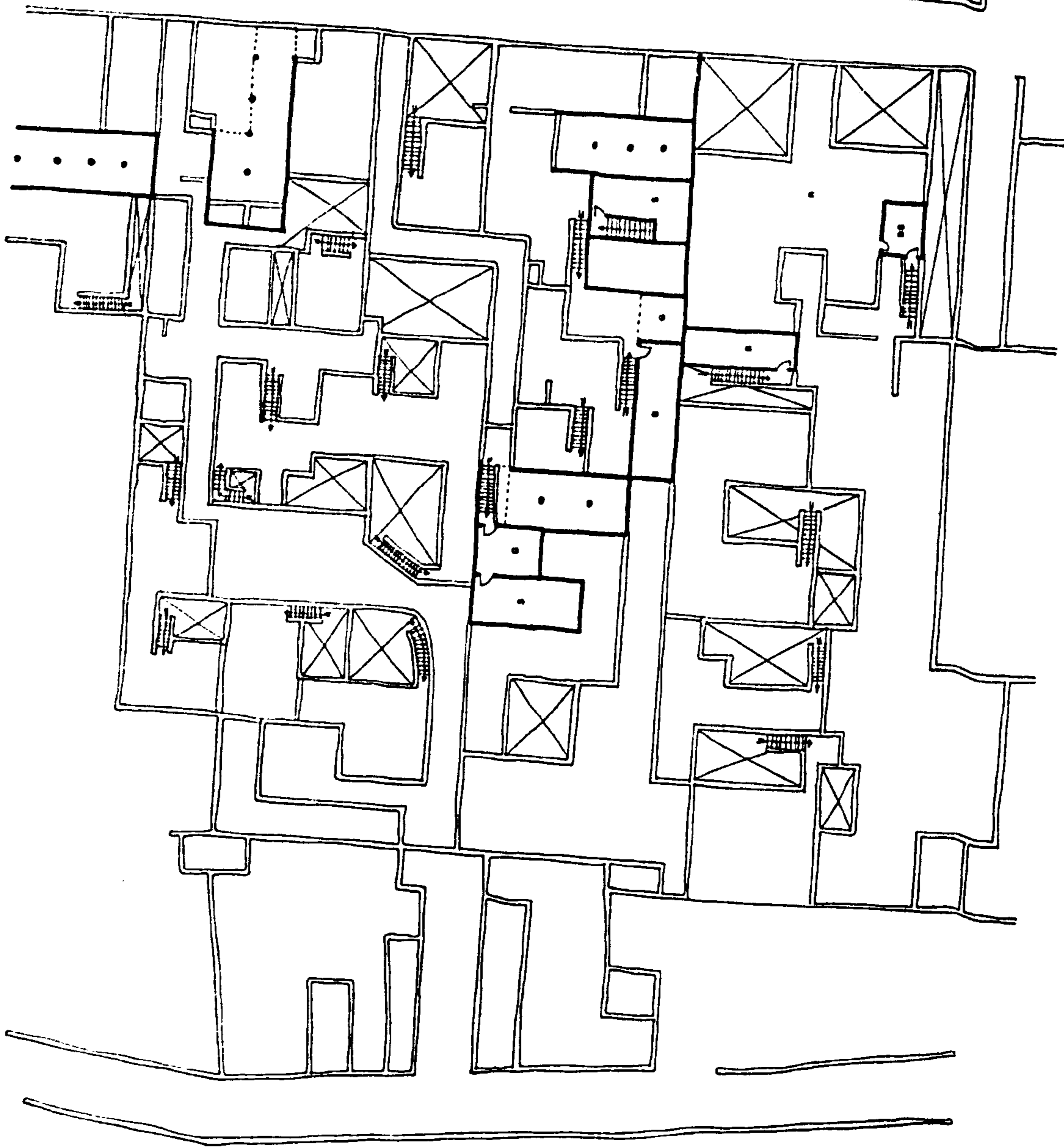
AL-BARGA SITE PLAN AND THE CHOSEN SECTION



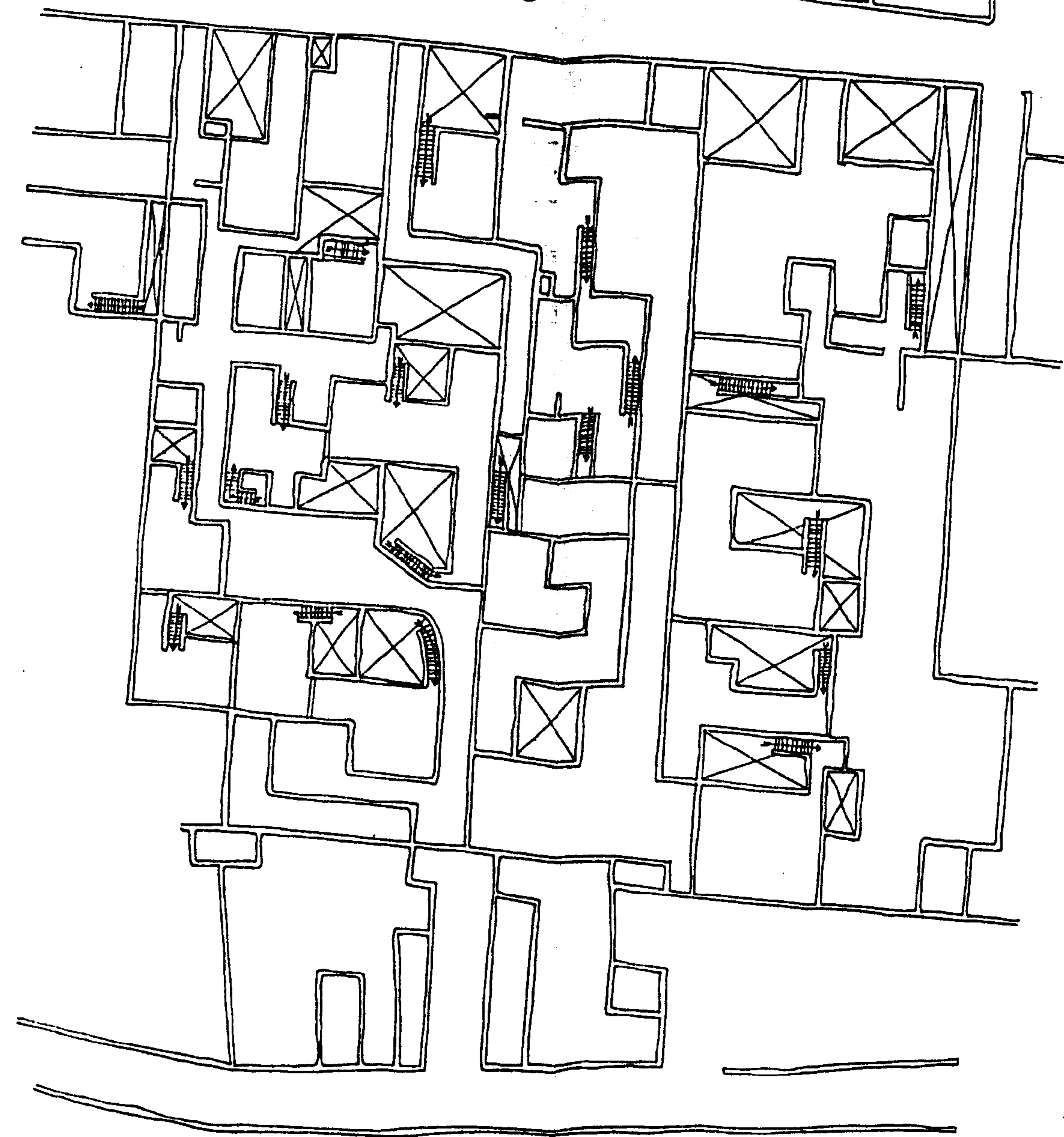
THE GROUND FLOOR OF THE CHOSEN SECTION



THE FIRST FLOOR OF THE CHOSEN SECTION



THE ROOF PLAN OF THE CHOSEN SECTION



environment which concentrated on the centre of the city and the contemporary built environment which surrounds the old parts of the city.

3.29 The chosen sample of the traditional environment is one of the old neighbourhoods of the city. It consists of ten houses and one local mosque (see Figure 3.05). The owners of these houses belong to different families all of them originally from Buraydah.

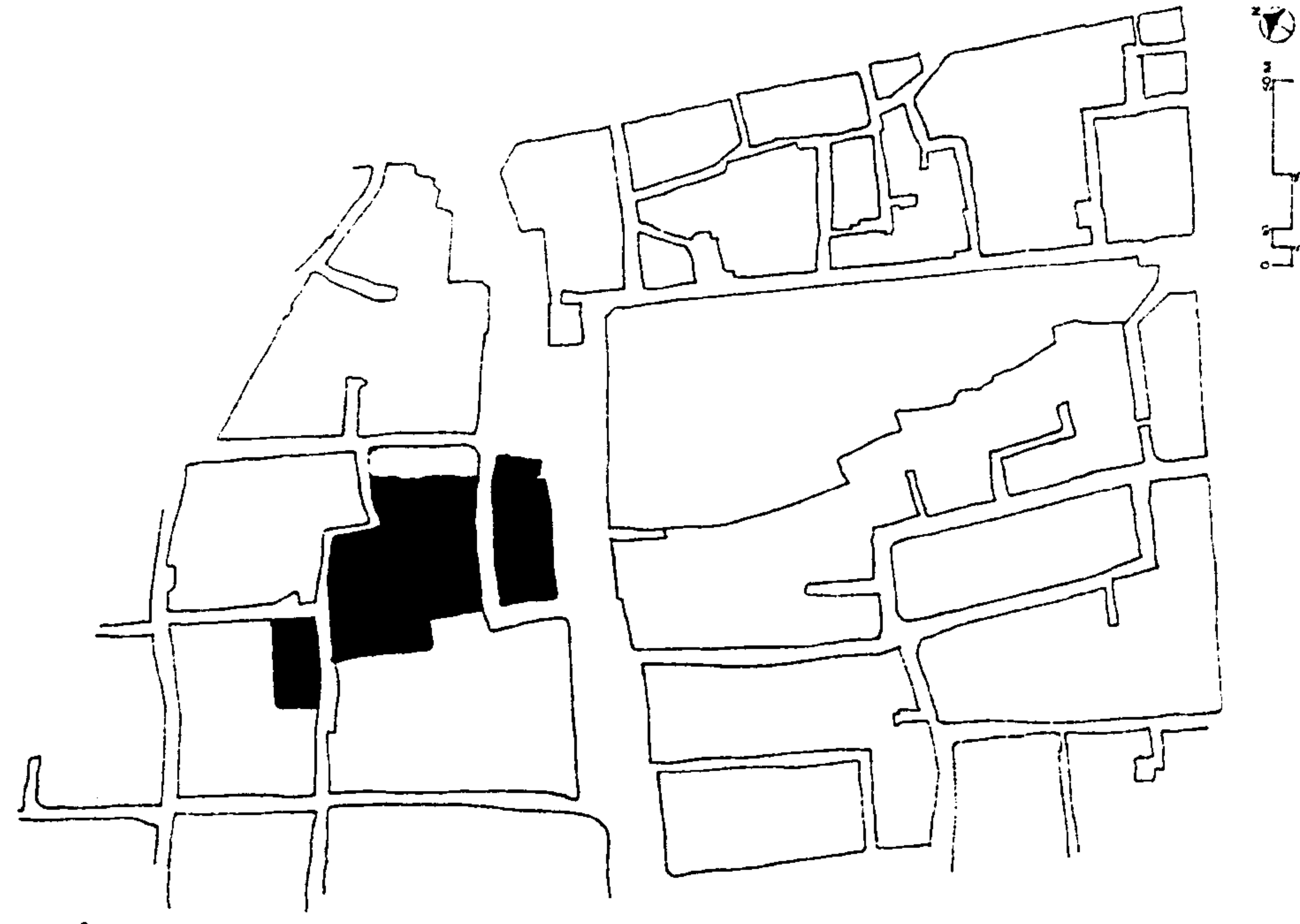
3.30 The third sample is from Shaqra city. Shaqra is a city about 200 kilometres north west of Riyadh. It is situated at a latitude of 25°, 15' north and longitude 45°, 15' east at a height of approximately 74 meters above sea level. It is an agricultural area and a service area for the surrounding towns and villages.

3.31 The existing population of Shaqra was estimated at 18000 persons in 1987. The majority of the population work in agricultural, government services, and trade activities, in addition to light and small-scale industries.

3.32 It was initially formed as a residential area for Bani-Zaid from the Gahtan tribe.

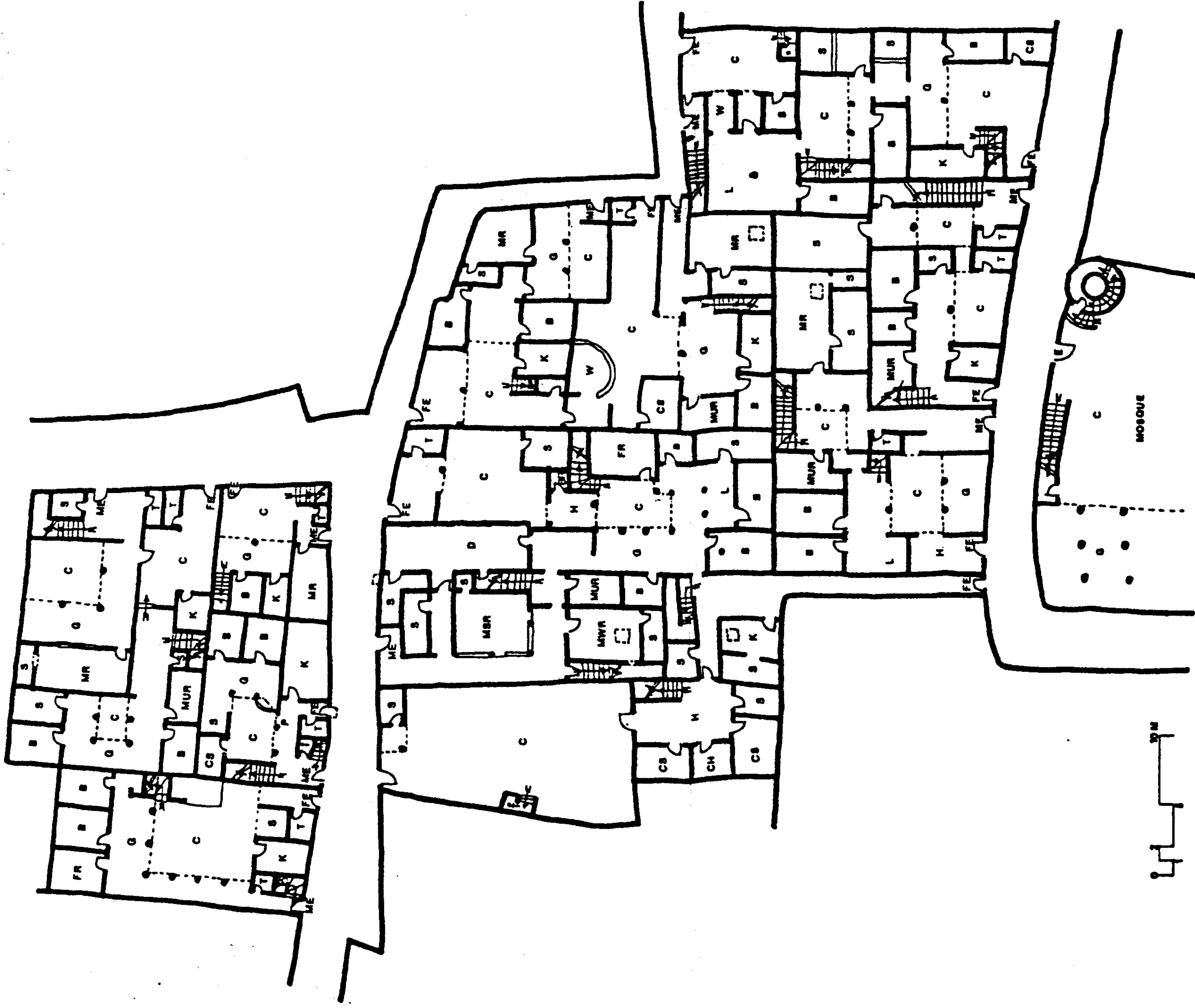
3.33 Like most of the towns of the Central Region, Shaqra consists of two types of built environment (see Figure 3.06), the traditional and the

Figure 3.05 A part of the traditional sector in Buraydah.



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- E : ENTRANCE
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 - D : DINING
 - C : COURT-YARD
 - K : KITCHEN
 - S : STORAGE
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 - BR : BATHROOM
 - T : TOILET
 - H : HALL
 - W : WELL
 - R : ROOF
 - BS : BEDDING SHED
 - CS : CATTLE'S SHELTER
 - CH : CHICKENS' HOUSE

A PART OF THE TRADITIONAL SECTOR OF BURAYDAH AND THE CHOSEN SECTION

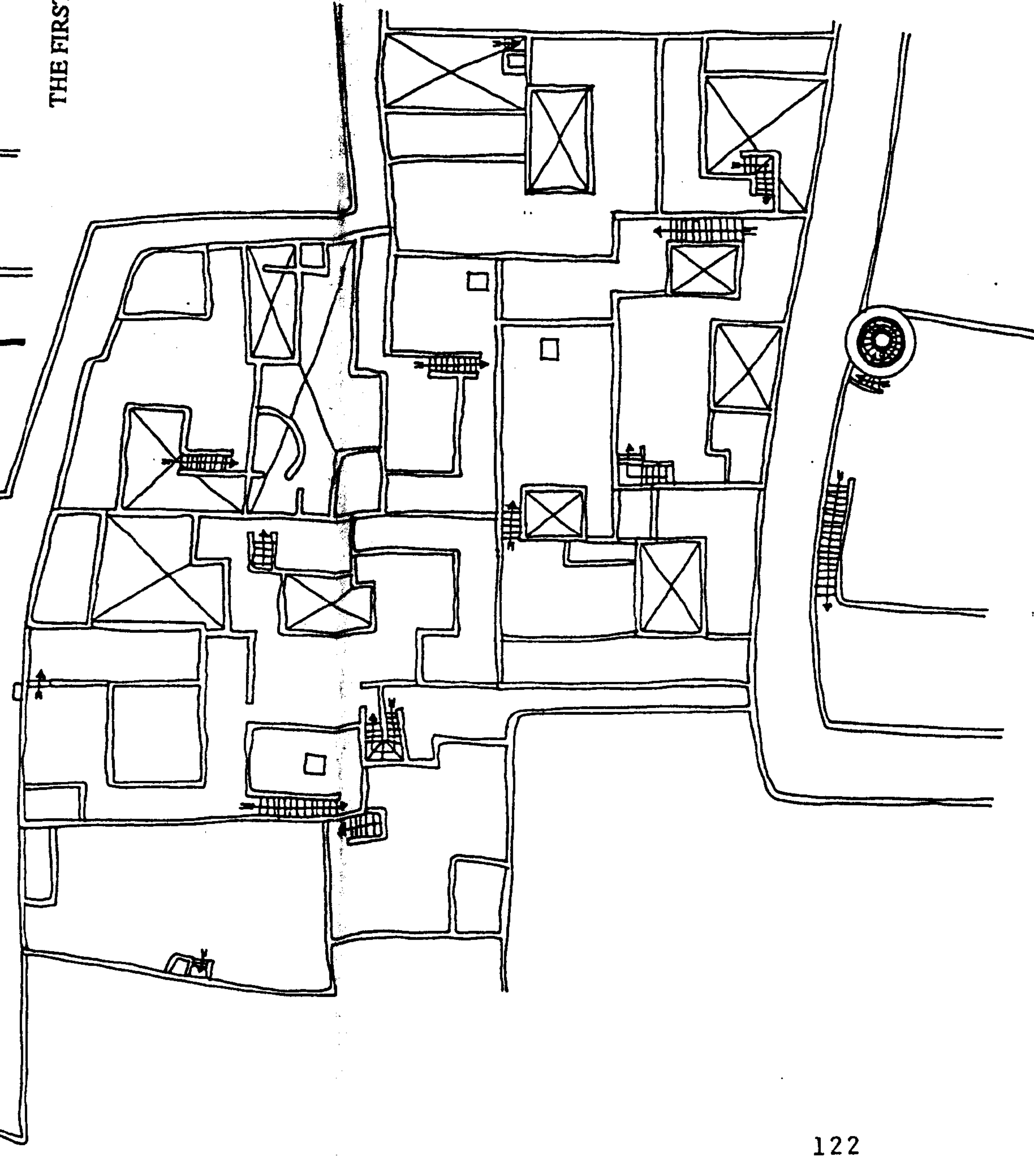
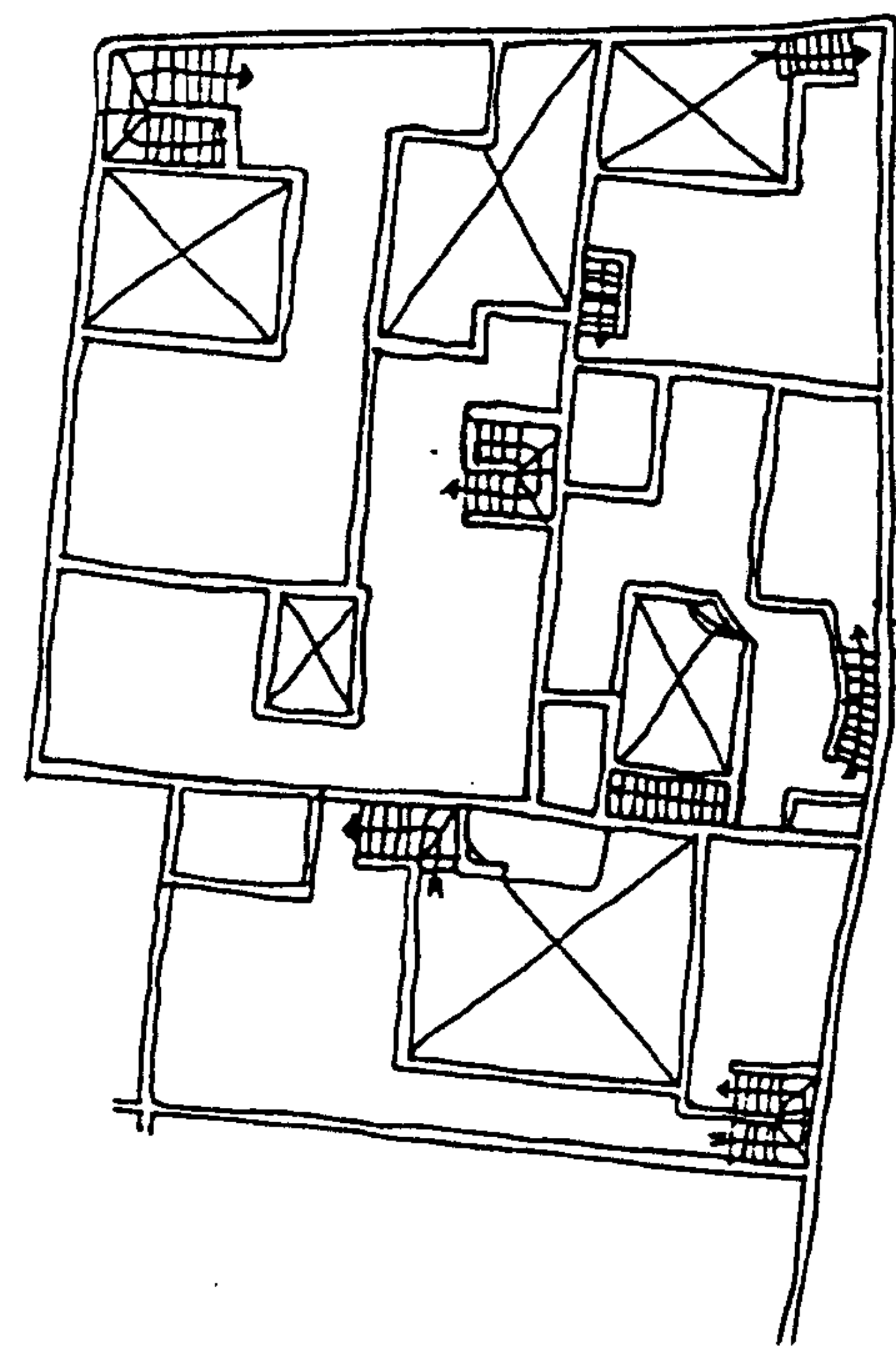


THE GROUND FLOOR OF THE CHOSEN SECTION



THE FIRST FLOOR OF THE CHOSEN SECTION

- KEY :
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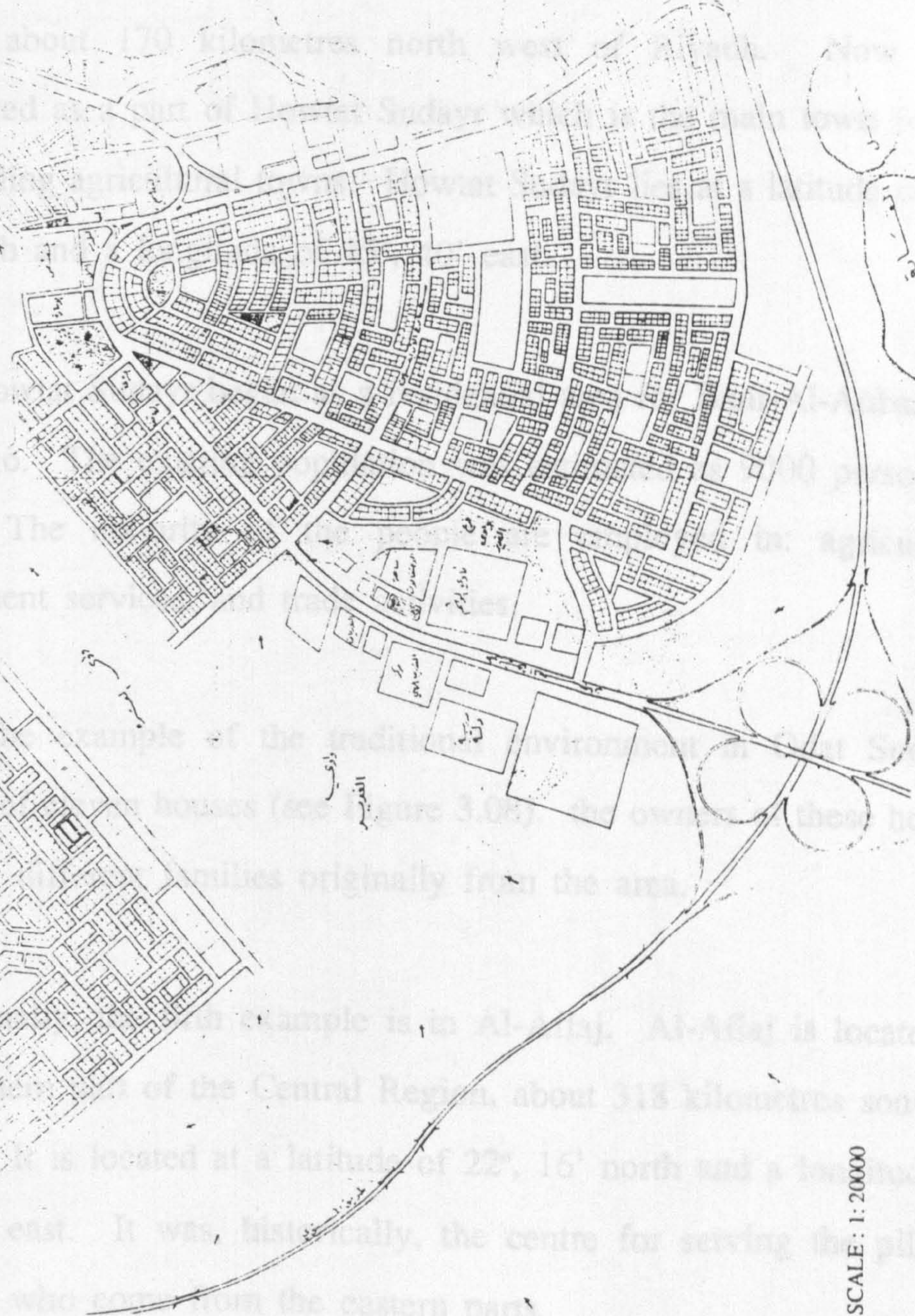
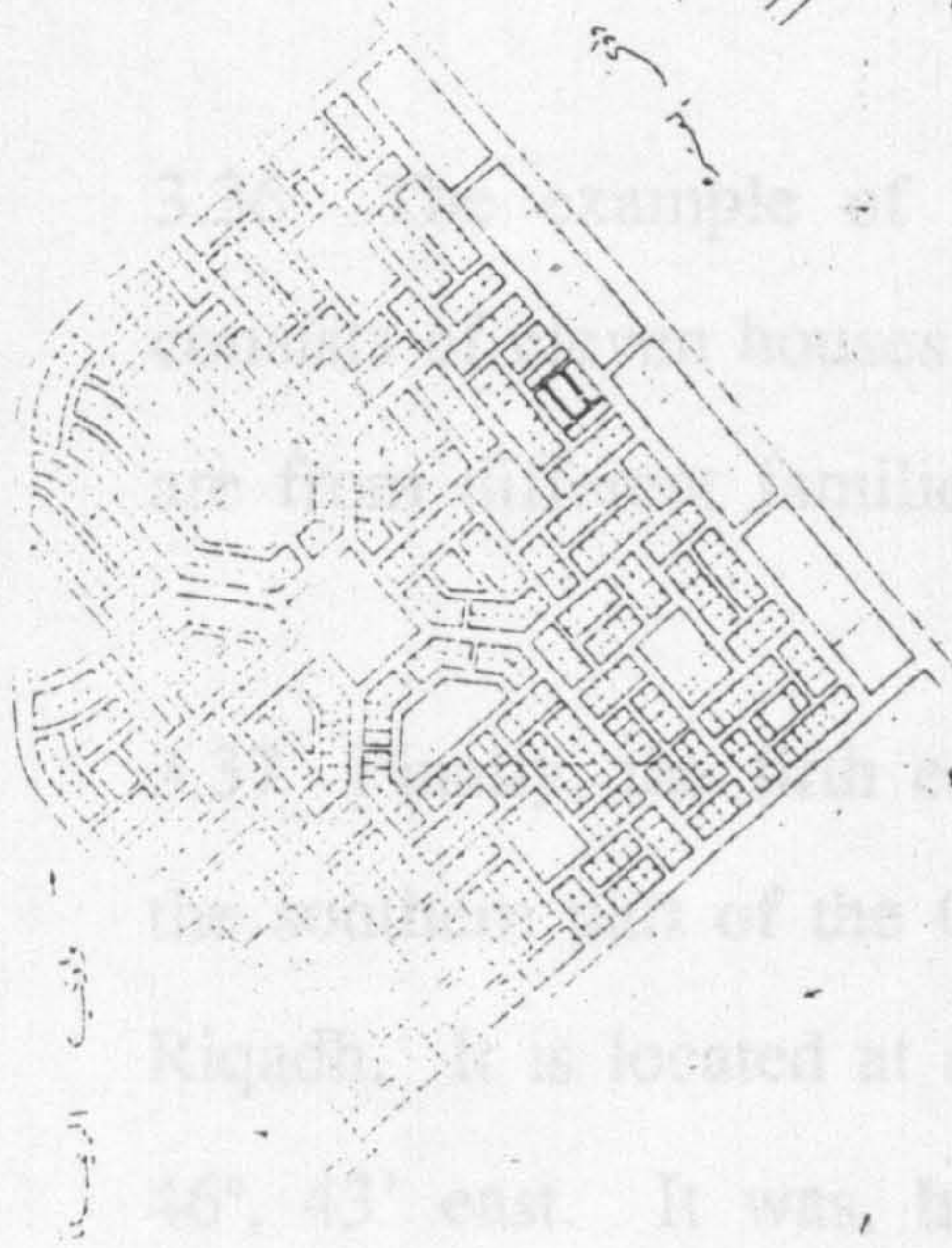


THE ROOF PLAN OF THE CHOSEN SECTION

contemporary one. The sample chosen from the traditional environment (as shown in Figures 3.07) comprises three houses, owned by cousins from the Al-Mene family. They are attached and are built around courtyards.

3.34 The fourth example is in Odat Sudayr. Odat Sudayr is an old village about 170 kilometres north west of Riyadh. It is considered a typical example of the traditional environment. The village is surrounded by a wall and has a central square. The houses are built around courtyards.

3.35 Here is a plan of the village of Odat Sudayr. The village is a grid of streets with a central square. The houses are built around courtyards. The plan shows the layout of the village and the location of the central square. The village is surrounded by a wall and has a central square. The houses are built around courtyards.



SCALE : 1 : 20000

The Master Plan of Shaqra.

Figure 3.06

contemporary one. The sample chosen from the traditional environment (as shown in Figures 3.07) comprises three houses, owned by cousins from the Al-Mene family. They are attached and are built around courtyards.

3.34 The fourth example is in Odat Sudayr. Odat Sudayr is an old village about 170 kilometres north west of Riyadh. Now it is considered as a part of Howtat Sudayr which is the main town for the surrounding agricultural towns. Howtat Sudayr lies at a latitude of 25°, 35' north and a longitude of 45°, 40' east.

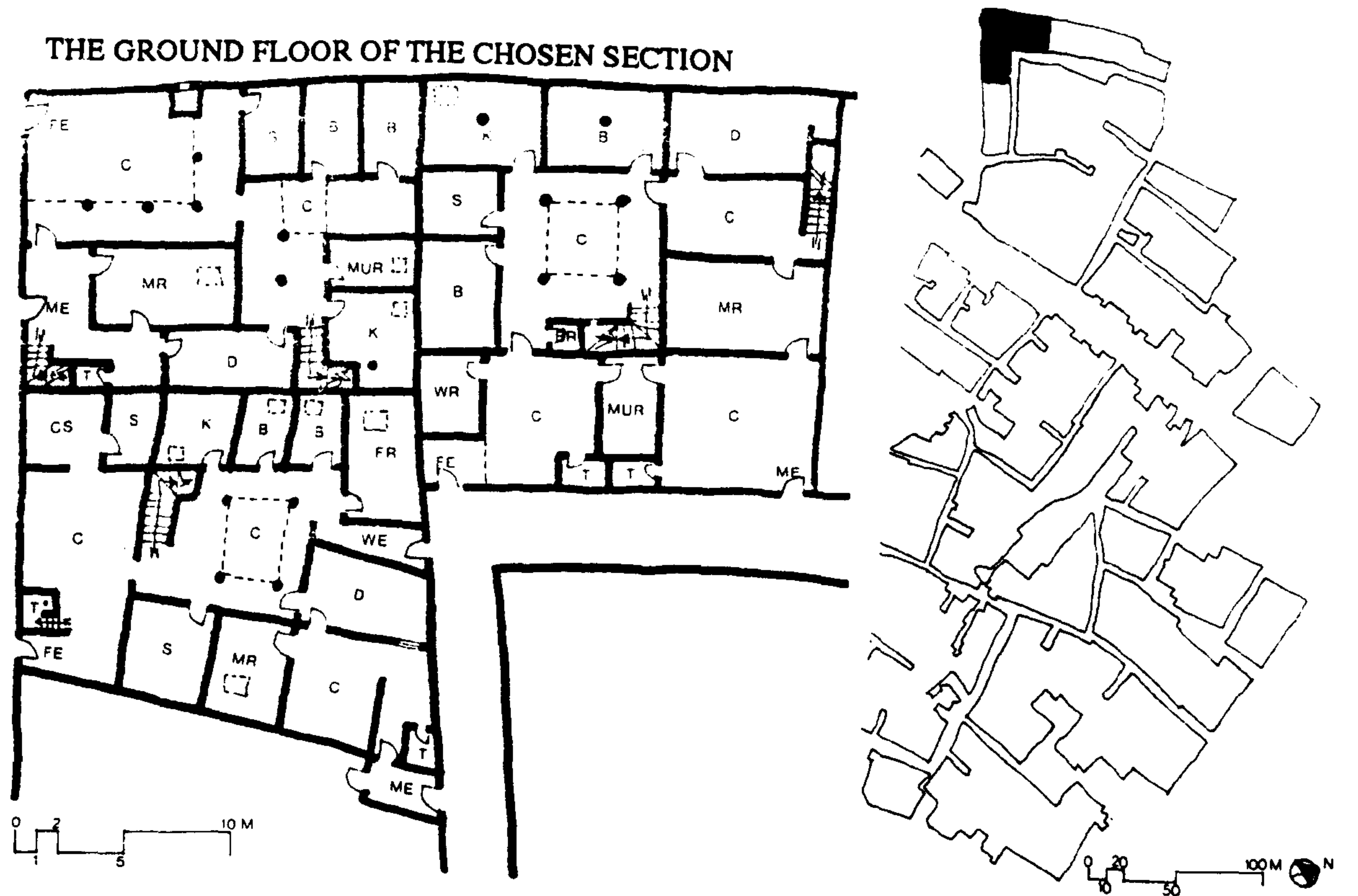
3.35 Howtat Sudayr began as a residential area for Bani-Al-Anbar 450 years ago. The existing population was estimated as 9000 persons in 1987. The majority of the people are employed in: agriculture, government services, and trade activities.

3.36 The example of the traditional environment in Odat Sudayer consists of eleven houses (see Figure 3.08). the owners of these houses are from different families originally from the area.

3.37 Finally, the fifth example is in Al-Aflaj. Al-Aflaj is located in the southern part of the Central Region, about 318 kilometres south of Riqadh. It is located at a latitude of 22°, 16' north and a longitude of 46°, 43' east. It was, historically, the centre for serving the pilgrim caravans who come from the eastern parts.

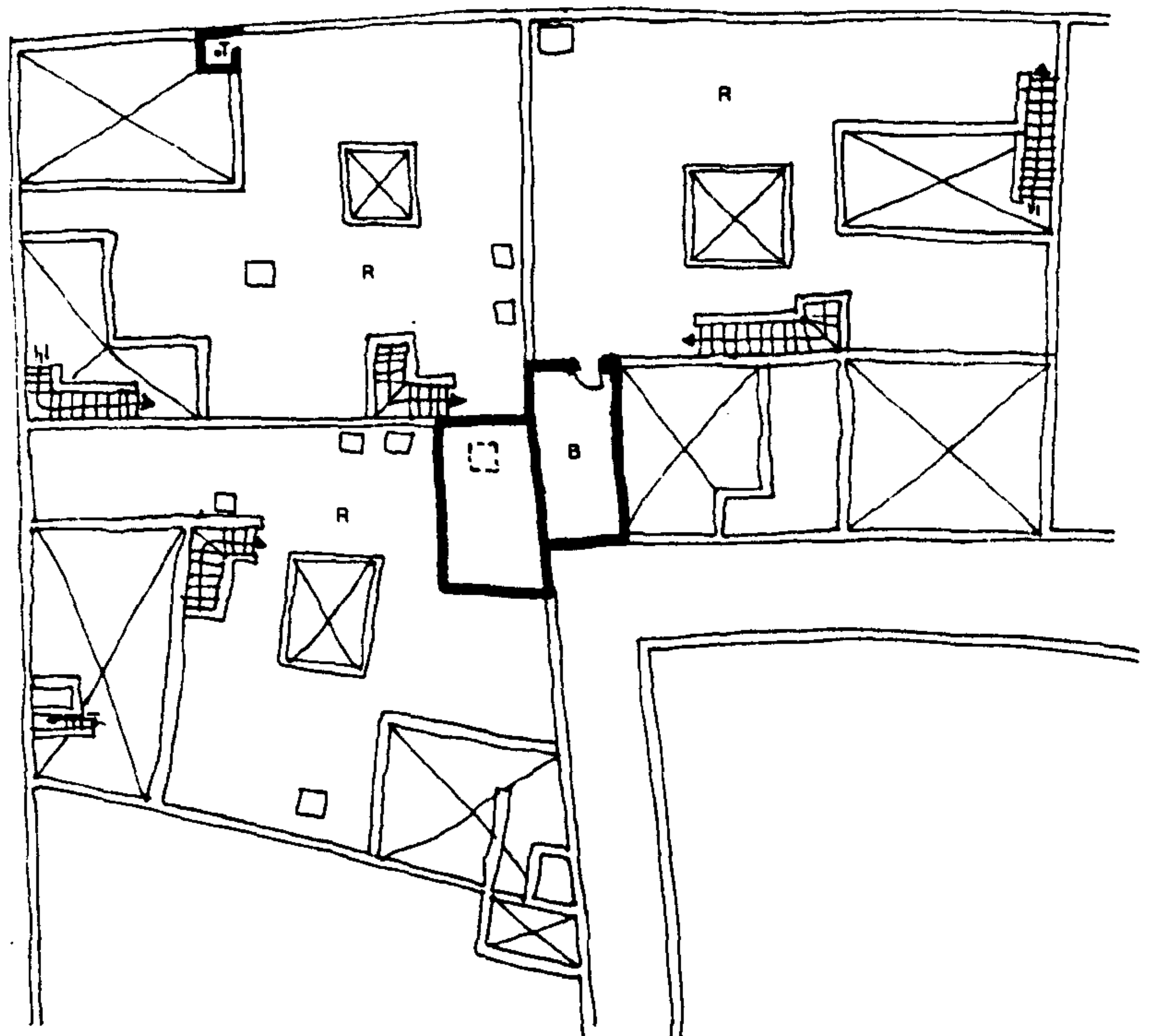
Figure 3.07

An example chosen from the traditional environment in Shaqra.



A PART OF THE TRADITIONAL SECTOR OF SHAQRA AND THE CHOSEN SECTION

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- E : ENTRANCE
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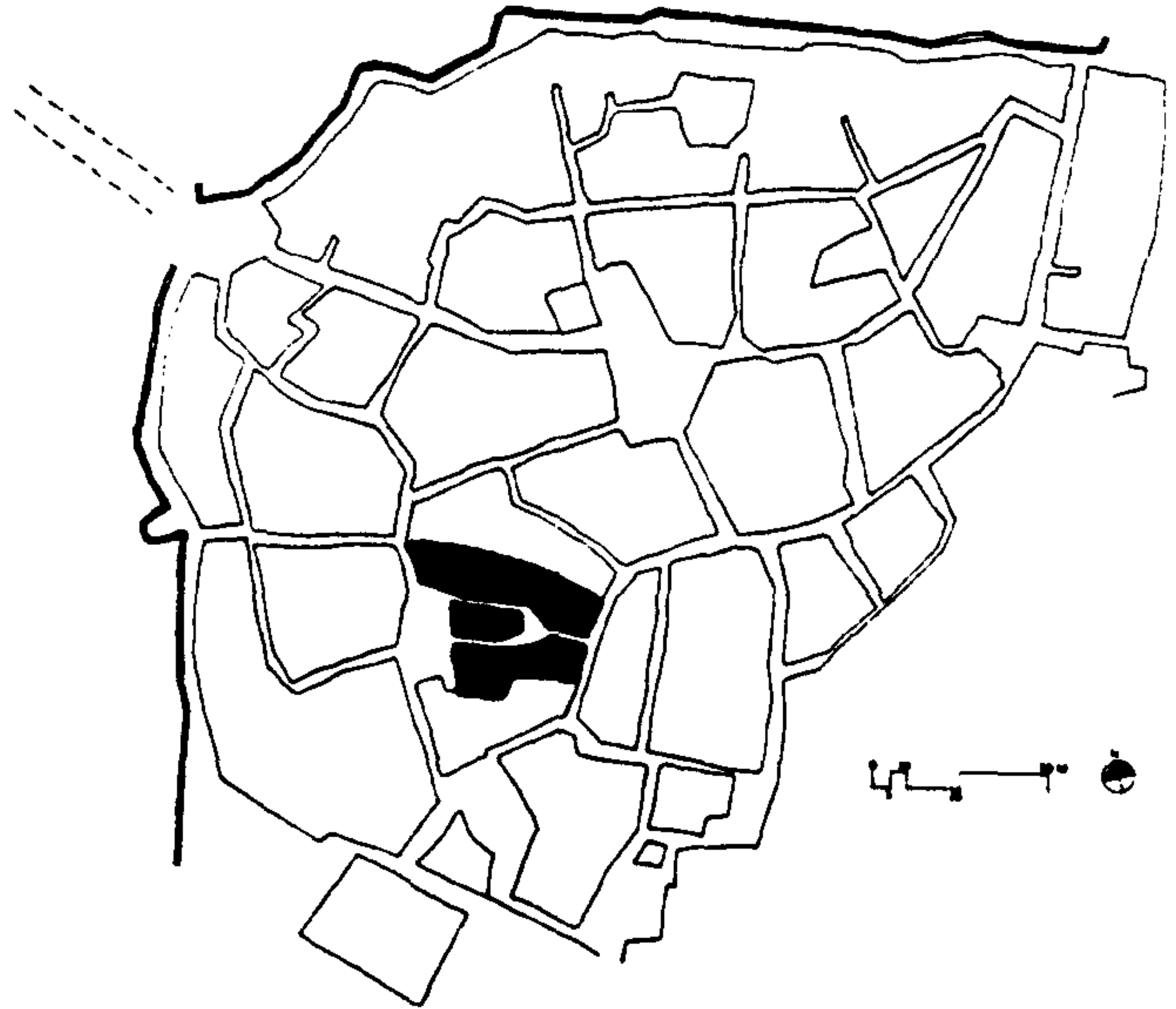


THE FIRST FLOOR OF THE CHOSEN SECTION

Figure 3.08

An example chosen from the traditional environment in Odat Sudayer.

- KEY:
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ODAT SUDAYR PLAN AND THE CHOSEN SECTOR



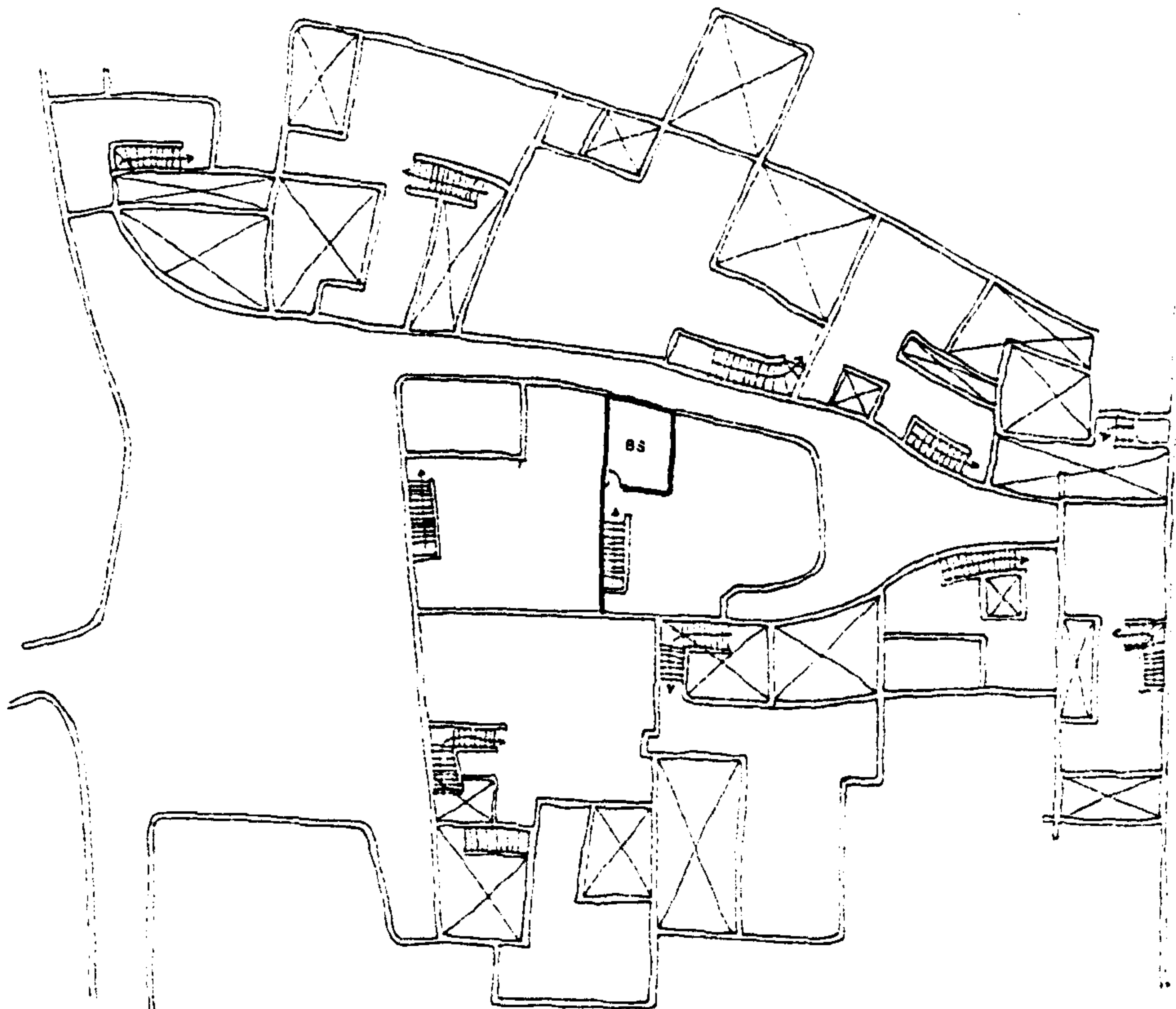
THE GROUND FLOOR OF THE CHOSEN SECTION

KEY :

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- CH : CHICKENS' HOUSE



THE FIRST FLOOR OF THE CHOSEN SECTION



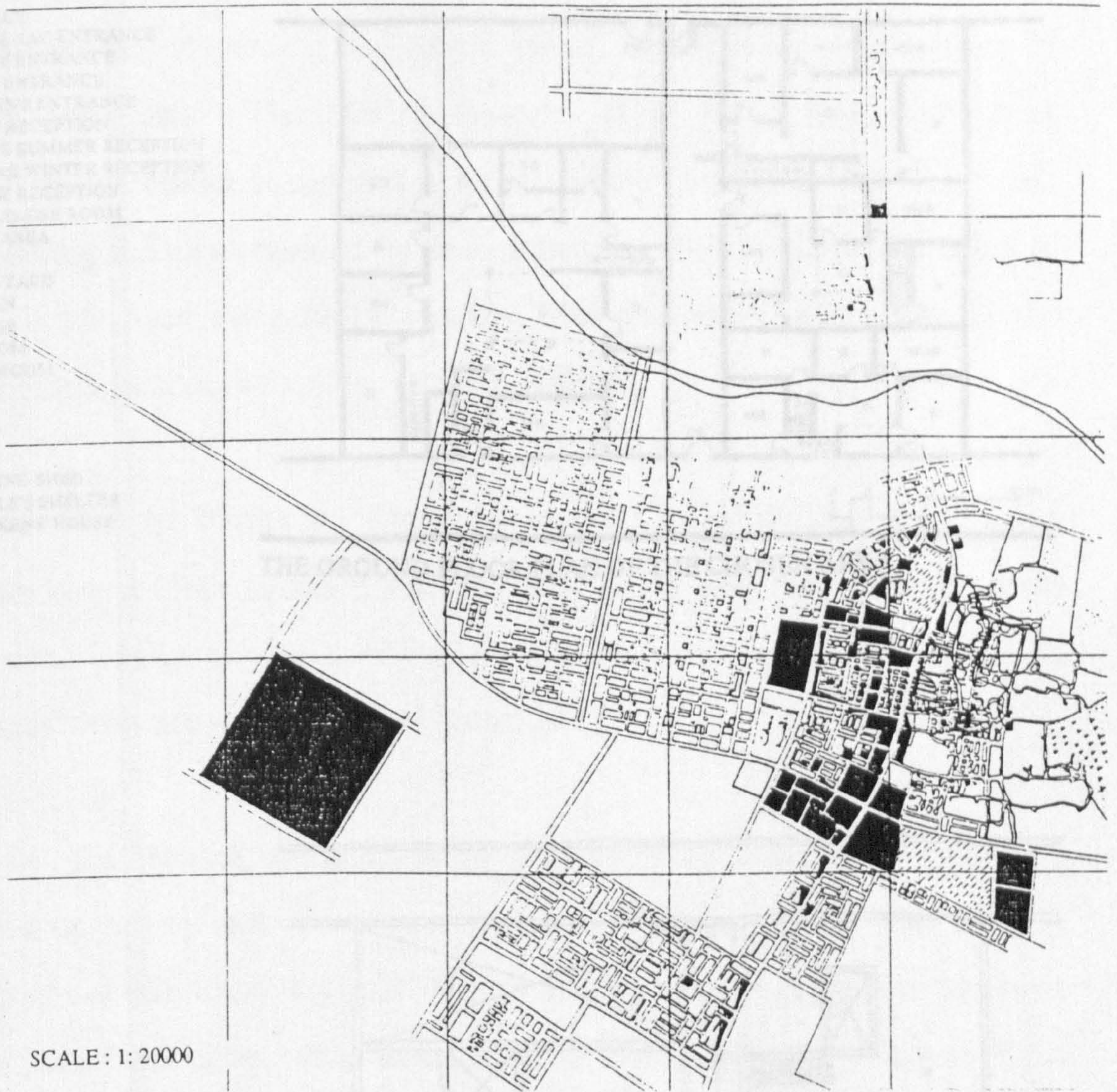
THE ROOF PLAN OF THE CHOSEN SECTION

3.38 The existing population of Al-Aflaj was estimated as 15000 persons in 1987. Most of them work in agriculture, government services, and trade.

3.39 As with to the other towns of the Central Region, Al-Aflaj contains two different built environments, the traditional and the modern environments (see Figure 3.09).

3.40 The chosen sample of the traditional environment in Al-Aflaj is owned by Ibrahim Al-Tahtam and his close relatives. It consists of four units separated by a private street with gates at both ends (see Figure 3.10). One of the gates is large and usually left open, and the other gate is smaller and is usually closed. The street is like a cul-de-sac. It functions as a social gathering place for achieving social activities.

3.41 Following this brief review of the location and characteristics of the chosen sample of the traditional build environment of the Central Region, the next sub-section will discuss and analyse the main elements of the traditional neighbourhoods including the traditional dwellings, shops, mosques, and streets.



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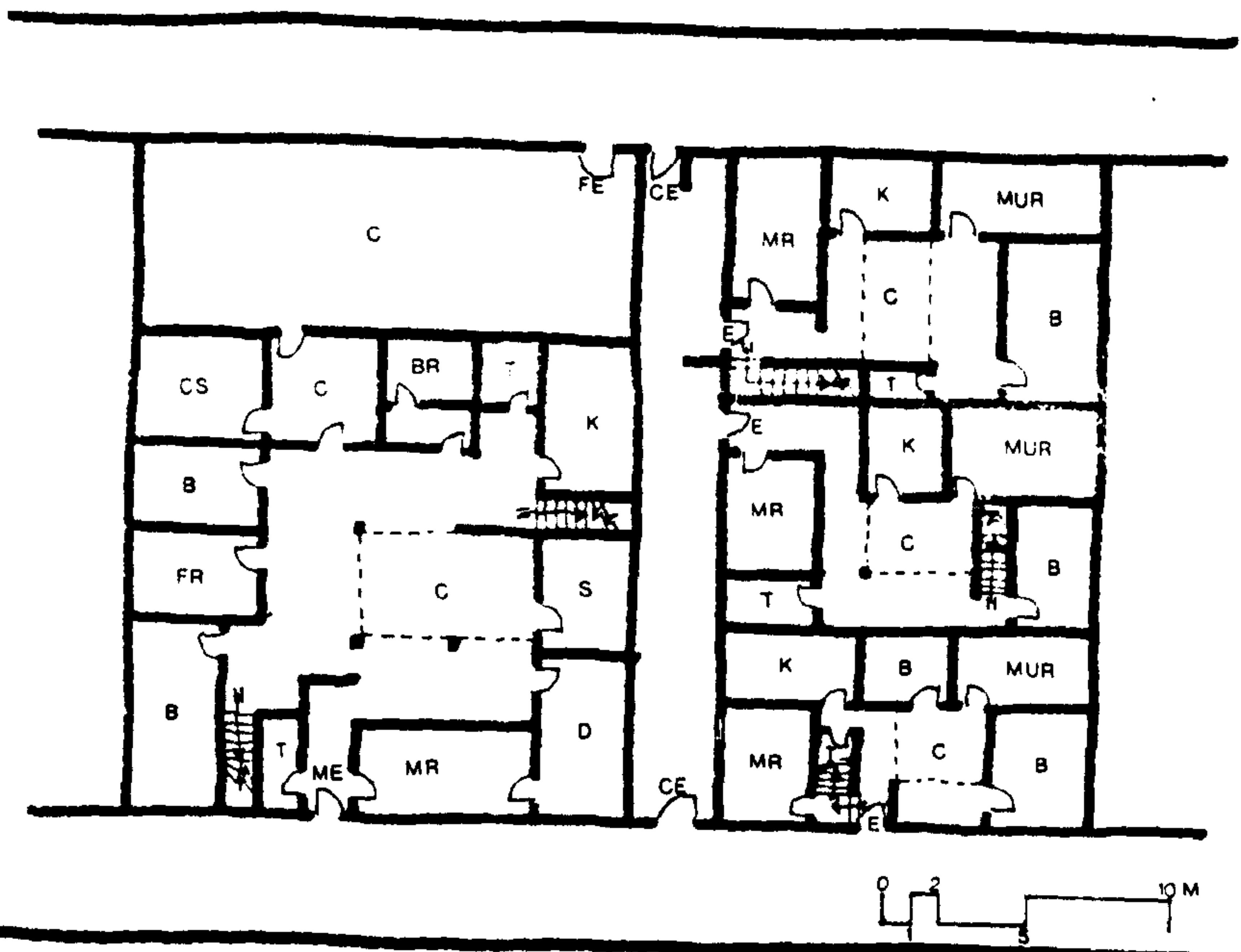
Figure 3.09

The Master Plan of Al-Aflaj.

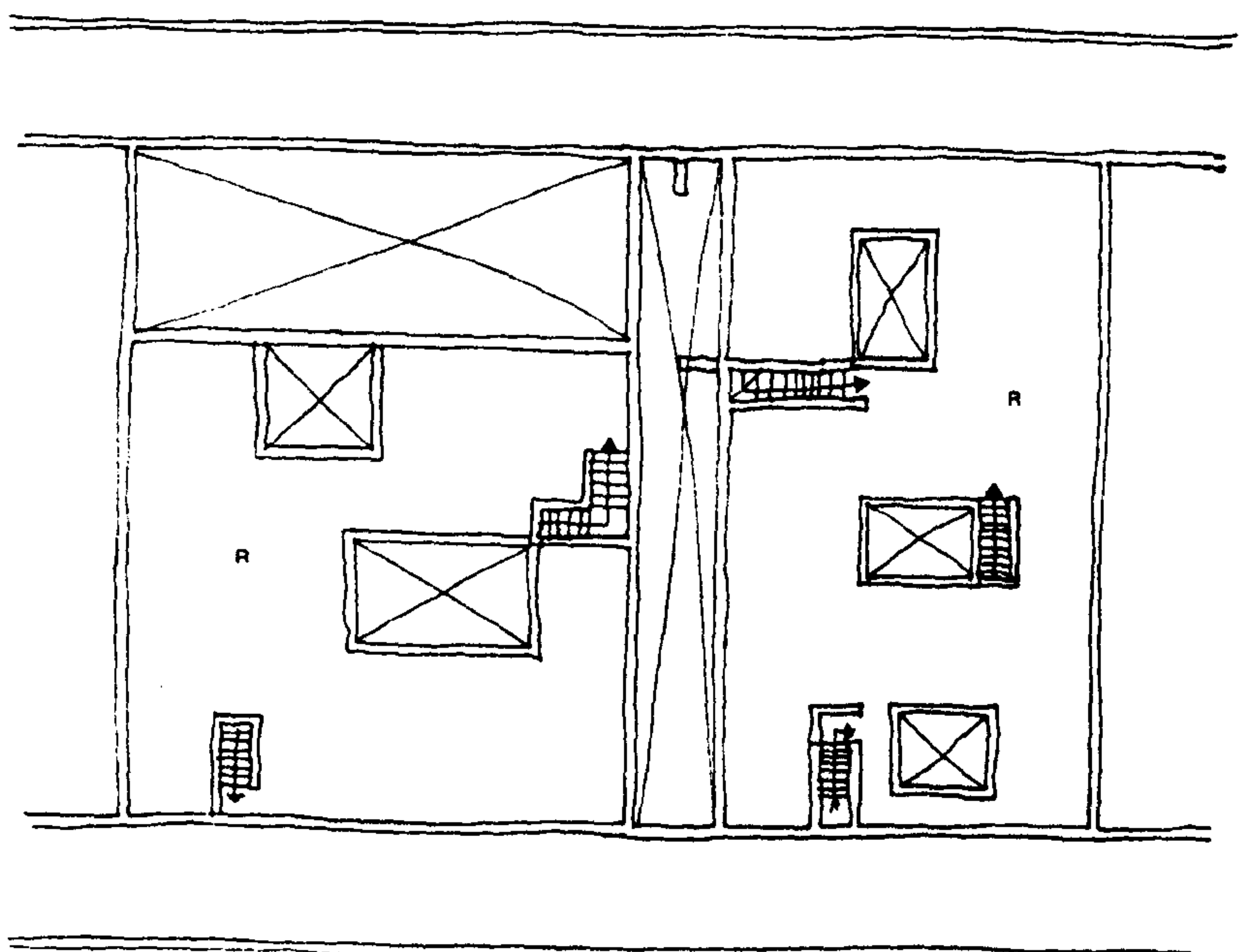
Figure 3.10

An example chosen from the traditional environment in Al- Aflaj.

- KEY :
- E : ENTRANCE
 - CE : CUL-DE-SAC ENTRANCE
 - FE : FAMILY ENTRANCE
 - ME : MEN'S ENTRANCE
 - WE : WOMEN'S ENTRANCE
 - MR : MEN'S RECEPTION
 - MSR : MEN'S SUMMER RECEPTION
 - MWR : MEN'S WINTER RECEPTION
 - FR : FAMILY RECEPTION
 - MUR : MULTI-USE ROOM
 - L : LIVING AREA
 - D : DINING
 - C : COURT-YARD
 - K : KITCHEN
 - S : STORAGE
 - B : BEDROOM
 - BR : BATHROOM
 - T : TOILET
 - H : HALL
 - W : WELL
 - R : ROOF
 - BS : BEDDING SHED
 - CS : CATTLE'S SHELTER
 - CH : CHICKENS' HOUSE



THE GROUND FLOOR PLAN OF THE CHOSEN AREA



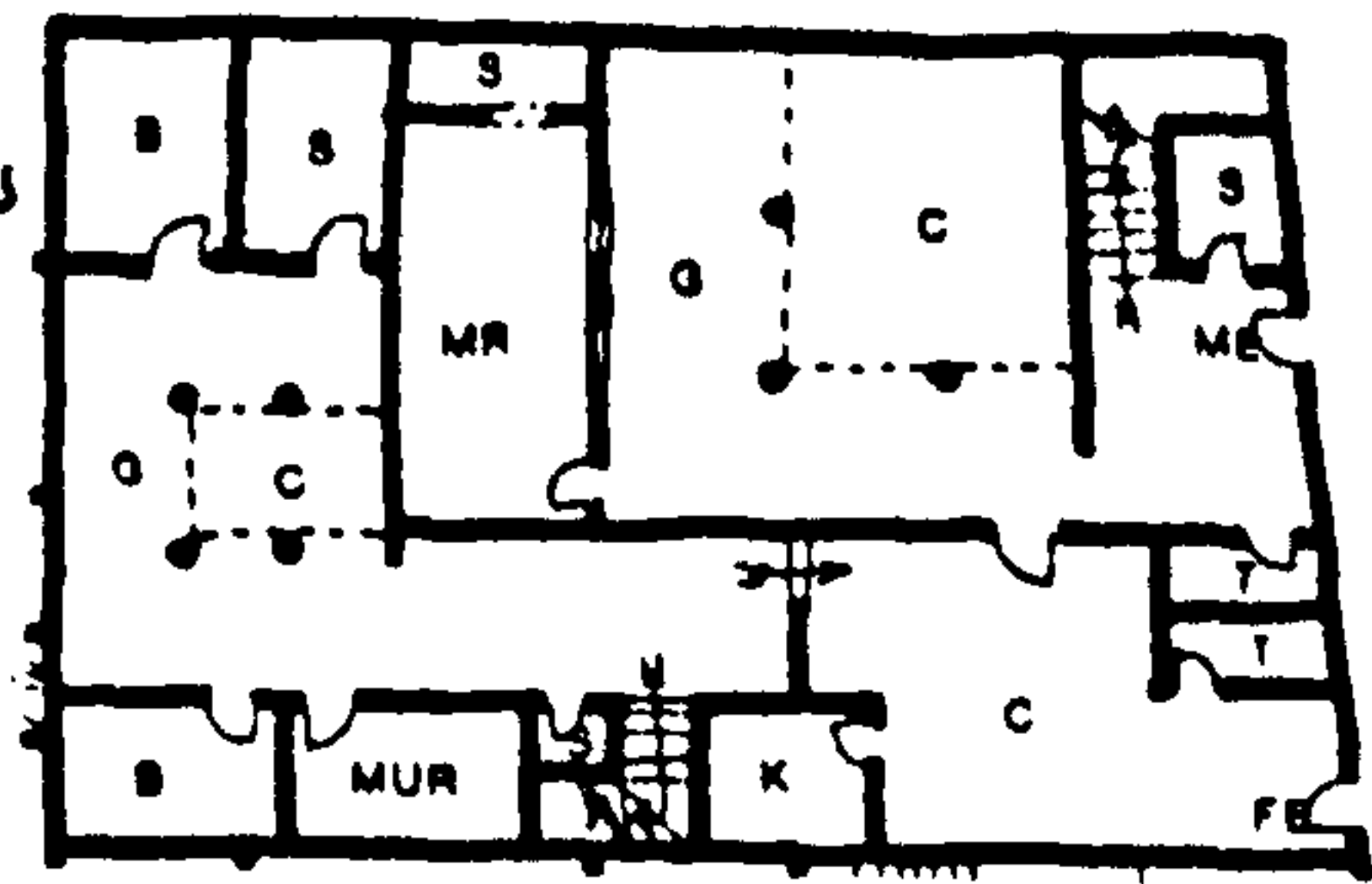
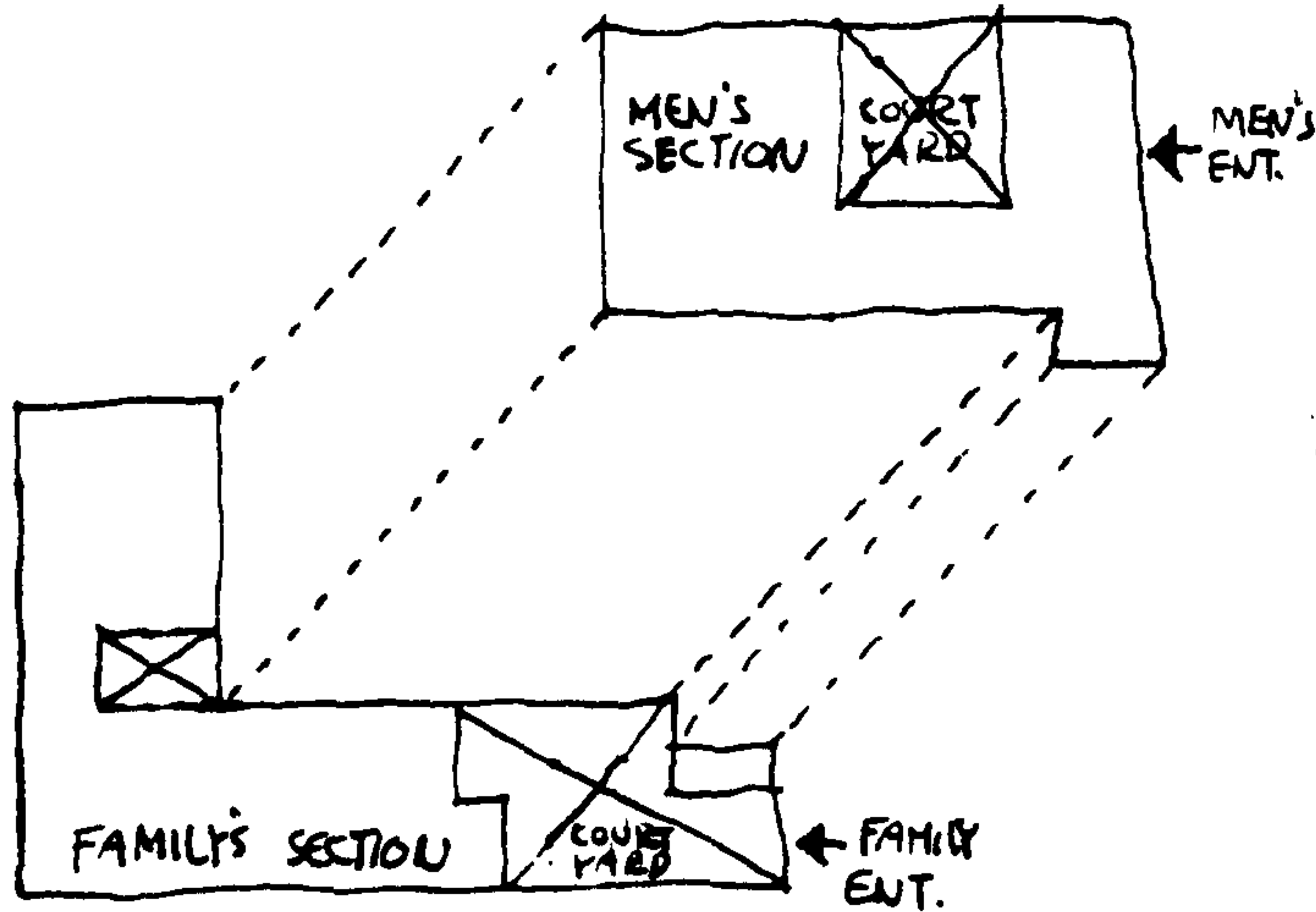
THE FIRST FLOOR PLAN OF THE CHOSEN AREA

TRADITIONAL DWELLING

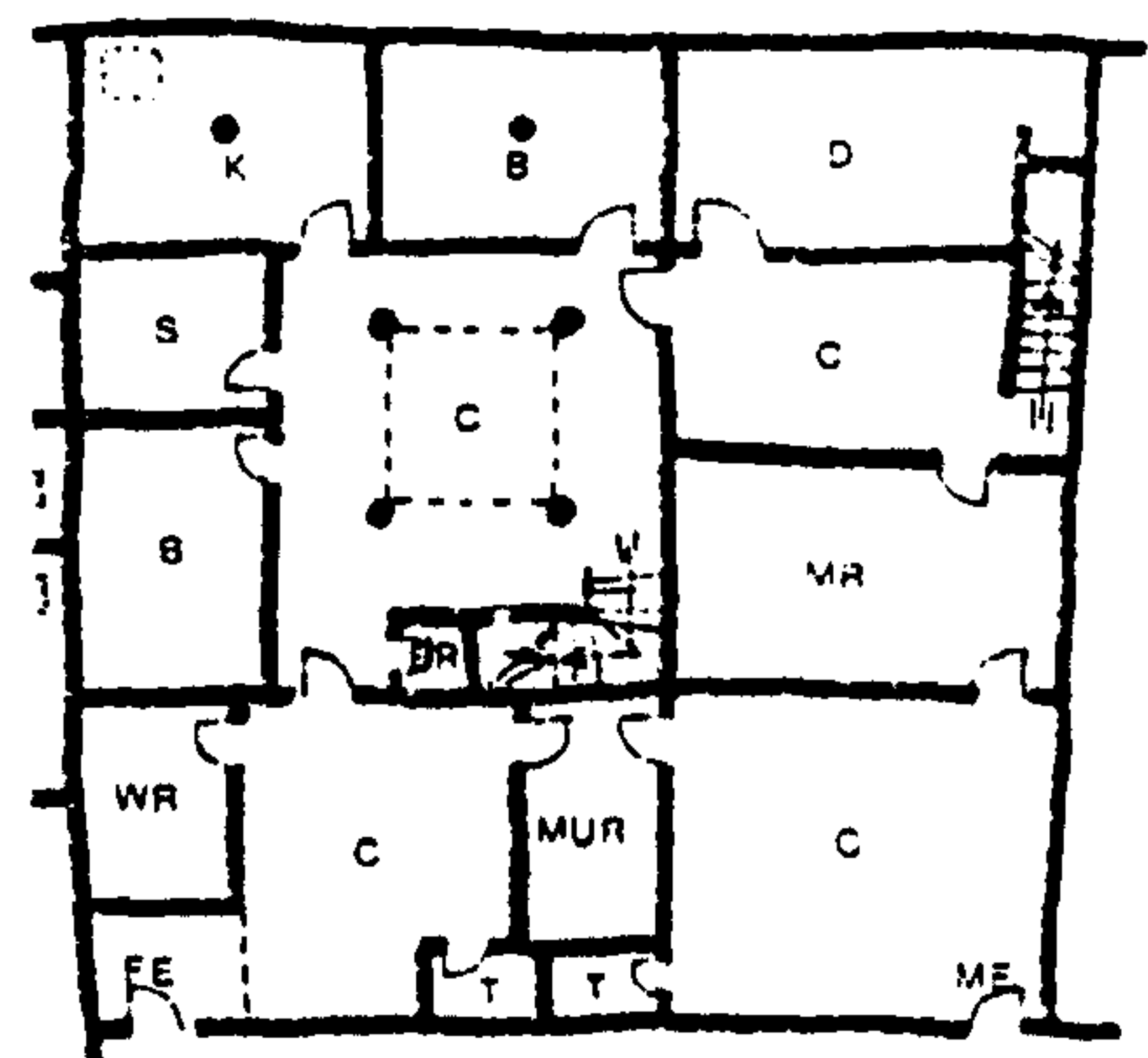
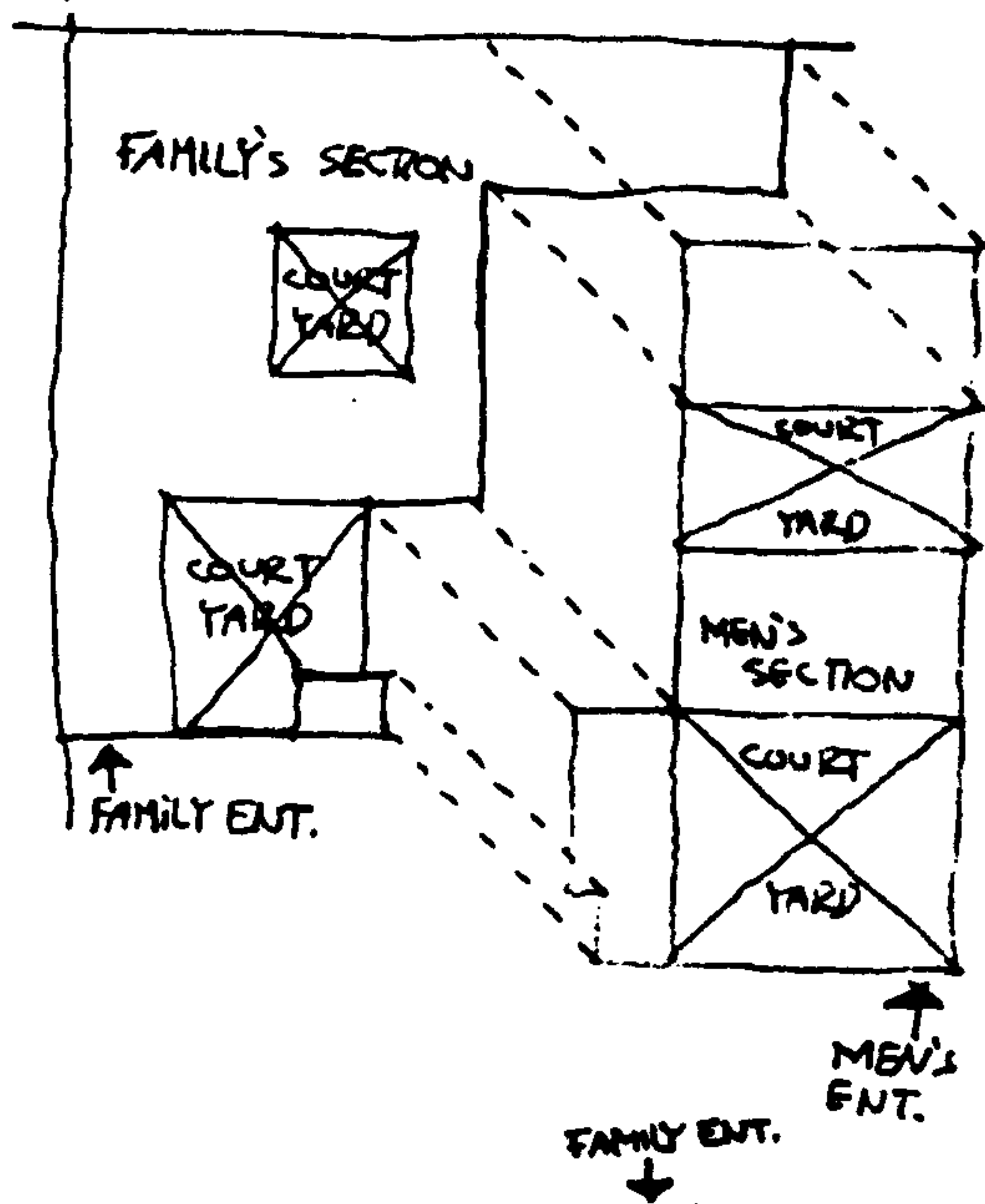
3.42 In general, the dwelling is supposed to fulfil the needs for privacy and security, and the place where residents feel free from public obligations. According to Islamic belief, the dwelling is the place of rest and quiet. The Qur'an says "... It is Allah who made your habitations homes at rest and quiet for your ..." (16:80). The traditional dwelling are characterised by their introvertedness which is intended to fulfil the need for privacy security, and the social aspirations of the residents as a result of the Islamic teaching.

3.43 All the traditional dwellings in the Central Region are divided into two distinct sections, one for the family and the other for male guests. Most of the dwelling's elements are inward looking which opens onto a courtyard (see Figure 3.11).

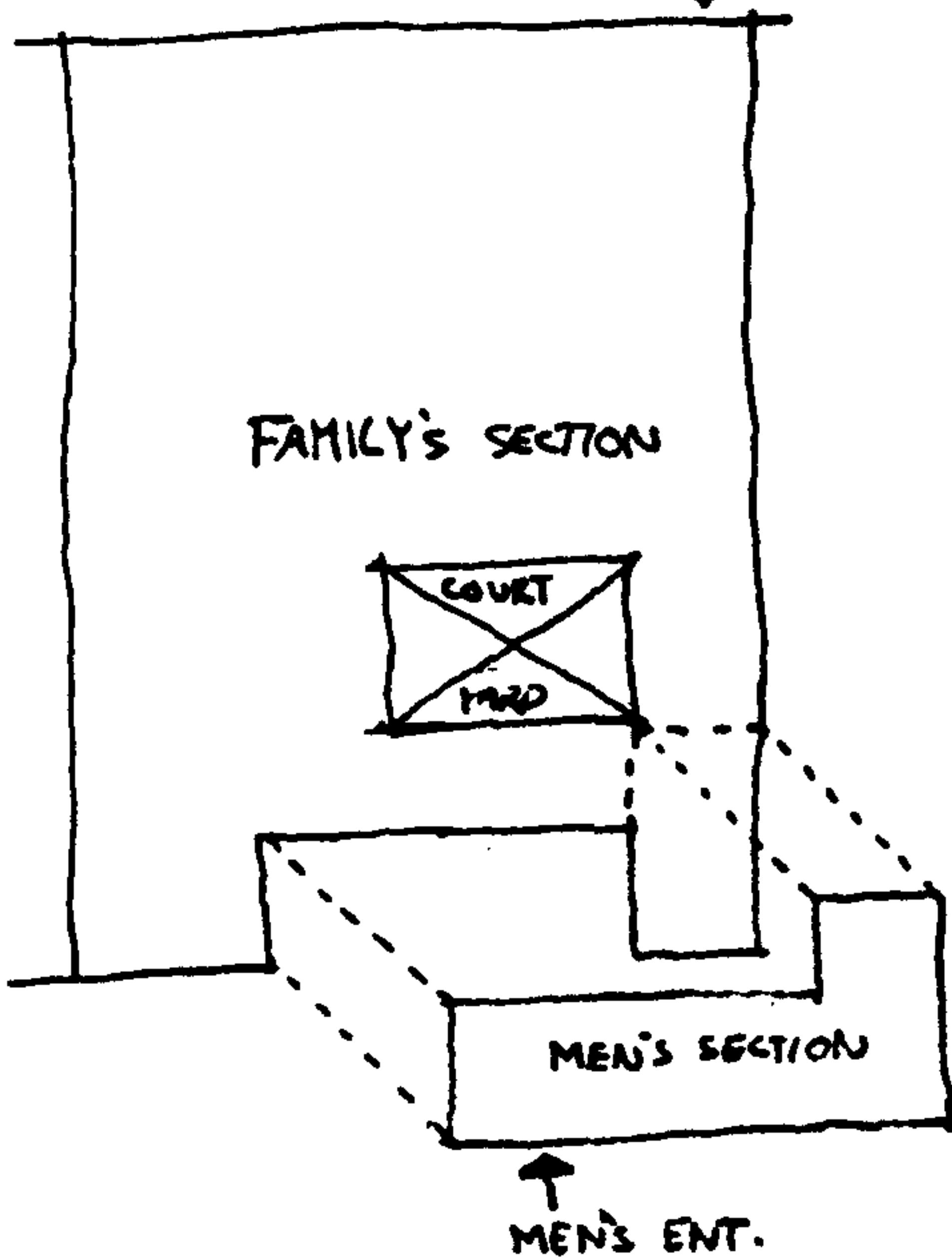
3.44 The interior courtyard is, in most cases, surrounded by a covered area or gallery and one row of rooms (see Figure 3.12). The internal courtyard has many essential functions according to daily and seasonal cycles of activities. It is considered as a private out-door space for a family to sit, eat, drink, and talk about the family's affairs without being seen by their neighbours; it provides a safe, easily supervised area for children; and a spot for other occasions such as celebrations and large parties. Other important functions of the courtyard are its use as a circulation spot to reach different house activities around the area as well as a place for getting daylight and ventilation. The internal



A HOUSE FROM BURAYDAH



A HOUSE FROM SHAQRA



A HOUSE FROM AL-AFLAJ

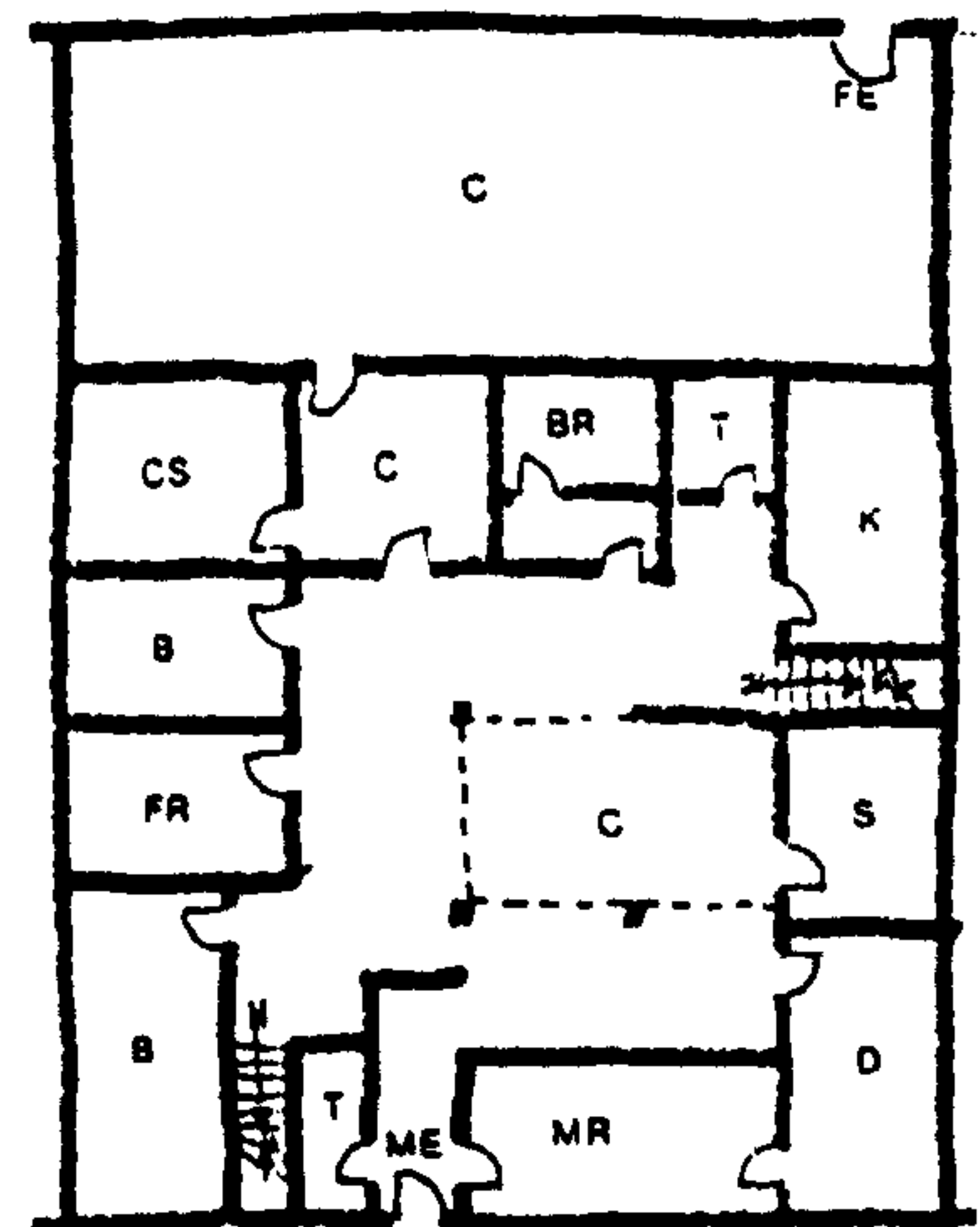


Figure 3.11 Three houses each of them showing the men's and the family sections.

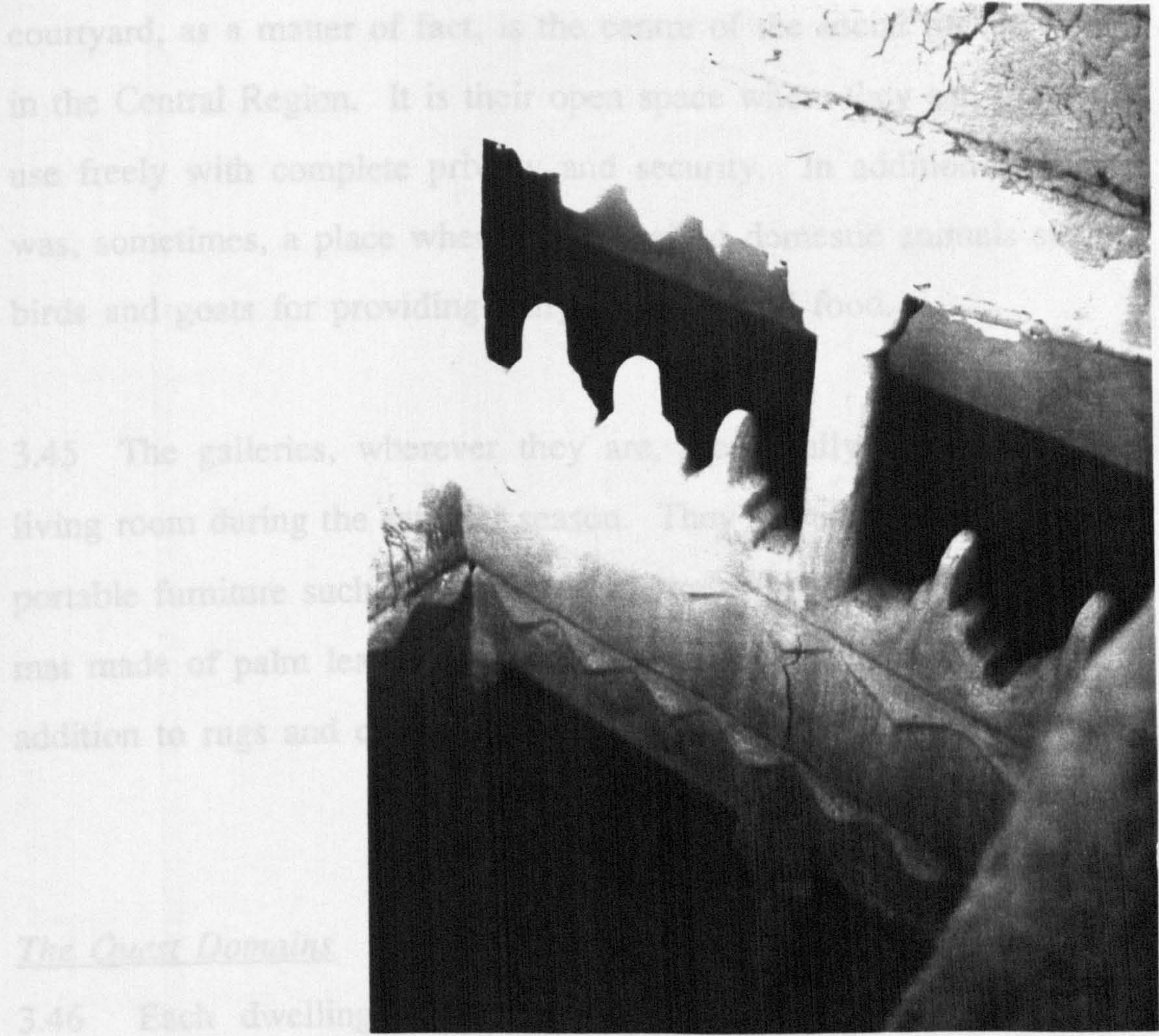


Figure 3.12 Two examples showing the internal courtyard and its functions.



courtyard, as a matter of fact, is the centre of the social life of women in the Central Region. It is their open space where they can move and use freely with complete privacy and security. In addition to that, it was, sometimes, a place where people raised domestic animals such as birds and goats for providing dairy products and food.

3.45 The galleries, wherever they are, are usually used as an open living room during the summer season. They are usually provided with portable furniture such as a foldable mattress for sleeping or a circular mat made of palm leaves laid on the floor for placing the food on, in addition to rugs and cushions.

The Quest Domains

3.46 Each dwelling unit is usually designed with two or more entrances, one for males, and others for females, family, and services.

3.47 The entrances are mostly provided with a heavy and well decorated door which emphasises the transitional space between the sharing spaces, such as the public and semi-public spaces, and the private space (see Figure 3.13). Each entrance generally opens onto a blank wall to protect the internal living area against unwanted visual intrusion when the door is open. (see Figure 3.14).

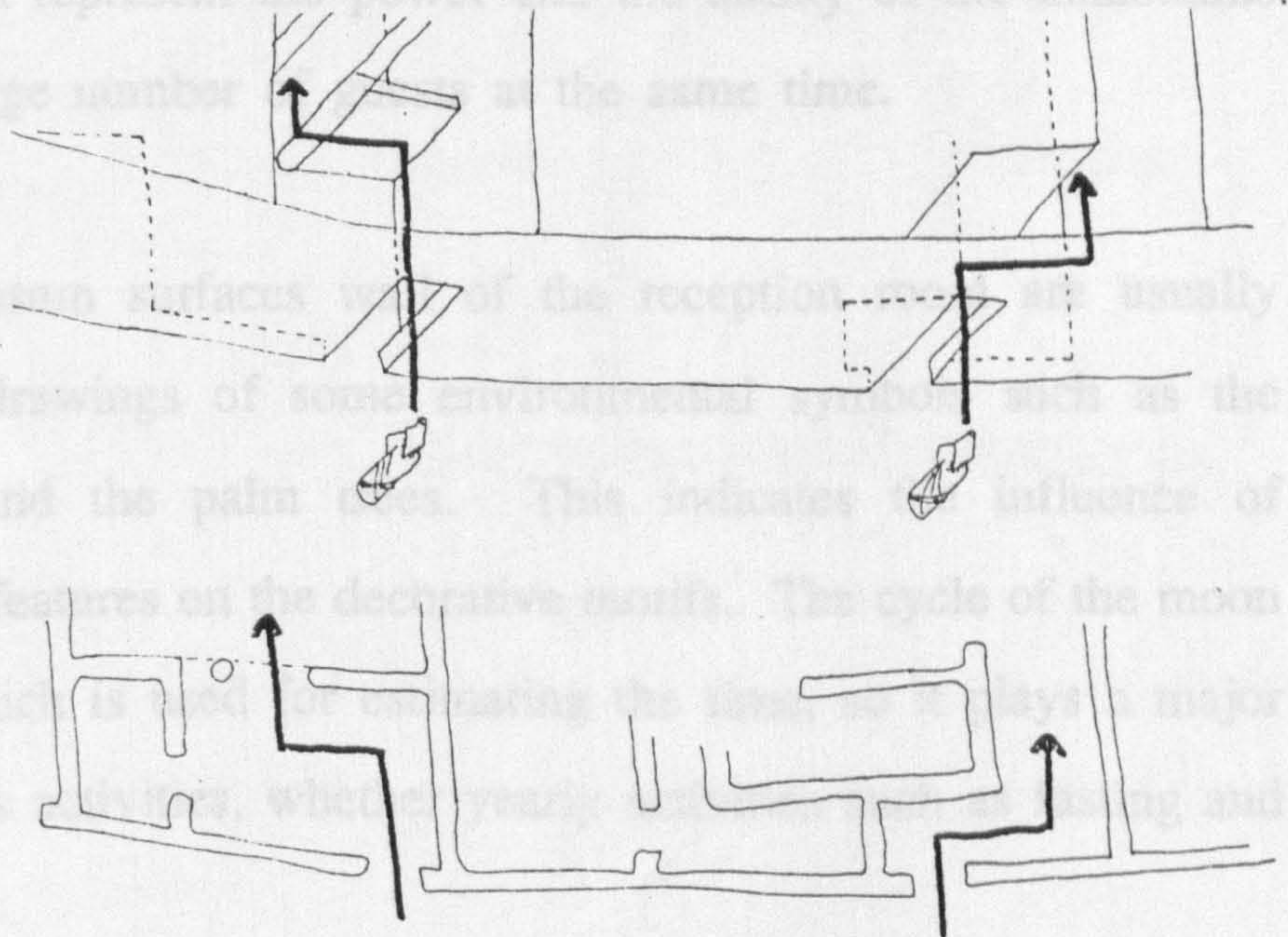
Figure 3.13 Traditional entrance provided with a heavy and well decorated door which emphasise the transition between public and private spaces.



Figure 3.14

Traditional entrance, opening onto a blank wall to protect the

internal against unwanted visual intrusion when the door is open.

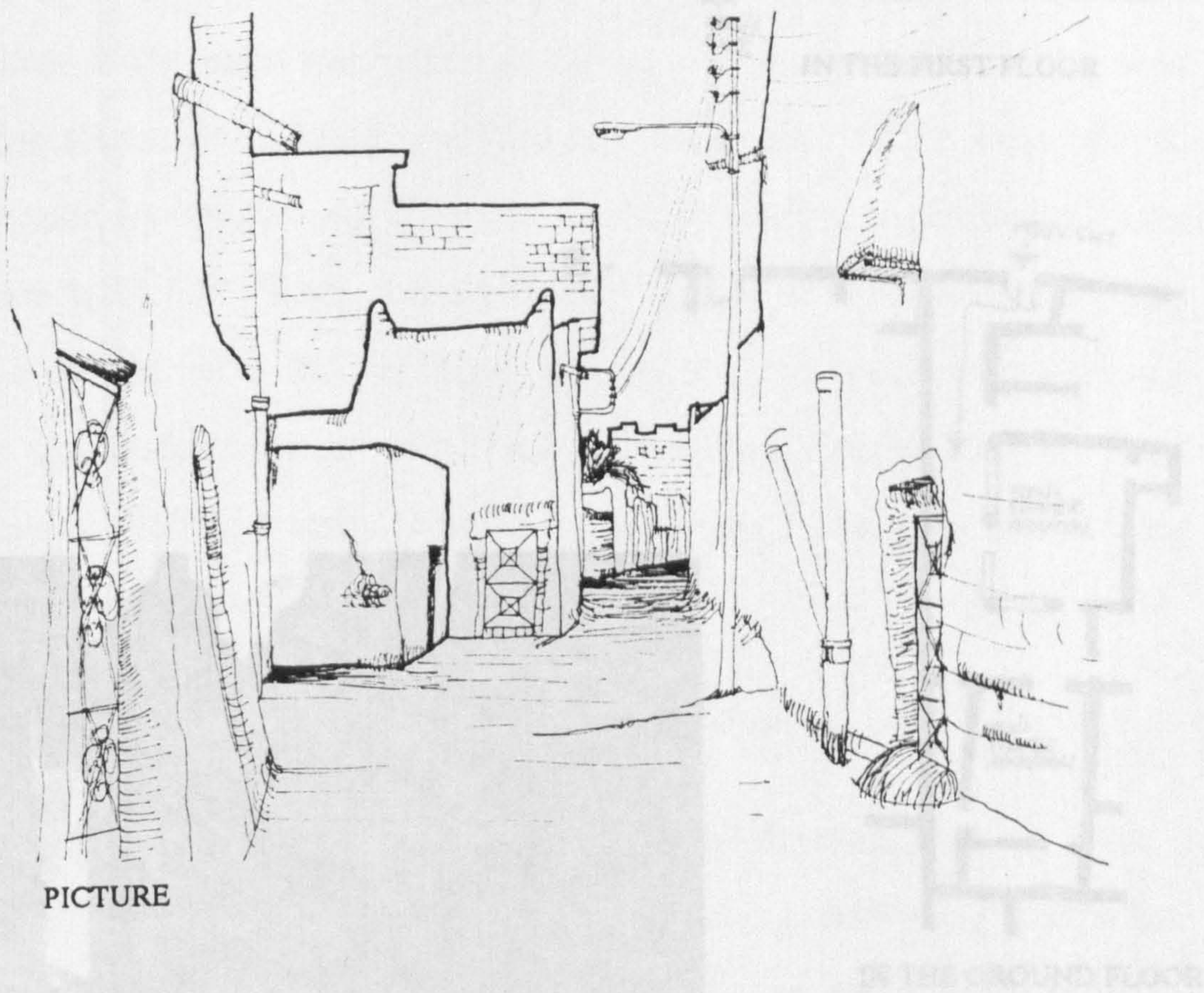


3.48 Most walls near the men's entrance are decorated by drawings using the gypsum wall surfaces to reflect the symbol of welcoming. However, over some entrances there is a small and screened wooden box to allow the inhabitants to view the outside world without being seen which serves as a psychological barrier against unwanted intrusion (see Figure 3.15).

3.49 The men's reception room is usually located adjacent to the men's entrance, either on the ground floor or on the first floor (see Figure 3.16). It is the most decorated room in the traditional house which is considered a manifestation of the owner's hospitality and his socio-economical status. Often one of the corners of the reception room is reserved for preparing tea and coffee by the owner in front of his guests. The corner is provided with a well decorated shelving unit and a horizontal fire place (see Figure 3.17). The richly decorated shelving unit is for arranging a large number of teapots, coffee pots, and cups which represent the power and the ability of the inhabitants to receive a large number of guests at the same time.

3.50 The gypsum surfaces wall of the reception room are usually decorated by drawings of some environmental symbols such as the moon, stars, and the palm trees. This indicates the influence of environmental features on the decorative motifs. The cycle of the moon is an event which is used for estimating the time, so it plays a major role in people's activities, whether yearly activities such as fasting and

Figure 3.16 Plan and section shows the possible location of the traditional men's reception.



PICTURE

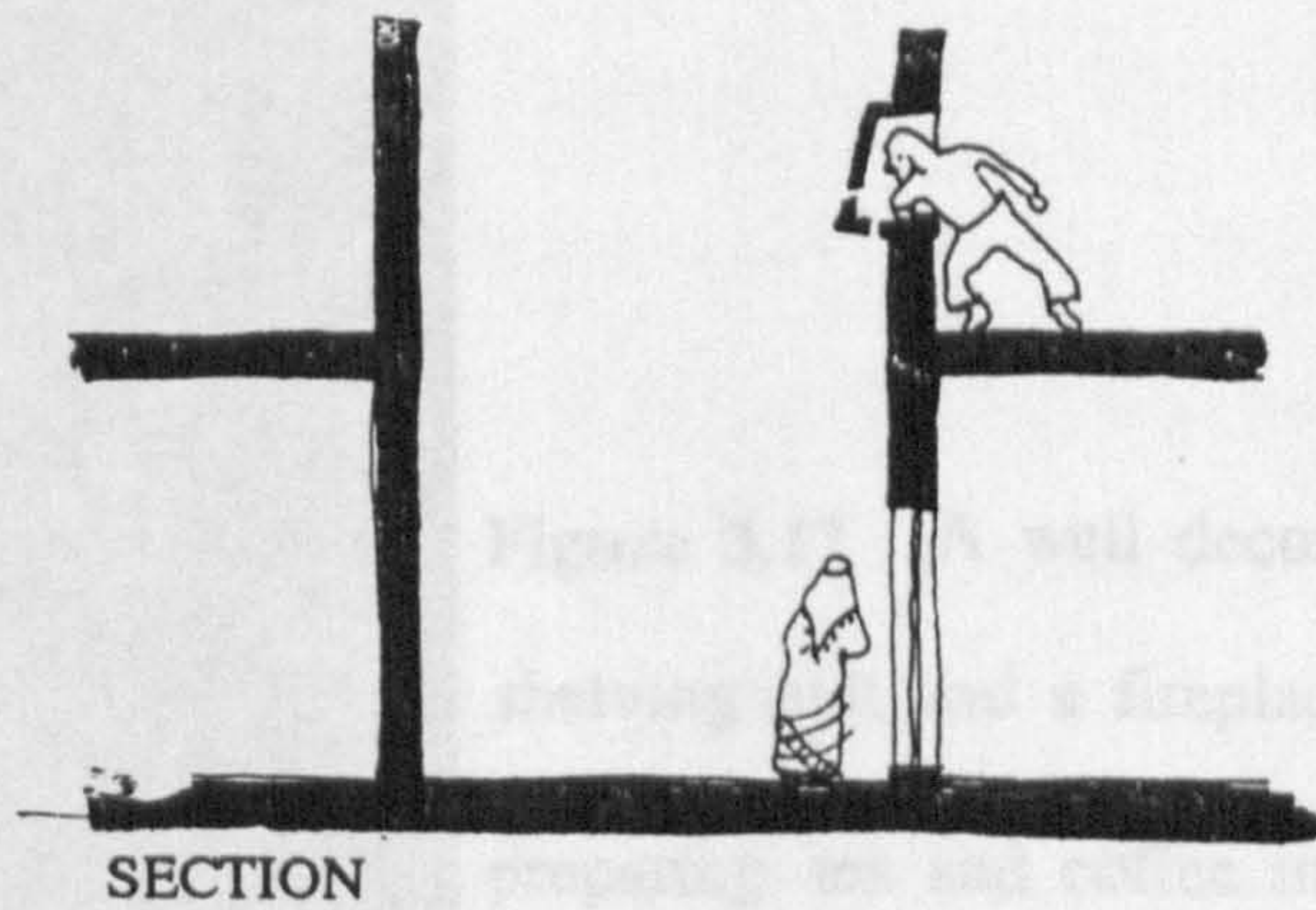
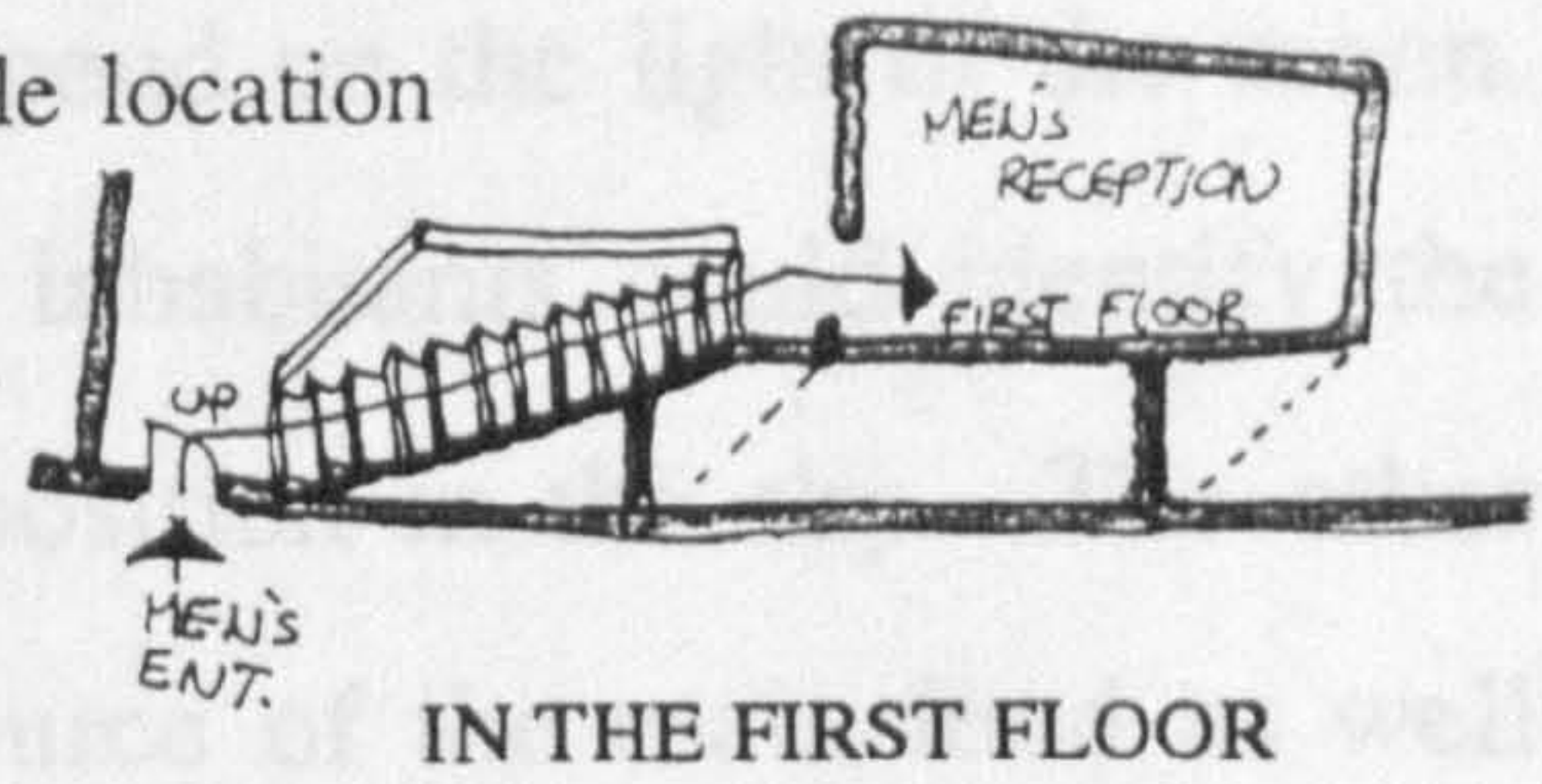


Figure 3.15

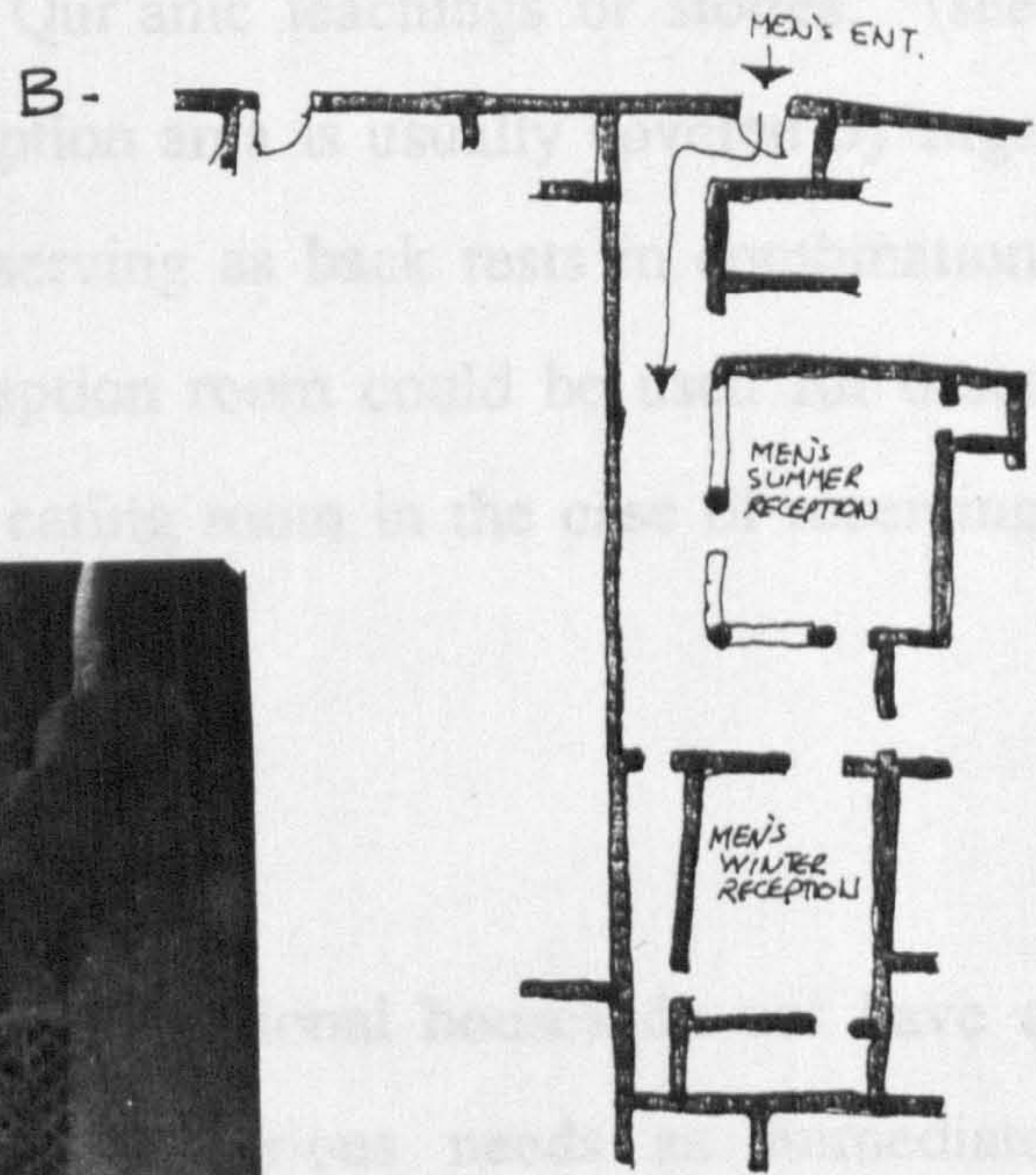
Picture and section showing the small and screened wooden box which is used as psychological barrier against unwanted intrusion.

Figure 3.16 Plan and section shows the possible location

of the traditional men's reception.



IN THE FIRST FLOOR



IN THE GROUND FLOOR

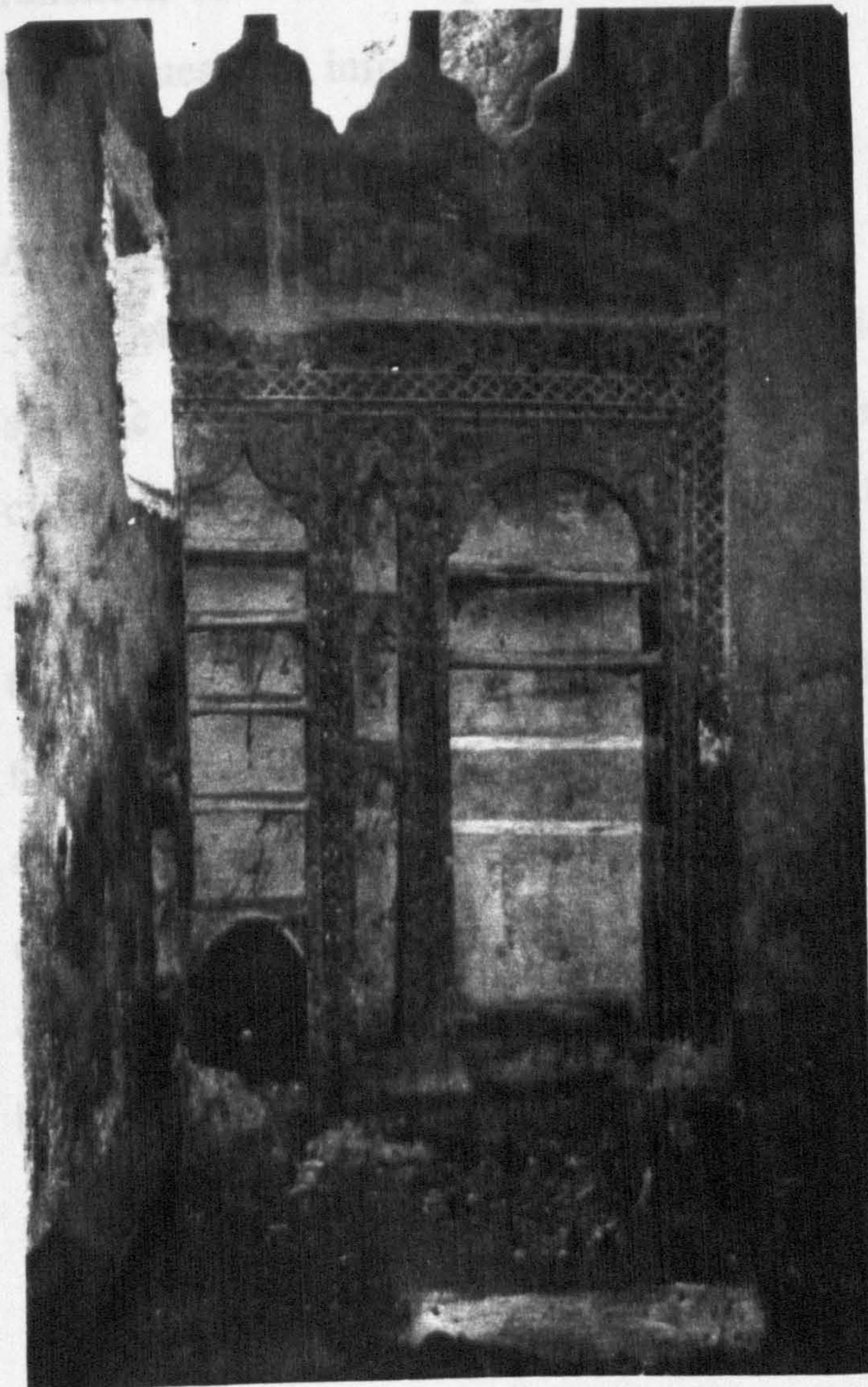


Figure 3.17 A well decorated shelving unit and a fireplace for preparing tea and coffee in the traditional men's reception.

pilgrimage or evening activities which depend on the light of the moon. The stars are used as beacons, so most inhabitants could identify the orbit of certain stars according to their position in the sky. The other element is the palm tree which is the source of the main food as well as the source of building and furniture materials. Other walls maybe decorated by the writing of some Qur'anic teachings or stories. (see Figure 3.18). The floor of the reception area is usually covered by rugs to sit on and some hard cushions serving as back rests in combination with the horizontal rugs. The reception room could be used for other functions such as a sleeping or an eating room in the case of receiving a few guests or informal visitors.

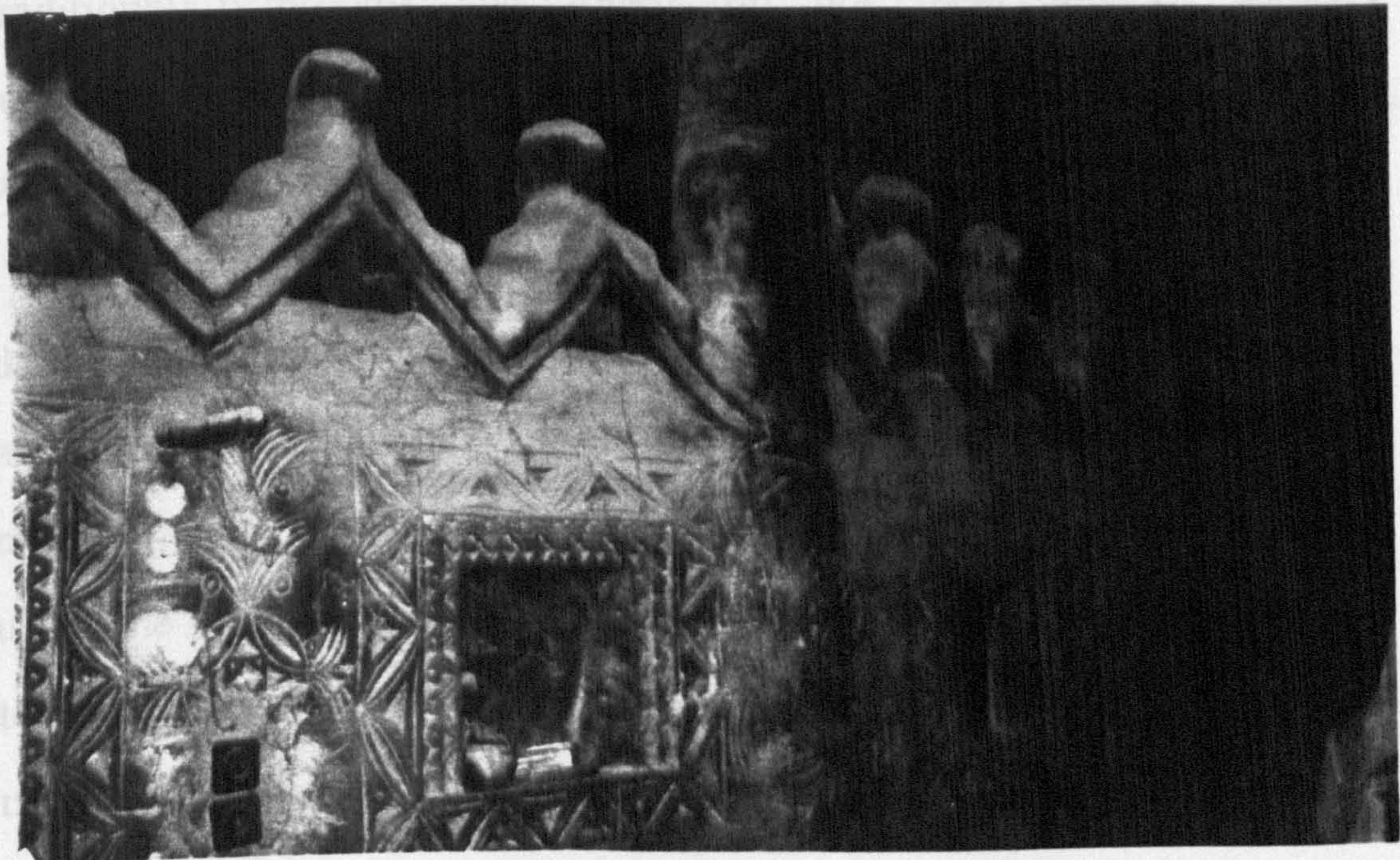
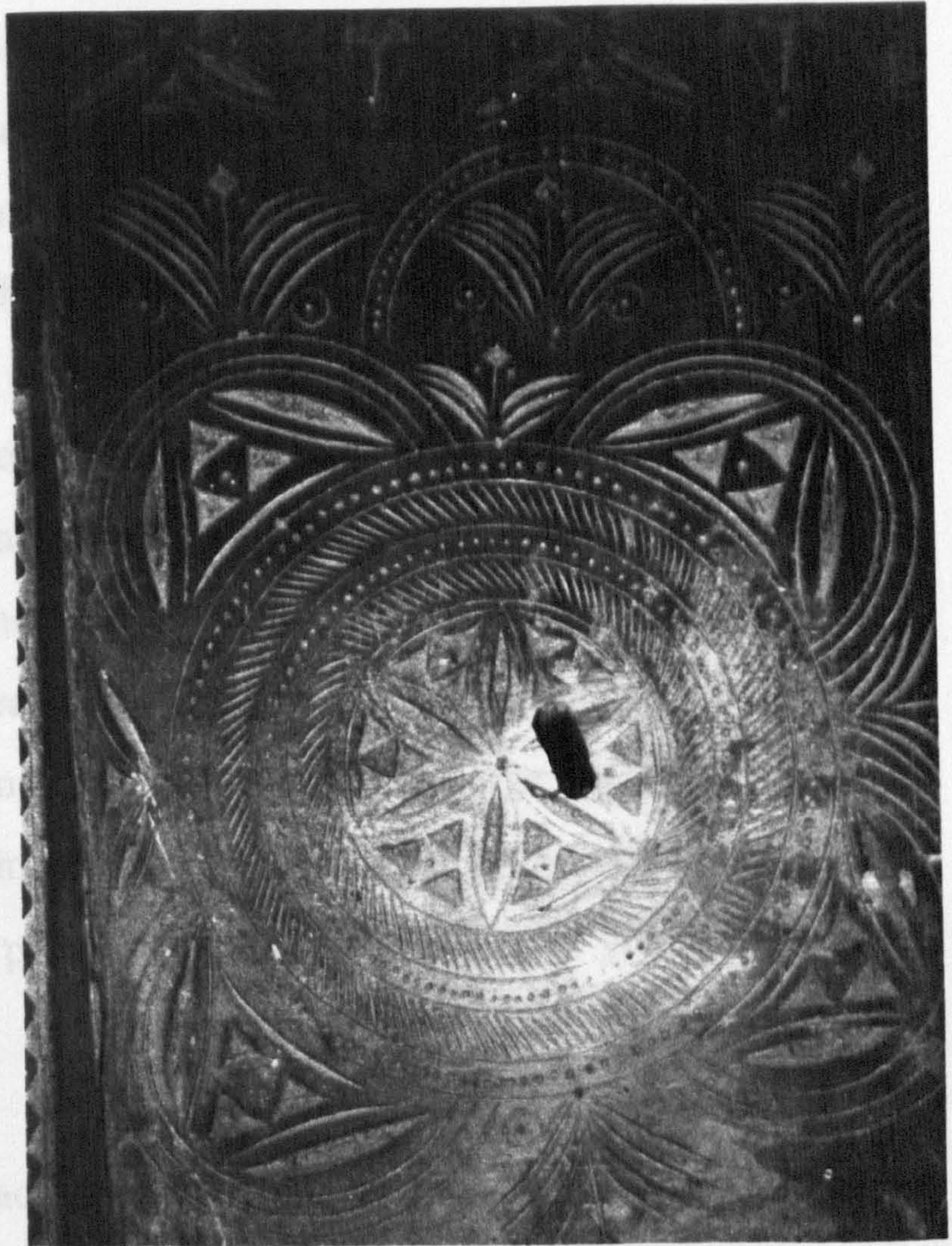
Family Domains

3.51 Most spaces and rooms in the traditional houses do not have a specific function. Spaces could fill various needs as immediate circumstances dictated. The flexibility of a living space depends on the simplicity of furniture and the availability of storage spaces. Difficult-to-move furniture such as sofas, tables, or heavy beds did not exist in the traditional houses. At night one could sleep in a certain room using a foldable mattress which could be folded away in the morning for daytime activities (see Figure 3.19). However, there were certain spaces which were used for specific activities such as the kitchen and the bathrooms.

3.52 The kitchen is used for cooking activities only, while the

Figure 3.18

Two examples showing that the gypsum wall surfaces of the reception room are usually decorated by drawings of some environmental symbols.



preparation of the ritual coffee and tea takes place in another area such as the men's reception area. There was no running water nor modern cooking equipment such as a sink, dishwasher, and stove but it was provided with a little furniture such as some shelving units on the wall for dishes, and bread stove is called a tannor. Light and ventilation for the kitchen (as well as for the men's reception area) are obtained through clearstories and Alkashafeh which is the horizontal window in the upper ceiling of the kitchen or the reception area (see Figure 3.20). The storeroom for grain is always located adjacent to or within the kitchen area. Cooking and preparation for large meals for religious celebration and wedding parties is carried out in the courtyard adjacent to the kitchen, using pots large enough to contain a young camel or a number of goats.

3.53 The other spaces are the bathrooms and toilet. In general, traditional bathrooms and toilets do not meet modern sanitary requirements because of the lack of appropriate building materials and water shortages.

3.54 The toilet is built as a small box (about one square meter) raised about three steps above the floor level. It has no door since its entrance usually faces a blank wall and when some one would like to use it, he or she usually asks "is there anybody inside?" before entering to ensure the privacy of the users. The toilet is usually designed with no running water. It consists of a small hole located in the middle of

its floor which represents
the Islamic requirement
W.C. for the meeting

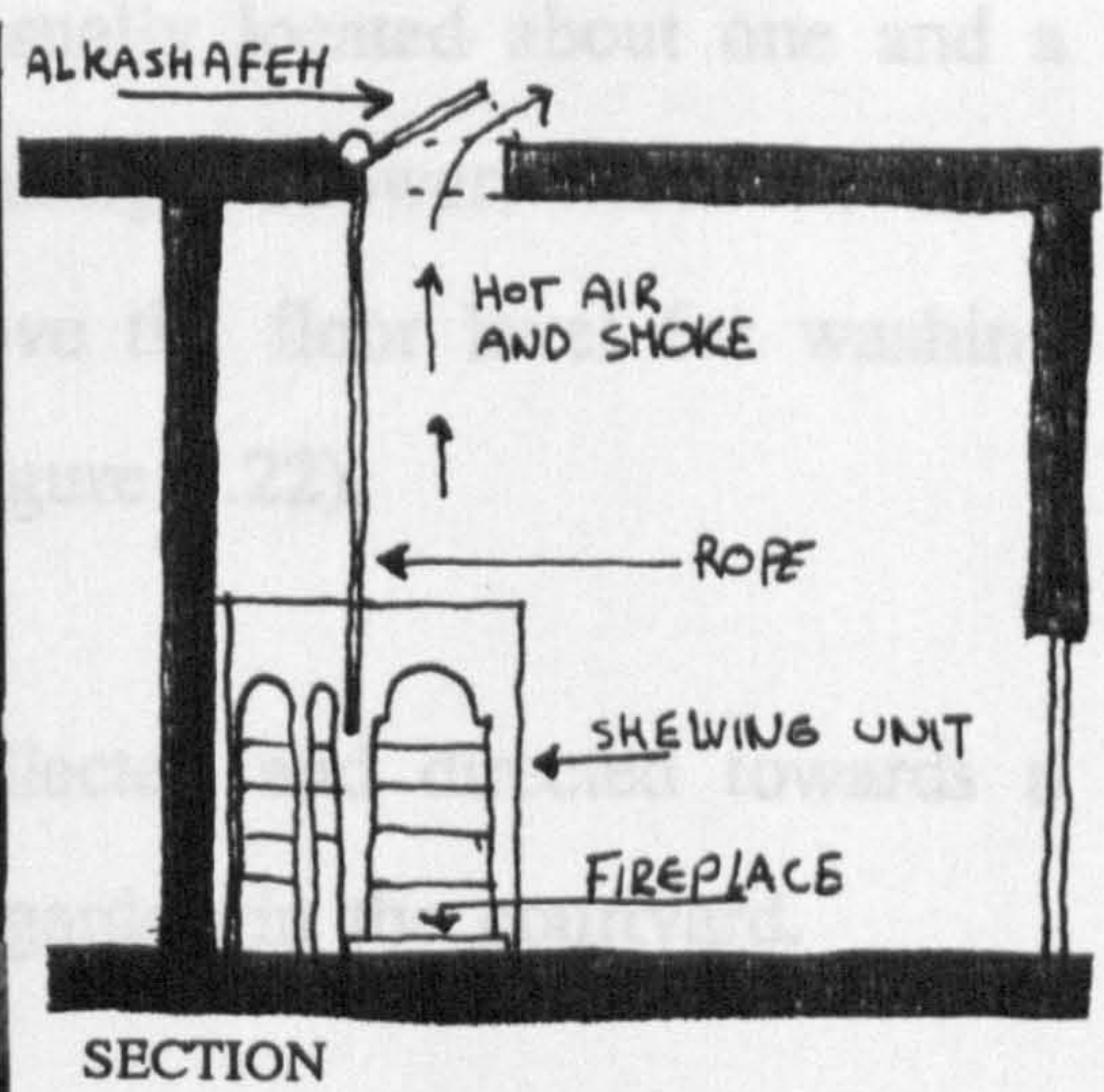
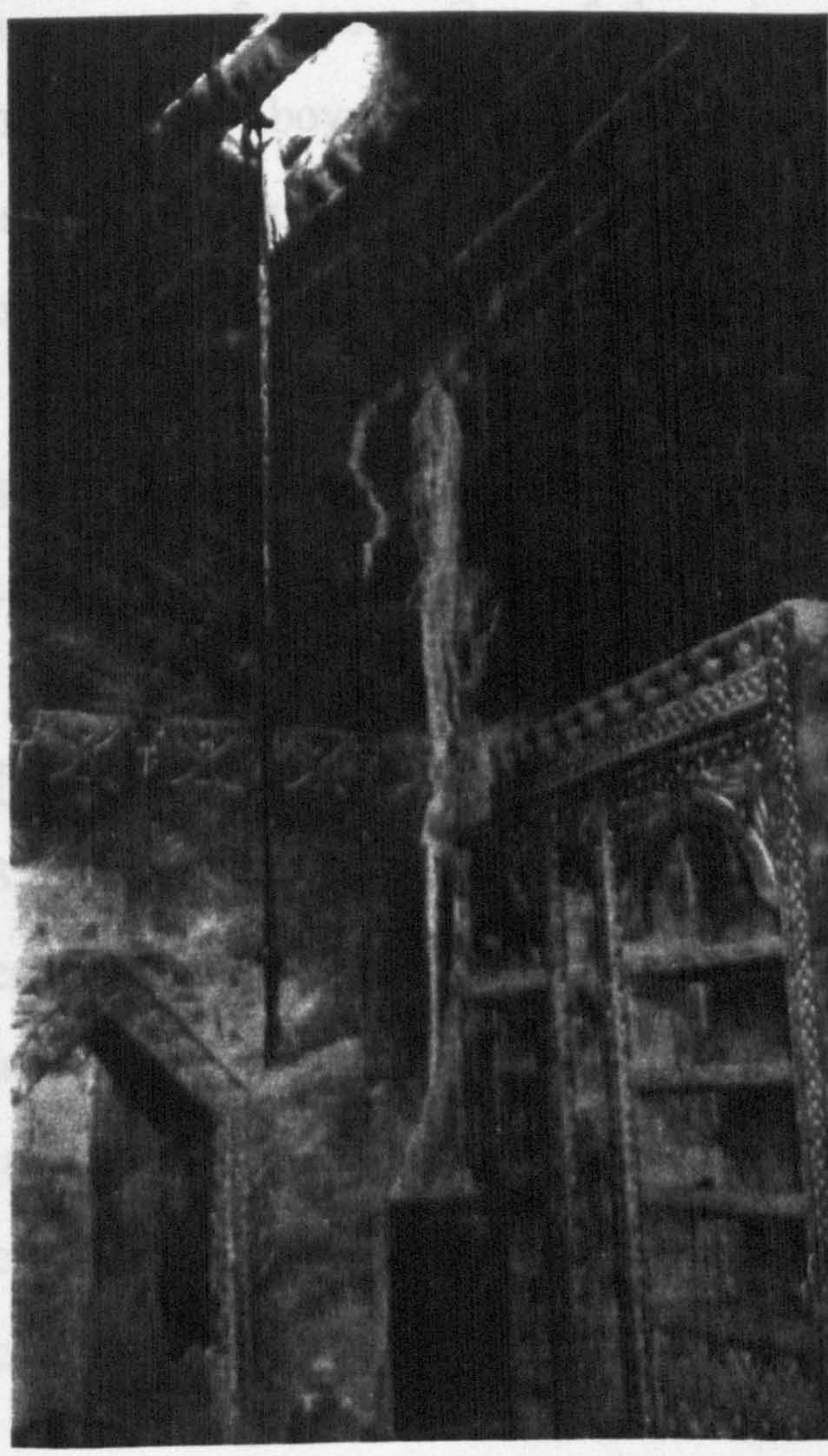
3.55 The waste of the
a small opening located

3.56 The bathroom is

for regular ablutions before performing certain prayers. The bathroom
consists of two solid stone pots with a small hole called a garyz used as



Figure 3.19 Traditional furniture of the sitting area.



SECTION

according to daily and seasonal

Figure 3.20 Section and picture showing Al-kashafah as a source of light and ventilation.

daily occasions such as family

its floor which represents the seatless lavatory in order to match with the Islamic requirement which insists that the body should not touch the W.C. for the meeting of purity and cleanliness requirements.

3.55 The waste of the toilet can be taken every three months through a small opening located at one of its sides (see Figure 3.21).

3.56 The bathroom is the place where one can take a bath or is used for regular ablution before performing certain prayers. The bathroom consists of two solid stone pots with a small hole called a garo used as a storage of water. One of them is usually located about one and a half meters above the floor level for taking a shower, while the other is located about thirty centimetres above the floor level for washing hands, clothes, and for ablution (see Figure 3.22).

3.57 The waste water is usually collected and directed towards a specific drain and into a small tree or garden in the courtyard.

The Roof Of The Dwelling

3.58 The roof is, traditionally, used according to daily and seasonal cycles of activities. At night during the summer season, the roof is used as a sleeping area, while in the afternoon, during the winter season it is used for sunning. Furthermore, it provides a space for hanging clothes lines as well as a spot for other family occasions such as family ceremonies, celebrations, and wedding parties.

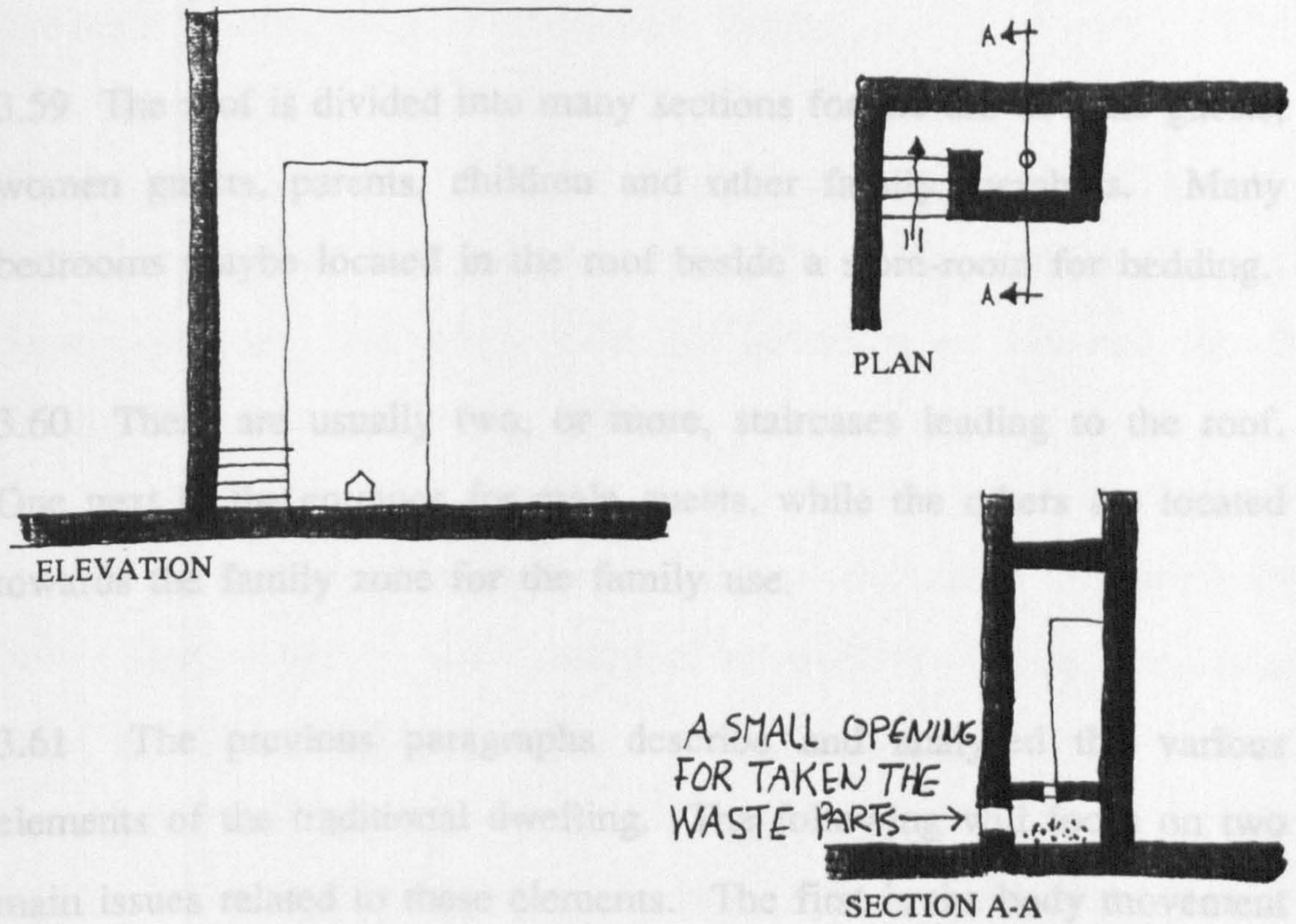
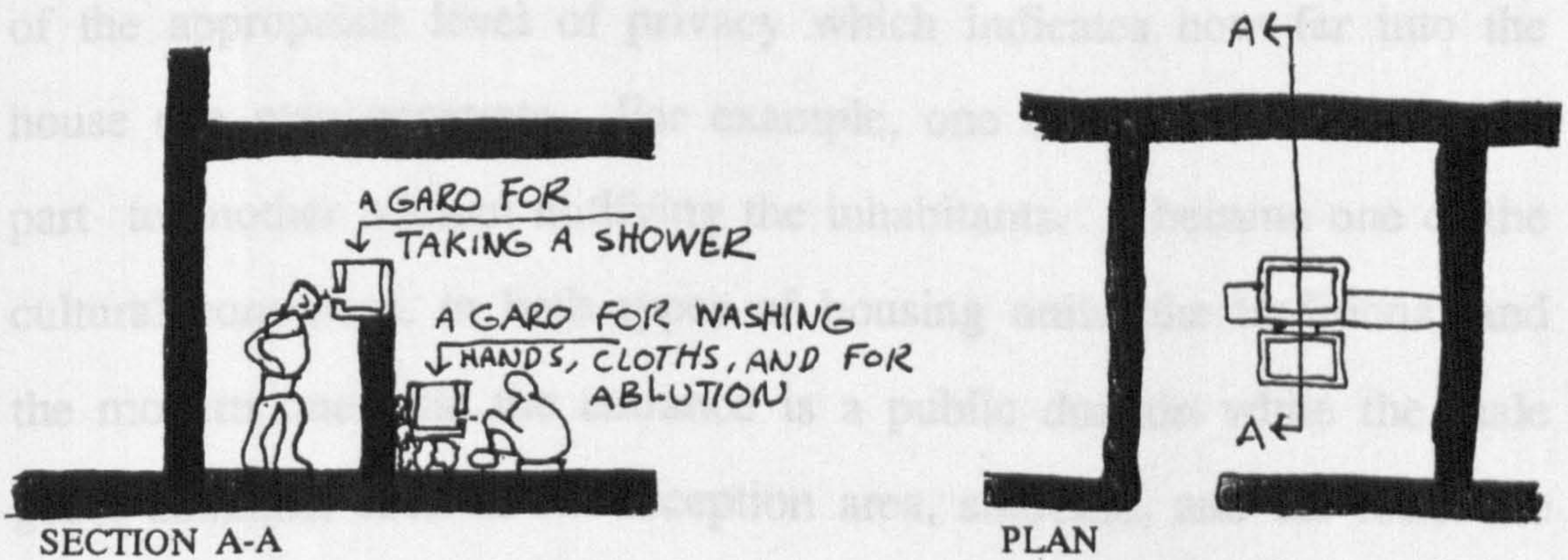


Figure 3.21 Plan, section, and elevation of the traditional toilet.

Body Movement And Level Of Privacy

3.62 Inhabitants, relatives, and visitors are expected to be seen altogether inside a certain house at a certain time or occasion.

Figure 3.22 Plan and section of the traditional bathroom.



3.59 The roof is divided into many sections for the use of male guests, women guests, parents, children and other family members. Many bedrooms maybe located in the roof beside a store-room for bedding.

3.60 There are usually two, or more, staircases leading to the roof. One next to the entrance for male guests, while the others are located towards the family zone for the family use.

3.61 The previous paragraphs describe and analysed the various elements of the traditional dwelling. The following will focus on two main issues related to these elements. The first is the body movement and level of privacy and the second is the flexibility of the traditional dwelling and its elements.

Body Movement And Level Of Privacy

3.62 Inhabitants, relatives, and visitors are expected to be seen altogether inside a certain house at a certain time or occasion. Relatives and visitors, either male or female, have a very accurate sense of the appropriate level of privacy which indicates how far into the house one may penetrate. For example, one can not move from one part to another without notifying the inhabitants. It became one of the cultural consensus, in both types of housing units, the traditional and the modern one, that the entrance is a public domain while the male guest domains, such as the reception area, staircase, and the toilet are

for male whether visitors, relatives or family.

3.63 The internal courtyard and living space is open for all females and male relatives and family as well. The multi-use room, kitchen, family reception, and family toilet and bathroom are elements for all females and the males of the family.

3.64 Finally, the bedrooms are the very private places for the family only. Other than the family, whether relatives or visitors, permission must be granted before entering a certain bedroom. In the case of movements of the male, whether inhabitant or relative, he usually notifies the female by saying "... is there anybody in front of me?", or any other saying to notify the females to cover their faces if they are not of the mahrem. According to the mahrem concept, as it mentioned previously, a man is allowed to see his aunt but not his cousins, and a woman is allowed to see her uncle but not her cousins and so on.

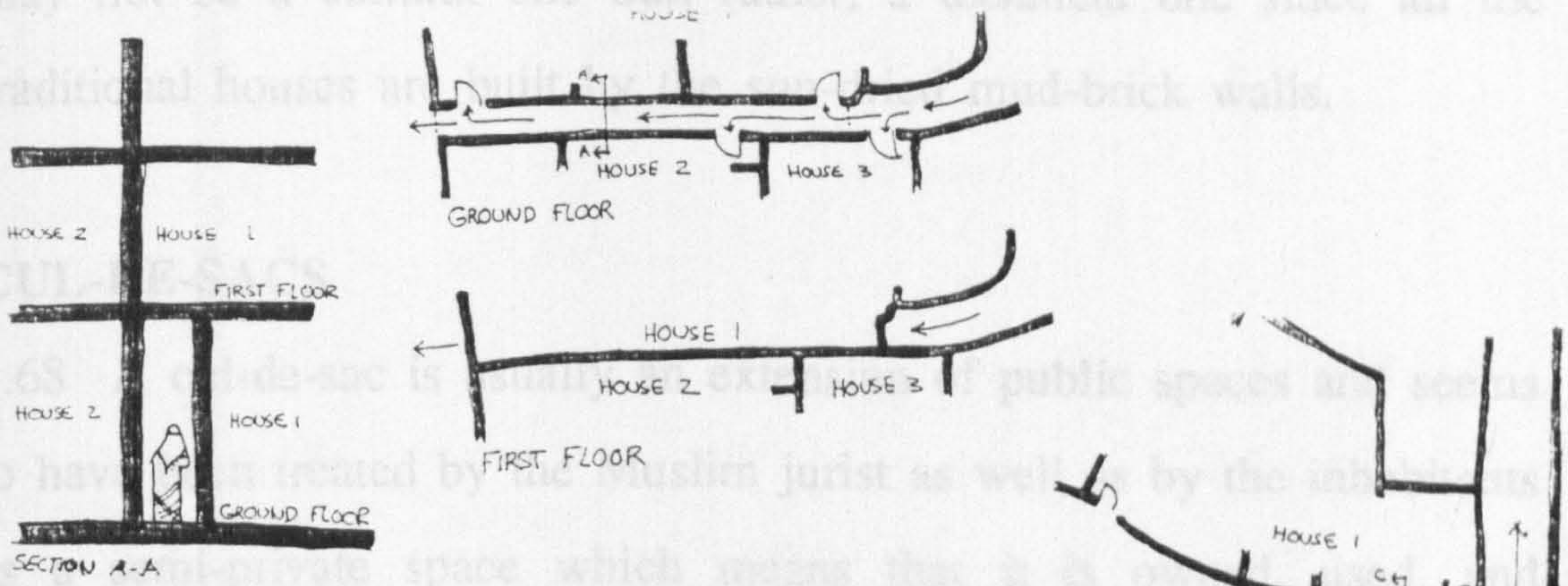
The Flexibility Of The Traditional Dwelling

3.65 Most of the traditional dwellings in the Central Region contained a large number of inhabitants based on the concept of extended families or on the concept of polygynous families, therefore, the elasticity and versatility of flexibility for change and the expansion of the principle house are applied in the traditional houses to accommodate family growth in different stages and to suit new conditions of life. Accordingly, the traditional house is never complete, as family size

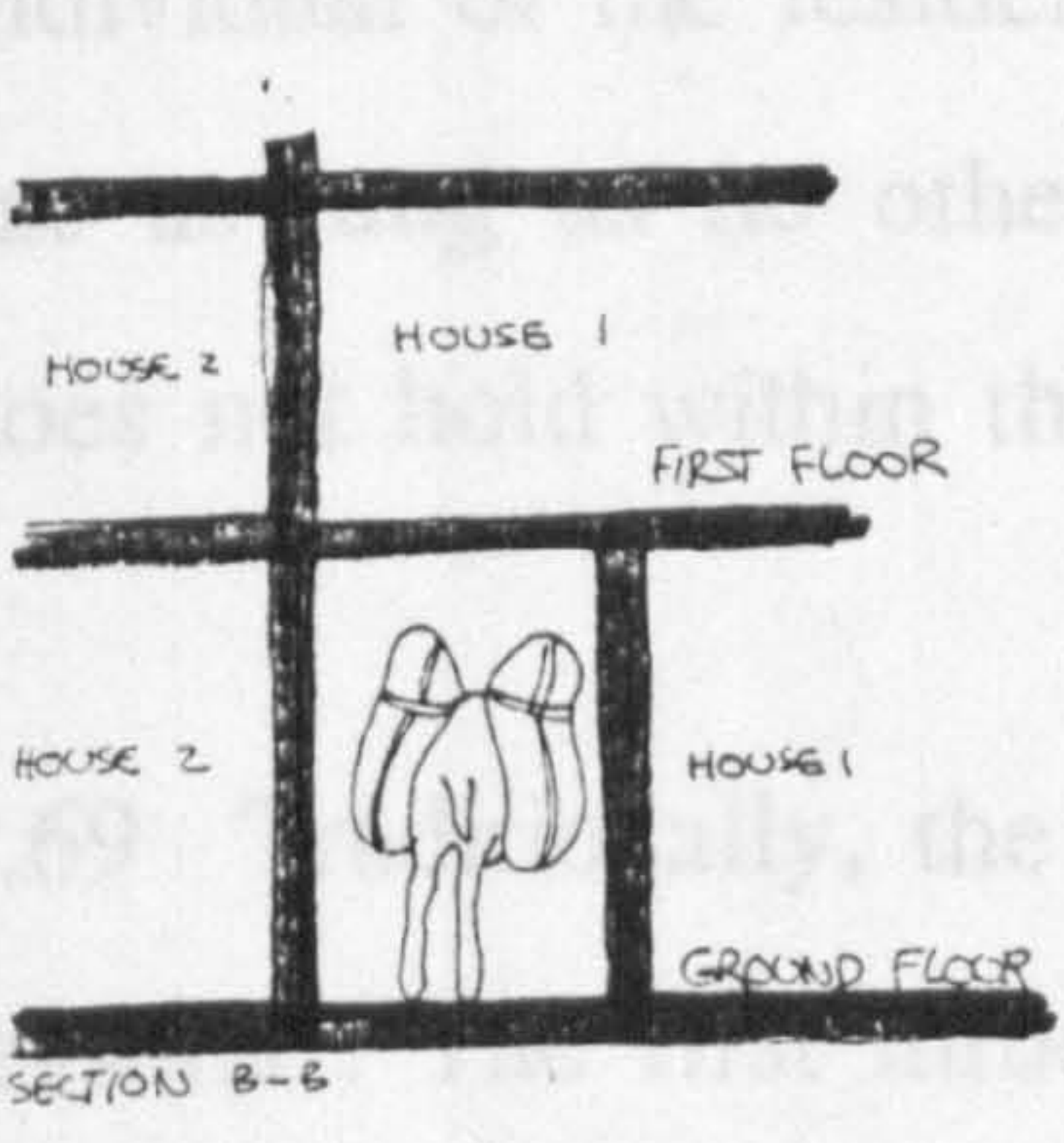
increases by marriage or birth. So does the house either horizontally though unused land or vertically on the roof. The extension of the house may extend to form Alkubah which is the covered part of a street or a cul-de-sac at the second level between two adjacent buildings (see Figure 3.23).

3.66 According to Muslim Jurists, residents may project a cantilever into the street if it is permitted by the other parties. Such as the adjacent neighbour and the other residents of the street or the cul-de-sac (Akbar 1984). As a result of this flexibility, most of the Central Region towns are characterised by the large number of alkubah which represents the solidarity of the residents which plays an important role in formulating the urban pattern of the neighbourhoods. Alkuba, in addition to its function as an extra room or space for certain buildings, provides public pedestrians with shade and a cool place to sit and relax in the summer time as well as a place for elderly people to gather.

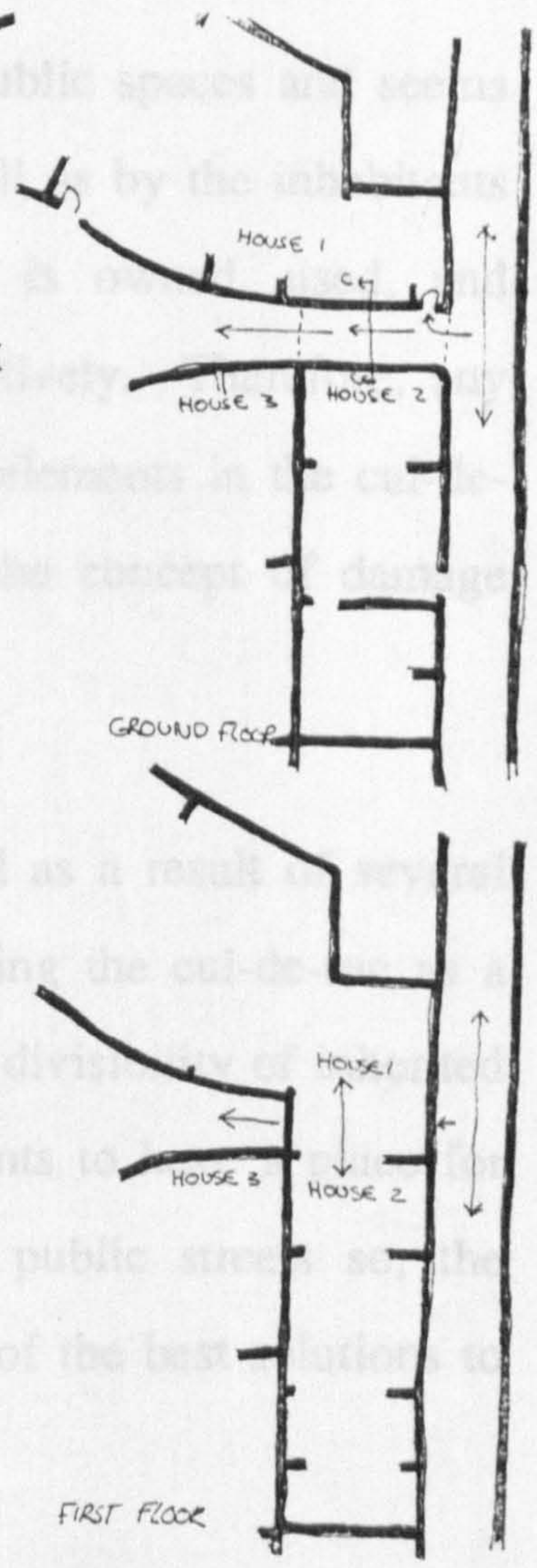
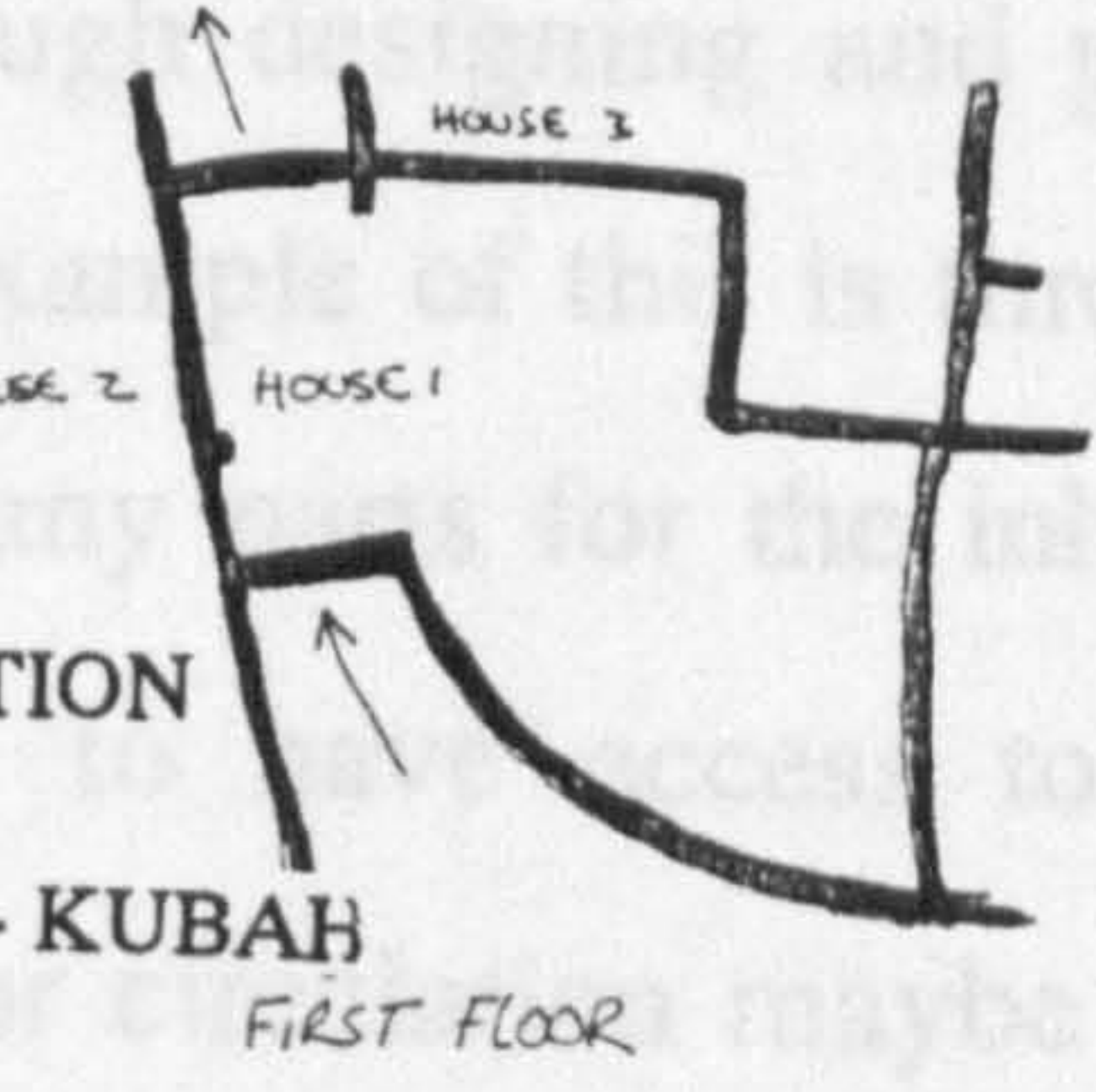
3.67 In terms of the building's height, Akbar (1984) concluded that there was no restriction on building heights since all the Schools of law emphasize that one has the right to raise his building as he wishes as long as he does not harm others by viewing and intrusion into the private life of the neighbours nor to erect a high building that would prevent the sun and the fresh air from reaching the neighbours courtyards. He also concluded that, this kind of law indicates that the reason behind the concept of low rise building in the Central Region



A - PLANS AND SECTION SHOWING THAT THE EXTENSION OF THE HOUSE NO. 1 EXTENDED TO FORM AL-KUBAH



B - PLANS AND SECTION TO SHOW THAT THE EXTENSION OF THE HOUSE NO. 1 EXTENDED TO FORM AL-KUBAH



C - PLANS AND SECTION TO SHOW THAT THE CONCEPT OF AL-KUBAH WAS USED TO CONNECT BETWEEN TWO ADJACENT BUILDINGS

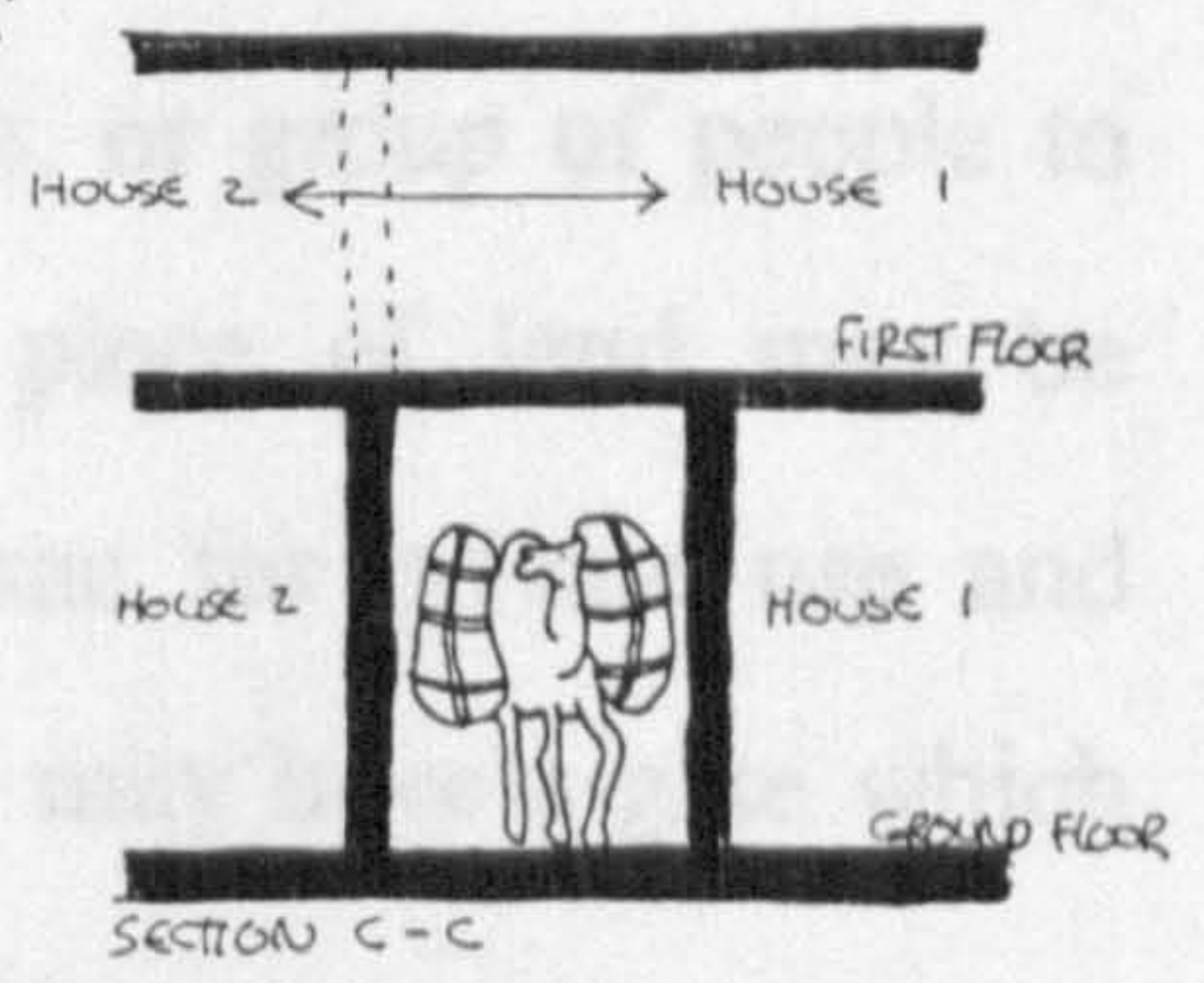


Figure 3.23 Plans and sections showing three examples of Al-kubah.

may not be a cultural one but, rather, a technical one since all the traditional houses are built by the sun-dried mud-brick walls.

CUL-DE-SACS

3.68 A cul-de-sac is usually an extension of public spaces and seems to have been treated by the Muslim jurist as well as by the inhabitants as a semi-private space which means that it is owned, used, and controlled by the abutting residence of it collectively. Therefore, any individual of the residence may act and change elements in the cul-de-sac as long as no other residents objects and the concept of damage does not hold within the area.

3.69 Traditionally, the cul-de-sacs were formed as a result of several reasons : The first through designing and planning the cul-de-sac as a need space. The first example of this is through divisibility of inherited land or a house into many parts for the inheritants to have a place for living. Each part has to have access to the public streets so, the concept of cul-de-sac for circulation maybe one of the best solutions to the problem (see Figure 3.24).

3.70 The second example is, the cul-de-sac may be formed for social needs such as the need of a certain family, tribe, or group of people to be close to each other, accordingly, a large piece of land may be subdivided and a part designated as a cul-de-sac for private use and movement. In cases such as this, the cul-de-sac may have a gate which

is usually closed at sunset for security reasons (see Figure 3.25).

3.71 The second reason for forming and creating cul-de-sacs is when the incremental growth of the city reaches the city fortification or the walls of one of the city's cemeteries. In these cases, the cemeteries and the fortifications may become one of the expansion limitations so, there is no other choice but to build houses around them (see Figure 3.26).

3.72 These cul-de-sacs mainly form behind the city walls for other reasons like a fortification or a cemetery wall being close to certain elements like a well or a tree.

3.73 The cul-de-sacs help people to have a semi-private space for their own use. In these cases, the people are not afraid for achieving their own goals. They are not worried when they are in the circular street with the gate because they are not in the immediate vicinity especially when the husband goes to work. It is the play area

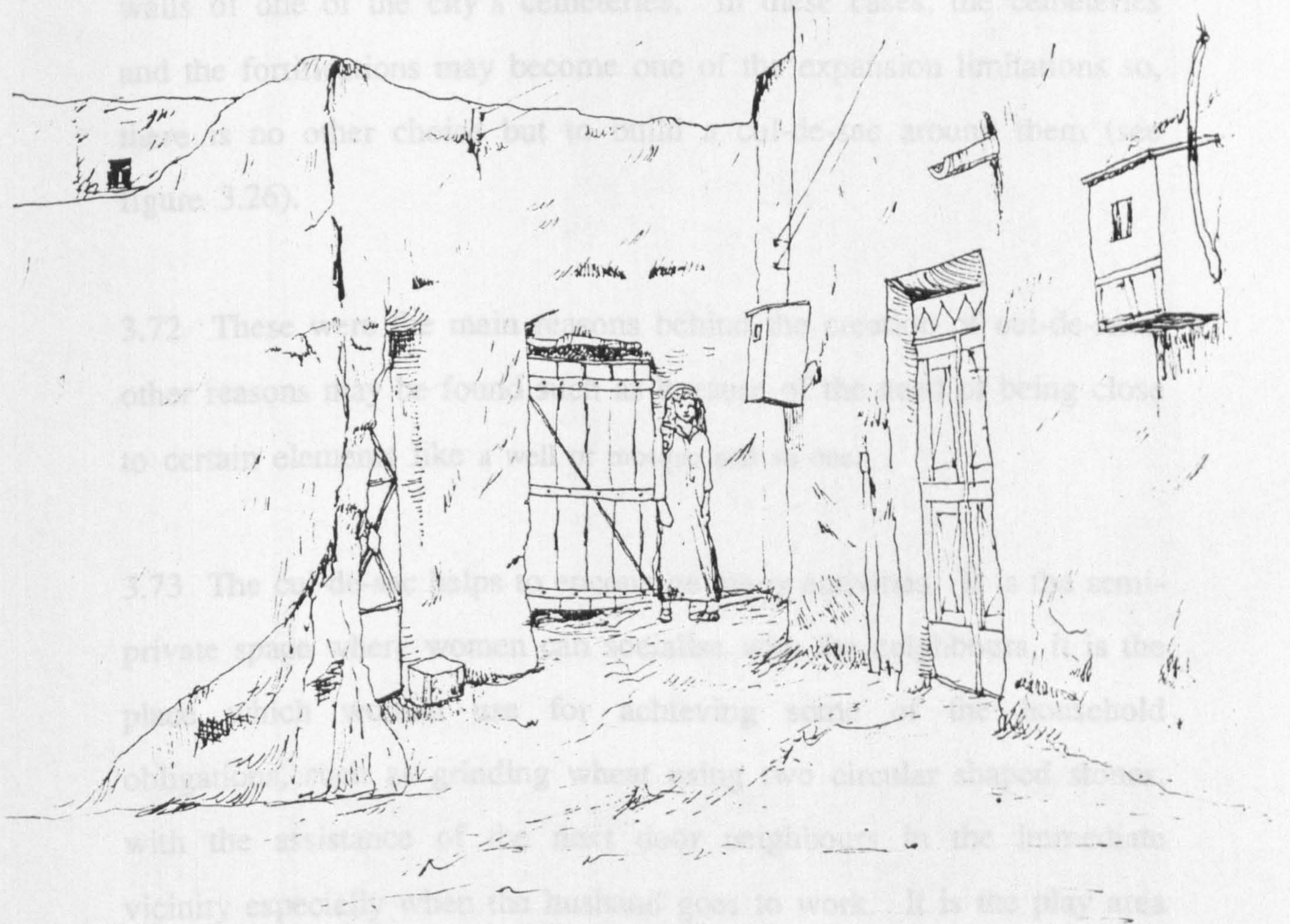


Figure 3.24 A cul-de-sac which resulted from dividing a large house into three small houses.

is usually closed at sunset for security reasons (see Figure 3.25).

3.71 The second reason for forming and creating cul-de-sacs is when the incremental growth of the city reaches the city fortification or the walls of one of the city's cemeteries. In these cases, the cemeteries and the fortifications may become one of the expansion limitations so, there is no other choice but to build a cul-de-sac around them (see figure 3.26).

3.72 These were the main reasons behind the creation of cul-de-sacs, other reasons may be found such as because of the need of being close to certain elements like a well or mosque and so one.

3.73 The cul-de-sac helps to encourage many activities. It is the semi-private space where women can socialise with the neighbours, it is the place which women use for achieving some of the household obligations, such as grinding wheat using two circular shaped stones, with the assistance of the next door neighbours in the immediate vicinity especially when the husband goes to work. It is the play area for small children where families can have direct visual contact with them to improve its supervision of the children's activities (see Figure 3.27). Therefore, cul-de-sacs are the private places which are protected from intrusion by the public and enjoyed by the people who share them.

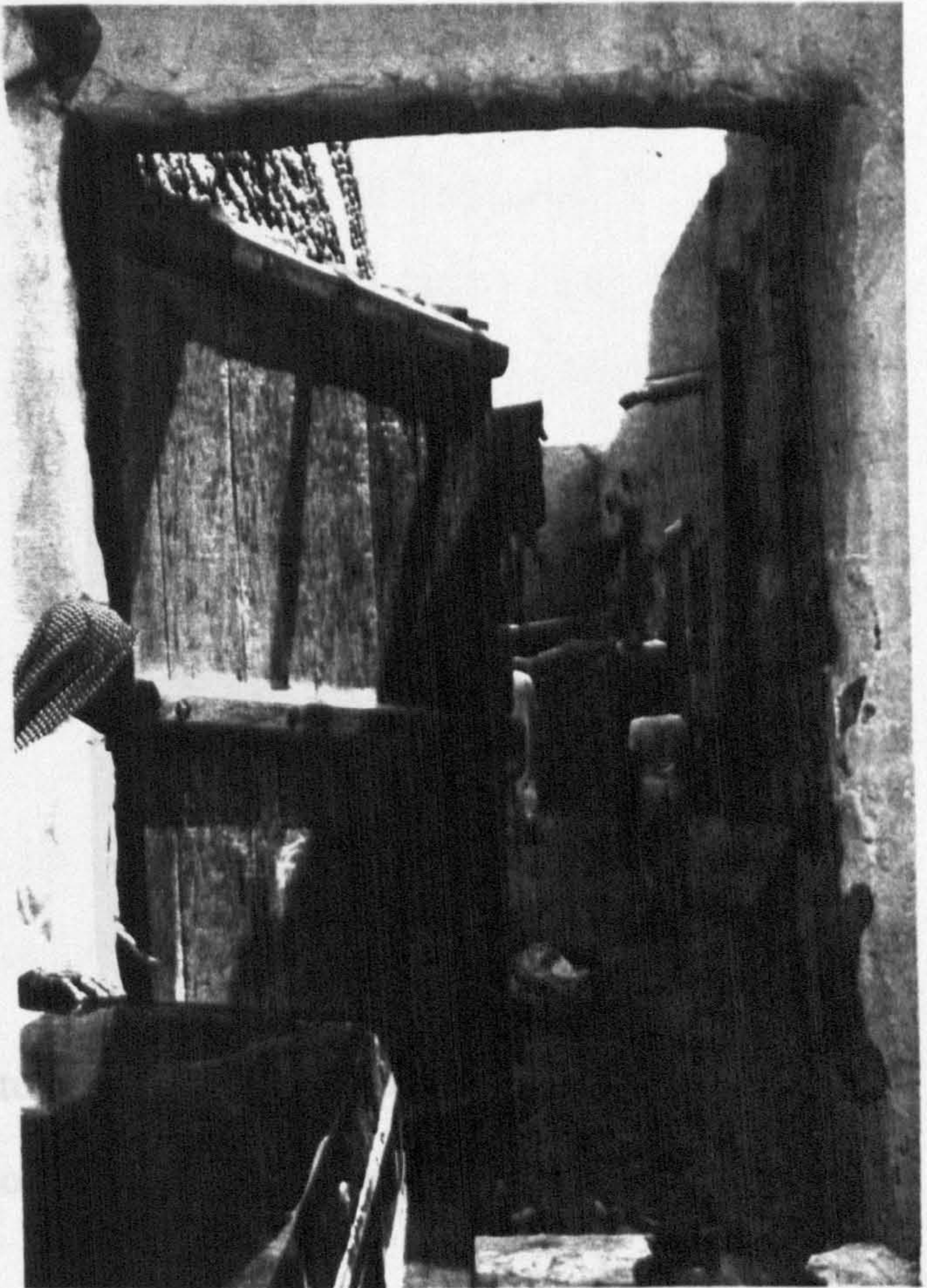
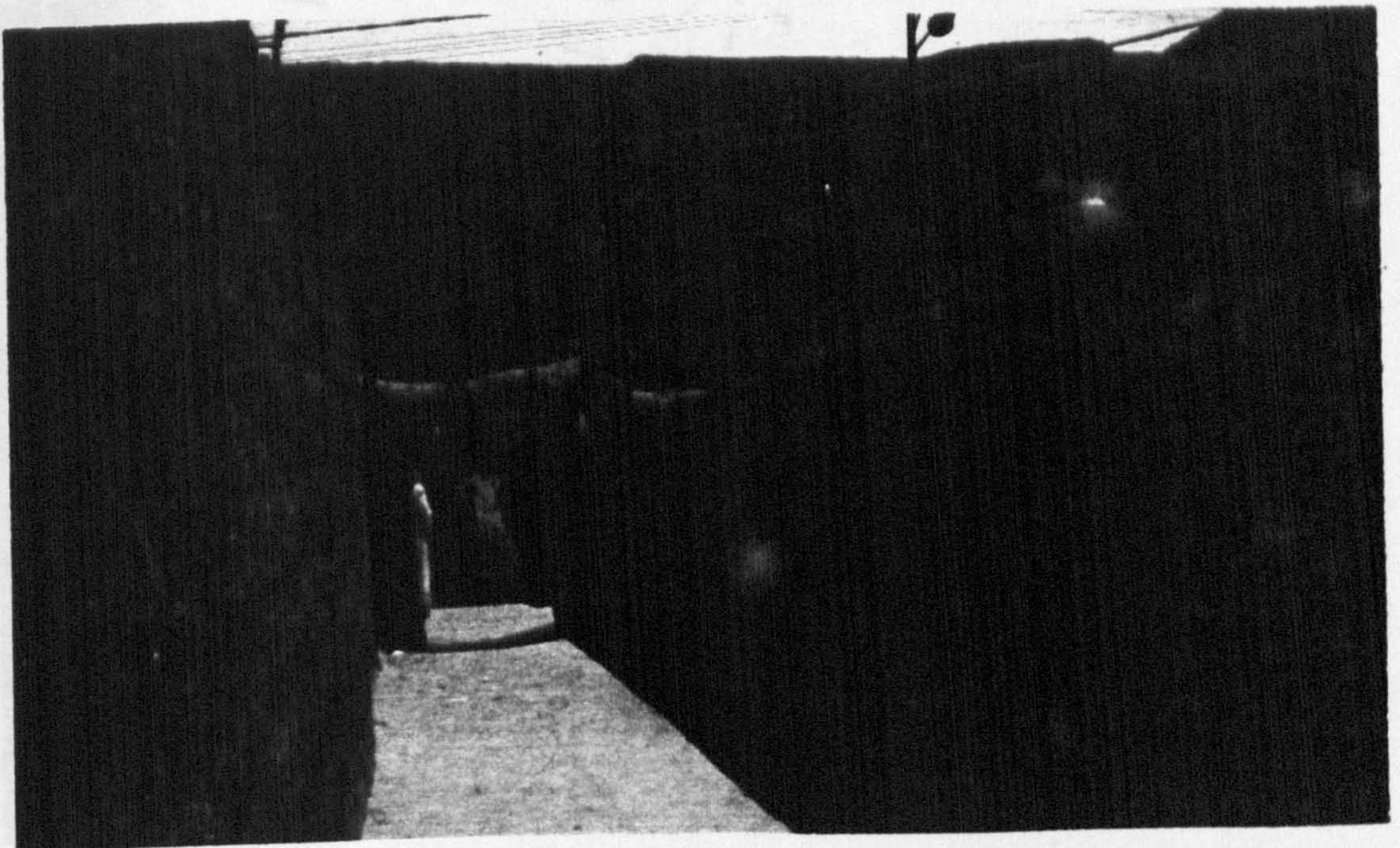


Figure 3.25

Two cul-de-sacs with gates taken from Al-Aflaj and Ayn Ibn Fuhayd.



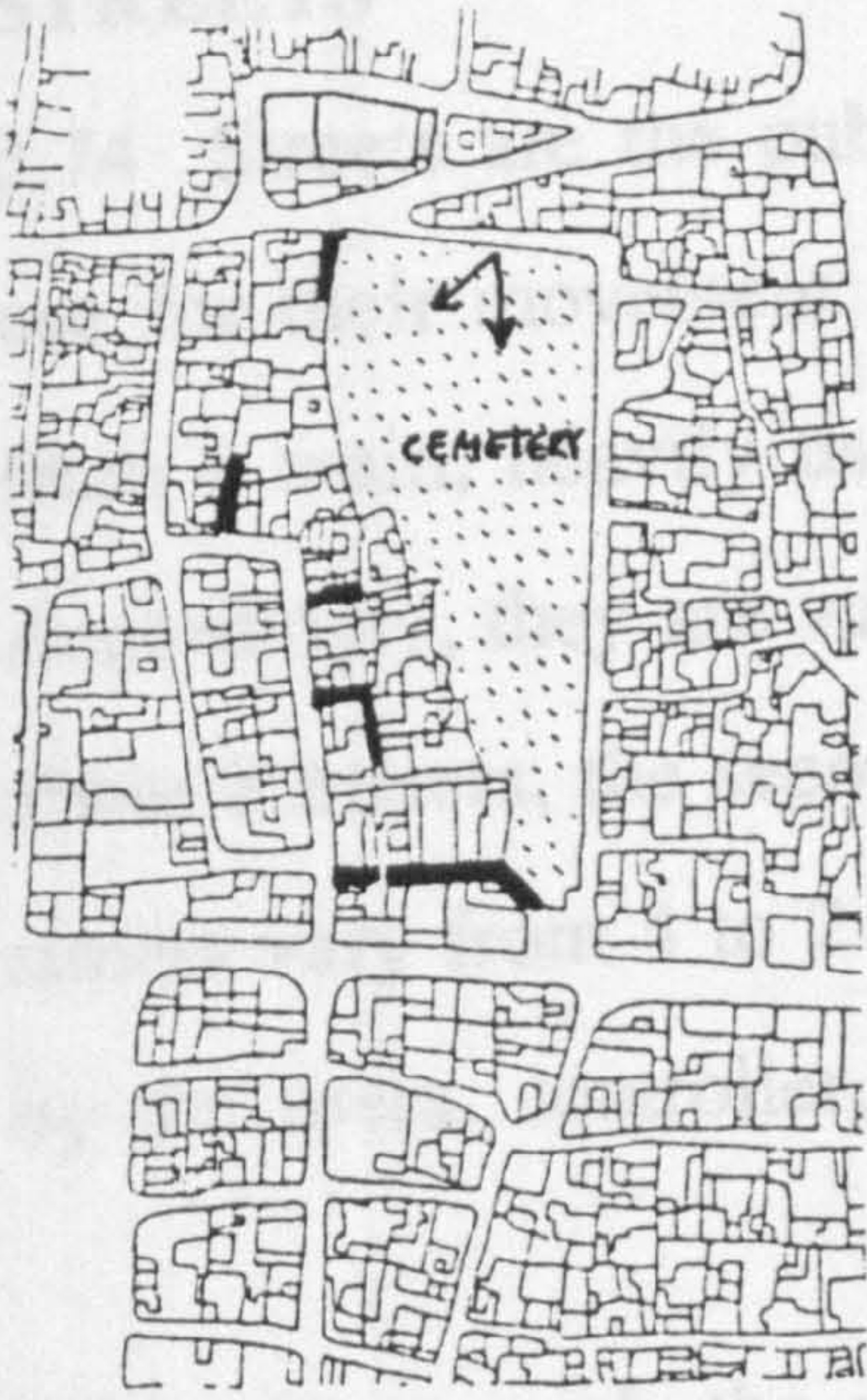
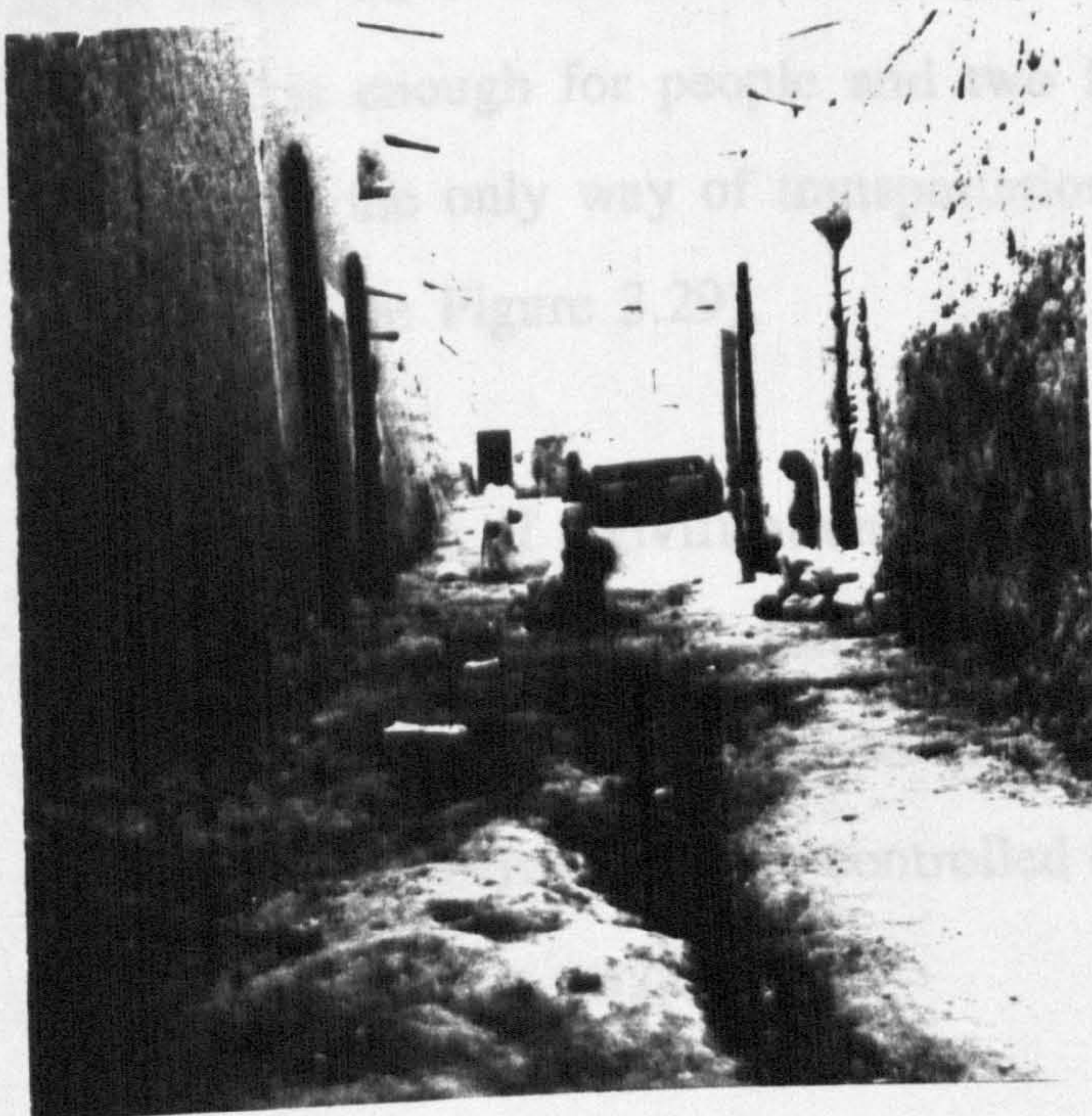


Figure 3.26

Plan and picture for houses built around cul-de-sacs as a result of the location of an old cemetery in Buraydah.

Figure 3.27

A traditional cul-de-sac used as a play area for small children.



STREETS

3.74 Streets are the public ways in which all people have the right to use for their movement. They are varied in their degree of publicness from a main, heavily used street to an isolated street with limited use. Accordingly, they are varied in their width. Mostly the main streets are about 8 meters, the secondary streets are about 6 meters, while the local streets vary from 4 to 2 metres or less depending on the decisions made by the users, controller, or others of a certain area (see Figure 3.28).

3.75 In general, the width of the street as well as its pattern was greatly influenced by the principle of revivification(Akbar 1984) since there is no one in the community or passersby who objects or disputes the decision. If there is dispute, the width then must be seven cubits (3.5 meters) as recommended by the prophet when he said "... when the people are at dispute on the width of the road, make it seven cubits". Seven cubits have been taken as a standard, when there is a dispute, because it is enough for people and two loaded camels to pass since camels were the only way of transportation used beside the pedestrian movements (see Figure 3.29).

3.76 The concept of revivification is the concept of ownership of dead-land by reviving it through cultivations or by building on it as it was stated by the prophet "... who gives life to a dead land, he will own it". The concept of revivification is controlled by many roles and conditions which is not of our concern here.

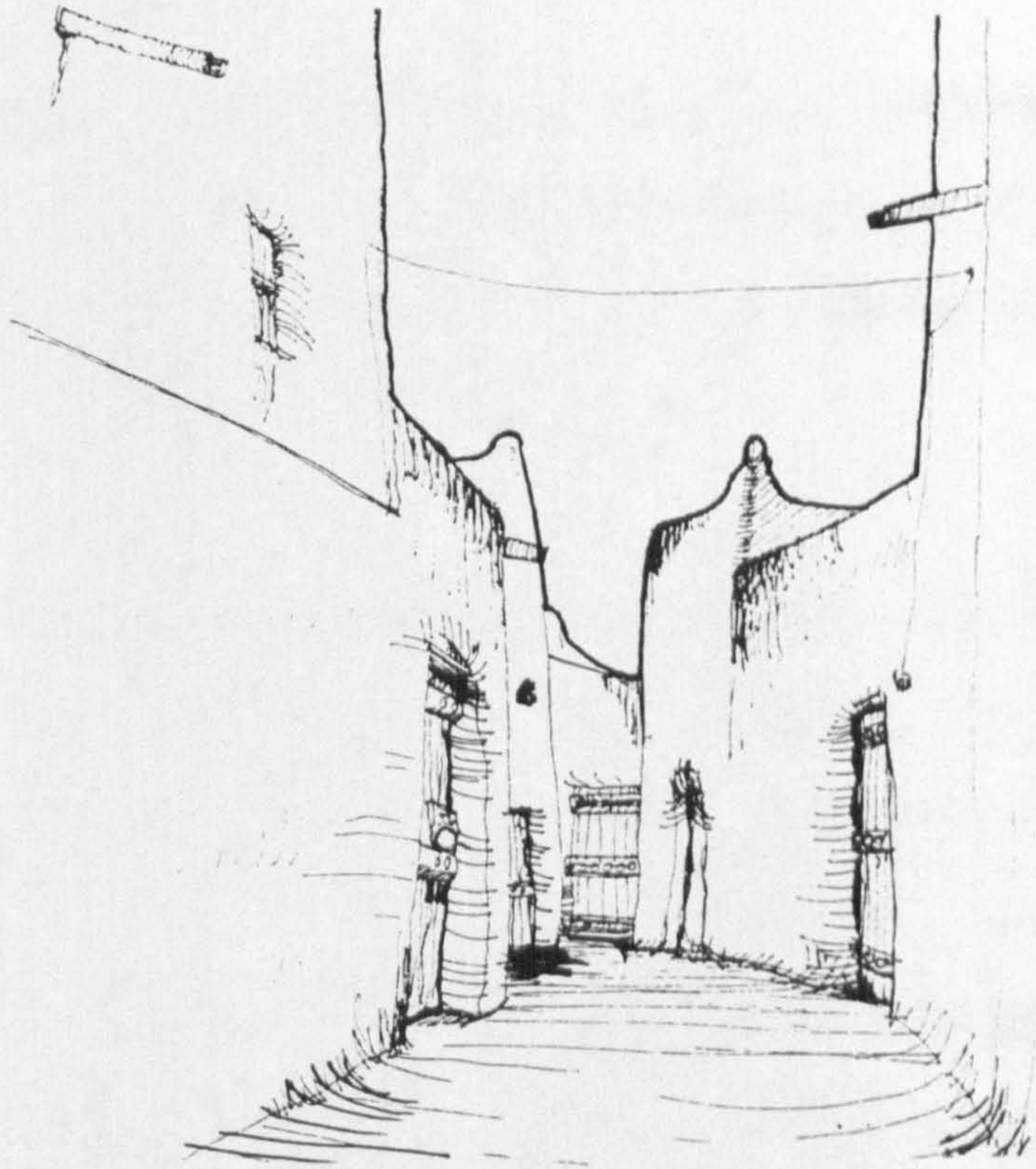


Figure 3.28

A picture of a typical traditional street.

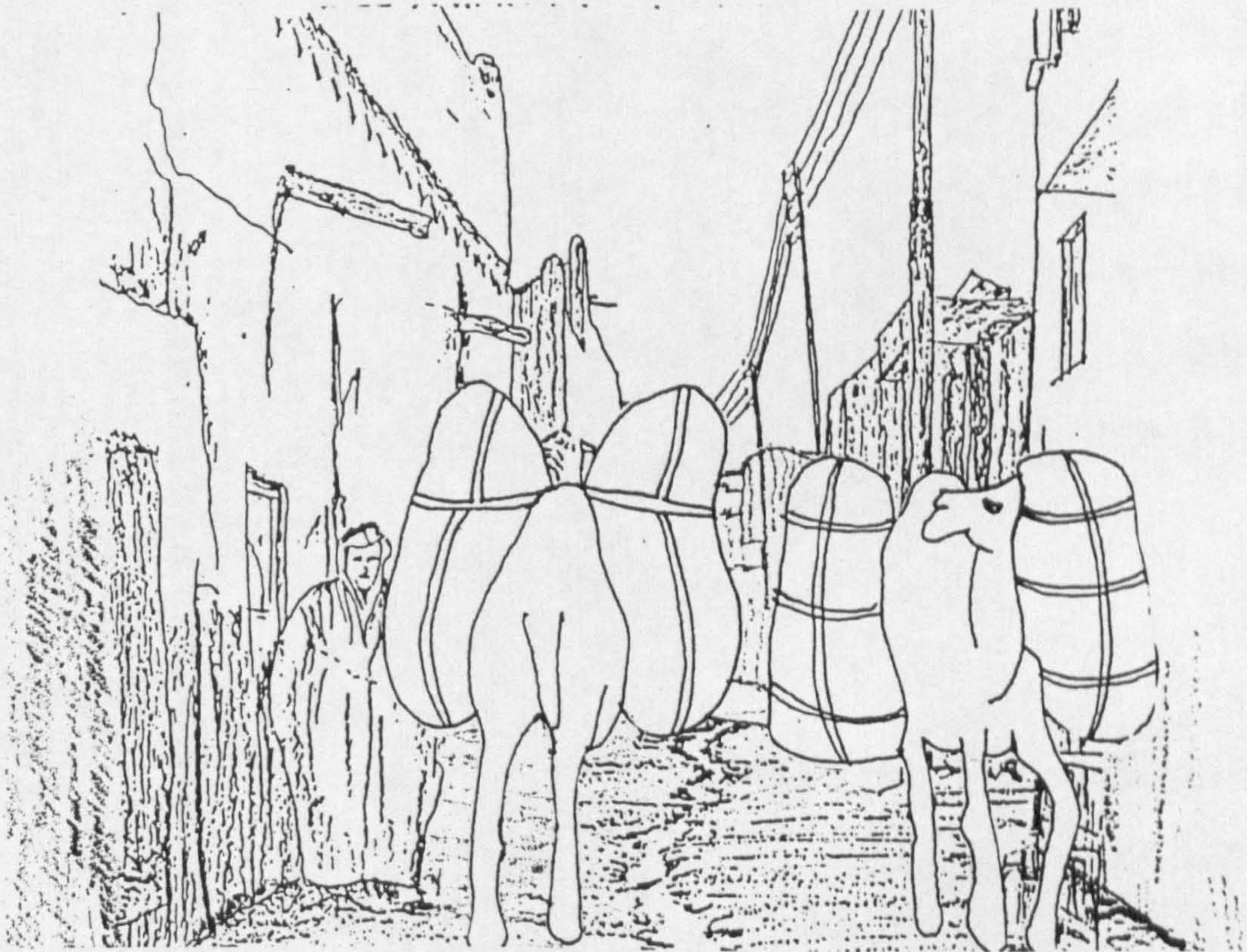


Figure 3.29

Camels were the only way of transportation beside pedestrian movement.

3.77 Most of the traditional streets are characterised by a comfortable enclosure since its wall dimensions are greater than the width of the street so the entire area is offering protection from the hot climate since most of the street is shaded most of the time.

3.78 The traditional public street has many functions other than channelling movements or providing light and ventilation for the buildings. It is the most active place which seems to correspond to an individual's life cycle stage. It is the desirable place for the children to play games and a visible place where teenage males congregate around its corners where they talk about their own worlds and play soccer. It is a place for old people to sit during the morning and late afternoon to watch the street's activities such as watching their children playing, running, and making a noise in addition to being close to their family life and enjoying the drink of fresh ritual coffee and tea whenever they wish (see Figure 3.30). As a matter of fact, the traditional streets are the setting for communal interaction relating to recreation, festivals and marriage celebrations and other various forms of social contracts.

SHOPS

3.79 Most of the traditional neighbourhoods are characterised by the mixed land use pattern which expresses the integration of the economic component into the fabric of the social, cultural, and physical

relationships.

3.80 Shops are one of the traditional elements within the neighbourhoods. They play a particularly important role within the economy of the towns. For example, small shops and general purposes retail stores provide necessary consumer goods for the neighbourhood residents while providing gainful work for the poor people as well as for the elderly (see Figure 3.31).

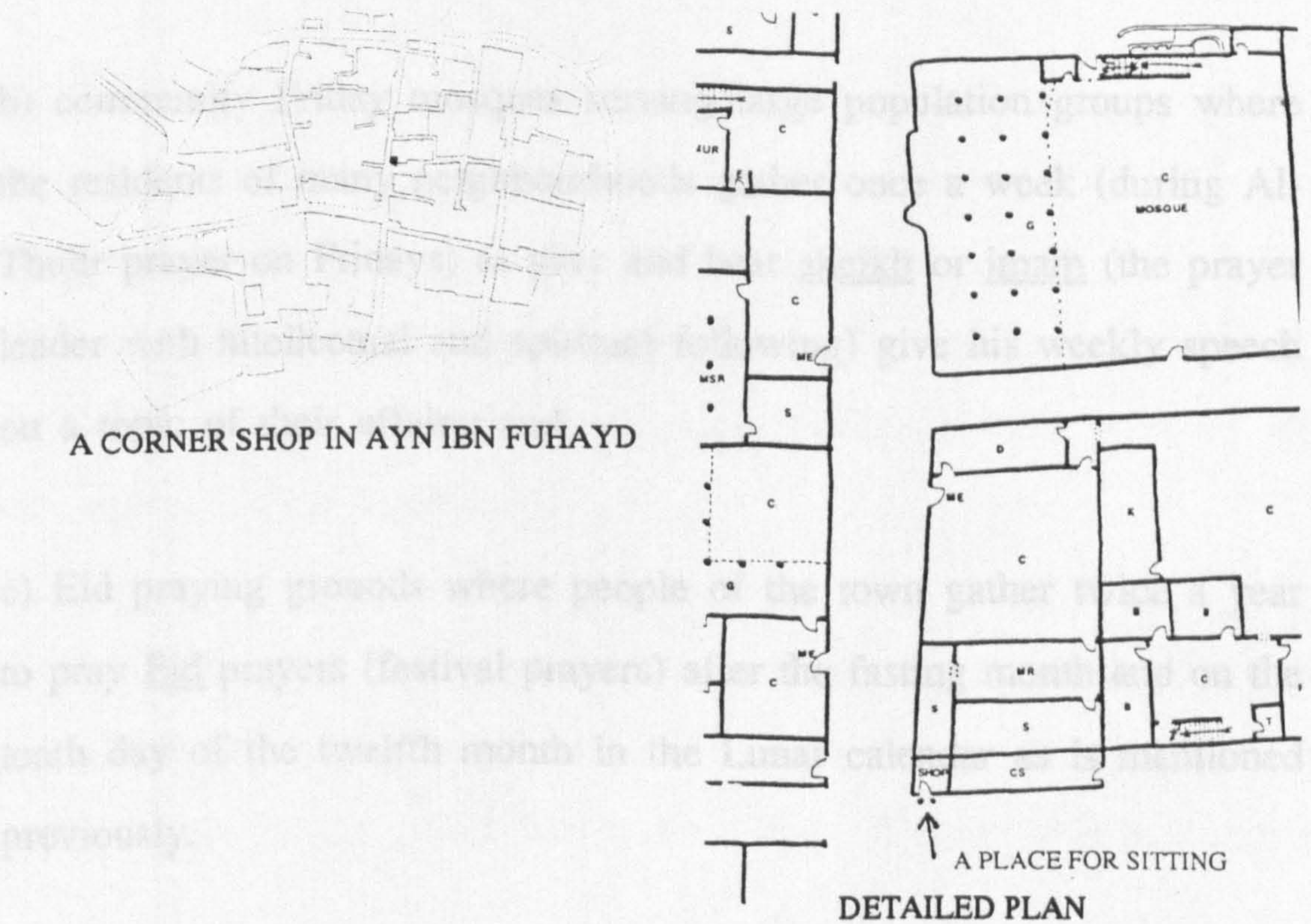
3.81 Traditionally, there is no clear cut regulations for establishing certain shops since the concept of damage does not hold within the community. According to the Muslim jurists, (as it mentioned in Akbar 1984), the owner of a certain building may transform a room of his house into a shop as he likes, since the shopkeeper and other people who sit with him do not affect the neighbour's privacy such as seeing what is in the house. So, if the shopkeeper is exposed to what is in the house, this does not include the case of exposing who is standing within the door, then the shop should be either swerved from the doorway or sealed.

3.82 Traditionally, the small shop, in addition to its economical function, is a place where the shopkeeper sits most of his time watching over his territory (Newman 1972). It is a place where most of the neighbourhood's teenagers and elderly usually gather in and socialise around it which is encouraged as it provides "eyes on the street"



Figure 3.30 Streets are places for old people to sit during the morning and late afternoon to watch the street's activities.

Figure 3.31 One of the traditional shops within the neighbourhood plan.



(Jacobs 1961) to keep their community safe. It is, therefore, a landmark for the inhabitants as well as a node where many activities exist.

MOSQUES

3.83 One of the first acts of the prophet on reaching Medina was to build a mosque which was the dynamic throbbing heart of the community. Mosques are God's houses where Muslims perform the practical proof of their faith in Allah and Islam.

3.84 Mosques can be classified into three categories:

- a) the local mosque or the neighbourhood mosques serving small population groups;
- b) community Friday mosques serving large population groups where the residents of many neighbourhoods gather once a week (during Al-Thuhr prayer on Fridays) to pray and hear sheikh or imam (the prayer leader with intellectual and spiritual following) give his weekly speech on a topic of their affairs; and
- c) Eid praying grounds where people of the town gather twice a year to pray Eid prayers (festival prayers) after the fasting month and on the tenth day of the twelfth month in the Lunar calendar as is mentioned previously.

3.85 Generally, mosques are designed to face a specific direction (the qibla) which directs the prayers to a hidden axis which determines the orientation towards Al-Ka'bah in Makkah.

3.86 The location of the local mosque were based on the earshot of the adhan and at a convenient walking distance which usually never exceeded 250 metres as a radius of area served (see Figure 3.32). Traditionally, the mosques entrances are located in places where the worshippers cannot see inside the neighbour's houses while they going in or out of the mosque in order to respect the privacy of the neighbours in the immediate vicinity.

3.87 The mosque is usually provide with a toilet and a place for ablution designed with the respect of the qibla when someone defecate or urinate as mentioned previously (see Figure 3.33).

3.88 Each mosque is symbolised by a graceful minaret which dominates the skyline of the neighbourhood (see Figure 3.34). It is the place where the Mu'athin (caller) stands five times a day to call for prayer (adhan) in order to remind people that the time for remembering Allah is due, as well as an element which provides a focus of orientation for the community.

3.89 Traditionally, the neighbourhood's mosque is the centre and the dominant part of the neighbourhood structure where the residents of different age groups gather five times a day. It conveys both a social

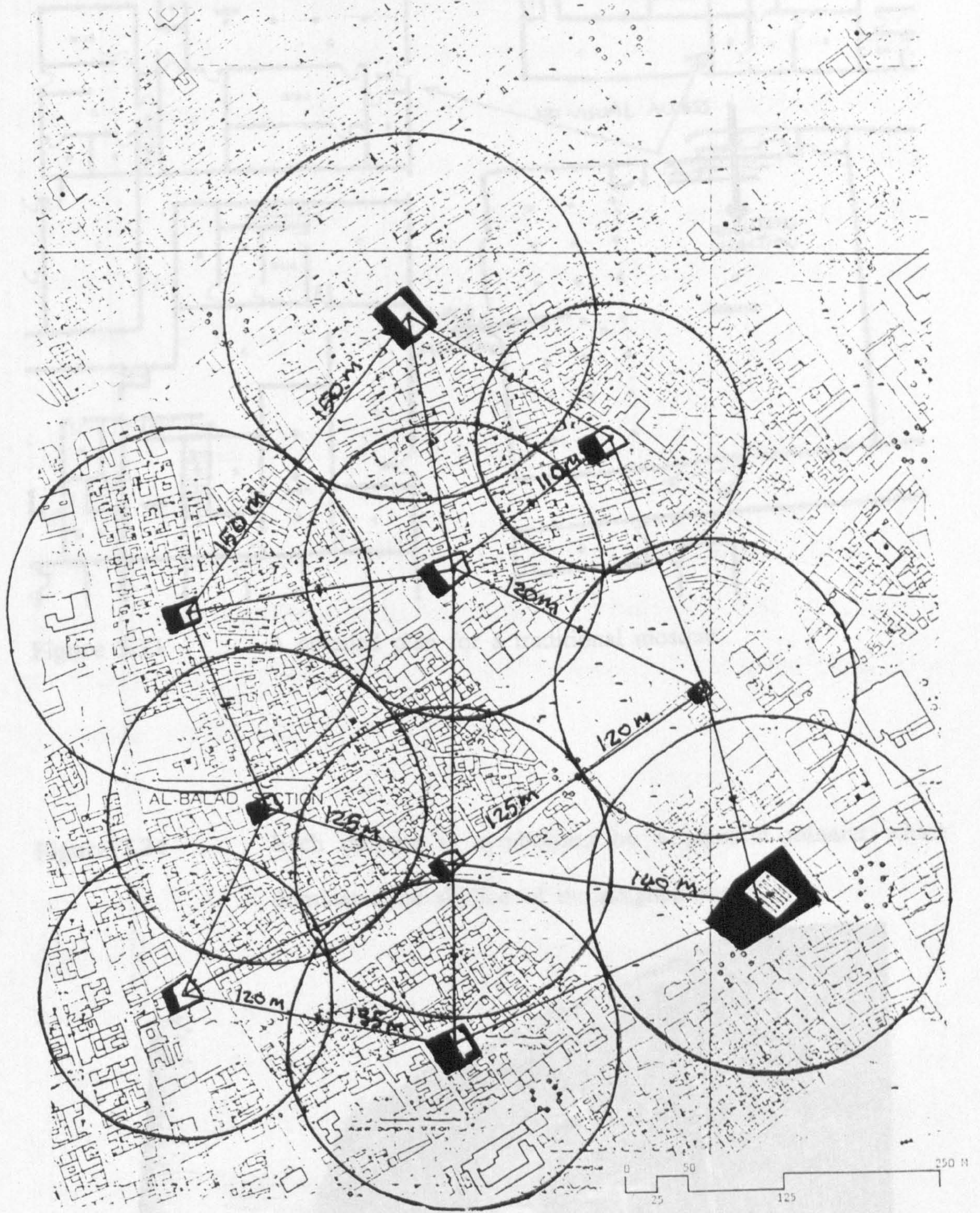


Figure 3.32

A part of the traditional sector of Buraydah showing the maximum radius of the area served by each mosque of the sector.

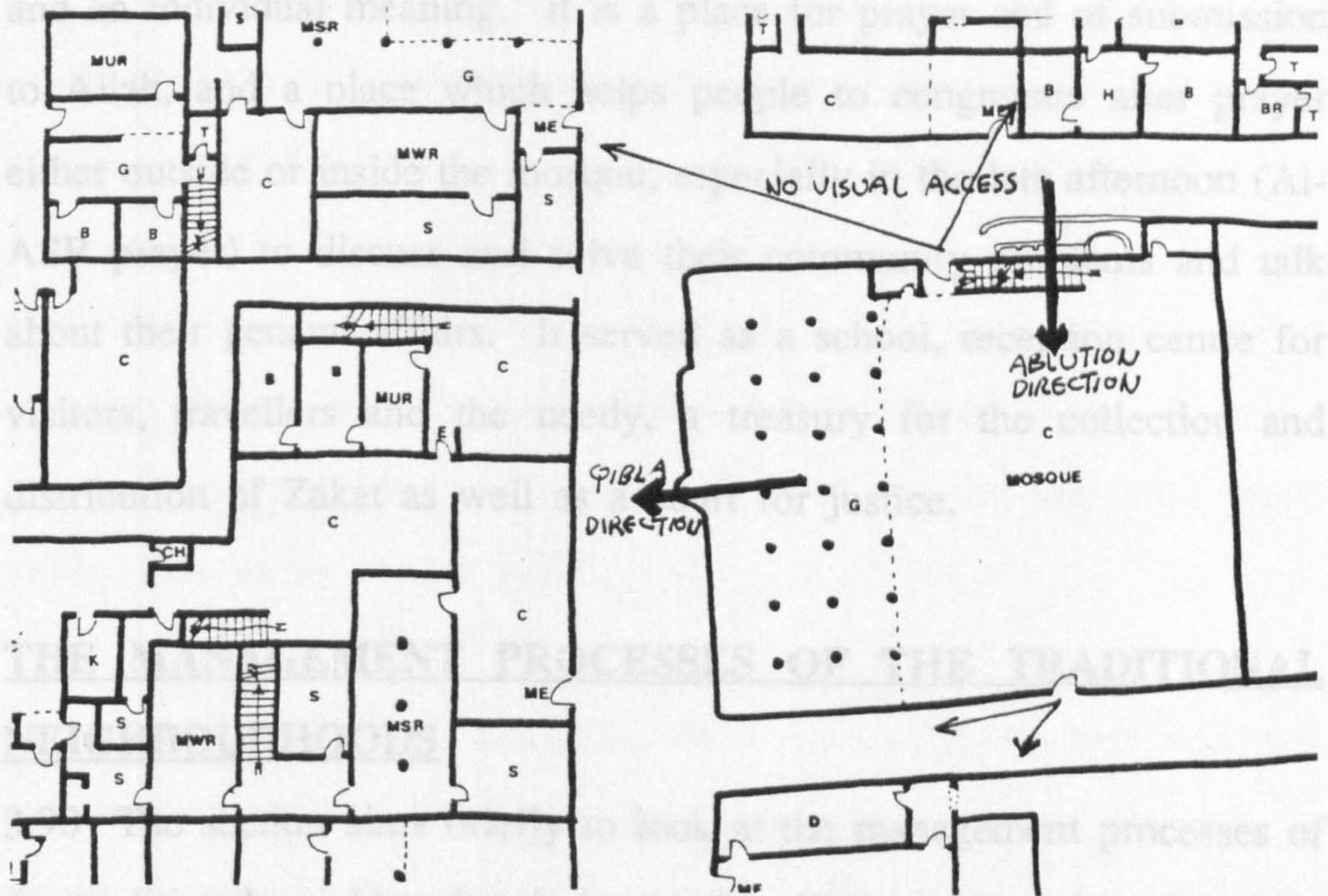
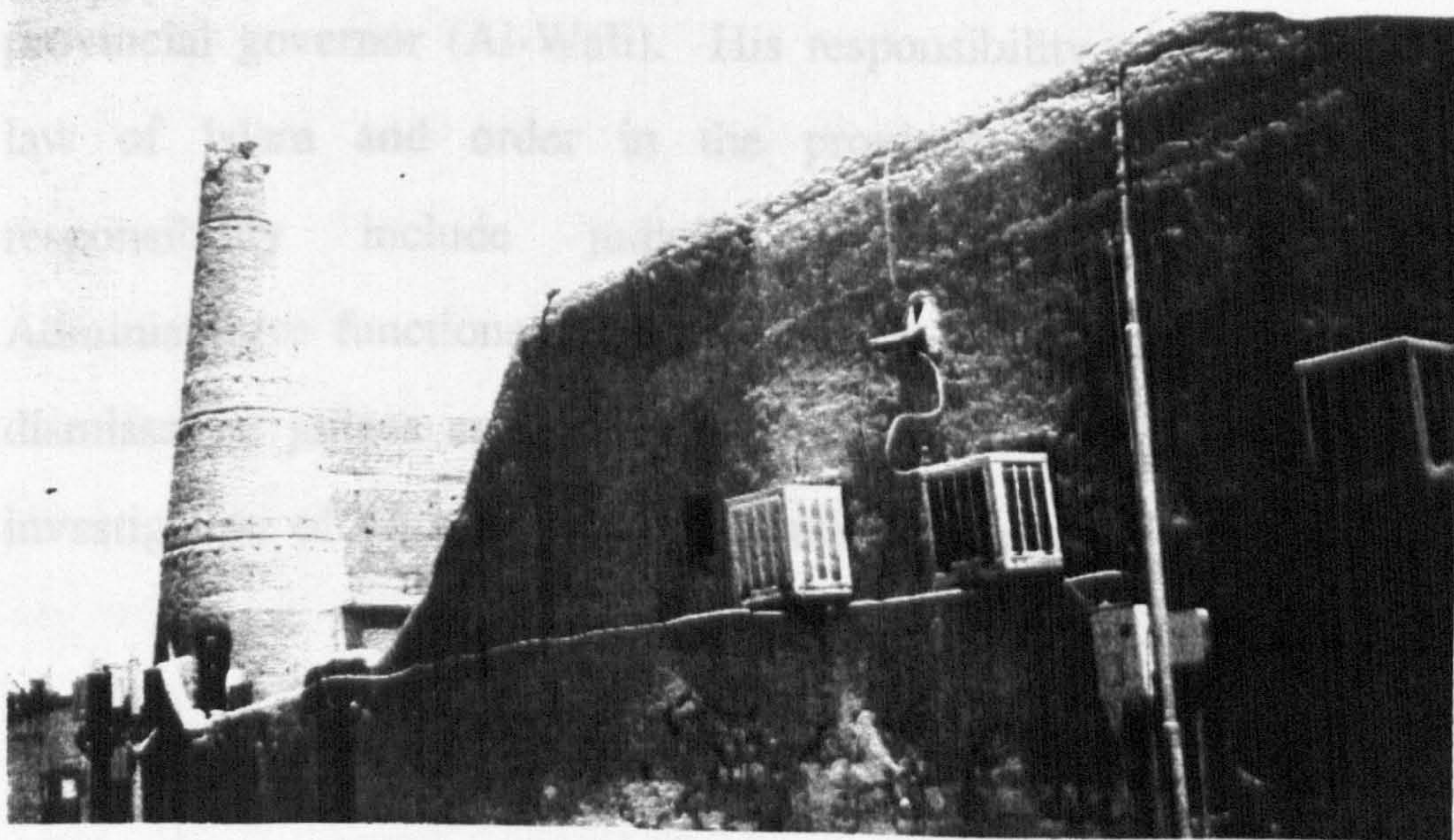


Figure 3.33 A detailed plan for a traditional mosque.

Figure 3.34 Each mosque is symbolised by a graceful minaret which dominates the skyline of the neighbourhood.



and an individual meaning. It is a place for prayer and of submission to Allah, and a place which helps people to congregate after prayer either outside or inside the mosque, especially in the late afternoon (Al-ASR prayer) to discuss and solve their community problems and talk about their general affairs. It served as a school, reception centre for visitors, travellers and the needy, a treasury for the collection and distribution of Zakat as well as a court for justice.

THE MANAGEMENT PROCESSES OF THE TRADITIONAL NEIGHBOURHOODS

3.90 The section aims briefly to look at the management processes of the traditional neighbourhoods internally. Before this, it is worthwhile to discuss the authorities that were responsible for controlling the traditional towns and their functions.

3.91 According to Havrakis (1984), Abdel-Rahim Muddathir identified four authorities in the traditional towns. The first authority was the provincial governor (Al-Wali). His responsibility was to maintain the law of Islam and order in the province. In other words, his responsibility include judicial and administrative functions. Administrative functions include collection of taxes and appointment or dismissal of judges and officials while judicial functions included the investigation of crime, and the execution of criminal justice.

3.92 The second authority was the judge (Al-Qadhi). His responsibility was limited to personal and civil matters which included matrimonial and inheritance disputes, contract violations, and so on.

3.93 The third authority was the Muhtasib. His responsibility was to maintain the ethical values of Muslim in the life of Islamic societies especially when dealing with commercial activities and any other social transactions in the market place.

3.94 Finally, the fourth authority, which concerning us here was that of the community leaders who represented their quarters or neighbourhoods. The leadership in each neighbourhood was mostly based on the tribal pattern which was centred around a hierarchy of extended family heads.

3.95 The community leaders assumed the administrative functions of their communities in accordance with the guidelines propounded by the Islamic law. Traditionally, the community leader was called (Al-Umdah). Al-Umdah, in most cases, had a strong social and security role in terms of solving problems between individuals and groups, in addition to being the decision maker on behalf of the community interests and affairs. Accordingly, the residents, through their leaders, have evolved their own procedures for solving their conflicts internally, whether social or physical. However, it is worthwhile mentioning that if they cannot solve a certain conflict internally, then they usually go

to solve it through the official judicial system, mentioned in the Quar'an. The Qur'an says "... O ye who believe! obey Allah, and obey the Apostle and those charged with authority among you. If ye differ in anything among yourselves, refer it to Allah and His Apostles, if ye do believe in Allah and the last Day. That is best, and most suitable for final determination".

3.96 In order to show how the processes of dispute and agreement took place traditionally, the following will present a part of a case study discussed in the work of Akbar (1984).

The case study explained clearly the development processes of a small area built in the early sixties in Taif City in the Western Region of Saudi Arabia (see Figure 3.35).

3.97 Akbar (1984) stated that a piece of land (180 x 140m) was bought and subdivided by a person into three blocks, each of which was 180 x 40 meters and separated by streets of ten meters width. Each block was divided into 18 plots, each of which was 20 x 20 meters and sold to individuals.

3.98 It is important to mention here that, according to Akbar (1984) the municipality of the city did not interfere in the processes of the implementation of the area after approving the original layout of the blocks and plots. Accordingly, some of the owners subdivided their

plots and sold it to others.

The logical subdivision for a plot of 20 x 20 meters was four parcels each of which was 10 x 10 meters. In order to provide the inner parcels with access, a cul-de-sac was provided (see Figure 3.36).

3.99 The case study provided full explanation in terms of how such spaces as cul-de-sacs and minor streets were established and how they were controlled.

3.100 In order to focus on how the processes of dispute and agreement took place, two examples of the case study were imparted. The first example which is presented in Figure 3.37 stated that, plots 1 (30 x 30m) and 2 (10 x 20m) were originally two plots, each of which was 20 x 20 meters, was owned by one person. His brother bought the adjacent plot (20 x 20m) and divided it into three parcels, 3 (10 x 20m), 8 (10 x 10m) and 9 (10 x 10m). The community decided to build a mosque so they raised money and bought parcels number 8 and 9. Accordingly, the owners of plots 4, 5, 6, and 7 decided to leave 1½ meter of their lands to create a street (A) of three meters width. The owner of plot 1 bought the parcel number 3 and left 1½ meter to develop the desired street, while the mosque's parcel provided only ½ meter as a setback. Accordingly, a street of 20 meters long with two different widths was developed, part of it three meters in width and the remaining part was two meters in width (refer to Figure 3.37).

Figure 3.35

Plan showing the layout of the blocks in sh-Shuhada section in Taif.

(source: Akbar 1984 p.380).

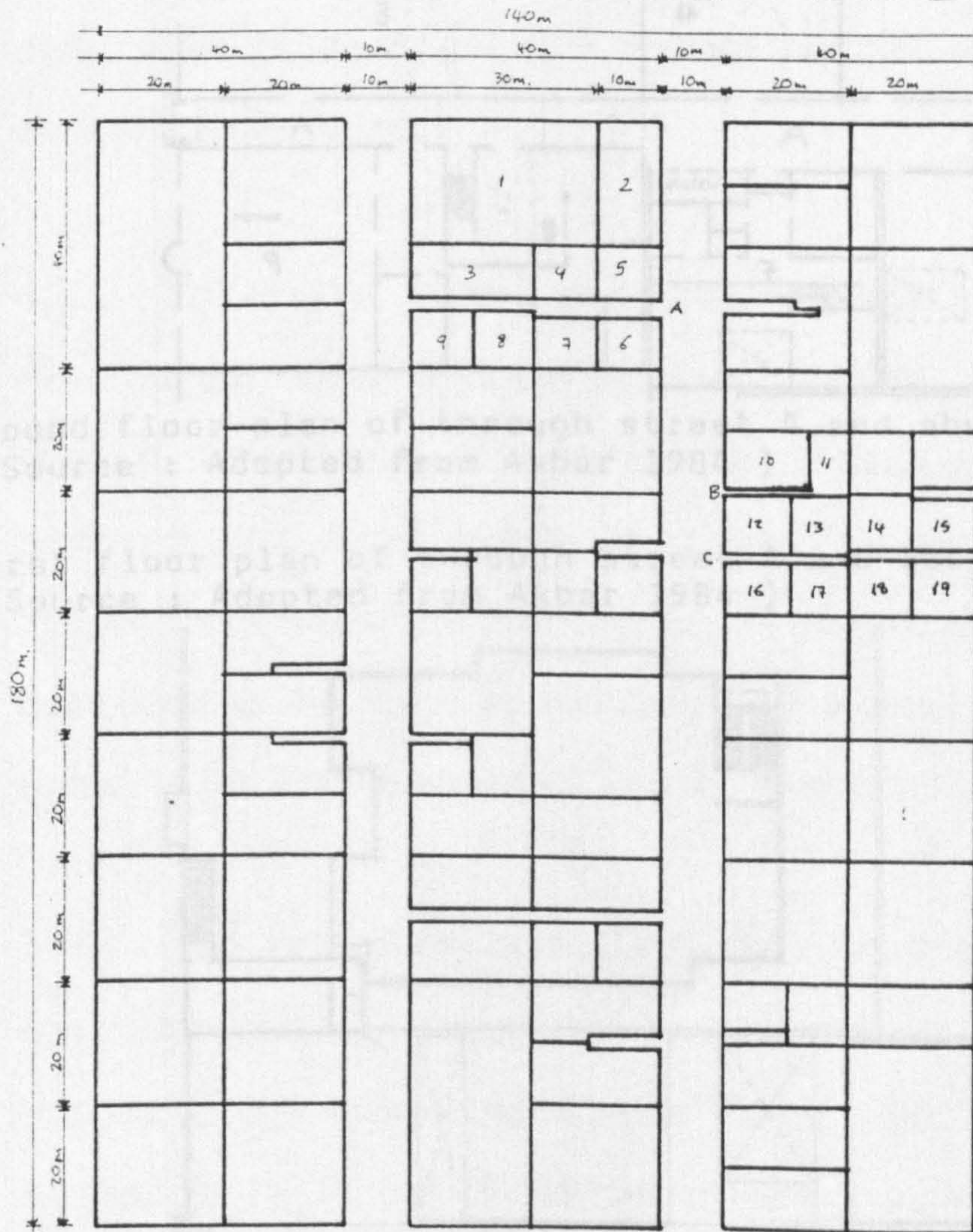
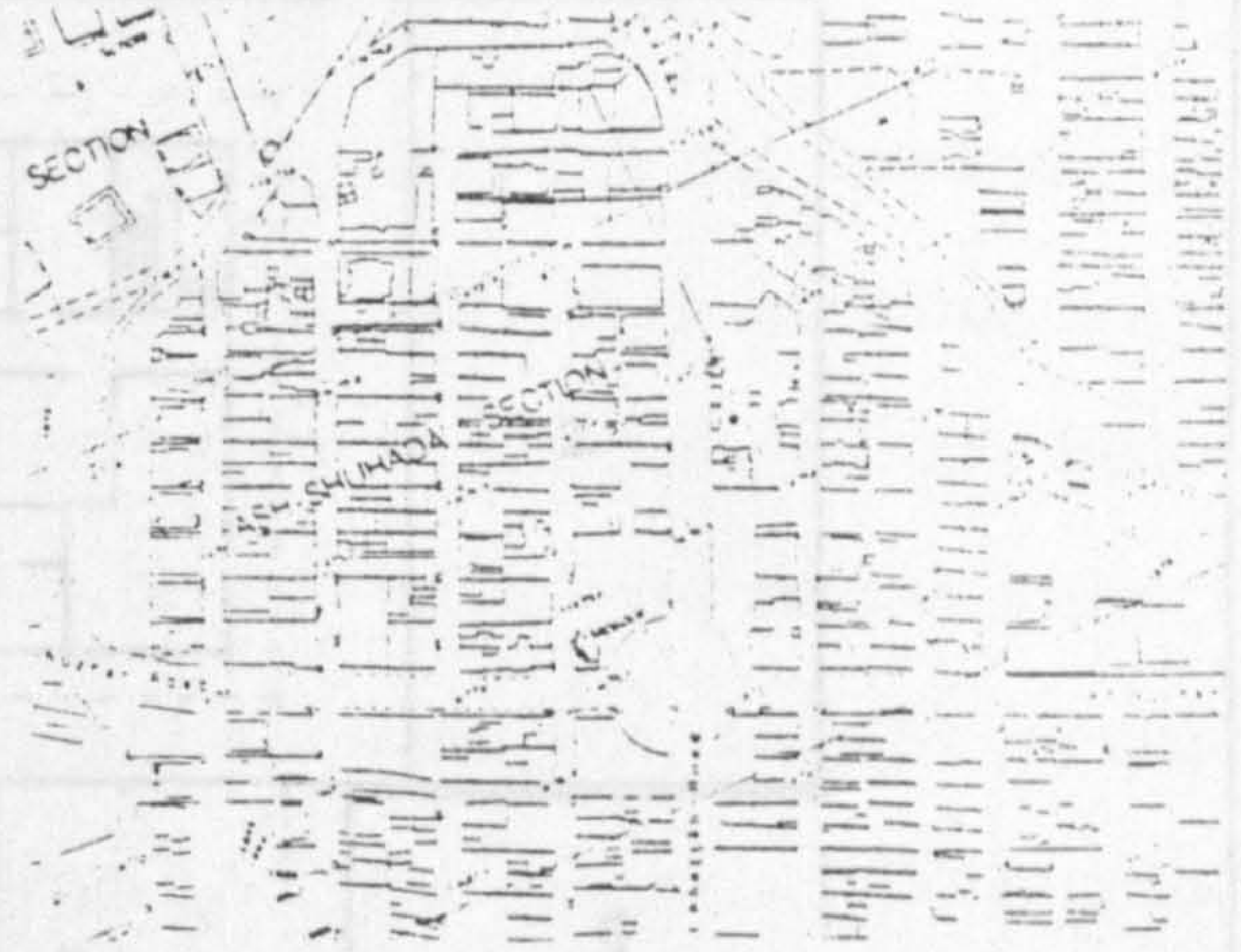
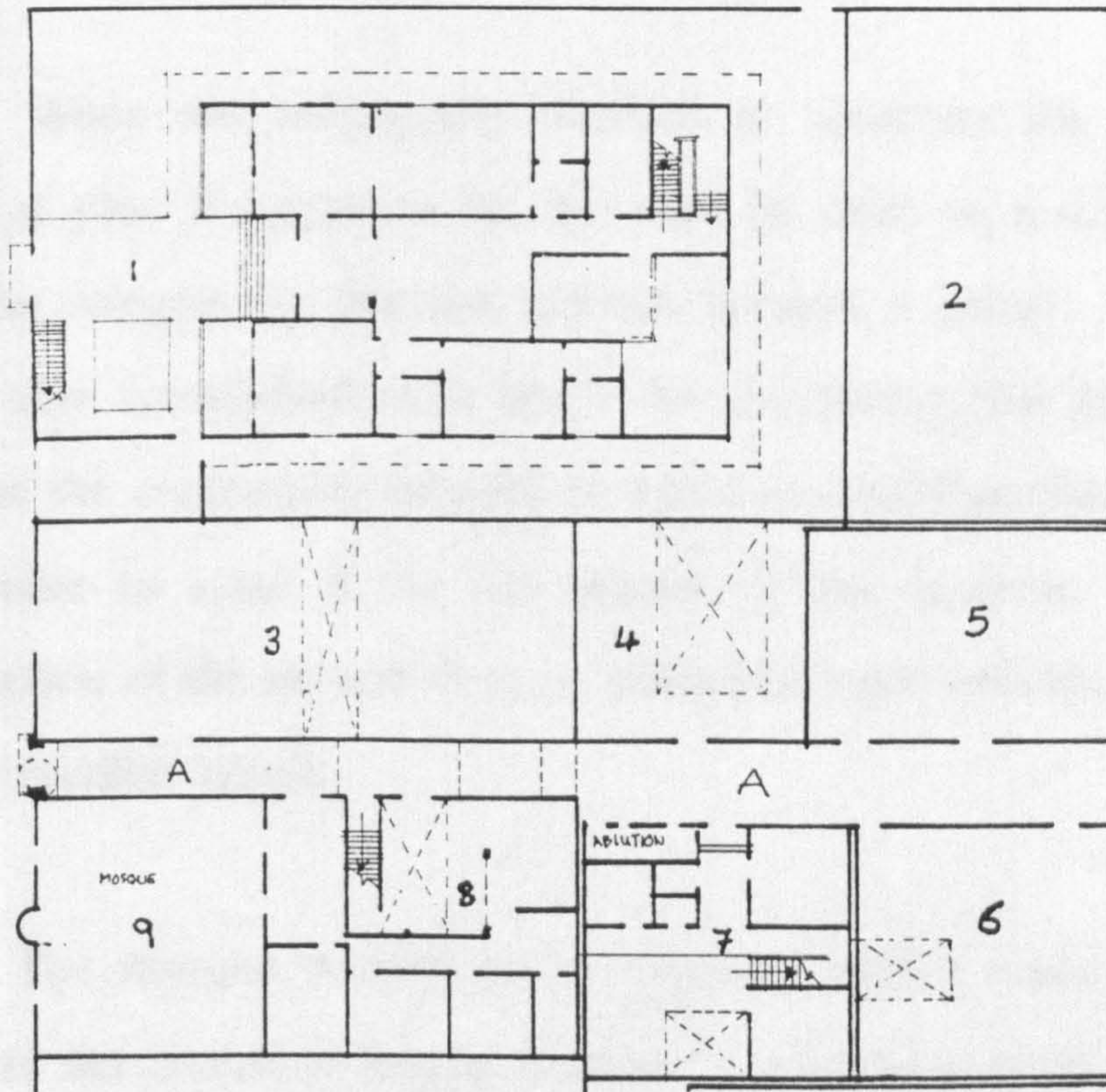


Figure 3.36

Detail plan of the three blocks.

(source: Adopted from Akbar 1984).



Ground floor plan of through street A and abutting properties
 (Source : Adopted from Akbar 1984)

First floor plan of through street A and abutting properties
 - (Source : Adopted from Akbar 1984)

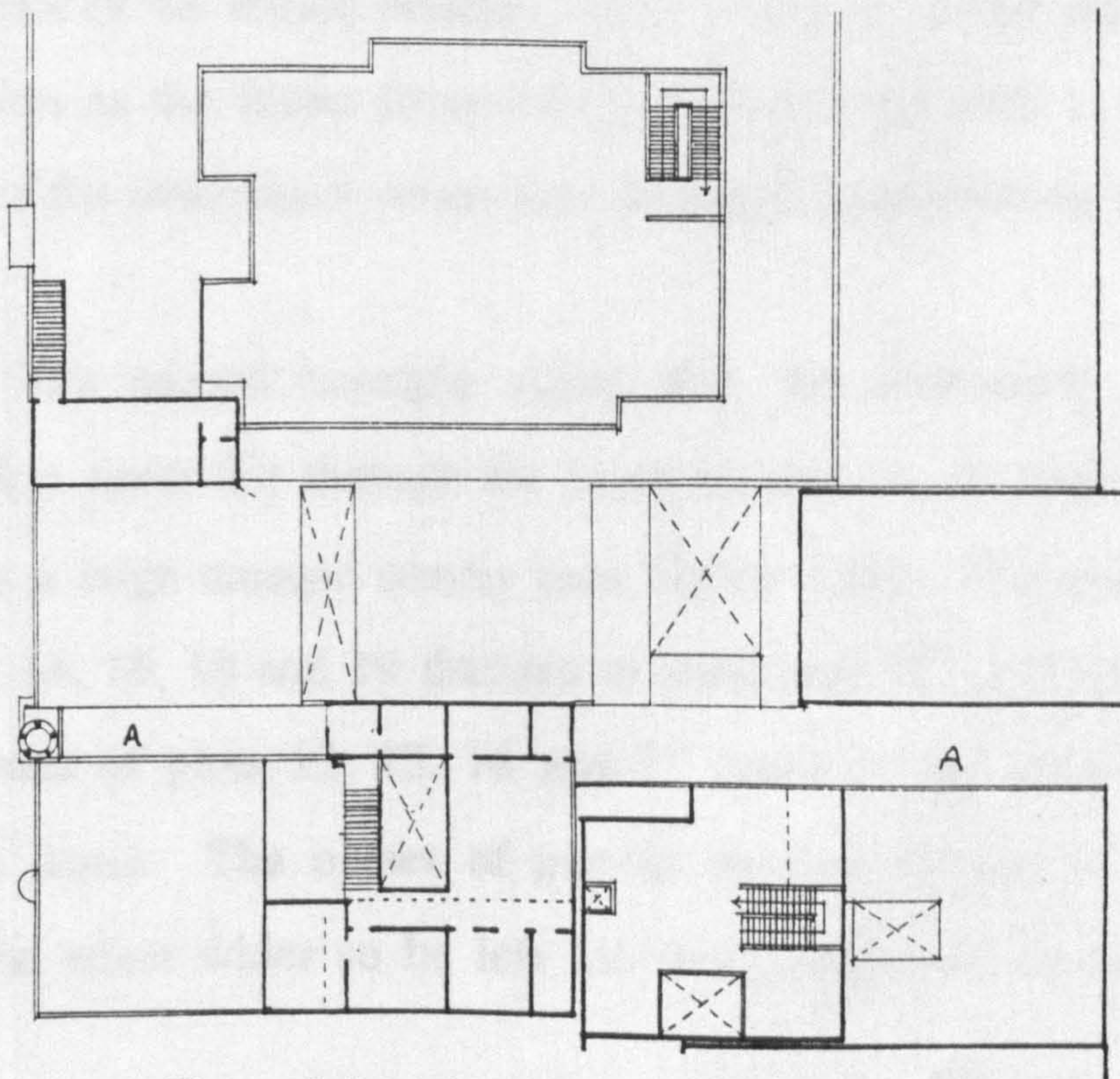
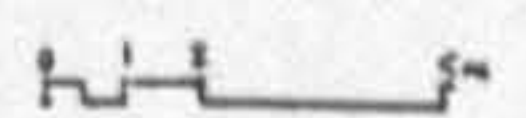


Figure 3.37

Plans of through street A and abutting
 properties.



3.101 When the community decided to construct the mosque, the owner of plot 3 agreed to let his wall be used as a construction to carry the minaret, so that the minaret became a kubah. Plot number 8 was also constructed as a house for the Imam (the prayer leader). Later on the community decided to add a second floor for plot number 8 in order to lease it for the benefit of the mosque. During the construction of the second floor, a room was built over the street which created another kubah.

3.102 The mosque needed to be provided with a place for ablution, therefore the owner of house number 7 donated a small room of his house to the community for this purpose. After a period of time, house number 6 was demolished to be replaced by an apartment building. The owner of the rebuilt building did not remove all the remains of the demolition as the Imam immediately built a small wall to prevent the spread of the demolition refuse into the tiled street abutting the mosque.

3.103 The second example stated that, the community decided to establish a street (C) through the block in order to shorten the distance to reach a large mosque nearby (see Figure 3.38). The owner of plots number 14, 15, 18 and 19 decided to leave one meter of their lands so the owners of plots 12, 13, 16 and 17 could do the same to create a through street. The owner of parcels number 16 and 17 decided to make the street wider so he left 1½ meter while the owner of parcels

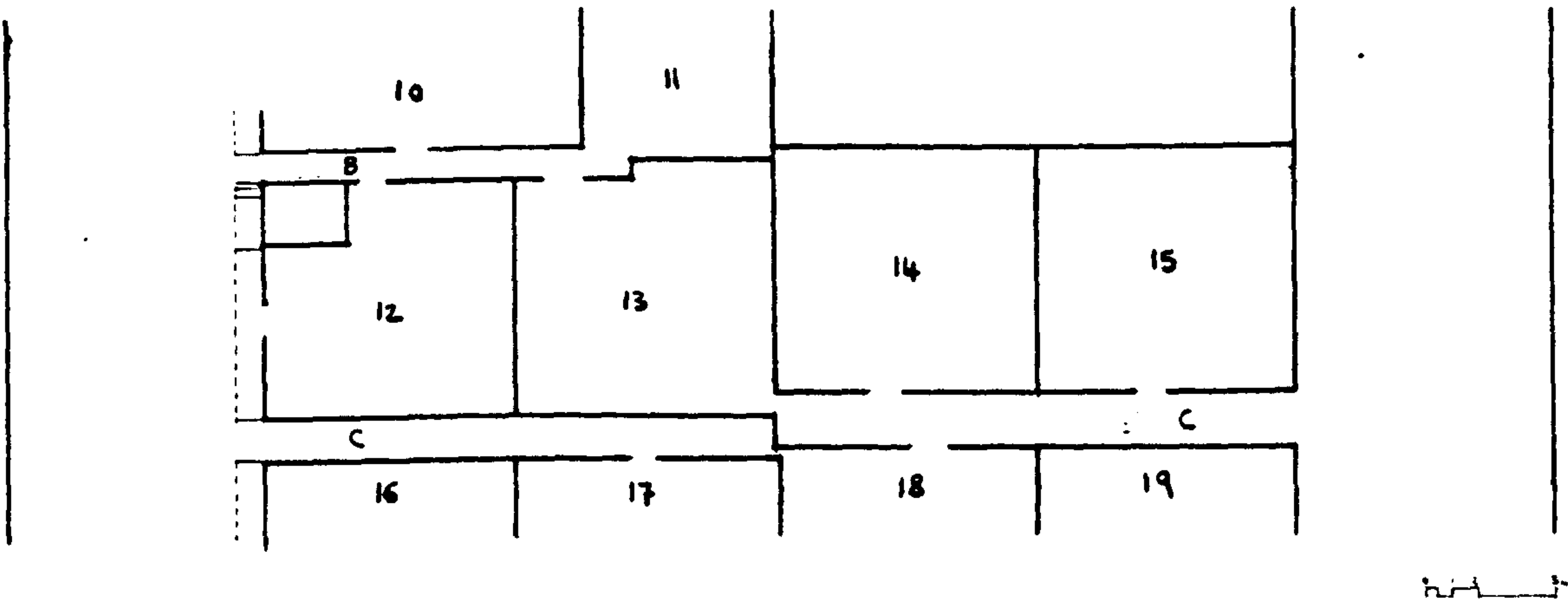


Figure 3.38 Plan of cul-de-sac B and through street C that are developed by the residents.
(source: Adopted from Akbar 1984).

number 10, 11, 12, and 13 refused to leave the agreed distance for the setback to create the through street since he had already lost part of his land by creating the cul-de-sac (B) (refer to Figure 3.38). Accordingly, this action caused tension between the owner of plots 16 and 17 and the owner of plots 10, 11, 12, and 13. After a while, the owner of plot 13 built an apartment building and opened a door to the narrow street (C). This action was rejected by the owner of plots 16 and 17 since the owner of plot 13 did not contribute to make the street. A dispute developed and the community failed to solve the problem. As a result of that failure the owner of plots 16 and 17 built a wall to block the street.

3.104 The previous two practical examples showed clearly how the processes of development and management of a residential area were followed based on agreement and dispute among the residents without the interference of the municipality which is, according to Akbar (1984) similar to some extent to the processes of the developments of the traditional neighbourhoods.

CONCLUSION

3.105 As discussed previously, the traditional neighbourhoods exist as a multiplicity of ethnic or tribal quarters controlled by social conventions propounded by the Islamic Law and teachings. The organic fabric is a manifestation of the final decisions made by the users, controllers, and owners of the area in order to satisfy certain needs.

3.106 The pattern of the neighbourhoods were based on many sequential spatial levels which maintain a necessary balance between privacy and communality starting with the single room, which is the very private place, passing through the single dwelling, the cul-de-sac, the public streets, and the neighbourhood centre level. These levels seem to correspond to an individual's life cycle stage, for example, the distance between an individual's activity and his home depends on his age and energy (Al-Nowaser 1987). Accordingly, small children normally play in quite a visible place such as inside their homes or in their cul-de-sac where mothers have direct visual contact with them, while big children play games and soccer in the streets in the immediate vicinity of their homes. Teenage males usually congregate around street corners and in the centre of their neighbourhood. Old people, whose energies have diminished and can no longer get a job outside the community, return back to their childhood spatial activities and so on.

3.107 The cul-de-sac system was formed mostly for social reasons. It helps women to move, use, and spend most of the day by themselves and their small children in a shared private spaces in their immediate environment since women are restricted by the strong need for privacy.

3.108 Shops were another element of the traditional neighbourhoods which promote social and commercial activities in addition to providing

the necessary consumer goods. They were a place for teenagers and elderly people to interact and spot for controlling and securing the surroundings.

3.109 Traditionally mosques were located in places convenient to their users to help people to pray frequently in a congregation rather than individually as recommended by the prophet. They were a place for worship and social interaction as well.

3.110 The minarets of the mosques and the corner shops, in addition to their main functions, were used as orientation points for the community.

3.111 Generally, the traditional neighbourhood concept and elements resulted from many processes of adaptation and modification propounded by the concept of need and the Islamic law and teachings. The controlling of such processes was the responsibility of the community leadership (usually the head of the tribe) who represented their residents and managed the affairs, whether social, economic, or physical, of their residential quarters.

3.112 Recently, Saudi Arabia has experienced an accelerated process or urbanisation as a direct result of the exponential increase in oil revenues, as well as a reflection for the desire of the government to improve and raise the quality and standards of living. Consequently,

inhabitants of the traditional neighbourhoods have been rapidly relocated to modern neighbourhoods for a better quality and standard of living based on modern technology and new architecture and planning principles.

3.113 The next chapter will deal with the contemporary way of living and the modern physical planning of the Central Region neighbourhoods.

CHAPTER FOUR : THE CONTEMPORARY NEIGHBOURHOOD ENVIRONMENT

INTRODUCTION

4.01 Until approximately three decades ago, the economy of the Kingdom was quite undeveloped. The Kingdom's economy was based on oasis agriculture and pastoral socio-economy, accordingly, little change took place in the inhabitants lifestyle and the way of handling their social life during that time.

4.02 The old economic resources lost their dominance after the discovery of several oil fields in 1938 by the Standard Oil of California (SOCAL). In 1944, three other American oil companies joined the Standard Oil of California to form the Arabian-American Oil Company (ARAMCO) in order to undertake the over-expanding growth of oil. From that time, oil production and revenues increased very rapidly (see Figure 4.01).

4.03 As a result of the new economic base, Saudi Arabia has experienced an accelerated process of modernisation which in turn has affected the inhabitant' lifestyle as well as the way of handling their social life.

4.04 The process of modernisation is manifested by the change in the way of communication, education, industrialisation, urbanisation, and

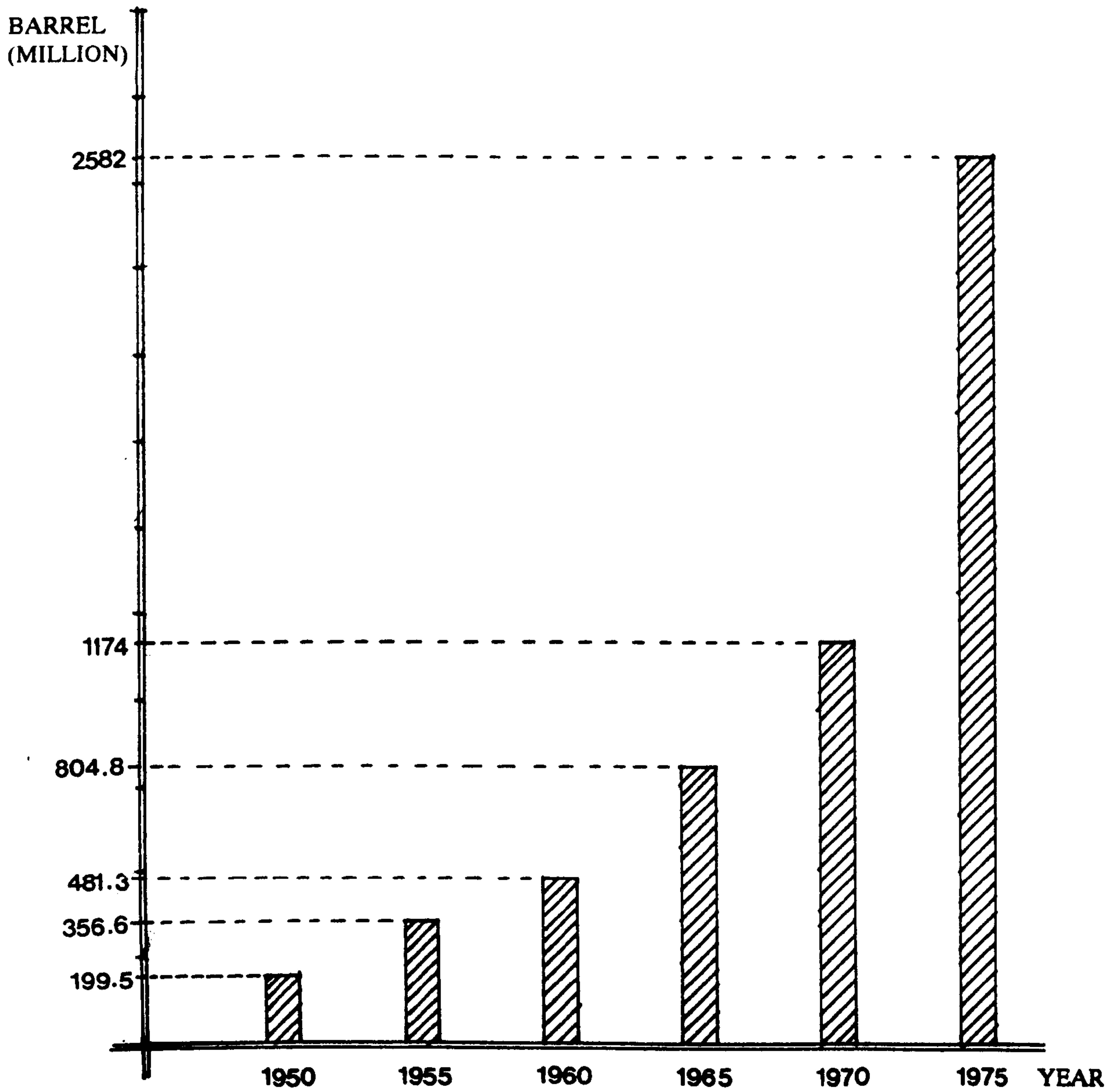


Figure 4.01 Oil production in Saudi Arabia from 1950 to 1975
 (SOURCE : ADOPTED FROM RAJAB 1978 P. 257)

other social and political issues.

4.05 Many changes have occurred as a result of the new trends of modernisation in Saudi Arabia, some of which are changes in the socio-life, and the pattern of the built environment. The following will focus on the factors that led to such changes. Following this, detail description and analysis for the various elements of the contemporary neighbourhoods and its management will be presented.

FACTORS BEHIND CHANGING THE SOCIAL LIFE

4.06 The prosperity which has been created by the discovery of oil helped the government to raise the individual income through government recruitment expenditures on salaries for Saudis servants in order to raise the quality of life. As a consequence, it has become economically convenient to:

- 1) travel to Europe and America or any other countries to tour or study. As a result of this, people return to Saudi Arabia with different ideologies gained from the process of transactions with other societies as well as having the experience of another way of lifestyle and values;
- 2) to buy any kind of imported consumers goods such as television sets, videocassette, stereos, and telephones which contribute to the expansion of the individual's knowledge about the other way of handling the individual life and the social norms;

- 3) to have whatever needs from the different kind of commodities and services which are provided in the local market. All these and other factors have affected some of the traditional norms in Saudi Arabia.

Some of these changes are:

- 1) Most of the families have tended to orientate to nuclear families with fewer children per family since neither parents nor sons need financial support. In addition to that, sons do not need to follow their fathers occupation (as most traditional families do) since there are a variety of occupations which can be taken through secular knowledge gained through school attendance.
- 2) Co-operation and social contact and meeting with neighbours has reduced since the process of exchanging goods and financial aids are not needed. As a consequence of this, inhabitants feel more independent.
- 3) Face to face interaction has also been reduced because of the availability of telephones. So, now it is more convenient to phone friends and neighbours than to meet them.
- 4) Some of the neighbourhood's activities and entertainment have shifted and are located at home because of the availability of the imported consumer goods such as television sets and video cassettes.

4.07 All these changes have affected more or less the social life of the community. Other impacts of modernisation can be noticed through analysing the contemporary built environment especially the contemporary neighbourhoods which this chapter intends to discuss.

4.08 Two topics need to be discussed here in order to understand the process of the modern physical environment in Saudi Arabia. The first is dealing with the factors that have influenced changes in the physical environment, while the second topic will analyse the various elements of the contemporary neighbourhoods in relation to the socio-cultural norms.

FACTORS BEHIND CHANGING THE PHYSICAL SETTING

4.09 There are many factors which have affected the changes and the speed of growth in the physical environment of Saudi Arabia. The main factors are the role of international firms and foreign planners and architects; the role of the government; in addition to the role of the individuals who brought new ideology, technology, and techniques to their physical setting as was discussed previously.

4.10 The following will explain the main two factors that have affected the physical environment.

THE ROLE OF INTERNATIONAL FIRMS AND FOREIGN PLANNERS AND ARCHITECTS:

4.11 One of the main factors that helped to introduce the new physical environment was the new ideology which has been imported by the international firms as well as by the influx of people from all over the world, some of whom are planners, designers, and architects, who planned and designed different settings for people, whether for individuals or groups, to live in.

4.12 ARAMCO, as a foreign firm, played a major role in the planning and development process of Saudis built environment. Its influence started when the company built its own camp in 1938 at Dhahran in the Eastern Region of Saudi Arabia in order to provide housing and facilities for its employees. By the end of 1944, two other camps had been built; one at Ras-Tanura and the second at Abqaiq in the same region.

4.13 By the early 1950's ARAMCO decided to enlarge these three camps into small settlements to accommodate the increasing number (about 22,000 by 1952) of its employees of all nationalities (Al-Hathloul 1981).

4.14 Two traditional towns in the Eastern province, Dammam (about 18 km north of Dhahran camp) and Al-Khobar (about 10 km east of

Dhahran camp) faced a rapid growth as a result of the large number of people who came to work there, as a consequence, in 1947 the government felt the need for a controlled layout for these two towns. Since there were very few, if any, Saudi architects and planners other than ARAMCO's planners, architects, and surveyors, the governor of the Eastern Region requested assistance from ARAMCO to help in making a layout for these two towns. The concept of the new plans followed a grid pattern with wide streets. As a consequence, these new concepts of the grid pattern and wide streets have been taken as a model for developing other cities and towns of Saudi Arabia (see Figure 4.02).

4.15 In terms of the new concept of the dwelling units, this was also introduced for the first time in Saudi Arabia, by ARAMCO in the cities of the Eastern Region through the ARAMCO Home Ownership plan which was initiated in 1951 in order to resettle its Saudi employees.

4.16 The concept of the new dwelling type is a detached type (villa) which was quite different from the traditional dwelling types. The rooms of the house were arranged in one solid block, where windows opened on four sides looking onto the outdoor spaces (see Figure 4.03).

4.17 The concept of the grid pattern of streets and the villa as the new house type were applied for the first time in the central province in 1953 in order to provide housing and its facilities and utilities for the transferred government employees who moved from Makkah to Riyadh

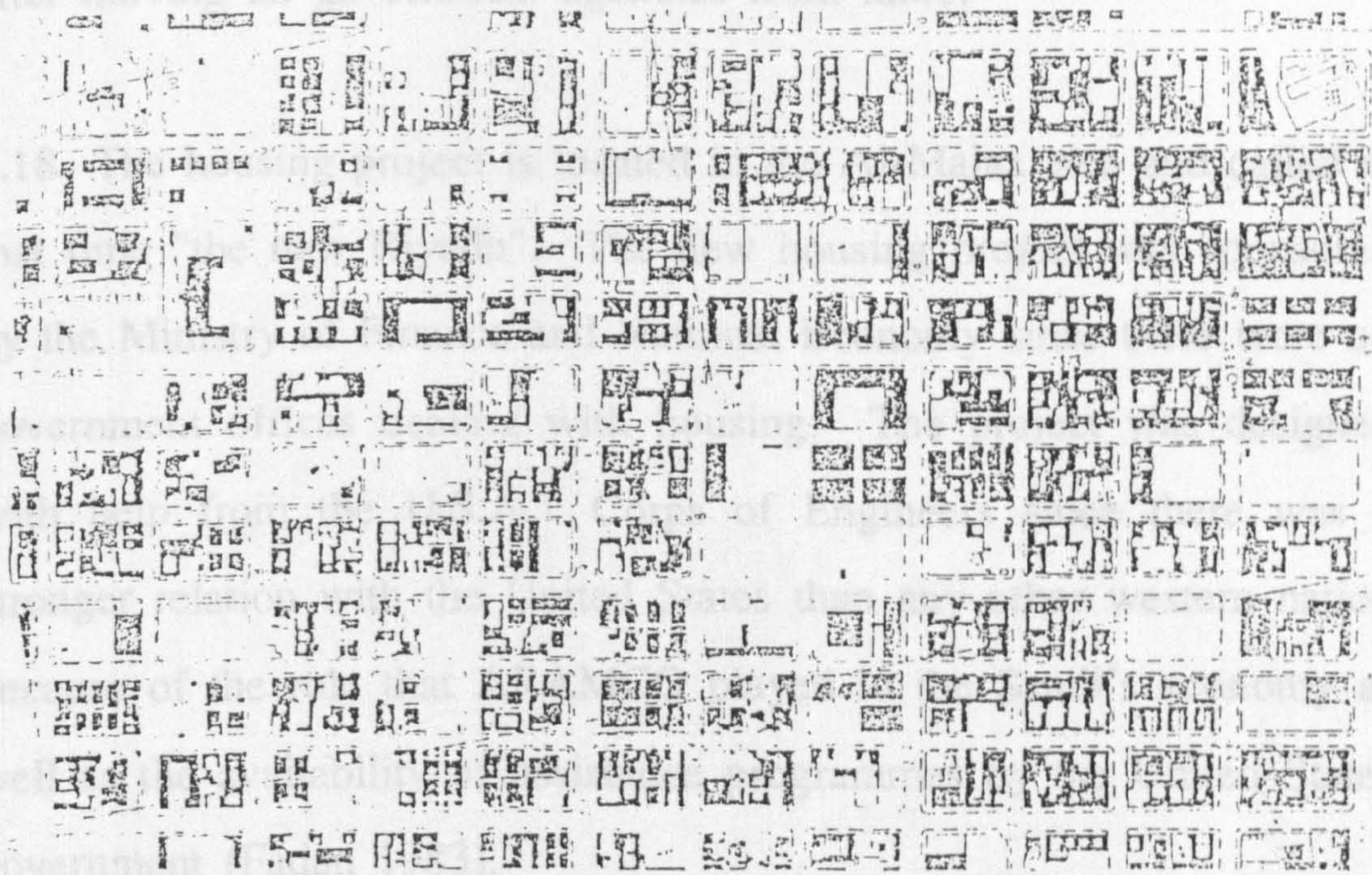
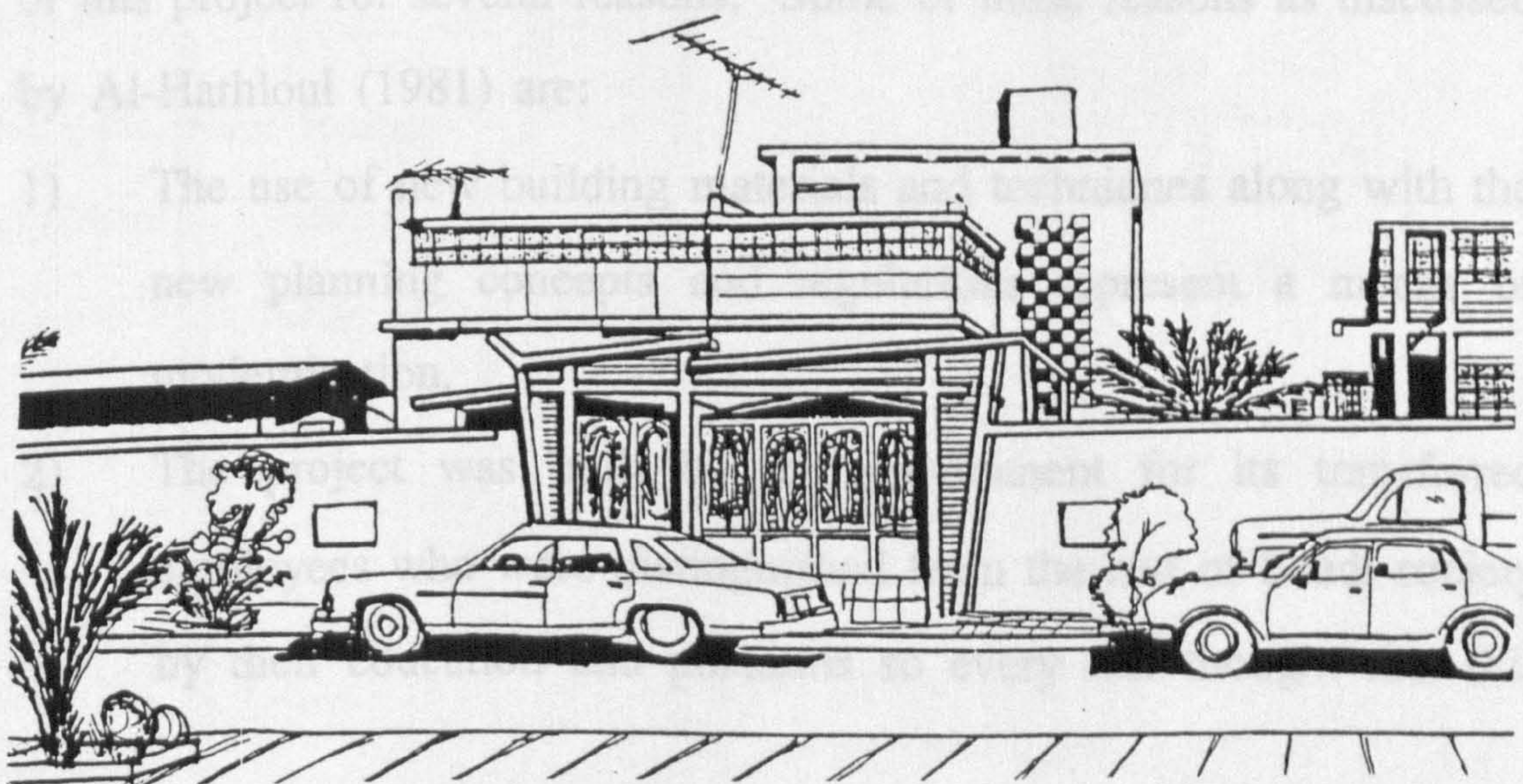


Figure 4.02 Al-Khobar: part of the ARAMCO grid-plan showing the block and the street pattern (source: Al-Hathoul 1981 p.152).

Figure 4.03 Villa built through ARAMCO home ownership programme (source: Fadan 1983 p.157).



after moving all government agencies from there.

4.18 The housing project is located in the Al-Malaz area and called at that time "the new Riyadh". The new housing project was sponsored by the Ministry of Finance and National Economy since there were no government offices dealing with housing. The project was designed with help from the U.S.A. Corps of Engineers since there was a stronger relation with the United States than any other western nation because of the role that ARAMCO played in the Saudi's economy as well as the availability of assistance programmes by the United States government (Fadan 1983).

4.19 The physical pattern of the project follows a gridiron plan with rectangular blocks. Most of them measuring 100 x 50 meters (see Figures 4.04, 4.05) and characterised by the concept of very low density. This project, as a matter of fact, became a symbol of a new way of living which every one dreamed of being one of the residents of this project for several reasons. Some of these reasons as discussed by Al-Hathloul (1981) are:

- 1) The use of new building materials and techniques along with the new planning concepts and regulations represent a means of modernisation.
- 2) The project was built by the government for its transferred employees who were distinguished from the rest of Saudi society by their education and positions so every one thought that this

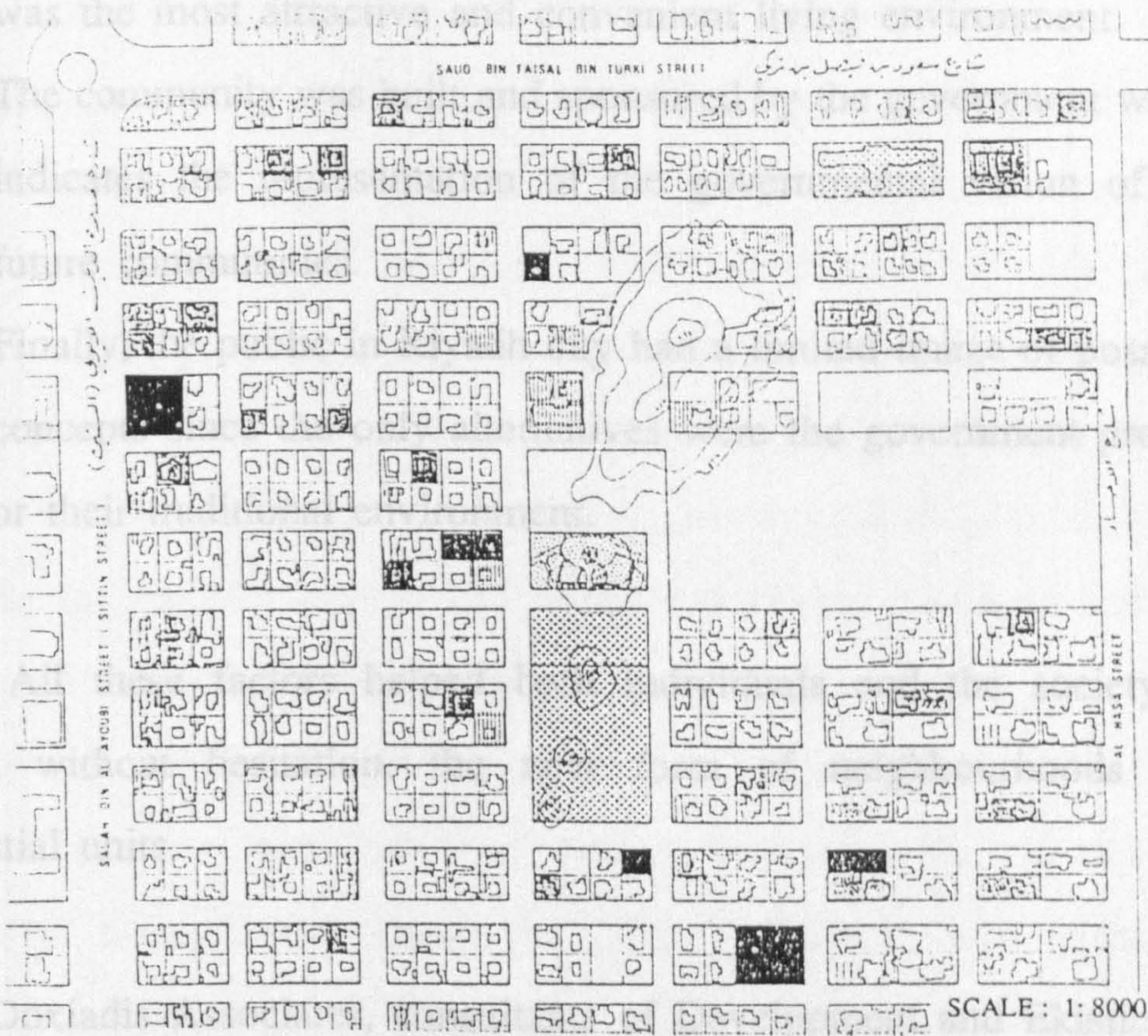
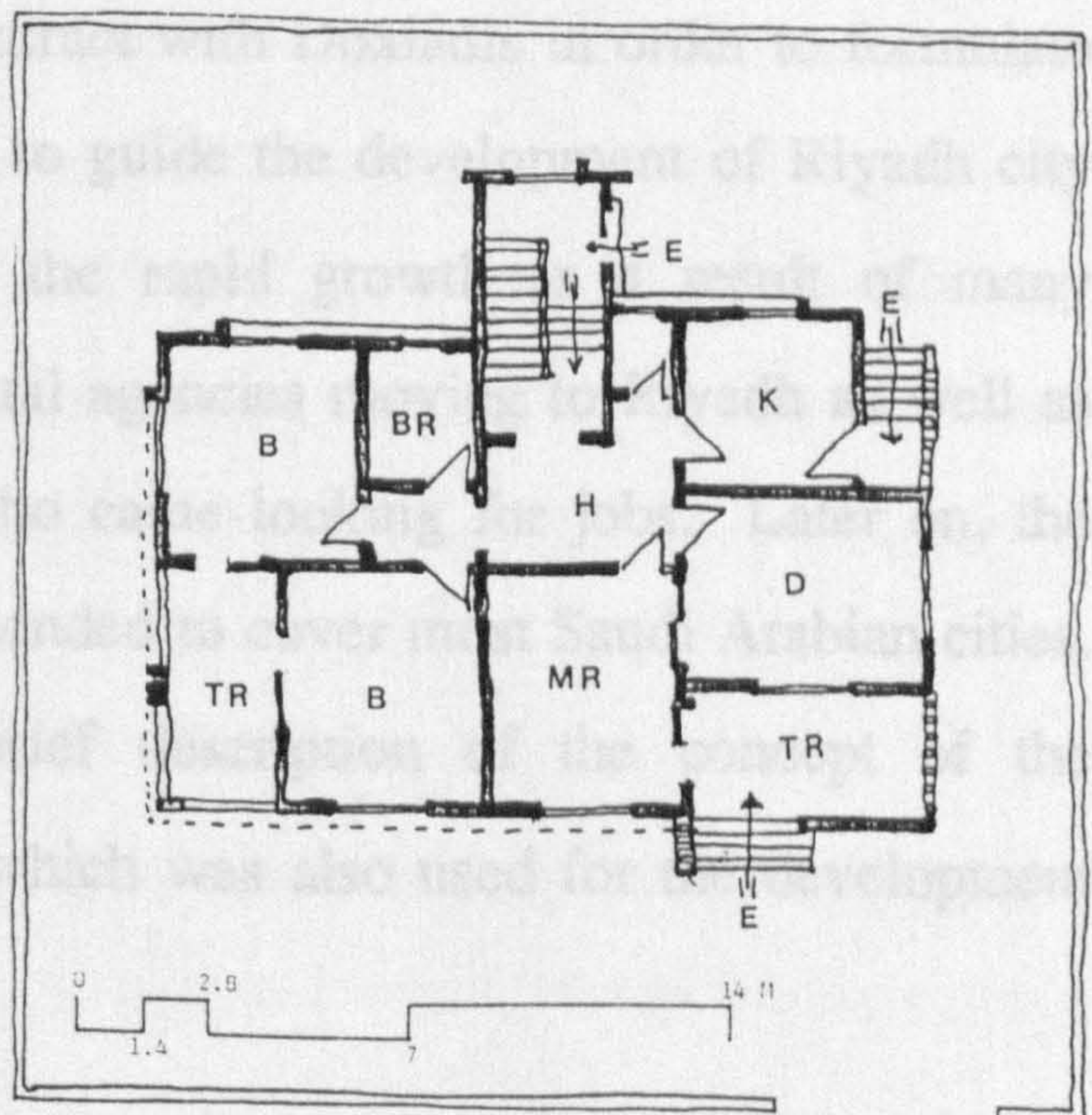


Figure 4.04 A part of Al-Malaz housing project showing the street pattern (source: SCET International, Riyadh: action master plan. Technical Report No.3, 1977 p.88).

Figure 4.05 Floor plan of a villa built through the government housing programme (Al-Malaz) (source: After Fadan 1983 p.137).



was the most attractive and convenient living environment.

- 3) The community was built and sponsored by the government which indicates the representation of the governmental vision of the future communities.
- 4) Finally, the public in Riyadh city had a limited image of possible concepts since the only alternatives were the government project or their traditional environment.

4.20 All these factors helped both individuals and the society to accept, without hesitation, the new form of neighbourhoods and residential units.

4.21 Doxiadis Associates, consultants of Development and Ekistics of Athens, Greece is another example of the international firms which played a major role in changing in the concept of the physical environment of Saudi Arabia. In 1968 the Ministry of the Interior for the Municipalities signed a contract with Doxiadis in order to formulate a master plan and programme to guide the development of Riyadh city which was necessary due to the rapid growth as a result of many factors such as the governmental agencies moving to Riyadh as well as the large number of people who came looking for jobs. Later on, the contract with Doxiadis was extended to cover most Saudi Arabian cities. Here we will introduce a brief description of the concept of the physical plan of Riyadh city which was also used for the development of other cities.

4.22 The new plan was divided into several communities each one designed as a square unit of 2 by 2 km. This square unit represents the basic component of the grid. The dimensions of this unit, according to the plan, have been chosen since it was proved convenient and considered as the best size for a neighbourhood (p.134, Dox-SAU-A19). The plan for Riyadh was also organised according to different standards for the plot size of the residential sectors based on (as the plan stated) income, cost of infrastructure works, climate, desirable densities and traditions (p.144, Dox-SAU-A19). Accordingly, Riyadh is divided into two parts, the north with a large size standard and the south with a small size standard. This indicates a new ideology through segregating the high income groups from the low income groups since the low income groups can not afford buying a large plot for their living space.

4.23 The plan also institutionalised the villa type as the best and the most desirable dwelling for living. To ensure this, set back regulations were established in the early 1960's such as a setback of one-fifth of the street on the front and a minimum of two meters on the sides and the rear. This will be discussed in more detail later on in this chapter.

THE ROLE OF THE GOVERNMENT

4.24 The government played a major role in the development of the physical plan in Saudi Arabia as a direct result of the exponential

increase in oil revenues since 1973. The government decided to take major steps towards modernisation by spending on development projects whether commercial or industrial. This in turn attracted a large number of people with various skills from many countries, some of whom brought their families with them. As a consequence of this, the demand for housing and public utilities and facilities was increased, therefore, the government established the Real Estate Development Fund (REDF) to provide a variety of interest-free loans to individuals, corporations, and institutions for the acquisition of durable goods and housing.

4.25 The REDF provides long-term, interest-free loans of almost 70% of the total predicted cost of the individuals housing unit, but not exceeding S.R. 300,000 (approximately £50,000) and 50% of the total predicted cost of buildings for investment by corporations or institutions, but not exceeding S.R. 10,000,000 (approximately £1,150,000).

4.26 The REDF encourages people who are able to buy land or who already have land to build on it as well as encourages people who own an old house to replace it by a new type of dwelling. Those who are unable to buy land could get land from those plots which are being subdivided by the Ministry of Municipal and Rural Affairs (MOMRA) at great distances from the city (about 15 to 20 km) for those who resources are limited since the REDF does not provide land for poor people.

4.27 Although one of the REDF objectives is to improve the standard of living, it imposes certain rules and building regulations, some of which are irrational and against most of the inhabitant's wishes. For example, it requires the use of certain types of sanitary utilities such as seat lavatories. The seat lavatories are not suitable for Saudis since religious teaching insists that the body should not touch the W.C. So, two types; the seatless lavatory and seat lavatories, are usually installed next to each other in order to meet both the requirements of the loan as well as the actual needs of the residents (see Figure 4.06). This fact can be supported by the finding of question number (12) which states "what types of bath rooms are there in your dwelling? (see Appendix C). The answers show that 70% of the responses have two styles of bathrooms in the same dwelling. 52% of them have these two styles in different locations, while 18% have these two styles in the same bathroom (see Table 4.01).

4.28 The opportunity to get an interest-free loan encouraged individuals and groups to build large numbers of buildings rapidly all around the country in addition to the governmental housing projects which are sponsored by the Ministry of housing and public works as well as by other governmental Ministries and agencies in the main cities of Saudi Arabia. So, all these governmental programmes and its regulations and planning systems played a major role in changing dramatically the residential environment around the country.

Figure 4.06

Perspective showing two types of lavatory, usually installed next to each other.

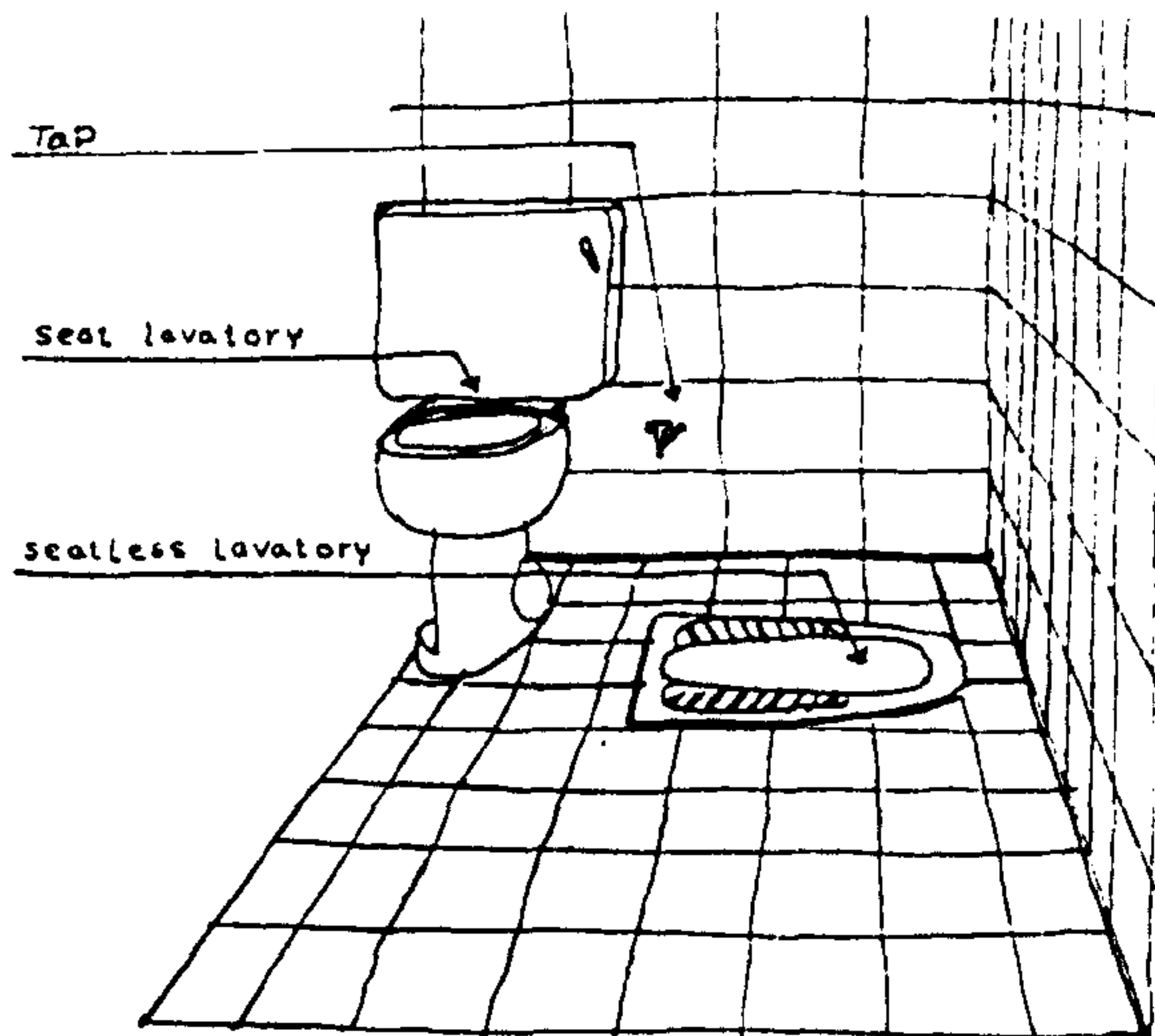


TABLE 4.01

THE TYPE OF BATHROOM'S STYLES AND THEIR LOCATIONS (SEE APPENDIX C, QUESTION NUMBER 12)

What types of bathrooms are there in the dwelling	Total	%
Traditional style	60	23
Western style	19	7
Some traditional and some western	136	52
Traditonal and western in the same bathroom	46	18
Total	261	100

THE CONTEMPORARY NEIGHBOURHOOD ELEMENTS

4.29 Most of the towns and cities of the Central Region have been developed according to the same principles and planning systems that Doxiadis used for the development plan of Riyadh city.

4.30 The plan of the city is based on grid systems using a square superblock as a unit which represents the basic component of the grid system for the city as a whole. The land sub-divisions for the superblock usually follows either gridiron model or the swastika model. The gridiron model is usually applied by using the right angle system of the surveyor such as the concept that has been used in Al-Khobar in the Easter Region by ARAMCO and as the concept that was used in Al-Malaz in the Central Region.

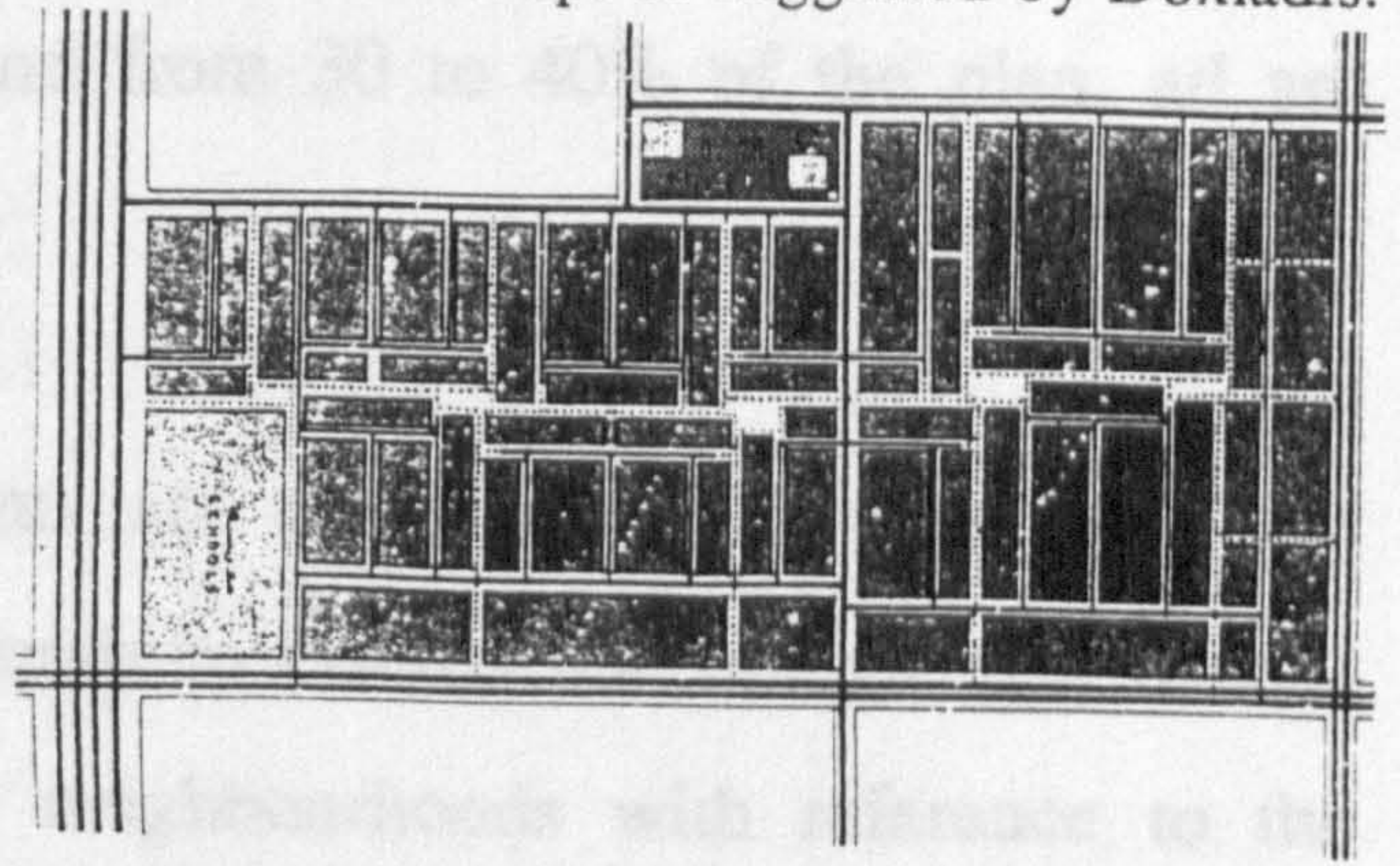
4.31 Using the swastika concept as a guide for land sub-division is another alternative which was suggested by Doxiadis in the early 1970's in the plan of Riyadh and other towns of the Central Region (see Figure 4.07).

4.32 Accordingly, the contemporary residential plan is characterised by two main elements; streets and plots.

4.33 The plots have been defined according to their use. The majority of them are private plots for dwellings and the others are for the different types of facilities such as mosques, schools, and open spaces.

Figure 4.07

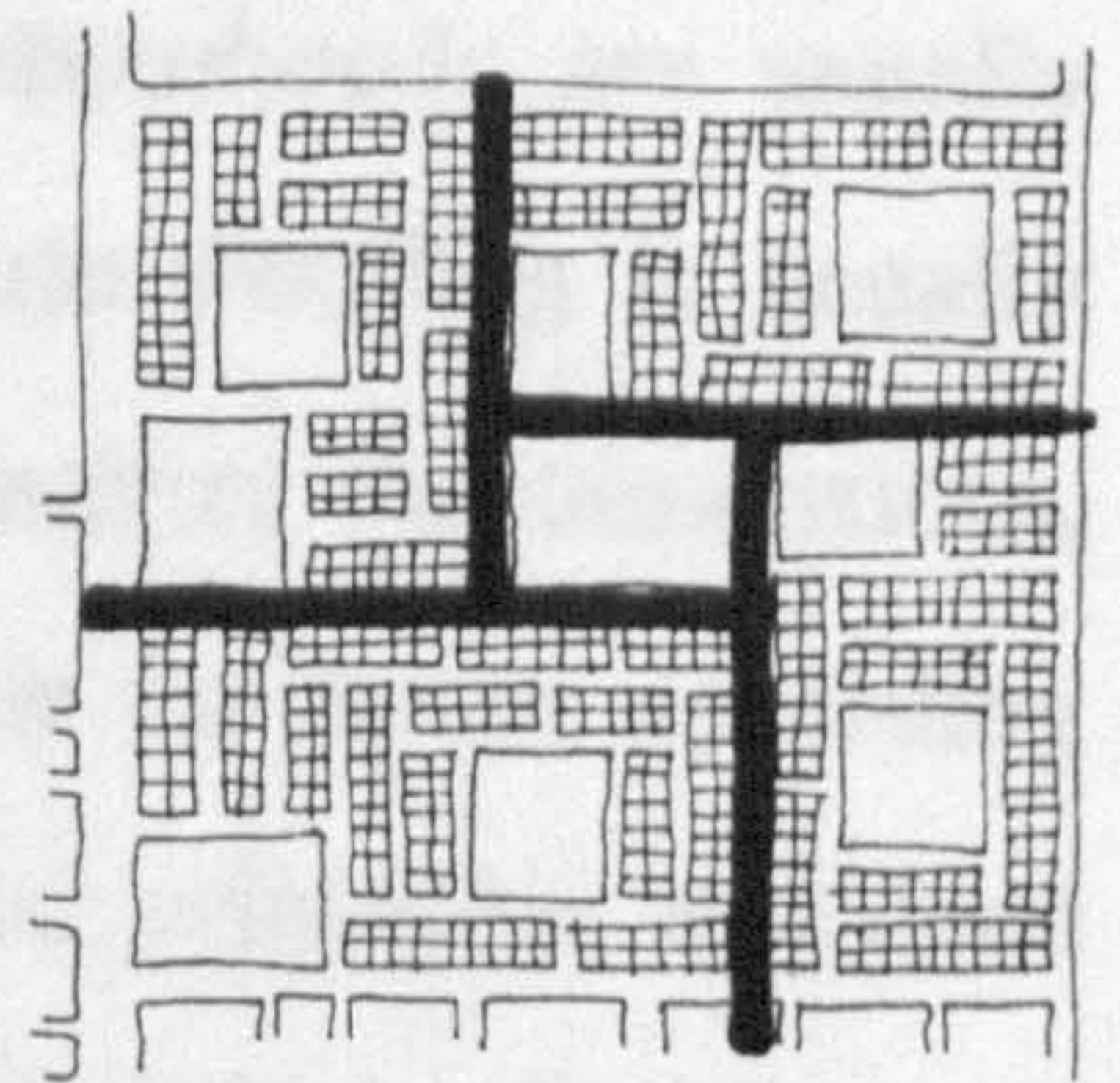
Three plans of the swastika concept as suggested by Doxiadis.



A TYPICAL COMMUNITY PLAN USING THE SWASTIKA CONCEPT AS SUGGESTED BY DOXIADIS (SOURCE : DOXIADIS , RIYADH COMMUNITY LAYOUT , A 35 , 1972 P. 28)

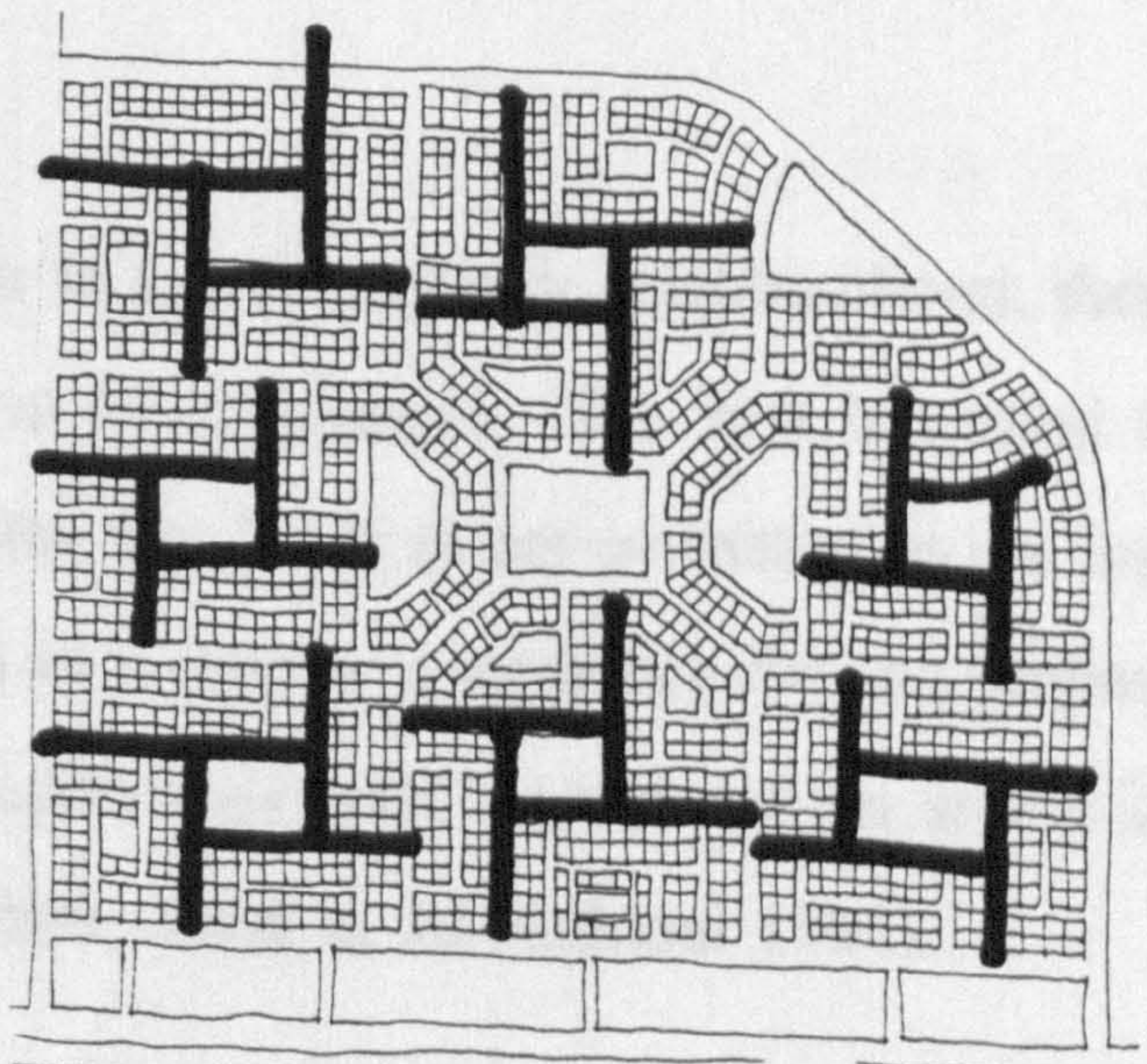
THE CONTEMPORARY DWELLINGS

4.36 The dwellings in the contemporary urban environment are very private domains. The ownership is confirmed through an ownership boundary, number, and the distance to the neighbourhood's plan. The plan is a document which records the he/she likes as long as it respects the principle of needs.



EXAMPLE FROM AYN IBN FUHAYD

4.37 In order to create a community, there are certain rules which govern the type of use. The rules are building in the residential area related to marketing or the plan of Nizam al-Turug wa al-Wa



EXAMPLE FROM SHAQRA

4.34 The streets occupy around from 30 to 40% of the plan, all are devoted for vehicle movement.

3.35 These two main elements are controlled by certain roles and regulations. The following intends to discuss and analyse the various elements of the contemporary neighbourhoods with reference to the cultural norms.

THE CONTEMPORARY DWELLINGS

4.36 The dwellings in the contemporary neighbourhoods are usually very private domains. The ownership of a certain dwelling is usually confirmed through an ownership deed which specifies the dimensions, boundary, number, and the direction of the lot or the house according to the neighbourhood's plan. According to Islamic principles, this deed is a document which thereby gives the owner the right to do whatever he/she likes as long as he/she does not harm others and mesh with the principle of needs.

4.37 In order to erect a house in a contemporary neighbourhood, there are certain rules which have to be considered. The first is related to the type of use. The rule states that "... it is not permitted to use any building in the residential area as a shop or a workshop for any propose related to marketing or any malodorous craft". (A part from article 20 of Nizam al-Turuq wa al-Mabani, cited in Al-Hathloul 1981).

4.38 According to the Doxiadis plan, commercial activities in the residential districts are limited to those streets with a width of 30 meters and over. This indicates that it is not permitted to the owner of a certain building to transform a room of his house into a shop corner in the residential quarter since most of its streets are less than 25 meters.

4.39 The second rule relates to the volume of the building as well as the minimum setback requirements which are usually written at the right side of any approved plan. The main requirements include:

1. The maximum built up area should not exceed sixty percent of the plot, including attachments
2. The maximum height should not exceed eight meters except with the approval of the concern authority
3. Front setbacks should be equal to one-fifth of the width of the road
4. Side and rear setbacks should not be less than two meters.

4.40 The purpose of these setbacks, according to the plan is to satisfy the need for lighting, ventilation, and to prevent crowding.

4.41 As a result of these new rules and regulations, the new dwellings are characterised by two main spatial sections; one is the solid structure of the building and the other is the outside ring of open spaces. A wall of three meters high is usually constructed surrounding the building and its open spaces in order to provide privacy as well as to define the boundaries of the plot.

4.42 According to Saudi customs, there should be two gates in the perimeter wall, one for men which leads to another entrance in the building itself which in turn leads to the guest spatial domain. The other gate is for women which leads to another entrance in the building itself which leads in turn to the family spatial domain. This separation is to ensure privacy for both parties.

4.43 The windows are usually large and opened on four sides facing outward (see Figure 4.08).

4.44 For a more detailed study, the following intends to discuss and analyse the various elements of the individual dwelling.

The Guest Domains

4.45 There are usually three main elements of the guest domains; these include; the reception area, the dining room and a washbasin. The men's reception area is usually located close to the men's gate and

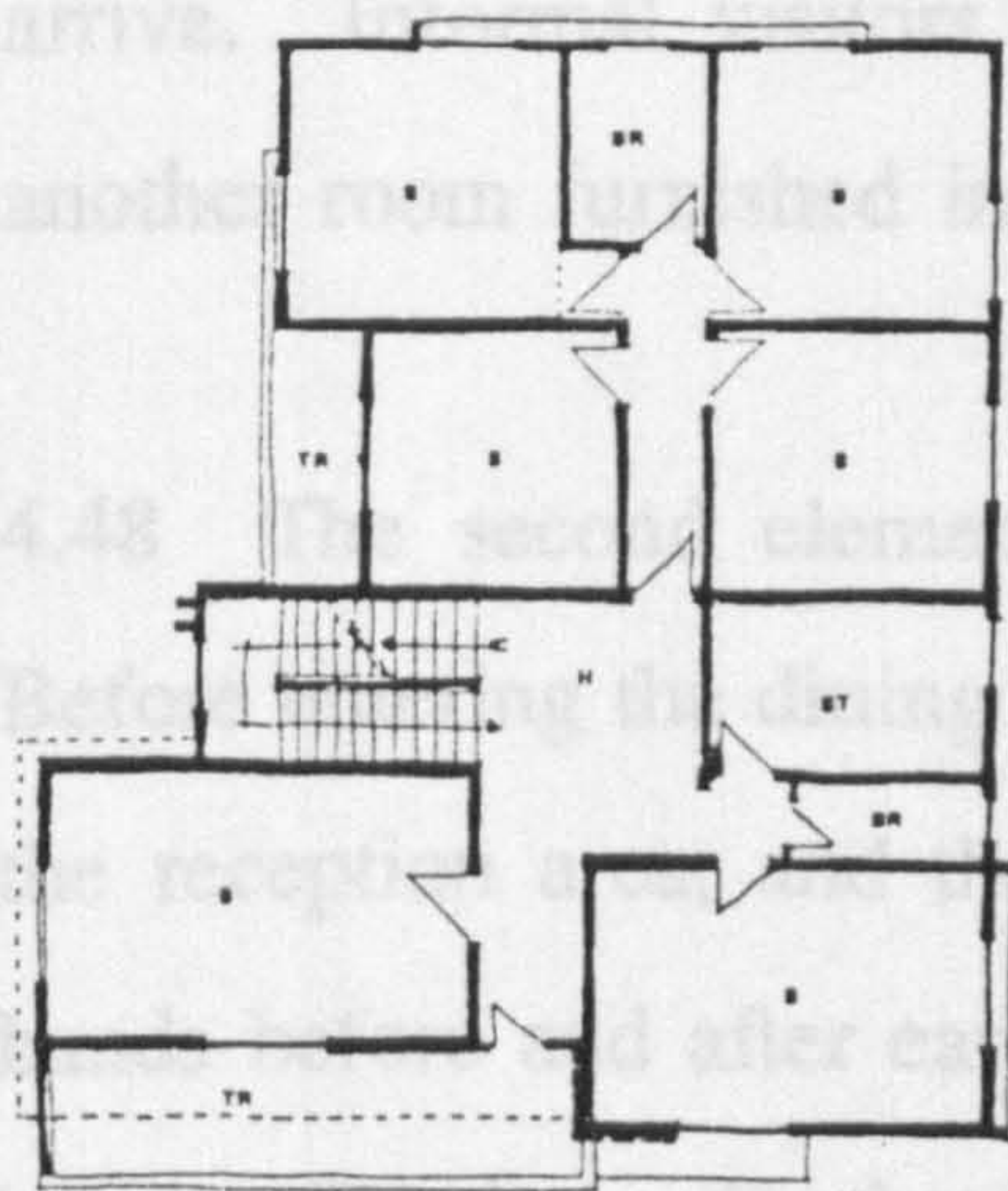
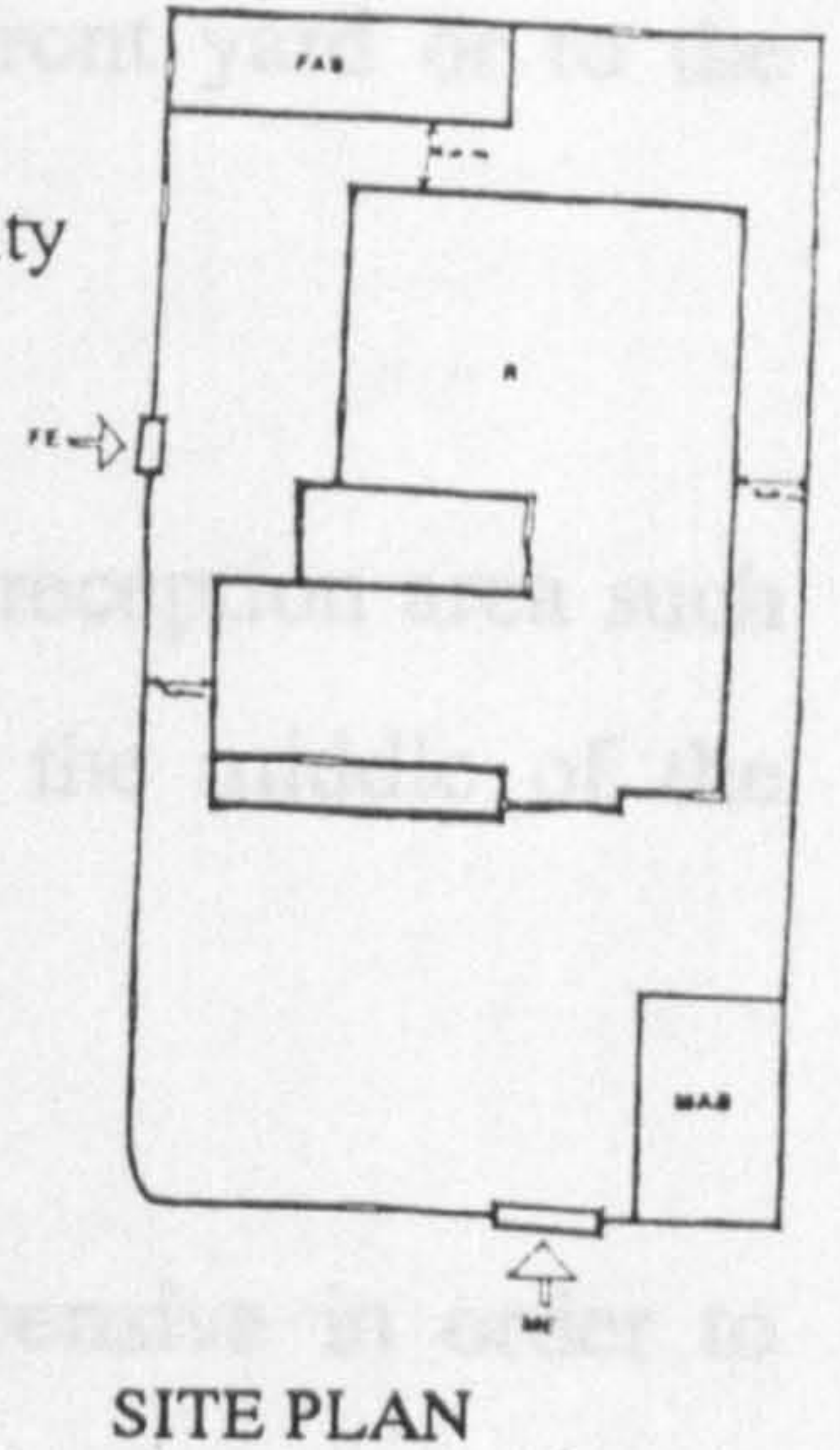
Figure 4.08

Plans and elevations of a contemporary dwelling in Riyadh city

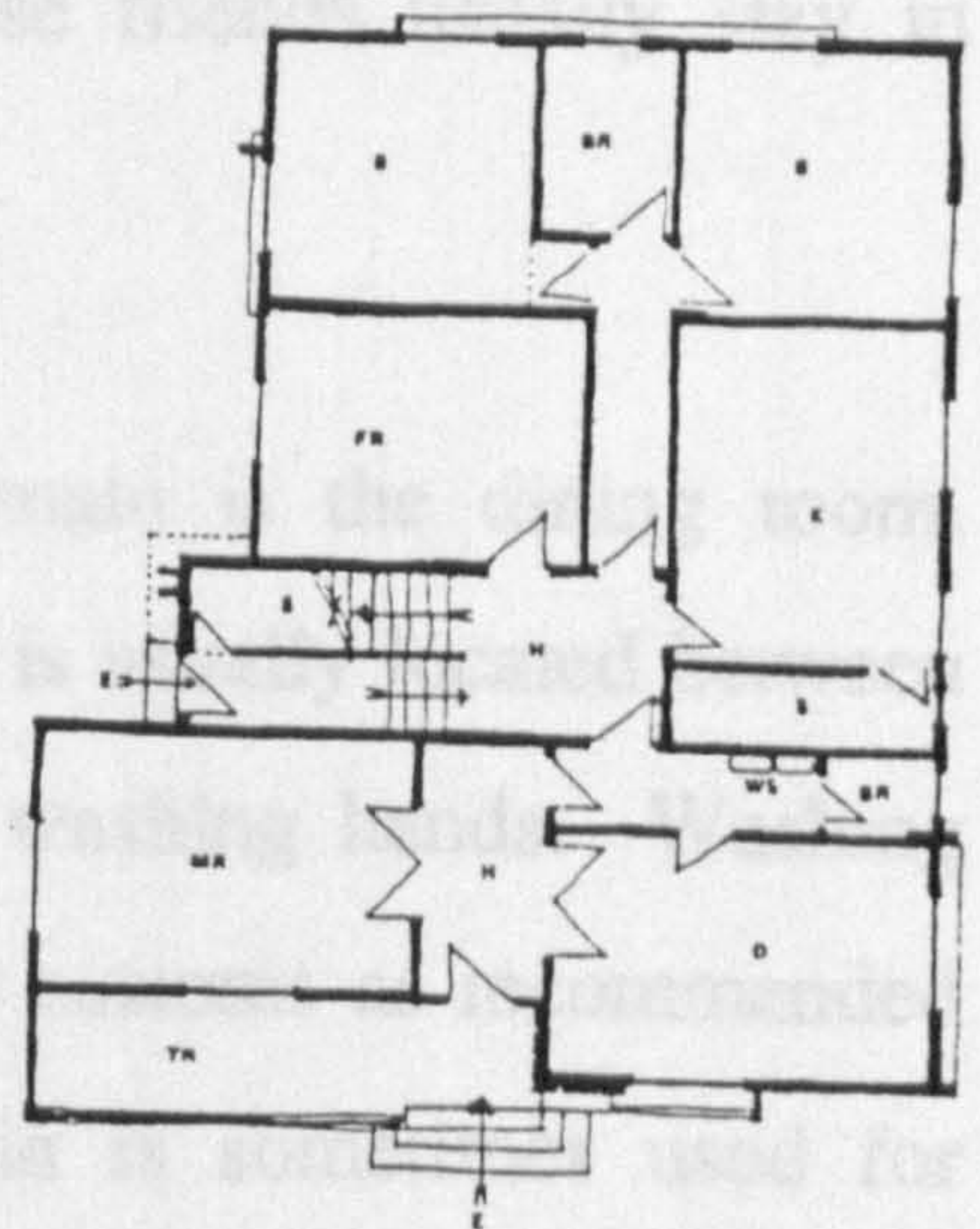
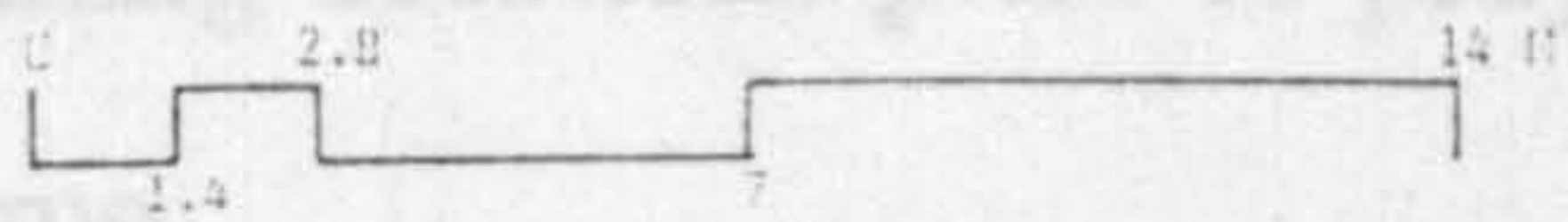
(source: owner).

KEY:

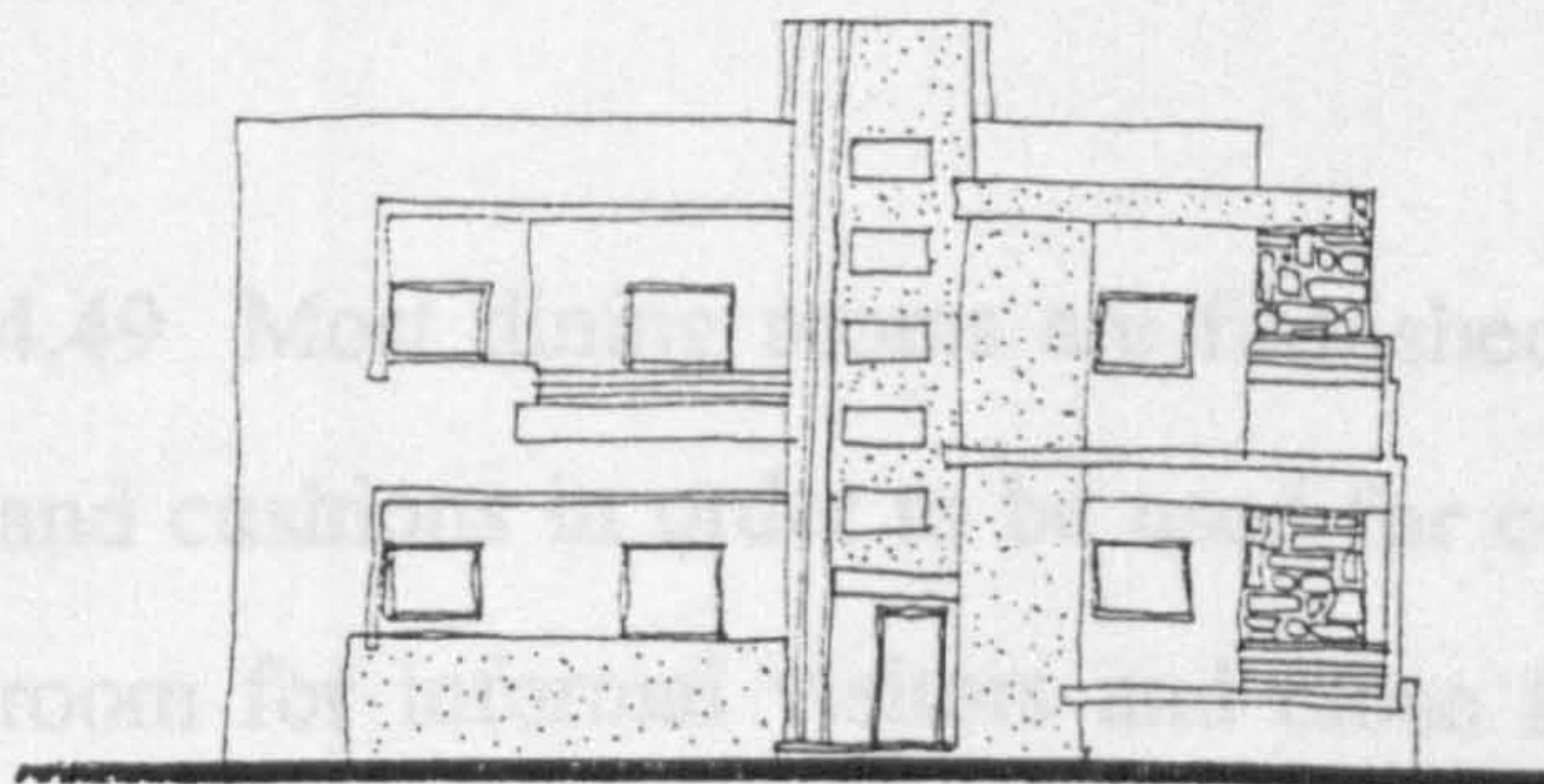
- E : ENTRANCE
- FE : FAMILY ENTRANCE
- ME : MEN'S ENTRANCE
- TR : TERRACE
- MR : MEN'S RECEPTION
- FR : FAMILY RECEPTION
- D : DINING ROOM
- H : HALL
- K : KITCHEN
- BR : BATHROOM
- B : BEDROOM
- R : ROOF
- MAB : MEN'S AUXILIARY BUILDING
- FAB : FAMILY AUXILIARY BUILDING
- S : STORAGE
- WS : WASHBASIN
- ST : STUDY ROOM



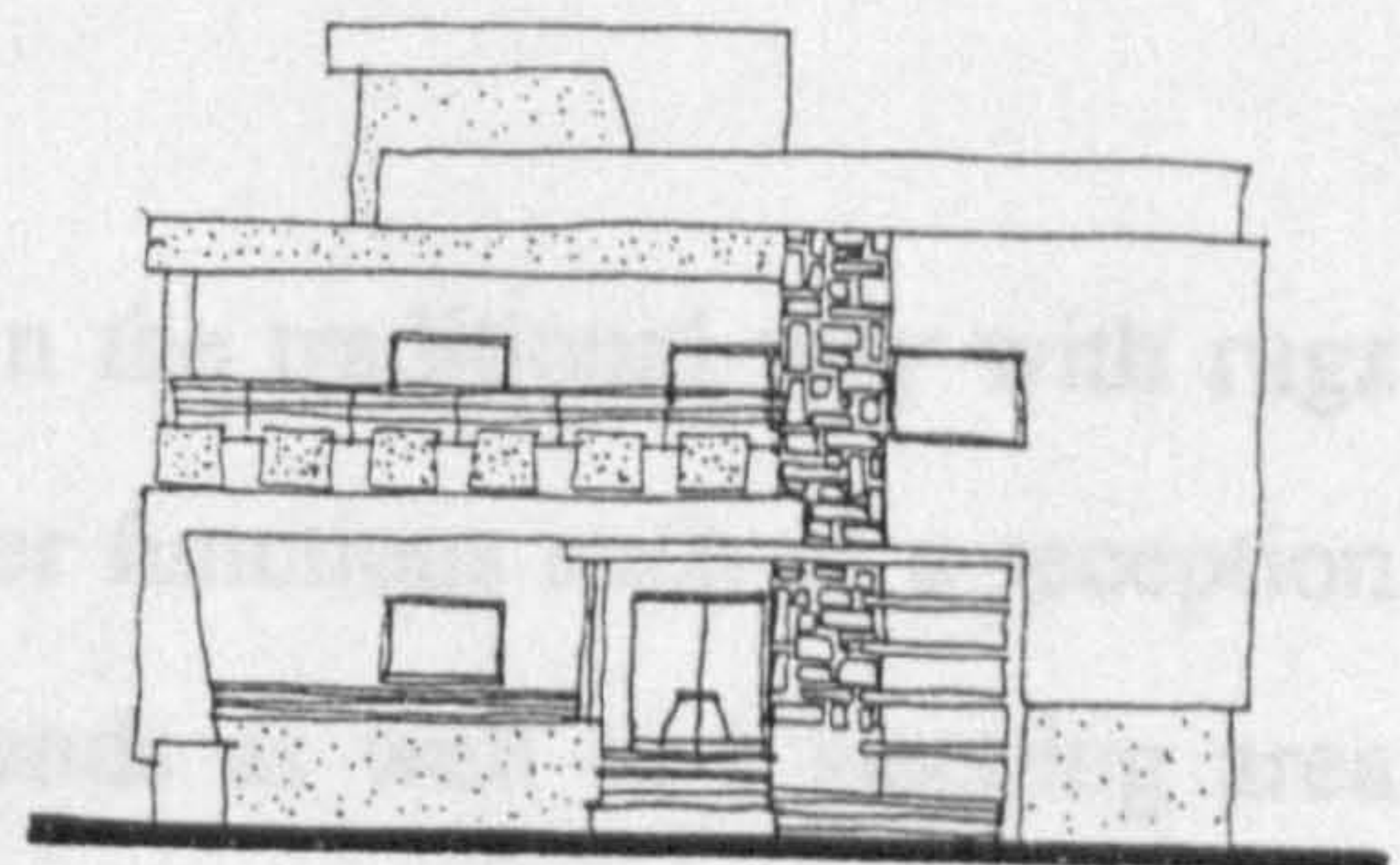
FIRST FLOOR PLAN



GROUND FLOOR PLAN



THE SIDE ELEVATION



THE MAIN ELEVATION

directly accessible from it. It opens to either the front yard or to the entrance lobby (see Figure 4.09).

4.46 Fixed, western furniture usually appears in the reception area such as sofas, chairs, lower tables, and a large table in the middle of the area.

4.47 These types of furniture are usually very expensive in order to represent the owners hospitality and his socio-economical status. Accordingly, the reception area is closed most of the time to keep the furniture clean unless there is a special occasion or formal visitors arrive. Informal visitors, relatives, and close friends usually stay in another room furnished in a traditional style.

4.48 The second element of the guest domain is the dining room. Before entering the dining room, a washbasin is usually located between the reception area, and the dining room for washing hands. Washing hands before and after eating is one of Saudi customs as recommended by the Prophet. Furthermore, the washbasin is sometimes used for taking ablutions prior to praying if the visitors coincide with the prayer time.

4.49 Most dining rooms are furnished in the traditional way with rugs and cushions in order to be used for other functions such as a reception room for informal visitors and close friends as well as a sleeping area

for visitors.

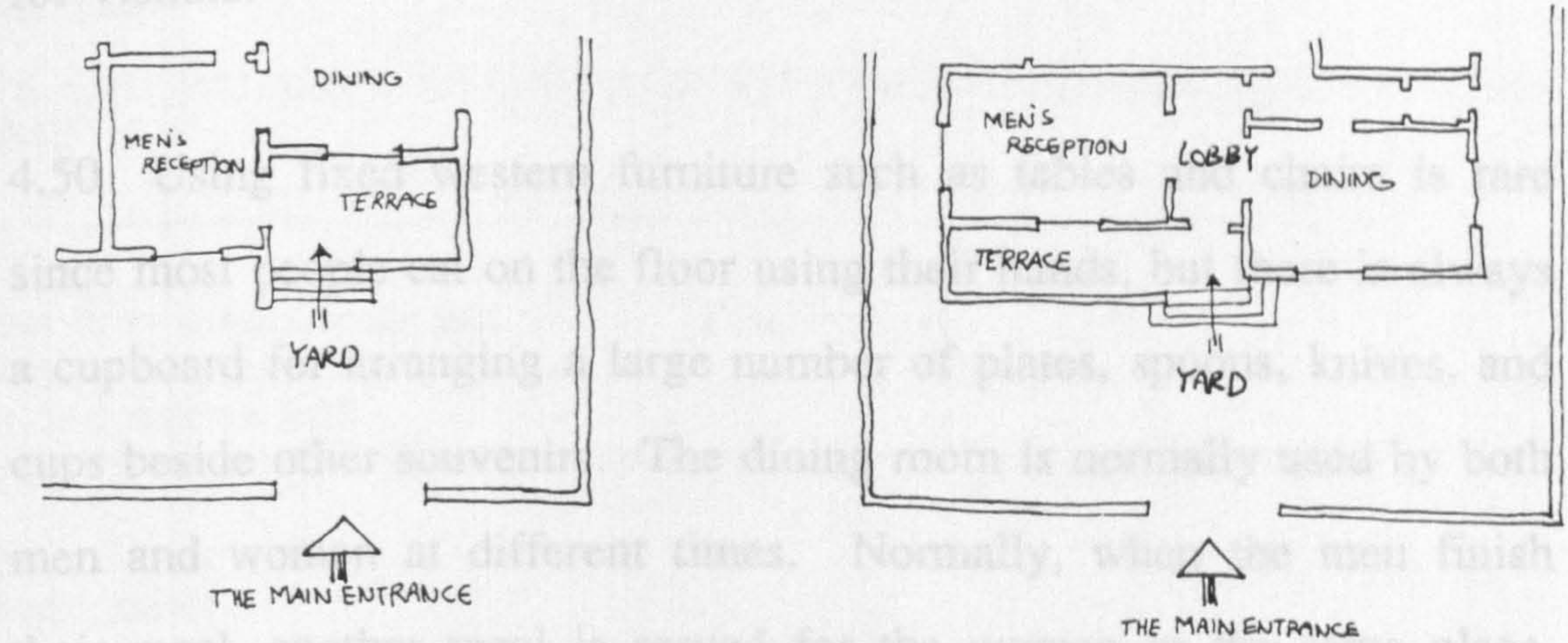


Figure 4.09 Two plans showing that the mens reception area opens to either the front yard or to the entrance lobby.

Family Domains

4.51 The family domain consists of a living room, kitchen, and bedrooms in addition to its services such as bathrooms. The living room serves as the focus of the household activities. It is separated from the men's domain by means of closed doors and passage ways.

4.52 The living room is usually used for sitting, eating and drinking, and entertaining. Generally, it is furnished in the traditional way with mats and cushions and a cupboard for arranging some imported consumer goods such as a television set, videocassette, telephone and other similarly newly powerful and attractive communication and entertainment tools.

for visitors.

4.50 Using fixed western furniture such as tables and chairs is rare since most people eat on the floor using their hands, but there is always a cupboard for arranging a large number of plates, spoons, knives, and cups beside other souvenirs. The dining room is normally used by both men and women at different times. Normally, when the men finish their meal, another meal is served for the woman in the same place. This can be supported by the finding of question number (9), of the researchers questionnaires (see Appendix C), which indicates that the majority (about 42%) of the responses stated that the men and women eat in the same place but at different times (see Table 4.02).

Family Domains

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TABLE 4.02**MEN'S AND WOMEN'S EATING ACTIVITY (SEE APPENDIX C, QUESTION NUMBER 9)**

If you have guests, men and women, where and when do the men and women eat?	Total	%
at the sametime and in different places	106	41
in the same place but at different times	111	42
in different places and different times	39	15
other	5	2
Total	261	100

If you do not have guests, where do you eat your meals?	Total	%
in the living room	164	63
in the kitchen	19	7
in the main dining room	65	25
other	13	5
Total	261	100

4.53 Sometimes, female relatives and female friends use the living room as a women's reception area to be close to the housewife in order to help her with the household chores. The living room is considered similar to and used instead of the traditional courtyard which has no longer become necessary because of the greater control afforded by new cooling and heating systems.

4.54 The kitchen is another important element within the family domain. Traditionally, it was located in the courtyard to avoid both the smoke as well as the cooking odours which were considered as unpleasant smells. However, the contemporary kitchen is located next to the living room inside the house because of the introduction of gas and electric appliances which help to get rid of smoke and cooking odours as well as the accessibility and reliability of water and sewage systems.

4.55 Fixed, western furniture usually appears in the modern kitchen such as cabinets, counters, sinks, refrigerators, and stoves. Its size is usually large enough (usually from 16 to 30 square meters) to match with women's wishes for a large area since it can be used as a place for gathering and gossiping with other close friends, relatives, and neighbours who usually socialise and help each other inside the dwelling.

4.56 The third element is the bedroom. Each modern house usually consists of many bedrooms (not less than three bedrooms) located mostly on the first floor. They are considered as the very private domain for the family. One of these bedrooms is for parents while the others for girls and boys separately. The concept of segregation of the sexes in their sleeping area is required by Islamic belief.

4.57 Normally, there is one or more large bedrooms in each house designed with a dressing area and a private bathroom for the parents or a married son.

4.58 The furniture of the bedrooms is based on the western-style of beds and dressers.

Bathrooms

4.59 Traditionally, bathrooms were usually separated from the other rooms. However, the modern bathrooms are located more conveniently inside the dwelling as a result of several factors. The first is the improvement in the accessibility and reliability of water and sewage systems; and the second is the availability of clean and suitable materials. Most houses have many bathrooms; one for men (usually located next to the washbasin of the guest domain) and one for the female visitors and the family, and the others are located to serve the bedrooms upstairs. Bathrooms are furnished with a washbasin, a tub

or a shower, and a seat lavatory or an earthenware seatless lavatory (sometime both types of these seats are fixed in one bathroom in order to satisfy the actual needs as well as to comply with the REDF requirements as discussed before).

Auxiliary Buildings

4.60 Most of the contemporary dwellings contain two or more auxiliary buildings. One for the men which is usually located in the front yard, while the others for the women and family purposes which is usually located in the back or the side yard. The location and the total area of any auxiliary building has to be within the municipality regulations. Some of these regulations include:

1. the total area should not exceed 10% of the total area of the villa structure
2. the height of any auxiliary building is the same as that of the perimeter walls and not to exceed three meters, and
3. the distance between any auxiliary building and the villa structure must not be less than two meters.

4.61 The men's auxiliary building is usually used as a reception area for close friends, relatives, and for the friends of their sons. It is usually furnished in the traditional way with a cupboard for some newly powerful and attractive communication and entertainment tools. It is the place where teenagers socialise and play games or cards. It is the place where they can behave freely, such as raising their voices, without

disturbing the family (see Figure 4.10).

4.62 The family's auxiliary building is usually used for many functions such as a kitchen, storage, or sitting area in order to keep the internal spaces of the villa clean and well organised for formal visitors.

Body Movement And Level Of Privacy

4.63 People of Saudi Arabia usually follow the Islamic teachings anywhere they live whether in a traditional house or in a contemporary one.

4.64 The contemporary houses have been designed internally to retain a hierarchy of privacy which usually controls the movement of its inhabitants and their visitors whether male or female.

4.65 The male's reception area, bathroom and washbasin are for males whether visitors, relatives, or inhabitants. The living room which corresponds to the courtyard in the traditional house, is open for all females in addition to male relatives and male inhabitants after notifying the female.

4.66 The dining room is for all parties but limited by specific times. For example, it is for males only while they eat their meal, and for females only while they eat their meal and for the female inhabitants and female relatives as well as for male inhabitants while preparing the



Figure 4.10 The men's auxiliary building, usually used as a reception area for close friends, relatives and for the friends of their sons.

The Flexibility And The Limitation Of The Contemporary Dwelling

4.68 Traditionally, the need and size of the family was considered in the first phase of construction of the traditional house. Rooms were constructed in empty spaces to accommodate family growth. In contrast, the modern houses are designed and constructed to accommodate the predicted future size of the nuclear family in the first phase. This is as a result of the R.E.D.F. requirements to get a complete loan of S.R. 300,000. As a consequence of this, a number of rooms are wasted in the first phase. They are either closed all the time, since they are not in use, or less efficiently used for a period of time. On the other hand, the modern dwelling will not fit the nuclear family when its size and growth has increased to form the extended family

meals. Other time could be used as a multi-use room for any party.

4.67 The kitchen, the family bathroom, and the ladies sitting area are elements initiated for the family as well as for females whether visitors or relatives. The upstairs elements, such as the bedrooms and their facilities, are the most private domain in the dwelling. No one can go upstairs except the family members and some of the very close relatives unless permission is granted. Again, as mentioned in the last chapter, we stress that a male whether inhabitant or relative must notify the female before entering the family section while male visitors must notify the other male members of the family when moving from one space to another, although they are in the same domains.

The Flexibility And The Limitation Of The Contemporary Dwelling

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because of the new regulations and planning system. The size of the plots are mostly small and the new regulations do not allow any resident to construct an extra floor to accommodate the family growth. There is no other choice but to buy another plot, usually far away, for some of the family members and break up the unity of the family.

THE MODERN STREETS

4.69 As a result of the need to use the new system of transportation instead of using the inefficient transportation by animal, adequate network of roads and highways have to be installed in order to accommodate the automobile. As a consequence, the master plan of many cities of Saudi Arabia proposed two types of road network for each community : collector and local streets. The collector streets link the community's local centre with the city's main road network surrounding the community. The city's main road network comprises freeways and expressways. The local streets penetrate into the community to serve exclusively local functions (see Figure 4.11). All these types of road network are devoted to the private automobile as the only mode of transportation. The width of the streets within the neighbourhoods areas vary and usually range from 10 to 25 meters (see Figure 4.12).

4.70 In terms of the responsibility, the modern streets, whatever they are, are considered as public land which is owned, built, and maintained by the municipalities. This role has been defined by the decree number



طرق خرة
 Free-ways
 طرق للسير السريع
 Expressways
 طرق رئيسية
 Major Arteries
 طرق ثانوية
 Minor Arteries

SCALE: 1: 200000

Figure 4.11 Hierarchy of main roads network of Riyadh city (source: Doxiadis, Riyadh master plan, A19, 1971, p.137).

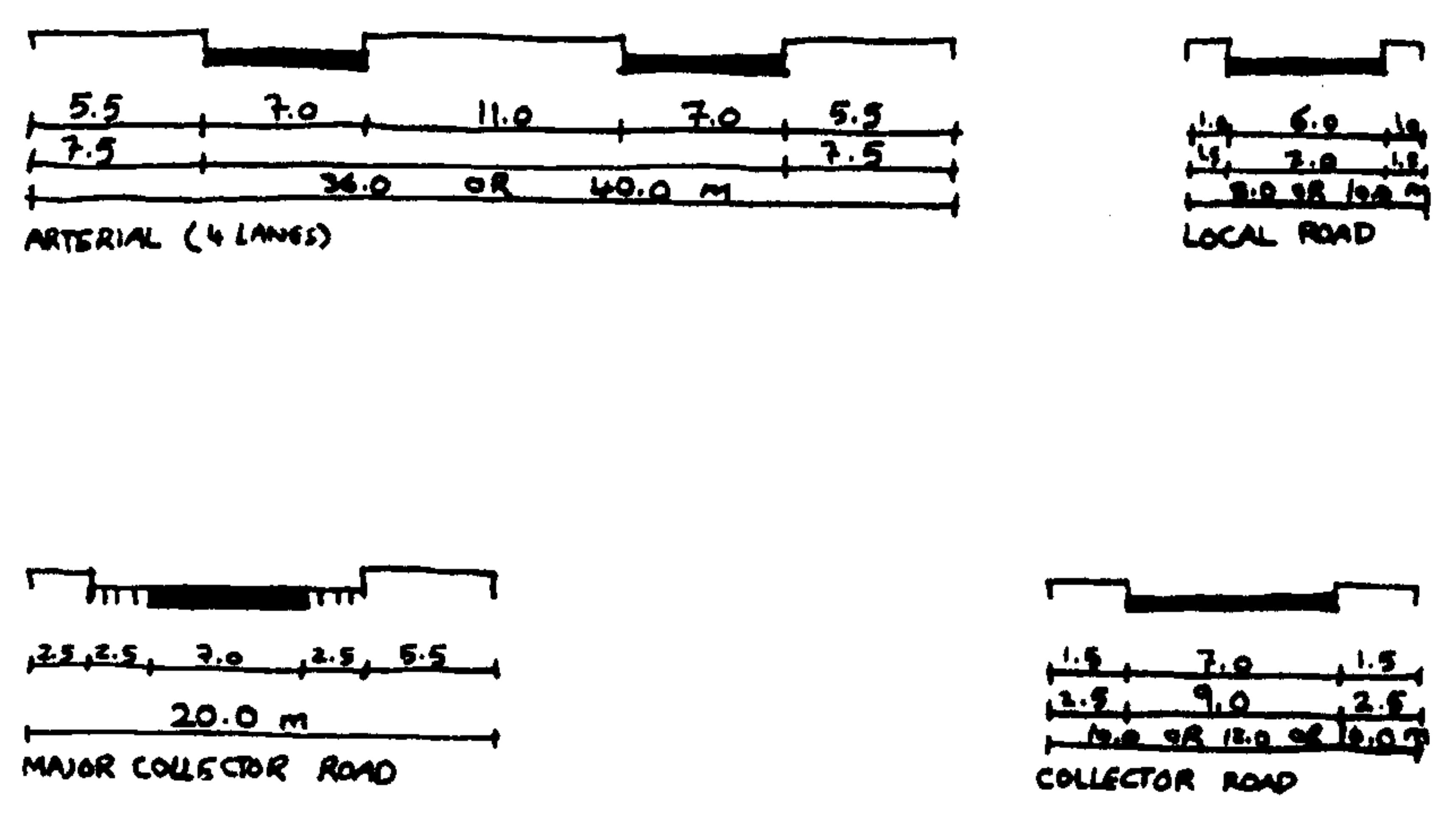


Figure 4.12 Typical cross section of roads (source: Doxiadis, Riyadh master plan, A19, 1971, p.143).

7334/3/C dated on 18/3/1394H (1974) which states that "... Right of road inside cities and villages should be according to the approval plans by the city planning office. If there is not an approved plan the right of road should be presented to the planning office where they have to define it". (Cited in Alenzi 1989). As a consequence of this, the residents rely heavily on the authorities to clean, maintain, and secure their spaces which has led to weaken the sense of territorial progression as well as the neighbourhood privacy.

MOSQUES

4.71 The mosques, as discussed previously, are not just places for worship but also for education and social interaction. Hence, the importance of mosques in the Saudi society has been recognised by the government, the mosques are represented by the Ministry of Pilgrimage and Endowments. Building and maintaining mosques is one of the responsibilities of the Ministry of Pilgrimage. Accordingly, it has proposed a set of guidelines for planning the mosques. These guidelines, as stated by SCET international SEDES (1980):

1. Mosques are classified into three categories:
 - a) Local mosques serving small population groups. This type of mosque is a relatively small mosque used for daily prayers.
 - b) Juma'a mosque serving large population groups. This is a larger type of mosque which is used for Friday prayers.
 - c) Eid praying ground. This type of ground is essentially for

the two religious festival (Eid) in each year. Usually the ground is located outside the urban areas.

2. Mosques should be proportional to the population density.

4.72 As a matter of fact, the Ministry of Pilgrimage and Endowments has not recommended precise standards for locating the mosques. Therefore, the location of each type of contemporary mosque has been determined (depending on the consultant's background) by the assumed number of worshippers. For example, the capacity of the local mosque has been determined, by SCET international of SEDES (1980) for Riyadh city, to have from 300 to 2,000 worshippers (see table 4.03). According to these standards and to the new concept of very low density neighbourhood as proposed by Doxiadis for the most of the contemporary neighbourhoods, which they considered and proclaimed it "would be desirable for the future city" (p.119 in Dox-SAU-A19), the local mosque is never located to serve less than a 600 meter radius (see table 4.04). As a result of this, people find difficulty in going to the local mosque five times a day in order to confirm their prayer in a congregation. A long distance, hot climate, and a great threat by automobiles are some of the major factors which force people to pray at home rather than at mosques.

Standards \ Category of mosque	Local Mosque	Juma'a Mosque
Population served (inhabitants)	1 for neighbourhood of 2,500 to 8,000	1 for 10,000 to 60,000
Capacity of the mosque (number of worshippers)	300 to 2,000	1,000 to 2,500
Radius of area served	200m to 600m or 5 min. to 10 min. walking distance	1,200m to 20 min. walking distance
Floor area requirements) Per worshipper) Total area requirements)	1.2 m ² 300 m ² to 2,400 m ² per mosque	1.2 m ² 1,200 m ² to 3,000 m ² per mosque
Land area requirements	2,000 m ² to 3,000 m ² per mosque	5,000 m ² to 8,000m ² per mosque
Locational requirements	Usually in the center of the neighbourhood	In the heart of the community center

TABLE 4.03 Range of prevailing standards of mosques (source: SCET International, technical report no.9. Planning standards and regulations, volume 2 : Planning standards 1980 p.28).

TABLE 4.04 Distribution of mosques within the city of Riyadh (source: SCET International, volume 1, 1980, p.27).

Standards	District	Old Town	Al Malaz	Al Sulaymaniyeh
Service area: 1 mosque per		52,000 m ²	350,000 m ²	1,500,000 m ²
Radius of area served	Min. Max.	50 m 300 m	300 m 1,000 m	1,000 m
No. of inhabitants per mosque		1,100	2,400	7,500

THE MANAGEMENT PROCESSES OF THE CONTEMPORARY NEIGHBOURHOODS:

4.73 This section aims at describing the structure and functions of governmental institutions in Saudi Arabia with special attention to those institutions which are responsible for implementing and controlling the various elements of the contemporary neighbourhoods.

4.74 According to Al-Ghamdi (1989), the structure of governmental institutions in Saudi Arabia comprises of:

1. The King, the leader of Saudi Arabia. He is the Prime Minister and he is the chairman of the council of Ministers. His responsibility is to direct generally the internal and external policies of the whole country in light of the Islamic teaching.
2. The council of Ministers which holds authority over all social, economic, and political affairs of Saudi Arabia, and
3. The Deputy Ministers who handle the affairs of the Ministries of which they are deputy ministers. Each Deputy Minister, depending on the aims towards which he directs the actions of the departments and branch offices and the preparation of annual plans and budgets, advises and proposes to the ministers policies and plans for handling workloads.

4.75 The Ministries include, the Ministry of Agriculture, the Ministry of Commerce, the Ministry of Education, the Ministry of Finance and Natural Economy, the Ministry of Health, the Ministry of Industry and Electricity, the Ministry of Interior, the Ministry of Justice, the Ministry of Labour and Social Affairs, the Ministry of Pilgrimage and Endowments, the Ministry of Public Works and Housing, the Ministry of Telegraphs and Posts and Telephones, the Ministry of Transportation, the Ministry of Planning, the Ministry of Foreign Affairs, the Ministry of Petroleum and Minerals, the Ministry of Higher Education, the Ministry of Communication, the Ministry of Information, the Ministry of Defence and Aviation, and the Ministry of Municipal and Rural Affairs.

4.76 The majority of these ministries are responsible for urban development programmes in Saudi Arabia. For example, the Ministry of Education provides schools, etc., the Ministry of Pilgrimage and Endowments provides mosques, etc., the Ministry of Health provides clinics and hospitals and so on. Accordingly, at least 17 of the Ministries have their administrative offices spread throughout the country to execute the plans of the development programmes which are usually prepared by the national headquarters in Riyadh city, the capital of Saudi Arabia.

4.77 Having briefly explained the administrative structure of the government institutions, the following will explain the role of the

Ministry of Municipal and Rural affairs on the physical planning machinery, which is of the concerns of this thesis.

4.78 According to Al-Yemeni (1988), the Ministry of Municipal and Rural affairs was established to confirm the following aims:

1. to provide the best means for expansion and development of the Kingdom's towns and villages
2. to promote local services and utilities, and
3. to plan future urban growth.

4.79 Hence, the Ministry of Municipal and Rural affairs is established to deal with purely physical planning machinery of both regional and local levels.

4.80 In order to achieve the previous aims, the Ministry was divided into four departments.

1. Deputy Ministry for town planning, responsible for physical planning at both regional and local levels.
2. Deputy Ministry for municipal affairs, responsible for supervising, managing, and funding over 1100 municipalities throughout the country.
3. General directorate of Engineering Affairs.
4. General directorate of Rural Affairs.

4.81 The Deputy Ministry for town planning is primarily responsible for physical planning activities. Therefore, it is responsible for (1) the preparation of master plans, action plans, and detailed plans for towns and rural areas in order to regulate urban expansion, and (2) the preparation of building regulations and other physical development specifications to be implemented by the various municipalities over the kingdom.

4.82 Municipalities were established to handle the local planning and other local matters. Their responsibilities include paving, cleaning, beautifying, and landscaping streets and open spaces; controlling and inspecting the implementation of the private buildings, and issuing building permits according to the zoning regulations, subdivision regulations in addition to the various standards and building codes.

4.83 According to Al-Yemeni (1986), there is a four-tier ranking of municipalities : Class 'A' for cities over 300,000 population, class 'B' for towns over 100,000 population, class 'C' for towns over 30,000 population and class 'D'; for small towns of over 5000 people. Each of these classes has a specific organisational structure. Generally speaking, the larger cities municipalities usually plan and execute while the smaller ones execute what the Ministry of Municipal and Rural Affairs plan although all classes of municipalities rely heavily on the Ministry of Municipal and Rural Affairs in terms of annual budgets.

4.84 Generally speaking, land development policies, wherever they are, follow national standards and national regulations implemented by the municipalities at the local level. Most of the national standards and regulations are defined through clear statements of what one should do and how to do it. Variations in terms of locations, particular cases and the characters and needs of individual people are not considered.

CONCLUSION:

4.85 As a direct result of the exponential increase in oil revenues, the Saudi authorities have undertaken responsibility for the prosperity of the country by providing better living conditions for its society and appear to have been somewhat successful in this. One example is the contemporary neighbourhood which is created with the latest technology and planning systems. It is well organised in terms of its geometrical shape, cleanliness, equipped with the latest utilities and facilities such as water and sewage systems, electricity, telephones, schools, and open spaces, in addition to offering better living condition in terms of living standards. The contemporary neighbourhoods concepts were introduced by several international firms such as ARAMCO and Doxiadis in addition to other foreign planners and architects. Meanwhile the government helped to speed up the scale of growth throughout the establishment of the Real Estate Development Fund which provides a variety of interest-free loans to individuals and groups.

4.86 The contemporary neighbourhoods, mostly, follow either grid or swastika model of land sub-division which leads to defining two main elements, plots and public streets. The streets are, usually, wide to accommodate cars and their movements, while the plots are, usually, defined according to their use. The majority of them are private plots for dwellings while the others are for the essential facilities such as schools and mosques. The dwellings are usually villas which are characterised by two main spatial elements. One is the solid structure of the building and the other is the surrounding ring of open spaces outside. The final shape of the villa results from respecting certain regulations which are defined, controlled, and inspected by the municipality of the town. The sizes of the residential plots of the contemporary neighbourhoods are various depending on the location of the neighbourhood within the overall plan of the city.

4.87 Generally, the contemporary neighbourhood seems to emphasise specific functions and mobility. However, the conflicts between the contemporary model of planning and the individual and the socio-cultural requirements of the society were not realised and questioned seriously by the authorities until some of the society's members refused to accept this contemporary model and modified it somewhat to suit their living. In order to define these conflicts, the next chapter attempts to evaluate the contemporary neighbourhood concept to raise issues for forming the final recommendations of this thesis.

CHAPTER FIVE: EVALUATION: THE CONTEMPORARY ENVIRONMENT AND THE CULTURAL ISSUES

INTRODUCTION:

5.01 The planning and the rules of the contemporary neighbourhoods in Saudi Arabia are usually based on proposals and recommendations developed by foreign consultants. The consultants' plans, however, are similar to those which are proposed for solutions to their problems. The results have been architecturally irrelevant to Saudi Society and philosophically devastating.

5.02 This chapter is an effort to evaluate the contemporary neighbourhoods' environment in terms of the social-cultural norms (such as privacy, territoriality, social interaction and family structure) and the individual requirements.

5.03 In addition to the pictures taken through the observational technique which usually explain what is happening in a real life setting, questionnaires and interviews have been the most important tools used for evaluating the contemporary living environment. These explain how the environment is used and how people behave as they do, feel, believe, and desire. In the following stages, the collected data was collated and analysed using methods based on behavioural pattern and statistical analysis.

THE SOCIO-CULTURAL NORMS

PRIVACY:

5.04 In the Central Region of Saudi Arabia, the notion of privacy, especially the privacy for women, is not one of the variables that can be changed easily by new ideas, roles, or concepts of modernisation. It is connected strongly with the belief of the inhabitants rather than with the planners', designers', or the decisions makers' wishes. The concept of privacy for women which is represented by the concept of segregation of the sexes is one of the Islamic teachings which Muslims must accept and respect.

5.05 By confirming the new concept of setback requirements and allowing dwellings to open windows and balconies looking into the surroundings facing into the neighbour's spaces, the concept of intimate privacy of the neighbour's is totally disregarded.

5.06 The setback is one of the houses' elements. Therefore, in order to be used it should be associated with a certain level of privacy depending on the nature and the sex of the users. For example, if the users are females, then males must notify the female if they want to use it, pass through, or look at it unless they are of the Mahrem. According to this, a neighbour who can see through his windows into his neighbour's setbacks is considered as the same as the one who lives inside the neighbour's house. To clarify this, Table 5.01 shows that the frequency of using setbacks is not affected by the nature of the

TABLE 5.01

THE RELATIONS BETWEEN THE NATURE OF NEIGHBOURS AND THE FREQUENCY OF USING THE SET-BACKS (SEE APPENDIX C, QUESTION NUMBER 13 AND 19)

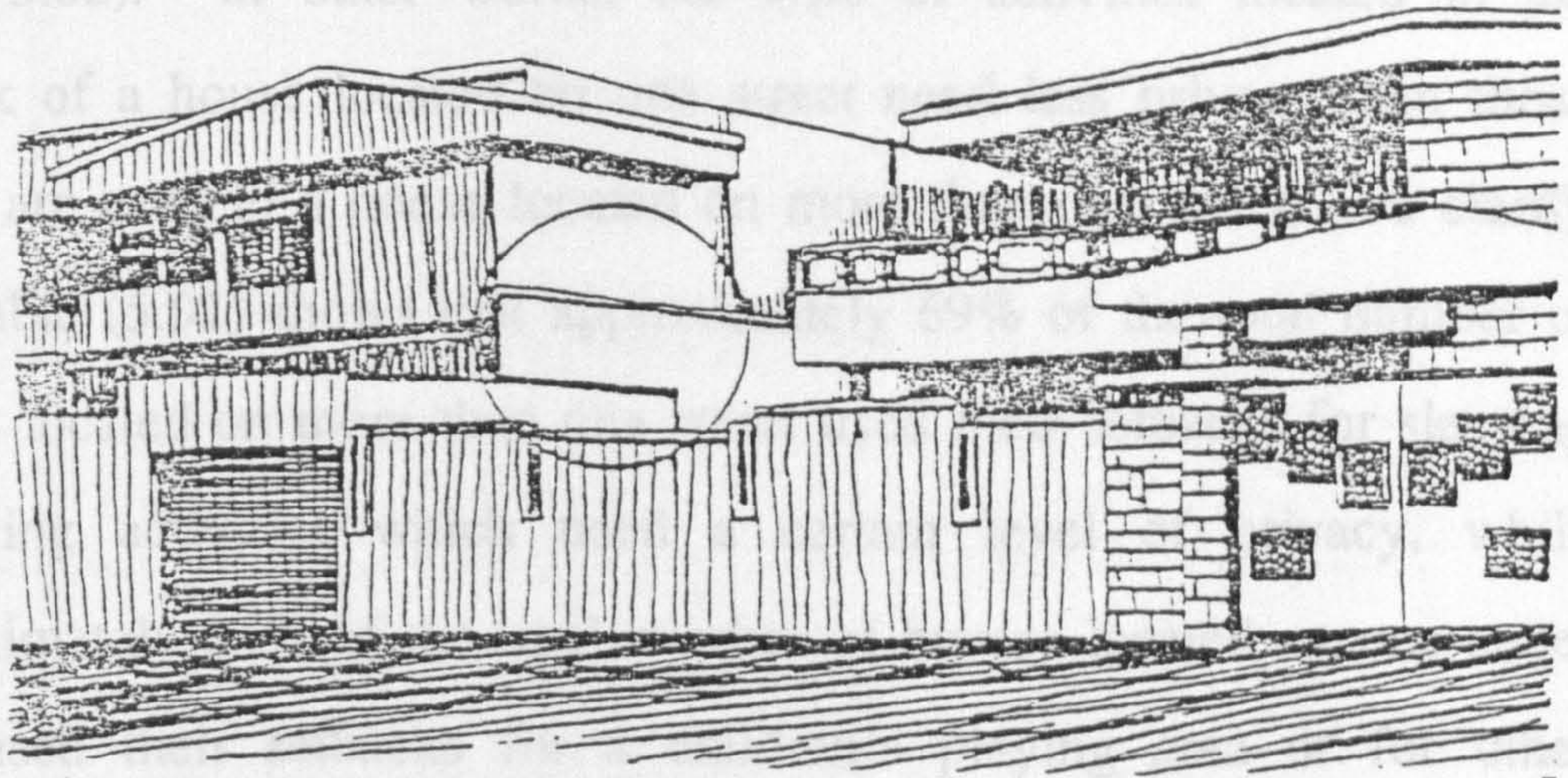
Nature of neighbours	Frequency of using setbacks			
	Always	Sometimes	Rarely	and Never
Relavatives	17	16	2	35
Friends	20	28	8	56
Relatives and friends	12	21	4	37
From the same region of origin	20	20	6	46
Vacant	7	9	3	19
Other	7	10	6	23
Total	83	106	29	216

By using chi-square technique: The result shows that the frequency of using setbacks is not affected by the nature of neighbours (for calculation refer to Appendix D).

neighbours. For example, if the neighbour is a close relative that does not mean he is one of the Mahrem. If he is not of the Mahrem then the females of the house will not use the setbacks while he is looking into it or the females feel, psychologically, that their privacy could be invaded by neighbours. So there is no difference between neighbours whether relatives, friends or any other type of people if they are not of the Mahrem.

5.07 Consequently, people who refuse to accept the violation of their intimate privacy, have sought different ways to solve their problem. Some of them have come to an agreement, sulh, with their neighbours whereby one or both of them have made certain changes in the design of the windows in order to block off direct visual access into the neighbour's privacy. Other people have used certain types of plastic or steel frame to extend the height of the perimeter wall between the two neighbours in order to ensure the protection of their privacy (see Figure 5.01).

5.08 Other people solve the problem by buying a plot located on two or more streets in order to have two or more setbacks that can be used without being seen by their neighbours. There are two pieces of evidence to support this fact. The first through looking at the results obtained from the questionnaires which indicate that the type of activities located in the setback of a house located on one street is different than the one which is located on two or more streets (see



(SOURCE : AL- HATHLOUL 1981)

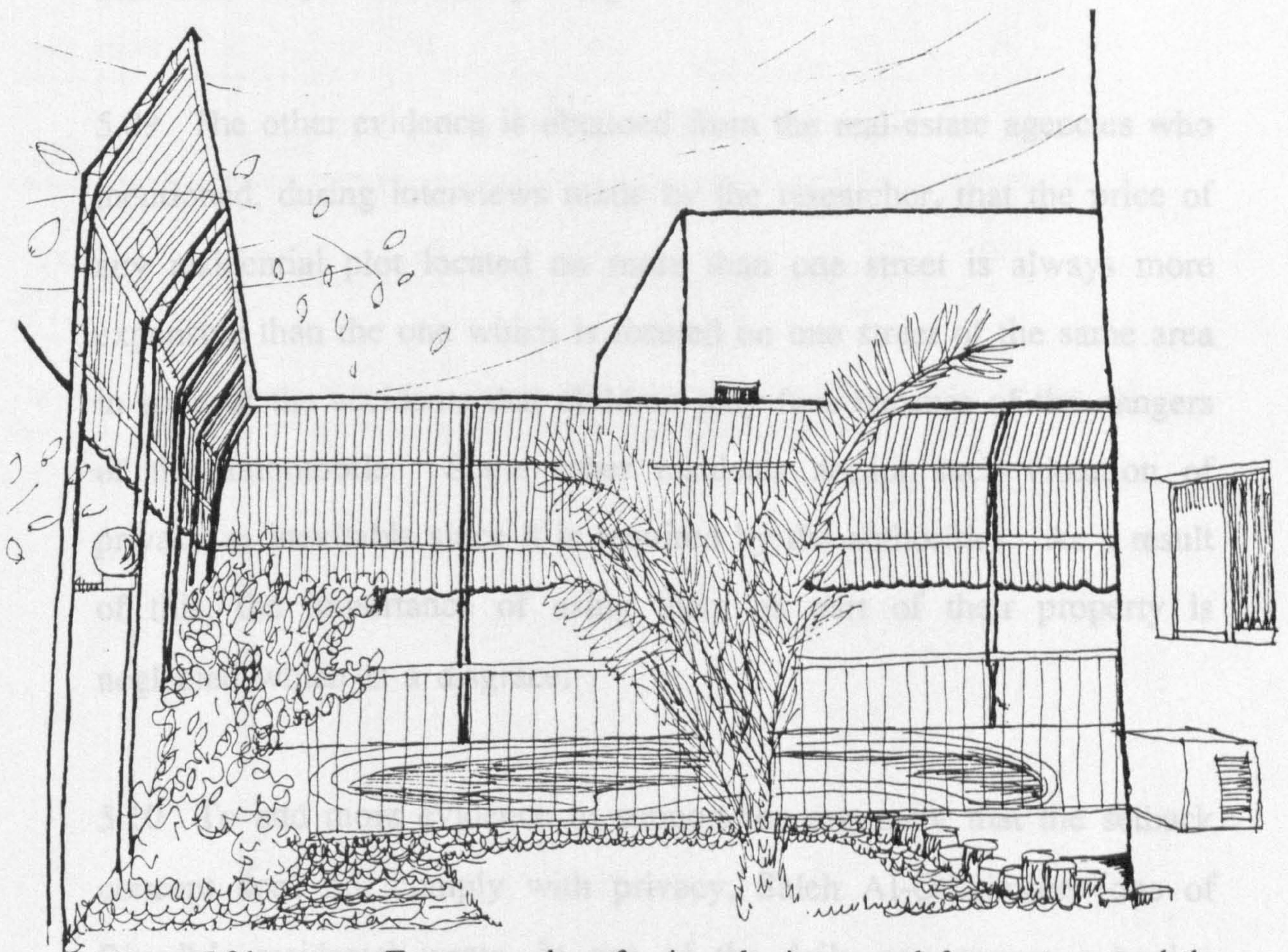


Figure 5.01 Two examples of using plastic or steel frames to extend the height of the perimeter wall between the two neighbours in order to protect their privacy.

Table 5.02). In other words, the type of activities located in the setback of a house located on one street need less privacy than those which are used in a house located on more than one street. To clarify this Table (5.02) shows that approximately 69% of the total number of houses located on more than one street used their setbacks for sleeping or sitting activities which need a certain level of privacy, while approximately 54% of the total number of houses located on one street only used their setbacks for a children's playing area or for other activities which need less privacy.

5.09 The other evidence is obtained from the real-estate agencies who mentioned, during interviews made by the researcher, that the price of any residential plot located on more than one street is always more expensive than the one which is located on one street of the same area in spite of the accidents that children may face because of the dangers of the automobile. Some other residents accept such violation of privacy as inevitable since it is required by the authorities. As a result of this, the importance of using them as part of their property is neglected which is a disgrace.

5.10 To add more evidence to support the argument that the setback concept does not comply with privacy, Saleh Al-Othaimen (one of Riyadh's residents) wrote, in one of the daily newspapers a benign message for the central authority complaining of the problems of the setback and asking to make changes to fit our social needs. He

TABLE 5.02

THE RELATION BETWEEN THE TYPE OF SETBACK ACTIVITY AND THE STREET TYPE. (SEE APPENDIX C, QUESTIONS NUMBER 4 AND 13).

Type of street on which house is located	Type of use/activity				Total
	<u>sitting</u>	<u>children play area</u>	<u>sleeping</u>	<u>other</u>	
one street	38	42	1	5	86
more than one street	74	39	1	1	115
Total	112	81	2	6	201

By using chi-square, this table shows that the type of setback activity is affected by the house location in the bases of the street type (for calculation refer to Appendix D).

mentioned some of its problems and supported it by a good example. He stated that:

"... I asked one of those who built a resort outside Riyadh City although he already has a large villa in the centre, why he had done so? His answer was "is my house in Riyadh city protected from violations of privacy? No, my city house setbacks can be seen from all directions. So, neither I nor my family sit on these setbacks since I have lived in my villa". (Aljazeera No.6090, see Appendix E).

5.11 In the conclusion of his article he joined the traditionalists approach and recommended going back to our traditional environment as the only guide for solving the existing problems.

5.12 As a matter of fact, the setback concept not only does not satisfy the need for privacy, but also, does not provide the residents with the feeling of security. When asking the question number (15) "Are the windows of your dwelling provided with steel or aluminium bars? If yes, what is the reason? Is it for privacy, safety, beauty, shading or other purposes? 246 out of 261 answers, "yes". 218 of them were for security purposes. (see Table 5.03).

5.13 In general, the setback concept led to unsatisfactory privacy especially the intimate privacy of the residents and less security. The setback concept is required by the municipalities, although it leads to

TABLE 5.03

THE DWELLING'S WINDOWS AND THEIR APPEARANCE (SEE APPENDIX C, QUESTION NUMBER 15).

Are the windows of the dwelling provided with steel or aluminium bars?	Total	%	Approx. %
Yes	246	94.25	94
No	15	5.75	6

If yes, what is the reason? is it for:	Total	%	Approx. %
Privacy	7	2.85	3
Safety	219	89.02	89
Beauty	18	7.32	1
Shading	2	0.81	1
Other	0	0	0
Total	246	100	100

This table shows that the majority of dwelling's windows are provided with steel and/or aluminium for security reasons.

breaking the law of Islam which indicates that violations of resident's privacy without permission is an offence. One of the resident's rights to protect their property is to puncture the eye of the offender during the action.

5.14 The first chapter mentioned how the Islamic Scholars stressed the importance of respecting the neighbour's privacy such as compelling the owner of a roof terrace that is higher than his neighbour's roof terrace to build a parapet or wall because he would view his neighbour's house if he used it. Another case was the request to seal or swerve the neighbourhood's shops if their keepers were exposed to what is happening in the houses around them.

5.15 There is in fact two contradictory systems in the Central Region of Saudi Arabia, the Islamic law and the municipalities rules. A question raised is whether the municipalities are aware of this situation and wish to maintain it in order to change peoples attitudes, which is impossible. Since such a dramatic change in this aspect is very difficult to be imagined in the near future. Or whether (as I believe) they are not aware of it, then this research hopes to present and clarify such a problem.

TERRITORIALITY

5.16 Territoriality, as mentioned previously, serves as a basic for the development of a sense of identity, stimulations, security as well as to

maintain one's relationship with the surrounding environment (Lang 1987). Traditionally, the neighbourhood consists of a hierarchy of spatial levels. These levels form a transitional territorial progression from the very private territory to the very public territory in order to allocate the various activities in their suitable territory. These territories were often named after occupations, residents or owners. Each level implied a specific form of responsibility among its users that made it a functional element. However, the contemporary neighbourhoods only consist of two clear spatial levels. These include the private territory such as the dwellings and public territory such as the streets. The other types of territories such as the semi-private territories do not exist in the contemporary environment. The contemporary streets, owned and controlled by the municipality, are all very public.

5.17 This led to ending the shared, responsibility among its users as well as encouraging the residents to rely on the authorities to clean, maintain, and secure their spaces. As a result of this, many activities have shifted from their suitable territory. Children's activities have shifted to be located inside the dwellings (see Table 5.04) since it is very dangerous to play in the wide and straight streets where there is no speed limit for cars (see Figure 5.02). As a result of this, the social contact between children becomes less since the streets are not safe and children cannot cross the streets without assistance. Teenager activities have also shifted to be located in auxiliary buildings inside the

TABLE 5.04**CHILDREN AND THEIR PLAYING ACTIVITY. (SEE APPENDIX C, QUESTION NUMBER 30).**

Is there any specific place provided for children to play in your locality?	Total	%	Approx %
Yes	64	24.5	25
No	197	75.4	75
Total	261	100.00	100

If no, where do they play then?	Total	%	Approx %
In their homes	108	54.8	55
In the streets	66	33.5	33
In vacant lands	21	10.7	11
Other	2	1	1
Total	197	100.0	100

This table shows that the majority of the children in the contemporary environment stay at home.

dwellings which were built for them to socialise and play games or cards.

5.18 Socialisation among women has shifted from outdoor spaces because the areas surrounding their houses are all open to the public and which they cannot use freely as they wish to go to public places. In order to provide

statements of what is said by the women who are located in the public spaces, the following

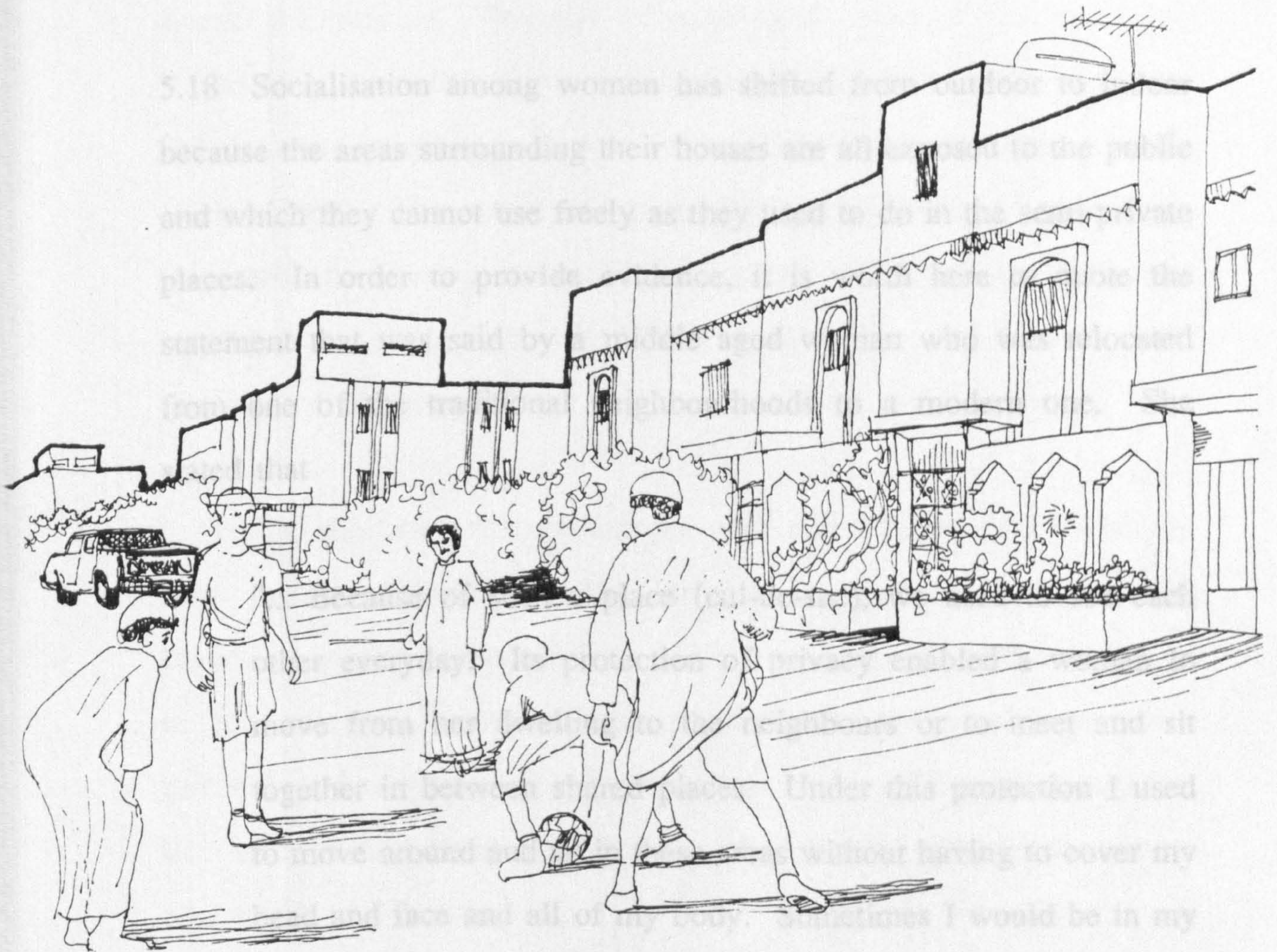


Figure 5.02 The conflict between children playing and the movement of cars.

town where we live) our house is not exposed for everybody to see in which we have to use a lot of cover in order to go outside. Therefore such efforts and discomfort discourage us to go outside". (cite in Al-Nowaiser 1987 p.8)

5.19 Accordingly, one may ask why such semi-private spaces have disappeared. In order to clarify this, Cairo for example was full of

dwelling which were built for them to socialise and play games or cards.

5.18 Socialisation among women has shifted from outdoor to indoor because the areas surrounding their houses are all exposed to the public and which they cannot use freely as they used to do in the semi-private places. In order to provide evidence, it is worth here to quote the statement that was said by a middle aged woman who was relocated from one of the traditional neighbourhoods to a modern one. She stated that

"... Because of such a place (cul-de-sac), we used to see each other everyday. Its protection of privacy enabled a woman to move from her dwelling to the neighbours or to meet and sit together in between shared places. Under this protection I used to move around and sit in these areas without having to cover my head and face and all of my body. Sometimes I would be in my nightgown or a house-dress. Now in modern Al-Khabra (the town where she lives) our house is too exposed for everybody, in which we have to use a lot of cover in order to go outside. Therefore such efforts and discomfort discourage us to go outside". (cited in Al-Nowaiser 1987 p.8)

5.19 Accordingly, one may ask why such semi-private spaces have disappeared. In order to clarify this, Cairo for example was full of

dead-end streets and gates until 1798 when French soldiers started demolishing some gates of quarters and connect streets in order to control the quarters. This was followed by an order of their authority, in the early nineteenth century, which asked for eliminating the gates and dead-end-streets since it was claimed that the city was free of strife (Akbar 1984). The actual reason for these rules were an intervention to control the quarters rather than for safety. This can be taken as a measure for explaining why such spaces like cul-de-sacs have disappeared in other areas.

5.20 To conclude, the contemporary neighbourhoods lack transition from private territory to public territory in order to enhance social organisation and responsibility. The new planning and regulations reduced neighbours communications and affected the social organisation rather than the reverse. It reflects certain values of the planners rather than an evolution from the actual way of living and needs of the people concerned.

SOCIAL INTERACTION

5.21 Social interaction is very important to meet the need for affiliation and belonging. It promotes individual growth and suggests new possibilities for behaviour (Lang 1987). The traditional neighbourhoods were organised to reflect strong coherence and co-operation among their residents. This can be realised through many issues such as the concept of propinquity, homogeneity, functional

distance between units, and the functional centrality. However, the contemporary environment which has been borrowed from other culture has reduced social interaction among the inhabitants.

5.22 Recently, the concept of propinquity which can encourage positive relationships among neighbourhoods has been neglected. The contemporary dwellings are separated from each other by certain setback requirements accordingly neighbours cannot comfortably contact each other. The contemporary streets are wide and devoted to cars, therefore, inhabitants, especially children and women, cannot comfortably contact their neighbours because of the isolation of the dwellings from each other by a wide street, the exposure to the public territory, and the danger from cars.

5.23 The concept of homogeneity is another important concept which has also been neglected in the contemporary neighbourhoods.

5.24 Some degree of homogeneity in a neighbourhood seems to be desirable in order to encourage positive relationships among neighbours (Gans 1970).

5.25 The neighbourhood, according to Islamic teaching, could be based on the concept of homogeneity in terms of social organisation such as being of the same tribe or profession but not on the basis of a radical separation of class, race, colour, or wealth. Unfortunately, the

contemporary neighbourhood seems to be planned according to the concept of homogeneity based on income or race. ARAMCO was the first company who introduced the concept of homogeneity based on race while Doxiadis was the first who introduced the concept of homogeneity based on income. For more detail, ARAMCO residential areas were separated to accommodate its employee groups according to a bureaucratic structure (Fadan 1983). The one who is well educated, highly skilled is seated on the higher end of the bureaucratic hierarchy while the one who has few skills and little experience and knowledge is seated on the lower end of this hierarchy. The classification may be acceptable in one way or another but as a matter of fact this classification is based on race rather than on employment status as is stated by Helen Lackner (1978):

"... In the early fifties, some of the first men who had been sent to the U.S.A. for training by ARAMCO where returning to a higher employment grade. Despite this they still found themselves living in the worst conditions in the ARAMCO quarters and therefore recognised the ARAMCO policy as segregation based on race rather than on employment status".
(cited in Fadan 1983 p.120)

5.26 Doxiadis was the first to introduce the concept of homogeneity based on income. The plan for Riyadh is divided into two parts, the north with large size plots and the south with small sized plots. As a result of this, low and limited income people usually buy lands in the

southern part since they cannot afford the money for buying a large plot in the north of the city.

5.27 An example of the low income neighbourhood is the new neighbourhood of Al-Urayja with approximately 25000 plots in the South West of Riyadh city.

5.28 This area used to be called the low income neighbourhood but now the name of the neighbourhood has been changed to be called Al-Urayja as a result of the residents wishes of respect and not to be judged in terms of their income.

5.29 Segregation according to income or race are new values introduced to Saudi Arabia by foreign firms. These values are not acceptable by the residents since they are contradictory and do not comply with Islamic teaching and principles as well as discouraging social interaction between Muslims and a break in their unity.

5.30 Functional distance between units and the functional centrality of commonly used facilities are other important issues which help people to find friends in their vicinity. These issues have not been considered in the contemporary neighbourhoods. The streets are designed wide and straight to accommodate cars are becoming a major factor in the modern environment. As a result of that, most people do not walk in the streets to reach another point in their neighbourhood because the

streets have caused many problems where they clash with pedestrian movement and threaten public safety as well as not offering protection from the hot climate. So, driving and using cars has become a necessity, although the destination point is not that far away, and this has led to less interaction and made residents more estranged from each other.

5.31 The mosque is one of the commonly used facilities which is considered as one of the most important social interaction domains in the neighbourhood. Because of the new rules and regulations which play a major role in determining the location of the mosque as well as the difficulty one may face while walking on the contemporary streets, not all the residents pray in the neighbourhood's mosque as it should be. The mosque plays an important role in encouraging a positive relationship among neighbours. Table 5.05 indicates that being close to the mosque mediates a strong relation between neighbours since they can go to the mosque on foot which encourages meeting neighbours and is usually accompanied with discussing their problem and affairs when they get out of the mosque. Some of them may invite the other to have coffee and tea at their home especially after Al-Asr prayers in the late afternoon.

5.32 Shops are another type of the commonly used facilities which lead to social contacts as well as encouraging people to keep watch over their territory. This type of facility, according to the new planning

TABLE 5.05

THE RELATION BETWEEN THE LOCATION OF MOSQUE AND THE NATURE OF RELATIONSHIPS BETWEEN NEIGHBOURS (SEE APPENDIX C, QUESTION NUMBER 22 AND 27).

Distance between dwelling and nearest mosque in meters	Range of relationship			Total
	Strong	Moderate	Weak	
Less than 50	36	10	10	56
Less than 100	42	13	15	70
Less than 150	25	6	14	45
Less than 200	19	5	11	35
Over 200	24	15	12	51
Total	146	49	62	257

By using correlation technique, the result is : being close to mosque mediates strong relation between neighbours, and being far from mosque does not mediate weak relation between neighbours. (for calculation refer to Appendix D).

and regulations, is not permitted in the residential neighbourhoods. The location of shops is limited to those streets with a minimum width of 30 meters only (as it is proposed by Doxiadis) while the maximum width of most of the contemporary neighbourhood's streets is 25 meters. Accordingly, there is no way to find such elements in the contemporary neighbourhood which can help residents to mix and make friends which also helps them to keep their neighbourhood safe.

5.33 In general, such catalysts which may help people to meet, cooperate, play and talk to others are missing in the contemporary environments. As a result of this, it has ignored and weakened some important socio-cultural activities of the inhabitants such as their social ties and interactions.

FAMILY STRUCTURE

5.34 The user's need to change over a period of time. A family size may increase to form an extended family based on a number of generations or based on polygynous families or both. So, it may need a large property. Others may break down to more than one nuclear family which may require dividing the property (such as the case of inheritance) into many parts to accommodate them, or some of them may move out. Such changes in the needs are not accompanied by flexible rules and regulations in the contemporary planning system to accommodate them as they were in the traditional environment. Each plan in the Central Region is usually accompanied by certain regulations

dealing with building heights, minimum lot size, and setback requirements for each zoning district and sub-districts as mentioned previously. Moreover, the regulations, especially those which deal with the minimum lot size requirements, give the municipality the authority to use eminent domains to control non-conforming uses by being either acquired by the municipality or sold to the owner of the adjoining property (Al-Hathloul 1981). As a result of this, the contemporary neighbourhood encourages the nuclear family rather than the extended family as it is recommended by Islamic teaching since the new planning does not allow for extending the structure of the building nor allow for dividing the plot to accommodate more than one nuclear family to encourage them to be in close vicinity as it hoped to be. If someone tries to divide his plot into many parts (each of which is less than the minimum lot size standard) to house a large family then he will regret his decision if the municipality use the concept of eminent domain which can never be justified on the basis of Islamic jurisprudence (Al-Hathloul 1981). It is safe here to say that all these restrictions have been made just to ensure the maintenance of several imported values such as segregation according to income and force families to be nuclear rather than extended, putting aside the fact that the size of the traditional house was to reflect the size of the family rather than the wealth or prestige of its members.

5.35 A question raised is whether contemporary neighbourhood planning, which is a representation for the new "liberal" ideology, takes

account of the people's wishes to either be in a nuclear family or in an extended family. There does not appear to have been too many changes. This can be supported by two pieces of evidence. The first is from the results of the questionnaires, while the second is from Islamic teaching which will explain the situations which become compulsory for a family to be close to each other. Question(7) which states "what type is your family who share this dwelling with you ? and presented in Table 5.06, shows that approximately 35% (90 out of 261) of the responses live in an extended family. This gives a clear image that this concept still exists in real life. There are certain situations which make it compulsory by Islamic law to live in an extended family. Muslims are required to maintain a tight knit caring relationship with their close relatives. These include visiting, spending, and giving them Sadaqah (charity) if they are poor. Not only this, but it is compulsory for a man to take care of his parents if they are poor or their energies have diminished and can no longer maintain themselves. It is compulsory for a man to take care of his sisters and daughters when they are not married, widowed, or divorced. It is compulsory for a man to take care of his brothers and sons when they are poor or disabled. All these compulsory situations are an effort to promote social cohesion. If a number of these situations become reality for a resident in the contemporary environment the question arises as to where he can accommodate the extra family members in his small villa.

TABLE 5.06**THE TYPE OF FAMILY STRUCTURE IN THE CENTRAL REGION (SEE APPENDIX C, QUESTION NUMBER 7)**

What type is your family who share this dwelling with you	Total	%	%	Approx
Single family	160	62.1		62
Extended family	91	34.5		35
Other	10	3.4		3
Total	261	100.0		100

If extended family, is it	Total	%
Single family with parents	18	20
Single family with parents and brothers	64	70
Single family with brothers	9	10
Total	91	100

This table shows that 35% of the family in the central region are extended families. The majority of them are resulted of forming more than two generations.

5.36 As a matter of fact, the new system of neighbourhood planning not only discourages being in a large size family but also helps to stop erecting and forming Alkubah which was not only as an extra space but also provided the community with a place for interaction as well as an element of orientation.

THE INDIVIDUAL REQUIREMENTS

5.37 Although the contemporary environment offers better living conditions in terms of the sanitation standards than the traditional one, there are a lot of human requirements which are disregarded.

5.38 Due to standardisation, two main concepts either the grid or the swastika model are used as the guide for land subdivision for a certain area. In addition to imposing fixed regulator tools, the layout of the contemporary neighbourhoods become similar and without individual character. As a result of that, the sense of identity, the sense of pride, and the sense of security of the local residents are disregarded. Tools, such as elements and activities, for symbolic communication inside the neighbourhoods are missing.

5.39 The contemporary paths are similar in their appearance, each of which is wide and straight with high walls on each side of it (see Figure 5.03). Therefore, there is no specific identity for the entire street and this leads to confusion when one moves from one part to

another. Not only this but the modern paths were originally designed for cars. As a result, human activities inside each path, which play an important role in terms of security and mobility, have disappeared. In contrast, the traditional paths were formed in a way to accommodate different functions and to represent different visual patterns within an overall unity. In other words, traditionally, each path has its own identity in terms of shape and activities which in turn led to structuring an imageable environment.

5.40 Nodes and landmarks are other elements which could form an imageable environment (Lynch 1960) but rare in the contemporary neighbourhoods. Commercial activities, which people usually gather around, are restricted to very wide streets (with a minimum width of 30 meters). The minerate of the neighbourhood's mosque, which is usually located to serve a minimum of 600 meter radius, is the only landmark which can be perceived by the residents. However, traditionally, there were many elements which were used as nodes and landmarks inside the entire neighbourhood. These include; the minerate of the Friday mosque as the landmark for the whole structure of the neighbourhood; the minerates of the local mosques as landmarks for their surroundings; the corner shops and the mosques which were nodes for the residents to socialise around them and the Al-Kubah were points of orientation, nodes, and landmarks for the surrounding area.

5.41 Personal pride in one's surroundings is an important factor leading to satisfaction but is neglected in contemporary planning. Personal pride is neglected not only through providing a characterless form of neighbourhood but also through preventing the residents from participating in the processes of designing, managing, modifying, repairing, and evaluating their neighbourhoods. Therefore the balance and harmony between man and his surroundings is missing and accordingly, the individual feels insignificant and the group unity is destroyed.

MISCELLANEOUS ISSUES:

5.42 The previous sections defined and evaluated the conflicts between the contemporary neighbourhoods and the main issues of the culture of the residents in the Central Region of Saudi Arabia. This section will shed light on the conflicts between the contemporary physical environment and other environmental conditions such as the climate.

5.43 The aim of this section, although it is not of the main concern of the study, is to support the argument that the contemporary physical environment does not comply with the people's culture nor with the climate conditions.

5.44 As mentioned previously the Central Region of Saudi Arabia is characterised by the desert climate, low humidity, absence of clouds, low precipitation, and a large daily and annual temperature range. In

response to the harsh climate, the traditional environments were built in a compact manner, inward-looking with interior courtyards, which act as thermal regulators and sources of light, to minimise the solar radiation impact and provide a cool area within the buildings (Konya 1980). Not only this but also the dense structure provide the pedestrian with shade against the heat and the sandstorms.

5.45 The use of mud, with sun dried bricks for walls and tamped mud supported on wooden rafters for roofs, as building materials in the traditional environment led to more protection against the various climatic problems. These materials were slow to heat up and slow to cool down, in other words, mud walls heat up to a lesser extent during the day and deter the flow of heat. As a result of that, the interior temperatures was always below the outside temperature, while at night the interior temperature was always above the outside. This fact led Kukreja (1978) to come up with a conclusion based on the character of the material and the thickness, that rooms built of mud are much cooler than any other material in a hot climate.

5.46 As a result of the use of the new planning system which were dictated by the technological changes in the last half century, the contemporary neighbourhoods in the Central Region were characterised by straight and wide streets, provided for cars, in addition to the use of the villa type as a house unit, and the use of concrete as building materials.

5.47 Evaluating these issues in terms of the climatic condition, each is seen to have disadvantages. The use of wide streets and applying the villa type indicate that all the external walls of the contemporary buildings receive all the available solar radiation. The use of the contemporary building techniques such as reinforced concrete and cement blocks which are poor thermal insulators, cause heat to radiate inwards not only during the day but also during the night since concrete has the heat storage capability.

5.48 As a result of the new planning system and the building techniques that are used in the contemporary neighbourhoods, two main problems appeared. These are:

1. In order to provide protection against the solar radiation and heat, the majority of people depend on mechanical air conditioning to create an artificial environment. The air conditioning is kept running day and night to reduce the heat. This approach led to an increase in the consumption of electricity and water. As a matter of fact, life can be miserable in the contemporary houses if the electricity fails or the air conditioning breaks down.
2. As a result of designing straight and wide streets for cars rather than pedestrians, the majority of people use and rely on cars for their movements from one place to another even if the destination point is not that far away. All this is to protect themselves from both the possibility of car accidents and too much exposure to the hot environment.

5.49 As a matter of fact the hot environment is not only a result of the natural climate but is also exacerbated by the heat coming from blacktopped roads, cars, and air conditioning units.

5.50 The above problems resulted from the fact that the designers and architects lacked proper knowledge of the best design to fit the climatic conditions in the Central Region. Not only this but they also lacked knowledge of the suitable construction materials and their insulation properties.

5.51 It is my belief that it is possible to significantly affect the environment of a neighbourhood by understanding the natural factors of the settings and the nature of the materials that could be used during the design processes.

5.52 Paul Gabriel (1984) sets up many recommendations for housing design in the desert regions. Some of these recommendations are:

- 1) Insuring compact forms of development to prevent building against direct sun radiation.
- 2) Providing shaded streets for pedestrians to guarantee sun-free movement for all residents.
- 3) Considering courtyarded houses as the suitable building form for a hot climate.

- 4) Applying the best thermal insulations on roofs and walls of the buildings to reduce all forms of conduction of heat transfer through the buildings.
- 5) Choosing the best materials and colours to protect buildings against solar radiation.
- 6) Providing trees and other vegetation such as native desert plants, which are both functional and aesthetic in urban environments. A planted landscape has a major effect on the micro-climate by reducing the temperature of the surrounding area.

5.53 It is hoped that the majority of these recommendations will be considered when designing the future neighbourhoods. However, recommendations number one and three need to be confirmed or modified according to what the final findings of this thesis recommend.

CONCLUSION:

5.54 The previous sections reviewed, analysed, and evaluated the various levels, elements, and stages of the traditional and contemporary neighbourhoods in the Central Region of Saudi Arabia.

5.55 The foregoing mentioned that the physical developments of most of the traditional Arab-Muslim cities, such as Al-Medina which was planned by the prophet, were based on the subdivision of the land into quarters (Khitat), each of which was given to a tribe or individuals.

The land subdivision of each quarter was left to its inhabitants who usually based its subdivision on the concept of the needs of the tribe members.

5.56 Traditional neighbourhoods relied on social conventions and rules of conduct propounded by the Shari'ah laws for their regulation, rather than on purely physical and prescriptive regulations.

5.57 On the other hand, the contemporary neighbourhoods are based on foreign planning principles as the only choice to satisfy the need for more space, better sanitation, modern materials, and above all, the use of cars.

5.58 In order to insure the implementation of such principles, new regulations and building codes have been established. After being implemented and their results experienced, inhabitants started to complain about problems caused by the physical environments.

5.59 In conclusion, one can deduce that the failure of contemporary neighbourhood planning stems from three main problems. These are planning problems, technical problems, and management problems. Planning and technical problems are due to the failure to understand how to formulate some planning goals to fit the inhabitant's way of life and the local conditions of the area. This is mainly a result of the differences between the planners' sensibility, which is based on their

background and ideology, and the actual way of life of the people involved, in addition to the failure to understand the nature of the setting in order to define the best type of materials, principles, and techniques.

5.60 The issues of neighbourhood planning must accord with the world vision of Islam, since, as mentioned previously, Islamic society is a theocentric society. Therefore planners must understand the responsibility that man has towards his creator, towards himself, towards the rest of the community, and towards the whole universe. For example, segregation according to income is one of the erroneous assumptions on which the contemporary neighbourhood planning is based on. People do not evaluate themselves according to race, income, or colour, but their main concern focuses on how to work for the life after death.

5.61 In terms of the management problems, they stem from three main issues. The first is as a result of the planning processes which neglect the importance of involving the inhabitants in the processes of designing and controlling their areas. The second is as a result of applying and enacting the planning legislation and building codes as law (as is proposed by Doxiadics) neglecting the fact that most of them not only do not successfully fit the culture and the climate conditions but also they are not flexible to accommodate changes over time. The third is as a result of misunderstanding the importance of encouraging

neighbourhood organisations. The municipality of the town and the central authorities can work with representatives of neighbourhood organisations in order to identify the needs and promote the growth progress of each neighbourhood as well as to form corporations to undertake development projects.

5.62 More issues will be developed after explaining, analysing, and evaluating the new trends in neighbourhood planning in the Central Region of Saudi Arabia in the next chapter.

CHAPTER SIX : THE NEW TRENDS IN NEIGHBOURHOOD'S PLANNING AND ARCHITECTURE IN THE CENTRAL REGION OF SAUDI ARABIA

INTRODUCTION

6.01 The contemporary neighbourhood concept was proposed to provide a high standard of living in a modern way that would match modern technology and techniques. However, after being experienced, many of the sensitised Saudis started to complain and raise their objections. As a result of that, some of the agencies concerned started to pay attention to solve some of the problems.

6.02 Two attempts have been made to change the contemporary neighbourhood planning and architecture in the Central Region. The first attempt has been made by the municipality of Riyadh city, in co-operation with The Ministry of Municipal and Rural Affairs, in order to solve the setback's problems through changing the type of the dwellings from detached (villa) to terrace dwellings. The second attempt has been made by King Saudi University, supported by the Ministry of Municipal and Rural Affairs, to change the neighbourhood concepts and dwelling regulations.

6.03 This chapter aims to review, analyse and evaluate these two attempts. The evaluation will be utilised when developing recommendations for future communities in the third part of the research.

THE ROLE OF RIYADH MUNICIPALITY

6.04 As a result of the desire of the government to solve the housing crisis, The Minister of Municipal and Rural Affairs requested all municipalities to make a search for government land suitable for building within the limits of the master plan and to subdivide this land into residential plots to be distributed to those of limited income, either as grants or by selling them. Al-Urayja is one of the pieces of land located at the South-West of Riyadh city.

6.05 Al-Urayja has been subdivided by the Municipality and the town planning office of Riyadh to accommodate about 25,000 plots for families of limited income, each of which measures 20 x 20 metres (see Figures 6.01 and 6.02). Instead of imposing the detached dwellings as the dwelling type of the project, the Municipality imposed a new type of dwelling that was the terrace dwelling type in order to reduce the problems of the setbacks as well as reducing the amount of surfaces exposed to solar radiation. Each house has to be constructed according to front and back setbacks only. In other words, the side setbacks requirement are abolished.

6.06 The plot size is 400 square metres which would allow a house of up to 400 square metres on two floors plus front and back gardens of 200 square metres (see Figures 6.03 and 6.04).

Figure 6.01

A typical neighbourhood plan of Al-Urayja sector.

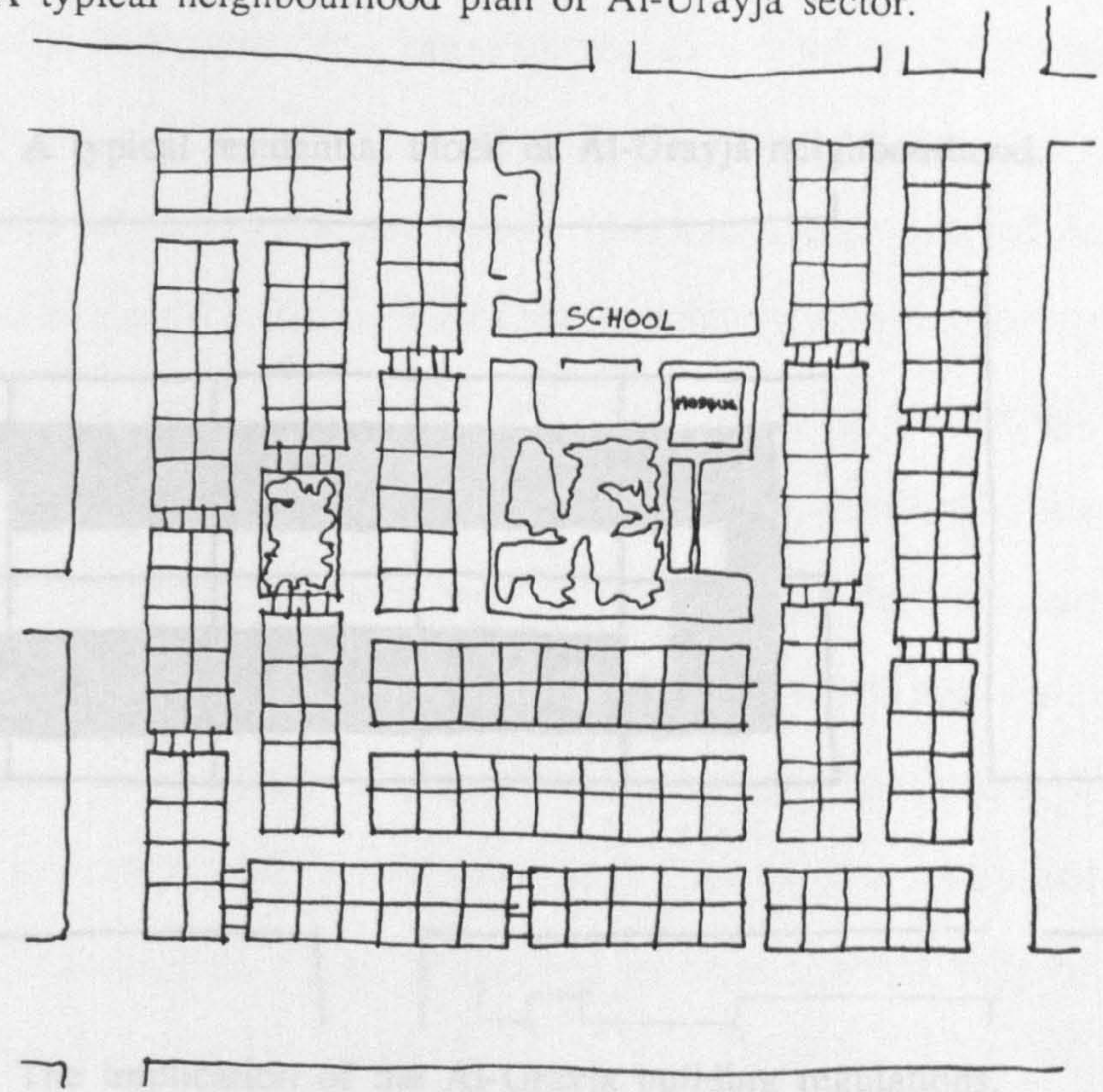


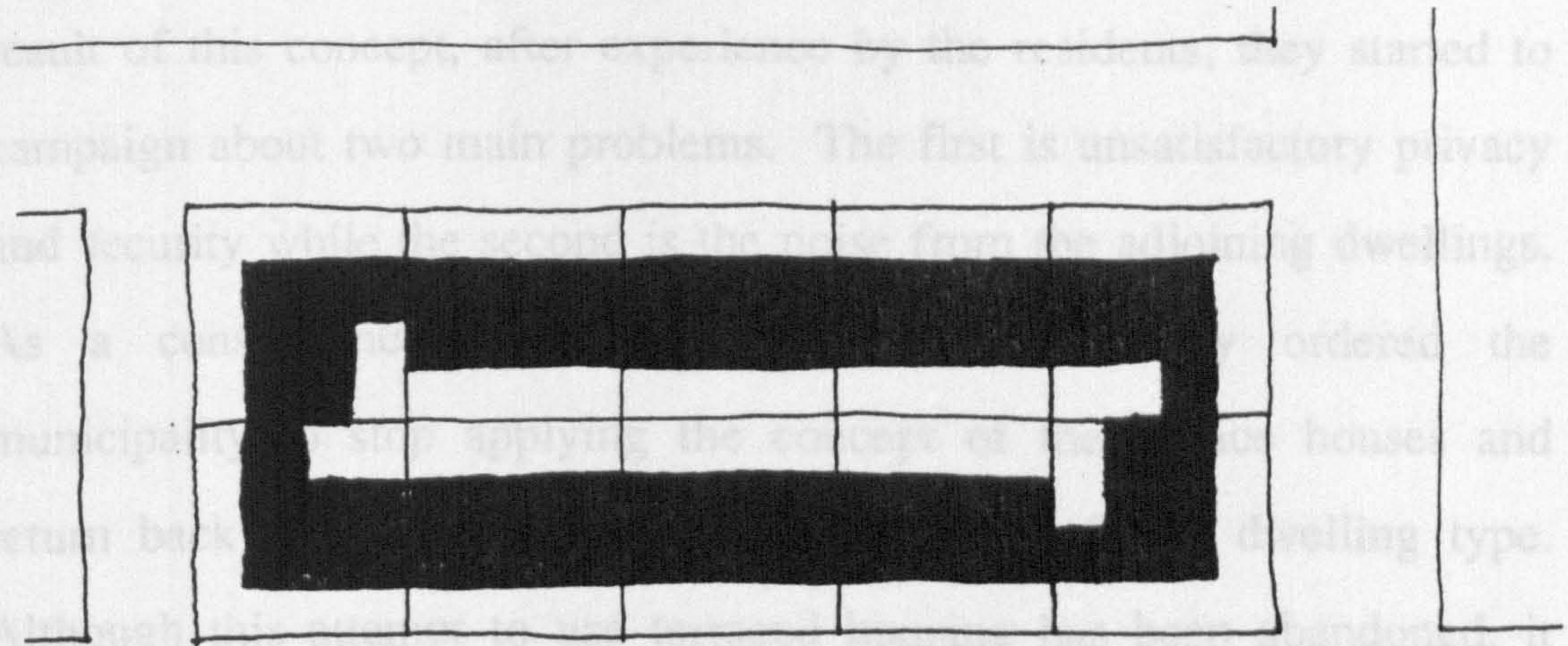
Figure 6.02

The pattern of Al-Urayja neighbourhood.



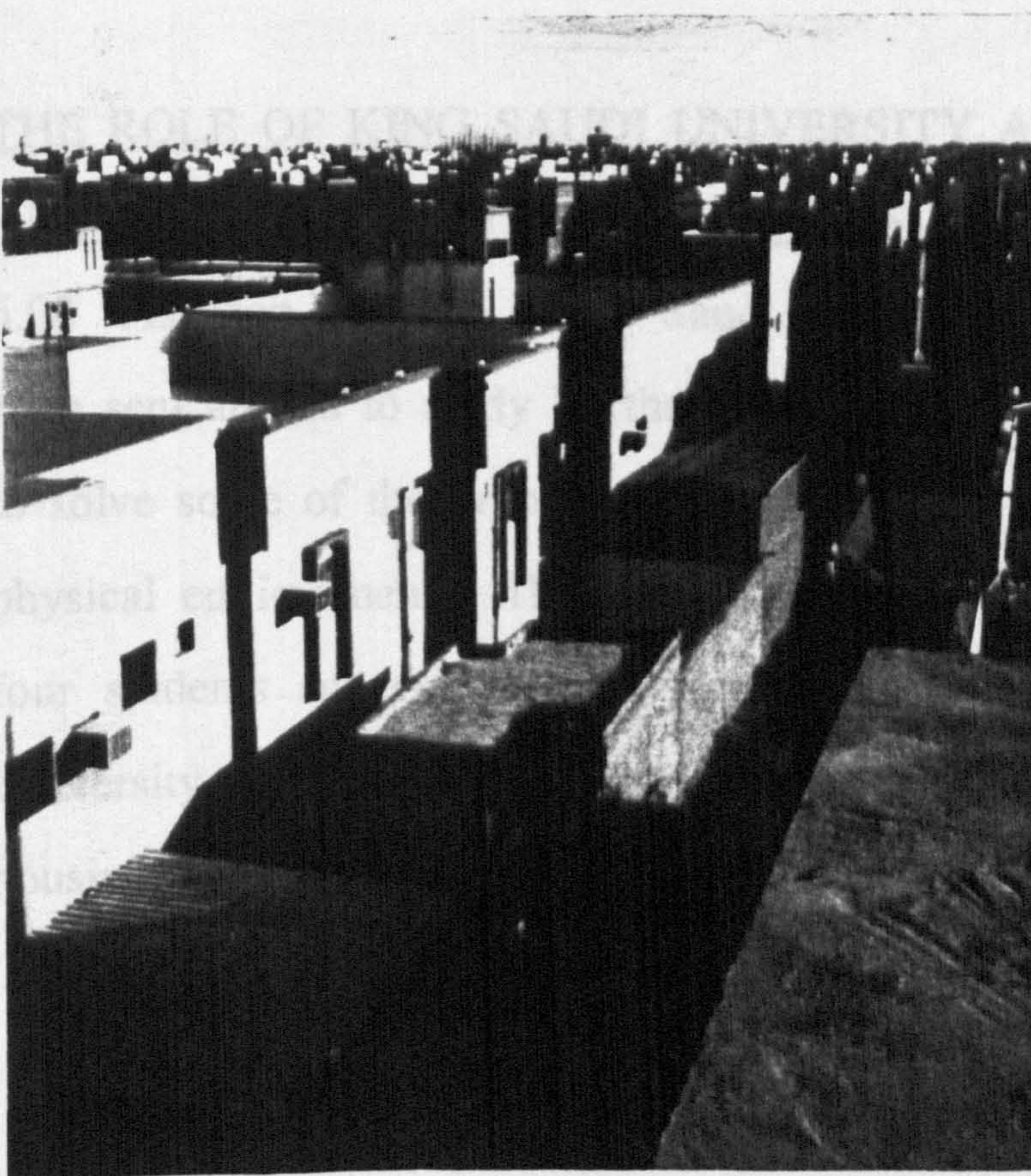
6.07 To insure this, Riyadh municipality made several alternative designs of houses which fit the new regulations, as a choice for those

Figure 6.03 A typical residential block of Al-Urayja neighbourhood.



is mentioned so as to understand the reason behind its failure and learn lessons for future communities. The continuation of this attempt will be

Figure 6.04 The implication of the Al-Urayja building regulations.



6.07 To insure this, Riyadh municipality made several alternative designs of houses which fit the new regulations, as a choice for those who would like to get a house design at a very cheap price. As a result of this concept, after experience by the residents, they started to campaign about two main problems. The first is unsatisfactory privacy and security while the second is the noise from the adjoining dwellings. As a consequence of this, the government finally ordered the municipality to stop applying the concept of the terrace houses and return back to the detached dwelling as the preferred dwelling type. Although this attempt to use terraced housing has been abandoned, it is mentioned so as to understand the reason behind its failure and learn lessons for future communities. The evaluation of this attempt will be presented later on in this chapter.

THE ROLE OF KING SAUDI UNIVERSITY AND THE MINISTER OF MUNICIPAL AND RURAL AFFAIRS

6.08 As soon as some of the Saudi architects and planners who had been sent abroad to study by the government returned back, they tried to solve some of the problems that the society was suffering from the physical environment. The first attempt was carried out in 1981 by four students supervised by a Saudi Architect who graduated from University of M.I.T., Cambridge, Massachusetts. The project was a housing project to house people of limited income.

6.09 The main concern of the project was how to design a satisfactory living environment with low cost of infrastructures such as utilities and maintenance throughout the years.

6.10 The final concept of the project was oriented to match with the concept of Caminos and Goethert (1978). The overall layout of the housing units were based on the clustering concept around cul-de-sacs (see Figure 6.05). It consists of two separated traffic systems, one for cars and the other for pedestrians. The pedestrian walkway is to connect all the main facilities with each individual house without conflicting with the movement of cars. The circulation system was designed to restrict most traffic to the loop road which led to many cul-de-sacs that were to lead up to each house (see Figures 6.06 and 6.07). The main elements which have been taken into consideration during designing the project were the rectangular plot and the cul-de-sac for economical reasons (Caminos and Goethert 1978).

6.11 The importance of designing a cul-de-sac was explained as follows:

- 1) It leads to minimising the public lands through assigning the responsibility of the cul-de-sac to its residents who by then will take care of its maintenance.
- 2) It leads to protect the government from costly over-extension of utility and services lines through minimising the total length of networks (see Figure 6.08).

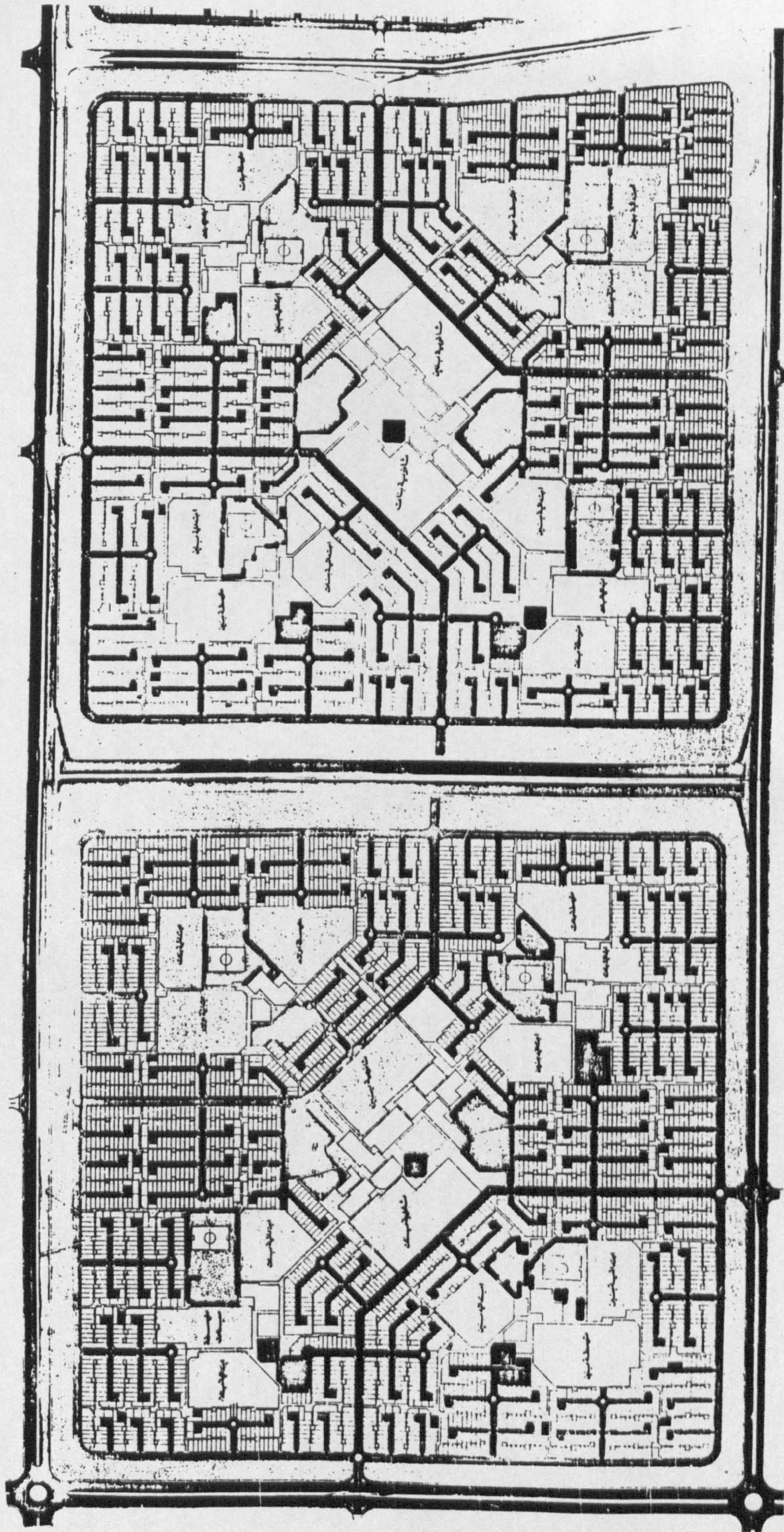


Figure 6.05 The plan of the first attempt to change the neighbourhood planning. (SOURCE: AL-OLET 1981)

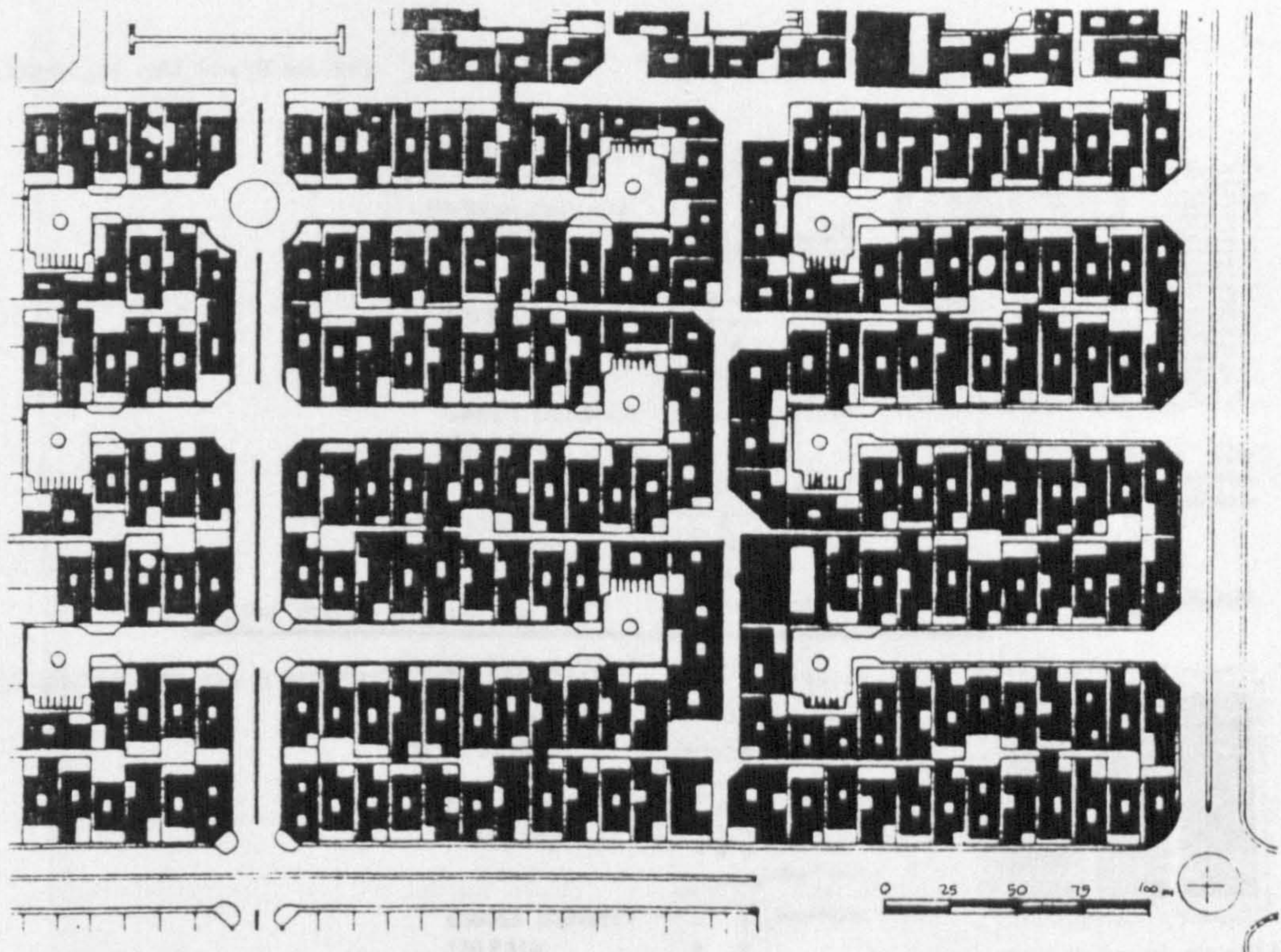


Figure 6.06 Plan shows in detail the separation between pedestrians and car traffic.

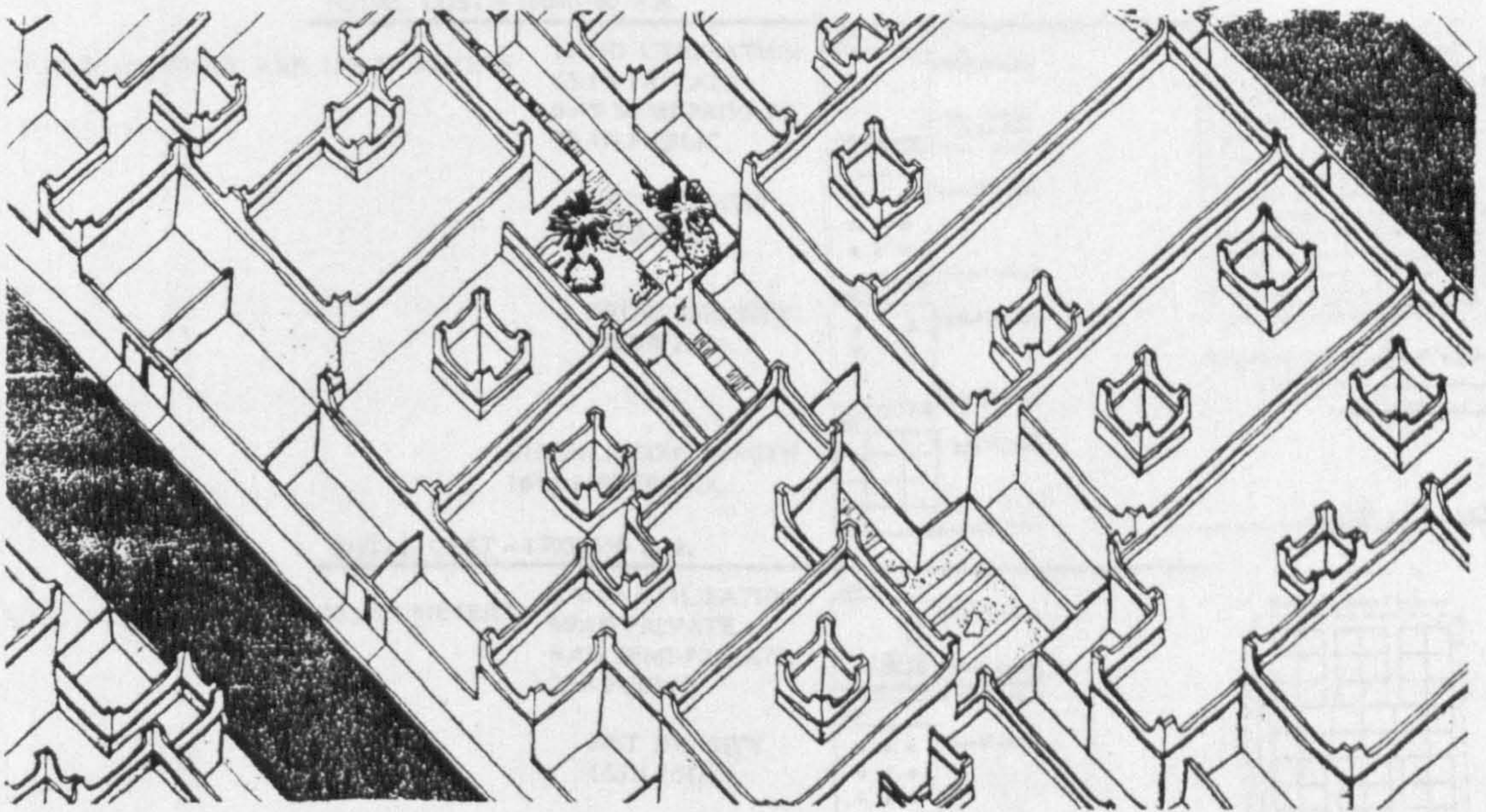


Figure 6.07 Detailed plan of a cul-de-sac.

PLOT DIMENSIONS ARE 10 x 40 METERS

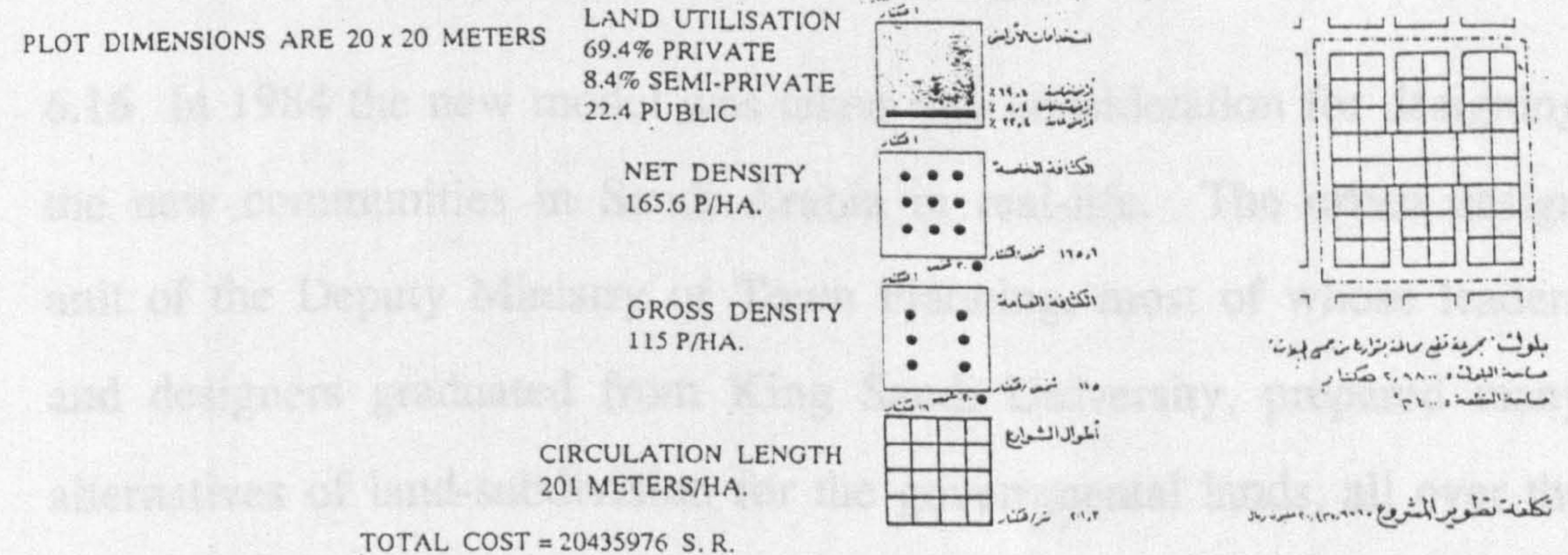
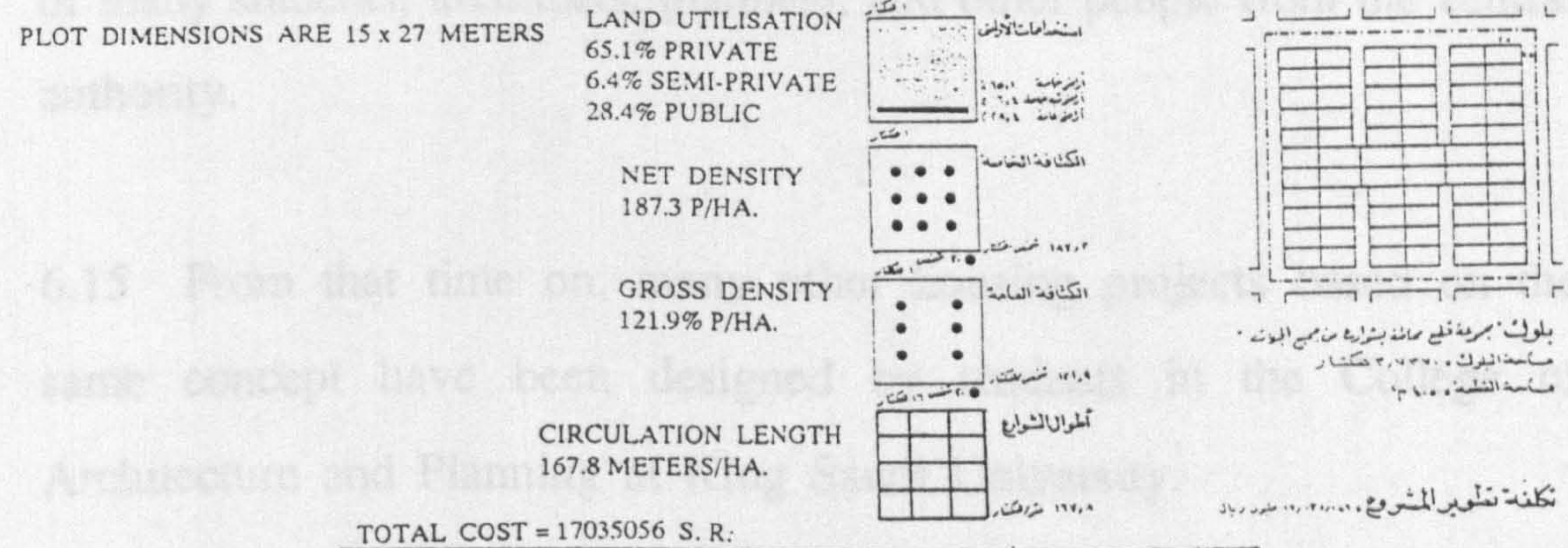
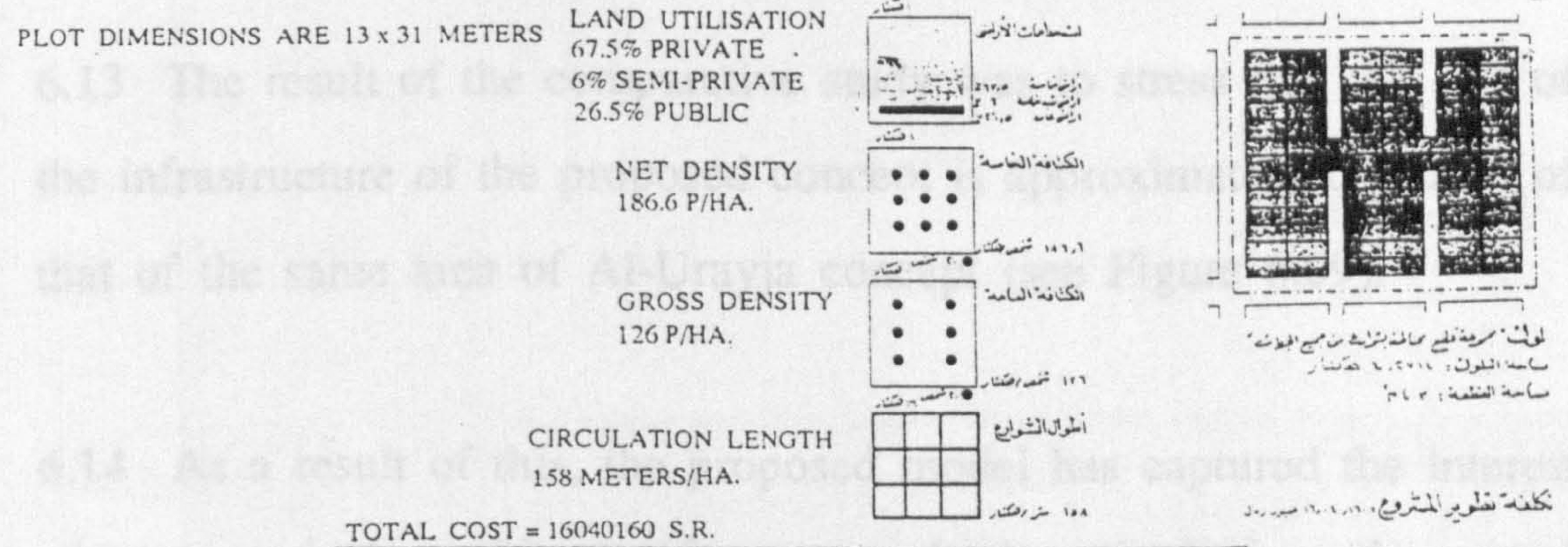
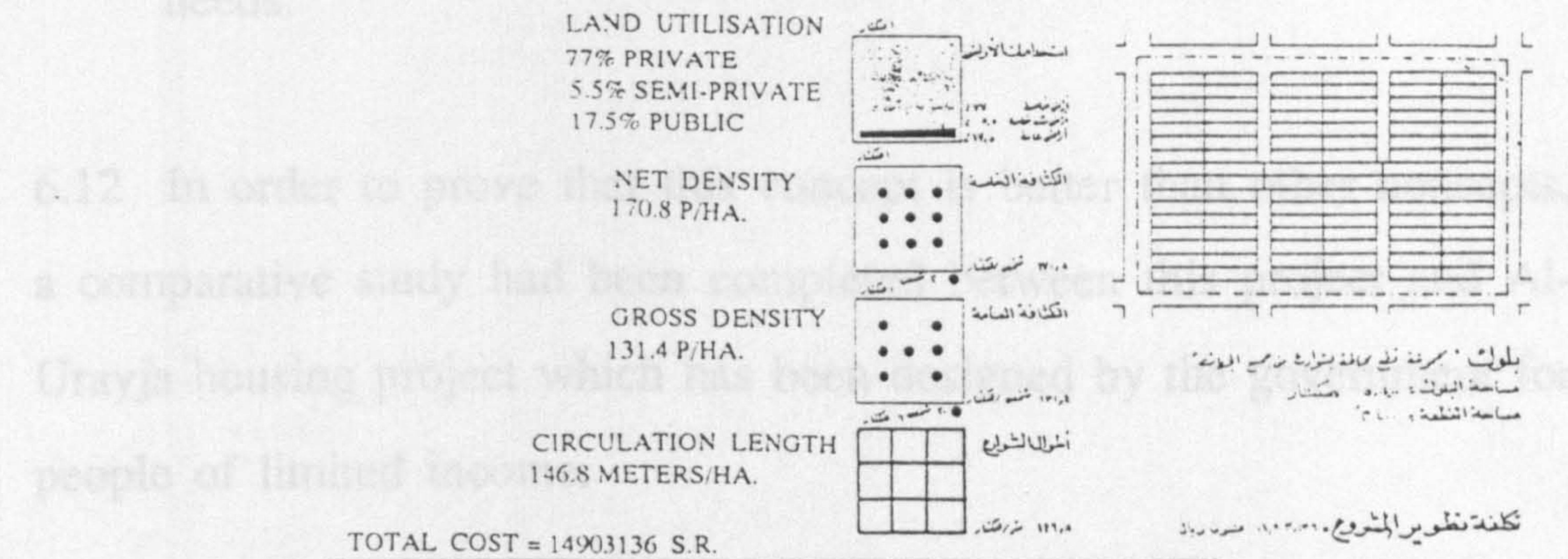


Figure 6.08

Analysis which could lead to the total cost of the infrastructure. (SOURCE : AFTER AL-OLET ET. AL. 1981)

3) It will serve other needs such as social, cultural, and security needs.

6.12 In order to prove that this concept is better than other concepts, a comparative study had been completed between this project and Al-Urayja housing project which has been designed by the government for people of limited income.

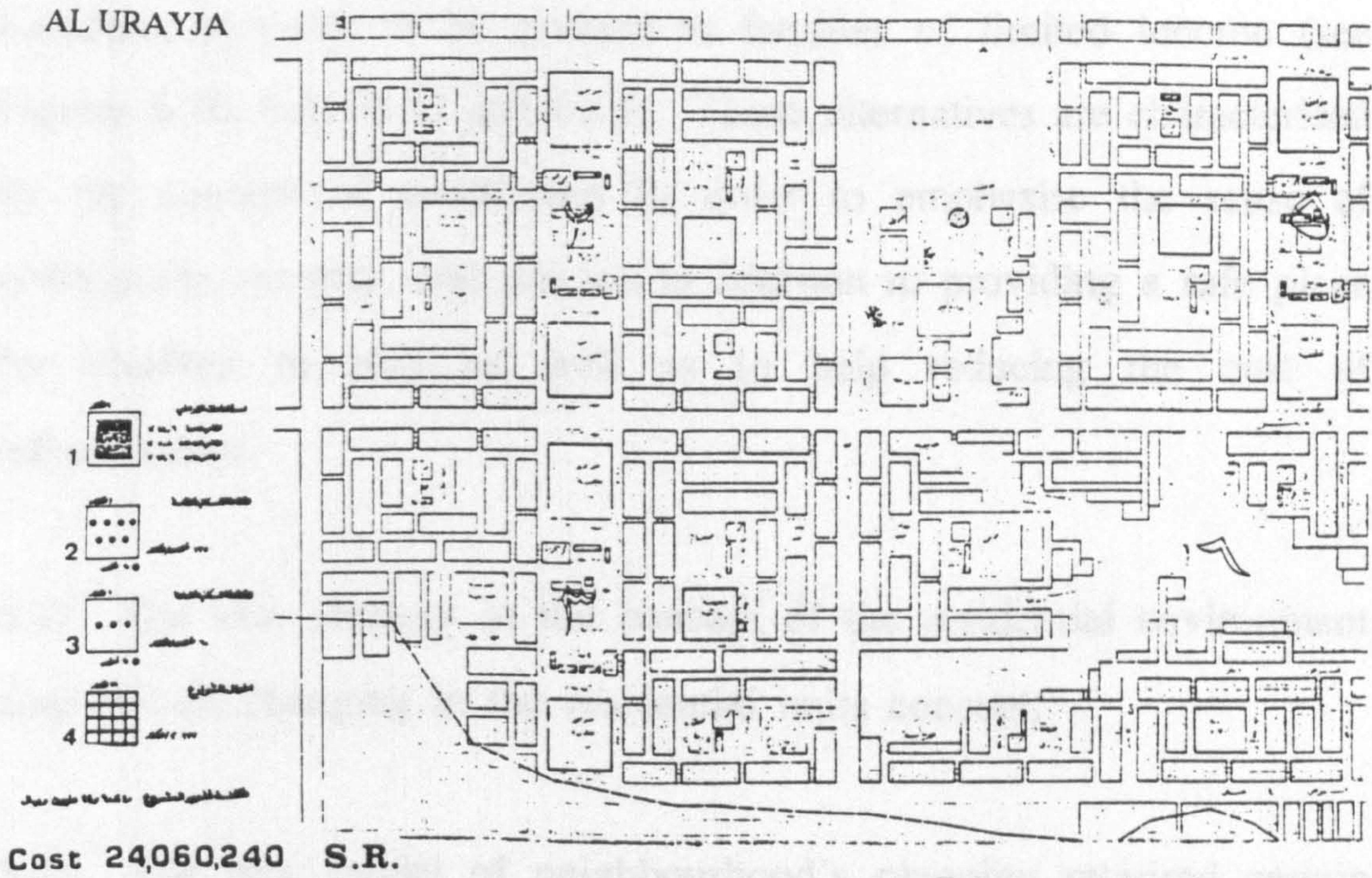
6.13 The result of the comparative study was to stress that the cost of the infrastructure of the proposed concept is approximately one-third of that of the same area of Al-Urayja concept (see Figure 6.09).

6.14 As a result of this, the proposed model has captured the interest of many students, architects, planners, and other people from the central authority.

6.15 From that time on, many other housing projects based on the same concept have been designed by students in the College of Architecture and Planning at King Saudi University.

6.16 In 1984 the new model was taken into consideration for designing the new communities in Saudi Arabia in real-life. The urban design unit of the Deputy Ministry of Town Planning, most of whose leaders and designers graduated from King Saudi University, prepared many alternatives of land-subdivision for the governmental lands, all over the

AL URAYJA



THE PROPOSED NEIGHBOURHOOD

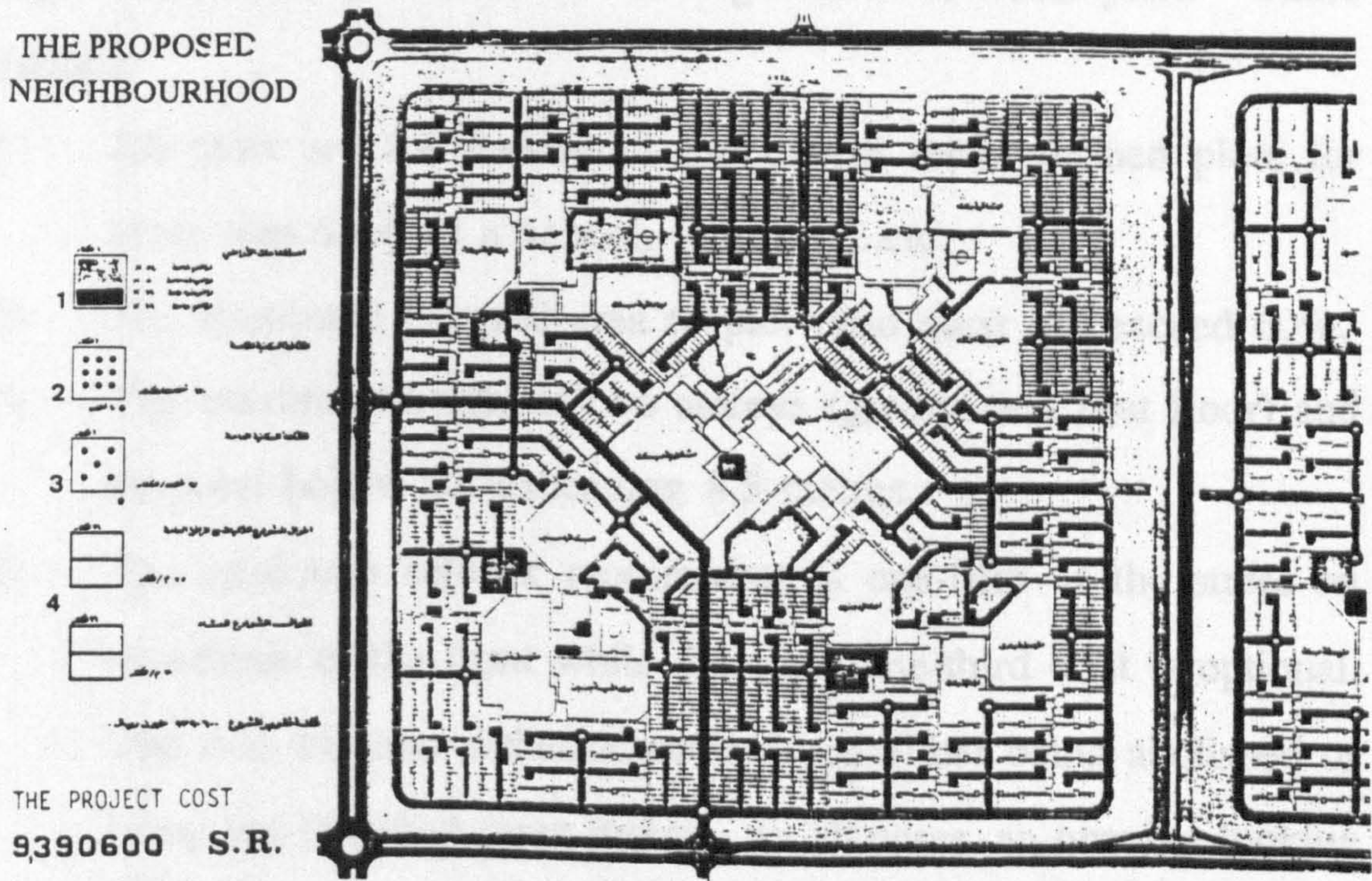


Figure 6.09

The comparative study between the first attempt and Al-Urayja sector. (SOURCE : AL- OLET 1981)

kingdom, in order to be granted to families of limited income (see Figures 6.10, 6.11, 6.12 and 6.13). These alternatives are characterised by the concept of cul-de-sacs in order to emphasise the sense of community, security, and privacy in addition to providing a safe place for children to play as well as to help reducing the cost of infrastructure.

6.17 The new changes in the concept of the residential environment also include changing in the residential units concept.

6.18 The new model of neighbourhood's planning required certain regulations, usually written at the right side of each plan. These include:

- 1) All plots are for residential use except those defined plots for other uses such as a school, mosque, ...etc.
- 2) The maximum covered area to plot ratio must not exceed 60%.
- 3) The maximum height is two storeys (ground and first floor) and the total height not exceeding 8.5 metres.
- 4) The minimum setback requirement is one-fifth of the street on two-thirds of the front while the other one-third of it is optional. The side and rear setbacks are optional either being abolished or being not less than three metres. In all cases, an opening looking onto a neighbours privacy is prohibited.
- 5) Any lot located on the main courtyard of the community may erect a corner shop about 30 to 40 square meters.

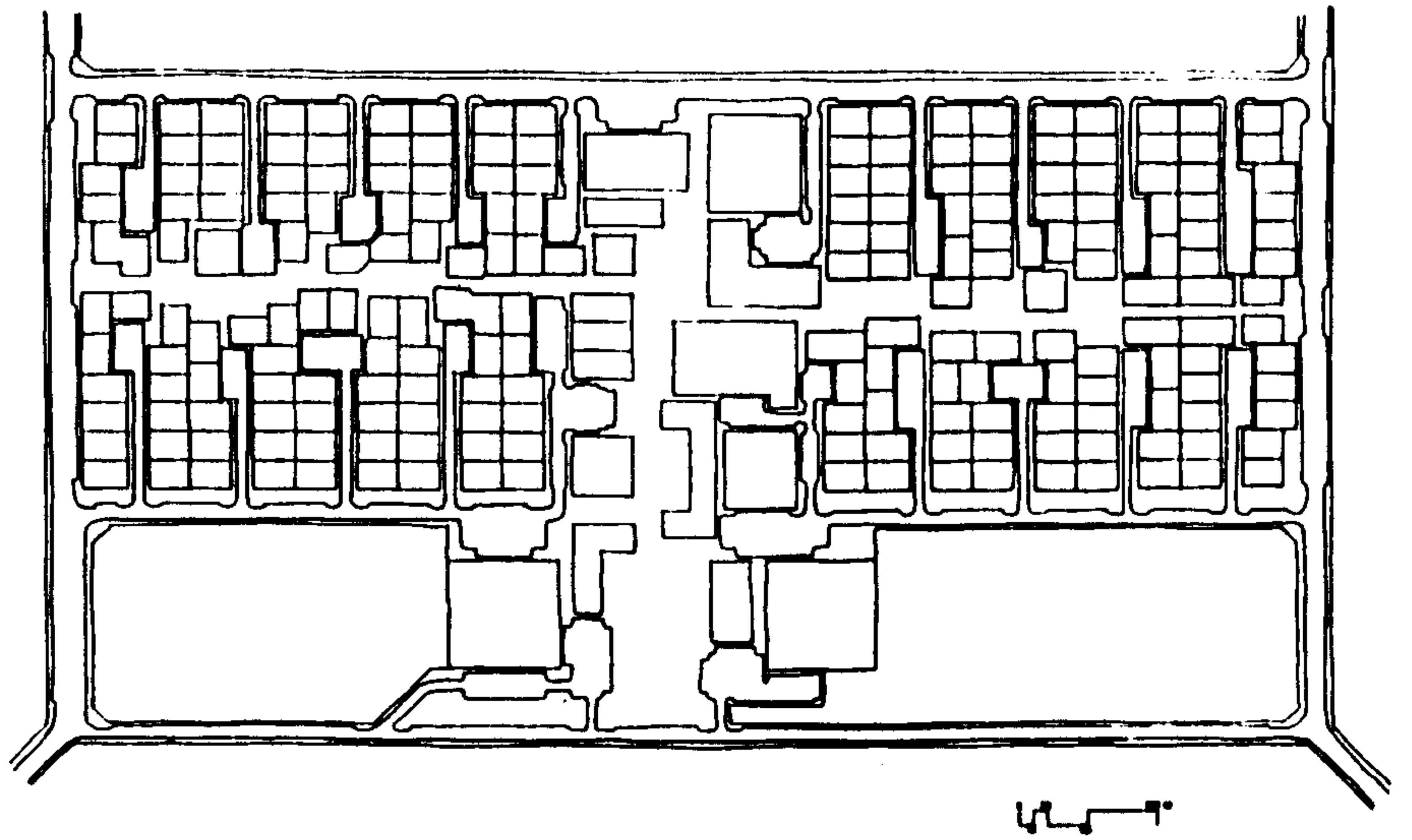


Figure 6.10

The new neighbourhood plan for Al-Abraq.

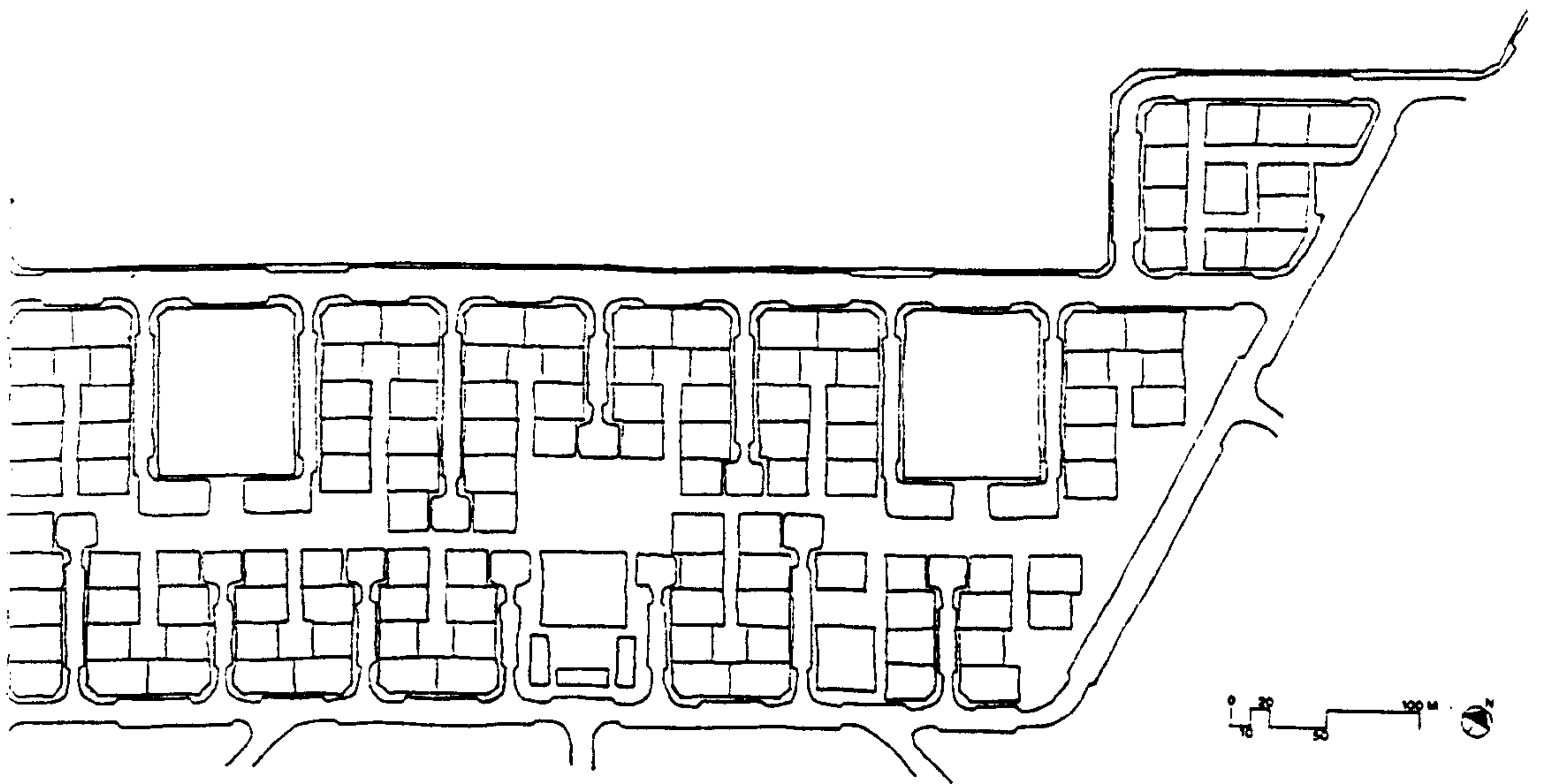


Figure 6.11

The new neighbourhood plan for Baldat Kafh Al-Jawa.

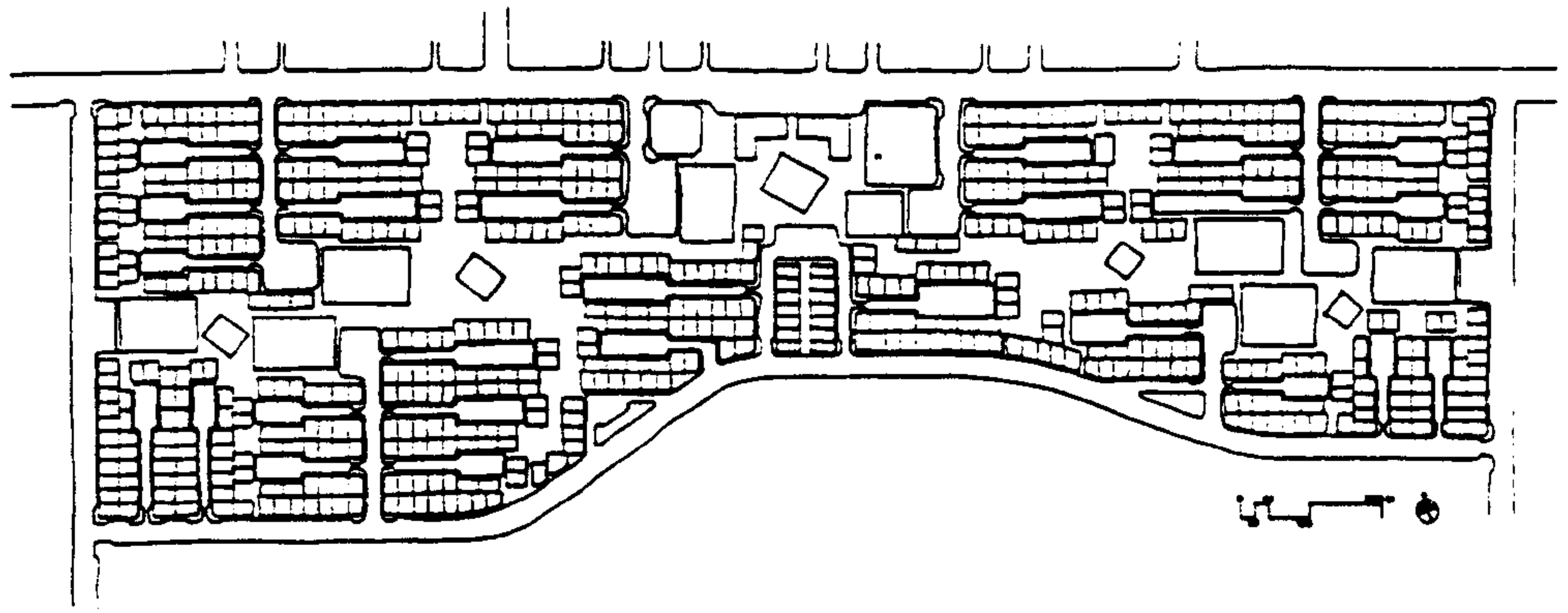


Figure 6.12 The new neighbourhood plan for Al-Khotamah.



Figure 6.13 The new neighbourhood plan for Al-Rass.

6.19 The effort to make the side and rear setbacks as optional is to allow for a variety of housing types more suited to the socio-cultural norms and the local climate as well.

6.20 In the writer's opinion, it is encouraging to see other alternatives of neighbourhood planning which would be a better proposition than the conventional one.

6.21 It is good to see the new concept follow the principle of complete vehicular and pedestrian segregation as well as the principle of clustering around cul-de-sacs which helps the children to congregate and play safely in the common open spaces as well as providing protected paths leading to the school, the shops, and the other community facilities. Furthermore, the new concept helps to produce meeting places in the sharing spaces and the pedestrian street while moving from or to dwellings. All these are provided for less cost than the conventional one.

6.22 The next question would be regarding the disadvantages of the new trends on the planning and architecture of neighbourhoods. This point will be answered in the following paragraphs.

EVALUATION:

6.23 Two efforts have been made by the governmental authorities to solve the conflicts in neighbourhood planning and architecture which were discussed previously. The first dealt with the changes which occurred to the dwelling setback requirements in the Al-Urayja sector while the second effort dealt with the changes which occurred on the neighbourhood's concept.

6.24 The first effort by the Riyadh municipality had failed to satisfy the socio-cultural norms of the people resulting from both the front and rear setbacks requirements and from being back to back with the side neighbours. In terms of the front and back setbacks requirement, they affect the privacy of the residents since they are more than one floor. The problems of these requirements are the same as those problems of the contemporary neighbourhood's planning as was discussed previously (see Figure 6.14).

6.25 The kind of problems that occur after eliminating the side setbacks, in addition to violation of privacy through visual access as is the case of the contemporary neighbourhood, are related to the intimacy privacy of the resident which can be violated through hearing. In order to clarify this, it is important to impart one comment given by one of the residents. He said while he was irritated:

"... I cannot understand why they impose these rules on our

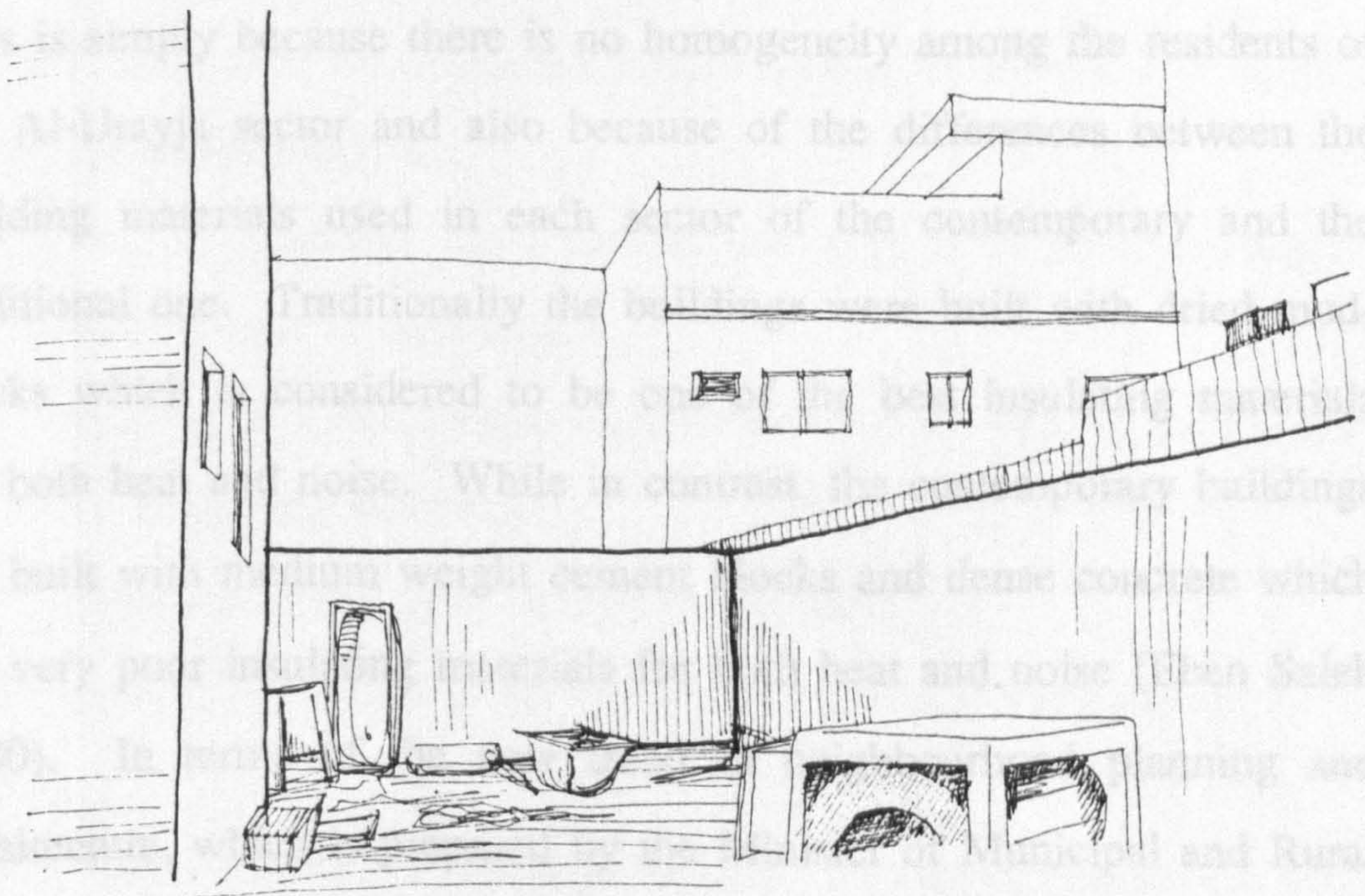
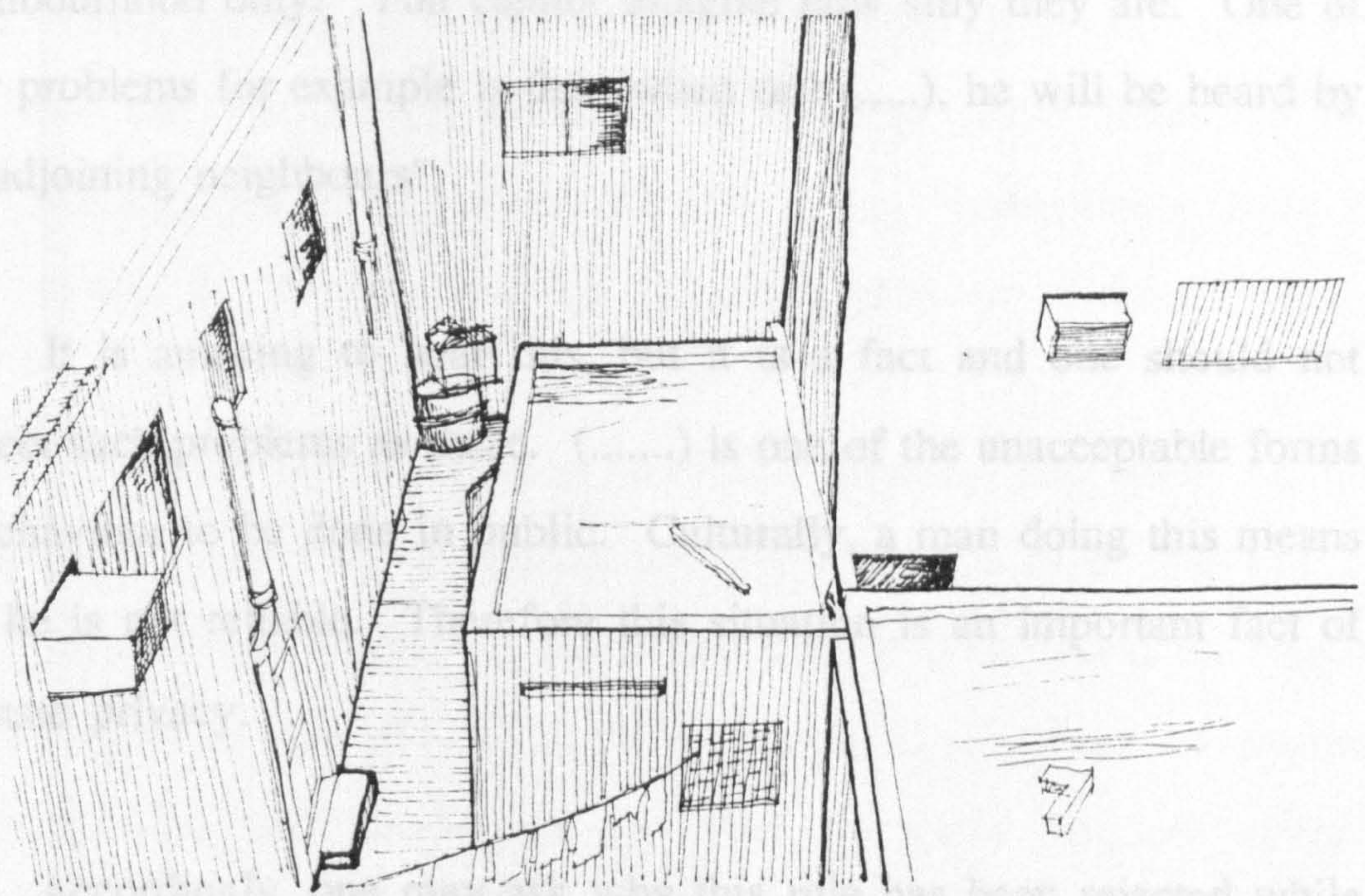


Figure 6.14 The two examples of the actual conditions of the set-back of a dwelling in Al-Urayja sector.

neighbourhood only! You cannot imagine how silly they are. One of their problems for example is that, when one (.....), he will be heard by the adjoining neighbours".

6.26 It is amusing to hear this, but it is a fact and one should not neglect such problems as these. (.....) is one of the unacceptable forms of behaviour to be done in public. Culturally, a man doing this means that he is not reliable. Therefore this situation is an important fact of intimate privacy.

6.27 Accordingly, one may ask why this rule has been rejected while all the traditional patterns were based on the back to back concept? This is simply because there is no homogeneity among the residents of the Al-Urayja sector and also because of the differences between the building materials used in each sector of the contemporary and the traditional one. Traditionally the buildings were built with dried mud-bricks which is considered to be one of the best insulating materials for both heat and noise. While in contrast, the contemporary buildings are built with medium weight cement blocks and dense concrete which are very poor insulating materials for both heat and noise (Eben Saleh 1980). In terms of the new trend in neighbourhood planning and architecture, which is prepared by the Minister of Municipal and Rural Affairs, it is very difficult to give an accurate evaluation since none of them has been experienced in real-life.

6.28 These plans need at least ten years in order to be built and used, but one can manipulate, analyse, and evaluate them based on the previous experiences of the traditional and the contemporary living as well as on the people's reaction to certain elements of these plans.

6.29 The new trends of neighbourhood planning are based on the principle of clustering around cul-de-sacs. It seems to be that one of their assumptions is that the residential area will be based on certain homogeneity so they laid out all the residential around small courtyards, narrow loops and cul-de-sacs in order to make frequent contact convenient among residents.

6.30 Cul-de-sacs are not considered desirable by everyone in spite of their advantages such as:

- 1) helping to reduce the infrastructure costs through minimising the total length of networks.
- 2) helping to make face-to-face interactions as well as giving sense of belonging and identity.
- 3) minimising through - traffic in the area.
- 4) helping the small children to congregate and play safely.

6.31 When asking the question number 34 (see appendix C) which states "What do you think of the cul-de-sac concept"? The result as shown in Table 6.01 indicates that 75% of the responses refused to accept this concept while 25% accept it, although some of them

TABLE 6.01**PUBLIC OPINION OF THE CUL-DE-SAC CONCEPT. (SEE APPENDIX C, QUESTION NUMBER 34).**

What do you think of the cul-de-sac	Total	%	Approx. %
I like it and I like to live on it	14	6.1	6
I do not like it and I do not want to live on it at all	194	74.7	75
I would not mind living on it if:			
a) All the residents are my relatives	27	10.34	
b) All the residents are my friends	11	4.2	19
c) All the residents are from my region of origin	14	5.36	
d) Other	1	0.38	
Total	261	100.0	100

accepted it on condition that the residents should be related friends, or/and of the same region of origin. That means they accepted it on the condition of homogeneity, which means implicit rules of conduct and conventions of social behaviour are imposed on the residents.

6.32 In order to support the result obtained from the cul-de-sac question, another question was asked that was: "Would you accept living in a flat in an apartment building where most of the residents were not of your friends or relatives"? The reason behind asking this question is not to drive a recommendation on the changing of the type of buildings rather than to look at what people think in terms of the concept of semi-private places. Apartment buildings consist of private domains (flats) and semi-private domains such as corridors, elevators, entrances, and ...etc., which are used by the residents of the building collectively. So all the apartment buildings spaces, except the flats, are semi-private spaces.

6.33 The result of the question was (as shown in Table 6.02) that approximately 44% of the total who answered accepted living in apartment buildings bearing in mind that 50% of those who accepted it on a condition of being the residents of the building of his friends and relatives. The majority (approximately 56%) refused to accept this because they are not in favour of being in shared elements.

TABLE 6.02

PUBLIC OPINION OF THE APARTMENT BUILDINGS (SEE APPENDIX C, QUESTION NUMBER 17).

Would you accept living in an apartment building where most of its residents were of different people?	Total	%	Approx. %
Yes	58	22.2	22
No	203	77.8	78
Total	261	100.0	100

If no, would you change your attitude if residents were mostly of your relatives and friends?	Total	%	Approx. %
Yes	55	27.6	28
No	148	72.4	72
Total	203	100.0	100

6.34 When asking a middle aged man who used to live in a cul-de-sac as a shared place why he does not like to repeat the same experience, he said:

"... If you accept living in a cul-de-sac that means you accept to limit your freedom. For example, when you invite some of your relatives or friends for dinner or lunch you have to invite all the residents of the cul-de-sac too. If you do not invite them, they might accuse you that you have something to hide so they send their children to watch what is going on there. This is an example and you can take it as a measure for other behaviour".

6.35 The physical environment is another resource that can be used for evaluating the new trends. Two different physical environments will be used. The first is a traditional environment while the second is a contemporary environment.

6.36 Two examples have been taken from the traditional environment. The first from Ayn Ibn Fuhayd and the second example from Buraydah (see Figures 6.15 and 6.16). Approximately 50% (24 out of 49) of the total houses in the Ayn Ibn Fuhayd neighbourhood are located in a cul-de-sac. Only three houses out of twenty four houses have no access other than through the cul-de-sac while the other houses, 21 out of 24, have two or more accesses, one of them through the cul-de-sac while the other through public streets. The second example is from Buraydah. Approximately 30% (38 out of 124) of the total houses in the Buraydah

Figure 6.15 Ayn Ibn Fuhayd neighbourhood.

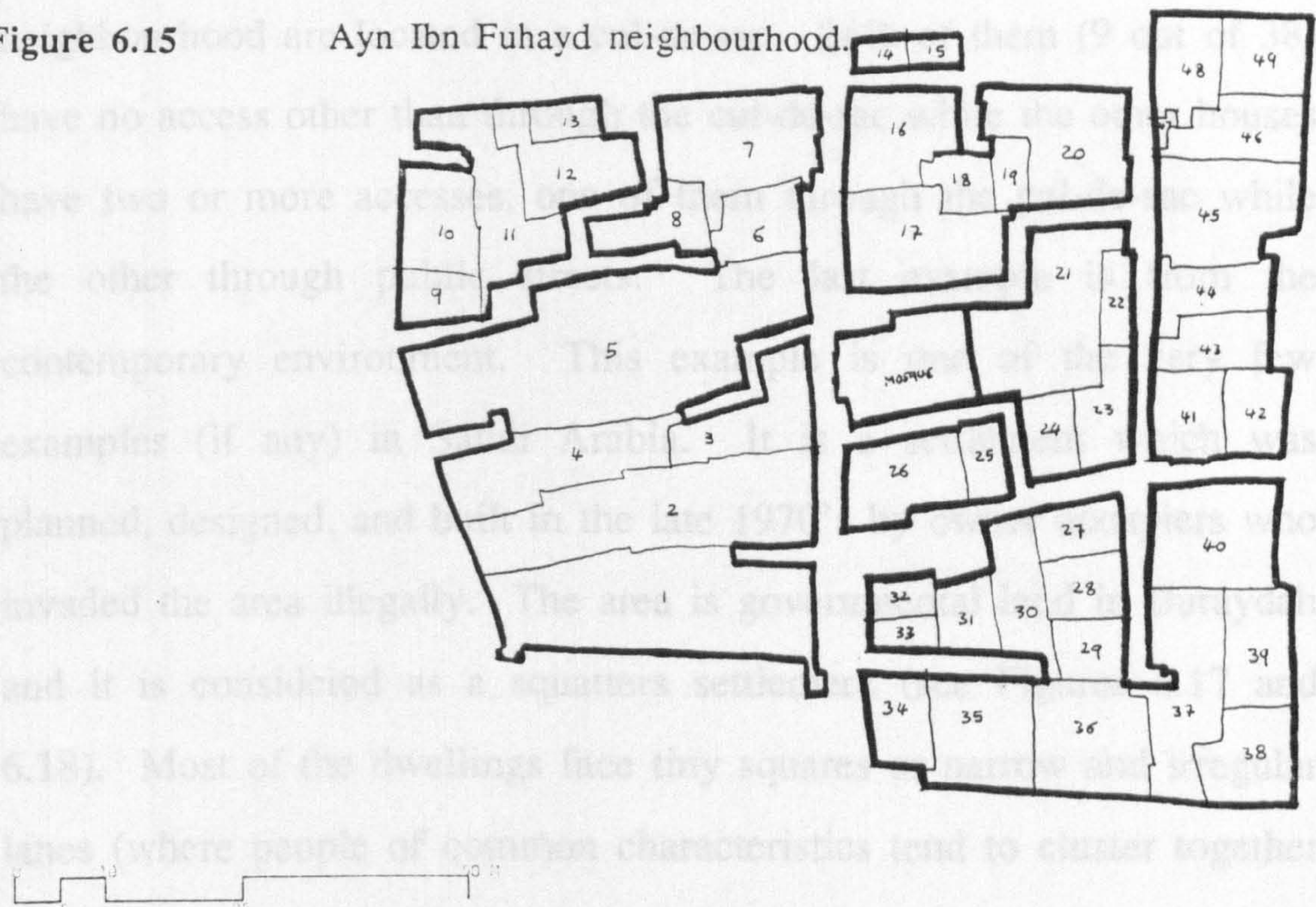


Figure 6.16 One of the traditional neighbourhoods in Buiraydah.

neighbourhood are located in a cul-de-sac. 24% of them (9 out of 38) have no access other than through the cul-de-sac while the other houses have two or more accesses, one of them through the cul-de-sac while the other through public streets. The last example is from the contemporary environment. This example is one of the very few examples (if any) in Saudi Arabia. It is a settlement which was planned, designed, and built in the late 1970's by owner occupiers who invaded the area illegally. The area is governmental land in Buraydah and it is considered as a squatters settlement (see Figures 6.17 and 6.18). Most of the dwellings face tiny squares or narrow and irregular lanes (where people of common characteristics tend to cluster together to develop communities), and join wider roads. Some of its lanes leave hardly any room for vehicles access. The area has no utilities or facilities except for a few shops and mosques where they pray and meet each other. The authorities agreed to give the residents the land on condition that it was to be redeveloped in order to match with the desirable living standards. This is because this settlement is located on governmental land and one of its policies is to give lands as grants to fellow citizens (especially those of limited income) in order to minimise the housing crisis. Figure 6.19 shows two alternatives which have been designed by the authority for the area and which tend to minimise demolishing structures. The history of this settlement and the administrative procedures are beyond our concern here but the most important thing to concern us here is the lesson that may be imparted from the pattern of this settlement.

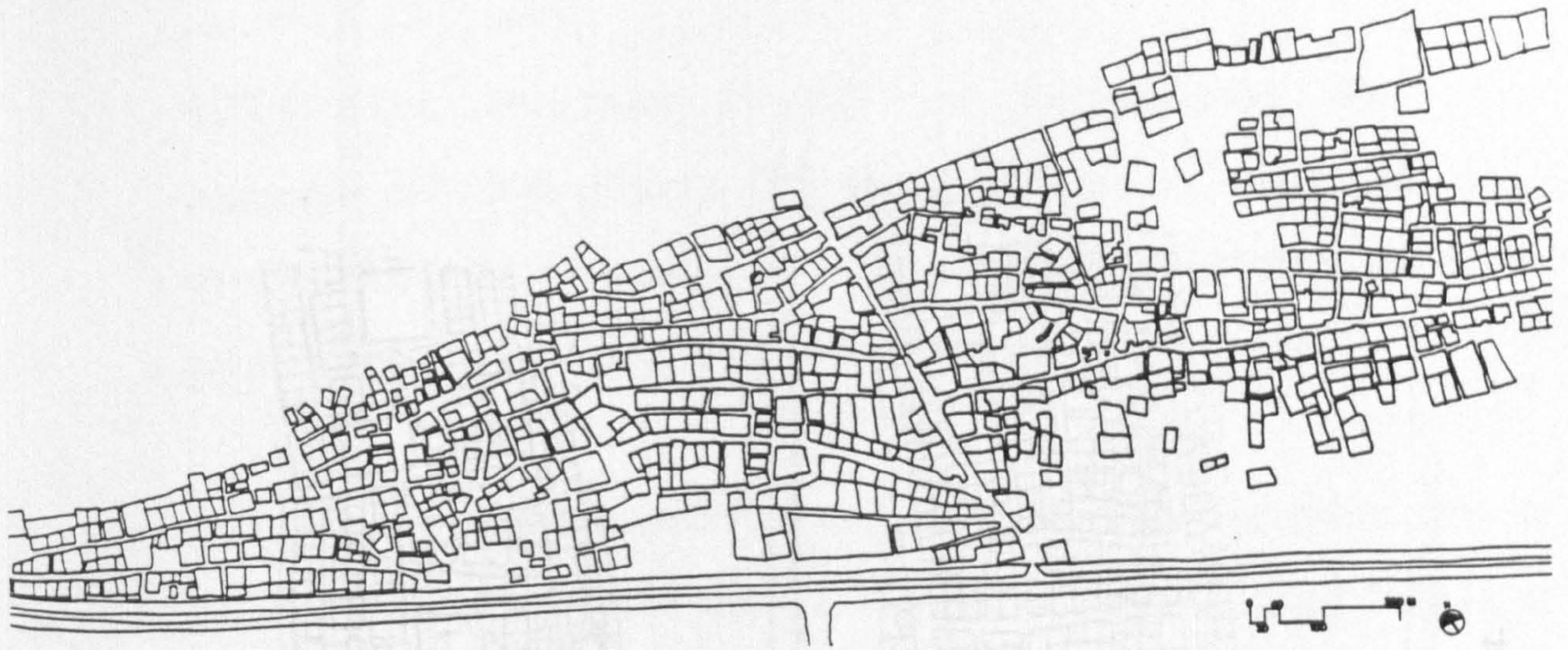


Figure 6.17 The plan of the squatter settlement in Buraydah.

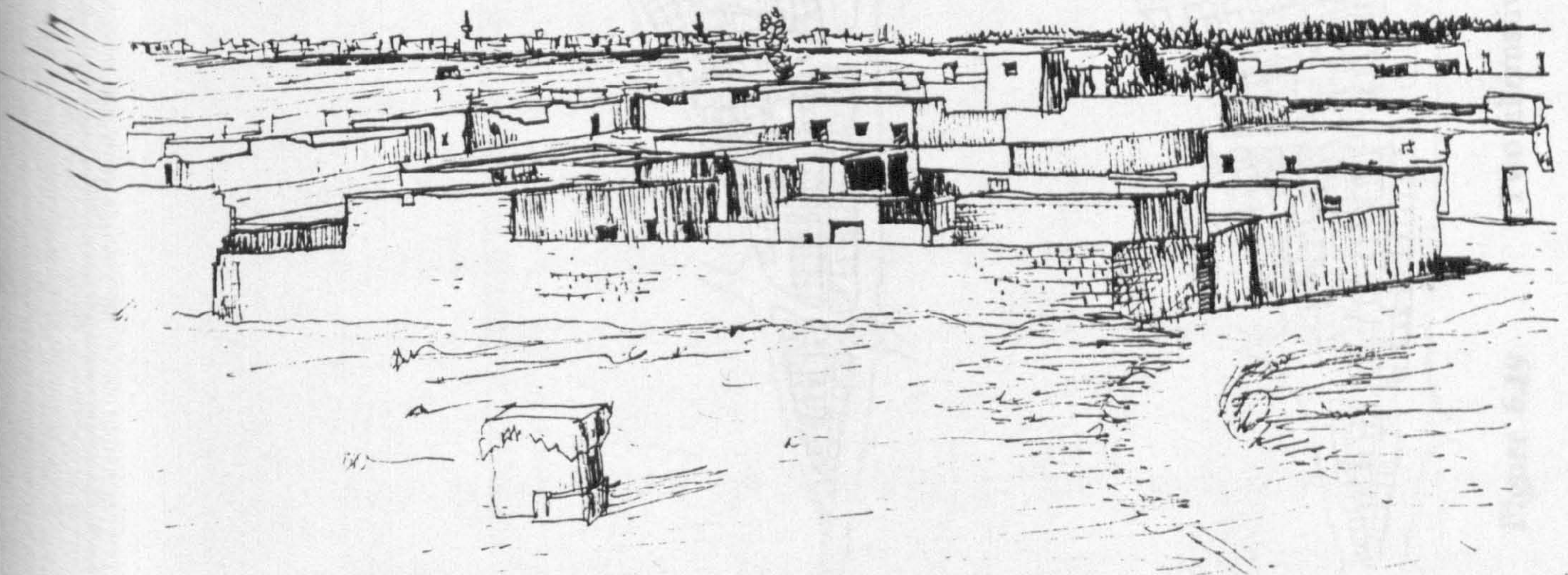
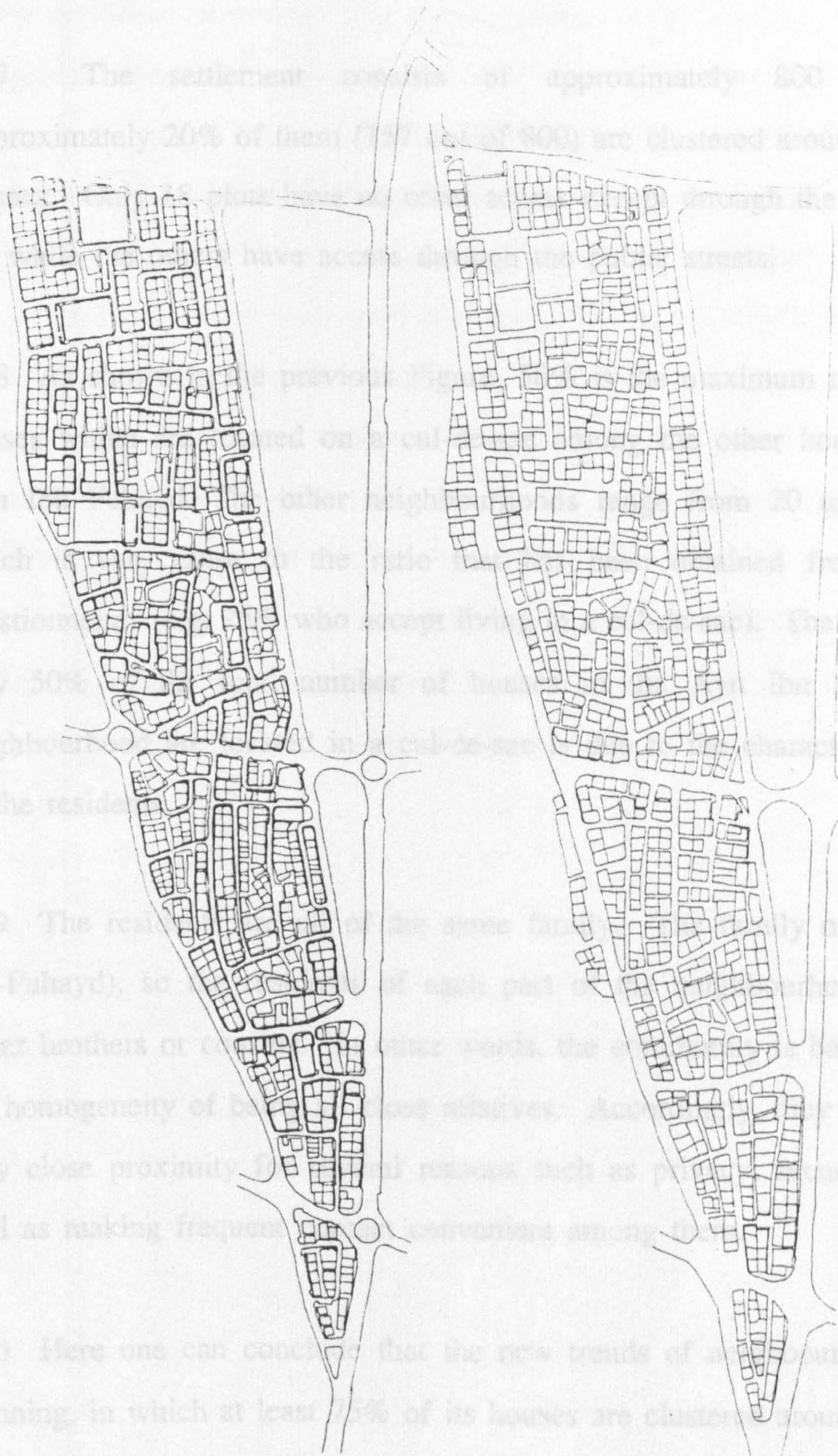


Figure 6.18 The urban pattern of the settlement.



Two alternatives for redeveloping the squatter settlement.

Figure 6.19

6.37 The settlement consists of approximately 800 plots. Approximately 20% of them (157 out of 800) are clustered around cul-de-sacs. Only 18 plots have no other access except through the cul-de-sac while the others have access through the public streets.

6.38 As shown in the previous Figure, 50% is the maximum ratio of houses which are located on a cul-de-sac among the other houses in Ayn Ibn Fuhayd. The other neighbourhoods range from 20 to 30%, which is very close to the ratio that has been obtained from the questionnaires (e.g. 25% who accept living in a cul-de-sac). The reason why 50% of the total number of houses in the Ayn Ibn Fuhayd neighbourhood are located in a cul-de-sac is due to the characteristics of the residents.

6.39 The residents are all of the same family. The family name is (Al-Fuhayd), so the residents of each part of the neighbourhood are either brothers or cousins. In other words, the community is based on the homogeneity of being all close relatives. Accordingly, they live in very close proximity for several reasons such as privacy, security, as well as making frequent contact convenient among them.

6.40 Here one can conclude that the new trends of neighbourhood's planning, in which at least 75% of its houses are clustered around cul-de-sacs which is a high percentage, is, in my opinion, only acceptable

if the residents were especially homogeneous. Unfortunately, the new neighbourhoods have been designed for a wide range of people who are of limited income only, so the residents could be anyone of limited income whether he is good or bad, from the same family or from another culture and so on. Let us imagine what could happen if some of the residents were heterogeneous ones. The result would be either staying in an undesirable community or moving out to another community. The second choice is limited since they are all of limited income so, the only choice is to stay by force in the undesirable community which might become by the end of the day as a spot for bad behaviour and crime. Not only this, but the community as a whole will be separated from other communities since the residents are judged in terms of their income, which is unacceptable.

CONCLUSION:

6.41 Two attempts to solve some of the problems that Saudi society was suffering from are discussed in the context of this chapter. The first attempt was changing the villa type of dwelling to the terrace type while the second attempt was changing the neighbourhood concept from the grid and swastika concept to the cul-de-sac and the clustering concept.

6.42 The outcome of the first attempt, which has been applied in Al-Urayja sector, did not represent any solution for the problems of the contemporary environment. The problem of violation of privacy and other planning problems which were discussed previously, the technical problems, and the management problems are still the same.

6.43 The second attempt which is based on changing both the dwelling type and the neighbourhoods concept is a more welcome effort to solve the problems at hand than the first attempt. However, applying the cul-de-sac concept as the only approach to solve the problems is acceptable if the main concern is to minimising the total length of networks in order to protect the government from costly over-extension of utility and services lines but not always acceptable when the main concern is the social comfort. In other words, the cul-de-sac concept leading to either a successful living environment or to failure depends ultimately on the residents.

6.44 In terms of the management system, the new trends of neighbourhood planning still follows the same system which is used in the contemporary one. There is no effort to involve residents to participate in forming and managing their living environment nor are the legislations and building codes flexible to accommodate changes over time.

6.45 The reader of this part may at this stage question what the writer proposes as he has criticised both the contemporary living environment, based on certain rules and the grid or swastika pattern of streets and also the new trends of clustering houses around cul-de-sacs.

6.46 It is my belief that the authorities have a limited influence over a specific social pattern since this depends on the characteristics of the people involved, but they can provide certain opportunities for the people involved to choose and form their living environment in one way or another to satisfy their needs. The result is a variety of desirable concepts concerned by and for communities around the country. How this can be achieved is going to be explained clearly in the next part of the research.

PART THREE : ISSUES AND CRITERIA FOR URBAN DESIGN AND PLANNING OF THE FUTURE NEIGHBOURHOODS

Based on the final findings of the analysis and the evaluation of the various neighbourhood planning schemes that were applied in the Central Region, in addition to the actual way of life of the Saudi people, which was discussed in the literature review, this part will present issues and criteria for urban design and planning of the future neighbourhoods. It is the prescriptive part of the research which will propose the following issues:

1. Recommendations on forming the future neighbourhood planning, and
2. Recommendations on managing the growth and implementation of the future neighbourhood in the Central Region.

This part will also explain how some of these recommendations could be implemented.

In order to come up with these issue, this part comprises of two main chapters. The first will define the recommendations on dealing with forming and managing the future neighbourhood, while the second chapter will show how to implement some of them. A specific case study will be used to illustrate implementation.

The third part will also include the final conclusion of the research which will cover suggestions for future research which is needed to reinforce or generalise the research findings.

CHAPTER SEVEN : RECOMMENDATIONS TO FORMING AND MANAGING THE FUTURE NEIGHBOURHOOD IN THE CENTRAL REGION

INTRODUCTION:

7.01 The previous part discussed three types of neighbourhoods in the Central Region of Saudi Arabia. These were the traditional, the contemporary, and the new trend for the Central Region neighbourhoods.

7.02 The traditional neighbourhood was built by its own people in an unselfconscious process, using Alexander's terms (1964), to fit their needs as well as their socio-cultural factors which were propounded by the Islamic teaching. Therefore, the design was considered as successful when considering the actual needs and the socio-cultural norms of Saudi Arabian people in addition to the techniques, technology, and the building materials which were available at that time. In contrast, the contemporary neighbourhood is designed, in a self-conscious, process, by professionals whose background differs from the users. As a result, many problems appeared which were discussed in the previous chapters. While the new trend, which was also self-conscious is based on blindly copying some of the traditional concepts which help to reduce the costs of the infrastructure such as the cul-de-sacs. However, in the opinion of the writer, this is incorrect and dangerously misconceived.

7.03 This chapter is designed to focus on what the future neighbourhoods should be to satisfy their users. Dealing with the built environment means dealing with a large number of very complicated and overlapping issues some of which are physical and the others non-physical. Therefore, it is very difficult to define a clear cut restrictive set of regulations to guide the future neighbourhood that will lead to a satisfactory environment. However, this chapter intends to set up some recommendations to guide the future neighbourhood plan. This will be followed by an explanation of the management processes which have to be considered to make these recommendations applicable.

RECOMMENDATION TO FORMING THE FUTURE NEIGHBOURHOOD PLANNING

7.04 In order to form a satisfactory neighbourhood environment for certain people in a particular place, the planner should base his concepts on the full understanding of the people-environment relation rather than on his own belief. Understanding the people's ideology and their way of life in Saudi Arabia is essential and considered the guidance which rises above all other considerations. This dimension has to be understood and to be used as a tool for understanding the pattern and behaviour which in turn leads to forming a desirable living environment. The understanding should be guided by tangible observations, analysis, synthesis, and evaluation rather than by an abstract knowledge or blind copy of the traditional environment which was built for certain people

at a certain time and stage of technology. Here I am not denying the importance of the past, but it should be used as a device for understanding mechanisms. Another important aspect which has to be considered is the technical aspect. Today we have a variety of materials and technological ability to do whatever we want. Therefore, the planner must understand the nature of these aspects to define the best suited people, function and local conditions. The following set of recommendations have to be considered when designing the future neighbourhood. These recommendations have resulted from the previous analysis and evaluation of the various neighbourhood concepts in the Central Region of Saudi Arabia and the nature of man-environment relationships. These recommendations include:

THE NEED FOR AN AFFECTIVE ENVIRONMENT:

7.05 Each behavioural setting of any environment arouses emotions in its users. These emotions are evaluated in terms of the socio-cultural norms and the sense of the individual. Therefore, the future neighbourhoods environments should be an effective environment that satisfies and respects both the socio-cultural requirements and the individual's sensibility.

The Socio-Cultural Requirements

7.06 Future neighbourhood planning should take into account the consideration of the various requirements of the social-cultural norms such as privacy, territory, social interaction and family structure.

7.07 The need for privacy is one of the essential factors that affects the level of satisfaction of the residents because it deals with the self-esteem and self-actualisation needs. It manages social interaction and establishes a sense of personal identity. Therefore, future neighbourhood planning should consider this need as one of the most important issues and not to neglect the fact, especially for Saudis, that lack of privacy is a deficiency in the usability of space. Not only this but lack of privacy may lead to a heightened stress level. The previous part showed many examples of the failure of the contemporary neighbourhood in terms of the usability of spaces and the appearance of the neighbourhood environment as a result of misunderstanding the notion of privacy that fits the residents. Therefore, respecting the intimate privacy of the family by preventing the direct visual access from outsiders, whether neighbour, passers-by, or users of any facilities, is essential for satisfying a desirable environment. This can be achieved through many principles including the principle of need, damage, and priorityship. These principles will be explained later in this chapter.

7.08 Territory is another issue which has to be considered. It allows for the fulfilment of many basic needs such as self-esteem, self-actualisation, self-fulfilment, and self-confidence by providing the sense of identity, stimulation and security. Poorly defined territorial boundaries such as in the case of contemporary neighbourhood planning

leads to many problems such as neglecting the importance of the interaction between the individual and his surroundings. This, in turn, leads to make the individual insignificant which affects the level of individual and group satisfaction. Therefore, future neighbourhood planning should allow for defining various levels of territorial boundaries. For example, it should allow for those residents who would like to control their locality to do so. It should allow for changing the structure of their locality if it leads to their satisfaction without damaging the rest of the neighbourhood structure.

7.09 To illustrate this, suppose that there are two groups of people, the first group would like to live in a semi-private territory while the second group do not want to do so. What should be done to solve or satisfy this? It is obvious that the first group want to live in a shared place because they find themselves attracted to similar characters in terms of their background, values and/or their interests while the second group have different characteristics. Therefore, planners and designers should look at these different situations and respect them. They should allow for residents to control and maintain their vicinity, collectively, if they wish. They should allow the plan to contain a variety of concepts, each of which represents the residents characteristics. The result will be a variety of territorial boundaries over the neighbourhood plan. However, there is a danger of assuming that one concept taken as the new trends belief will be good for everyone. Planner's beliefs and prediction of what is a good environment for residents may be

perceived by the residents as a bad environment. Not only this, but may lead to many social problems.

7.10 Social interaction is the third factor which should be considered. It leads to residents satisfaction. It is essential in order to meet the need for affiliation and belonging as well as encouraging coherence and cooperation among residents. The theoretical chapter defined four concepts which can lead to social interaction. These are propinquity, homogeneity, functional distance and functional centrality of commonly used facilities.

7.11 It is my belief that the intensity of relationships among residents should not be a subject for planning values but the plan should help to provide the best solutions which can provide social interaction. The following paragraphs will define how to handle the need for social interaction.

7.12 Propinquity is one of the most important techniques that is useful for several purposes such as intensive face-to-face social contact, security, privacy, and making frequent contact among residents more convenient. These advantages of the concept of propinquity have lead most planners and urban designers to come to an erroneous belief that a cul-de-sac or a cluster plan would be a better proposition than the conventional one. I agree with them in this belief if the residents are homogeneous and they have asked to be in a shared or semi-private

place otherwise, it is not a satisfactory solution and may lead to many social problems.

7.13 Here, I would like to stress that it is one of my beliefs that the conventional plan would be better than any other concept if the residents are heterogeneous. To solve this dilemma, one should, before designing or making any changes in the physical plan, understand the degree of the man-environment relationship. There are three cases which can define the man-environment relation, each of which represents a certain phase of the physical plan.

7.14 The first case, when the people are heterogeneous in character. This case requires a heterogeneous plan such as the conventional one. The conventional plan could be called, at this stage, the first phase of the physical plan of the neighbourhood. The second case, when the people are homogeneous in character and they wish to live close to each other but not in a shared property such as a cul-de-sac. Then their wishes can be satisfied through designing for example a crescent, loop, or a relatively narrow street which may encourage their active street life and make the frequent contact among them convenient. Then one can consider this case as the second phase of the physical plan.

7.15 Finally, when the residents are homogeneous and affected by a strong social tie, then one can recommend designing a semi-private place for them if they wish. This can be said to be the final phase of

the physical plan.

7.16 To conclude, propinquity can be achieved through many ways and techniques. Each way can be formulated in a way to reflect the residents character or stage of the man-environment relation. Therefore, the planners and designers should understand the character of the residents before they design the physical plan and the plan itself should allow for the physical setting to be adapted when the character of the residents changes.

7.17 Functional distance between units and the functional centrality of commonly used facilities play an important role in the intensity of social interaction. Here is the case which the planner and designer can organise the physical plan to encourage social interaction regardless of the character of the residents whether heterogenous, homogeneous or mixed. The role of the functional centrality of commonly used facilities can be enforced through providing every function that is ostensibly necessary to the main function of the neighbourhood. To illustrate this, the main function of the neighbourhood is for living and relaxing. This function requires many other functions to work well. These include; a place for education (schools), a place for shopping (shops), a place for recreation (open spaces and playgrounds), and a place for prayer (mosques). To clarify how to deal with these functions, it is worth reiterating how the traditional, contemporary and the new trend concept dealt with them.

7.18 The traditional neighbourhoods, mostly consisted of three main elements; the mosque which was a multi-functional element for prayer and for an educational institution for mainly males. The second element was the shops which provided the community with the necessary consumer goods. An thirdly, the houses which were the shelters for the family's basic activities. In each community, one or more of these houses in addition to its main functions was used as an educational institution for girls.

7.19 The location of these elements was determined by the principle of needs of the community. The size of the traditional mosques varied depending on the location, number of worshippers, and the availability of land and/or the budget for contracting each mosque since the majority of the traditional mosques were built and maintained by the people (mostly the residents of the neighbourhood) as waqfs. Waqf means continuous charity or charitable endowment. The waqf principle resulted from the prophet saying that when a person dies, all his actions come to an end except three matters which he leaves behind: a continuing charity, knowledge from which benefit would be derived, or righteous offspring who pray for him.

7.20 The contemporary neighbourhood is based on the concept of the separation of uses which is one of the new zoning practices of today's planning. Moreover, the majority of the contemporary neighbourhoods

are characterised by the centralised concept of facilities. Each facility has been defined with a specific standard of size and design. Not only this but also the control and maintenance of each facility is the responsibility of the agent of the central authority agencies who is responsible for providing these kinds of facilities.

7.21 The only difference between contemporary neighbourhood planning and the new trends, in terms of the land use concept, is that the new trends concept allows for the combination of the residential units and the neighbourhood-enterprises through allowing the owners of any plot located on the main courtyard of the neighbourhood to erect a shop about 30 to 40 square meters. This theme is welcomed as an introduction to recognising the importance of mixing the various functions but what would happen if all the defined plots used their right to erect a shop? The result would be a misused rather than mixed-use neighbourhood. The concept of the mixed use plan needs to be accompanied by certain stipulations and controls for regulation purposes.

7.22 The following will focus on how future neighbourhoods planning can deal with the commonly used facilities. Practically, the succession of any determined location of certain facilities differs from one place to another and depends on the number of users, the density of use, and the spatial distance. Therefore, the future plan should allow for the facilities to be located on its best location which can be determined by the community rather than by the central authority whether in a central

place or distributed throughout the area. To illustrate a case as an example, the local mosque is one of the commonly used facilities which is used intensively (five times a day) regardless of the number of worshippers. In other words, it should not be designed specifically for a certain number of worshippers (as the contemporary planning belief). The definition of the local mosque is the place, whether large or small, where a certain number of people, whether large or few, can gather to pray in a congregation rather than individually. Therefore its location should be determined according to that which can make frequent use more convenient to its users. It is important to consider this to encourage people to pray in the mosque since praying in the mosque, as discussed previously, mediates a strong relationship between neighbours.

7.23 At this point a question may be raised that the government, economically, can not provide a number of buildings just to serve one function in the same neighbourhood. I would agree especially if the government continues to consider the standards that it has for each function especially for mosques. The standard size of the local mosque which the government usually constructs is too large while the users are few since most of its users are those people who live next to it. The other people of the community however pray in their homes since the location of the mosque is too far away and there is little protection for the pedestrian from cars and other environmental stresses. So I would recommend dividing the required area into many segments and

distributing them over all the neighbourhood rather than having a centralised plot.

7.24 Another issue can be raised here to solve the problems of the commonly used facilities is through allowing and encouraging the residents to participate in financing and constructing their facilities as waqf. This law is still applied in Saudi Arabia since it is one of the Islamic recommendations, but some of the central authority agencies, such as the Ministry of Pilgrimage and Endowments, discourage such action through a number of contemporary stipulations. For example, when someone would like to erect a mosque as a waqf, he must agree on some stipulations in terms of the size of the mosque, the design, or on other requirements such as providing two residential units for Al-Imam (the prayer leader) and Al-Mu'athin (the caller). In addition he must agree on transferring the ownership of the buildings to the Ministry of Pilgrimage and Endowments to control it. I question the fairness of this requirement. Here I would like to stress that future planning should recognise the importance of giving the community the right to control their facilities whether mosque, school, or open spaces instead of being controlled by the central authorities.

7.25 By giving the community the right to control the facilities not only leads to encouraging residents to use the out-door environment frequently which leads to social gathering and interaction which in turn leads to securing the area as Jacobs (1961) described it as "eyes along

the street". It also leads to providing the residents with the various needs of the commonly used facilities throughout using any building of any specific function, such as schools, as a multi-purpose building to serve other needs of the community such as a celebration centre or exhibition hall for the community interests and so on.

7.26 The functional distance between units also plays an important role in the intensity of the social interaction. The previous paragraphs mentioned that one of the factors affecting the intensity of use of any facility is the spatial distance. The functional distance does not mean the spatial distance but it refers to what the spatial distance can afford or offer in addition to its function. To illustrate this, the traditional neighbourhoods streets were used as a place for old people to sit and watch the streets activities. They also functioned as children and youngsters recreational areas, all in addition to their function as channelling movement. Therefore, the planner and designer should emphasise the importance of the functional distance throughout understanding the best configuration and materials of the spatial distance that can afford other functions for the residents.

7.27 Family structure is the fourth issue that has to be considered in the planning of future neighbourhoods. The contemporary neighbourhood planning, which is imported, considered income as the main factor that affects the family size and structure of the Saudi's society. Therefore, each plan was accompanied by certain rules to

control the family structure through the land size standards, the rule of set-backs, and building height regulations. Income as a matter of fact, plays a minor role in the structure of the families. Islamic teaching, as mentioned before, is the main factor that affects the family size and structure. To illustrate this, traditionally, the income affected the minor issues such as reflecting the symbols of welcoming and wealth through the various ways of handling the decorative materials and the quality of the furniture while the size of the houses were to reflect the size of the family who occupied them. Today there are many families in the Central Region who still live close to their relatives whether in one house or in the same vicinity. So the planner must recognise this reality as long as the society as a whole still sticks strongly with Islamic teaching. In other words, future neighbourhood planning should encourage families who would like to be close to each other to do so by allowing them to be in a well defined territory. It should recognise the size of the family by providing a variety of land sizes. Finally, the plan should accommodate changes in family size. This can be handled by allowing the units to change whether through an expansion or shrinking process. The result of these recommendations may attract a social mix of young and old, high and low income, large families and single people and so on.

The Individual Requirements

7.28 There are three requirements that the future neighbourhood should consider to encourage positive individual sensibility.

7.29 The first is that the neighbourhood structure should be legible and imageable to be perceived as a well structured system of elements that are related to each other (Lynch 1960). An imageable environment leads to many functions such as allowing for mobility, providing security when moving from one part to another, helping to recognise activities, as well as a usable tool for symbolic communication when defining the location of such a setting. Lynch defines five elements that may help to design a legible neighbourhood. These are paths, edges, districts, nodes, and landmarks. Paths can be identified by their affordance, floor texture, lighting, or through their pattern of planning. Edges can be presented through defining a clear cut boundary such as a major street, or any type of the natural elements. The districts can also be characterised by certain internally homogeneous features. Nodes can provide certain places for social activities of the neighbourhood, while landmarks can emphasize a heavy use and/or the symbolic elements of the setting. Mosques, for example, can be used as a landmark for the surrounding area and its minaret as a focal point and element of orientation.

7.30 The second requirement is that future neighbourhood should lead to a sense of personal pride. This depends mostly on a subjective judgement, however, the neighbourhood can be created in one way or another to satisfy this need. This need may be satisfied through the implementation of all the previous and the forthcoming

recommendations of this chapter but here the emphasis will be upon the issue of the symbolic meaning of the neighbourhood. Symbolic meaning depends on the quality of the environment and the non-material attributes. The quality can be judged in terms of many characteristics such as being clean and protected from the various environmental stresses, easily visible warning signs that can reduce threats to residents safety, in addition to some degree of complexity in the visual pattern. This means that the neighbourhood should be characterised by visual variety within an overall unifying pattern. For example, the traditional environment can explain this clearly. The irregular streets that possess visual interest and arouse ambiguity in visual pattern in addition to the ornate openings and the decorative doors were all within a unifying pattern of the building materials and its colour.

7.31 In contrast, the contemporary neighbourhood is characterised by wide and straight streets, and high walls on each side of the entire street. All streets are similar in their appearance and there is no clear identity for each street. In other words, the contemporary neighbourhood is characterised by the boredom of an overly simple pattern. Therefore, the future neighbourhood pattern should avoid such simplicity like the contemporary pattern as well as avoid the potential chaos of excessive complexity.

7.32 Non-materials attributes are the second issue on which the symbolic meaning depends. Examples of the non-material attributes include pride in the place name, pride in the neighbourhood planner, designer, or developer (if he is well-known), or pride in a well-known person who lives in the same neighbourhood such as a person with an intellectual and spiritual following, or pride of the natural characteristics of the area. According to this, future neighbourhood planning should encourage positive non-material attributes to occur through choosing good names or encouraging well-known people to live in certain areas and so on but avoid names indicating the socio-economic status of its residents such as the low-income neighbourhood which is a common name over the cities and towns of Saudi Arabia.

7.33 Thirdly, future neighbourhood planning should provide residents with a sense of control and responsibility. The sense of control and responsibility refers to the degree to which residents can participate in managing, building, modifying, repairing, and evaluating their neighbourhood. One of the reasons behind the failure of the contemporary neighbourhood environment, as well as expected problems, may occur in the new trends planning as a result of neglecting the importance of people's sense of control and responsibility. Both the contemporary and the new trends are based on a restrictive set of regulations to guide the implementation of the neighbourhood. The rules and regulations are purely physical and prescriptive indicating what is to be done and how it is to be implemented. Accordingly, the

individual and the group feel insignificant, the relationship between man to his surroundings is neglected, and the group unity is destroyed.

7.34 People, wherever they are, when they feel the ability to change their environment, they do it, they enjoy it, and feel proud of what they have done (Alexander et al. 1975). People's sense of control and responsibility is one of the main factors which leads to the sense of ownership, territory and identity. It is one of the main factors which leads to people's satisfaction which is the cherished need for our society.

7.35 The question may be raised here as to how the sense of control and responsibility can be achieved? It can be achieved through one of the main planning techniques which is, mostly, neglected in the majority of the physical planning over the world. It can be achieved through the user participation technique.

7.36 It is my belief that applying certain principles for the future neighbourhood based on certain conceptions and beliefs is not enough, since these principles will lead to generalisation and repetition (as is the case of both the contemporary and the new trends developments) which in turn may not be suitable for a particular group of people or site. For example, planning a cul-de-sac is theoretically seems to be desirable since it provides advantages and can be more attractive but practically may become a spot for crime and bad behaviour especially when the residents are heterogeneous in character.

7.37 So, one may ask how the planners and designers could define whether the residents are homogeneous or heterogeneous? They can be defined by the people themselves who could be given the opportunity to participate in planning their living environment. Planners and designers should understand the people who will live in a future neighbourhood before they start developing or proposing concepts if they are to design a symbiotic neighbourhood. Users may, for example, be too numerous then they could be divided into various groups of their choice. Each group, whatever the size, can decide separately to form their internal concepts while the external concepts could be formed through the co-operation of each groups' representatives and the planners team. The internal organisation and concepts must be determined according to what is suitable for the certain character of the group of people, as discussed in the socio-cultural requirements, which can be determined through user participation.

7.38 Now let us imagine what the final concept could be when using the principle of user participation. The result could be a variety of concepts and patterns which reflect the residents needs, a variety of districts in terms of their internal homogeneity which leads to an imageable and legible environment, a variety of land use locations, and a variety of elements and orientation. Not only these but also leads to a natural order of growth as Alexander et al. (1975) called "an organic order".

7.39 Participation also includes the control of the built environment. Residents should be allowed to control their living environment. For example, when certain people ask to live in a cul-de-sac it means that they would like to live in a shared property not in terms of the physical form only but also in terms of manipulating and changing its elements to make it a functional element. Therefore, the physical form alone may not work out as predicted without the recognition of the implication of the responsibility and control of residents.

THE NEED FOR SAFE AND HEALTHY NEIGHBOURHOODS

7.40 The need for safe and healthy neighbourhoods is essential for residents' survival. This need is the second order of the basic human needs that was organised by Maslow (1975). Therefore, future neighbourhood planning should provide the residents with a minimum amount of environmental pollution and ecological disruption, a maximum protection from bodily harm and life loss, and providing adequate levels of the need of the environmental resources such as ventilation, light, sun radiation ... etc. This need is too complex to be investigated in a few paragraphs since it can be achieved using physical and/or non-physical materials. Air pollution for example, is one of the main factors that affect peoples' satisfaction and reduces feelings of interpersonal attraction. Requirements for a minimum level of air pollution, does not mean that the air should not contain any visible materials such as smoke or offensive odours, such as gas, which can be

recognised by all the residents but it should also be healthy air for those who have respiratory problems. Defining and providing the minimum pollution level is the responsibility of the Department of Environmental Quality. So, pollution affects the satisfaction level although it cannot be solved through the organisation of the physical elements of the neighbourhood. The following will focus on the safety and health issues that can be solved through certain physical techniques and materials.

7.41 Safety is one of the most important factors that should be considered when forming the future neighbourhood. The form of the neighbourhood should reduce the affordances of injury or loss of life due to fire or man-vehicular accident.

7.42 As discussed previously, the man-environment relationship in the contemporary environment is weak as a result of many factors, one of them is the residents' feeling that they are endangered by cars because the neighbourhood is designed for cars rather than for the residents movement. As a result, the residents rely on using their cars for all their errands, even for the nearest activities, rather than walking in a dangerous environment. Cars are one of today's human needs and safety is one of the essential needs so, future neighbourhoods should take into consideration both the need for using cars as well as a safe place. This can be achieved by separating the pedestrian and vehicular streets in some cases where pedestrians should be free enough from the

vehicular movement such as for the central activities or appropriately integrating them in others. In any case, the high speed movement of vehicular must be discouraged through defining a hierarchy of street widths, using different pavements materials and colours, in addition to providing easily visible warning signs which can reduce threats to the residents safety.

7.43 The other human needs which should be provided for are an adequate level of environmental resources such as ventilation, light, sun radiation and so on. These issues were part of the main goals of the contemporary environment therefore, many imported regulations and codes have been applied to satisfy these needs. The problems arise because these rules and regulations were copied from a western environment without alteration to fit our environment. The western rules and regulations are based on their culture, natural environment and their technology. To illustrate the differences between our environment and the western environment in terms of the climatic conditions, for example, one may find that the general characteristics of their climate is cold, wet, and with few sunny days. In contrast, our climate is hot, dry, and sunny all the time. The differences between the two climates must be taken into consideration so that inappropriate regulations are not compiled. I would recommend architects, psychologists, and the Health Ministry to work together in order to define the suitable codes that help to determine the best dimensions that lead to a healthy environment. These codes should define:

1. The minimum dimensions for an open space that provide the adequate level of sun radiation, light, and ventilation. Here, I would recommend architects to revert to our traditional built environment and analyse the concept of open spaces and define the reasons and the limitations that affect the variety of the open spaces dimensions. It is necessary to understand the nature of these constraints and how they affected the form of these open spaces in order to define the fixed variables and the changeable variables and how they can be treated to fit today's environment. Bearing in mind that there are differences between the environment of today and the past, the researcher would stress here that the result should be based on understanding rather than on copying. Copying the traditional concepts is wrong and dangerous.
2. The appropriate exterior colours for the natural environment and the quality of visual performance. It is interesting to mention here that one of the municipalities regulations, in the Central Region, requires the exterior walls to be either or both white and beige. Choosing these colours as the desirable colours did not result from actual research but they also imported from different environments. The high level of sun illumination plus the bright colour of the environment lead to an uncomfortable glare which in turn affects the quality of the visual performance. So, can the agencies concerned define the appropriate colour?
3. The suitable building materials and techniques for building

construction and pavements that can reduce the high temperatures and heat during the summer season. High temperatures, based on laboratory experiments, affect people's social behaviour and reduce the relationship between man and his surroundings.

RECOMMENDATIONS TO MANAGING THE GROWTH AND IMPLEMENTATION OF THE FUTURE NEIGHBOURHOOD

7.44 The previous paragraphs dealt with the various recommendations and procedures used in order to form a satisfactory neighbourhood environment. Some of these recommendations which deal with future changes cannot be satisfied unless two main steps have been considered. The first that the plan should be an open-ended plan while the second is the need for local community authorities. The following paragraphs will focus on each of them in more detail.

THE NEED FOR OPEN-ENDED PLAN

7.45 The contemporary and the new trends neighbourhood planning are based on a well-defined plan that specifies the future shape of the neighbourhood in order to come up with an organised area built according to one stage of development. In other words they are static and discontinuous plans neglecting the fact that life is changeable over the time factor. Not only this but also they are too rigid to adapt with un-predictable changes of the community. Therefore, future neighbourhoods should be based on an open-ended plan or a dynamic

plan that allows for changes to take place.

7.46 There are two types of changes which occur. Changes which usually occur in a short space of time while others occur over a long period. All of these changes may affect the structure, growth, and the function of the neighbourhood elements.

7.47 The changes that may occur in the short run could include all the changes in the needs of the inhabitants whether in the needs of the individual or the groups. These changes could have an affect on the scales of the individual unit, a group of units, or on the scale of the neighbourhood as a whole. Examples of these changes include the changes on the size of the unit as a result of increasing or deceasing the family size or as a result of other mechanisms such as inheritance. Also changes made when connecting or separating more than one unit or changing some of the functions of the neighbourhood elements such as adding another or modifying an element, or enlarging another and so on, all for the benefit of the neighbourhood's residents.

7.48 The changes that may occur in the long run may lead to changing the function and/or the structure of the neighbourhood as a whole. It may become a commercial sector, for example, or any other type of use. This radical change could happen as a result of the effect of other forces such as economical, social, political, technological, or any other unforeseen forces. Riyadh, for example, is full of cases that can show

the effect of such forces. One example of these cases is the Al-Malaz sector which was built as a residential sector for transferred government employees. The area now, as a result of the economical force, has changed to commercial activities. Some villas are being used as offices, while others have developed into retail and commercial centres. Another example also from Riyadh city is the urban renewal of Riyadh centre. All these changes and others represent the dynamic nature of the land use activities over time.

7.49 So, the future planning of the neighbourhoods should be adaptable and flexible to match with the changes of the various forces. In other words, the plan should be open-ended to reflect the flexibility required by the element of time and unpredictable factors and needs in the future. To illustrate how the dynamic plan can deal with a practical problem, suppose when we are designing a residential area, we find a number of people are homogeneous in character and they prefer their houses to be grouped in a way to include a sharing (semi-private) property to control and maintain their vicinity. If this need is satisfied, then this cluster layout has to be understood as a cluster that can fit only those residents or any other people who have similar characteristics otherwise it must be changed or modified to fit other people if it becomes useless in the future. These changes may be costly therefore, the designer should be aware of such changes in order to reduce the cost of the future development.

7.50 At this stage, one may think that the meaning of open-ended plan means here unplanned growth. However, this would be a misunderstanding and dangerously misleading. Unplanned growth leads to difficulties in terms of securing a coherent and satisfying pattern of development. There is a strong need for a plan to control the future growth and implementation of the neighbourhoods but it should be open-ended-plan. To be an open-ended plan, an institution needs to be established to work together with the planners and the users. That is a need for a local community authority.

THE NEED FOR LOCAL COMMUNITY AUTHORITY

7.51 Traditionally, each neighbourhood had its own association which had grown up spontaneously and functions as a core of collective action. There was no specific place or structure for such an association, such as in different places wherever they decided, such as in a neighbour's men reception room, in the mosque, or in any other affordable space and discuss their internal or external affairs.

7.52 In contrast, such a neighbourhood association is missing in the contemporary environment. The implementation of the plan of each town and village is controlled by a central municipality since each plan is provided with comprehensive planning legislating and building codes. Not only this, but the plan has been enacted as law. The rules and

regulations of the plan are easy to control since all define what should be done and how it is to be implemented rather than defining what is not to be done. As a result of the centralised decision making process, an informal contact between residents and the highest decision making level occurs. Not only this but it also leads to many disadvantages such as decreasing the sense of responsibility and control because people know that someone else will tell them what to do. It also discourages social interaction among residents, and causes difficulties in terms of defining the set of priorities among local services and so on.

7.53 In general, contemporary neighbourhood planning which is based on a restrictive set of rules and regulations and at the same time is controlled by a central municipality is inadequate and inflexible in the face of the new and continuous challenges. Therefore, future neighbourhood planning should be based on a decentralised decision making process. In other words, a local community authority has to be established. The benefits of the local community authority include:

1. providing the maximum possible autonomy for people at the local level in order to provide social interaction and resident's satisfaction,
2. decreasing the informal contact between local residents and the central decision making,
3. decreasing the central decision-making involvement in the implementation and the problem solving process of the local

scale, and

4. providing the community with the feeling of self-responsibility in terms of decision-making, problem solving and implementation process depending on their demands and quality of its structure, age and other environmental and physical conditions.

7.54 The local community should consist of residents' representatives in addition to planners, architects, and central authority representatives (when they are needed such as jurists, social workers, or any other representatives of city agencies).

The Role Of The Community Authority



























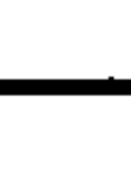















7.55 The role of the local community authority should be recognised as an institution which can:

1. Act as an instrument of the residents' voice which is able to articulate complaints about the local services, problems and needs of the community, to the agencies most concerned. This instrument in turn, represents an abstract communication system between residents and the central authority.
2. Act as an instrument of the central authority for investigation, researching, requesting social survey work or promoting information sharing in addition to reporting on the performance of local programmes and policies which can be done through it.
3. Evaluate the well being of the neighbourhood structure, quality, and concepts in order to define, for example, which spaces are


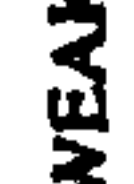
active and functioning well and which are dead (Alexander et al 1975) in order to propose alternatives and solutions for the problems over the life of the community. To illustrate a case, when reporting that the neighbourhood garden is not being used properly (as the case of many neighbourhood's open spaces in Saudi Arabia) or certain element is non-defensible space, then they may suggest changing this element into another function such as a playground or multi-functional space depending on the need of the community.



This role requires a co-operation between the local authority and the users collectively through the process of participation, public hearing, observation, interviews, and questionnaires in addition to games simulation techniques in order to suggest and develop issues for developing their community.

4. Encourage neighbourhood organisations and corporations to undertake development projects for the benefit of the community, such as establishing commercial activities and investment
5. Solve and control the neighbourhood's problems, development and growth. Figure 7.01 is proposed to answer the question, "To what extent should the local community authority be involved in solving and controlling the development and growth of the neighbourhood?" Figure 7.01 shows horizontally the various scales of elements and services of the neighbourhood and vertically, the people and the organisations involved, starting from the house level and progressing towards the regional level.

ELEMENTS SCALE AND REPRESENTATIVE	HOUSE	ROADS		INFRASTRUCTURE	SERVICES	REGULATIONS	ZONNING "LAND USES"		
		SEMI-PRIVATE	PUBLIC				PRIVATE	SEMI-PRIVATE	PUBLIC
ONE UNIT "OWNER"	 						 		
CLUSTER "RESIDENTS"		 					 		
NEIGHBOURHOOD "LOCAL COMMUNITY AUTHORITY"		 	 				 		 
CITY "CITY COUNCIL"			 			 			 
REGION "REGIONAL COUICL"									

KEY:

CONTROL
 MAIN
 MIDDLE
 WEAK

PROVIDING "FINANCIALLY"
 COMPLETELY
 SHARED



MAINTAINING
 COMPLETELY
 SHARED

Figure 7.01 The people and the organisations involved in the development of the neighbourhood's elements and their responsibility.

Figure 7.01 indicates that the financing and maintaining of the individual unit is completely the responsibility of its owner. While the control is strongly in the hands of its owner, there are other people involved in controlling such actions. Those people are the residents of the cluster where the house is located and the local community authority. They could reject any action inside the house if it could affect or harm another member of the community.

The roads are divided into two types. The semi-private roads and the public roads. Controlling, financing, and maintaining the semi-private roads are the responsibilities of the residents of the road.

The individual residents and the local community authority have the right to stop any action if it could affect negatively the neighbourhood and its residents.

The main control of the public roads is the responsibility of the local community authority. However, the residents of the adjacent cluster and the city council have the right to reject any action. Providing such roads is the responsibility of the city council and the maintenance is shared between the local community authority and the city council.

The infrastructure is the responsibility of the regional council to provide and maintain, while the control is mainly in the hands of the city council and, to a lesser degree, in the hands of the local community authority.

Similarly, the services are the responsibility of the regional council to provide and maintain, while the control is mainly the responsibility of the local community authority with the city council and the residents of the adjacent cluster having limited control.

The overall regulations are controlled, financed, and maintained by the city council, however, the local community authority and the residents of any cluster could reject, modify, or state any regulational tool, depending on the circumstances.

Finally, Figure 7.01 also discusses the three possible changes in land use which could occur. These are changing from private use to semi-private or public use, changing from semi-private use to public or private use, and changing from public to private or semi-private use. When changing to private use the ultimate decision is the responsibility of the local community authority after insuring that there is no objection coming from the individuals involved, the residents of the adjacent cluster or from the city council. Financing and maintaining the approved action is the responsibility of those benefiting individual.

When changing any setting to semi-private use, the final agreement has to come from the local community authority after consulting the city council and the involved residents. Financing and maintaining such action is the responsibility of those benefiting in this case.

When changing any setting to public use then the implementation

of such change has to be based on agreement between the local community and the residents of the neighbourhood, and between the local community authority and the city council. Financing such action is the responsibility of the local community authority, while the maintenance is shared between the local community authority and the city council.

After defining the role of the various levels of groups in terms of controlling, financing, and maintaining the various elements of the neighbourhood, the following will shed light on which principles the local community authority should consider when controlling and solving the neighbourhood's problems. There are three principles which should be considered. These are, the principle of needs, the principle of damage, and the principle of priorityship. These principles are essential devices in order to provide the maximum possible autonomous environment. The following will focus on each principle separately in a specific manner.

Principles For Controlling The Implementation And Growth Of The Neighbourhood Physical Plan

7.56 Here, the research will focus on the principles which should be used to guide the design, implementation and growth of buildings and spaces of the community. These principles include the principle of needs, the principle of priorityship, and the principle of damage. Each of which has emerged from the law of shariath (as was discussed

previously) since our concern is not only providing a physical plan for living (as the contemporary neighbourhood planning is concerned with) but also to respect the socio-cultural norms of the residents, which are all propounded by the Islamic principles, to provide a satisfactory living environment.

The Principle Of Needs

7.57 The local community authority should consider the principle of needs as a measure when evaluating, establishing, or changing a certain function to another. The need here means the fundamentals not the embellishments needs. To illustrate with an example, the need for fresh air and ventilation are essential and fundamental for sustaining the life of the individual. Therefore, they should be given priority over any other consideration or embellishments. If one, as a specific case, would like to erect a window for his room in order to get light and air at the same time and there is no other direction to open it except through his neighbour's property then he may do so, regardless of the neighbour's objection since Islam discourages selfish behaviour. But certain considerations have to be taken such as that the window should be designed in a way to provide air and light without affecting the neighbour's intimate privacy unless the neighbour accepts such a violation of privacy. (This may happen when the two neighbours are close relatives such as father and son). Another example is when an informal - neighbourhood enterprise is being proposed then three

questions have to be answered in order to control the area from an over commercialised problem. These questions include, is there an actual need for it, where is it located, and who is getting the benefit of it? For example, a poor man or an elderly may be given priority over a rich man since such enterprise may provide gainful work for them. Through this principle the local community authority can manage a balanced community.

The Principle Of Priorityship

7.58 The principle of priorityship means first come first served. To illustrate this, the one who constructs a house or changes a function to satisfy certain needs of the individual and/or the community before any other persons who could object, has the right to continue unless that action is accompanied by a source of inevitable damage then it has to be stopped. Here, two examples are necessary to clarify these two cases. The first example is of a resident who constructed his house before his neighbour, has the right to open windows that may overlook the future property of the neighbour and so on. This action has to continue whether the neighbour objects or not since the neighbour can adapt his house to prevent such a violation of privacy. In other words, any new construction has to consider the existing constraints and limitations. It is the responsibility of the owner and his architect to solve such problems. The second example is when the first action

omits or is a source of inevitable damage such as a source of vibration which may affect the structure of the adjacent building then it has to be stopped. The next principle will focus on the issue of damage in more detail.

The Principle Of Damage

7.59 The principle of damage has emerged from the prophet saying "... Do not harm others or yourself, and other should not harm you or themselves". Akbar (1984) raises and skilfully handles the concept of damage as the principle of those which underly the formation of the traditional environment. This principle is important and has to continue as a device for dealing with the existing and future built environment since it is still applied as one of the Islamic techniques for solving problems and disputes.

7.60 To focus on this principle in more detail, the principle of damage can be used depending on what type of damage and when it could be continued and when it could be stopped.

7.61 The damage can be categorised according to two areas. The first is when the damage is related to the senses such as olfactory, visual, or audible senses while the second, when the damage is affecting the construction of the adjacent properties. In all these cases, if the damage is an old action and can be avoided then the action has to continue (such as the previous cases presented in the principle of

priorityship). While in other cases where the damage is new (whether inevitable or not inevitable) or old and inevitable then the damage has to be stopped unless such agreement or compensation is reached and so on.

7.62 As a matter of fact, the principle of damage is a general principle that cannot be defined in a specific manner to solve the various problems which may occur in the community. Therefore it is the responsibility of the local community authority to define each problem independently through a clear process of investigation based on an examination of the actual condition followed by an evaluation process. At the same time, they should let the residents share in solving the problems through the process of dispute and the opportunity to give suggestions and opinions towards reaching agreement. The researcher, here, would like to see the local community authority work like a physician who recommends different medicines, precautions, and treatments for the different diseases of different persons.

7.63 The principle of needs, the principle of priorityship, and the principle of damage are general principles that cover the various changing circumstances and the needs of people and places. In Saudi Arabia, these principles are ruled and measured by Islamic teaching and laws.

7.64 After defining the role of the local community authority and the various principles that could guide the implementation and growth of the neighbourhood, a question could be raised in terms of from where the local community authority could get income to finance such changing and maintenance as explained previously? Funding can come from (as the researcher suggests):

1. City council budgets
2. Donations and charity systems
3. Internal taxation mechanisms
4. Local and national investments through economic and social activities.

However, these suggestions need to be studied in depth to put them in a final form.

CONCLUSION

7.65 This chapter dealt with the recommendations and the processes needed to make these recommendations satisfactory.

7.66 The recommendations have been categorised under two main headings. The first is the need for an affective neighbourhood, while the second is the need for a safe and healthy environment.

7.67 An affective neighbourhood can be achieved through satisfying both the socio-cultural issues and the individual's positive sensibility. The socio-cultural issues include the privacy, territory, social interaction,

and the family structure, whilst the individuals' positive sensibility deals with all the processes which lead to personal confidence and pride. These include the need for legible and imaginable neighbourhood, providing a symbolic meaning, and satisfying the need for residents control, responsibility, and participation.

7.68 The second category deals with the issues that need to be considered in order to maintain the health and safety of the residents including the need for an adequate level of environmental resources such as ventilation, light, sun and other sources. The need for protection from environmental hazards including air pollution, heat, illumination and so on, in addition to the need for a safe environment that leads to minimum injury or loss of life.

7.69 The second part of this chapter dealt with how these recommendations can be satisfied. This chapter addressed two main issues which needed to be considered. The first is the need for an open-ended-plan, while the second is the need for a decentralisation of authority presented through establishing a local community authority to control the plan of each neighbourhood based on many principles including the principle of needs, the principle of priorityship, and the principle of damage.

7.70 In order to test the validity of these recommendations and the principles to guide the future neighbourhood the next chapter will focus

on a case study to cover all the issues that have been addressed here. Following this, a conclusion whether these issues are applicable or not will be given at the end of the next chapter.

CHAPTER EIGHT : IMPLEMENTATION

INTRODUCTION

8.01 The previous chapter proposed a set of recommendations for urban design and planning of future neighbourhoods of the Central Region of Saudi Arabia. However, some of these recommendations require certain procedures to show how they could be implemented. Therefore, this chapter has been developed to explain the possible application of some of the recommended guidelines using a specific case study. The focus of this chapter is to show how to form a satisfactory neighbourhood based on a specific programme, and how to make its plan open-ended.

8.02 In order to commence this chapter, a set of assumptions to guide the design workshop have to be drawn up. Following this the design techniques will be presented to show how the plan of the neighbourhood could be formed, based on the recommendations and the assumptions at hand.

8.03 A selection of unpredictable problems that could occur will be stated with the possible solutions to show how the plan could be flexible, although this kind of flexibility is controlled by certain principles and guidelines in the hands of the local community authority which is assumed to be in existence.

8.04 Evaluation of the findings of this chapter according to the recommendations of the research will be presented at the end of this chapter. This will be followed by the conclusion of the implementation chapter.

ASSUMPTIONS:

8.05 In order to show how some of the recommendations can be implemented, a physical location of a neighbourhood and its programme must be assumed. Therefore, let us assume that the researcher has been given an area of governmental land which is designed to be given to the people as a residential neighbourhood. The design is assumed to follow the typical concept of the contemporary residential neighbourhood (see Figure 8.01) which is characterised by the swastika model of streets as a guide for blocks sub-divisions. A swastika model was chosen as a concept for this case study, although it has disadvantages, as discussed previously. This does not mean we accept this concept rather it emphasises the idea of using a realistic plan for the case study to achieve the main objectives of this chapter. Otherwise, another concept would have to be designed in one way or another from scratch. The centre of the area is proposed for communal facilities and the commercial area, while the rest of the area is divided into many blocks each of which comprises of a number of private plots for villas. The area of each plot size is approximately 400 square metres (this assumption is based on the recommended minimum plot size that is usually distributed by the central authority).

8.06 The assumed problem is to redesign 50 percent of the area (see Figure 8.02) based on the research recommendations which were stated in the previous chapter.

8.07 Before starting the new design for the given area, certain assumptions related to the expected users in terms of their family size and character have to be drawn up. In order not to complicate the assumptions, the researcher will use the findings of the research questionnaires (which were obtained in field work during the summer of 1989) as a guide, bearing in mind that the actual assumptions for a real problem must be the results from the people themselves which give them the opportunity to participate throughout the design processes.

8.08 It is assumed that one type of plot size for all types of family sizes is not fair since family sizes in Saudi Arabia, especially in the Central Region, are various. Evidence of that is seen in the research questionnaire's findings which indicate the 39 percent of the total responses were of small family sizes (the small family size ranges between one to five members). 38 percent of the total responses were of medium family size (this size ranges between six to nine members), while the rest, 23 percent, were of a large family size (which ranges between ten to twenty nine members). It is interesting to find out that the average household size of the responses was 7.3 persons (see Table 8.01).

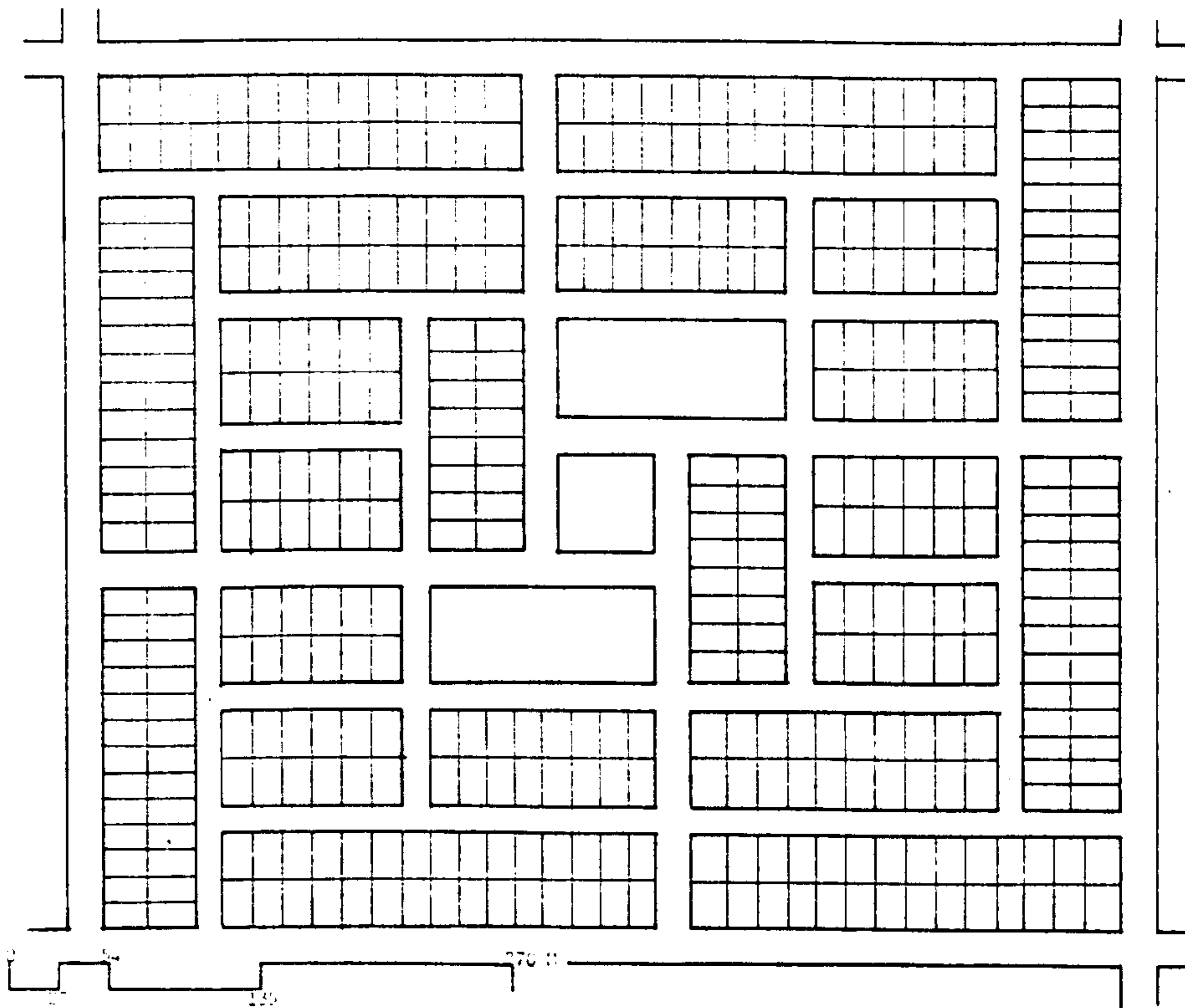


Figure 8.01 A typical concept of the contemporary residential layout.

Figure 8.02 The area assumed to be redesigned.

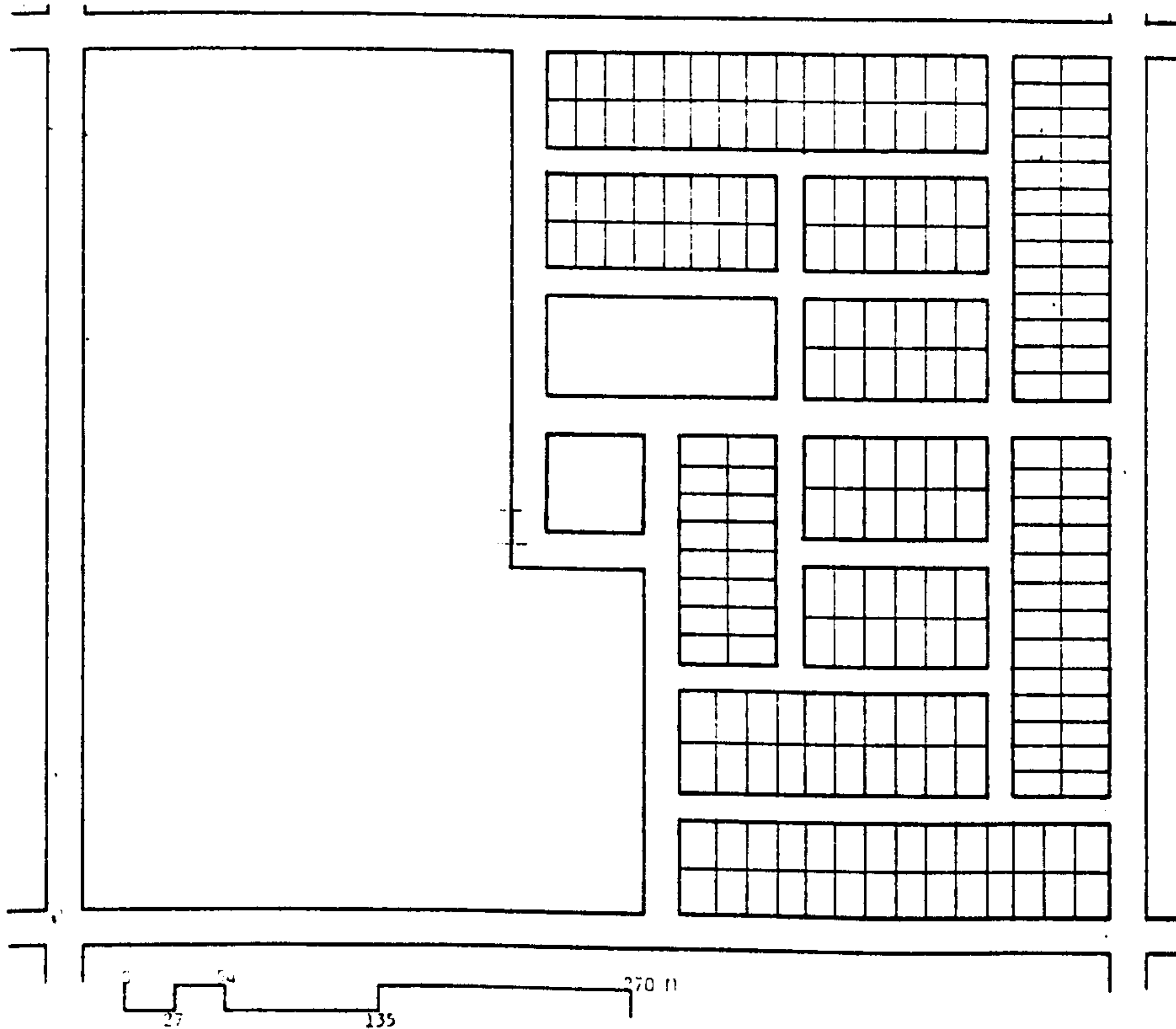


TABLE 8.01**THE NUMBER OF HOUSEHOLD MEMBERS OF THE CENTRAL REGION.
(SEE APPENDIX C, QUESTION NUMBER 6).**

Number of households	Frequenc	Total	%
1	2		
2	12		
3	21	96	39
4	31		
5	30		
6	24		
7	34		
8	17	94	38
9	19		
10	13		
11	10		
12	7		
13	8		
14	5		
15	2	57	23
16	3		
17	5		
20	2		
22	1		
29	1		
Total	247	247*	100

* the number of responses was 261, 14 of them have not answered this question.

Average family size = 7.3.

Medium size = 7

8.09 From these findings we shall assume that the design should comprise of three types of plot size to accommodate three types of family size. For more detail, approximately 39 percent of the plots should be small plots with a minimum area of 400 square metres (as recommended for the minimum plot size distributed by the central authority). 38 percent of the plots should be medium plots with a minimum area of 550 square metres, while the rest, 23 percent of the plots, should be of the large size with a minimum area of 700 square metres.

8.10 In terms of the assumptions related to the residents character, let us assume that 10 percent of the expected residents are relatives and would wish to live in a close propinquity and to have a semi-private space to be controlled by them. The assumption of 10 per cent is based on the findings of the research questionnaires (refer to Table 6.01). Let us call them group "A". While the other 90% of the residents are divided into three groups (B, C, and D) each of which has 30% of the plots. The group "B" are friends or characterised by strong kinship, so they would like to be in propinquity and to have shared spaces without being enclosed by the space. Group "C" are of the same region or have a common background. They prefer to be in propinquity without sharing certain spaces, while group "D" are heterogenous in character and they do not wish to have any type of interaction.

8.11 The next section is planned to show how to develop a physical plan that satisfies these requirements which is based on the family size and the character of the residents.

DESIGN WORKSHOP:

8.12 Before we start proposing a physical plan in the light of the various data provided in the above section, it is essential to stress here that this section does not intend to extensively study the various detailed issues of the design techniques nor to deal with the other issues such as climate and topography. The intention here is to give a possible solution to the problem at hand in order to present the main theme of the research in a tangible way.

8.13 Figure 8.03 illustrates the design procedures which led to the final physical plan of the area taking into consideration the pattern of the other 50 percent of the area (see Figure 8.04).

8.14 The final master plan of the proposal comprised of a variety of plot sizes and cluster design. A variety of plot sizes to fit the variety of the family size, and a variety of cluster designs to fit the variety of the resident's characters. In other words, each cluster represents the stage of the man-environment relationship. As a result of that the streets appear to follow a hierarchical system in terms of a progression from public to private, semi-public streets leading off from public roads to semi-private roads to the private domain, represented by individual

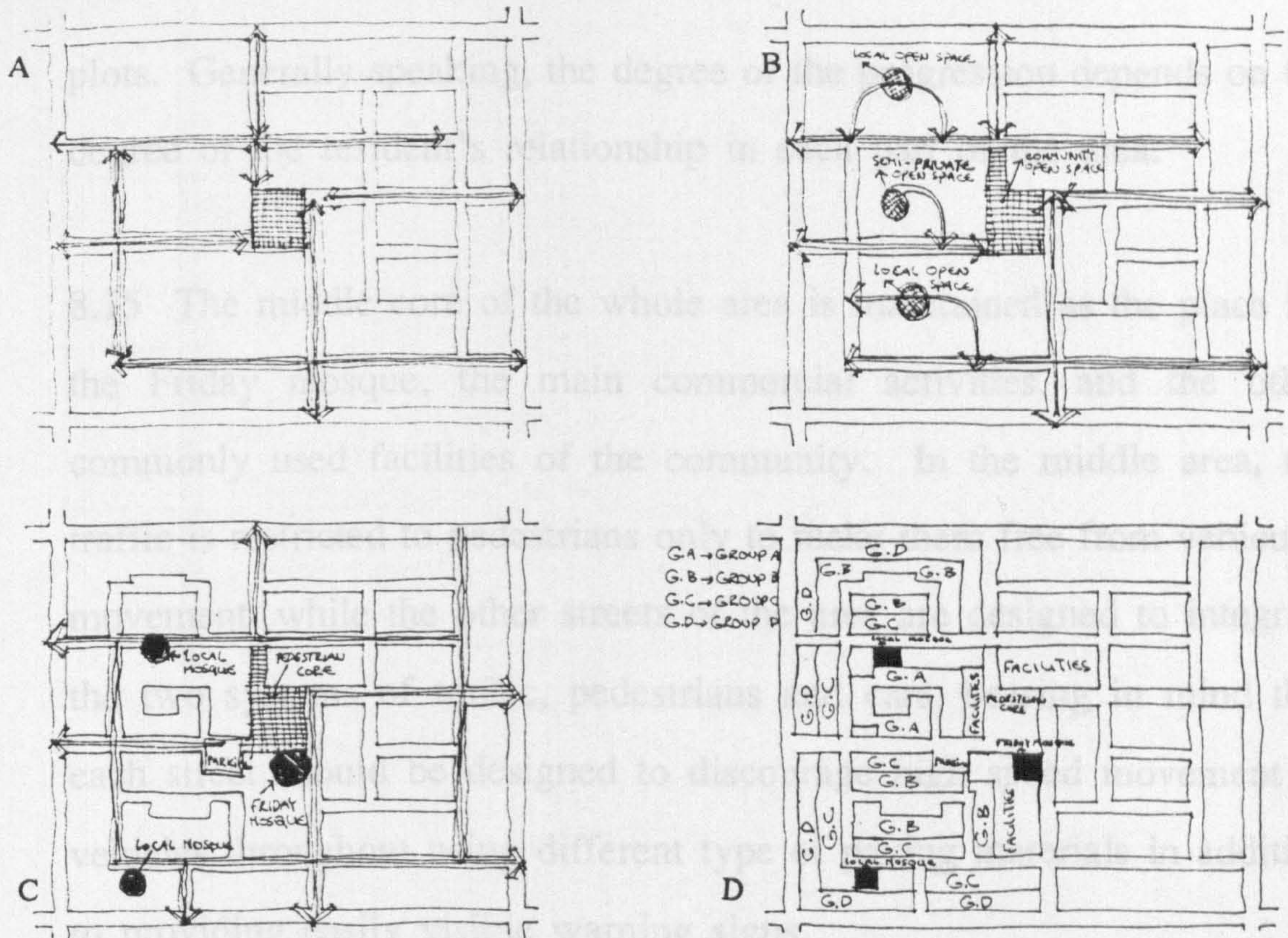
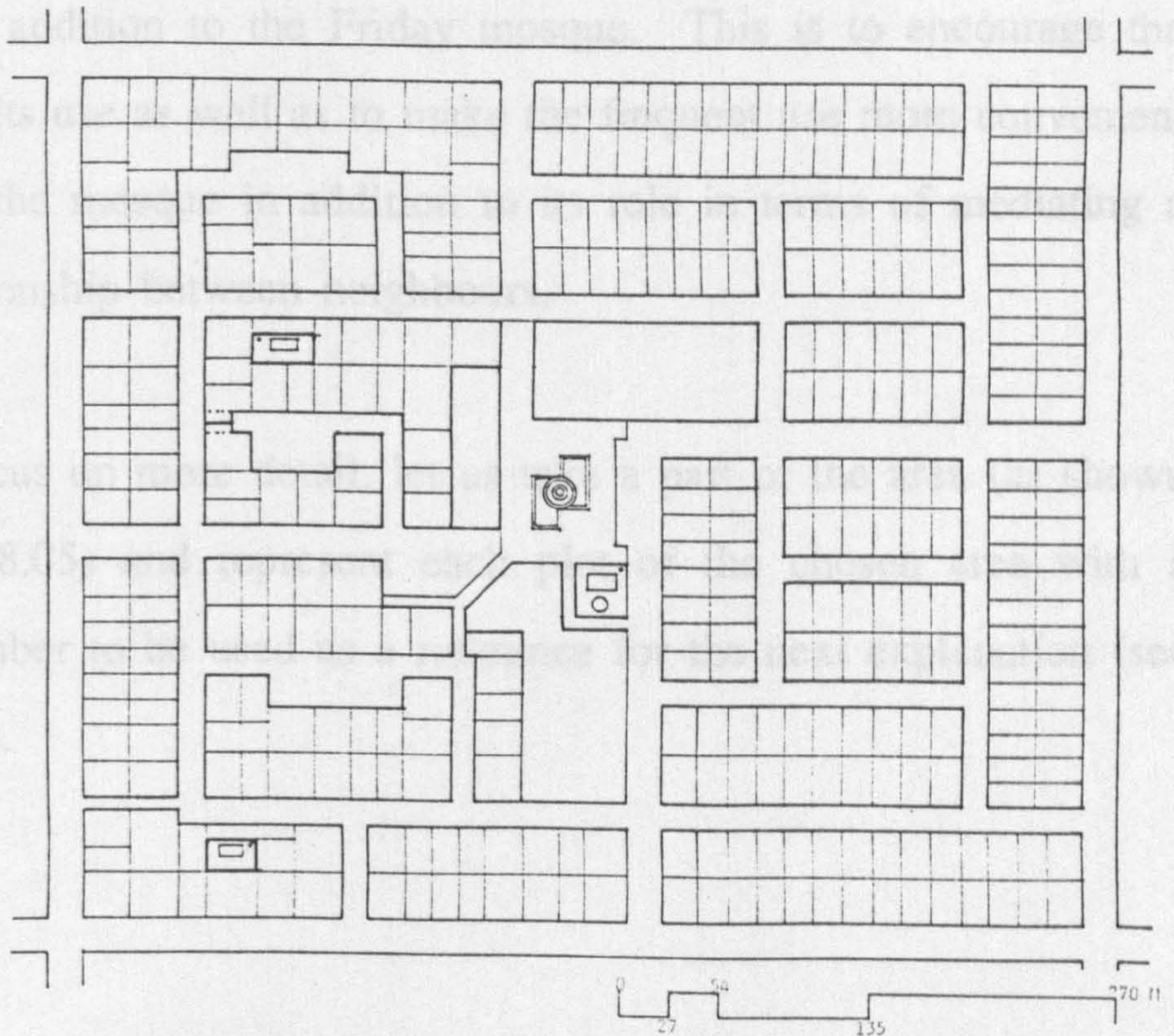


Figure 8.03 The design procedures.

Figure 8.04 The final design of the area.



plots. Generally speaking, the degree of the progression depends on the degree of the resident's relationship in each part of the area.

8.15 The middle core of the whole area is maintained as the place for the Friday mosque, the main commercial activities, and the other commonly used facilities of the community. In the middle area, the traffic is restricted to pedestrians only to make them free from vehicular movement, while the other streets of the area are designed to integrate the two systems of traffic, pedestrians and cars, bearing in mind that each street should be designed to discourage high speed movement of vehicles throughout using different type of paving materials in addition to providing easily visible warning signs.

8.16 In the area two local mosques are planned in two different locations in addition to the Friday mosque. This is to encourage the intensity of its use as well as to make the frequent use more convenient to users of the mosque in addition to its role in terms of mediating a strong relationship between neighbours.

8.17 To focus on more detail, let us take a part of the area (as shown in Figure 8.05) and represent each plot of the chosen area with a specific number to be used as a reference for the next explanation (see Figure 8.06).

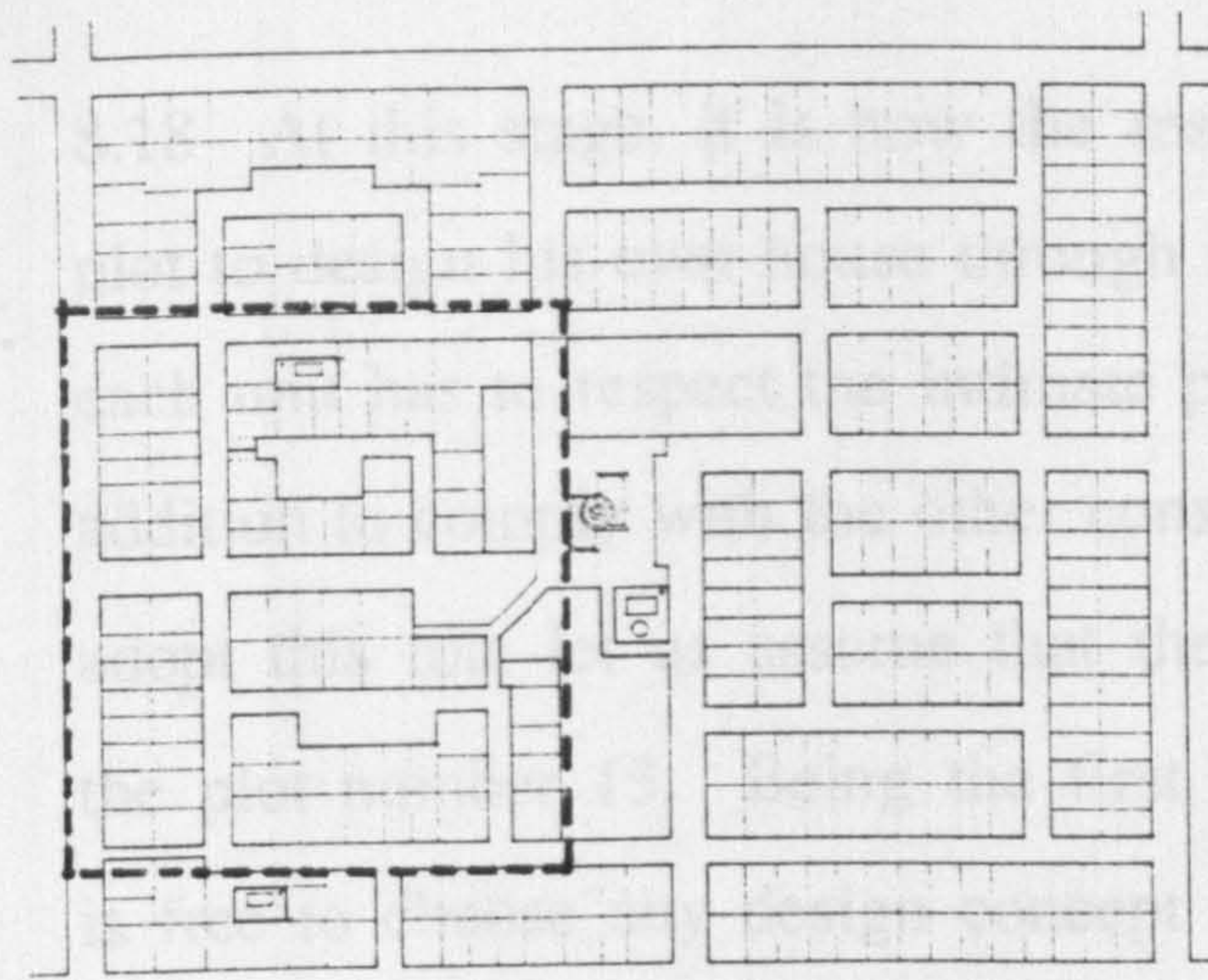


Figure 8.05

The chosen area for detail purposes.

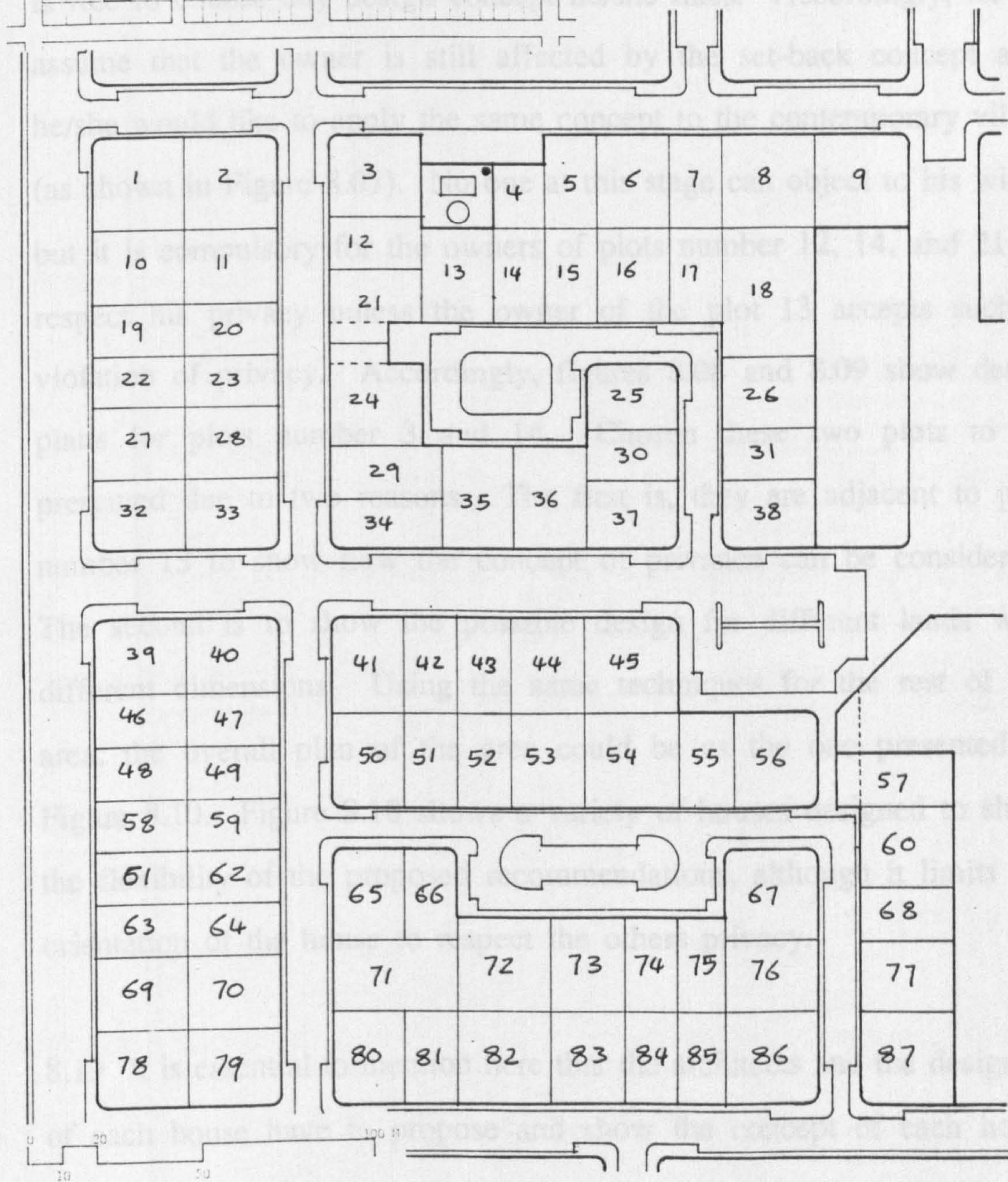
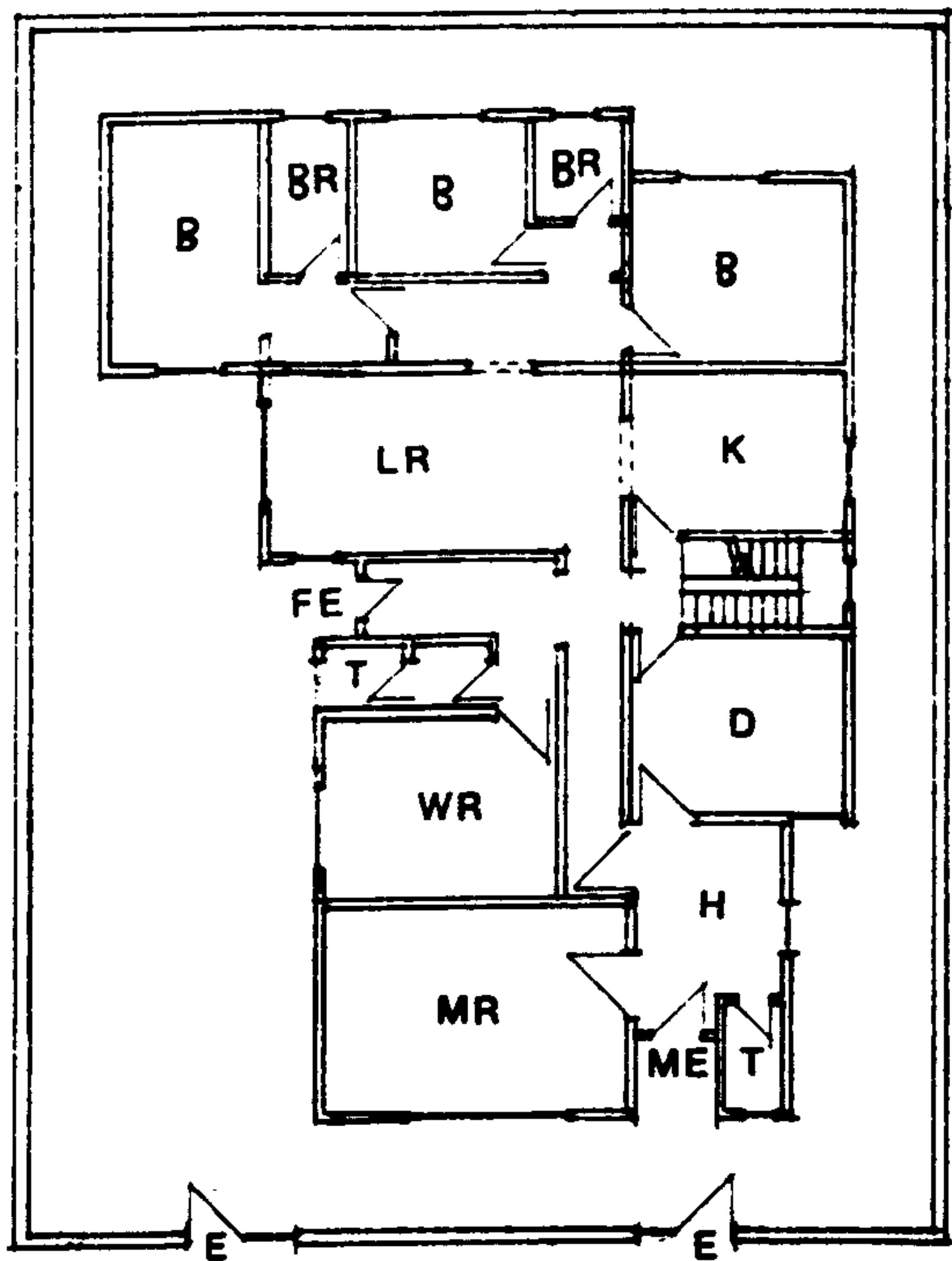


Figure 8.06

The chosen area and plots numbers.

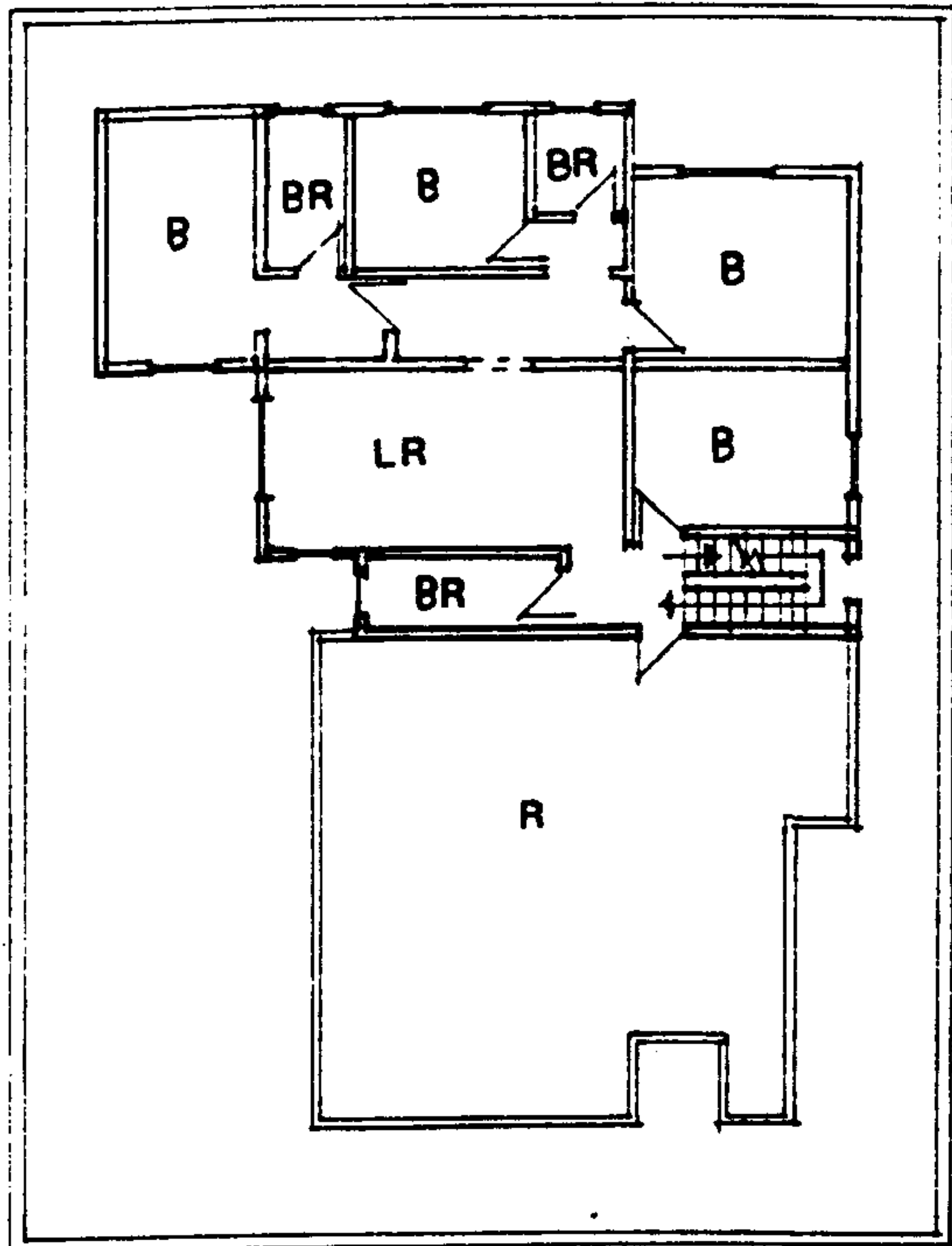
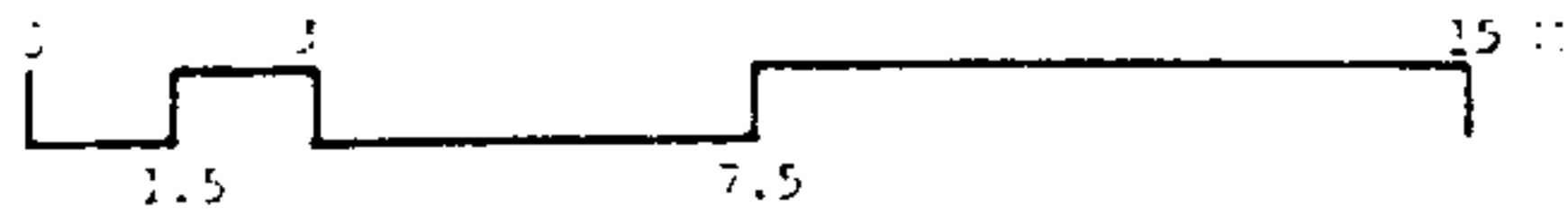
8.18 At this stage, it is now the responsibility of the owner of each plot to design his own house through his architect. The final design of each unit has to respect the intimate privacy of the close neighbours in addition to comply with the other constraints surrounding each plot. To adopt this role let us assume that the first to build was the owner of the plot number 13. Being the first to build indicates that the owner is free to choose any design concept he/she likes. Accordingly, let us assume that the owner is still affected by the set-back concept and he/she would like to apply the same concept to the contemporary villas (as shown in Figure 8.07). No one at this stage can object to his wish, but it is compulsory for the owners of plots number 12, 14, and 21 to respect his privacy unless the owner of the plot 13 accepts such a violation of privacy. Accordingly, figures 8.08 and 8.09 show detail plans for plots number 3 and 14. Chosen these two plots to be presented due to two reasons. The first is, they are adjacent to plot number 13 to show how the concept of privacy can be considered. The second is to show the possible design for different lands with different dimensions. Using the same techniques for the rest of the area, the overall plan of the area could be as the one presented in Figure 8.10. Figure 8.10 shows a variety of houses designed to show the flexibility of the proposed recommendations, although it limits the orientation of the house to respect the others privacy.

8.19 It is essential to mention here that the architects and the designers of each house have to propose and show the concept of each house

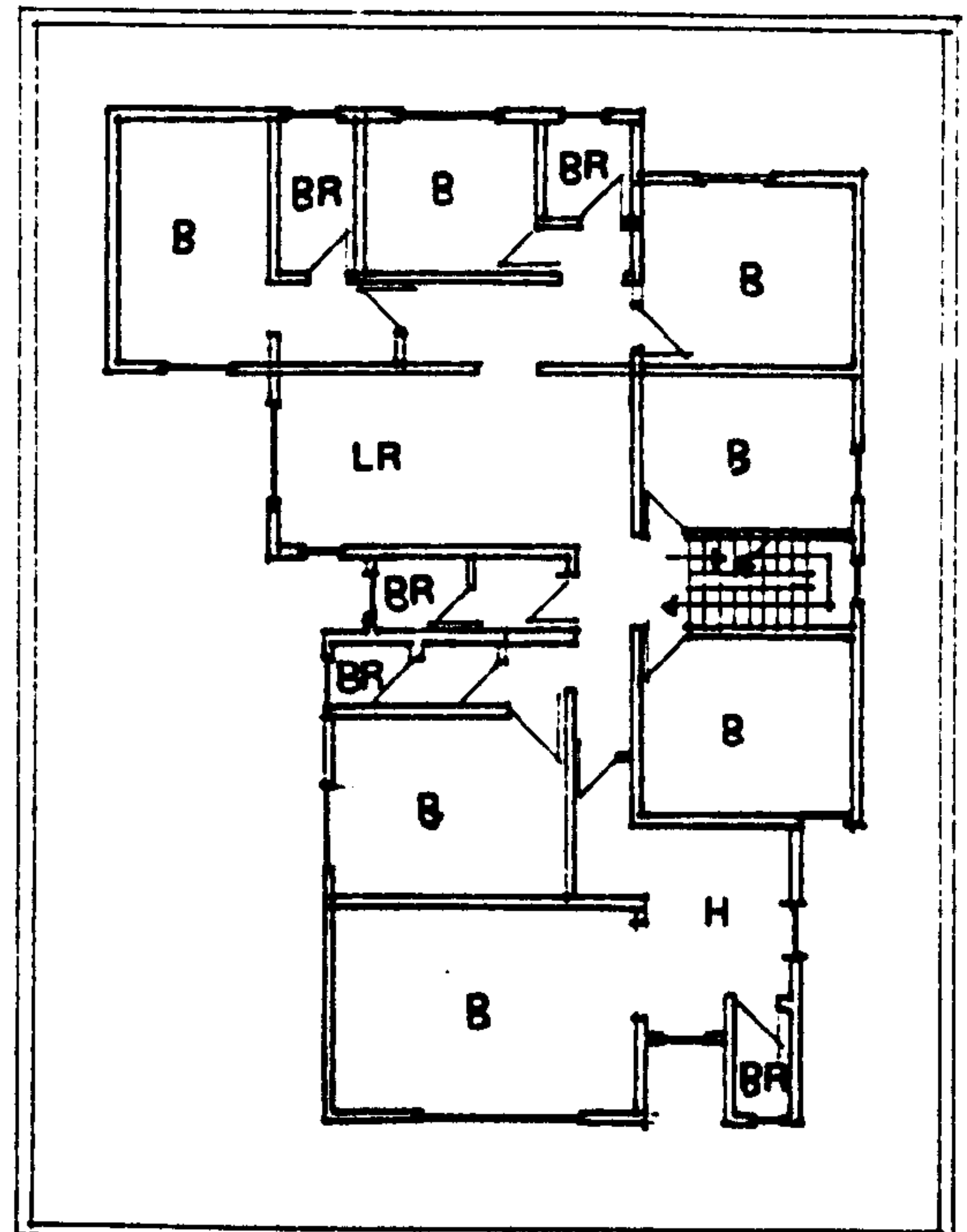


- KEY:
 E : ENTRANCE
 FE : FAMILY ENTRANCE
 ME : MEN'S ENTRANCE
 TR : TERRACE
 MR : MEN'S RECEPTION
 FR : FAMILY RECEPTION
 D : DINING ROOM
 H : HALL
 K : KITCHEN
 BR : BATHROOM
 B : BEDROOM
 R : ROOF
 MAB : MEN'S AUXILIARY BUILDING
 FAB : FAMILY AUXILIARY BUILDING
 S : STORAGE
 WS : WASHBASIN
 ST : STUDY ROOM

GROUND FLOOR PLAN

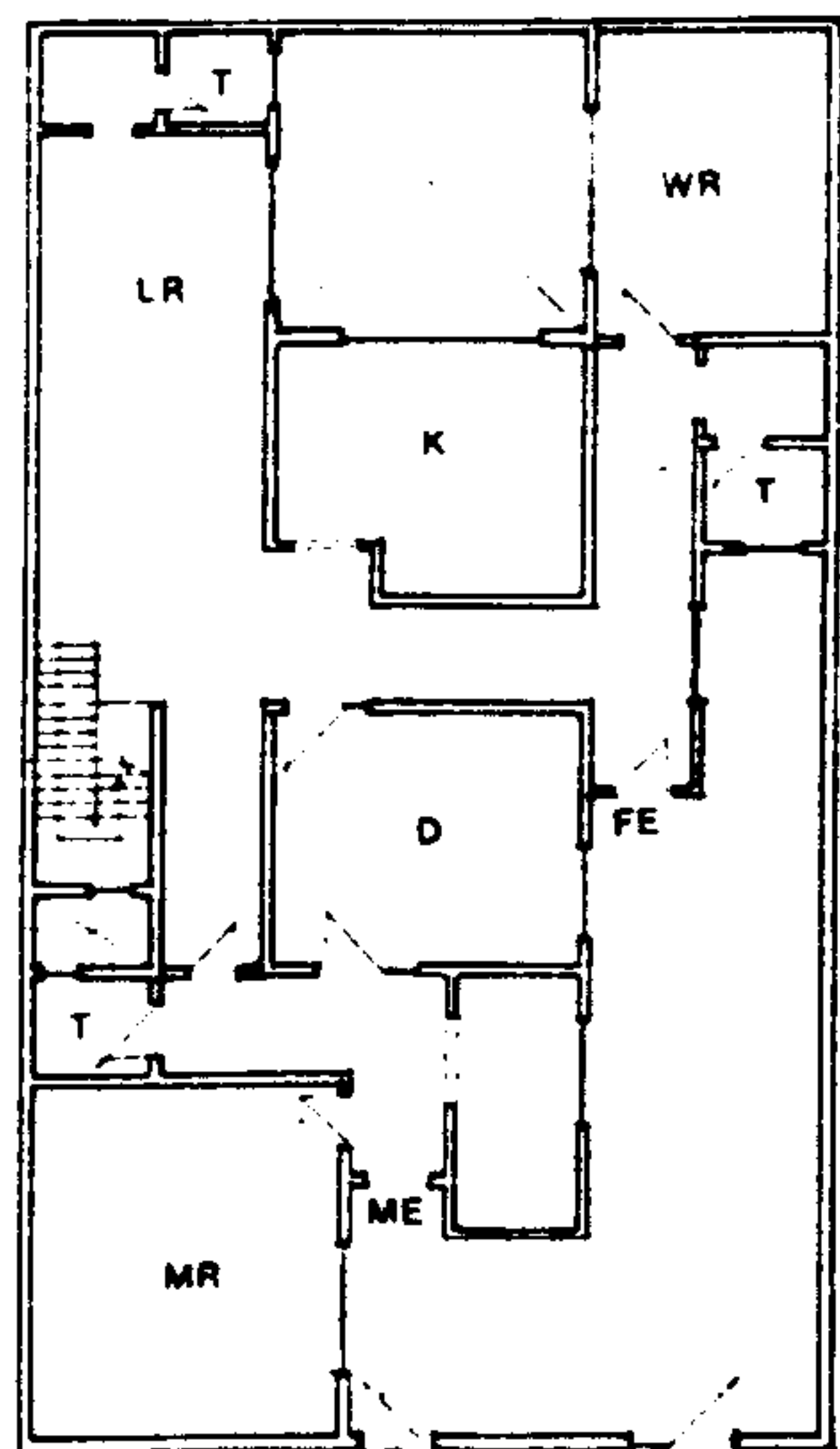


FIRST FLOOR PLAN (FIRST STAGE)

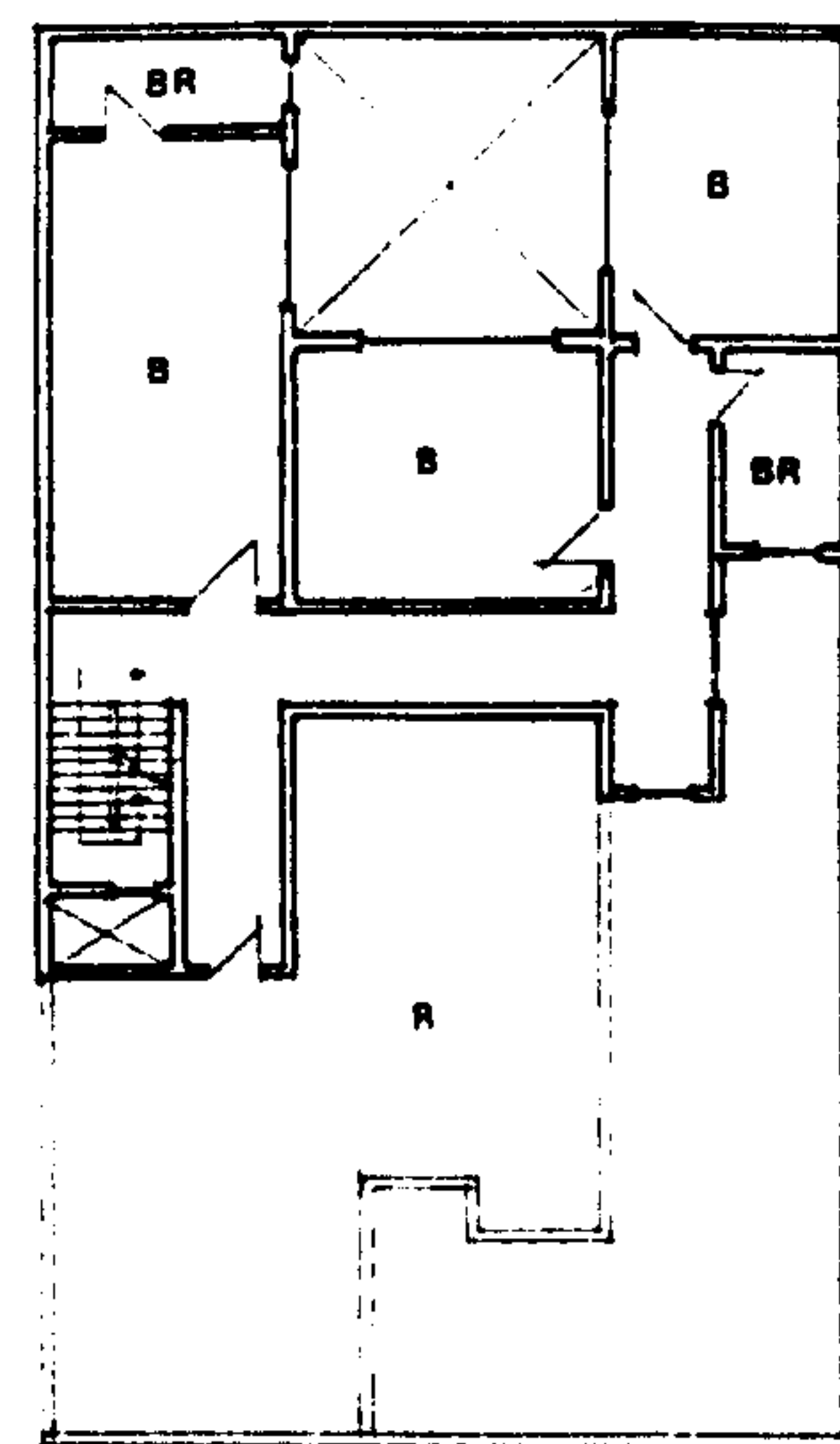


FIRST FLOOR PLAN (CONSOLIDATED STAGE)

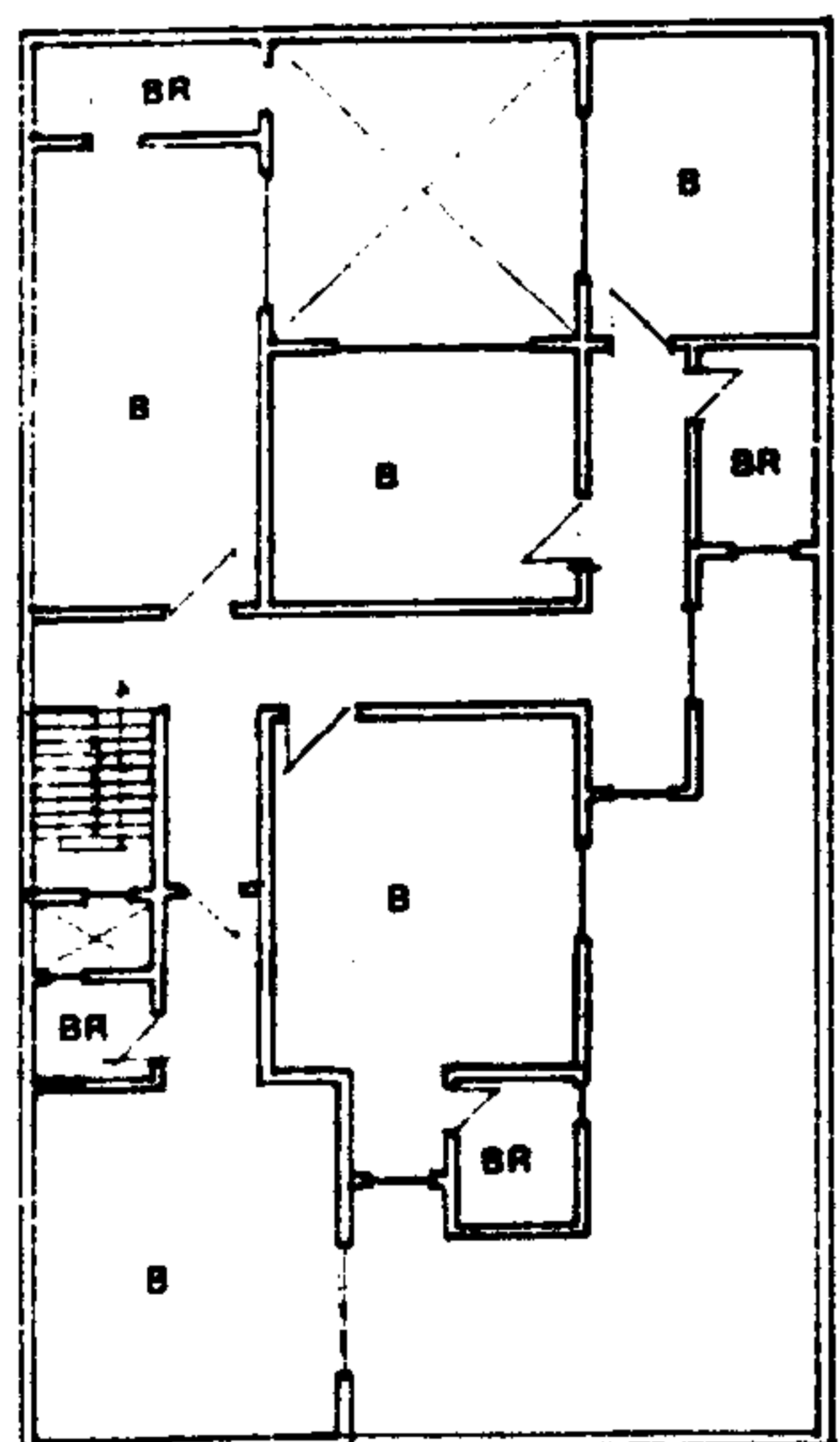
Figure 8.07 Detailed plans of property number 13.



GROUND FLOOR PLAN



FIRST FLOOR PLAN (FIRST STAGE)



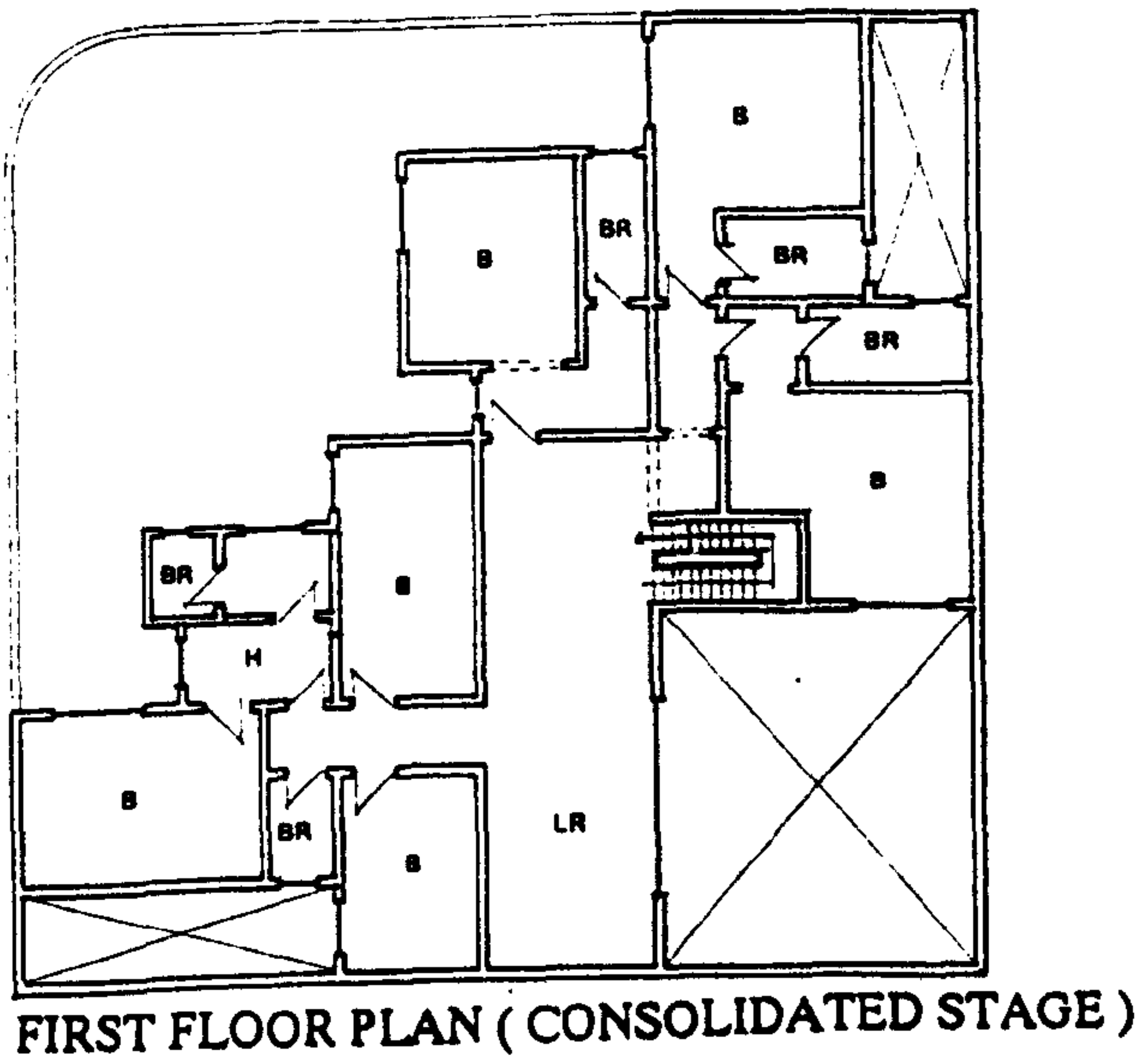
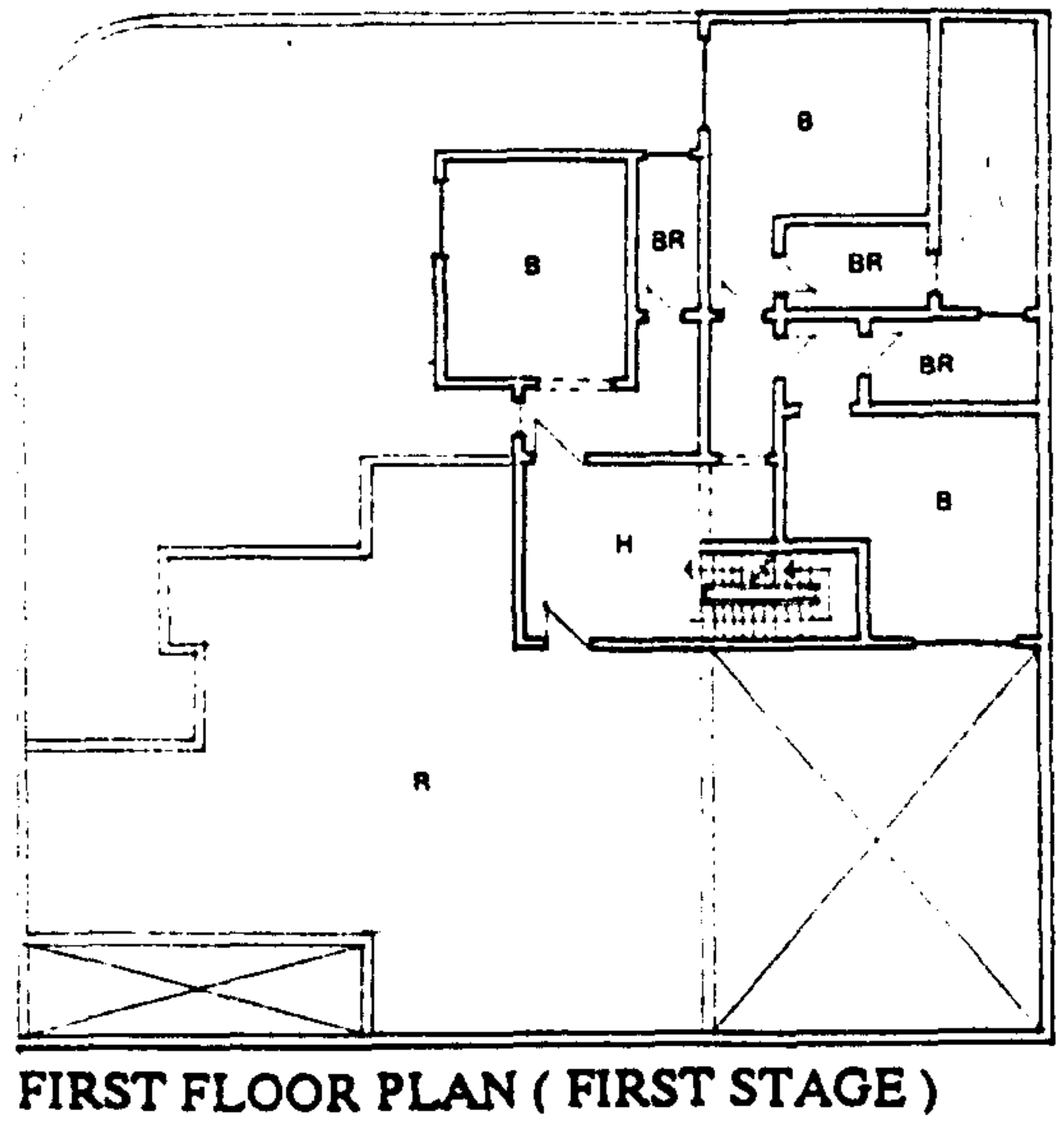
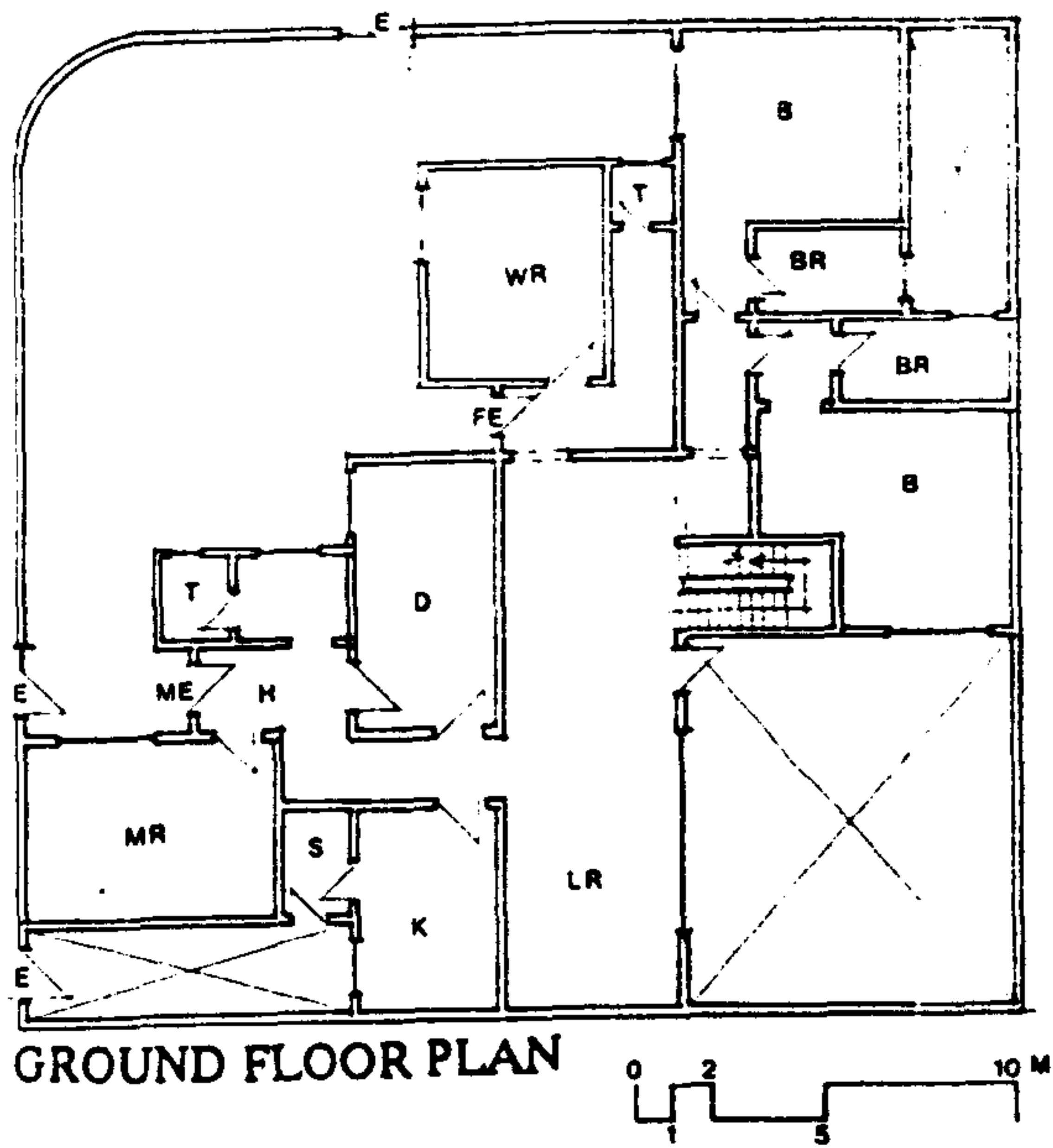
FIRST FLOOR PLAN (CONSOLIDATED STAGE)



- KEY:
- E : ENTRANCE
 - FE : FAMILY ENTRANCE
 - ME : MEN'S ENTRANCE
 - TR : TERRACE
 - MR : MEN'S RECEPTION
 - FR : FAMILY RECEPTION
 - D : DINING ROOM
 - H : HALL
 - K : KITCHEN
 - BR : BATHROOM
 - B : BEDROOM
 - R : ROOF

Figure 8.08

Detailed plans of property number 14.



- KEY:**
 E : ENTRANCE
 FE : FAMILY ENTRANCE
 ME : MEN'S ENTRANCE
 TR : TERRACE
 MR : MEN'S RECEPTION
 FR : FAMILY RECEPTION
 D : DINING ROOM
 H : HALL
 K : KITCHEN
 BR : BATHROOM
 B : BEDROOM
 R : ROOF

Figure 8.09

Detailed plans of property number 3.

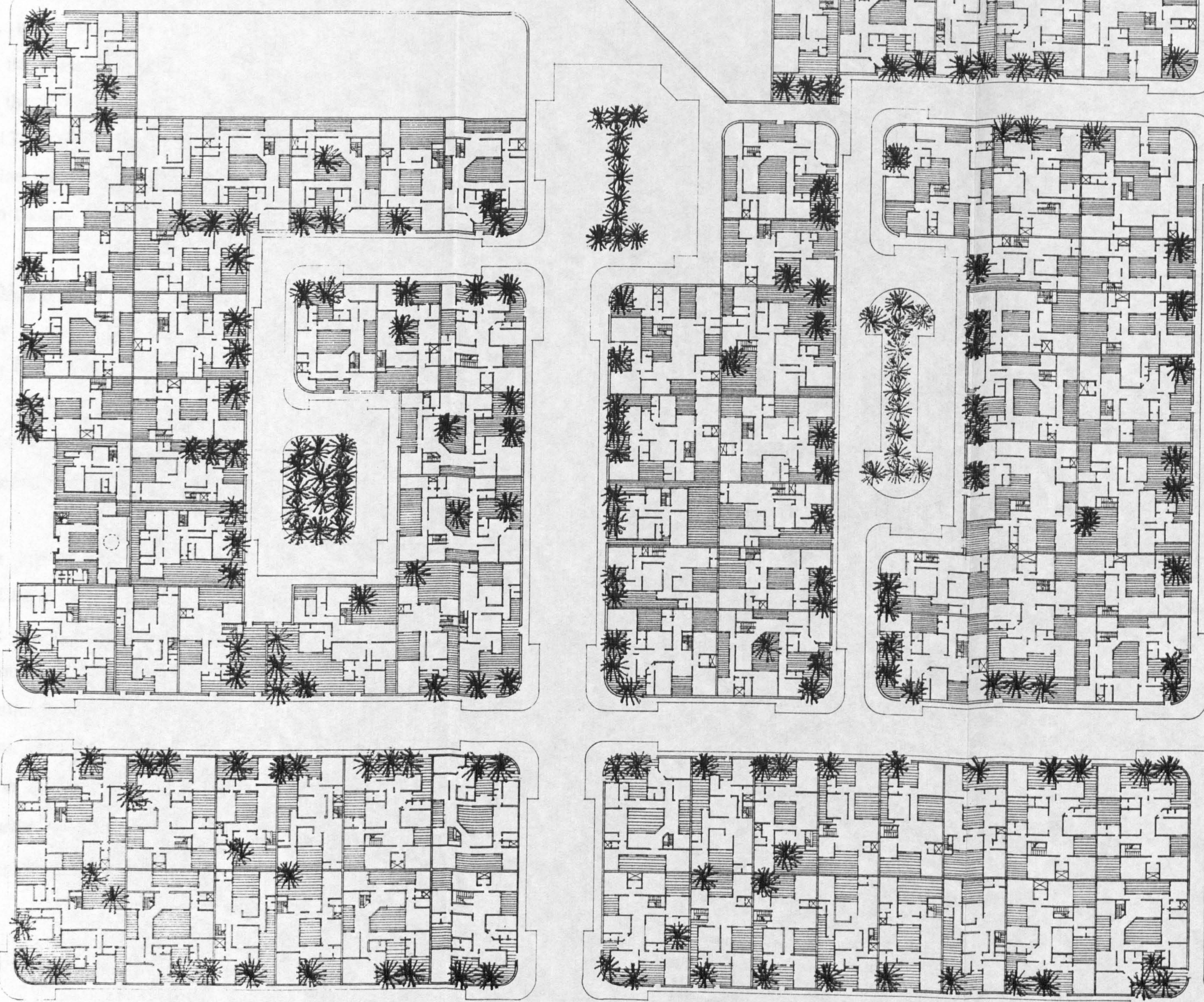


Figure 8.10 A detailed master plan of the chosen area.

according to the existing need and the predicted expansion of each unit according to the predicted expansion in terms of the family size. Therefore, let us assume that the axonometric plan (Figure 8.11) represents the initial development plan of each unit. In other words, it represents the first stage of each house unit, while the axonometric plan (Figure 8.12) represents the consolidated development plan of each unit. The question which is expected to be asked is how could the plan be made open-ended. The next section proposes to answer this question.

PROBLEM SOLVING TECHNIQUES:

8.20 The above section dealt with the techniques by which a satisfactory built environment can be reached in terms of a predictable situation. This section, however, will focus on the possible unpredictable problems and the possible solutions for them to show how the incremental development could occur.

8.21 The incremental development does not mean increasing the structure of the overall plan but could also mean decreasing it. In other words, the incremental development means the possible stages of developments after reaching the final stage of the proposal. Each stage could be called stage (n) at the time (n) whether in the short run or in the long run. The following will focus on ten different problems with a solution to each one of them. The researcher based the problems and their solutions on the basis of an assessment of what the predicted residents would wish to raise.

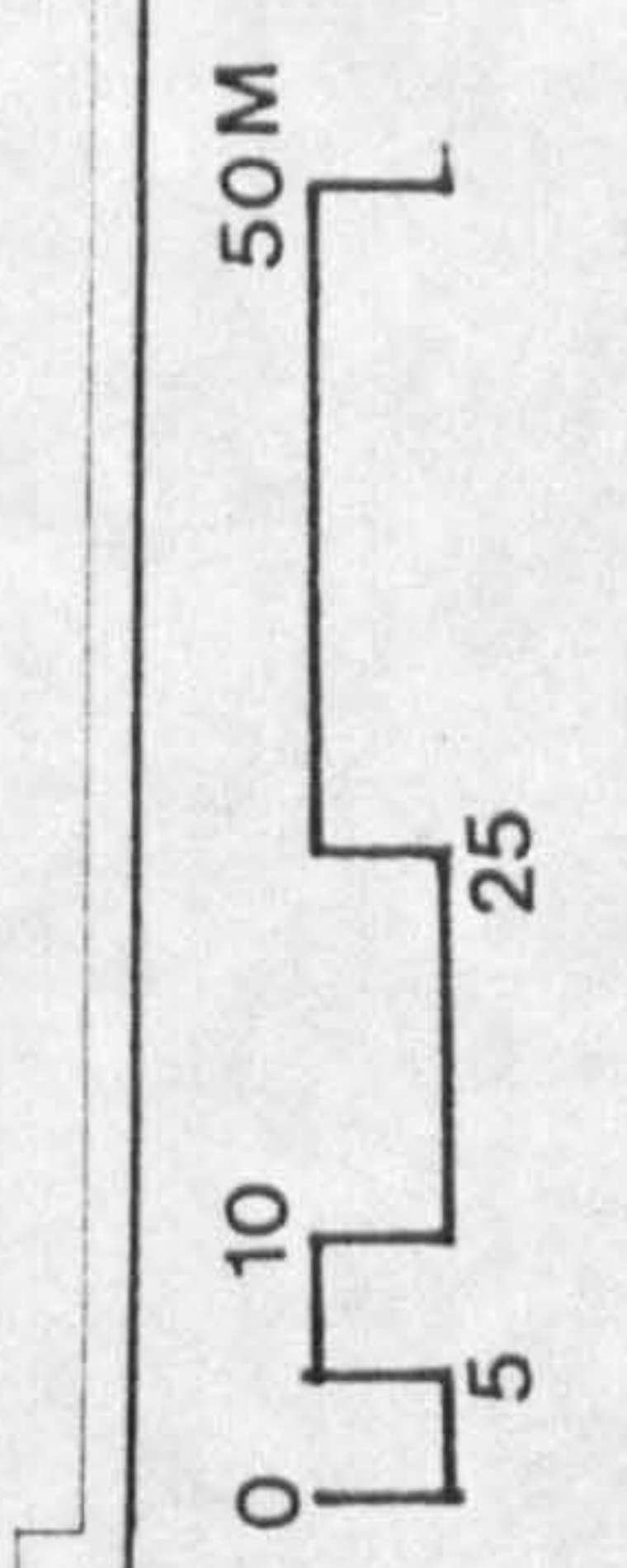
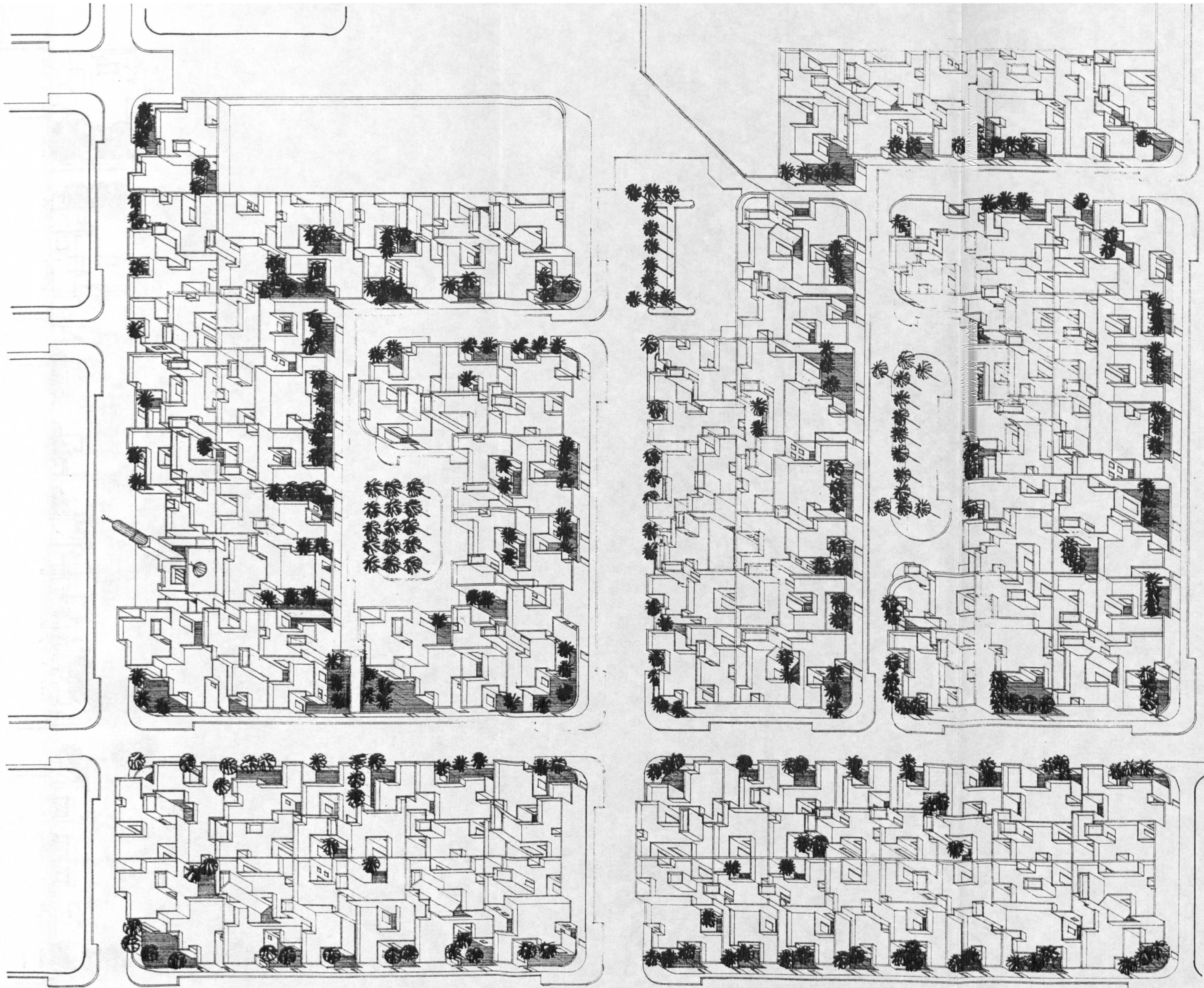


Figure 8.11 An axonometric plan of the initial stage.

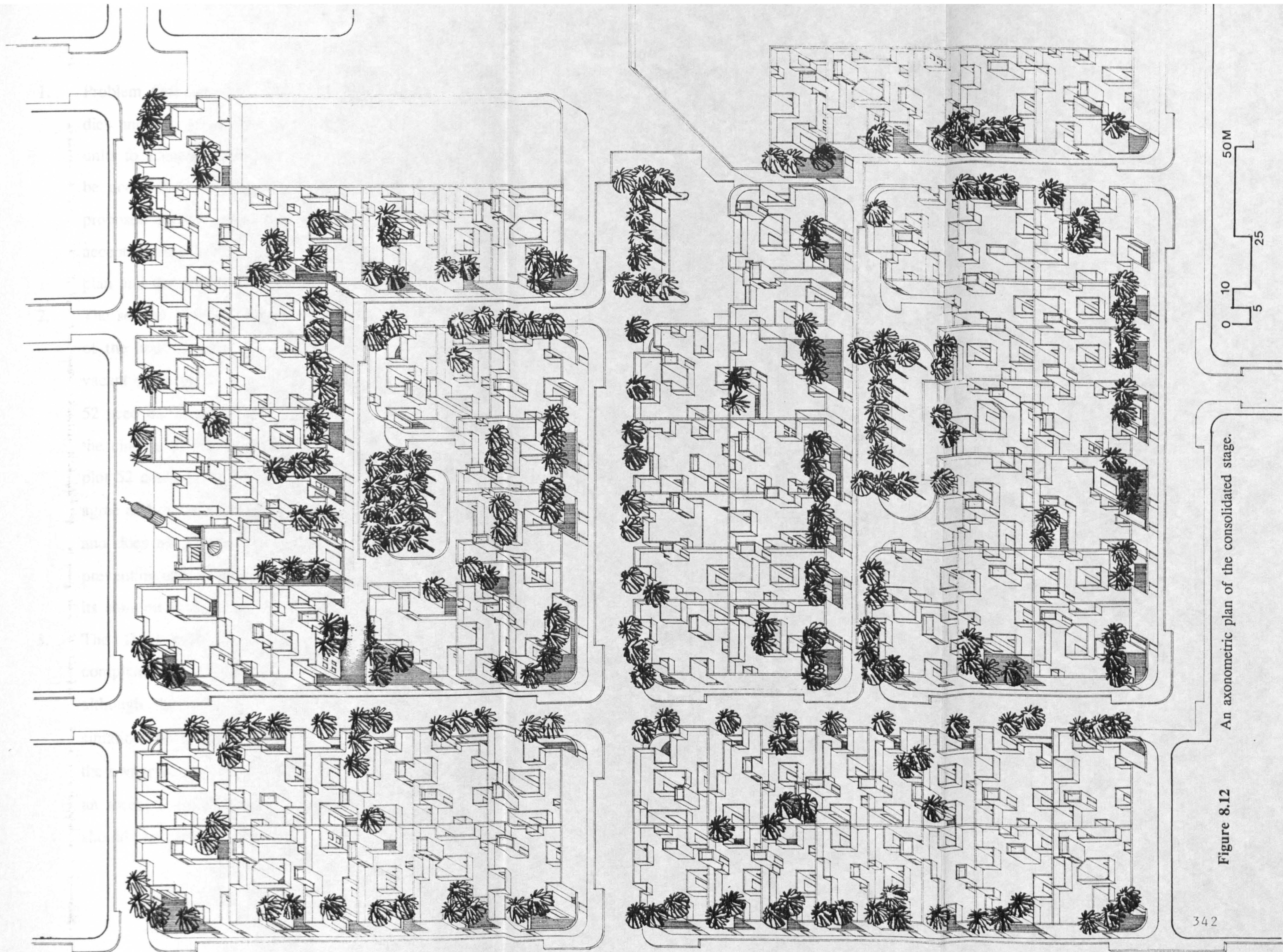


Figure 8.12
An axonometric plan of the consolidated stage.

1. Problem One assumes that the owner of the house number 54 dies and the inheritors would like to divide the area into three units to accommodate their living needs separately. This could be accepted if the inheritors agree among themselves for the proposed division plan, and each part of it is presented with an acceptable concept of design. Figure 8.13 illustrates the existing plan and the possible solution for the problem.
2. The second problem deals with the situation when the residents of the house number 43 are very small in number and have a vacant space in the back while the residents of the house number 52 need more spaces to accommodate the growth in number and the change of life style of the family. Then the owner of the plot 52 could buy the extra land in the house number 43 if they agree and the action does not affect the structure of the house 43 and does not damage its resident's natural well-being, such as preventing natural light and ventilation. This kind of problem and its solution is illustrated in Figure 8.14.
3. The Third problem is when the residents of the cul-de-sac complain that the distance to reach the local mosque is too far although the mosque is located in the same block. In this situation the residents could reach an agreement to compensate the owner of the plot number 13 to leave one of his set-backs as an access to the mosque as shown in Figure 8.15. This solution should be accepted if there is no damage to the whole

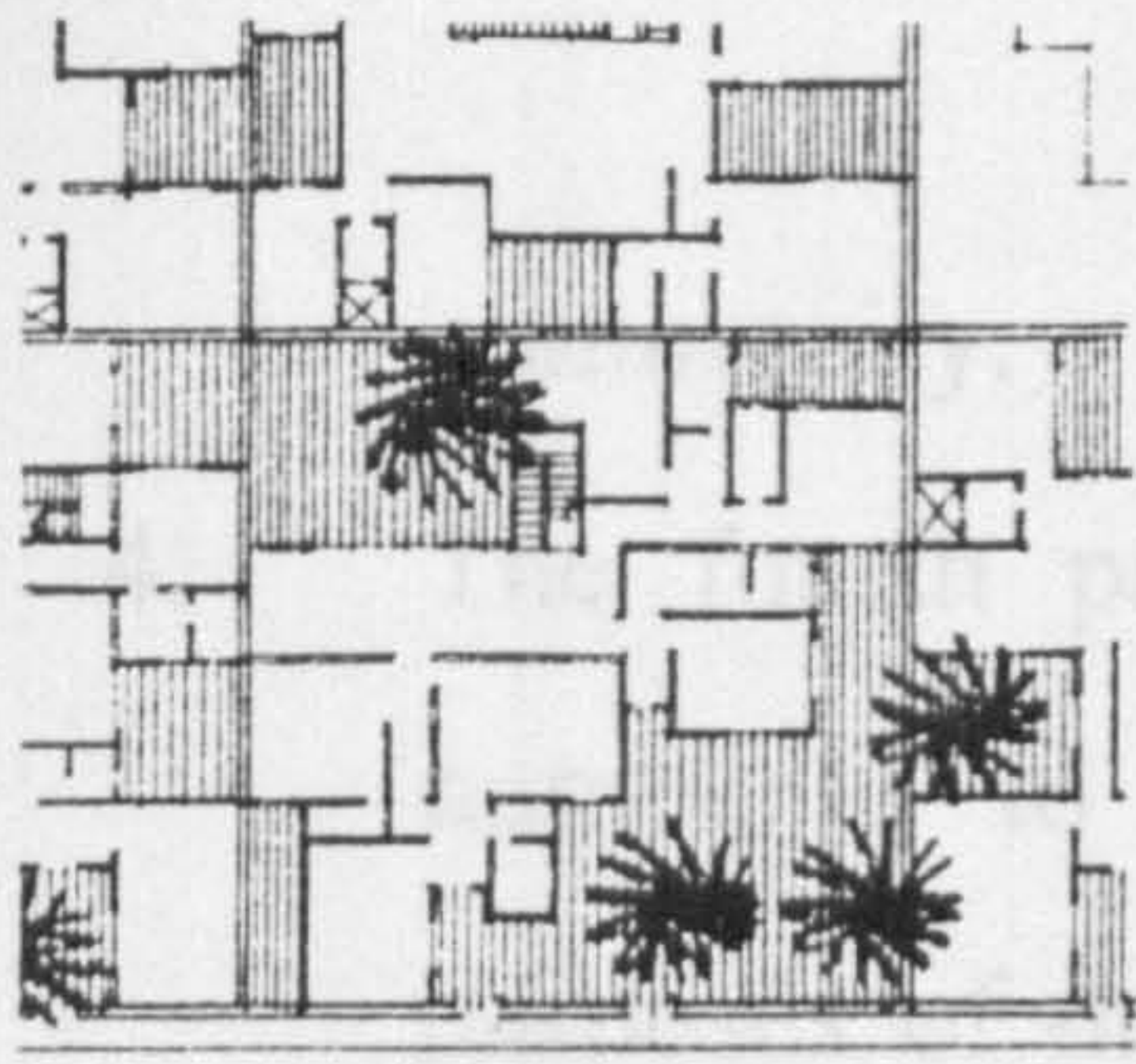


Figure 8.13

The existing plan and the solution for problem number 1.

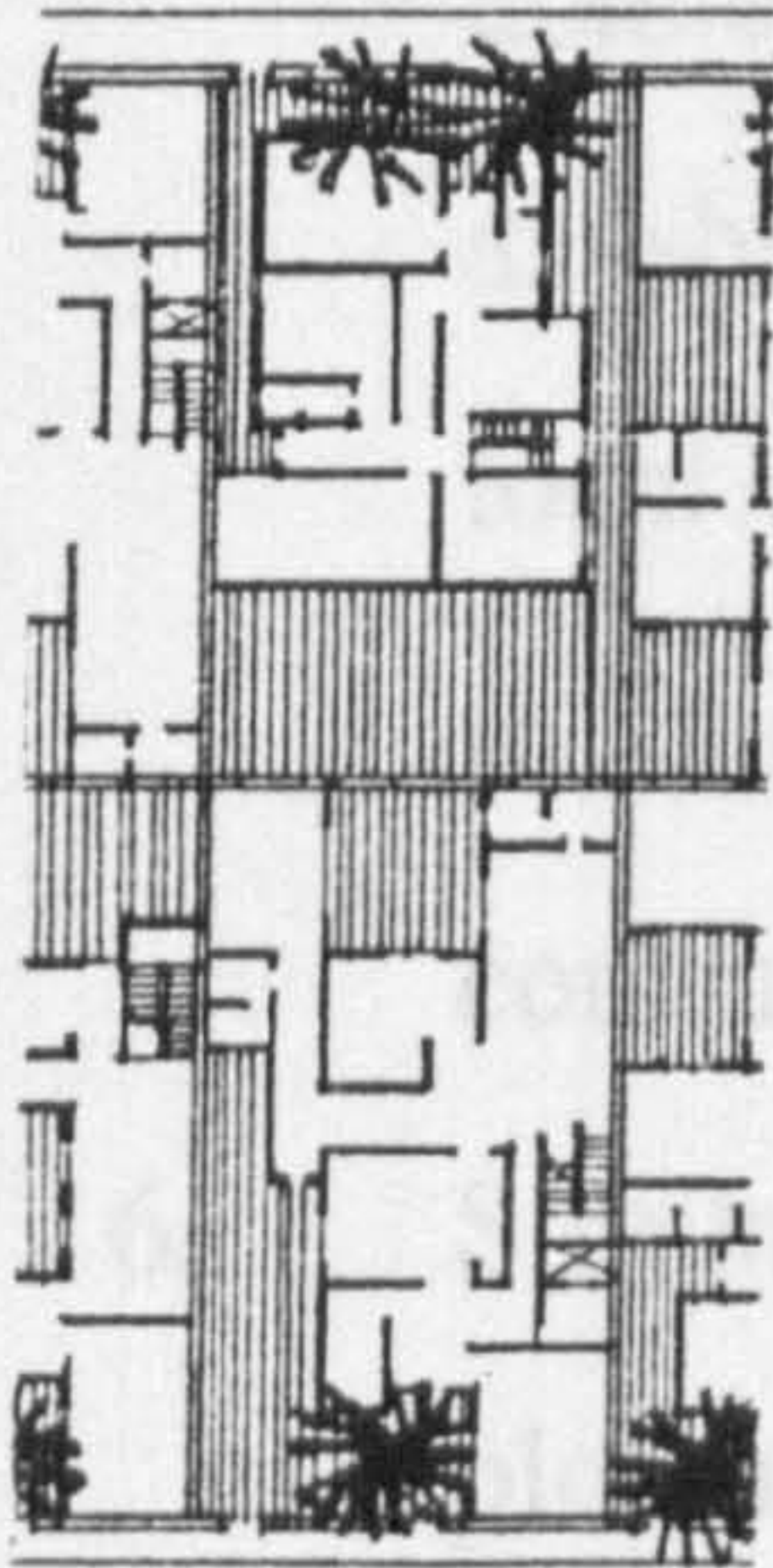
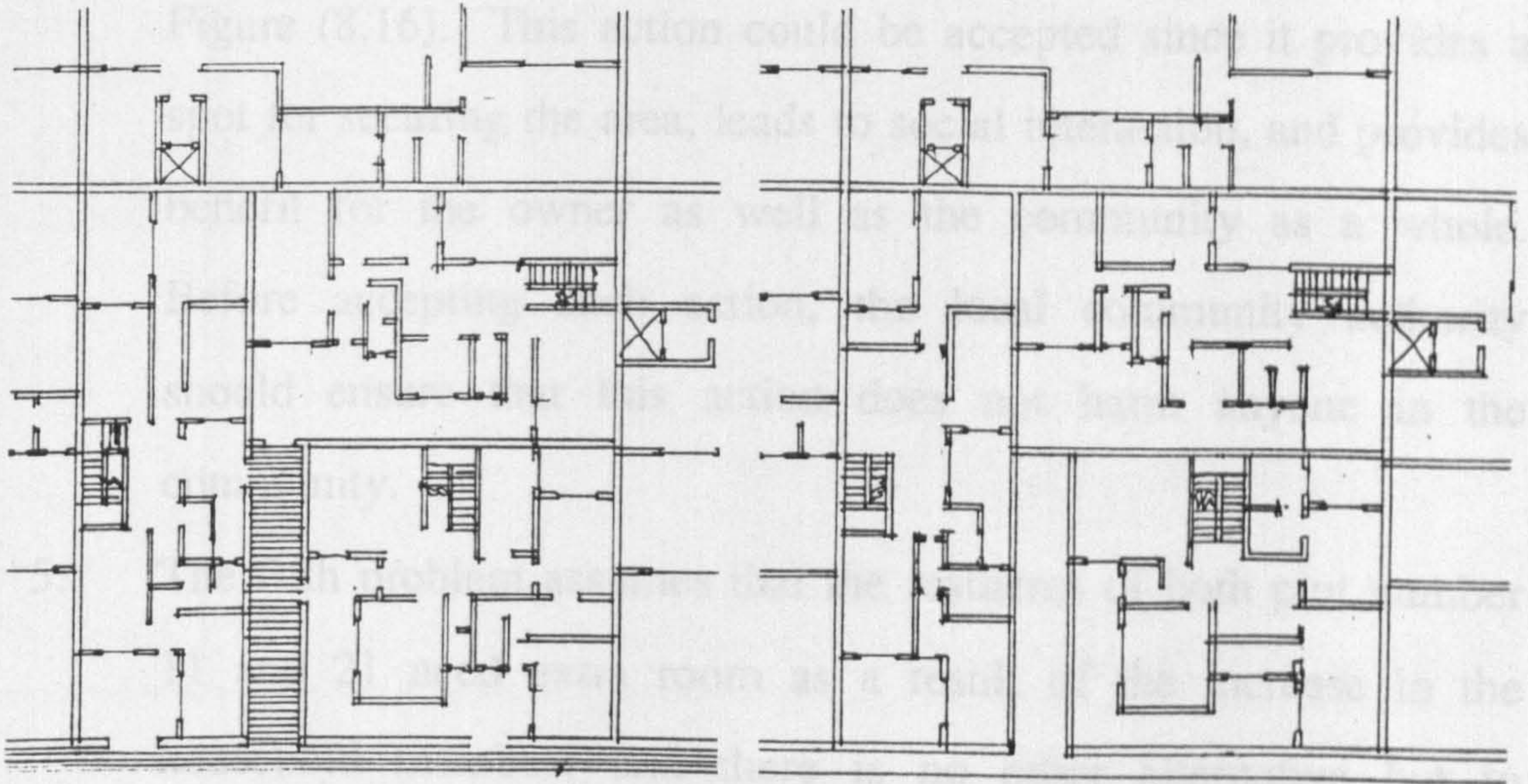
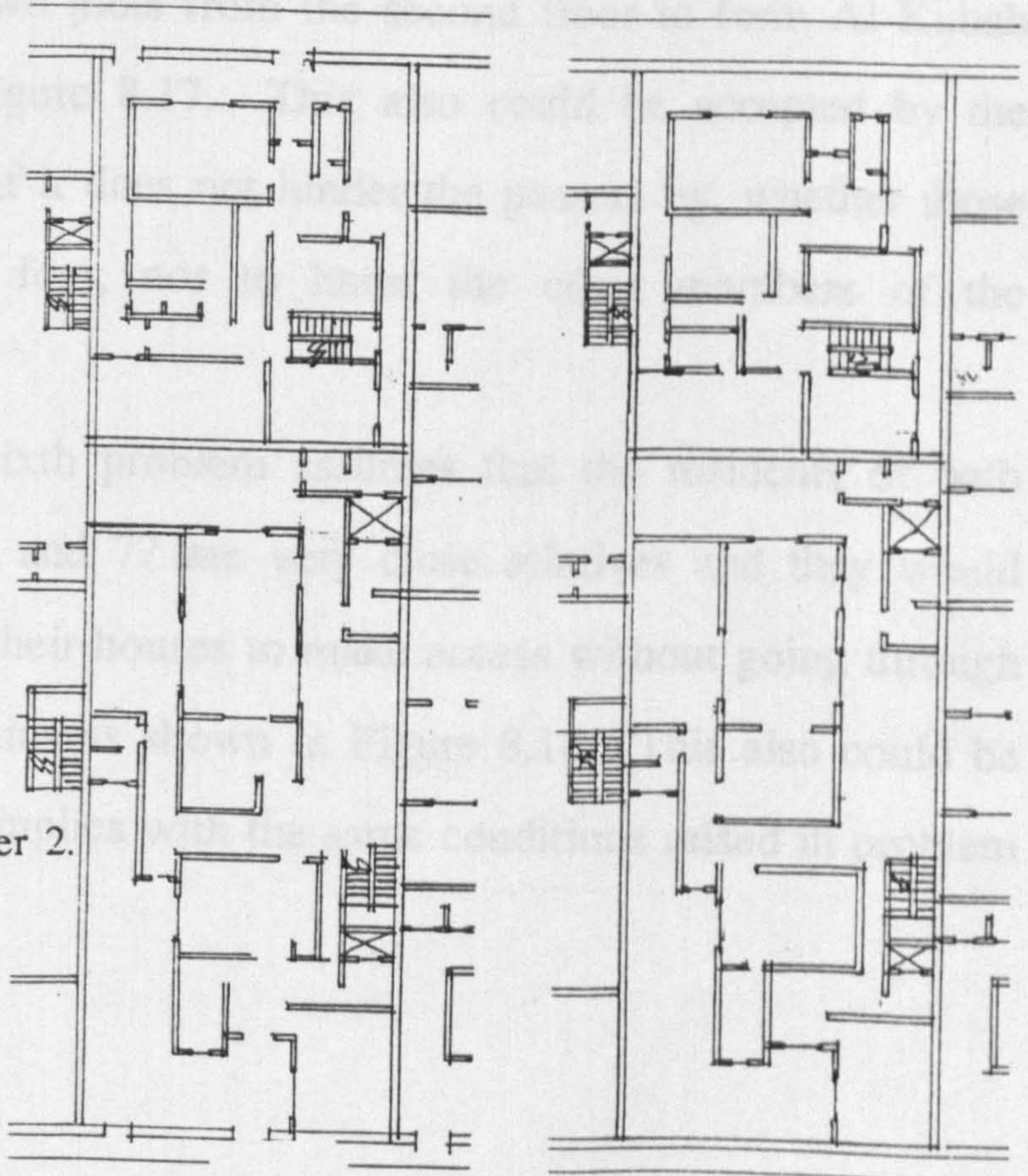


Figure 8.14

The existing plan and the solution for problem number 2.



community.

4. The fourth problem indicates the need of the owner of plot number 3 to establish a corner shop for the daily needs and purposes of the community in addition to raising his income, see Figure (8.16). This action could be accepted since it provides a spot for securing the area, leads to social interaction, and provides benefit for the owner as well as the community as a whole. Before accepting such action, the local community authority should ensure that this action does not harm anyone in the community.
5. The fifth problem assumes that the residents of both plot number 11 and 21 need extra room as a result of the increase in the household members and there is no other alternative but to connect these two plots from the second floor to form Al-Kubah as shown in Figure 8.17. This also could be accepted by the local authority if it does not hinder the passers-by, whether those in cars or on foot, nor to harm the other members of the community.
6. Similarly, the sixth problem assumes that the residents of both plot number 76 and 77 are very close relatives and they would like to connect their houses to make access without going through the public domains as shown in Figure 8.18. This also could be accepted if it complies with the same conditions raised in problem number five.

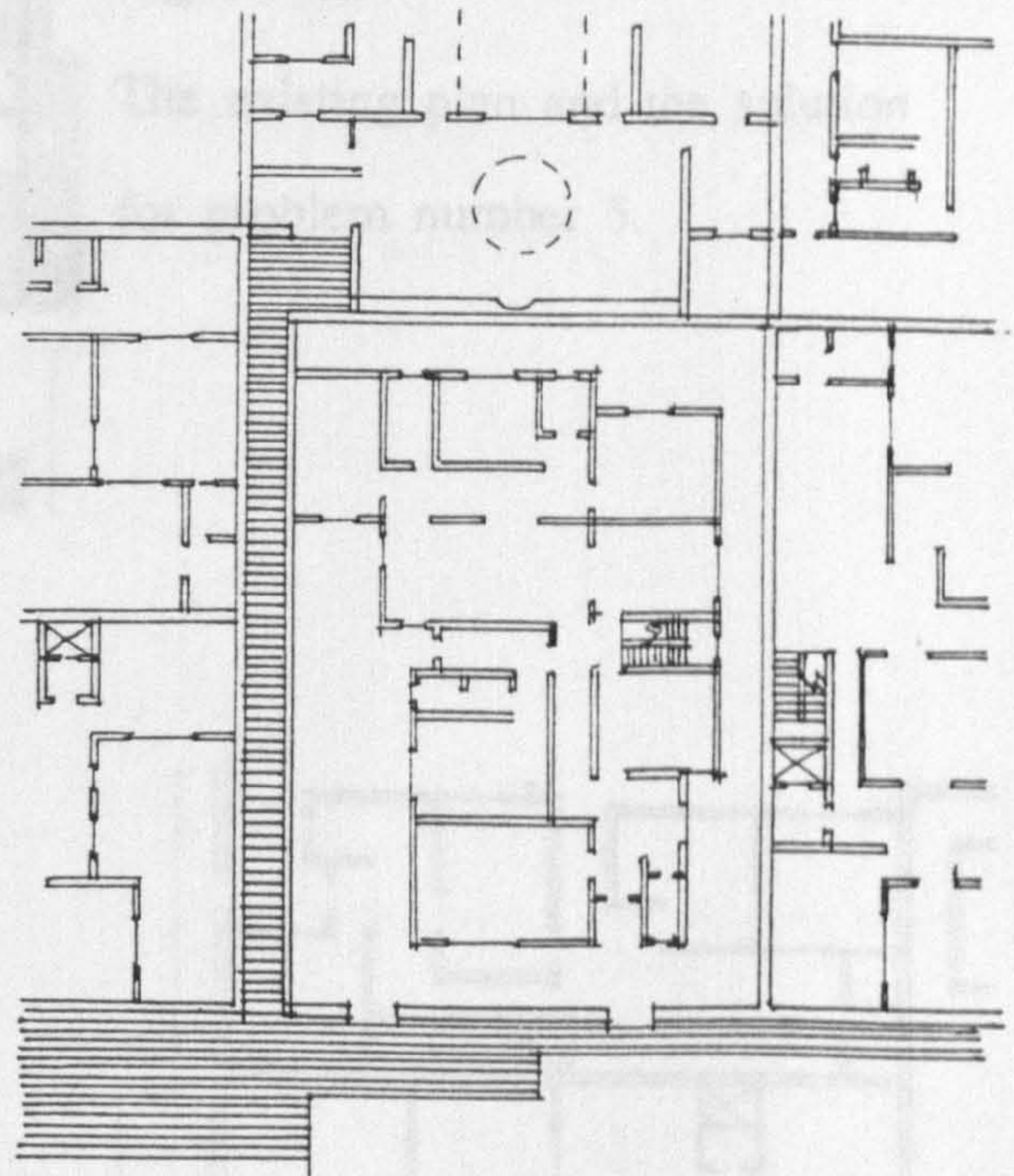
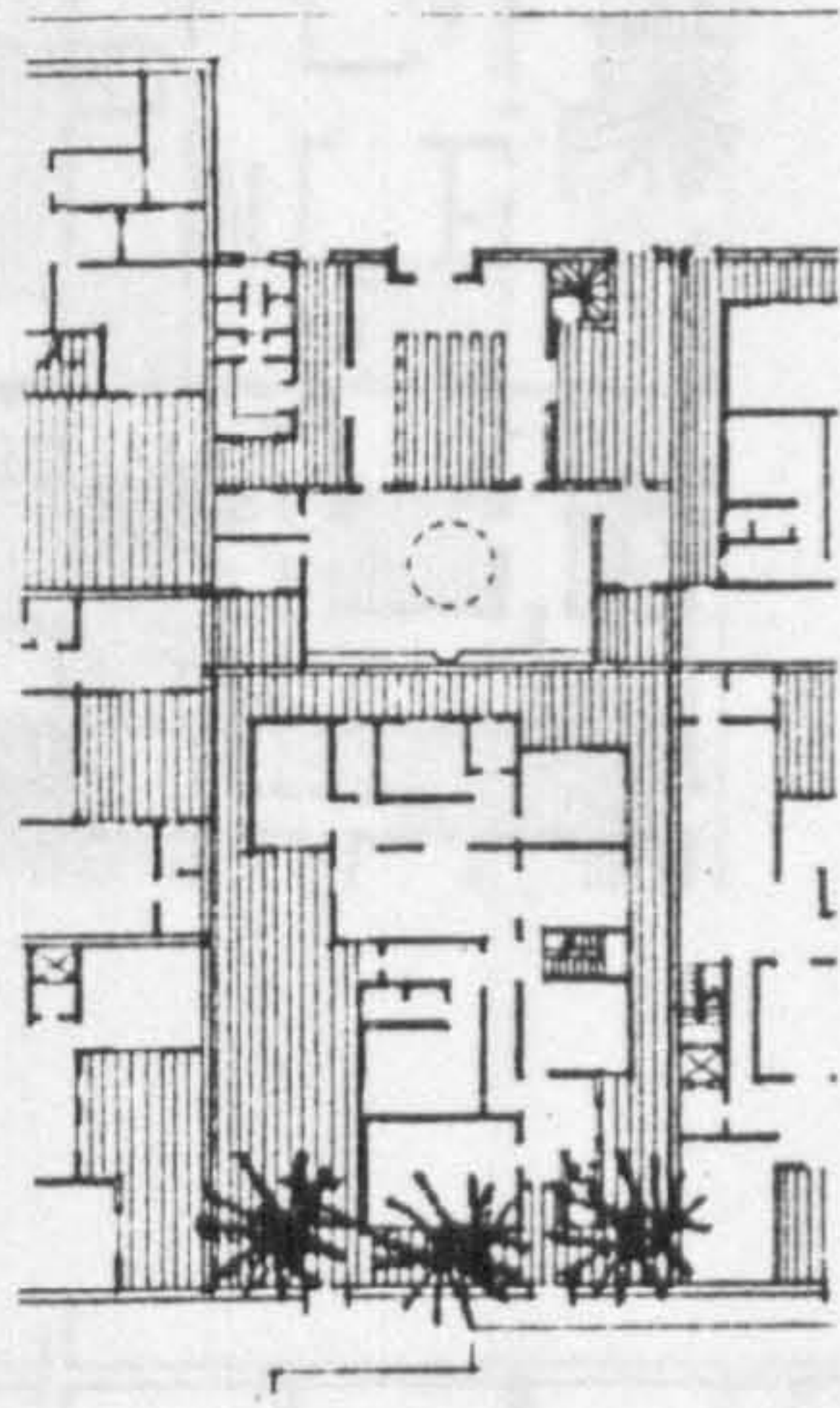


Figure 8.15

The existing plan and the solution for problem number 3.

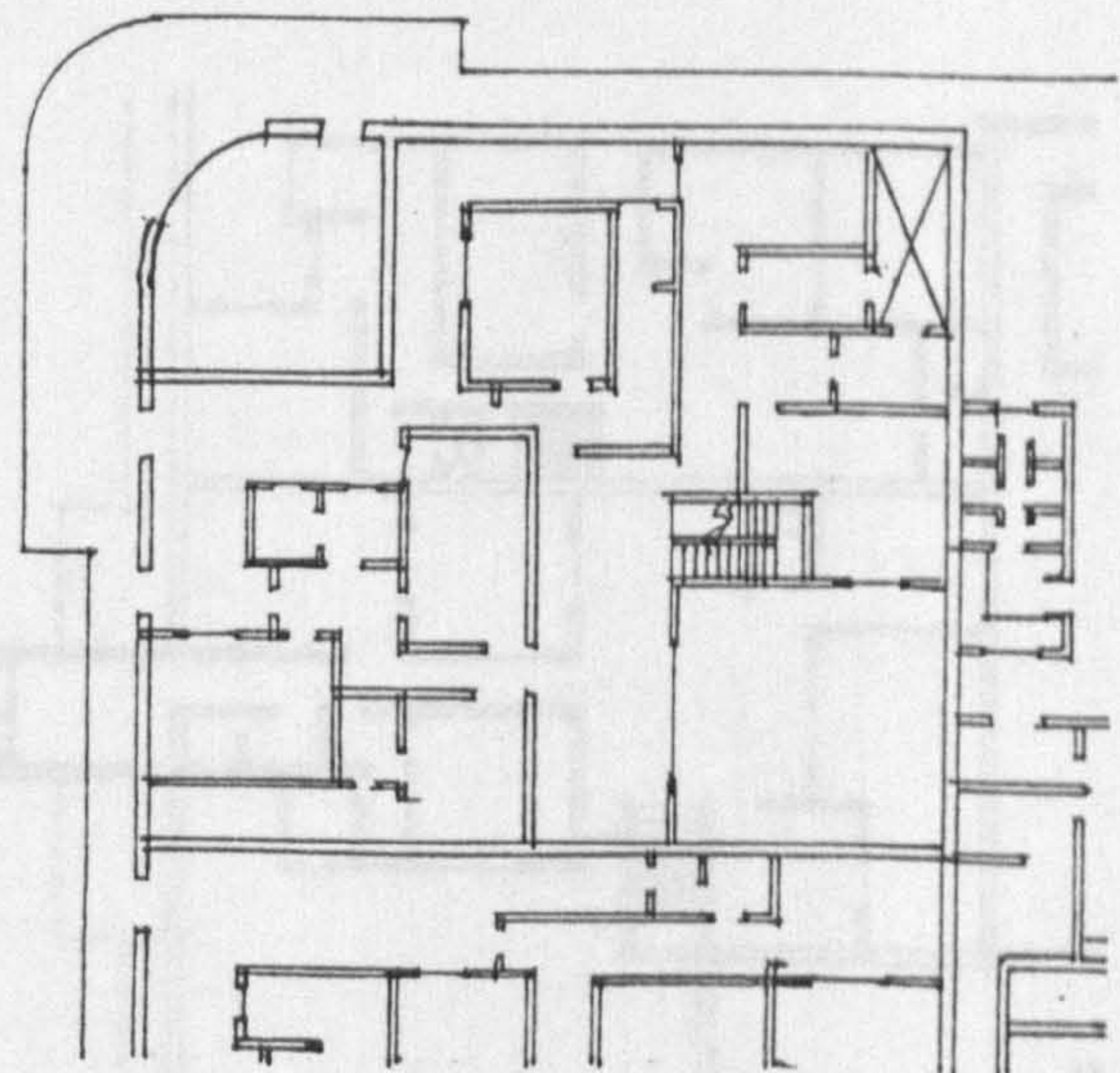
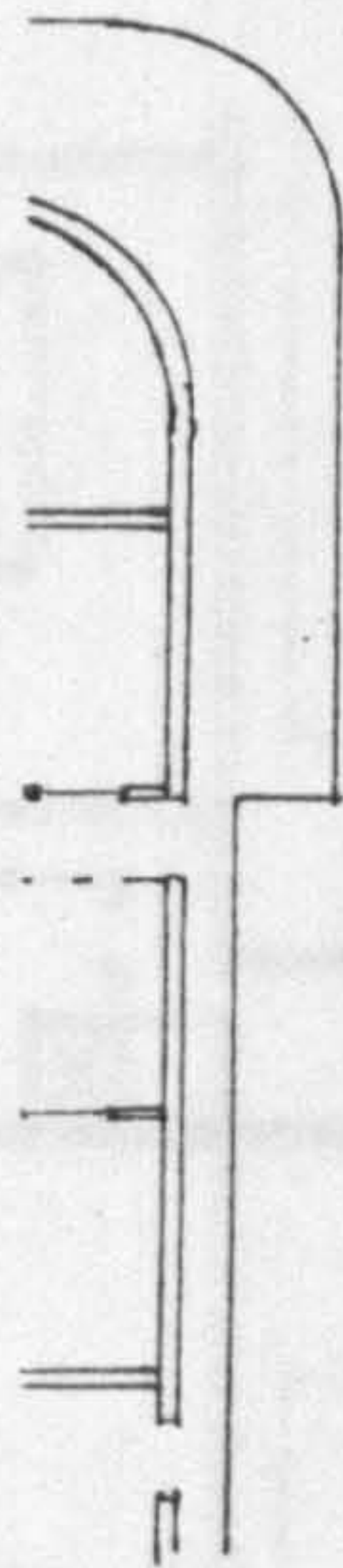
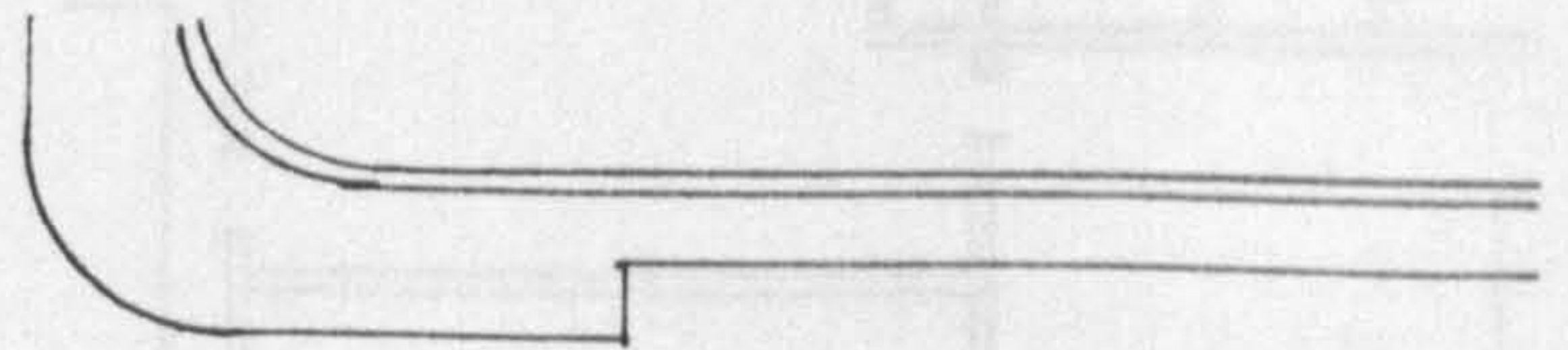
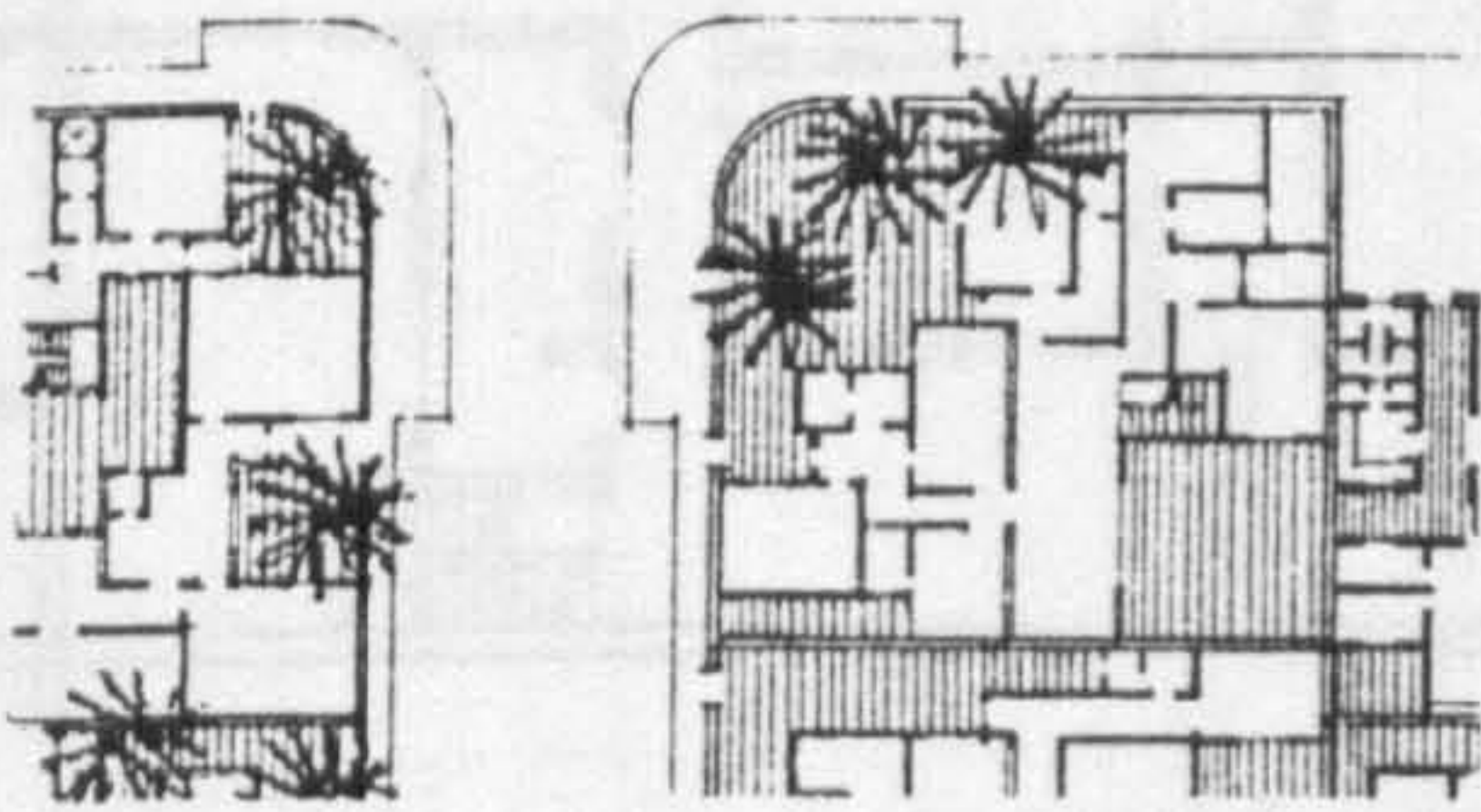


Figure 8.16

The existing plan and the solution for problem number 4.

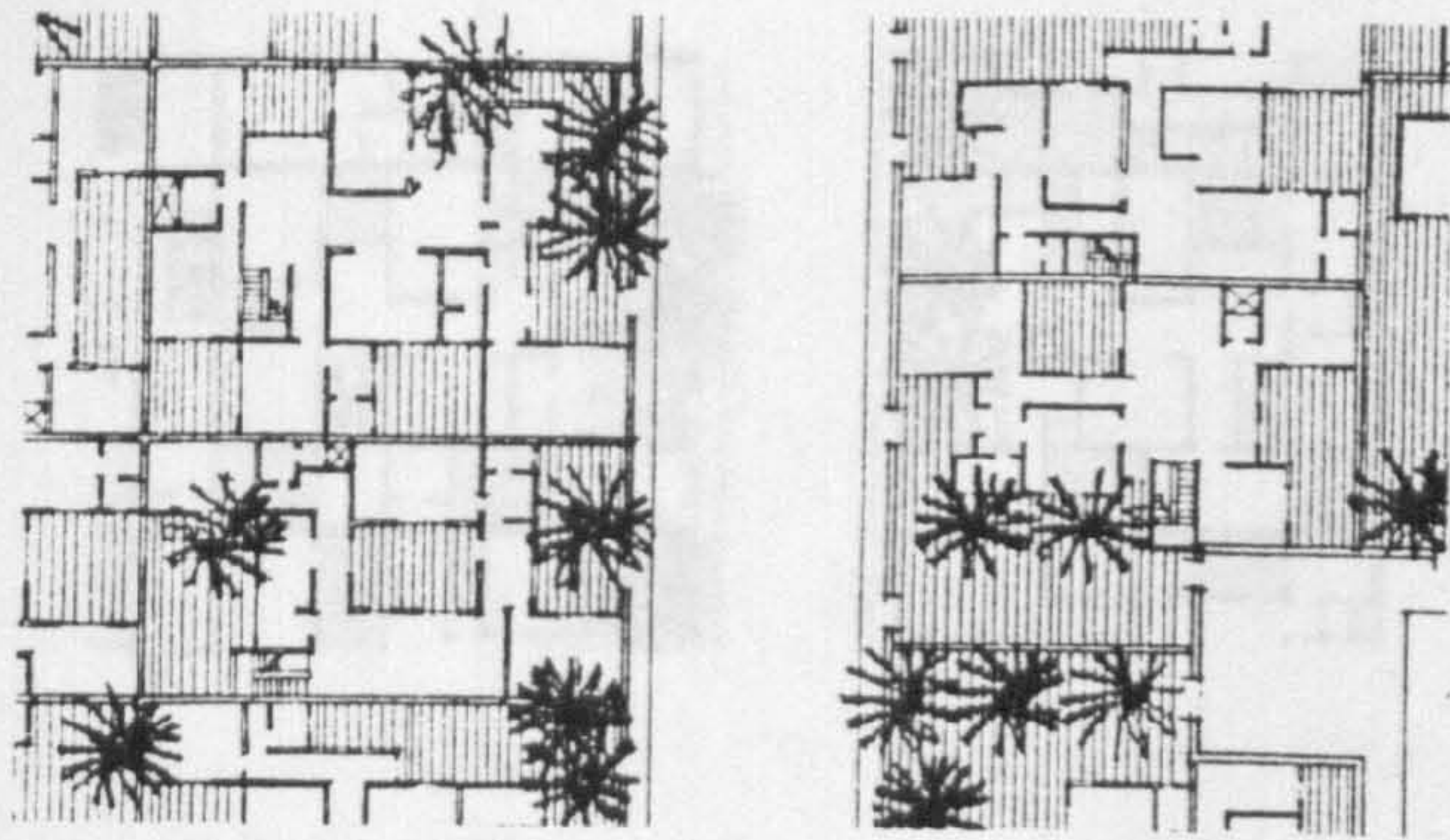
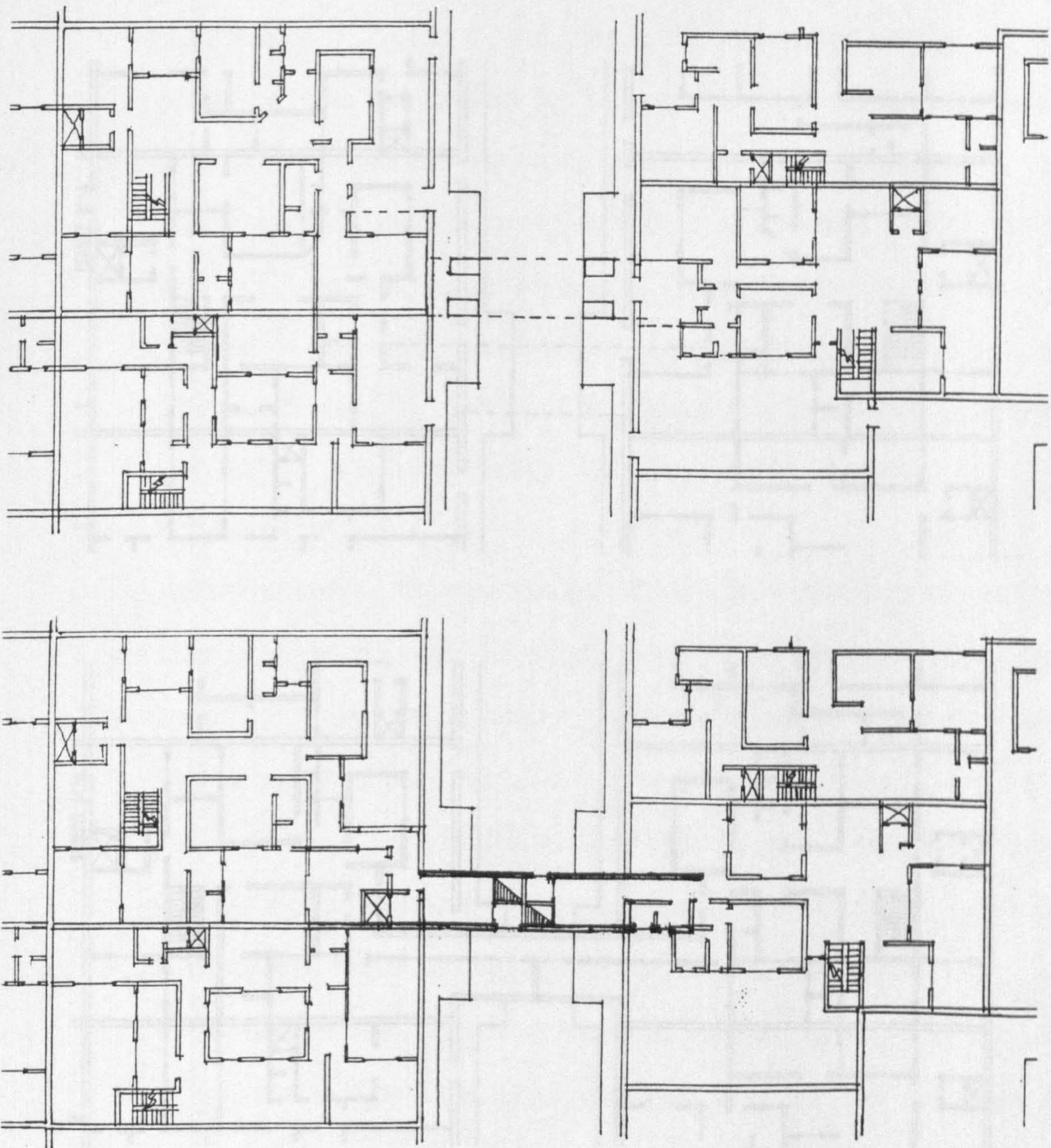


Figure 8.17

The existing plan and the solution
for problem number 5.



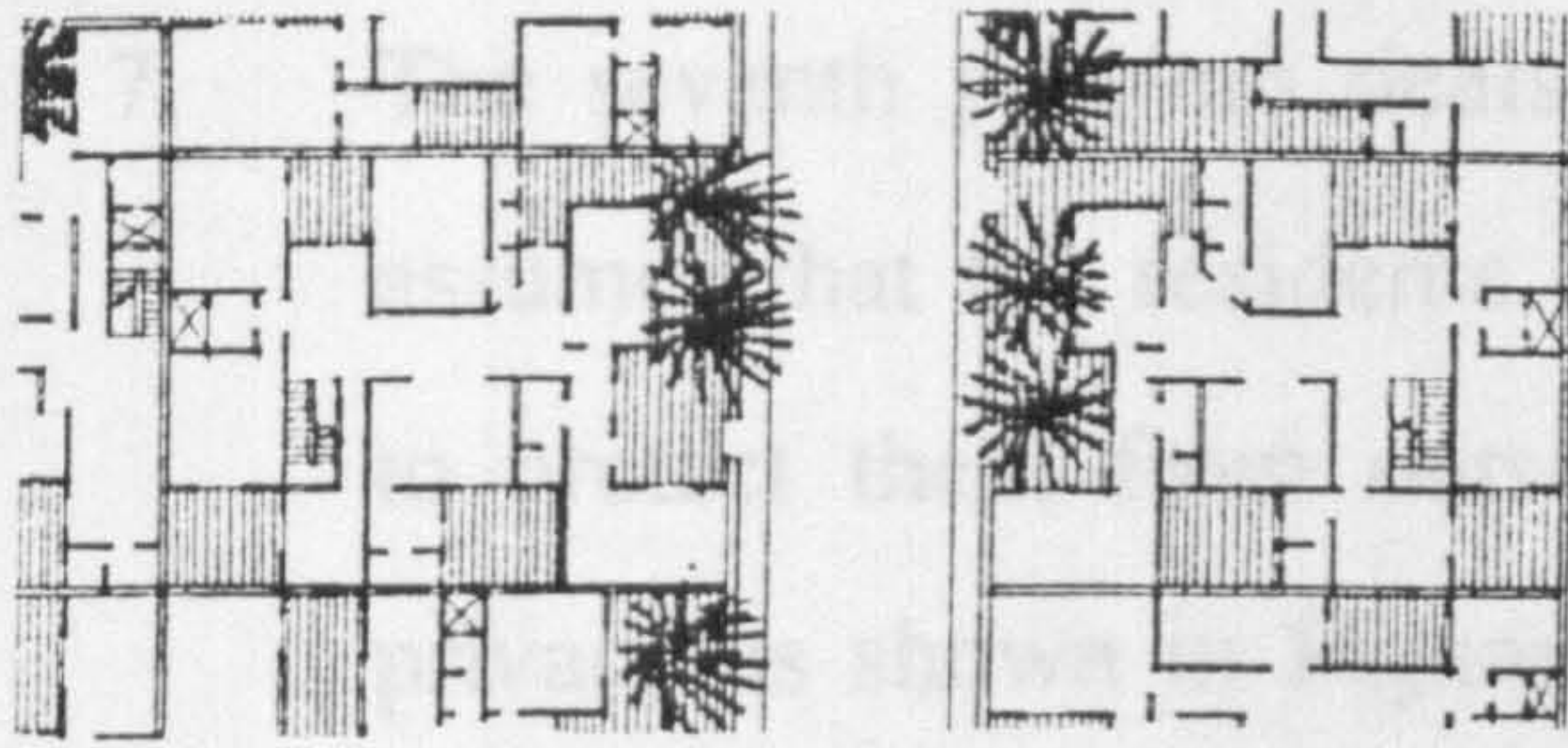
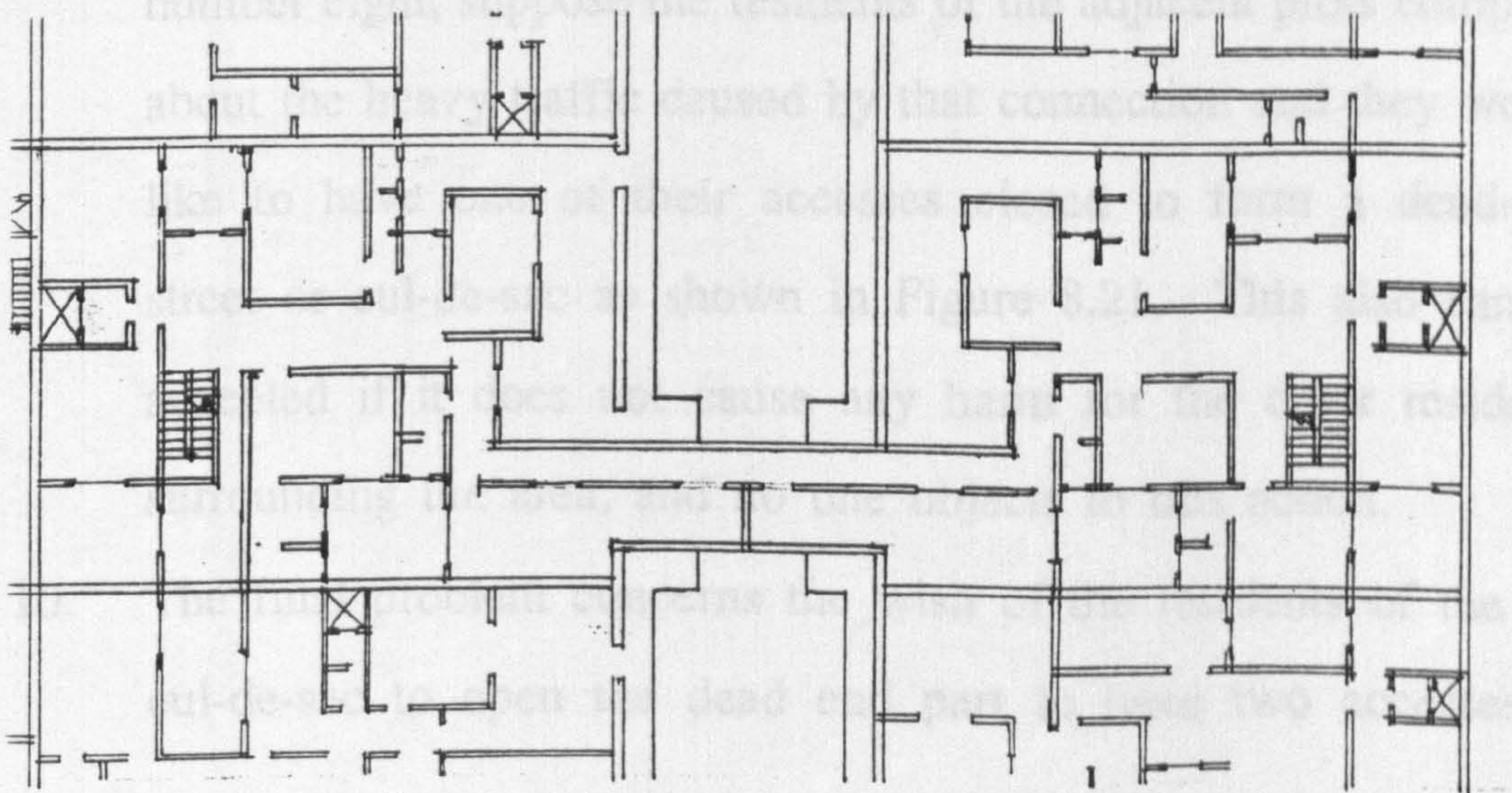
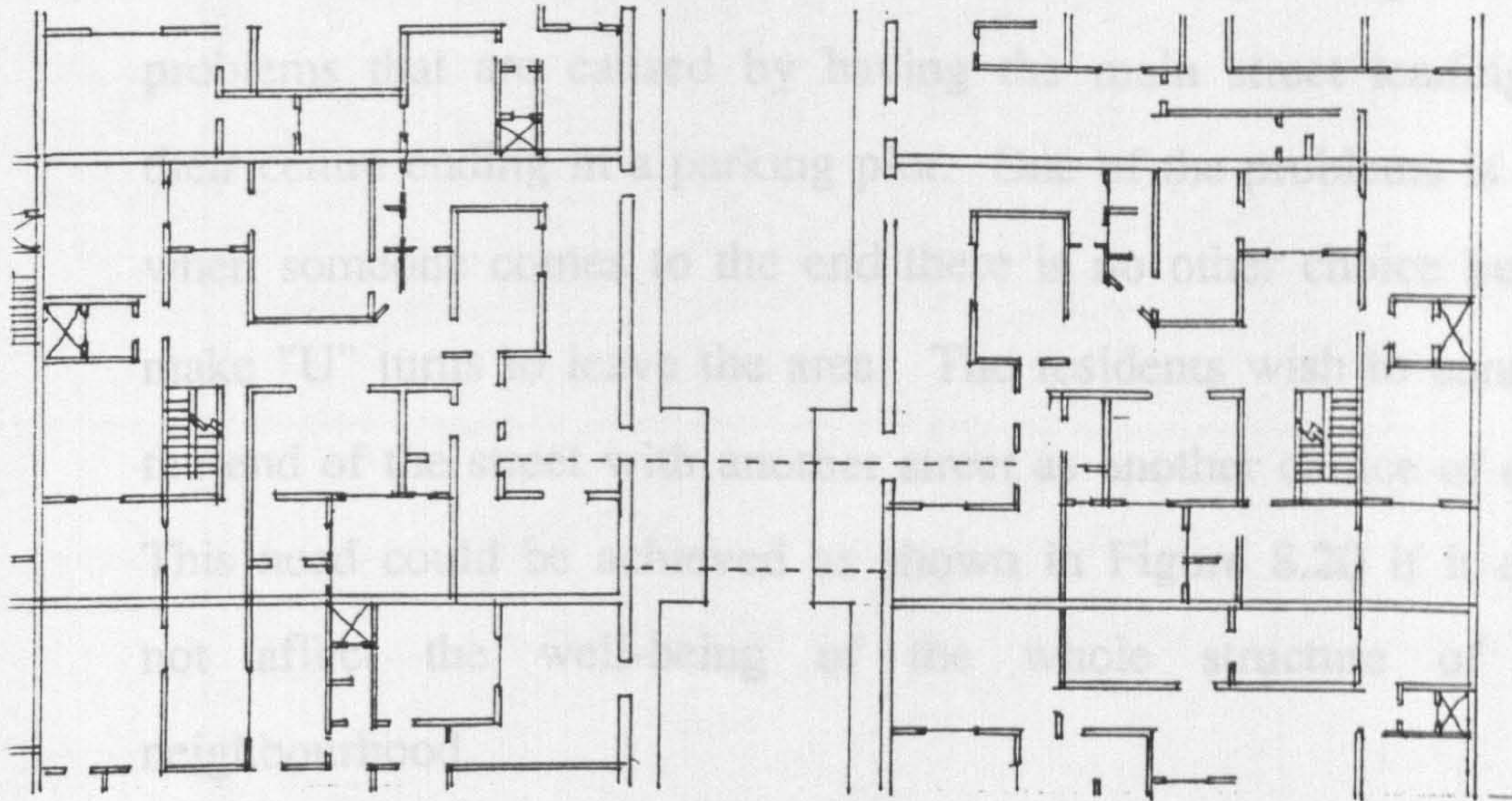


Figure 8.18 This problem
The existing plan and the solution
for problem number 6.



7. The seventh problem deals with building a gate. This problem assumes that the residents of the cul-de-sac wish to build a gate to protect them from outsiders for the purpose of security and privacy as shown in Figure 8.19. This need could be approved if it would not affect the other parts of the neighbourhood and its residents.
8. The eighth problem deals with a problem that concerns the whole community. Suppose the residents are complaining of the problems that are caused by having the main street leading to their centre ending in a parking plot. One of the problems is that when someone comes to the end there is no other choice but to make "U" turns to leave the area. The residents wish to connect the end of the street with another street as another choice of exit. This need could be achieved as shown in Figure 8.20 if it does not affect the well-being of the whole structure of the neighbourhood.
9. After connecting the two streets which were discussed in problem number eight, suppose the residents of the adjacent plots complain about the heavy traffic caused by that connection and they would like to have one of their accesses closed to form a dead-end street or cul-de-sac as shown in Figure 8.21. This also can be accepted if it does not cause any harm for the other residents surrounding the area, and no one objects to this action.
10. The final problem concerns the wish of the residents of the old cul-de-sac to open the dead end part to have two accesses as

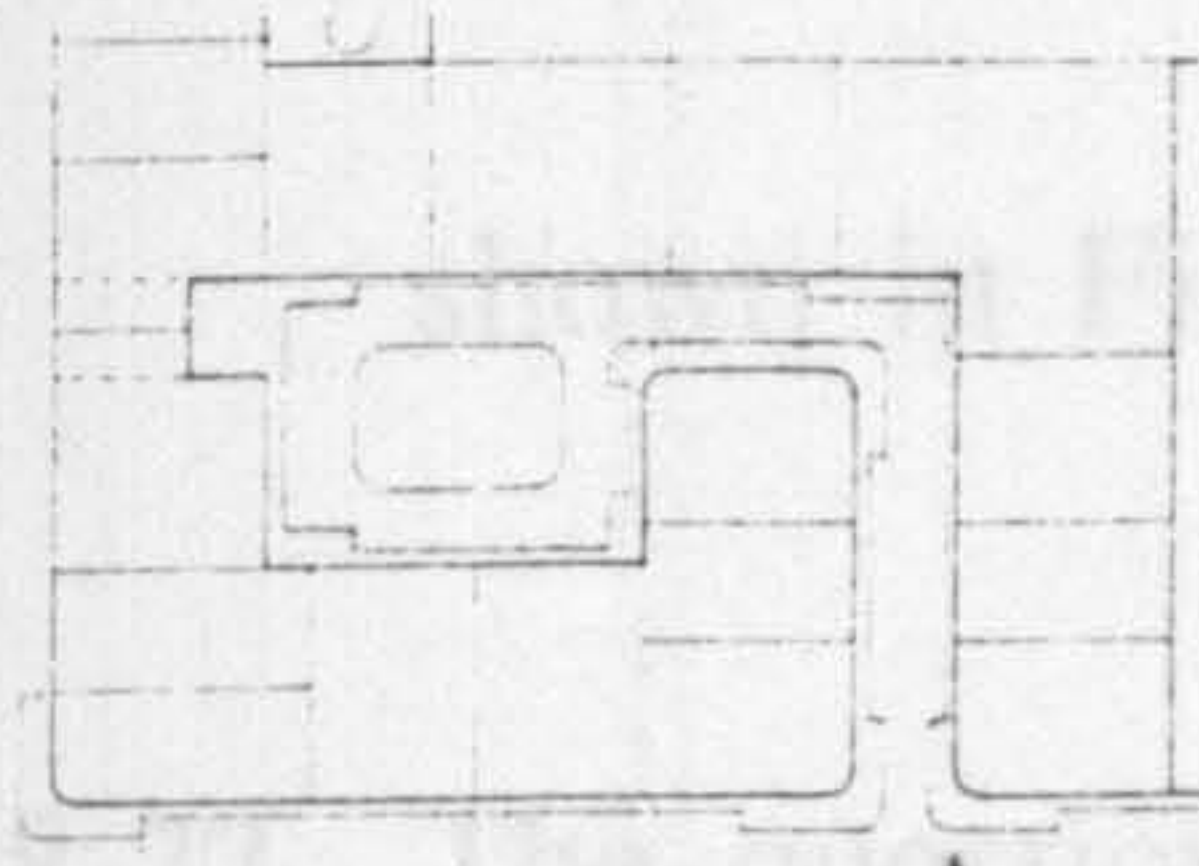


Figure 8.19

The existing plan and the solution for problem number 7.

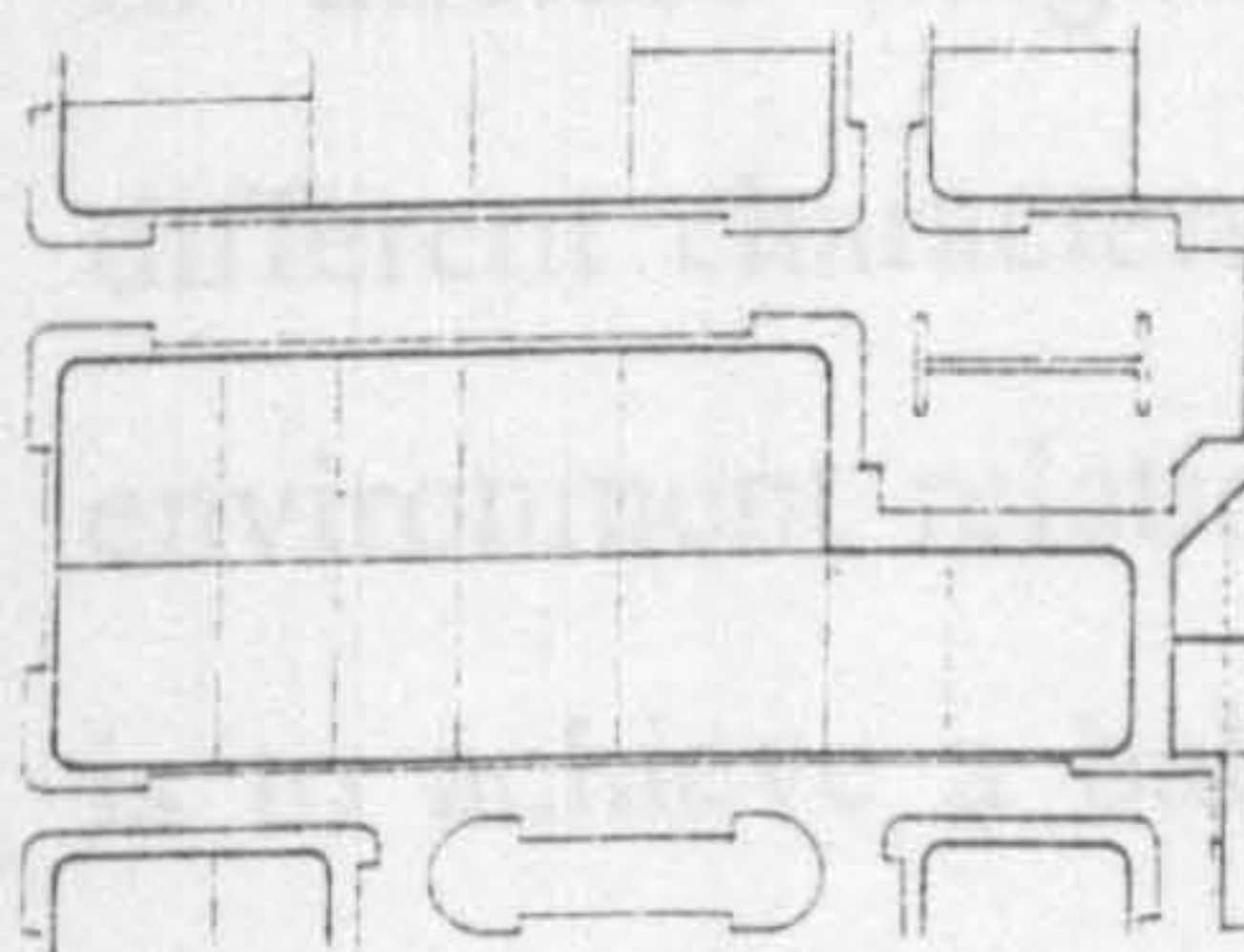
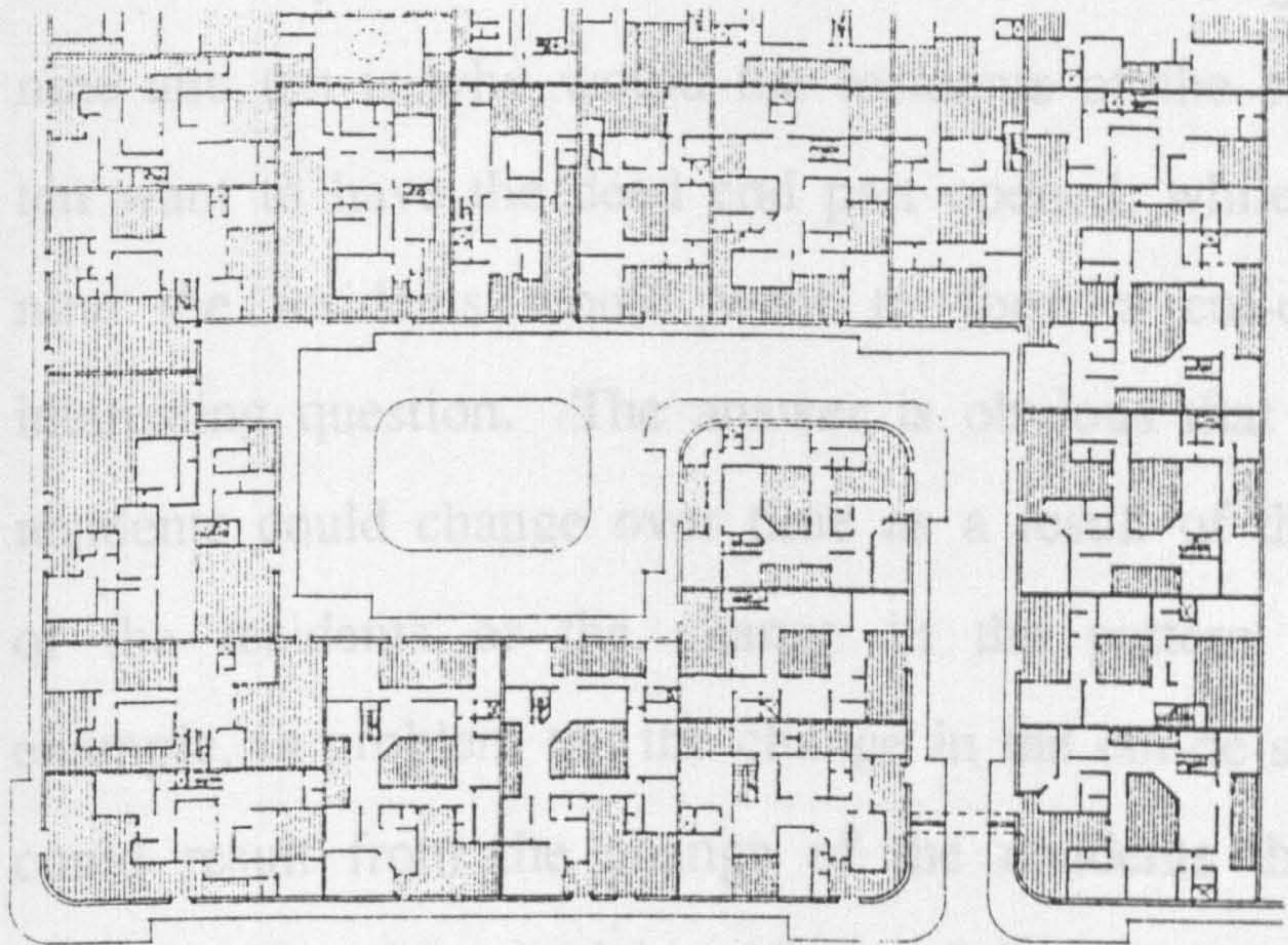
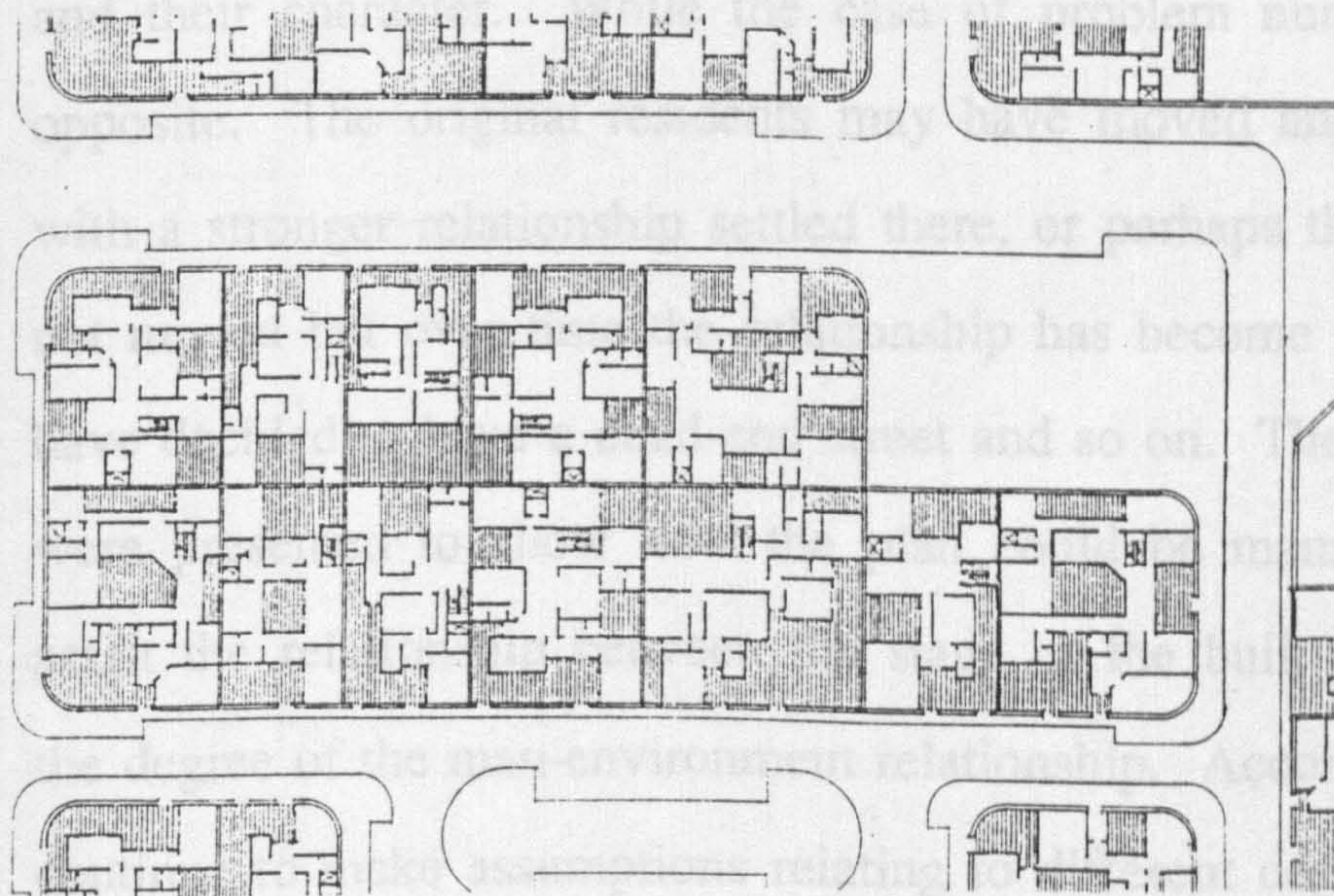


Figure 8.20

The existing plan and the solution for problem number 8.



shown in Figure 8.22. This also could be accepted.

8.22 The question which could be asked relating to problem number nine and ten is why would the residents of the cul-de-sac in problem ten want to have the dead end part opened, while in problem number nine the residents would want to form a cul-de-sac. This is an interesting question. The answer is obvious that the character of the residents could change over time as a result of the natural movement of the residents or the change in the pattern of behaviour. For example, in problem ten the change in the cul-de-sac residents' attitude could result from the change of the residents themselves. In other words, some of the initial residents of the cul-de-sac could have moved to another neighbourhood so, the new residents are composed of different characters to those of the old residents. Therefore, the man-environment relationship has changed, consequently, the residents need is to achieve a balance between the character of the built environment and their character. While the case of problem number nine is the opposite. The original residents may have moved and other residents with a stronger relationship settled there, or perhaps the residents have not moved but over time the relationship has become stronger so, they have decided to have a dead-end street and so on. These two problems were presented to show how the plan could be managed in order to assist the relationship between the stage of the built environment and the degree of the man-environment relationship. Accordingly one could continue to make assumptions relating to different degrees of the man-

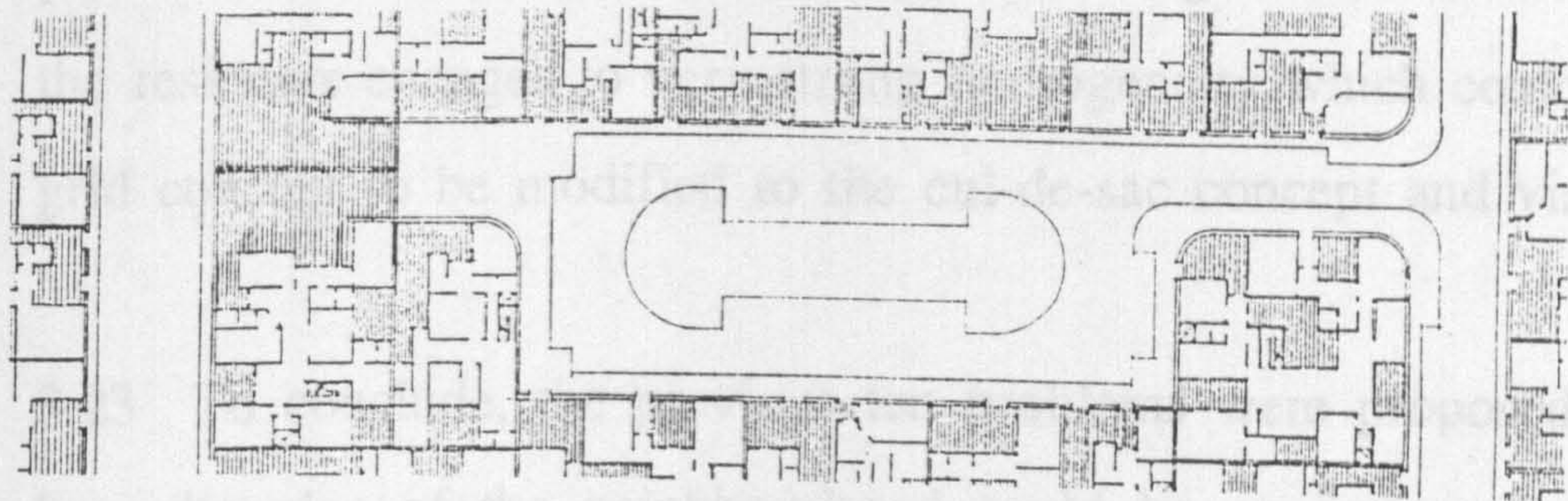
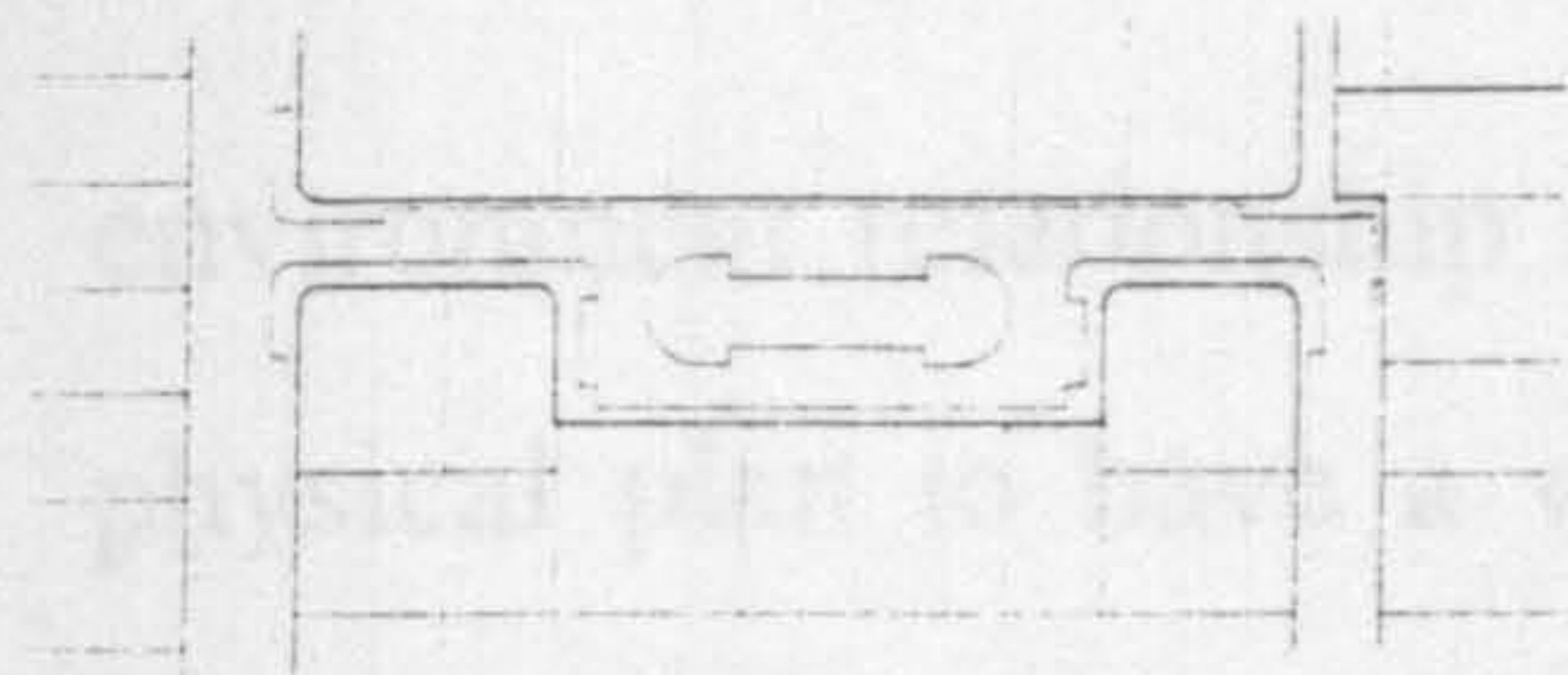
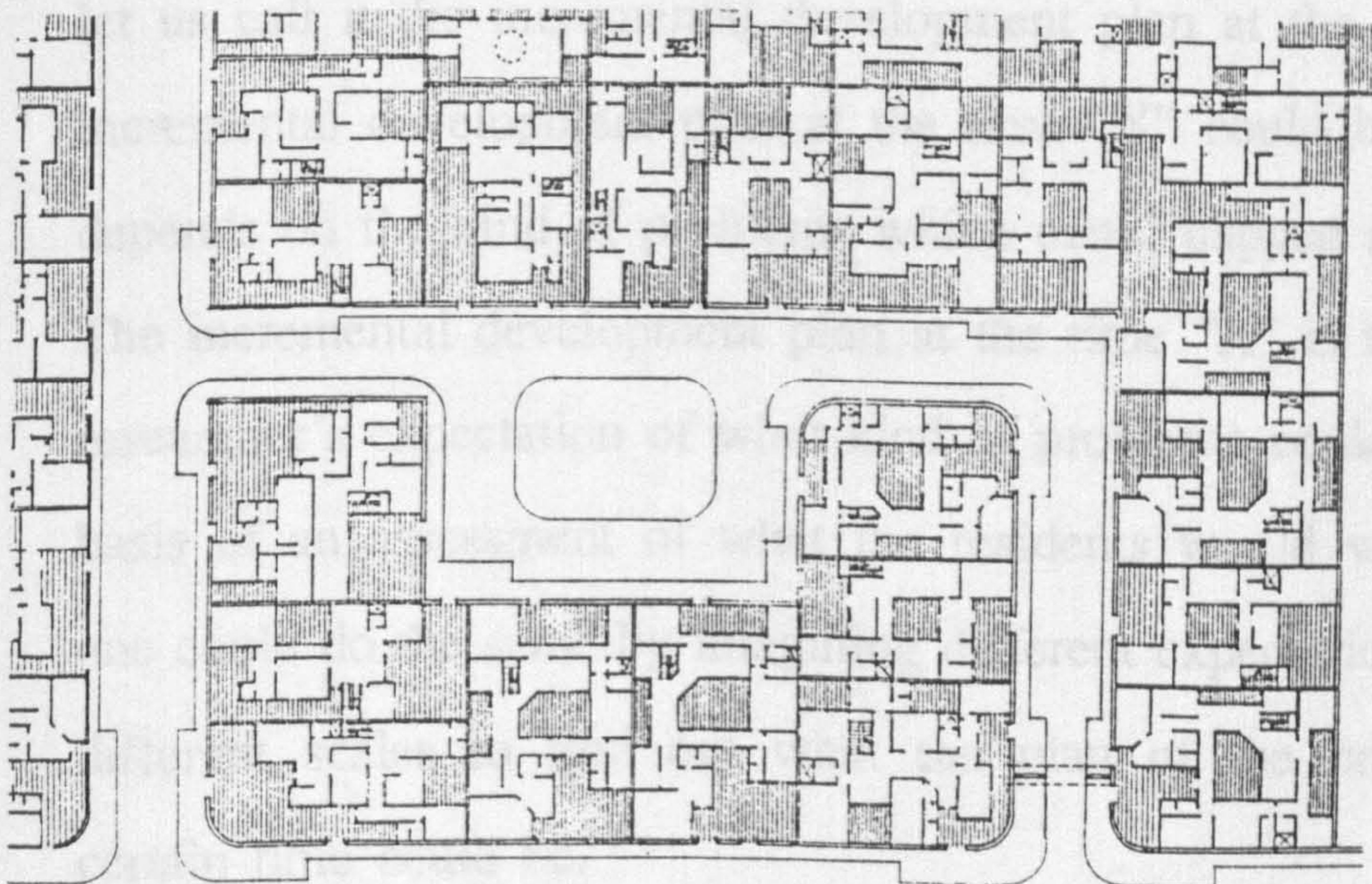
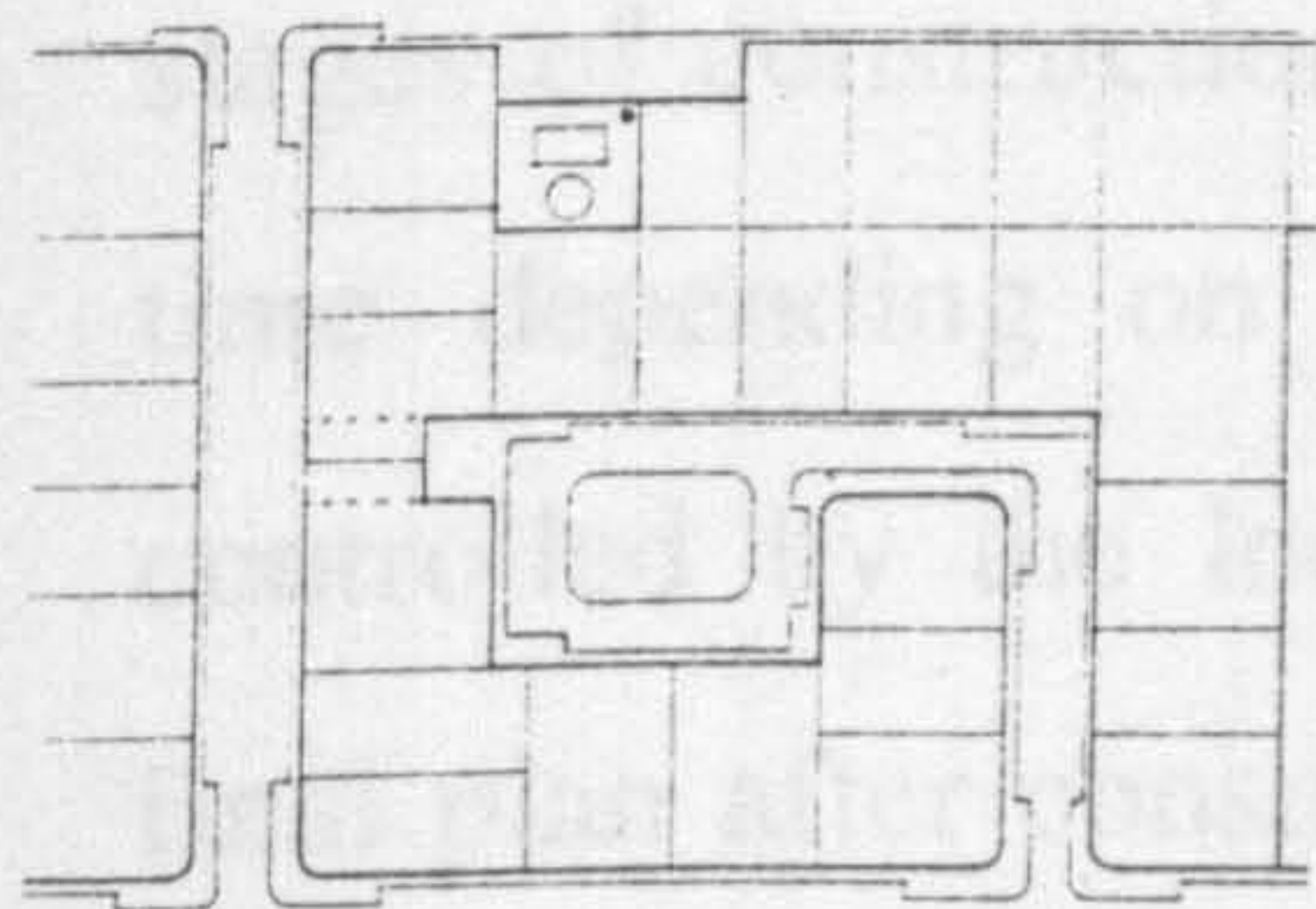


Figure 8.21 The existing plan and the solution for problem number 9.

Figure 8.22 The existing plan and the solution for problem number 10.



environment relationship in one cluster. Changes could be made in its physical plan to have a variety of patterns starting by forming a grid pattern for heterogeneous people up to the stage when the character of the residents changes to very strong homogeneity which could lead the grid concept to be modified to the cul-de-sac concept and vice versa.

8.23 To conclude, the previous ten problems were proposed to show how the plan of the neighbourhood could be an open-ended plan to reach an organic order (Alexander et al. 1975) whatever the scale of development is. The previous problems span from architectural and urban design problems to planning problems. The changes are not expected to happen at once. Some of them could be faced in the early stages of construction while others could happen after a long period of time depending on the needs of the community, which should be controlled by the local community authority. Figure 8.23 shows the final plan after constructing the solutions for the previous problems and let us call it the incremental development plan at the time "X". The incremental development plan at the time "Y" could be different, this depends on the kind of problems which could happen at the time "Y". The incremental development plan at the time "X" is the result of the researcher's expectation of what kind of problems could happen on the basis of an assessment of what the residents would wish. Similarly, one could do the same by imagining different expectations dealing with different scales to find out what the plan of the neighbourhood at certain time could be.

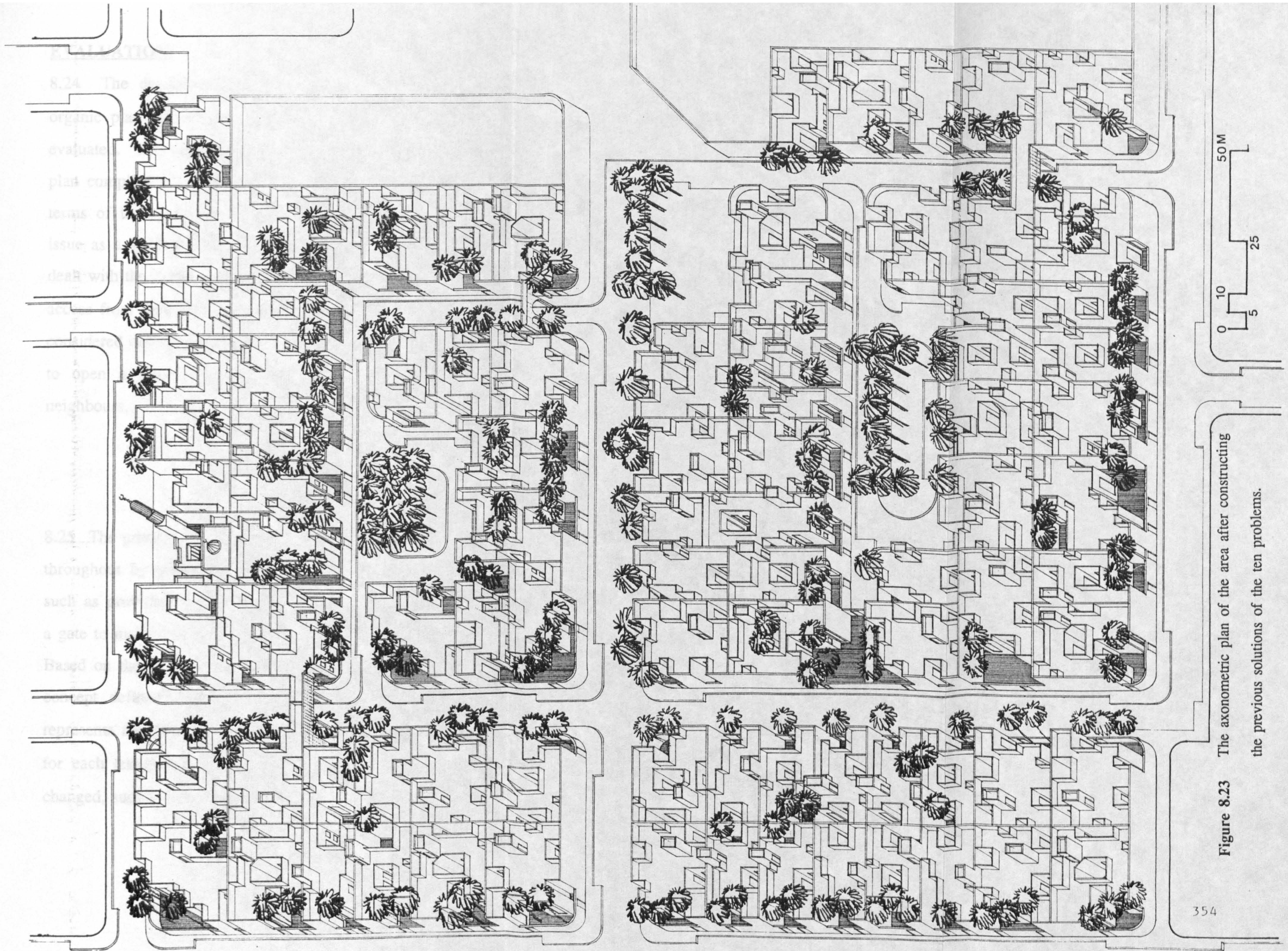


Figure 8.23 The axonometric plan of the area after constructing the previous solutions of the ten problems.

EVALUATION:

8.24 The design workshop and the assumed changes to reach an organic plan which were stated in the previous sections need to be evaluated. This section aims to evaluate this plan in terms of how the plan complies with the various recommendations of the research. In terms of the socio-cultural requirements, this chapter looked at each issue as a guideline for the design. To be more specific, the design dealt with the intimate privacy of the family by preventing direct visual access from outsiders as one of the important issues which has to be considered during the design phase of each unit. No one has the right to open a window looking at the existing private spaces of the neighbours.

8.25 The privacy of a group of units was also discussed and achieved throughout by providing well defined territorial boundaries for them such as providing semi-private spaces and allowing residents to build a gate to make it a functional element since it was the resident's wish. Based on the concept of the man-environment relationship, the design concept defined a variety of territorial boundaries, each of which represents the character of its residents. Not only this but it allowed for each territory to be changed when the character of its residents changed, such as altering dead end streets to open ones and vice versa.

8.26 In terms of social interaction, this chapter provided many techniques to support the need for social interaction. Each technique was used carefully so as not to conflict with the character of the residents. The propinquity concept was used to encourage face-to-face social contact and to make frequent contact more convenient among the homogeneous residents.

8.27 To provide propinquity the design provided a variety of concepts such as relatively narrow streets, loops, and courtyards. Each concept reflects the degree of the homogeneity.

8.28 The commonly used facilities have been considered as a tool for encouraging and intensifying the social interaction among the residents regardless of their character. For example the centre area of the plan is the place where most of the community facilities are located. Therefore, some of the residents could meet each other daily there, in addition to during Friday prayers which is an occasion for the assembly of the whole community of the neighbourhood once a week.

8.29 In terms of the local mosques, there are two in addition to the Friday mosque which were located in different areas to make the intensity of use more convenient. This, in turn, will lead to intensive face-to-face and social contact among the users.

8.30 The corner shop is another element which has been formed to encourage social interaction and securing the neighbourhood.

8.31 The streets of the proposed plan were formed to allow for various activities to be performed in addition to their main function of channelling movements. The types of activities which could be carried out on each street depends on the nature of the street and its residents. For example, the cul-de-sac and the other semi-private courtyards are expected to be places for women to socialise with neighbours as well as places for small children to play without being in danger from the movement of cars or from strangers. In addition, they could be used for sitting during festivals and marriage celebrations which is a common custom in the Central Region. The streets where the local mosques and the corner shops are located, are expected to be places for teenage males to congregate around their corners to play and discuss their affairs. They could also be places for the old people to sit to watch the street's activities and enjoy drinking fresh ritual coffee and tea.

8.32 The centre area of the plan, in addition to its function, is expected to be a place for communal events of the community, as a whole, which relate to recreation, feasts, ceremonial and business activities.

8.33 Considering the family structure, the design looked at this issue as one of the important issues which has to be respected. The effort

to design a variety of land sizes, in addition to asking each designer to set up a future plan (phases for developments) for each unit as well as considering the flexible rule that allows for people to connect their houses and/or to have enclosed semi-private spaces to adapt with the family size and its changes over a period of time.

8.34 The previous section discussed how the new design dealt with the socio cultural requirements, the forthcoming paragraphs will deal with the individual requirements.

8.35 The first issue is related to the need for designing a legible neighbourhood structure. There are various elements which have been considered to allow for mobility, to provide orientation when moving from one part to another, to help recognise activities as well as to be used as symbolic communication tools.

8.36 Some of these elements are the mosques as landmarks and nodes, the corner shop as a node, the Al-Kubah as a landmark, the variety of cluster patterns as districts, the hierarchy of streets and their affordances as paths while the boundary streets as edges.

8.37 The various types of streets in terms of their width, location, and character, in addition to their affordance, are expected to play a major role in terms of security when moving from one part of the area to another. They could be used as elements for orientation and mobility

and they can be identified through their activities and characters.

8.38 The edges are elements which indicate lines of a different character. For example, the major roads which surround the area are edges for the community location, while the starting point of the streets which lead from the surrounding roads to the heart of the neighbourhood are gates for the community which define the dominant users.

8.39 Looking at the other end of the edge's hierarchy, the gates which form the entrance to the cul-de-sac (which were presented in problem number seven) represent the edge which indicates the transition from public territory to semi-private territory, while the gate of each house surrounding the semi-private spaces, indicate the transition from the semi-private territory to private territory. This type of element should affect the residents images which in turn affect their mental map.

8.40 The different concepts of the clusters which were based on the different degree of the man-environment relationship represent a variety of districts within a solid structure. This should allow the residents to recognise each area by its own characteristics.

8.41 The Friday mosque and its minaret, which are recommended to dominate the skyline of the neighbourhood as a whole, is stressed to be the landmark and a point of orientation for the whole structure of the

neighbourhood. The local mosques on the other hand, act as landmarks and nodes for social gathering and orientation for the surrounding buildings. They are expected to be devices for defining the location of such a setting, in other words, they are expected to play a major role in structuring the mental image of the area's inhabitants.

8.42 The corner shop is another element which is expected to be a node for social interaction where most of the surrounding teenager males could congregate to enjoy themselves. Therefore it is also expected to play a role in forming the mental map of the residents.

8.43 Finally, Al-Kubah is another landmark element for the area and could be a node for teenagers and old people to socialise around and enjoy the shade in addition to the role that it could play in orienting the visual pattern of the area.

8.44 It is essential to stress here that it is my belief to say that the need to achieve an imaginable environment does not mean that the new design should comprise all the five elements that Lynch (1960) has defined, but one element could be enough in the initial stage of the development while the other elements should be allowed to be formed during the incremental growth of the neighbourhood. Examples of these elements which were formed during the incremental growth are the corner shop, the gate and Al-Kubah.

8.45 It is worth repeating that most of the elements that play a major role in forming the structure of the mental map of the residents could be formed over a period of time through the organic growth of the area rather than through the implementation of a proposed static plan.

8.46 The second issue of the individuals requirements is related to the sense of control and responsibility which leads to the sense of ownership, territory and identity which in turn leads to people's satisfaction.

8.47 To achieve these needs, the design was based on assumptions, each of which were supposed to be obtained from a real survey to define who the residents are and how they behave in addition to know what their opinion and desires are. Not only this, but the assumptions extended beyond this, the final overall plan was assumed to be taken from people participation in the design processes.

8.48 In terms of how residents would like to have their settings, the plan also continues to give them the opportunity to manage, build, modify, repair, and evaluate their setting after occupation to form their future growth and development based on their needs and character.

8.49 The main reason for giving people this opportunity was to make each single space of the neighbourhood a functional element because the physical form alone may not work out without the recognition of the implication of the need for participation and control.

8.50 After designing, modifying, and evaluating the proposed neighbourhood, the question one might ask relating to the problem solving techniques is: "According to which criteria should the local community authority consider approving or rejecting such action? It is obvious that any local action could be regulated by certain requirements, some of which could be national, regional, or local, therefore the local community authority should deal with any action according to these requirements.

8.51 Before discussing how the local community authority could deal with such requirements, it is important to shed light on the way the local community authority should be linked with the various institutions in regard to planning and development from local level to national level in Saudi Arabia. This will be defined in the next sections.

THE PROPOSED INSTITUTIONAL REFINEMENTS

8.52 As discussed previously, the existing institutional structure in Saudi Arabia consists of the King as the Prime Minister, the Council of Ministers, the Ministers themselves who represent their ministries in the council of ministers, and the Deputy Ministers who handle the affairs of the ministries of which they are Deputy Ministers. The majority of the ministries have their administrative offices spread throughout the country. Their responsibility is to execute the development programmes which is usually prepared at the national level. In other words, the administrative offices at the regional and city levels are executives rather than planning bodies. Not only that but

there is neither co-ordination nor co-operation between the various ministries offices at the regional level to bring about integrated spacio-economic developments in local areas. As a consequence, Al-Ghamdi (1989) proposed institutional refinements in regard to planning and development at national and regional level in Saudi Arabia. He introduced co-ordinating committees and comprehensive regional spatio-economic plans. The introduction of the co-ordinating committee means that it is responsible for co-ordination between physical and economic planning at both national and regional level, in addition to informing the council of ministers of the overall development constraints and progress. This in turn will lead the council of Ministers to base their guidelines to development strategic planning on more up-to-date knowledge regarding needs and priorities of developments throughout the country. At the same time the comprehensive regional plan (which should be introduced as detailed interpretation of strategic programmes) functions as a planning device that can translate the aims and programmes of the national economic plans into practicable programmes which can be implemented by the municipalities and the other ministries. Al-Ghamdi believes that this would potentially stimulate better appreciation of local needs and potentials of economic developments. The outcome of the regional plans should be based on inputs from the Ministry of Municipal and Rural Affairs, the Ministry of Planning, and the various ministries with regional development obligations. The co-ordinating committee helping the Ministry of Planning and the Ministry of Municipal and Rural Affairs to ensure that those inputs are:

1. co-ordinated with each other
2. Able to adhere to the national strategies and investment programmes
3. Implementable.

8.53 The proposed system by Al-Ghamdi (1989) along with the introduction of the local community authority (by this research) will lead to a comprehensive institutional refinements in regard to planning and development at national, regional, and local levels in Saudi Arabia (see figure 8.24).

8.54 The local community authority is supervised by the Municipality (as illustrated in figure 8.24). Not only this but the local community authority should co-ordinate with and report back to the municipality about any action to ensure the implementation of the regional plans. Based on the proposed institutions system, the following will explain the bases on which the local community authority could approve or reject a local action.

8.55 As recommended previously, the local inhabitants should be allowed to participate and co-operate with the local community authority to solve their internal affairs. While the local community authority is strongly linked with the Municipality (figure 8.24) who is responsible for implementing the regional plans as well as reporting back to, co-ordinating with the regional office of the Ministry of Municipals and Rural Affairs. Accordingly, figure 8.25 represents the processes which

ADOPTED FROM ALGHAMDI 1989 (P. 537)

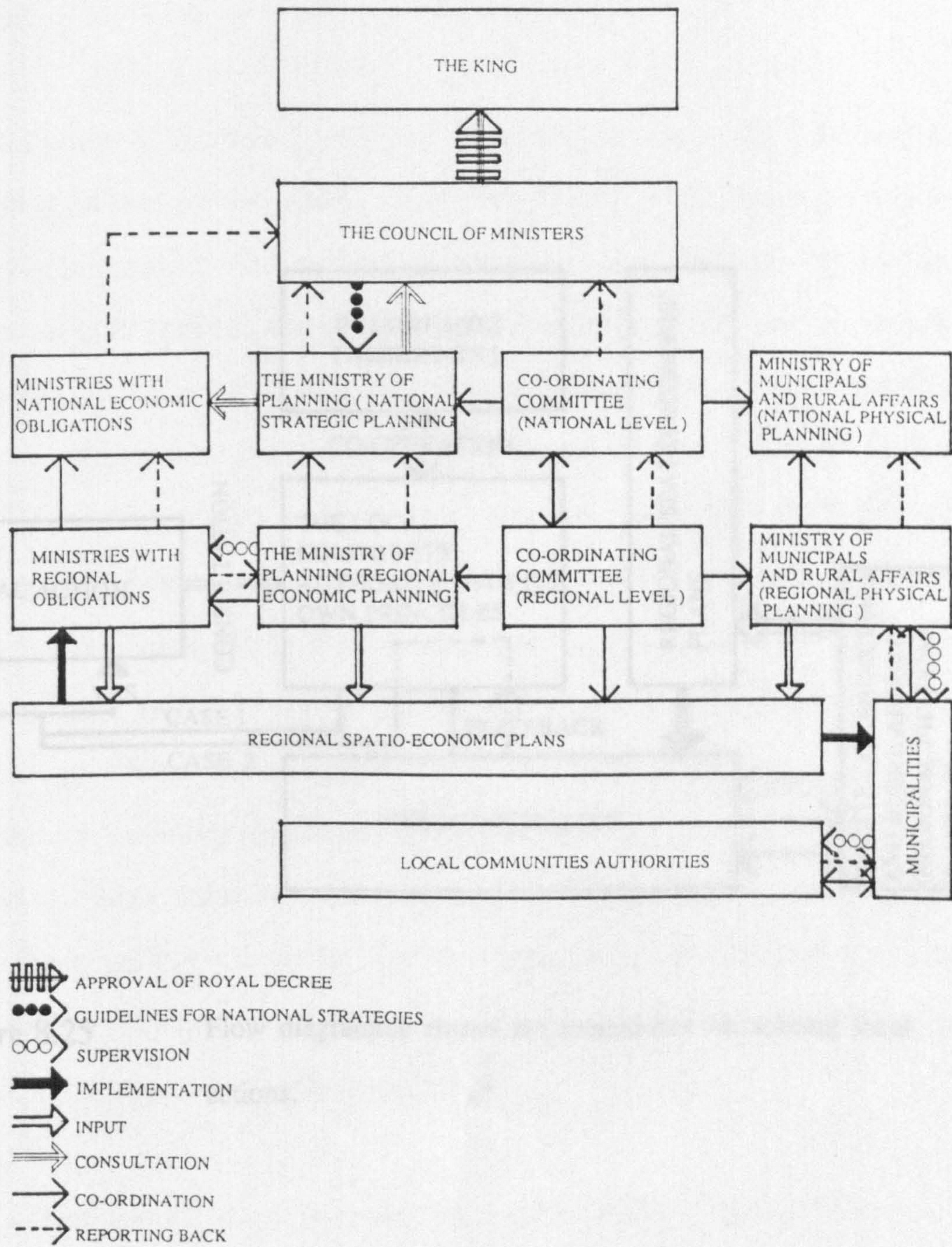


Figure 8.24 Flow diagramme shows the proposed institutional refinements in regard to planning and development from national to local levels in Saudi Arabia.

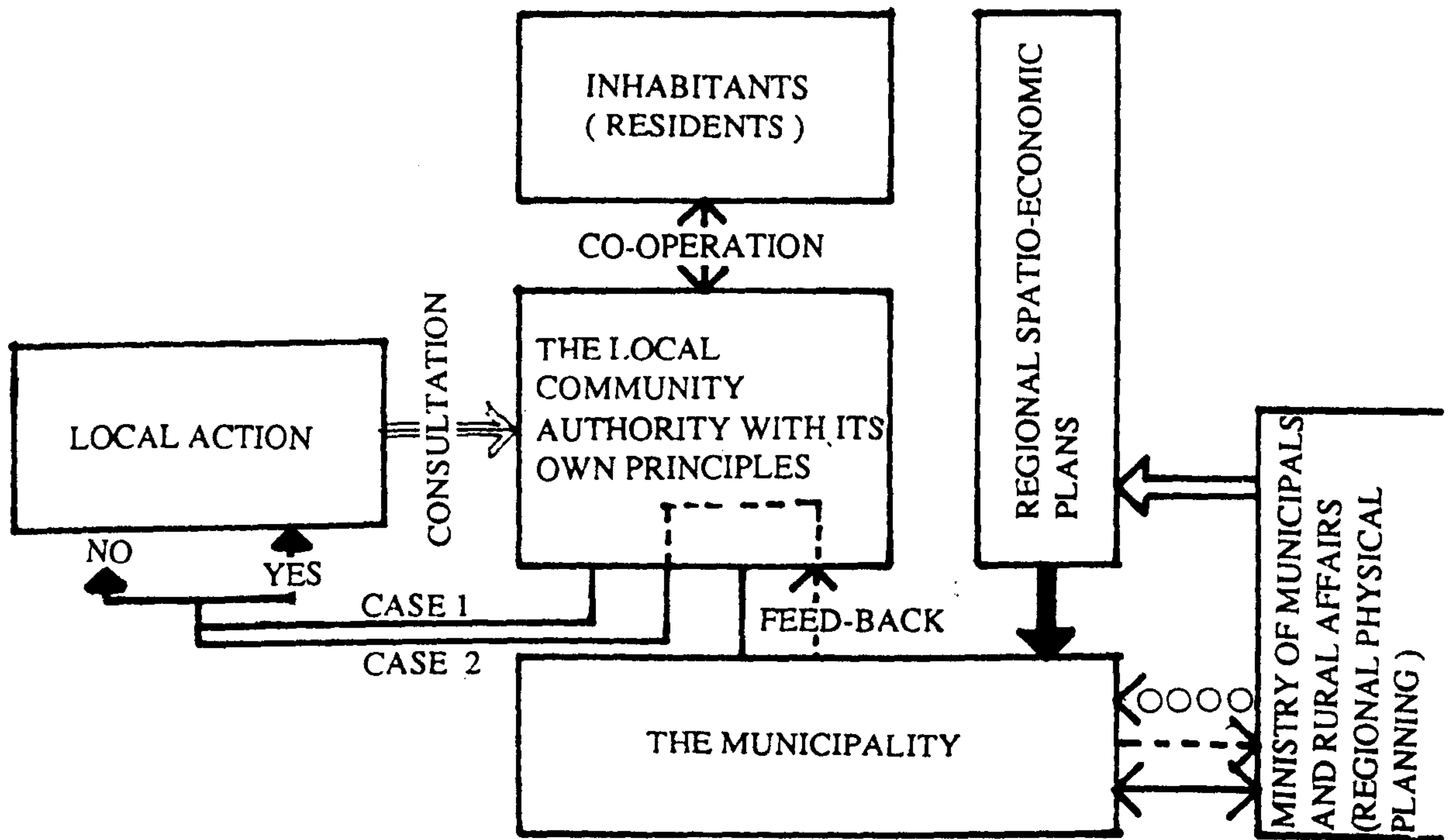


Figure 8.25

Flow diagramme shows the procedures for solving local actions.

any local action should follow in order to be either approved or rejected.

8.56 Figure 8.25 shows that any local action could be categorised according to one of two cases. The first case is when the local action is purely internal action that has no effect on either the city, the region, or the national regulations and policies. In this case the action should be solved by the local community authority and those inhabitants who might be affected by that action. For example, when a resident wishes to build a room in his roof or two adjacent residents would like to connect their houses, or as the particular case of problem number three when the residents of the cul-de-sac asked to have access to reach the local mosque (refer to figure 8.15). All these problems are, in fact, internal problems so in order to solve these problems, the local community authority (after co-operating with the residents involved) should evaluate them according to the various principles that it holds (e.g. the principle of needs, the principle of of priorityship and the principle of damage). According to that, the local community authority would then approve or reject such action.

8.57 The second case is when the local action would be likely to affect not only local affairs but could extend to either or both the city, regional, and national affairs. In this case the problem should be transferred by the local community authority to the Municipality for it to be evaluated according to the both the regional plans and the regional office of the Ministry of Municipal and Rural affairs

regulations and policies. If there is no clear statements which can solve the problem, then the problem should be transferred to the co-ordinating committee throughout the Ministry of Municipal and Rural Affairs to determine its legality through the co-operation with the other Ministries. If the action is rejected at the national, regional, or city level then the action has to cease, but if the action is approved at the national, regional or city level then it has to be evaluated at the local level according to the various principles in order to issue the final decision regarding approval or rejection.

8.58 In order to clarify the second case, the following examples are given. The first example states how the local community authority should react if one of the residents wishes to construct a third floor in his house. Indeed, this problem does not only affect the locality but also the city as a whole. Constructing a third floor implies an overload of the overall infrastructure, therefore, should this be accepted or rejected? The answer to this should come first from the municipality who must decide whether the infrastructure could bear such an increase or not.

8.59 However, if the Municipality approves this action, that does not necessarily mean that similar cases will be approved. Each case should be treated individually on its merits till we reach the point where a similar case is rejected. When this happens on the grounds that the infrastructure (for example) can not afford more load then it has to be rejected and the resident whose action is rejected has no right to ask for

equal treatment since the local community authority has established a very clear principle (e.g. the principle of priorityship).

8.60 Another example might concern a resident wishing to construct or use unfamiliar building materials. What should the local community authority do in this case? This case should be approved or rejected according to whatever clear statement exists in the regional plans and the municipality state: that, for example, these kinds of materials should be rejected or accepted. It then has to be treated according to that. However, if such a statement does not exist, then the problem has to be transferred to the co-ordinating committee to find out the reaction of the other Ministries. For example a type of materials could be rejected by the Ministry of Health (for example) who could state that this type of materials could cause health problems such as cancer for example. Then the case has to be rejected and the regional plans should be informed and so on.

CONCLUSION:

8.61 This chapter was organised to show a sequence of procedures by which most of the recommendations of the research could be implemented.

8.62 The first step was to form assumptions which related to the users in terms of their family size and character to guide the form of the physical plan of the assumed location. Although these assumptions were hypothetical in order to achieve the goal of this chapter, the

research stressed that any assumptions for a real project should be based on a real survey to define the real character and the needs of the expected residents.

8.63 The assumptions of the research led to the design workshop and techniques to show how the problems at hand can be translated to a satisfactory physical plan.

8.64 People's involvement in the final form of the physical design was assumed. Therefore when dealing with a real plan, people must be given the opportunity to participate in the design workshop if we are to reach a satisfactory living environment.

8.65 This chapter assumed that the final plan was implemented according to planned stages (self-conscious) till reaching the consolidated development plan, but there were unpredictable problems (un-self conscious) which appeared during the processes of development. The research stressed ten unpredictable problems provided with their possible solutions to show how the organic order could be achieved, taking into consideration the idea of an open-ended plan and the existence of the local community authority who would control the local actions.

8.66 In order to define how the local community authority could accept or reject a local action, this chapter proposed two main issues. The first was the introduction of institutional refinements which shows

how the local community authority should be linked with the other agencies in order to implement the national, regional, city, and local programmes. The second was defining the main processes in which all local actions should follow in order to be judged whether to be approved or rejected.

8.67 So as to test the viability of the processes, the researcher (based on his own experience) devised many examples and problems and showed how they can be solved. It is open to anyone (based on his/her experience) to evaluate the research findings using other problems and solutions. It is not a challenging matter but, could the reader carry out work of a similar assumption?

THE RESEARCH CONCLUSION:

8.68 Throughout the pre-oil era, when the Saudis depended upon the agricultural and pastoral socio-economy, the physical environment there grew and changed while controlled by common cultural principles, whether explicit or implicit. After the exponential increase in oil revenues, the resulting wealth and government aspirations for development and modernisation led to borrowing western ideologies and planning principles and techniques. The new principles of planning and their implications, which were planned for a different culture, led to a new form of physical environment.

8.69 Generally, the new form of the physical environment of the neighbourhood in Saudi Arabia display similar spatial features and uniformity in character. They are dictated by the same concepts of land-use and land sub-division, which in most cases, manifests the grid or swastika model with wide, straight streets, while each element of the physical environment is controlled by a restrictive set of regulations. Accordingly, the new form of the neighbourhood plan not only fails to comply with the resident's culture but also it is too rigid to adapt to the natural and unpredictable changes that inevitably arise in the life of a community.

8.70 Saudi Arabia is one of those countries where its people sustain a strong cultural base, with strong social sanctions, guiding how people deal with one another. Accordingly the affect of the cultural bases on the spatial dimension must be considered when dealing with the

physical environment.

8.71 The research was conducted to form new guidelines for reaching better neighbourhood planning for the Central Region of Saudi Arabia based on the understanding of the role of the cultural factors of its people that plays on the spatial dimensions and its management. In other words, it was conducted to reach neighbourhood planning based on "knowledge" not "belief". Knowledge based on a tangible observation and survey rather than abstract speculations.

8.72 In order to achieve this, the thesis adopted a clear methodological model from the very beginning (refer to Figure 0.01, the Introduction). In light of the suggestions of the model, the theories of cultural and the built environment were first theoretically and pragmatically studied with emphasis on the effect of Islam, as a religion on the way of life of its people.

8.73 In light of the theoretical studies, the second part described, discussed, and analysed three different development concepts of neighbourhood applied in the Central Region. These three concepts were the traditional environment, the contemporary environment, and the new trends.

8.74 By evaluating the contemporary environment and the new trends, the results declared the potential viability of the contemporary and the

new trends proposals to be weak in terms of matching with the actual needs and the culture of the residents. The conflicts not only resulted from the initial stage of the design but also resulted from the way they dealt with the natural and unpredictable changes that occur over the time.

8.75 Utilising the theoretical and pragmatic studies made, the third part proposed a set of recommendations for forming and managing the future neighbourhoods in the Central Region. The third part of the thesis, which is a prescriptive one, indicated three main steps to solve the problem. The first is to consider mainly the socio-cultural and the individual requirements as a guide for forming the initial stage of the design process. The second step is to make the plan of the neighbourhood as an open-ended plan, while the third step is to build a new communications system form the bottom up through the establishment of the local community authority rather than trying to reform the system form the top down.

8.76 The establishment of the local community authority with the idea of an open-ended plan must lead the overall structure of the neighbourhood to emerge gradually from local acts. The thesis also went further to show how to implement some of these recommendations in a detailed case study. Explicitly, the overall design which resulted from the implementation processes was evaluated according to the recommendation of the thesis.

8.77 Generally, the proposed structural solution to the problem and its implementation was to stress the importance of providing the maximum possible autonomy for people at the local levels.

SUGGESTIONS FOR FUTURE RESEARCH:

8.78 It is essential to mention that in order for the findings to be reinforced or broadened in all their scope, this thesis would require complementary studies such as:

1. The study concentrated on the need for considering the cultural variables as guidelines for forming and managing the future neighbourhoods in the Central Region. However, other variables relating to the climate, economic, and health issues have to be considered. The research has defined some recommendations as guidelines for future research concerning the health and climate issue, however, there are still many other subjects which affect the degree of satisfaction which has to be adopted.
2. The proposed structural solution to the problem of this thesis recommended establishing a local community authority while Al-Ghamdi (1989), who was concerned with the problem of the need for the development of the Saudi backward regions, recommended that a co-ordinating committee should be introduced to the system to assist in co-ordinating planning aspects (physical and economic) and planning levels (national and regional). Here, there is a need for a study to determine if there is a need for another level to co-ordinate between the regional level and the local level to make these two levels more effective. If the answer is "Yes" the

questions are: What should it be and what would the recommended structure be? How could it be financed and to what extent should it be involved with physical, economical and management issues?

3. Finally, the study was applied to the Central Region of Saudi Arabia only because of the time and financial reasons. However, there is a need to make similar studies relating to the other regions of Saudi Arabia, which could lead to similar findings since Saudi Arabian people are Muslims and managed by one system. If so, is there a possible way to generalise the findings?

8.79 Nevertheless, it has been one of the writer's goals, from the initial stage, to reach realistic approaches to make the findings applicable and acceptable which could help the Ministry of Municipal and Rural Affairs to achieve its aims for establishing satisfactory neighbourhood environments. Therefore it is hoped that this thesis may be closely consulted, particularly by the authorities concerned.

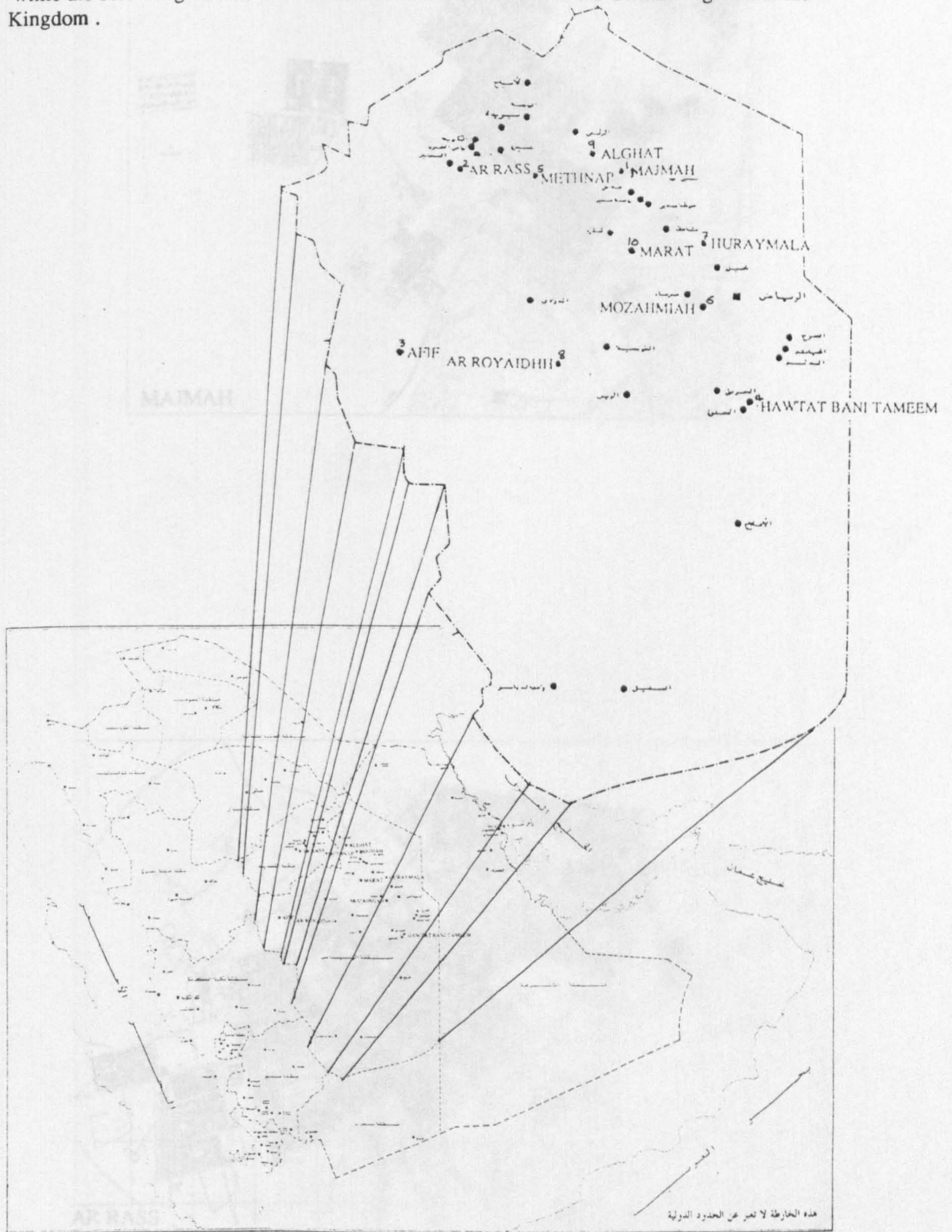
APPENDIX A: GLOSSARY

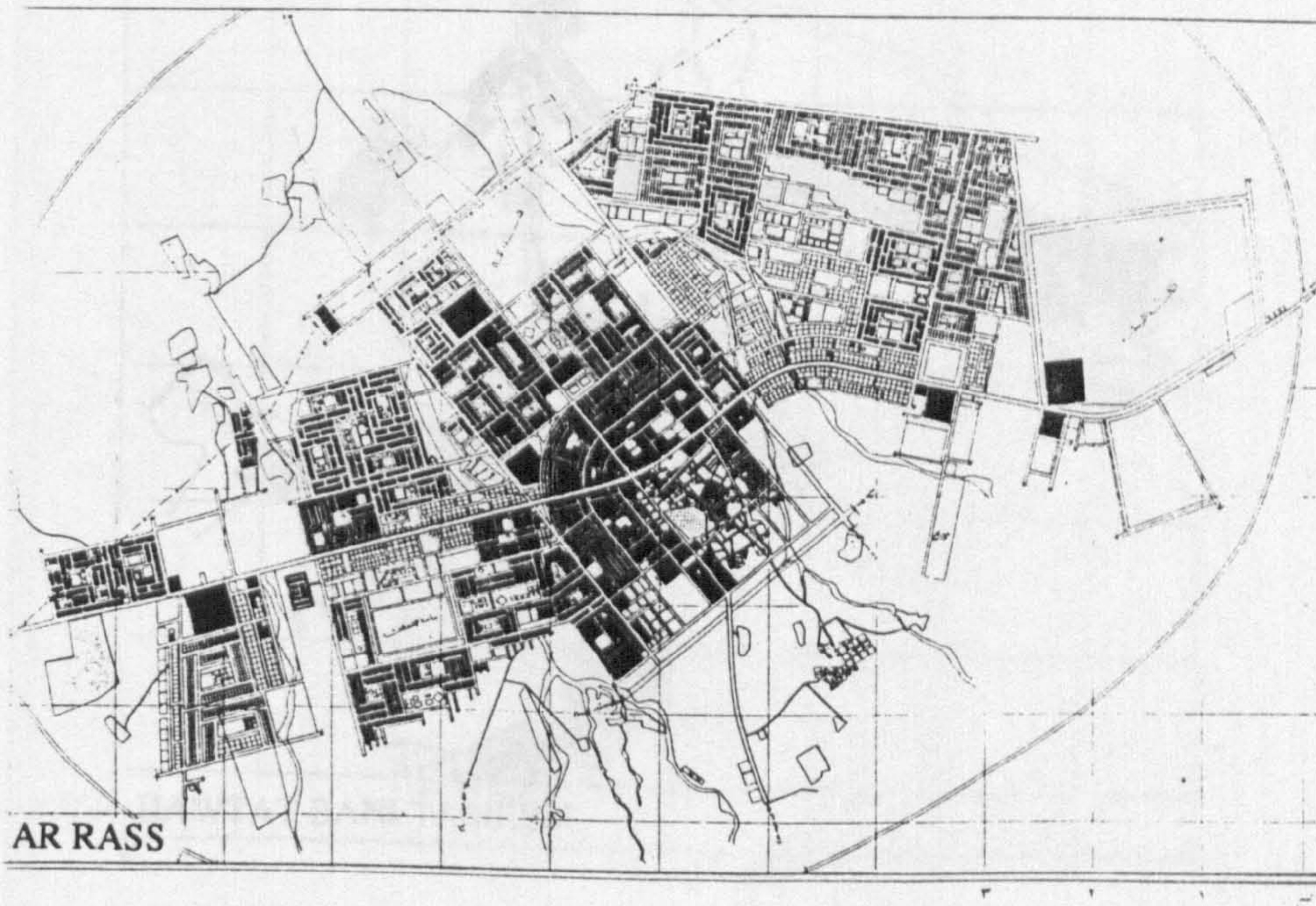
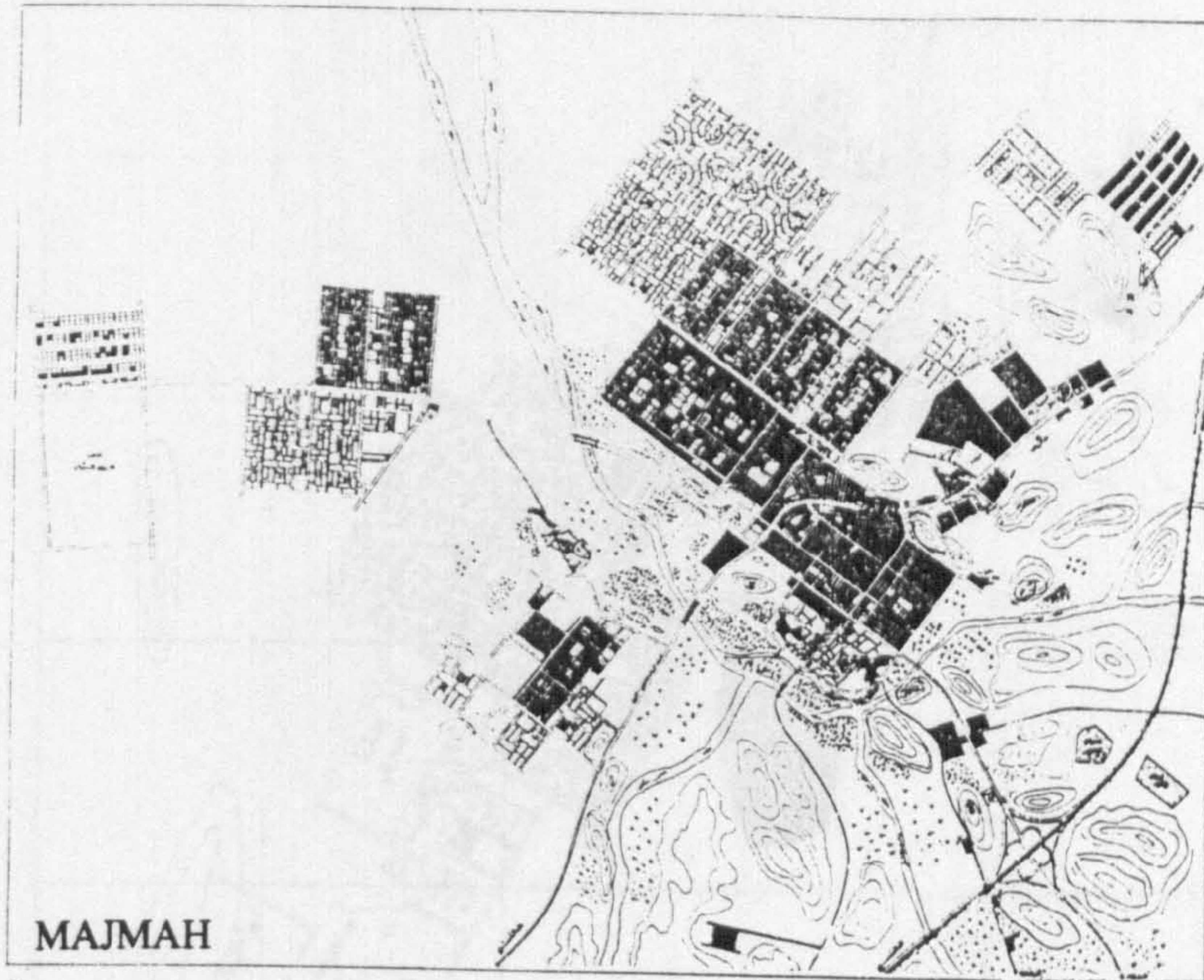
Abdallah	slave of God.
Al-Asr time	from late afternoon until just before sunset.
Al-Fajr time	from dawn until just before sunrise.
Al-hamdu-lil-lah	all praise be for Allah.
Al-Isha time	night until midnight or dawn.
Al-kashafeh	the horizontal window in the upper ceiling of the kitchen or the reception area.
Al-Kubah	the covered part of a street at the second level between two adjacent buildings.
Al-Maghrib time	after sunset until daylight ends.
Al-Salamu-alaykum	peace and the mercy of Allah be on you.
Al-Thuhr time	after mid-day until afternoon.
Al-Wejar	horizontal fireplace.
Awrah	The private parts of the body.
Bismillah Al-Rahman	
Al-Rahim	in the name of Allah, the most merciful and the most kind.
Garo	a solid stone pot with a small hole used as a storage for water.
Hijrah	emigration to medinah.
Id Al-adha	the feast of sacrifice after pilgrimage (on the tenth of the twelveth month of the lunar calender).
Id Al-Fitr	the feast of the fast breaking at the end of the month of Ramadhan (the ninth month of the lunar calender).
Ijma	consensus of opinion.
Ijtihad	reasoning.
Jihad	holy war for seeking reward from Allah.
Ka'bah	the sanctuary built in place of the previous sanctuary built by prophet Abraham in Makkah.
Kittah (pl.khitat)	land delineation forming a quarter.
Mahrem	denotes a relationship either by marriage or close blood ties.
Muathin	the caller for prayer.
Qadi	judge.
Qiyas	analogical reasoning.

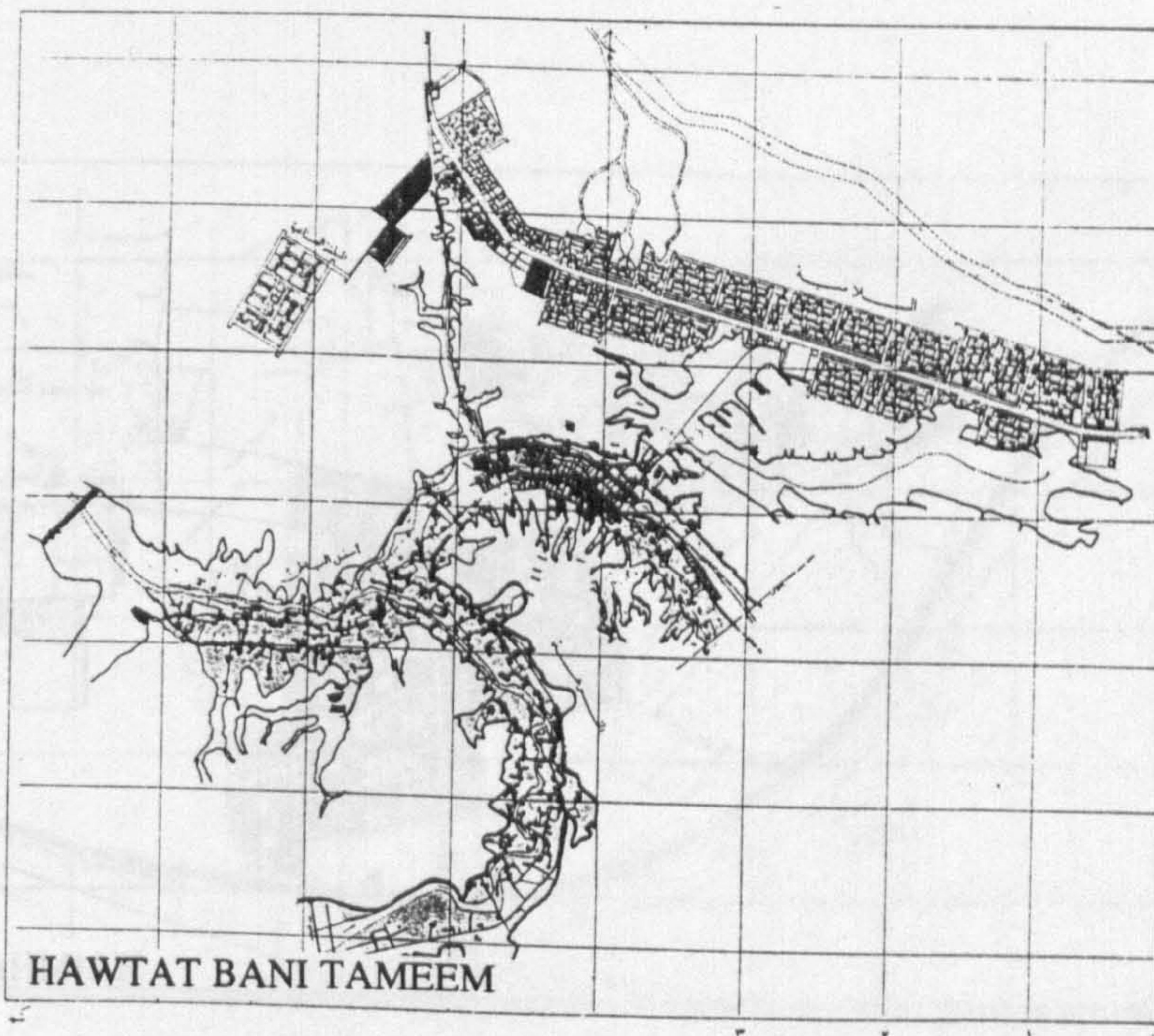
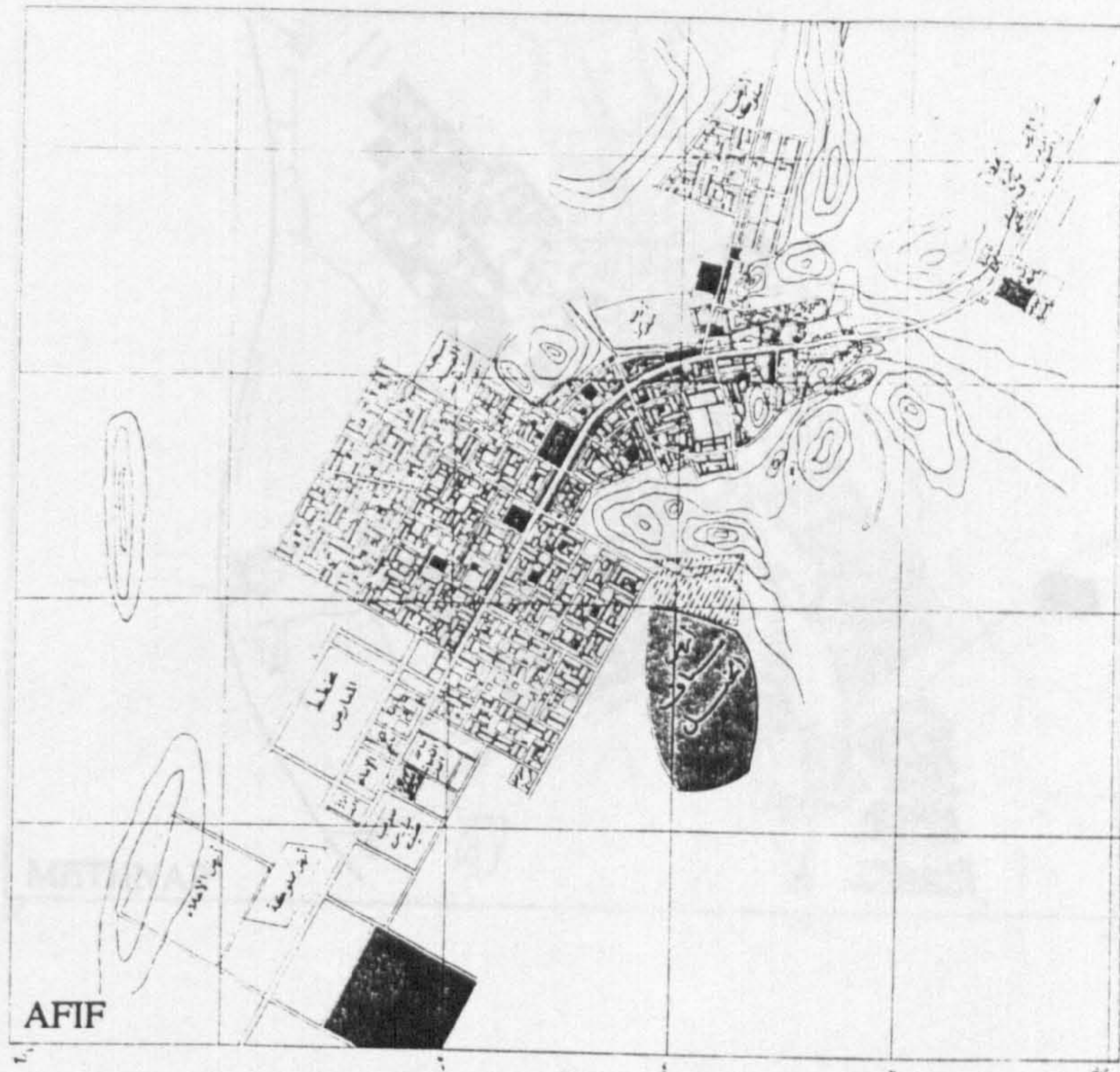
Sadaqah	charity.
Shariah	structure of Islamic law.
Sheikh or imam	the prayer leader with intellectual and spiritual following.
Sulh	agreement.
Tannor	bread stove.
The qibla	a hidden axis which determines the orientation towards Al-Ka'bah in Makkah where worshippers should turn their faces in prayer.
The Sunnah	the second source of Islamic teaching. The sunnah represents the way, practice, rule of life, and the action of the prophet Mohammed.
Urf	the recognition of the local customs.
Wali	governor.
Walimah	feasts.
Waqf	property and estate endowment for a religious cause.
Yarhamakallah	blessings of Allah be upon you.

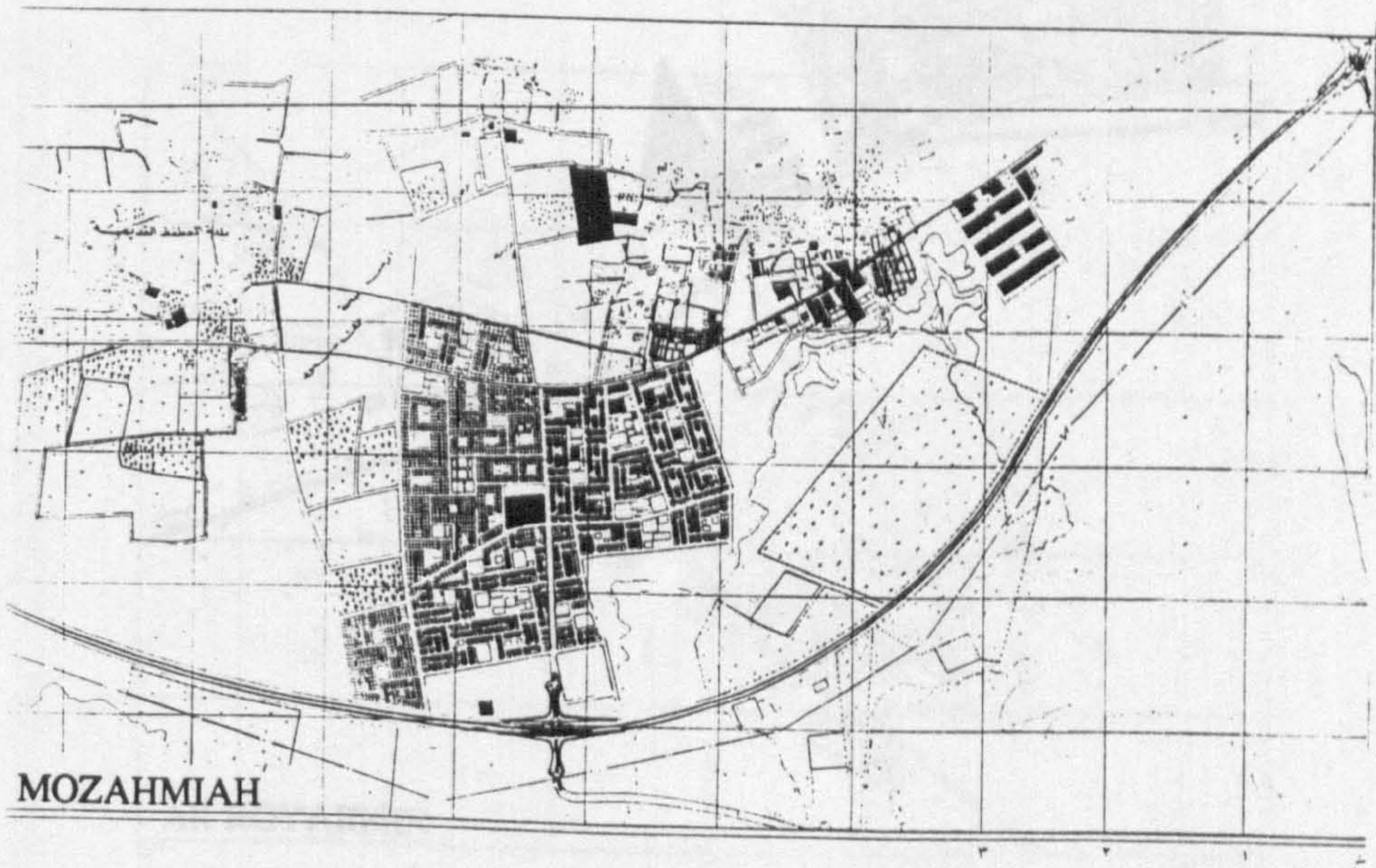
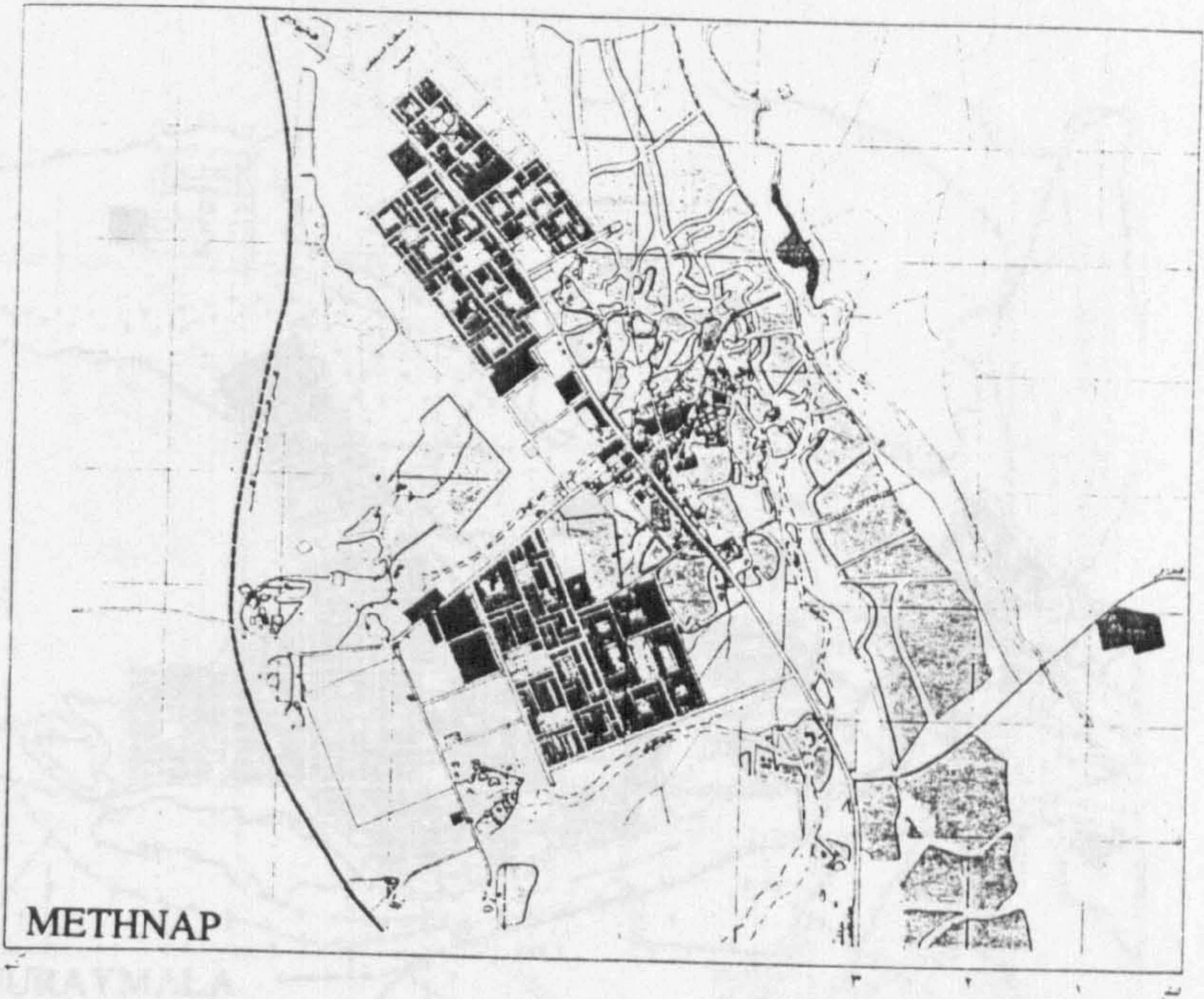
APPENDIX B

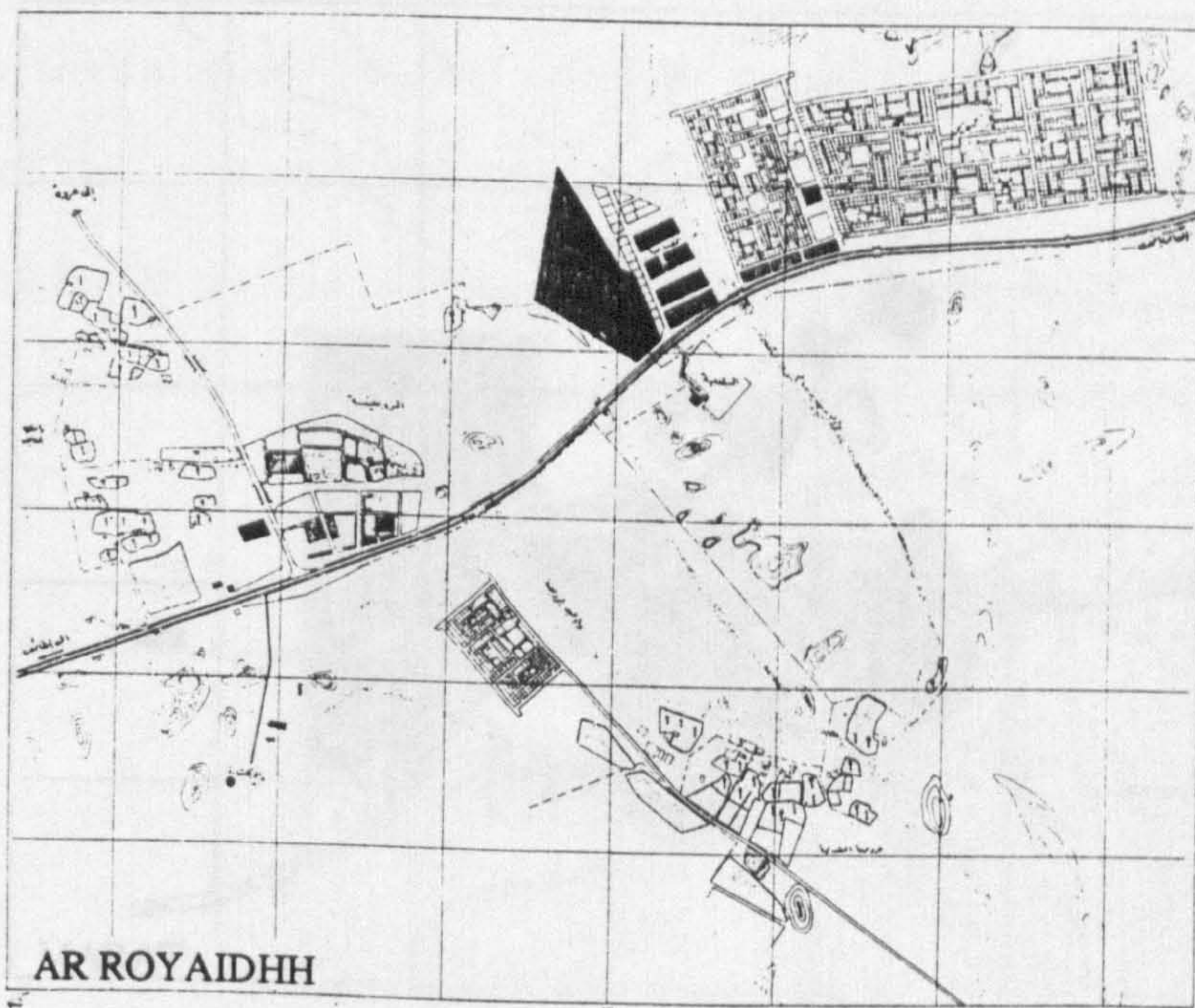
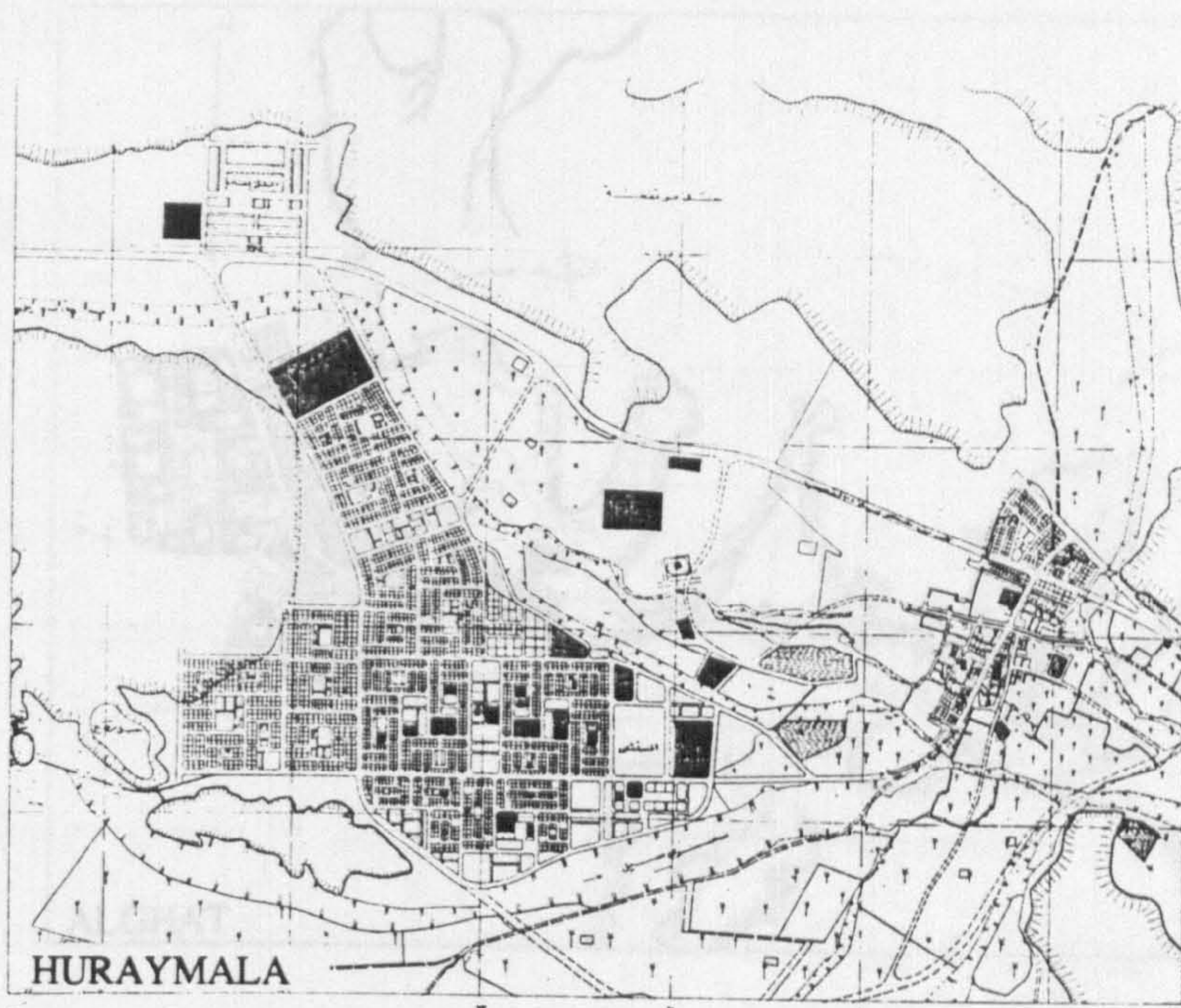
The next five pages show ten master plans for ten towns of the Central Region of Saudi Arabia while the below Figure shows the location of these towns within the Central Region and the Kingdom .











Special no.

The purpose

ph.D programme

The present survey is an

environment

hopes and desires.

Questions are formulated in such a way as to

If some questions are not defined in a specific

and explanations. In any case, please be

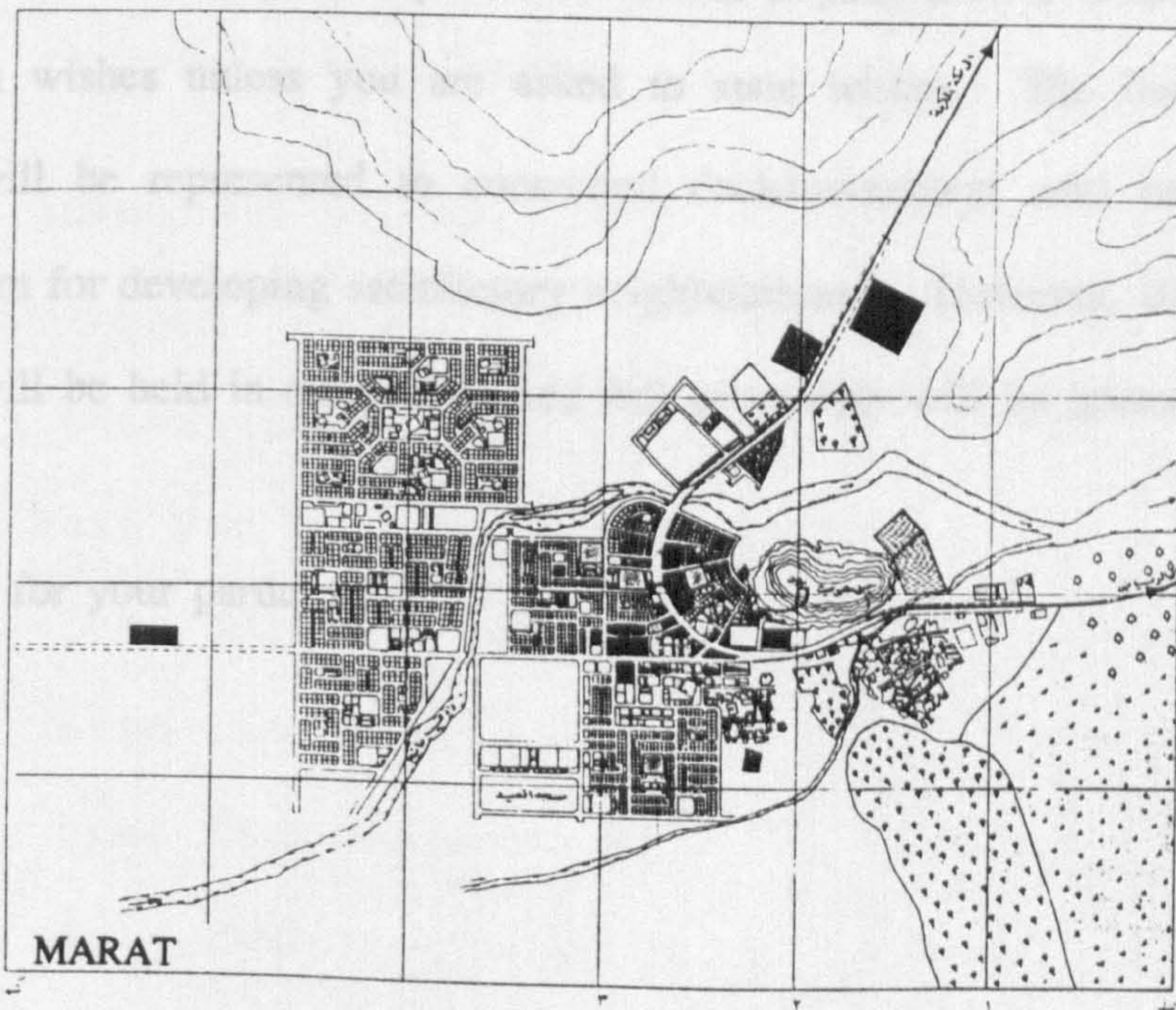
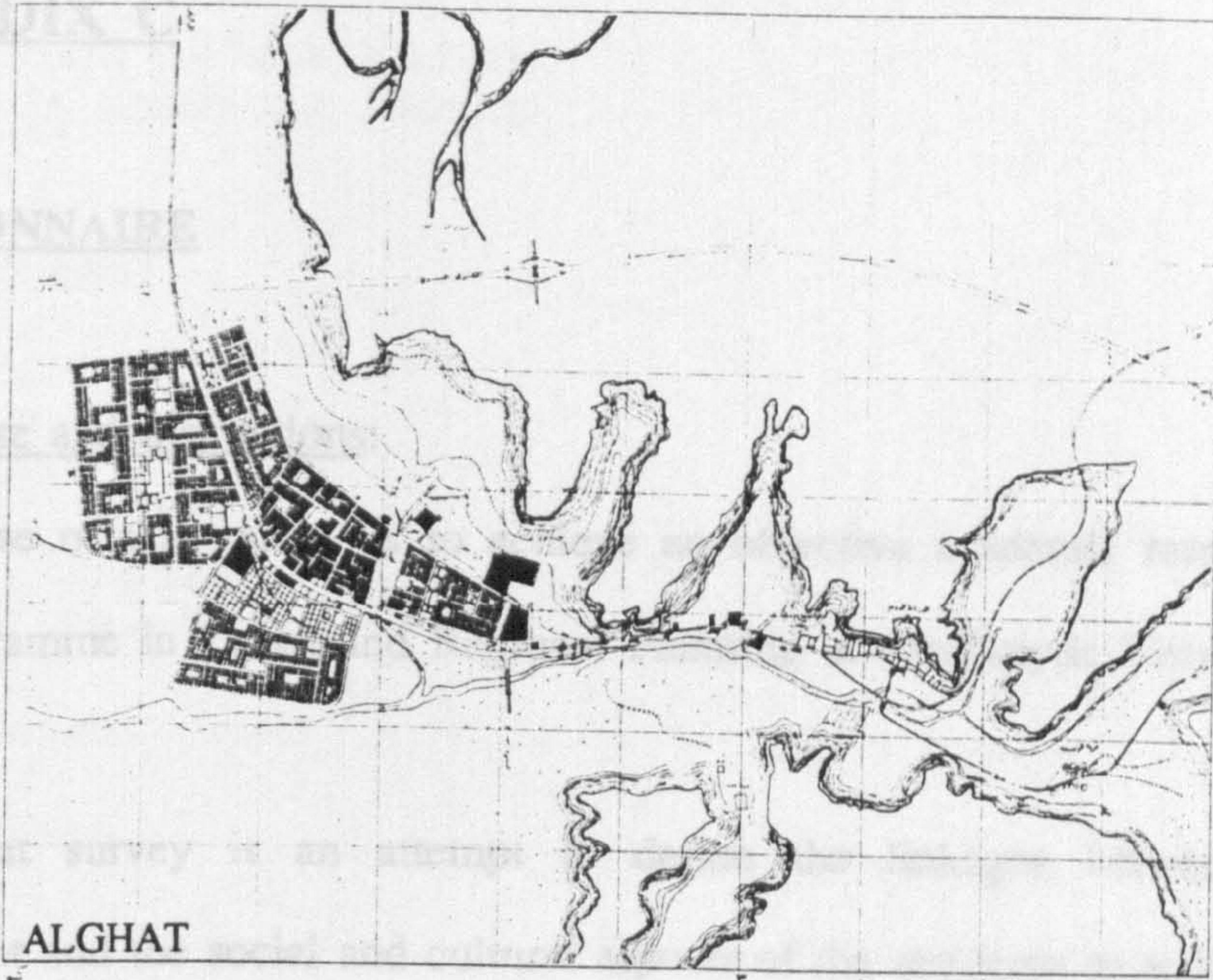
rather than wishes

research will be

consult them for

provided will be

Thank you



APPENDIX C

QUESTIONNAIRE

Special note and instructions:

The purpose of this survey is to achieve an objective academic research for the ph.D programme in Urban and Regional Planning at Strathclyde University.

The present survey is an attempt to define the linkages between the built environment and the social and cultural aspects of the residents in addition to their hopes and desires.

Questions are formulated in such a way as to facilitate rapid and easy completion. If some questions are not defined in a specific answer, please write short answers and explanations. In any case, please be careful in your answer to describe reality rather than wishes unless you are asked to state wishes. The findings of the research will be represented to concerned decision-makers who hopefully will consult them for developing satisfactory neighbourhoods. However, all information provided will be held in confidence and full anonymity will be preserved.

Thank you for your participation.

PLEASE CHECK YOUR CHOSEN ANSWER
BY THE MARK WHENEVER NEEDED.

PLEASE DO NOT WRITE
IN THIS SECTION.

General Background:

Code Number

Age:

C1 1 2 3 4 5 6

Marital Status:

C2

Single

1

Married

2

Educational Level:

C3 1 2 3 4

Area of Residence:

C4 1 2 3 4
5 6 7 8

Area of Origin:

Dwelling Level:

1. What is the type of your dwelling unit?

C5

Flat

1

Villa

2

A traditional house

3

2. Are you:

C6

Owner of the dwelling

1

Tenant

2

Other (specify)

3

3. How long have you been in the this dwelling unit?

C7

Less than one year

1

Less than three years

2

Less than five years

3

Less than ten years

4

More than ten years

5

4. Does the building that you live in locate on:

- Cul-de-sac
- One street
- Two streets or more

C8
 1
 2
 3

5. How many entrances does your dwelling have?

- One
- Two
- Three or more

C9
 1
 2
 3

If more than one entrance, why? the reason is:

to have each entrance leading to a different zone of the dwelling

C10
 1

to have each entrance leading to a different facility and activities in your locality

2

to separate female entrance from the male entrance

3

other (specify)

4

6. How many persons live with you?

7. What type is your family who share this dwelling with you?

- Single family
- Extended family
- Other (specify)

C11
 1
 2
 3

if extended family, is it

- Single family with parents
- Single family with parents and brothers
- Single family with brothers

8. Do the household members:

C12

Share all the elements except the bedrooms 1

Share some of the main elements and each family has its own floor 2

Completely separated in flats or floors 3

Other (specify) 4

9. If you have guests men and women, where and when do the men and women eat?

C13

At the same time and in different places 1

In the same place but at different times 2

In different places and different times 3

Other (specify) 4

10. If you do not have guests, where do you eat your meals?

C14

In the living room 1

In the kitchen 2

In the main dining room 3

Other (specify) 4

11. If you have children, where do they play?

C15

In the living room 1

In a a specific playing area 2

In their bedrooms 3

Other (specify) 4

12. What types of bathrooms are there in the dwelling?

C16

Traditional style

1

Western style

2

Some traditional and some western

3

Traditional and western in the same bathroom

4

If you have two styles, which one do you most often use?

C17

Traditional style

1

Western style

2

13. If your dwelling is built according to the set-back rules, how often do you use these set-backs?

C18

Always

1

Sometimes

2

Rarely

3

Never

4

If you always, sometimes or rarely use them, for what purpose do you use them?

C19

As children's playground

1

For outdoor sitting

2

For outdoor sleeping

3

Other (specify)

4

If you do not (or rarely) use them, what is the reason?

C20

The family are not provided with complete privacy

1

Unfunctional space (they are too narrow)

2

Because of the weather

3

Other (specify)

4

14. If your dwelling is a villa, is there an auxiliary building?

C21

Yes

1

No

2

if yes, for what purposes are they used?

.....

15. Are the windows of the dwelling provided with steel or aluminium bars?

C22

Yes

1

No

2

if yes, what is the reason? Is it for:

C23

Privacy

1

Safety

2

Beauty

3

Shading

4

Other (specify)

5

16. How does the dwelling design meet the residents needs?

C24

Good

1

Fair

2

Bad

3

17. Would you accept living in a flat in an apartment building where most of the residents were not of your friends or relatives?

C25

Yes

1

No

2

if no, would you change your attitude if the residents were mostly your relatives and friends?

Yes

No

C16

1

2

if no also, what is the reason? Is it that:

C17

You want to live in your own land?

1

You want to have complete privacy

2

You do not like to live in an apartment at all

3

Other (specify)

4

18.

Please take a few moments to describe your dreamed of future house or dwelling, use your own terms to describe it. (feel free to write whatever you like).

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

Neighbourhood Level:

19. Who are your neighbours?

C28

- Relatives
- Friends
- Relatives and friends
- From the same origin
- Vacant
- Other (specify)

1

2

3

4

5

6

20. How often do you meet your neighbours?

C29

- Usually
- Sometimes
- Rarely

1

2

3

21. Where do you meet them?

C30

- In the streets
- In the mosque
- In the shops
- In a specific place provided for meeting
- Other (specify)

1

2

3

4

5

22. How is your relation with your neighbours?

C31

- Strong
- Moderate
- Weak

1

2

3

23. If you have a weak relationship with your neighbours, what is the reason (in your opinion)?

C32

You do not like to meet them

1

You like but there is no place for meeting

2

You like but you do not have time for meeting

3

Other (specify)

4

24. Can you specify the location of the dwellings of your close friends who live in the same locality? Do they mostly locate on:

C33

One street

1

One direction (such as the front of your house or in the back and so on)

2

Different streets and different directions

3

Other (specify)

4

25. Can you give an idea about the residents of your locality? Do they:

C34

Work in the same place and have different jobs

1

Work in the same place and have similar jobs

2

Work in different places and have similar jobs

3

Work in different places and have different jobs

4

Unknown

5

26. Whenever you plan to visit your neighbours or friends who live in the same locality, how do you go to them?

Walking

By car

if by car, what is the reason:

The long distance

The streets are provided for cars only, so it is very dangerous to walk

The weather is very hot

A habit

Other (specify)

27. (a) Is there a mosque in your locality?

Yes

No

if yes, how do you go there?

Walking

By car

if by car, what is the reason?

The long distance

The streets are not provided for pedestrians

A habit

Other (specify)

(b) How often do you go to the mosque?

Before calling to prayer (adhan)

After calling to prayer and before the actual start of prayer (iqamah) [2]

Just on the actual start of prayer [3]

Just before the end of prayer [4]

(c) How far is the mosque from your home? [C41]

Less than 50 meters [1]

Less than 100 meters [2]

Less than 150 meters [3]

Less than 200 meters [4]

More than 200 meters [5]

28. Is there any type of facilities very close to your home? [C42]

Yes [1]

No [2]

if yes,
 a) what is it? or what are they?

b) does their/its location cause any problems? [C43]

Yes [1]

No [2]

if yes, what type of problem? [C44]

Help to gather undesirable people [1]

Help to make the area crowded [2]

Causes noise [3]

Other (specify) [4]

29. Is there any specific places provided for ladies to meet in your locality?

C45

Yes

1

No

2

if no,

a) where do they usually meet?

C46

In their homes

1

In the market

2

Other (specify)

3

b) do you like providing a meeting place for the ladies?

C47

Yes

1

No

2

if yes, what type of place do you recommend?

.....

.....

30. Is there any specific place provided for children to play in your locality?

C48

Yes

1

No

2

if no,

a) where do they play then?

C49

In their homes

1

In the streets

2

In vacant lands

3

Other (specify)

4

b) do you like providing a playing area for the children?

C50

Yes

1

No

2

if yes, what do you recommend?

.....
.....

31. Is there any specific mark for your neighbourhood?

C51

Yes

1

No

2

if yes, specify

32. Is there any specific mark for your locality?

C52

Yes

1

No

2

if yes, specify

33. Is there any particular person in your locality considered as a leader for organising your social activities and solving people's problems?

C53

Yes

1

No

2

if no, do you prefer some one to do so in your locality?

C54

Yes

1

No

2

APPENDIX B STATISTICAL NOTES

The following chart represents the answers of each question of each response to the researcher's questionnaires.

Nature of neighbours | Always | Sometimes | Rarely | Never

The total number of responses was 261. Each question was represented by a code (C). For example question number 1 was coded by C⁵ (refer to the questionnaire's structure). So if someone would like to know the answer of question number 1 of the response number 1, the chart shows that his answer for question number one which is (C⁵) was the category number 2 and so on.

APPENDIX D: STATISTICAL NOTES

Table 5.01

Nature of neighbours	Frequency of using setbacks			Total
	Always	Sometimes	Rarely & never	
Relatives	17	16	2	35
Friends	20	28	8	56
Relatives & friends	12	21	4	37
From the same region of origin	20	20	6	46
Vacant	7	9	3	19
Other	7	10	6	23
Total	83	104	29	216

Expected values:-

$\frac{83 \times 35}{216} = 13.45$	$\frac{104 \times 35}{216} = 16.85$	$\frac{29 \times 35}{216} = 4.7$
$\frac{83 \times 56}{216} = 21.52$	$\frac{104 \times 56}{216} = 29.96$	$\frac{29 \times 56}{216} = 7.52$
$\frac{83 \times 37}{216} = 14.2$	$\frac{104 \times 37}{216} = 17.8$	$\frac{29 \times 37}{216} = 4.97$
$\frac{83 \times 46}{216} = 17.67$	$\frac{104 \times 46}{216} = 22.15$	$\frac{29 \times 46}{216} = 6.18$
$\frac{83 \times 19}{216} = 7.30$	$\frac{104 \times 19}{216} = 9.148$	$\frac{29 \times 19}{216} = 2.55$
$\frac{83 \times 23}{216} = 8.84$	$\frac{104 \times 23}{216} = 11.07$	$\frac{29 \times 23}{216} = 3.09$

$$\begin{aligned}
u^2 = & \frac{(17 - 13.45)^2}{13.45} + \frac{(16 - 16.85)^2}{16.85} + \frac{(2 - 4.7)^2}{4.7} \\
& + \frac{(20 - 21.52)^2}{21.52} + \frac{(28 - 26.96)^2}{26.96} + \frac{(8 - 7.52)^2}{7.52} \\
& + \frac{(12 - 14.2)^2}{14.2} + \frac{(21 - 17.8)^2}{17.8} + \frac{(4 - 4.97)^2}{4.97} \\
& + \frac{(20 - 17.67)^2}{17.67} + \frac{(20 - 22.15)^2}{22.15} + \frac{(6 - 6.18)^2}{6.18} \\
& + \frac{(7 - 7.30)^2}{7.30} + \frac{(9 - 9.148)^2}{9.148} + \frac{(3 - 2.55)^2}{2.55} \\
& + \frac{(7 - 8.84)^2}{8.84} + \frac{(10 - 11.07)^2}{11.07} + \frac{(6 - 3.09)^2}{3.09}
\end{aligned}$$

$$u^2 = 7.654$$

$$\chi^2 [1 - \alpha; (r - 1)(c - 1)] = [1 - .05; (3 - 1)(6 - 1)]$$

$$\chi^2 [0.95, 10], \text{ from tables } \chi^2 = 18.307$$

Since $u^2 > \chi^2$ Thus we cannot reject null hypothesis which stated that there is no association between the nature of the neighbours and the frequency of using setbacks.

Table 5.02

Type of street on which house locate	Type of use/activity				Total
	sitting area	playing area	sleeping area	other	
One street	38	42	1	5	86
More than one street	74	39	1	1	115
Total	112	81	2	6	201

Expected values:-

$$\frac{112 \times 86}{201} = 47.92 \quad \frac{81 \times 115}{201} = 46.34 \quad \frac{6 \times 86}{201} = 2.57$$

$$\frac{112 \times 115}{201} = 64.07 \quad \frac{2 \times 86}{201} = 0.86 \quad \frac{6 \times 115}{201} = 3.43$$

$$\frac{81 \times 86}{201} = 34.66 \quad \frac{2 \times 115}{201} = 1.14$$

$$u^2 = \frac{(38 - 47.92)^2}{47.92} + \frac{(42 - 34.66)^2}{34.66} + \frac{(1 - 0.86)^2}{0.86} + \frac{(5 - 2.57)^2}{2.57} + \frac{(74 - 64.07)^2}{64.07} + \frac{(39 - 46.34)^2}{46.34} + \frac{(1 - 1.14)^2}{1.14} + \frac{(1 - 3.43)^2}{3.43}$$

$$u^2 = 10.368$$

$$x^2 [1 - \alpha; (r - 1)(c - 1)]$$

$$x^2 [(1 - 0.05; (2 - 1)(4 - 1)]$$

$$x^2 (0.95; 3) = \text{from table } x^2 = 7.815$$

Since $u^2 > x^2$ Thus we reject the null hypothesis which states that there is no association between the type of street on which house locate and the type of activities that held on the set-backs.

Table 5.05

Distance between dwelling & nearest mosque in metres C1	Range of relationship			Total
	Strong C2	Moderate C3	Weak C4	
less than 50	36	10	10	56
less than 100	42	13	15	70
less than 150	25	6	14	45
less than 200	19	5	11	35
more than 200	24	15	12	51
Total	146	49	62	257

For r1, r2 and r3

C1	C1 ²	C2	C2 ²	C3	C3 ²	C4	C4 ²	C1C2	C1C3	C1C4
50	2500	36	1296	10	100	10	100	1200	500	500
100	10000	42	1764	13	169	15	225	4200	1300	1500
150	22500	25	625	6	36	14	196	3750	900	2100
200	40000	19	361	5	25	11	121	3800	1000	2200
250	62500	24	576	15	225	12	144	6000	3750	3000
750	137500	146	4622	49	555	62	786	19550	7450	9300

$$r_1 = \frac{n(\sum C_1 C_2) - (\sum C_1)(\sum C_2)}{\sqrt{n(\sum C_1^2) - (\sum C_1)^2} \sqrt{n(\sum C_2^2) - (\sum C_2)^2}}$$

$$r_1 = \frac{5 \times 19550 - 750 \times 146}{\sqrt{5 \times 137500 - (750)^2} \sqrt{5 \times 4622 - (146)^2}}$$

$$r_1 = \frac{-11750}{(353.55)(42.36)} = \frac{-11750}{1497.378} = -0.785$$

$$t_1 = \frac{r}{\sqrt{1-r^2/n-2}} = \frac{-0.785}{\sqrt{1-(0.785)^2/5-2}} = \frac{-0.785}{\sqrt{0.1279}} = [2.1947]$$

From table $t[1 - \frac{\alpha}{2}; n-2] \leq t[1 - \frac{20}{2}; 3]$

$$\therefore t[0.90; 3] = +1.638 \leq t[0.10; 3] = -1.638$$

Since $t_1 > t$ then we reject the null hypothesis which states that being close to mosque does not mediate strong relationship.

Similarly,

$r_2 = 0.073$ and $r_3 = 0.000$

The values of r_2 and r_3 indicate that there is no correlation between the location of the mosque and the cause of moderate or weak relationship between neighbours.

In conclusion, statistically indicates that being close to mosque mediates strong relationship between neighbours while being far from mosque does not mediate weak relationship.

ملاحظة حول الارتدادات في المباني الحديثة

بها لوجود الجيران وأولادهم وخاصة أطفالهم الذين لا يعرفون حرمة الجار.. فلماذا بعد هذا تنعادي البلديات والأمانات في المطالبة بوضع ارتدادات.. وإلزامهم بذلك.. ان وجود الارتدادات صار مشكلة على أصحاب الفلل.. انني أساند رأي الدكتور عائض بأن تقوم البلديات والأمانات وعمل رأسها وزارة الشؤون البلدية والقروية بالسماح بعمل مخططات وتصاميم لها مناوور داخلية وتهوية داخلية على نمط البناء القديم وعدم إلزام أصحاب الفلل بوضع ارتدادات.. وتكون المخططات على الطراز الحديث في اقامتها وقوتها وبطريقة حديثة.. ودراسة للفلل القديمة. فالشاهد حديثا ان كثيرا من الناس قاموا بالعودة الى المعمار القديم في تصاميمهم الخارجية.

لقد كان تصميم وتخطيط الأجداد لا يهمل التهوية بل كان عظيما في تخطيطهم وفي رسومهم الجميلة داخلها وخارجها. فحينما تدخل البيت تجده باردا ذا رائحة طيبة وذا تهوية عالية. ولا مجال لدخول الحشرات مهما كان نوعها لقد كانوا يسعون في تصاميمهم الى وجود أماكن للراحة وعدم الازعاج لهم ولجيرانهم. انني أهيب بالمسؤولين بالبلديات والأمانات بالمدن والقرى وغيرها ومنها أمانة مدينة الرياض التي بها العمارت الشاهقة حيث ان مدينة الرياض والمدن الكبيرة قد سمحت باقامة عمارت ذات ادوار كبيرة مما أضر بأصحاب الفلل المجاورة لتلك العمارت ان تعالج هذه الفلل وما مدى الضرر الذي نتج من هذه العمارت وتدرس من جميع جوانبها الاجتماعية.. والله من وراء القصد.

صالح العثيمين
الرياض



□ معالي امين مدينة الرياض □

قبيا وفتحات تهوية ومنها ما ذكره الدكتور عائض الراددي. ولقد تكلم الدكتور عن فوائد التهوية الداخلية.. واضيف الى ما ذكره الدكتور: منها الستر والذي شرعه الله لنا.. ومنها عدم ايداء الجيران وعدم الاطلاع على الاسرار.. ووجود مساحة داخلية تكون مرتعا ومجمعا لجميع العائلة رجالا ونساء دون خوف من ان يراهم احد.. لقد عمد كثير من الناس الى بناء استراحات خارج نطاق المباني.. ولقد سألت احد هؤلاء لماذا قام ببناء استراحة رغم وجود فلة لديه ذات مساحة كبيرة ويوجد بها الاشجار والارتدادات الواسعة وجميع الخدمات موجودة..؟ ورد علي قائل: وهل هي مستورة من الجيران..؟ ليست الفلة مفتوحة من جميع جهاتها الأربع..؟ اليس الذي بيننا وبينه شارع يرانا..؟ لقد قال لي احدهم انني منذ سكنت فلتي لم اجلس يوما واحدا في ساحتها ولا يستطيع احد من عائلتي الجلوس



□ وزير الشؤون البلدية والقروية □

القوارض التي ازعجت كثيرا من السكان. ومنها وجوب نظافتها كل يوم مرة او مرتين. ومنها دخول الغبار الخائق والأتربة والأوساخ هذا من ناحية الطبيعة. ان وجود هذه الارتدادات ضرره أكثر من نفعه، فكثير من أصحاب الفلل الواقعة في أماكن تجارية قد مجروا فللمهم لعدم ملامتها لسكن العوائل المحافظة ولوجود عمارت شاهقة تطل عليهم لارتفاعها ولعدم وجود التهوية الطبيعية لديهم ففي الصيف لا تتوقف المكيفات من الاشتغال.. وفي الشتاء كذلك. وفي الأحياء الجديدة وضعوا حواجز عن الجيران ان وضع هذه الحواجز شوه مناظر بعض الفلل الجميلة والتي كلفت الالف الريالات. فلماذا وضعت هذه الارتدادات..؟ فالتهوية الموجودة في تصميم المباني القديمة افضل منها بالمباني الحديثة وأكبر شاهد على ذلك وتعهد به كثير من أصحاب الفلل الجديدة والذين وضعوا في داخل فللمهم

عزيزتي الجزيرة.

السلام عليكم ورحمة الله وبركاته.. الكلمة الطيبة يكون لها اثر على النفس. ولها احساس حينما تكون هذه الكلمة مفيدة ولها فوائدنا ويعود نفعها على المواطن. ان مردود الكلمة المفيدة من جميع جوانبها يظهر على المجتمع وعلى المدن حين يكون طرازها حديثا. لقد كان لكلمة د. عائض الراددي في عمود (دقات الشواني) في جريدة الجزيرة. بعددها رقم ٦٠٧٨ في ١٥/١٠/١٤٠٩ هـ صداها في نفسي. ونفس كل من قام ببناء فلتة ووضع على جوانبها حواجز ساترة. فحين تكلم عن تصميم البناء القديم، وطرازه الداخلي والخارجي وفوائده التي كانت موجودة في البناء القديم. ولقد تكلم عن بناء الأجداد وتصميمه الداخلي وكيف استفادوا من التهوية الداخلية. فوجود الارتدادات في المباني الحديثة والتي صارت خسارة ماديا ومعنويا. اما الخسارة المادية فهي خسارة مساحة الارض التي صارت وبالا ومشقة على صاحب الفلة. فكثير من أصحاب الفلل وضعوا حواجز حديدية. ولا يستطيعون فتح نوافذهم على تلك الارتدادات لوجود عوائق منها دخول الحشرات الضارة منها الطائرة.. ومنها الزاحفة. ومنها

عزيزتي الجزيرة

الخميس ٢٧ شوال ١٤٠٩ هـ - ١١ الجوزاء ١٣٦٧ هـ ش - ١ حزيران (يونيه) ١٩٨٩ م - العدد ٦٠٩٠

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