GENERIC PRINCIPLES OF NEIGHBOURHOOD DESIGN

WITH PARTICULAR REFERENCE TO TEHRAN

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SYNOPSIS

The main aim of this research is to develop a list of principles relevant to the design of neighbourhoods and in particular neighbourhood centres in Tehran. The study embodies two main phases, a literature review and a survey.

During the literature review various dimensions of a neighbourhood centre are explored among both 'prescriptive' and 'explanatory' theories in architecture and urban design. Attempts are made to extract the essence and concepts of individual projects among the prescriptive resources, while the investigations of explanatory resources are focused on finding concepts and ideas which are applicable to design. The characteristics of neighbourhood centres are then classified into three categories called functional, perceptual and operational. These categories embody different sections which are separately studied among the literature and design principles are derived out of the writings and presented at the end of each section. Finally, a provisional list of principles is developed as the result of the literature review.

The survey is designed to examine the above principles in the real world in two contrasting neighbourhood centres in Tehran. Face-to-face interviews with the residents of the neighbourhoods, together with the observation of cases, comprise the research instruments. The interviews are based on qualitative open-ended questions in order to find out the characteristics of the centres which the residents mostly appreciated or disliked. A checklist is formulated to explore design factors out of the survey responses. The design principles resulting from the survey are then compared with the initial list.

The outcome of the research is the final list of generic principles which draws together the results of the literature investigation and the survey. These principles are primarily aimed at those directly engaged in the design of neighbourhood centres such as architects and urban designers. It also includes information for the management body of the centres. For the ease of users the principles are classified into ten sections under the three main categories mentioned above. Along with the above results, there are some secondary findings about the respondents' differences in perception and evaluation of their neighbourhood centre which are presented in the concluding chapter of the thesis.

The study intends to decrease the gap between theoretical research and practical work by presenting design principles, extracted from the conceptual theories, that can be easily used by designers. Based on both theoretical and empirical approaches, it also helps to draw attention to the importance of neighbourhood centres in enhancing the quality of day-to-day lives of the city inhabitants.

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PREFACE

This section briefly introduces the present research. First, the purpose and the background of the study are explained, after which, the structure is set out.

This research is about neighbourhoods and neighbourhood centres and has the aim of identifying principles of design which would assist in improving their quality. The term 'neighbourhood' conveys both social and physical meanings. Since modern society has been affected by the social consequences of new technologies, the social dimensions of neighbourhoods may seem to have diminished these days. Therefore, an additional aim is to explore the current role of neighbourhood centres in peoples' lives.

The term 'neighbourhood centre' throughout this study refers to the most integrated public spaces of residential districts which accommodate the main public functions and activities of that area. As a crisis of identity is perceptible in many large cities around the world, neighbourhood centres as the public areas of residential districts may provide a remedy for certain urban problems. The results of this thesis may be used to contribute to designing urban centres equal to the size of a small town centre, which in metropolitan areas would be called neighbourhood centres.

To sum up, two main purposes are pursued during this research:

I. To develop a list of principles to assist in the designing of neighbourhood centres; these principles can also be used for the improvement or assessment of the existing centres.

II. To explore the role of neighbourhood centres in the lives of residents.

• Background to the problem

Many large cities and metropolises around the world are now experiencing problems such as rapid growth of population, over-crowding, pollution, and lack of identity and meaning. The rapid growth of population is associated with rapid expansion of residential areas, which are mostly street-oriented urban architecture, which consider the motor vehicle as the most dominant factor in city formation. The high price of land has pushed developers to make the greatest possible use of each individual piece of land and in this process, the items sacrificed are often the

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essential qualities for a healthy life. These qualities, either physical such as air quality, or mental such as meaningful or natural spaces, are rarely taken into account by the new developers of urban areas.

Coming from a problematic city such as Tehran and having a background of architectural practice in addition to living with those urban problems, I found studying neighbourhood centres a primary and perhaps effective step towards improvement of the current conditions.

Neighbourhood centres, comprising the smallest urban centres, exist all around the cities. Their manageable size provides more opportunity for enhancement compared with district or city centres. Moreover, the importance of the home environment for people may also encourage residents to actively participate in the improvement of these centres.

• Structure of the research

The research consists of three parts. The first and the second parts comprise a theoretical discussion of the study while the third part includes the empirical approach of the research.

In the first part, a general study of neighbourhoods is pursued in order to establish the foundations for the second part that explores different dimensions of neighbourhood centres. A definition of 'neighbourhood' and different concepts upon which neighbourhoods have been developed are explained in the first chapter of this part. The second chapter is a brief historical description of the neighbourhood in Iran, in addition to an overview of the current problems in Tehran.

The second part is a literature review which examines current research and projects in order to construct a list of principles relevant to the design of neighbourhood centres. The manifold nature of local centres is studied in different chapters of this part. Three basic aspects of neighbourhoods, namely functional, perceptual and operational are pursued and comprise the main chapters. Finally, provisional principles to assist in the design of neighbourhood centres are presented.

The third part is a survey which examines these provisional principles in the real world. The survey is conducted in two neighbourhood centres in Tehran. The results of the survey are used for the amendment of the provisional list. This part is divided into five chapters: the first one (chapter eight) explains the methodology of the

survey and the process of data collection; chapters nine, ten and eleven explain the process of data analysis, and finally the conclusion is set out in the twelfth chapter.

The final list of generic principles is presented at the end of the twelfth chapter. As no comprehensive design guide has been available in Iran or Tehran, this list of principles, as the main outcome of this study, may provide an initial and small step towards creating better neighbourhood centres in cities. Moreover, there has been nothing in the literature concerning Iranian cities in particular and the survey has brought out some interesting findings.

The intention of the researcher had always been to conduct a research project which would be useful in practice; therefore, this final list of principles is aimed at designers and urban planners who are directly engaged in designing urban centres. The researcher also hopes, in a small way, to help reduce the gap between theoretical research and practice in the domain of urban design.

PART ONE

A GENERAL VIEW OF THE NEIGHBOURHOOD IDEA

INTRODUCTION

This part of the research provides a theoretical background for the investigation of the neighbourhood centre. With regard to this, a general study of the concept of neighbourhood and its various dimensions is pursued in this part. It is divided into two chapters:

Chapter one explains the idea of the neighbourhood - particularly in planning urban areas - and comprises two sections. In the first section, different aspects of the neighbourhood idea which have been suggested during this century are explained. The second section describes critical views which mainly regard social dimensions of the neighbourhood. The neighbourhood dimensions which contribute to the enhancement of city life are suggested at the end of this section.

Chapter two provides an overview on the state of neighbourhoods in Iran. This chapter is also divided into two sections. The first section is a brief historical explanation about neighbourhoods in Iran. Section two is particularly about Tehran and after describing the process of its growth, explains the current conditions of the residential districts in this city.

This part ends with a summary paragraph which identifies the manifold nature of the neighbourhood centre which is the focus of investigation in the second part of the thesis.

PART ONE

A GENERAL VIEW OF THE NEIGHBOURHOOD IDEA

CHAPTER ONE

NEIGHBOURHOODS IN THE LITERATURE

INTRODUCTION

> *'Every one has neighbours, even the people in the Australian outback whose neighbours may be fifty miles away' (Mann 1970).*

Neighbourhoods as comprehensive residential systems have existed throughout history and their physical traces can be found in ancient cities (Morris 1979; Madanipour 1994). Neighbourhoods, apart from their physical entity, have been associated with social characteristics. These urban districts were, for certain periods, the accommodation of different social classes, while at other times they included various groups of people within an urban area.

The centre of a neighbourhood is the heart of the place and essentially contributes to enhancing the quality of different dimensions of the neighbourhood. Many commentators support the important role of a neighbourhood centre from different points of view (Campbell et al 1988; Moughtin 1992; Calthorpe 1995; Gosling 1996; Banai 1998). Calthorpe (1995) states that neighbourhoods need memorable and identifiable centres and adds that preserving usable public spaces and neighbourhood centres is essential to fostering healthy communities.

Different dimensions of a neighbourhood centre and their effects on the design of spaces, as the main concern of the present research, will be studied in Part 2 of the thesis. However, a conceptual investigation of the neighbourhood is pursued in this chapter in order to provide a general background for the study.

This chapter consists of two sections. The first section presents a definition of the neighbourhood and explains its evolving concept during the present century. The second section explains critical views towards neighbourhoods, particularly with regard to the state of debate in communities. Finally, the important aspects of the neighbourhood which can contribute to the enhancement of city life are presented.

1-1- CONCEPTS OF THE NEIGHBOURHOOD

A neighbourhood is usually thought of as a geographical term referring to a distinct part of a town or city. It may be identified by virtue of certain boundaries and marked out from other neighbourhoods by a certain homogeneity of housing within the area (Mann 1970). Neighbourhoods usually offer their residents certain services and to some extent provide an opportunity for forming friendships with other people living in that area. Therefore, apart from physical dimensions, a neighbourhood also implies a social dimension. This aspect of a neighbourhood encompasses the people who live in an identifiable district and their relationships with each other, or with the place they live.

Different terms such as community, district, ward and quarter are used in order to refer to neighbourhoods. However, an exact definition that embodies the manifold nature of the neighbourhood does not seem to be established and each researcher focuses on certain dimensions in defining neighbourhoods.

The neighbourhood idea has been a matter of discussion in two mainstreams of literature: first, that of sociology which studies the localised social structure and people's interaction; second, that of urban design and planning which are concerned with the physical dimensions of neighbourhoods as residential units.

These two basic aspects of neighbourhoods have been noted by researchers, for example Amerigo (1997) states that both house and neighbourhood have been studied from two points of view: physical, corresponding to equipment and services; and social, referring to the social networks established both in share areas of the building and in the neighbourhood. Rossi (1989) claims that a study area in a city should include all of those urban areas which possess both physical and social homogeneity. This idea is closely bound up with that of the residential districts.

Kallus (1997 p109) defines neighbourhoods with particular attention to their urban characteristics and states that:

> 'When speaking of the neighbourhood we imply a discerned urban scale (more than a single house and less that an entire city), a specific function (housing and related services), and a defined structure (part of a system and a system by itself)'.

1-1-1- The Evolution of the Neighbourhood Concept

Neighbourhoods were organically shaped and evolved through history on the basis of their residents' needs and the particular conditions of each period. Rossi (1989) states that the residential areas have evolved in the city rather than being superimposed upon it. However, the implementation of the neighbourhood idea, as a planning device in order to overcome some of the problems of modern urban environments, is particular to this century (Kallus 1997).

In most urban theories from the nineteenth century until now, neighbourhoods have been perceived as an urban unit, with the emphasis on some of their dimensions while minimising others. Although two main components of the neighbourhood, namely, the physical entity and the social structure, are the focus of attention in using the concept of neighbourhood, they are viewed from different perspectives by different commentators:

I.   At the turn of the century, and during the emergence of garden cities as a solution for a better urban environment, neighbourhoods, defined as 'wards', are seen as autonomous urban units which mainly have a managerial role in the new developing city. Division of the city into some self-contained units with all the necessary components makes the urban system sustainable for a sequential development process (Howard 1985).

II. The neighbourhood concept is also viewed as a means of enhancing the quality of life from two different perspectives:

     • One values the neighbourhood as the home of the community and seeks to create an urban structure for a social organisation. With regard to this, Mumford (1954 p265) considers the 'urban tissues' or neighbourhoods not as self-contained units, and he says '...the only functions with respect to which the neighbourhood unit is relatively self-contained are the domestic functions or those activities that spring from them'. He values the neighbourhood unit organisation as the only practical answer to the 'giantism' and inefficiency of the over-centralised metropolis.

     Jacobs (1961) strongly supports neighbourhoods as a means to restore urban life, but she rejects planned neighbourhoods and calls for residents' power over their environment. She says '...neighbourhoods in

cities do need to supply some means for civilised self-government' (Jacobs 1970 p823).

- In contrast to the above view, which is basically a social approach, there is another view more concerned about physical conditions. Raising the standard of living environments in terms of health requirements and the physical comfort necessary for the inhabitants, are the aim of this viewpoint of the neighbourhood. Le Corbusier (1973) in particular was a reformist who emphasised the use of the neighbourhood as a means for physical welfare provision.

Considering social relationships between people, and neighbourhoods as urban units which provide the supportive context for this interaction, the neighbourhood concept has, during this century, become the focus of attention several times. Although the theme of these approaches to the concept of neighbourhood is slightly different, the most emphasised factor is human public activities in the form of social relationships, community activities and so on. For example:

III. Team X (Smithson 1968) underline the human associations which take place in a hierarchical system of relationships and attempt to convey them to the planned product - the neighbourhood.

IV. Another group of commentators highlighting the participation of residents in the creation of their future living area, sees planning as a process rather than a solution. In this approach the neighbourhood is used as an arena for public action through citizen participation (Turner 1976; Turner and Fichter 1972). Turner's writings indicate that the process of building is a communal action which requires social commitment, partnership, and agreement among all participants, and that the neighbourhood which has both social and physical measures is an ideal scale for realising the idea of participation. This idea has been continued by many urban design professionals who consult with residents in order to create a better living environment for the inhabitants (Hester 1990; Nellessen 1994).

It seems that attention to the physical and social aspects of neighbourhoods is continually shifting from one to the other in order to find solutions for the deficiencies of each viewpoint.

V. The neighbourhood idea has been perceived more conceptually, with particular attention paid to the qualitative expression of the neighbourhood, during the last decades of this century. Accordingly, expression of order, identity, and meaning are the key concepts for defining neighbourhoods.

- The writings of Alexander (1977, 1965) consider the neighbourhood as an important ordering mechanism in cities. The neighbourhood can help to create a spatial order which accommodates their own social frameworks and sub-cultures within an urban system.

- With the development of man-environment studies the theme of identity was raised. In this view, the neighbourhood is seen as a means for participation of the residents to define their selves. The neighbourhood is viewed as a vehicle to establish relationships between the residents, and also between them and their environment. Rapoport is a pioneer in this approach and states that the function of the neighbourhood as mediating between the individual and the metropolis varies for different groups (1977). He calls the local areas related to specific groups as most important from an urban design perspective and adds that the variability of local areas and the ability of people to personalise at the group and individual level, will help establish group identity.

- The meaning theme extends the subjective notion of the neighbourhood and relates it to the urban lifestyle experience (Kallus 1997). The definition put forward by Krier (1984) of 'quarters', the viewpoint of Rossi (1989) of the characteristics of 'residential districts' and the perception of Duany and Plater-Zyberk (1991) of neighbourhoods introduce some of the perspectives of this approach to the concept of neighbourhood. Accordingly, the neighbourhood is made over time and acquires its identity from a continuing relationship between the place and its residents. Three components of: a place, a social group and activities accommodated in the place are important in creating meaning for the neighbourhood.

VI. Two new trends in urban theories also consider the neighbourhood idea for different reasons:

- The first one is concerned with the ways of enhancing the quality of city life. With regard to this, Smith (1980) says that there is an implicit belief

that localism and smallness are associated with a higher quality of life, and the people living in neighbourhoods that are self-sustaining politically, economically and socially, will ultimately forge a decent life for themselves. The new models of neighbourhoods which draw attention to traditional urban precedents, attempt to capture the qualities of small communities. The recent emergence of walled communities (Blakely et al 1998), being either in favour of promoting security or communicating status of residents, also correspond a kind of interest to small communities.

- The second embodies new ideas which explore a sustainable urban environment. These ideas basically emerged after the notion that the Earth is ecologically under threat. This was followed by much discussion and many meetings even on the scale of international summits (Rio Summit 1992 and US Summit 1997).

The idea of sustainability includes a multi-faceted approach to the urban environment and considers ecological, economic, social and physical aspects.

- Self-sufficiency is particularly important in a sustainable environment (Carmona 1996) and is proposed at different scales such as buildings, localities, towns and regions (Burton 1996).

- Reducing the need for travel is also a key factor which should be regarded in a sustainable environment (Burton 1996; Carmona 1996; Farthing et al 1996; Sherlock 1996). This factor has to be accompanied by encouraging walking and providing local services within a walking distance (Burton 1996; Carmona 1996; Farthing et al 1996; Crookston et al 1996 and Haughton et al 1994). Therefore, according to Burton (1996), clustering the jobs and facilities at the heart of a neighbourhood is important.

- Sociability and sense of community are also encouraged by this new idea (Urban Village 1992; The Local Agenda 21). With regard to this, Stewart and Hams (1992) argue that the requirement of sustainable development cannot merely be imposed, active participation by local communities is needed.

- Creating meaningful places through identifying and employing the actual identity of individual locales is also pursued for a sustainable settlement (Haughton and Hunter 1994).

The above viewpoints implicitly and explicitly support the importance of some residential units in order to provide the qualities needed for a sustainable settlement. This new approach to the urban environment, to some extent contains the composition of all the previous aspects of a neighbourhood in addition to a greater consideration of the ecological qualities.

To sum up, neighbourhoods were shaped and evolved organically through history. However, the idea of the neighbourhood has been used as a planning device during this century. During this process, the different approaches to the concept of neighbourhood have clarified its multi-dimensional nature. Both physical and social aspects of the neighbourhood were subject to investigation from a very sensitive and functional view, to a more essential and conceptual one. The manifold nature of neighbourhoods, revealed in this process, should be regarded in the design of neighbourhood centres and every dimension of the neighbourhood should capture its proper conditions under which it can flourish and sustain.

1-2- NEIGHBOURHOOD AND THE SENSE OF COMMUNITY

While the neighbourhood idea is supported from different perspectives by many researchers, there is a critical view of neighbourhoods with regard to their social effectiveness. The expectation that physical design can create social relationships, sense of community and moreover, social cohesion resulted originally from the failure of modernist ideas. However, prescriptive ideas of establishing neighbourhoods in order to create communities or humane and sociable environments are now subject to considerable debate by many researchers and are discussed in this section.

1-2-1- Urban Life and Social Relationships

Communities are based on the existence of social interaction among people. Social relationships are one of the characteristics of urban life and cities have been considered as places for facilitating different kinds of exchange and any kind of voluntary interaction, whether intellectual or commercial. Many commentators argue that the opportunity for engaging in exchanges of many kinds with different kinds of people is one of the principle advantages that cities can provide. Valuing this role of cities, Greenberg (1995) goes further and thinks that these types of social communication and information exchange will eventually create values. He believes that especially, face-to-face communication is qualitatively and even quantitatively superior to other kinds of communication. Webber (1964) confirms that the city is a centre of cultural growth in which ideas and information are produced and distributed.

1-2-2- Meaning of Community

According to the Encyclopaedia of Social and Cultural Anthropology, the definition of community refers to a term which represents a sense of togetherness of the past, contemporary behavioural commonality and political solidarity, or also a utopian future. 'It is a concept of always positive evaluations and evocations, whose usage expresses and elicits a social group and a social environment to which people would expect, advocate or wish to belong' (Rapport 1996 p117).

Exploring the current conditions of communities, Rapport says that communities have continued to flourish. As an idea, community has continued to possess both practical and ideological significance for people. Whether community is defined in terms of locality, ethnicity, religion, occupation, recreation, special interest, or even humanity, people maintain the idea that it is this milieu which is most essentially theirs.

Gans (1967) explains community as a variety of physical and social areas and institutions within which people live. McMillan and Chavis (1986 p9) mention some emotional aspects of the community and say that 'when people have a sense of community they have a feeling of belonging, a feeling that members matter to one another and to the group and a shared faith that members' needs will be met through their commitment to be together'. (See also Sarason 1974; Doolittle and MacDonald 1978; and Relph 1974 for a psychological sense of community).

The term community is very often used instead of neighbourhood. With regard to this, Lang (1994) says that in the everyday language of urban designers and developers alike, community and neighbourhood are often used synonymously; however, this usage is unfortunate because the two words really have different meanings: a neighbourhood is a physical entity and a community a social one. The promotion of a neighbourhood to a community is a desirable task from the viewpoint of both the designer and the user.

1-2-3- Categorisation of Communities

Emphasising social intercourse, exchange of information and business transactions as the heart of structured urban process, Webber (1964 p80) is one of the first sociologists who categorised communities into two different forms: community of interests and community of place. Lyon (1987) says:

> 'Individuals can have a psychological sense of community in a variety of contexts. They can have such a sense about a geographically defined territory such as their neighbourhood or about an extended space community e.g. their church, job, professional group or those committed to a certain life style'.

Community of interest is not dependent on proximity and place but the members of that community share a particular body of values and have a sense of belonging to the group (Webber 1964).

There exist two streams of thought about the localised sense of community (Smith 1980): the first (community lost) involves the belief that ties to localities have been badly eroded and city living no longer provides any real feelings of community; the other extreme argues that a strong sense of community and local attachment still exists in many well-defined city neighbourhoods.

Webber (1964) believes that although all people can be the members of different communities of interests, even globally, everyone participates in his/her own neighbourhood-realm community during some parts of their day. He says that there are very few who devote a large proportion of their time to world realm roles, but there are very large numbers of people who devote large portions of their time to roles associated with local realms (see also Jacobs 1961 p127).

However, most academics choose somewhere between the two extremes. It is reasonable to observe that, even in the largest cities, people have not yet become completely unrooted and placeless, although, in some areas the social relationships and the ties between residents have declined.

1-2-4- Everyday Life and Community

The partial loss of the sense of community in modern urban life has brought about some nostalgic feelings. Alexander (1967) says that modern urban society has created more contact and communication than any other society in human history, but as the individual's world expands, the number of contacts increases, the quality of contact weakens, and accordingly, intimate contact in the deepest sense is very rare. Greenberg (1995) expresses similar ideas and points out that although telecommunication and air travel have knitted distant countries into a global village and automobiles and expressways have made distant parts of the city accessible to us, there is a hole in the middle. This is the result of ignorance in building neighbourhood structures that encourage exchange near one's home.

Many social theorists have described the lost sense of community in the United States (Keyes 1973; Sarason 1974; Yankelovich 1981; Olson 1982; Dunham 1986 and Lyon 1987). Nasar (1995) emphasises that they express nostalgia for the interdependence of small town life, rural life or the Greek polis. The new tendency in urban planning, called new urbanism and neo-traditionalism, reveals the endeavours towards regeneration of the sense of community.

Yankelovich (1981) and Rivlin (1982) mention the nostalgic impacts of living in a mass urban society and say that many Americans appear to be looking for a small-town feel in their search for community, wanting to know and be known in the places where they live. This problem is not limited to the US, but as the US is a pioneer in modernisation of urban life and design, this issue has been initially revealed in America and other countries may sooner or later arrive at this point (See also Sneddon and Theobald 1987).

Howley (1950 p80) says that 'community involves relationships which meet daily requirements.' Some conditions, such as intimate contact and repeated interaction are influential in the community formation process and they may be better provided in living environments. (see also, Fischer 1982; Fischer et at 1977; Wellman & Leighton 1979; Marsden 1987; Wellman et al 1987 and Willmott 1987).

Alexander (1967) believes that intimate contact increases the sense of community and points out two essential preconditions for making intimate contact: first, the people concerned must see each other very often, almost every day; and second, they must see each other under informal conditions. These conditions can be more easily provided in a local area.

In the same manner, Hester (1990) relates the sense of community to everyday life and says that community designers create everyday environments; they design the places close to home where many people spend most of their time. Recreational facilities, open spaces, neighbourhood shopping or employment centres and so on can provide the grassroots for everyday places which are most important to our psychological well-being. Smith (1980 p367), also states that 'The term neighbourhood requires a re-definition; the spatial requirement is no longer the sole criterion and neighbours should be thought of as people who are 'close' spatially and aspatially'. Similarly Warren (1978 p18) defines neighbourhood as 'the social organisation of a population residing in a geographically proximate locale'.

1-2-5- Different Forms of Social Relationships in a Neighbourhood

According to the above conditions, neighbourhoods can to some extent provide an appropriate context for community formation. The social relationships, identified on a neighbourhood scale, have been classified into two categories (Weenig et al 1990; Keane 1991):

I. Psychological or emotional sense of community, which is concentrated on belongingness, shared emotional connection, mutual influence and fulfilment of needs or 'the qualities of ties'.

II. Neighbouring or practical activities, which focuses on the interaction frequency and social support and mainly indicates 'the quantity of ties'.

Since both lines of research are closely related to each other and show considerable overlap, several researchers have pleaded for integration of these two lines of research. Some studies show that increased neighbouring and community participation may result in a sense of community (Chavis & Wandersman 1990; Unger & Wandersman 1982-85).

Wilson et al (1996) point out that awareness of the opportunity to be active with community members who are participating locally may in itself result in a sense of community. In their study about sense of community they also show that the sense of community is greater when there is higher satisfaction with the amount of local participation in the community and with privacy in the residential setting.

1-2-6- The Role of Designers in Creating the Sense of Community

There are many debates about how and to what extent designers can help to promote the sense of community and social interaction. Hester (1990 p49) states that with the spread of privatisation, insecurity, alienation and loneliness, designers have an obligation to enhance social interaction, cohesion, neighbourliness and mutual aid between different groups as well as similar ones. He thinks that community and public life can be supported through the creation of shared and public spaces and settings conducive to community-reliance.

The physical environment can be seen as inhibiting or facilitating or as a kind of catalyst for performing human behaviour but cannot be considered as a determinant or generator of activities (Rapoport 1977; Barker cited in Lozano 1990; Hester 1990; Lang 1994; Gans 1970).

On the whole, the provision of the sense of community is a complex multi-disciplinary task which seeks the presence of both social and physical conditions.

1-2-6-1- Social conditions

The social context plays a fundamental role in creating the sense of community although it is beyond the influence of designers.

One factor of this contact is the extent to which homogeneity or heterogeneity of a population is a key factor and has been discussed by researchers. Lozano (1990) is in favour of heterogeneity and suggests social and visual diversity with an equality of social groups for the reconstruction of communities.

Gans (1967) supports both homogeneity and heterogeneity in terms of the particular advantages they provide.

I. Regarding homogeneity and social factors such as shared interests and values as more effective than physical features, Gans (1967) suggests that propinquity may be the initial cause of an intensive positive relationship but it cannot be the final or sufficient cause. He believes that planners can affect social life through making decisions about lot size and facility standards, and in this way, can indirectly determine the level of homogeneity or heterogeneity of the place.

II. On the other hand Gans (1967) also suggests population heterogeneity for at least four reasons:

- Adding variety in population and adding the wisdom of older generation (age heterogeneity).

- Promoting tolerance of social and cultural differences.

- Providing a broad educational opportunity for children by knowing and living with a diversity of people.

- Promoting life style by offering the opportunity of living with other social classes.

On the whole, both ideas of homogeneity and heterogeneity have been recommended by different researchers, but due to the lack of adequate data a tentative conclusion, lacking extremes, can be reached. As Gans (1970) states, the proper solution is moderate homogeneity.

Another social factor for performing community activities is considering the intention of people (Gans 1967). With regard to this, in a research project about informal communication in a working place, Campell and Campell (1988) found that two factors are involved in the process of forming this type of communication: first,

physical characteristics of the place and second, personal predisposition of individuals to engage in informal discussion with others. Similarly, the intention of people to make social contact may also play an important role in a neighbourhood community.

1-2-6-2- Physical conditions

Apart from the supportive social context, providing the opportunity for contact is the most important point in promoting the opportunity of community formation. The characteristics which enhance the quality of social contact are investigated and discussed by many researchers. Three variables have been proven to be essential for improving social interaction. They are: opportunity of contact, proximity to others and appropriate space for interaction (Fleming et al 1985).

The most important recommendations for providing opportunity for contact can be summarised as follows:

I. The provision of appropriate shared space for social contact, places which have supportive qualities such as safety, easy access and vitality (Fleming et al 1985; Jacobs 1961; Nasar et al 1995; Wilson and Baldassare 1996). With regard to this, a neighbourhood centre can be viewed as a suitable public place for people's interaction on a neighbourhood scale, with the intention that if people get together to do things, their sense of community and belonging will be improved.

    Greenberg (1995 p141) values the small town street system and says that 'the most common destinations (common in the sense of frequency and universality) are clustered at the centre, the focus of both commercial and community activity'. He adds 'people think that small towns offer a sense of community, mutual responsibility, friendliness etc. and states that successful urban neighbourhoods are very much like successful small towns in the way they function and also in their spatial organisation (p142).

II. The existence of local services and facilities and their close location; in other words, mixed use areas, gather people for different reasons (Nasar & Julian 1995; Greenberg 1995; Gans 1967; Jacob 1961).

III. Adjacent horizontally based residences and low-rise buildings close to the street; these provide more opportunity for social relationships (Gans 1967; Fleming et al 1985; Jacobs 1961; Weenig et al 1990).

IV. Higher density neighbourhoods in order to provide proximity and more contact; (Gans 1967; Jacobs 1961 and Keane 1991) however, some commentators reject high density as a constraint for community life (see also, Wirth 1938; Wilson and Baldassare 1996) and therefore, choice has to be a factor in providing people with the kind of density they prefer.

V. The existence of semi-private spaces near the residences to improve the opportunity for contact (Yancey 1972).

Fleming et al (1985) noticed that if there are some identified groups in the neighbourhood, the lack of spaces for them to use may be associated with frequent, but unwanted, social contact between the people and the members of that group, which is not desirable. So it is recommended that there should be spaces for special groups. These spaces can be indoor or outdoor in different forms such as community buildings, meeting rooms and so on. Rapoport (1977) expresses similar ideas and says that group territory which is similar to personal territory exists and influences the organisation of space into zones which are recognised by people and group members.

The congruency between the spatial structure of public places and the users' culture and value systems is also influential for the use of spaces. As in the past, the physical form of a settlement was one of the highest expressions of the social structure, life style and values (Rapoport 1977; Lozano 1990 and Madanipour 1994). This agreement between physical and social characteristics of successful settlements may comprise a theoretical background for those commentators who suggest participatory design and emphasise the residents' involvement in the process of designing their neighbourhoods.

To sum up, in spite of the state of debates about local communities, several pieces of research show a new tendency and desire for reconciliation of the social relationships in the scale of neighbourhoods. Community formation seems to be supported where informal, day to day interaction is possible. Therefore, the living environment - the neighbourhood - provides an appropriate context for creating a sense of community. Although in a small way, physical design can contribute to the improvement of social interaction, and the social conditions more importantly provide the supportive context, consideration of some design factors can have positive effects on enhancing the condition. A neighbourhood centre as the public place of a neighbourhood has a fundamental role in this process.

1-3- Summary

During the present century, the concept of the neighbourhood has been employed in order to solve some urban or social problems. In these approaches the multi-dimensional idea of the neighbourhood has been viewed differently by planners, in some cases with particular emphasis on one aspect and minimising the others.

The most controversial approach is where neighbourhood is considered as a physical vehicle which can be utilised to socialise people or create the sense of community. The degree to which this aim is fulfilled depends on many factors most of which, being related to the social conditions, are beyond the control of a designer. However, this dimension is not the only reason for developing neighbourhoods and their centres, although achieving this aim is a desire for both designers and residents (Lang 1994).

Accordingly, the neighbourhood centre, as the public place of a neighbourhood, has a multi-dimensional nature and can satisfy the various needs of residents. To sum up the results and to clarify the concept of neighbourhood, its different dimensions are categorised into three groups, namely functional, perceptual and operational.

- Functional aspects mainly include those qualities of the neighbourhood which fulfil the physical needs of residents and comprise three aspects:

    I. The provision of local services including shopping, civic services (banks, post office etc.) and entertainment facilities.

    II. The provision of a convenient access to other parts of the city in addition to providing the local services within a walking distance to the residences in order to reduce the use of motor vehicles.

    III. The provision of meeting spaces to improve the possibility of social interaction and the participation of people.

- Perceptual aspects embody the conceptual dimensions of the neighbourhood idea and mostly fulfil psychological needs of residents. There are two main aspects:

    IV. Communicating a local identity and creating a social or physical entity for the residents to identify with.

    V. Communicating a symbolic meaning as a place to reside.

- Operational aspects consist of the administrative dimensions of a neighbourhood such as the following ideas:

    VI. Having a managerial role in order to create autonomous urban units.

    VII. Maintaining a manageable size for design and renewal.

    VIII. Protecting the residents from the hazards and inconvenience of the city such as traffic and any issues of safety.

    IX. Improving the supportive conditions for a sustainable urban life.

All of the above-mentioned aspects can improve the design of neighbourhood centres. Part two of this thesis explores design principles which promote the quality of neighbourhood centres in order to allow all of their potential for creating a better urban life for the residents to flourish.

PART ONE

A GENERAL VIEW OF THE NEIGHBOURHOOD IDEA

CHAPTER TWO

NEIGHBOURHOODS IN IRAN

INTRODUCTION

This chapter aims to examine the concept of neighbourhood in Iranian cities, particularly in Tehran, and is divided into two sections. In the first section, a general discussion about neighbourhood formation and their characteristics in Iran is presented. The second section investigates the formation of the city of Tehran and its current conditions.

2-1- THE IDEA OF NEIGHBOURHOODS

The general view towards neighbourhoods is presented in three periods namely per-Islamic, Islamic and contemporary cities.

2-1-1- Pre-Islamic period: (up to 7th century)

Traces of neighbourhoods can be found in the remaining evidence of ancient Iranian cities. The social structure of the society, irrespective of some alteration between different dynasties of this period, was class distinctive. Different social classes were accommodated in distinctive parts of cities and these separated parts can be considered as the origin of neighbourhoods.

The ancient city was generally divided into three different sections. King's castles and the related institutions and buildings were located in the most safeguarded part, in the core of the city. The elite were accommodated around this core and their neighbourhood comprised the middle residential part. The ordinary people and workers lived at the peripheral residences just behind the city walls (Habibi 1996).

Accordingly, it seems that the residents of different neighbourhoods in ancient cities were homogeneous groups on the basis of their social class. There were also some historical cities with neighbourhoods classified according to religious beliefs. Each religious group built their houses around their place of worship and in this way constituted almost autonomous neighbourhoods (Varjavand 1991).

2-1-2- Islamic period (8th to 19th century)

During the first centuries of Islam, according to the basic belief of brotherhood among Muslims, there was no evidence of social distinction between *people*

according to race, wealth or occupation (Habibi 1996). However, around the 11th century, due to the dominance of the regimes that disregarded the essence of Islamic rules, the classification of the society gradually emerged. These social changes were reflected in the formation of neighbourhoods on the basis of ethnic, racial or religious groups within the city.

The overall image of the Islamic cities and their general physical characteristics remained nearly unchanged until this century. Apart from the specific features which comprised the public central part of the city, the cities were divided into districts called 'mahalleh'. These were residential quarters with small local facilities.

During the Islamic period, the inhabitants of the neighbourhoods were closely knit and comprised homogenous communities. The origin of their homogeneity varied and was based on family, common village origin, ethnic or religious identity (Lapidus 1984; Madanipour 1994; Habibi 1996). This homogeneity was sometimes fostered by common occupation.

There is little evidence to show the solidarity of neighbourhoods based on social classes and it seems that the quarters were mostly communities of both rich and poor.

2-1-2-1- Different dimensions of neighbourhoods

The neighbourhoods of the Islamic period had a multi-dimensional nature and can be viewed in different ways. The following aspects indicate the various functions of neighbourhoods, although they may have some overlaps.

- *Giving a sense of safety*; they were responsive to the tendency of different groups to provide comfort and protection for their own members against other groups, where no man was truly safe except among his kin (Lapidus 1984).

- *Managerial function*; Members of the great commercial bourgeois families and of the Ulama (religious leaders) together provided an urban leadership. The head of the quarter, among the above group, was selected by the governor and helped the government to collect taxes, maintain order and security (Hourani 1970; Lapidus 1984; Madanipour 1994).

  In some cities and during some periods, the quarters of a town even showed hostility to each other. These actions led to the establishment of walls and gates around them (Hourani 1970; Lapidus 1984; Madanipour 1994; Habibi 1996).

- *A part of the hierarchical structure of the city*: these village-like communities were an important component of the hierarchical structure of the city both physically and socially.

    I. *Physical*; the space of the traditional city was clearly divided into public and private realm. The city centre was the clear public place, residential quarters resembled the semi-public area where the home constituted the private realm of the city and, in this way, the city gave the image of a rigidly organised hierarchical space. There existed a wide range of semi-public and semi-private spaces in between the above mentioned three places (Madanipour, 1994).

    II. *Social;* the social structure of the city was completely in tune with the above spatial hierarchy. A network of shopping streets stretched from the city centre to the gates along the main intraurban axes. Their prosperity and importance declined gradually, passing from the centre to the periphery. The central bazaar with the local bazaars of the quarters made an economic spatial structure and created a unity at the level of the whole town.

    There also existed a hierarchy of religious institutions which acted through a network of mosques from the main Friday mosque at the heart of the city and adjacent to the main square or bazaar to the local mosques of the neighbourhoods.

- *Authority;* the overall design of the city and the construction of the main public buildings was determined by the government whereas the local residents of a neighbourhood had the opportunity of shaping their own physical environment. The government did not usually impose a specific life style on the people. In fact this point shows a compromise between the government and the local society in developing the cities (Mahdavi 1996).

- *Provision of local facilities*; the residential quarters had a small local market, workshops, a mosque, baths, water storage, sometimes a madrasse (traditional school) and usually a small square for people to meet and have social relationships.

2-1-2-2- Neighbourhood centres

The neighbourhood centres, including the facilities needed by the residents, provided the meeting points. The internal layout of the quarters focused on a main street which was mostly pedestrian. The market place and the mosque were established in this street. In some cases there were small squares, which acted as the public courts of the neighbourhood, near to this street (Madanipour 1994).

In fact, these squares were responsive to the social needs of the residents and facilitated their gathering and public participation (Tavassoli et al 1992).

The neighbourhood centre was not only the functional heart of the quarters but reflected the identity and preserved the history of the place. The public buildings and spaces which constituted the streetscape of the neighbourhood centres contributed to the image of the people; these elements were remembered as the landmarks and focal points of the place. The main street of each quarter took the same name as that of the quarter (Homayouni 1995). There are still a few cities that have preserved this historical fabric such as Yazd and Naeen (Homayouni 1995; Tavassoli et al 1992).

2-1-3- Contemporary cities (from 19th century to 1979)

The social and physical changes which occurred in the Iranian cities during the present century are briefly explained in the following pages. Conversely to organic growth of towns where physical changes come after social reformation, reorganisation of the physical environment in this period was followed by social changes. Some new features of urban design that had no precedent in traditional cities, were introduced to the urban areas. By altering the physical structure of cities the government provided or, to some extent, imposed a physical context which was followed by a new life style.

Rapid population growth and ease of mobility, mainly during the past fifty years, also accelerated the above changes and influenced the style of living. The transformation of cities, with regard to the above aspects, is discussed in the following pages.

2-1-3-1- Physical dimensions

In spite of some changes in the economic and political aspects of the society, the traditional fabric of cities, to a large extent, remained unchanged during the 19th

century and the first decades of the 20th century. The structure of neighbourhoods was preserved even though the ethnic, racial and religious connections between the residents was slowly weakened (Habibi 1996).

The gradual westernisation of Iran started in the middle of the 19th century and was followed by a conflicting co-existence of various traditions which has more or less remained until now. With the acceleration of the modernisation process during the 20th century, the appearance and the social structure of cities faced many changes.

- *Class separation*: the division of the city on the basis of living quarters changed to one of class division (Madanipour 1994). The traditional areas which had been a mixture of rich and poor started to be deserted by the middle classes who moved to new districts. In this way, the city was gradually divided between the social classes.

- *Avenues, the symbol of International style*: during the first decades the cities experienced a gentle and slow change. International styles of architecture and city planning became the basis of new developments (Habibi 1996).

According to Pirnia (1992), the avenue has been a physical element in the city architecture in Iran from the ancient time. Some of those long avenues still exist in cities such as Isfahan, Shiraz and Ghazvin. However, it seems that the street was previously used to connect the important magnets of the city and was not spread all over the city. Along with the implementation of International city planning in Iran, the use of street was increased. The urban blocks were limited by straight streets, regular gridiron layout and zoning dominated the new fabrics of cities. In many cities the old parts were cut through by the establishment of new avenues. The shops were built alongside these new streets and, in this way, accelerated the diminishing process of traditional local market places. In many districts these new streets constituted the nuclei of the area.

- *Dominance of the car*: with the introduction of the car, the ease of traffic as a first priority of urban development dispersed the historical urban fabric and dominated the new areas.

- *Loss of meaning and identity*: The large amount of immigration towards cities and the huge increase in the population of urban areas caused the rapid establishment of unplanned new residential districts. As Madanipour (1994 p436) states '... by these changes in the institutional and spatial frameworks of the city,

the function, character and morphology of public space changed from meeting places to traffic circles.' He adds that well-defined urban courtyards, which expressed the identity of residents and had meaning for them, changed into vague tracts of open space often unrelated to any particular use.

The cities almost consisted of three main sections:

- *The historical fabric,* with a dispersed and declining built environment where the residents are gradually leaving the area. These parts mostly accommodate the working class of the society.

- *Organic developments around the city* without adequate infrastructures and healthy conditions.

- *The main body of the city* which accommodates the middle class and in some areas the rich people. These residential districts include both planned and organic fabrics.

2-1-3-2- Social aspects

The rapid change of physical forms of cities have had obvious effects on the public life. These effects were duplicated by the new mobility of population comprising immigration from village to cities and mobility inside the cities, all of which changed the relationship between people and their environment. The strong symbolic and emotional link between people and environment, through years of continual contact, had insufficient time to develop.

In spite of the above factors which to a large extent diminished neighbourhood cohesion, the neighbouring relationships remained among people. In most parts of cities, neighbourhoods had lost their identity as a meaningful place and only existed in the minds of residents, but many people tended to identify with them as their residential areas (Habibi 1996).

2-1-4- Recent Conditions

Since the revolution of 1979 and particularly since the end of the war, urban population has increased continuously. Many housing developments have been established by the public or private sectors around the city peripheries. A considerable number of these new residential areas belong to specific institutions and accommodate residents with common occupations.

A number of trends initiated by the previous regime slowed down after the revolution and many social and cultural values were revived. For example, during the war, the appearance of quarter-based militia, consisting of the young people of the neighbourhood and the role of local mosques in organising them was noticeable (Madanipour 1994).

Some recent urban studies show the increasing tendency of people to have distinctive residential districts and relationships with their neighbours (Tavassoli 1992; Homayouni 1995). In a study conducted by Planning and Research Centre of Tehran to find out the characteristics of an ideal city in the image of residents, a large number of respondents showed their desire to have intimate relationships with their neighbours (PRCTN[1], 1996 March).

Along with the above results, the research conducted by Tavalai (1995) shows considerable respect for the sense of community among the residents of traditional parts of Yazd. Many of the inhabitants of these areas pointed to their community ties as the most important reason for remaining in the area (Tavalai 1995).

But on the other hand, the planning and design of new urban areas has continued with little regard to the above mentioned social dimensions. Considering zoning and traffic circulation as the main priority of urban planning, this process goes even further by introducing shopping malls around the cities as a new form of commercial place and as a replacement for the main street.

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[1] Planning and Research Centre of Tehran: Newsletter

From Kasraian 1994 p142
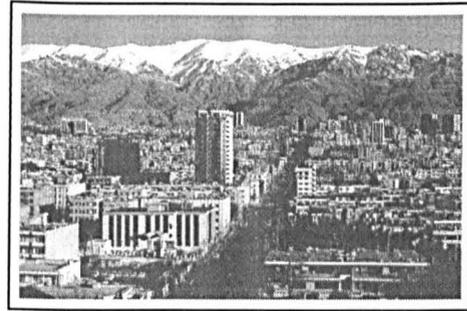
2-2- THE CITY OF TEHRAN

2-2-1- Introduction

Tehran is the capital city of Iran, located on the mountainside of the Alborz chain towards the north of Iran. The region is surrounded by mountains to the north and desert to the south. Due to the different heights of the land, the temperature and rate of rainfall varies in the north and south of the city. The following figure indicates the temperature and rainfall in different parts of Tehran.

Figure 2-1: **The rate of temperature and rainfall in Tehran.**

	North of Tehran (Shemiran)	city of Tehran	south of Tehran (Ray)
average temperature (centigrade)	23	29	30
maximum temperature (centigrade)	36	42	43
minimum temperature (centigrade)	-17	-6	-5
annual rainfall (mm)	104	43	42

The crescent form of the mountains surrounding the northern part of the city prevents the wet wind from blowing continuously from west to east. This point aggregates the amount of air pollution in Tehran and causes an almost stable air condition over the city (Saeed Nia 1989).

In addition to the suburban residential districts the population of Tehran was more than nine million in 1991(PRCTN[1] 1995). It is anticipated that the population will reach around 14 million in the year 2011 (ACAUP[2] 1992). Irrespective of the suburban areas, the area of the city is about 720 square kilometres (Zanjani 1989). The density of different residential districts is considerably varied. However, the average population density is nearly 105 persons per hectare.

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[1] Planning and Research Centre of Tehran: Newsletter

[2] 'Atec' Consulting Architects and Urban Planners

2-2-2- History of the city

2-2-2-1- First period *(before 1786)*

Before the sixteen century, Tehran was a village, known for its comfortable climate. It drew the attention of some Safavid kings who passed through while travelling and King Tahmasb ordered the establishment of fortification and some buildings in this place as a result (Saeed Nia 1991; Sahab 1991).

In the seventeen century there were only five thousand houses and a few bazaars in the city. These houses formed four distinctive neighbourhoods in Tehran (Figure 2-2). These four neighbourhoods were not contained within strict boundaries and narrow winding streets reached from one end of the area to the other. As in other Iranian urban structures, all neighbourhoods met up with the main axis of the bazaar. The branches of the main bazaar became transformed into a bazaarcheh (small cluster of shops and stands) as the main street of each neighbourhood. There were some squares alongside the bazaarcheh as well (Faghih 1977).

Figure 2-2: **The first map of Tehran as drawn by Berzin (1851); it shows a walled city with a royal citadel, gates, bazaar axis and four neighbourhoods.** (from Sahab 1991 p291)
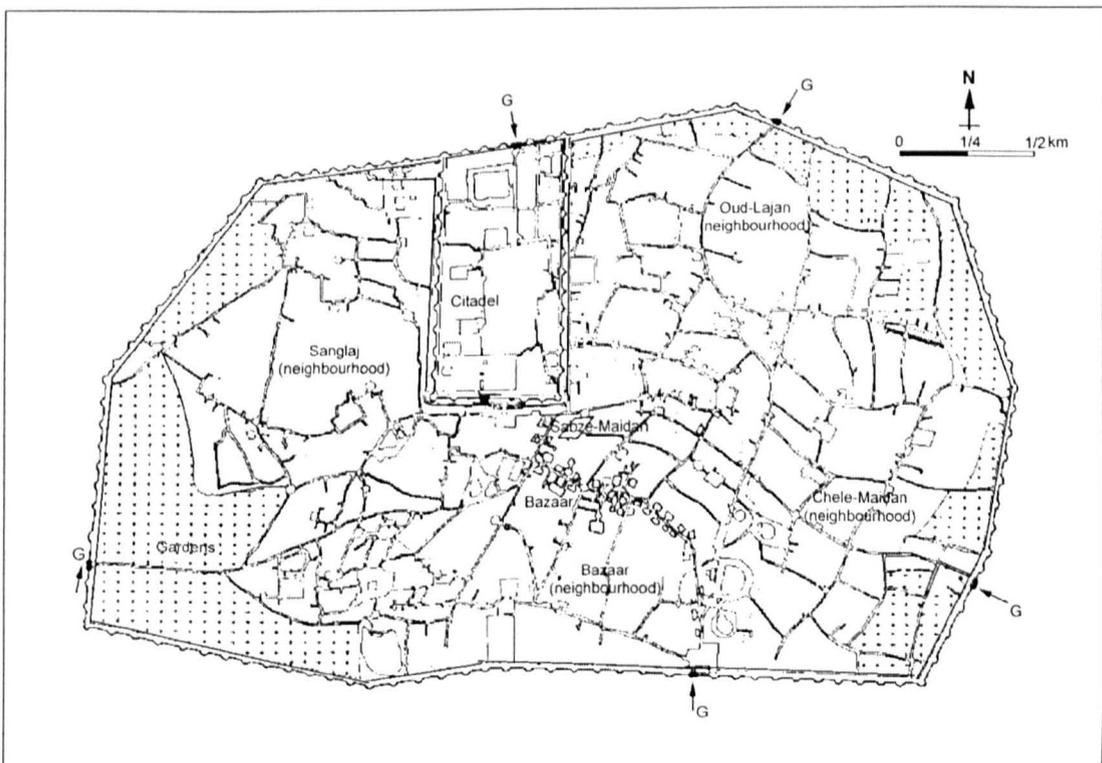
2-2-2-2- Second period (1786-1920)

The selection of Tehran as the capital city of Iran in 1786, by the first king of Qajar, was the starting point for its development (Sahab 1991; Saeed Nia 1991; Habibi 1995). After nearly one century of a slow and organic growth, it was in 1871 that Tehran's new plan was drawn up (Figure 2-3). Faghih (1977) states that 'this Nassery plan was based on the concept of an ideal Renaissance city: a perfect octagonal similar to eighteen century walled cities' with twelve gates around it. In other words, Tehran was enclosed in a neat and orderly fashion. At this time, the population was 150,000 and the city included ten neighbourhoods (Saeed Nia 1991).

Iranian traditional architecture and urban design faced some changes in this new urban form. These changes can be summed up as follows:

- The neighbourhoods were undergoing a social transformation during this period and the previous, cohesive population, based on racial, beliefs or cultural bounds, was beginning to become class distinctive. The rich neighbourhoods and the poor were gradually shaped in different zones of the city (Habibi 1996).

- Boulevards pervasively entered the new urban design and some of them in Tehran resembled nineteen century European ones (Faghih 1977). These new avenues would gradually play a new role in the urban structure of the city as a recreational place. By the establishment of shops and other service institutions along these streets, the neighbourhood centres were gradually replaced by these new forms of public space (Habibi 1996).

- Free standing buildings on either sides of some streets were also new features in the city. 'These buildings which were slightly set back were surrounded by gardens and parks' (Faghih 1977 p11). Accordingly, residences or state institutions were built in a street oriented manner, which was a new style considering the traditional introverted architecture of Iran.

- The majority of significant buildings in this period were new functions introduced to the city; for the first time, governmental offices and buildings occupied an important position in the urban setting; for example, the most prestigious location in Toopkaneh square (in the heart of the city) was designated to a bank (Figure 2-4). Many new functions such as theatres, cinemas, hotels, public

gardens and a zoo were established in important locations of the city (Faghih 1977; Habibi 1996).

Figure 2-3: **The second map of Tehran (1891) shows a walled city enclosed in a neat and orderly fashion.** (from Sahab 1991 p291)
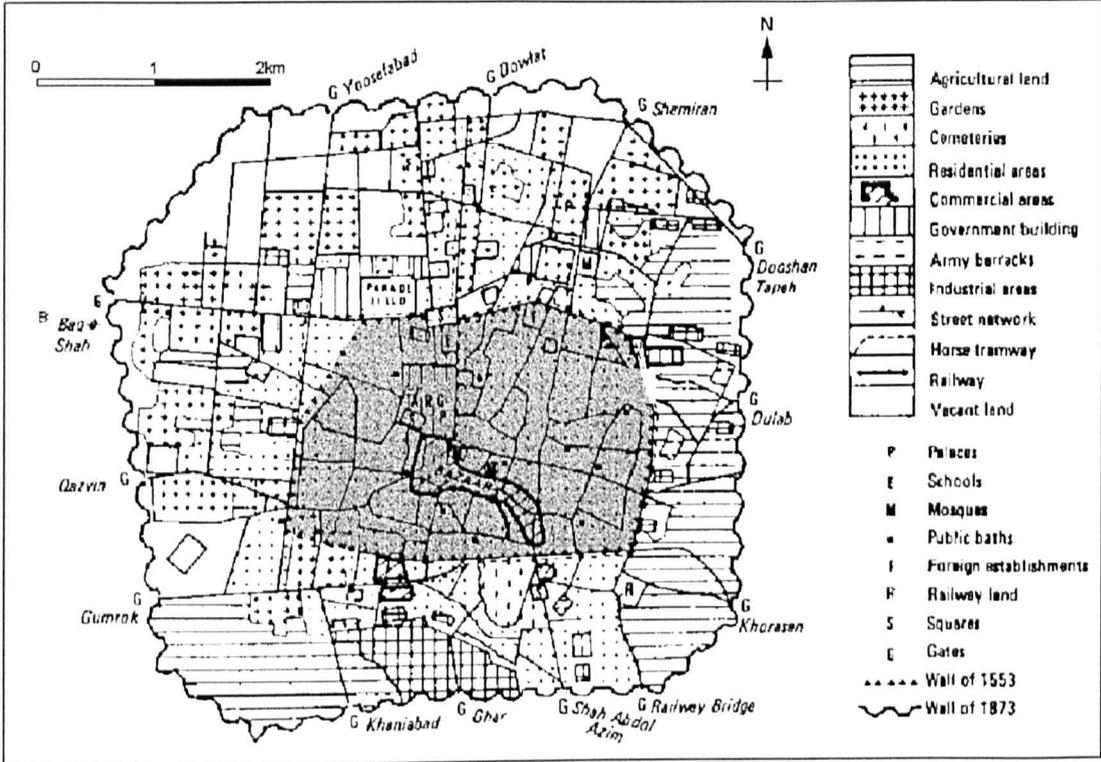
An English traveller, William Jackson, described the Tehran of 1903 in the following way: "east and west combine imperfectly in its mixed civilisation, with a far greater preponderance of the orient, as is natural."[4] (quoted in Faghih 1977 p13)

Figure 2-4: **Two views of urban spaces developed at the turn of the century** (from Faghih 1977 p8-12).

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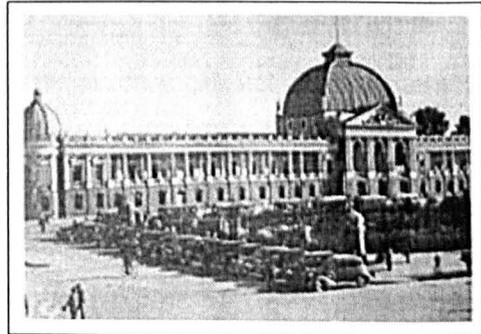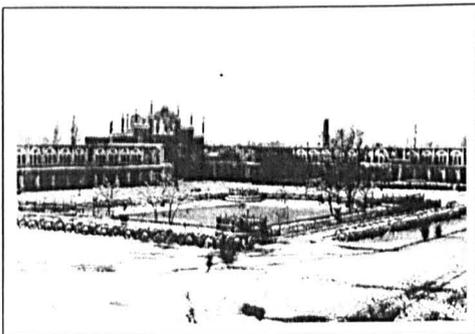
[4]William Jackson, Persia Past and Present p419.

2-2-2-3- Third period (1920-1979)

After the decline of Qajar and with the dominance of Pahlavi in 1920, fundamental changes occurred in the structure of the city. From the first decades, modernisation and cutting of links from past history were the main aims of the new regime. Western industrial cities became the prototype for a changing Tehran. The influence of these ideas appeared in the early 1930s in the city's design (Saeed Nia 1991; Habibi 1996).

A third plan was devised for Tehran in 1937. At this time, the city had been completely transformed into a transportation network and its walls were destroyed between 1932-37. Apart from the main changes in the city centre and governmental buildings, a considerable part of Tehran's residential sector (belonging to the new middle classes) also moved from the older sections of the city to the newer ones. As Faghih (1977) states, for the first time in Tehran history, the disintegration of old neighbourhoods occurred simultaneously with the creation of new ones, and this phenomenon has become a part of the city's life ever since. In this way, the older areas have become the living place of the lower income groups and the migrant worker.

During this period, the introduction of an international style led to the creation of a street-oriented urban architecture in Tehran and the idea of residential blocks was introduced to the city (Habibi 1996). According to Faghih (1977), the changes in the concept of planning, both in the overall image of the city and the individual buildings, had drastic implications for the neighbourhood structure and the life style of its inhabitants. (Figure 6)

Describing the changes in neighbourhoods of Tehran up to the 1970s, Faghih (1977) points out that city life as a whole became much more active and gave the neighbourhood lifestyle a new and broader expression. She lists the urban design characteristics found in some residential districts, that have guaranteed the humane quality of public spaces in spite of many destructive factors of modernisation. These are: pedestrian continuity, architectural details and elements at the street level, orderly rows of buildings, clearly defined open spaces and mixed land use.

This period also witnesses a dramatic population growth. The number of people increased from 750,000 in 1941 to 2.8 million in 1966 and to 4.5 million in 1976. In thirty five years the population became six times greater.

Figure 2-5: Map of Tehran (1951), the city is transformed into a transportation network. The citadel has been turned to governmental district (from Habibi 1989 p18).
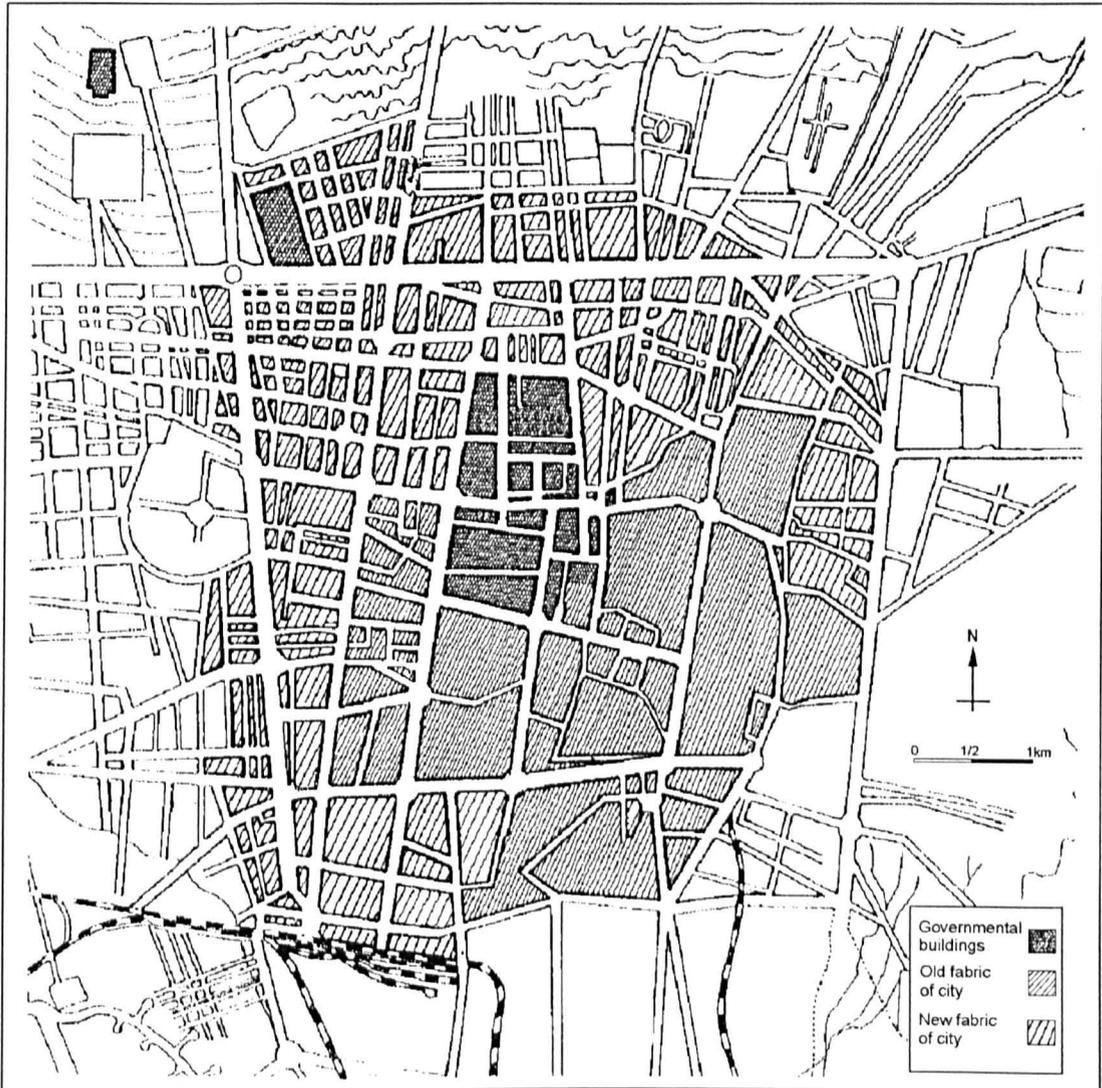
2-2-3- Current Conditions (after 1979)

Population growth, which was mostly due to the large scale immigration towards Tehran, continued during the recent decades. Accordingly, many housing developments were built around Tehran's boundaries. The expansion of the city and People's commuting between their houses and work places required the development of roads and highways.

In this regard, several motorways and arterial roads were added to the previous street network of the city and stretched it to the peripheral, new suburban areas (Figure 2-6).

Figure 2-6: **Map of greater Tehran (1990), the rapid growth of Tehran has transformed the city to a metropolis, dominated by a network of motorways.**

(from Hamidi et al 1997 vol3 p90)

Three issues among the various current problems of Tehran are to a greater extent relevant to the neighbourhood concept and are discussed in the following paragraphs.

2-2-3-1- Residential districts

The first planning priority for the new parts of the city is the car and ease of access by it. Therefore, the regular gridiron street layout is the dominant planning concern of almost all of these areas. Nearly all of the new streets are wide enough to be responsive to future growth of population (Figure 2-7).

New housing developments are mostly located around the previous boundaries of the city. Most of the new buildings, irrespective of being developed by private or public sector, are four or five stories high. There are also considerable numbers of high rise buildings which have been developed in recent years (Figure 2-8). Many of the new housing developments are established by specific governmental offices to

accommodate their employees and therefore have a population with a common occupation. Almost all of these complexes lack urban facilities but occasionally have a small grocery.

Shops and urban facilities are organically developed in clusters around roundabouts or main street corners in order to attract more shoppers. Recently, several malls and indoor shopping centres have also been designed and built in some new residential districts (Figure 2-9).

There are no defined open spaces for social activities and human interaction, except for a few local parks or play grounds for children; however, the population of Tehran is very young and nearly half of the population are under 22/3 years old (PRCTN 1996 Nov.). According to a study conducted by PRCTN (1996 March) meeting the recreational needs of young people is a serious concern of the population.

2-2-3-2- Traffic

According to the survey conducted by PRCTN (1996, March), the most important problems relating to the city are traffic and air pollution. Tehran is currently one of the most air polluted cities in the world (Bahreini 1989; Ghiasodin 1989; PRCTN 1996 June).

Motor vehicles are found to be the main source of the city's pollution (Ebtekar 1989). One of the results of the unplanned expansion of Tehran is long distances and improper location of different functions which impose large number of journeys inside the city. The number of trips was two and half times more in 1981 than it was in 1971, and it was four and half times greater in 1991 than in 1971 (Figure 2-10). This means that in a period of twenty years the number of journeys has increased nearly five times (ACAUP 1992 P65).

Currently, there are four million journeys using motor vehicles and more than five million pedestrian daily journeys. According to PRCTN (1996 June), one third of these journeys are to destinations other than places of work. This high number of trips has to be studied and appropriate measures should be found to reduce it.

According to ACAUP (1992), apart from the suburban areas, Tehran currently includes 344 neighbourhoods with about 10,000 to 20,000 population each. A proper distribution of the urban facilities in these neighbourhoods has recently been considered as a solution for the improvement of the city and the reduction of its

problems (PRCTN 1997 Jan.). Transforming the mono-centric structure of Tehran into a poli-centric one, with respect to the hierarchical distribution of urban facilities, is one of the main aims of the Tehran municipality today (PRCTN 1996 June).

2-2-3-3- Social issues and identity

As mentioned before, according to recent urban studies, citizens are in favour of having a sense of community and neighbourhood identity (Tavalai 1995; Homayouni 1995; PRCTN 1995 March). The new residential developments have no distinctive character and can be found in other cities with little variation (Bahreini 1989).

Provision of an appropriate context for social interaction is an important factor. In recent years, the Tehran municipality has established several cultural centres around the city (PRCTN 1996 June). These places have had a positive social influence in the area and have been welcomed by the local residents. With this regard, attention should be paid to the revival of local identity and people's social interaction.

2-2-3-4- Management

As mentioned previously, one of the important aspects of the traditional neighbourhood was its role as a managerial device. This system was changed around the turn of the century with the approval of legislation. Although at first the municipality was an independent institution, after a while, and particularly after the dominance of Pahlavi, it became a part of the governmental body. This form of management has remained more or less unchanged until now.

Recently there have been many discussions about the necessity of allowing the residents to participate in the management of their residential district (PRCTN 1996, Jan.; ACAUP 1992). People's participation in the process of decision making and implication of ideas is a necessity for the improvement of Tehran.[5]

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[5] The first election for the city council of Tehran was held in March 1999 and this can be an effective step towards organising neighbourhood's management groups among the residents.

Figure 2-7:
**Wide streets in the new fabrics
of the city**

Figure 2-8:
**High-rise buildings are
developed around the city**
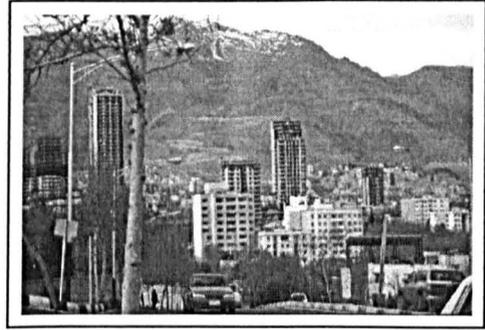
Figure 2-9:
**Indoor shopping centres have recently been built in the
new residential districts**
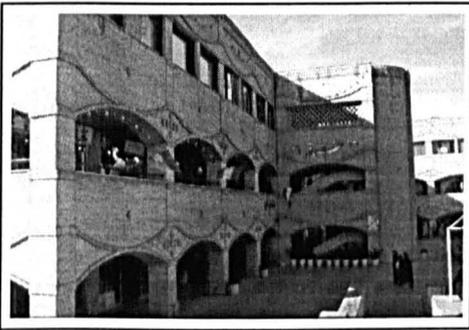
Figure 2-10:
Heavy traffic in Tehran
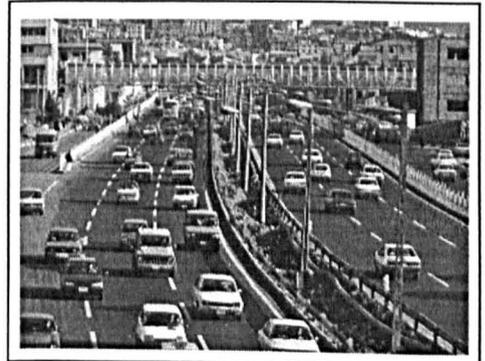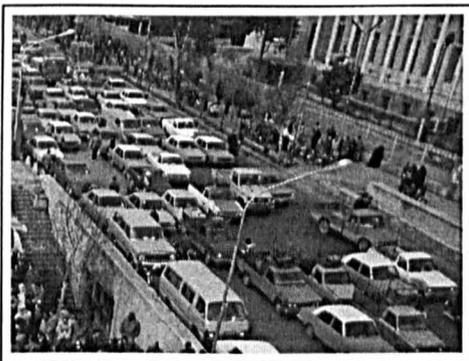
2-3- SUMMARY

The above issues suggest the proposition of revitalising the idea of neighbourhood centres for the residential districts in Tehran, especially, the new areas that lack the appropriate public spaces. The neighbourhood centre can have many advantages with regard to the above mentioned problems, for example:

- These centres can facilitate the provision of urban facilities near where people live and provide the young people with their specific needs with convenient access.

- By a proper distribution of urban facilities in the neighbourhood centres, walking, instead of using motor vehicles, will be encouraged; in this way, a considerable number of journeys inside the city will be eliminated.

- Along with the provision of urban facilities, and particularly recreational spaces, the residents will have more opportunity for interaction which may help to increase social activities and improve the sense of belonging to the neighbourhoods. However, It should be mentioned that the provision of urban facilities and green spaces in the neighbourhood centres is not expected to create cohesive communities.

- Appropriate context for people's participation in the management body, decision making and implication of the new ideas for their city can be provided through neighbourhoods. In this way people, being more engaged in their neighbourhood's issues, will have a greater sense of belonging to their residential area.

As Homayouni (1995) states, the presence of neighbourhoods with an identified centre where the residents can perform different activities is essential. Those activities such as eating, walking, talking and doing exercise or playing give vitality and variety to the neighbourhood street, but these qualities are currently ignored by the urban designers in Iran. If a city contains responsive neighbourhoods that meet their residents needs and increase their sense of identity and provide them with a safe environment, the actual scale of the city would cease to be an important issue in urban design.

SUMMARY OF PART ONE

During the first chapter the multi-dimensional nature of neighbourhood centres was discussed and various aspects upon which the design of these centres should be based were clarified. In the second chapter the particular conditions of Iran and exclusively Tehran were explained. Many of different dimensions of the neighbourhood centre, described in the first chapter, have also been considered in the historical neighbourhoods in Iran.

Finally, the overall view of Tehran's current conditions also support the idea of developing appropriate neighbourhood centres in order to overcome some of the urban problems in the city. The second part of the thesis explores the design principles which allow different dimensions of a neighbourhood centre to flourish and enhance.

PART TWO

DEVELOPING A LIST OF PRINCIPLES FOR DESIGNING NEIGHBOURHOODS AND NEIGHBOURHOOD CENTRES

CHAPTER THREE

INTRODUCTION TO THE LITERATURE REVIEW

I. Introduction

As described previously, the main aim of the present research is to develop a list of principles relevant to the design of neighbourhoods and neighbourhood centres in general, with particular reference to Tehran. Having knowledge of the experiences and research studies in this field can make a reliable starting point. In this regard, as literature usually contains the most elaborate and complete ideas, an investigation of the available literature comprises the first part of the research. Many commentators in social research recommend a literature survey and believe that a review of the existing studies is a necessary preparatory work and should be undertaken in the initial stages of research (Hakim 1987; Moser et al 1971; De Vaus 1991). The literature review was started by the identification of relevant fields of knowledge and the focus of interest concerned the qualitative aspects of a neighbourhood centre. Among the requirements, those aspects which were most immediately related to the centre as a physical environment were emphasised. Efforts have been made to focus on issues which are within the limits of designers' capacities. Those principles, concerned with the economic, political or cultural issues were not pursued because of the limitation of time.

The research in the literature was not limited to any specific school of thought and different resources, mostly among British and American literature, in the form of books, articles, thesis and Internet information, were used.

During the review, as many design principles as possible were sought and extracted from the literature in order to develop an initial list. The provisional principles, developed in this way, as a basis for the final list of generic principles had to be tested during a survey in Tehran. The survey results and the initial list of principles, were then compared and after revision and completion, the final set of generic principles was drawn up.

Accordingly, the literature review constructs the fundamental basis for the whole research and is an essential component of the thesis.

II. Different Fields of Study

Two mainstream areas of literature have been pursued during the literature investigation: design guidelines and projects for developing urban centres and conceptual research studies in architecture and urban design

- Design guidelines and projects for developing urban centres

    This group of resources was found among 'professional' or 'prescriptive' theories in architecture and urban design. Among this group, not only has the material been directly related to the design of neighbourhood centres studied but those describing the characteristics of public spaces, urban centres and town centres have also been investigated.

    This group of materials has had to be researched consciously. A direct proposition of design factors can provide the reader with a better understanding of the physical forms, but at the same time, the speciality of each individual project reduces the possibility of generalising those propositions as design principles. In these cases, in order to minimise the individual conditions, efforts have been made to derive the main concepts and ideas which resulted in those design propositions. Literature on New Towns, publications of the Department of Environment, the Urban Village Guidelines and some research studies on the regeneration of town centres in Britain, in addition to TND and TOD[1] guidelines and some recommendations on sustainable cities, are among the resources in this group.

- Conceptual research studies in architecture and urban design

    These studies can be found among 'discipline' or 'explanatory' theories in this field. These resources mainly discuss the concepts and qualities sought for design and efforts have been made to derive design principles out of them in order to make them useful for designers. This part of the literature review can help to reduce the gap between theoretical discussion or pure research in urban studies and the professional and design issues. Being involved with the qualitative aspects of design, this group of writings encompasses different dimensions such a visual, perceptual and essential qualities of urban spaces

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[1] TND: Traditional Neighbourhood Development and TOD: Transit Oriented Development

and in particular neighbourhood centres. The explanatory theories in urban studies embody two categories:

– Those developed by professionals and theorists, based on their own experiences. These theories are to a greater extent used and implemented in design projects or at least have been transformed into some criteria for designers. Writings of Alexander, Lang, Krier, Calthorpe and Duany and Plater Zyberk are among this group.

– Those conceptualised on the basis of some findings in other fields of knowledge. Theorists in this group mostly rely on the findings in social and psychological research in order to enhance the qualities of environmental design and try to apply these findings to design issues. Lynch, Appleyard, Jacobs, Whyte, Canter and Groat are in this group. The literature about the quality of social life in public places; sense of community in urban areas; home environment studies; user satisfaction; perception and evaluation of urban centres; sense of place, identity, and sense of safety has been studied in this group.

At the same time, the writings of Abraham Maslow (1970), a humanist psychologist who developed a framework for human needs, from physiological needs, needs of safety and belonging to higher needs of esteem and self-actualisation, were implicitly considered throughout the research.

On the whole, an attempt was made to achieve a harmonious group of principles derived out of the two mainstream areas of literature by extracting the concepts and desirable qualities behind the physical forms or guidelines among the first group and looking for design characteristics among the concepts or psychological findings of the second group. Exact formal solutions were not sought for the ultimate principles; rather they were to be entrusted to the particular designers involved in each individual case.

III.A Framework For Different Dimensions of the Centre

The classification of all the extracted principles resulting from the literature review is summarised in a conceptual framework which embodies the different characteristics of a neighbourhood centre (Figure 3-1). Different dimensions of a neighbourhood centre are classified into three main categories which comprise different chapters of the literature review. Each chapter is divided into sections and, in some cases, the

sections are divided into sub-sections. This framework will be presented at the beginning of each section to show its position within the whole discussion. The main purpose of the chapters and sections is briefly described in the following paragraphs.

Figure 3-1: **Conceptual framework showing different chapters, sections and sub-sections of the literature review**

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                        │   CHARACTERISTICS OF      │
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                        │   NEIGHBOURHOOD CENTRE     │
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   │  Functional Aspects  │  │  Conceptual Aspects  │  │  Operational Aspects │
   │    Chapter Four      │  │    Chapter Five      │  │    Chapter Six       │
   └──────────────────────┘  └──────────────────────┘  └──────────────────────┘

      ┌────────────────────┐     ┌────────────────────┐    ┌────────────────────┐
      │ Centre and the city│     │  Essential Aspects │    │   Sustainability   │
      └────────────────────┘     └────────────────────┘    └────────────────────┘
      ┌────────────────────┐        ┌─────────────────┐    ┌────────────────────┐
      │Centre within       │        │    Meaning      │    │ Post-design issues │
      │neighbourhood       │        └─────────────────┘    └────────────────────┘
      └────────────────────┘        ┌─────────────────┐       ┌─────────────────┐
         ┌─────────────────┐        │    Identity     │       │   Management    │
         │Services and     │        └─────────────────┘       └─────────────────┘
         │facilities       │     ┌────────────────────┐       ┌─────────────────┐
         └─────────────────┘     │   Visual Aspects   │       │   Maintenance   │
         ┌─────────────────┐     └────────────────────┘       └─────────────────┘
         │   Public life   │        ┌─────────────────┐
         └─────────────────┘        │   Aesthetics    │
                                    └─────────────────┘
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                                    │ Legibilitiy and │
                                    │sense of         │
                                    │orientation      │
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                                    │  Human scale    │
                                    └─────────────────┘
                                 ┌────────────────────┐
                                 │Associational Aspects│
                                 └────────────────────┘
                                    ┌─────────────────┐
                                    │ Sense of Safety │
                                    └─────────────────┘
                                    ┌─────────────────┐
                                    │Sense of Belonging│
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Functional Aspects (Chapter Four))

This chapter consists of three sections which investigate different functions of a neighbourhood centre. A neighbourhood centre, as a unit of the whole city, plays two roles: one in the city, and the other within the limits of the neighbourhood.

I. The role of the centre in the city and other neighbourhoods.

The main components of this section are the mutual relationship between the neighbourhood centre and the city, in case of services preparation; provision of access to public transport systems; and the contribution of the neighbourhood centre to give meaning to the city structure. The comprehensive discussion is presented in the section on *'Neighbourhood and the City'*.

II. The centre and its role within the neighbourhood.

This section is classified into two sub-sections:

- General characteristics of a centre with regard to the provision of Urban *'Services and facilities'*.

- The role of the centre to facilitate the opportunity of interaction among people, in other words, fulfilling the natural need of *'public life'*.

Perceptual Aspects (Chapter Five)

This chapter is concerned with the qualities of the centre which communicate a mental relationship between the environment and the residents. This chapter is categorised into three sections:

I. 'Essential aspects' discusses the meanings associated with the physical environment. Two sub-sections are the components of this section.

- *Identity.*

- *Meaning.*

II. 'Perceptual aspects' is involved with the perceptible characteristics of the environment and people's preferences. It is classified into three sub-sections:

- *Aesthetics* and stimulus or visual qualities of the centre.

- *Legibility* and the ease of movement in order to create the sense of orientation in the centre.

- *Human scale* in a neighbourhood centre.

III. 'Associational aspects' is concerned with some feelings associated with specific conditions of the physical environment and comprises two sub-sections:

- *Sense of safety* describes the characteristics of the centre which fulfil the need for safety for the residents and focuses on the provision of both physical and psychological conditions.

- *Belongingness* is concerned with the principles which enhance the sense of belonging between the residents and the physical environment.

Operational Aspects (Chapter Six)

This chapter is involved with those factors which indirectly influence the design of the centre and comprises two sections:

I. *Sustainability* discusses the conditions of a healthy environment and is presented in this chapter since not only should it be known and implemented during the design process but also has some effects after the completion of the construction.

II. Post-design issues which comprises two sub-sections:

- *Management* discusses kinds of management, mainly the engagement of private and public sectors in the control of urban centres.

- *Maintenance* is concerned with the efficiency of the management and the conditions of a well-maintained neighbourhood centre.

PART TWO

DEVELOPING A LIST OF PRINCIPLES FOR DESIGNING NEIGHBOURHOODS AND NEIGHBOURHOOD CENTRES

CHAPTER FOUR

FUNCTIONAL ASPECTS

4-1 NEIGHBOURHOOD AND THE CITY

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                          │  CHARACTERISTICS OF │
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Functional Aspects Chapter Four	Perceptual Aspects Chapter Five	Operational Aspects Chapter Six
Centre and the city	Essential aspects	Sustainability
Centre within neighbourhood	Meaning	Post-design issues
Services and facilities	Identity	Management
Public Life	Visual aspects	Maintenance
	Aesthetics	
	Orientation	
	Human scale	
	Associational aspects	
	Sense of safety	
	Sense of belonging	

4-1-1 Introduction

Neighbourhoods can not be considered as independent and unrelated parts of a city. In fact they act as different units of an organic whole. Rossi (1989 p65) states, the relationships of these parts of the city 'can not be explained as a simple function of dependence but seemingly respond to the entire urban structure.' The concept of developing a network of neighbourhoods with appropriate and defined centres is suggested and advocated from different viewpoints e.g. social relationships, sustainable design, identity and uniqueness etc.

The centre of a neighbourhood as the setting of public facilities and activities, is, to a large extent, a mediator between the neighbourhood and the city. A neighbourhood centre is considered to provide most of the facilities needed by the residents within a walking distance from their homes. However, it does not mean that their choice of using other neighbourhood centres or regional and city centre should be restricted or neglected. The notion of isolated and unrelated neighbourhoods is not realistic and can not be psychologically justified.

The opportunity to have choices between different places for desirable activities enhances the quality of the city. The diversity and variety obtained in this way is dictated by the inhabitants' use. Calthorpe (1995 p26) expresses a similar view and

says 'Clear connection to the region, between neighbourhoods and within communities are essential.' Research by Atkinson (1989) suggests that many people described their part of down town as a territory that acted as a refuge, but they also recognised the need to foster a sense of linkage with adjacent areas and with the town as a whole.

4-1-2- Centres: Making a Network

Neighbourhoods and their centres are among the main components of the city structure. Clarifying the structure of neighbourhoods within the city and identifying their critical links to the region, such as social, cultural, civic, economic and physical, are fundamental steps in a consolidated planning process (Calthorpe, 1995).

In most cases, the hierarchy of the centres in a region is based on service activities and economic dimensions such as the concept of 'Central Place Theory'. This theory, which was first introduced by August Losch in South Germany (King 1984), introduces a model consisting of a network of centres. Lynch (1981) links the idea of neighbourhood design, star city or satellite concept to this hierarchical notion. Alexander (1967) however, is critical of this model, stating that people use various centres for different purposes, thus service areas overlap in complex ways. The configuration of street networks and the grid of public transport can also maintain and demonstrate the hierarchy of centres.

Emphasising the importance of centres in urban areas, Lynch (1981) claims that each centre should have its own character and should be accessible to every one with a major grid of public transport covering the entire region. The meaning of each centre for the residents and other users, in addition to the unique character of those centres, enhances the distinctiveness of the area and also contributes to the establishment of a conceptual structure for the city.

Focusing on the design requirements, the most relevant links between the neighbourhood centre and other local centres and the whole city are investigated; aspects of these links examined in the study include: transportation, contribution of the neighbourhood to the city and city services for the neighbourhood.

4-1-3- Transportation

A neighbourhood centre should provide accessibility for the neighbourhood residents to other parts of the city and at the same time determine the place for visitors to arrive and experience the neighbourhood. Moughtin (1992 p94) argues that 'each community centre should have the unified form of a place and enclosure somewhere that denotes arrival and forms the springboard of departure.' The accessibility of the local centre to the main transportation system is crucial. Nellessen (1994) claims that the core of the neighbourhood must be the central point for transit. Provision of good access to a transit stop in the centre encourages the residents to use the public transport system and reduces car use.

Protection of the environment is a main priority in today's city design. Many modes of transportation, particularly the use of private cars, are considered a destructive factor, increasing both air and noise pollution. It is desirable to provide attractive alternatives to the car in order to serve the network of urban areas as well as within districts - with the aim of safeguarding the environment (Urban Village Group 1992). On the other hand, the more private car use becomes the norm, the more disadvantages are faced by those people who do not have the use of cars or who cannot drive, because of old age or disability, for instance.

Accordingly, alternative public transport systems should be offered, particularly when there is a group of neighbourhoods each providing complementary facilities. The Urban Village Group (1992) suggests a range of public transport to link the centre to other regional or conurbation centres, from railway stations or mass transit systems, light rail transit systems, monorails and guided buses to buses and taxis. Rail or mass transit lines may offer the best option, but if car use is to be minimised some form of feeder public transport is necessary. They consider the bus as a reliable and high quality service and suggest that the provision of bus routes, bus only links, well lit, with high quality bus shelters can promote the use of public transit.

In situations where an appropriate public transportation system is not provided, the provision of suitable car parks is essential. Big parking lots in the city landscape are considered unpleasant and must be screened from the pedestrian flow and streetscape. In large communities and particularly in urban renewal projects there is a growing need to introduce parking structures. The most important point is the requirement for retail uses or other public functions on the ground level of the

parking structure (Nellessen 1994). The provision of car parking can be varied and flexible. Around the centre, underground parking may be viable and necessary. Where multi-story car parks are the answer, their impact on the appearance and the liveliness of the neighbourhood can be reduced by increasing the number of smaller car parks and locating them behind the existing buildings(Urban Village Group 1992).

In some cases, the provision of parking areas along the street is suggested in order to provide a buffer between moving traffic and pedestrians. Angle and parallel parking are both recommended. Nellessen, favouring parallel parking, argues that in angle parking, 'the automobile takes up too large a portion of the panorama' (Nellessen. 1994 p209; Mashburn 1990). In contrast, the Urban Village Group (1992) are in favour of angle parking along the street, considering it as an additional means for slowing traffic.

4-1-4- Contribution of the Neighbourhood Centre to the City

As cities get larger there is a greater need for intermediate organisations between the individual and the city which can be at various scales: The block, defended neighbourhood, community etc. (Rapoport 1977).

A neighbourhood centre can contribute to the city in three different ways:

I. *A materialistic contribution* by offering some urban services and facilities which are not limited to the residents of the neighbourhood and that can be used by all the residents of the city. For example, when a hospital, museum or college is established in an area, it can be considered as an urban facility. The acceptable conditions of an urban facility will be discussed in the section on Functions.

II. *A decision making contribution*; Jacobs (1970) considers some other inputs from a neighbourhood to the city. She says a neighbourhood has to translate the experiences of real life into policies and purposes of the city. It has to maintain an area which is useable in a civilised way not only for its own inhabitants but for other users, customers and visitors, for the city as a whole. This notion was later emphasised by the participation of the residents in the process of decision making and designing their living areas. This method continues to be used in many cases (Gans 1967; Sanoff 1978; Hester 1990; Nellessen 1994).

III. *A spiritual contribution* by introducing meaning and identity to the city. The uniqueness and intrinsic quality of each neighbourhood, which is mostly crystallised in its centre, can be perceived by not only its residents but also by all the citizens. The interrelationship of these urban units helps to constitute a whole image of the city. Rossi (1989 p97) states that all parts of the city manifest concrete signs of their way of life; their own form and their memory, and these areas may be distinguished from one another for the purpose of investigating their 'character morphology'. He adds that a city can be viewed as a spatial system formed of parts each with its own characteristics.

The symbolic meaning of the neighbourhood centre will be enhanced if some signs or landmarks of the place can be visible from the main transportation route. In this way the legibility of the centre can also be improved. The centre's spaces will be more attractive if they are mainly revealed after passing through some thresholds or spaces of transition and in this way the sense of exploration will be improved.

The existence of unique functions or the dominance of an identical atmosphere in a neighbourhood centre enriches its character and identity. If this quality is added to the existence of special facilities, many visitors from other parts of the city may be attracted to the place. The presence of visitors from other residential areas promotes the diversity of people and has economic, social and cultural benefits for the neighbourhood centre. However, the number of people attracted to the centre is crucial, so long as it does not exceed an amount which undermines the community sense of the place.

4-1-5- City Services for the Neighbourhood

Jacobs (1970 p823) says that '...we must never forget this parent community while thinking of a city's smaller parts'. She adds that the city is the main source from which public money, administration and policy decisions are made. A city also brings people together with their communities of interest.

Some urban services can not be provided in the scale of a neighbourhood centre. For example, the critical mass required for the establishment of a hospital, university, hotel and so forth is usually higher than that of ordinary neighbourhoods. Therefore these kinds of facilities should be provided by other urban centres and have to be easily accessible by the citizens. However, there is the possibility of establishing these kinds of civic functions in the neighbourhood centres. In this

case, the existence of a small number of these functions may be useful, enriching the character and economy of the neighbourhood, but the community sense should not be undermined by them.

The Urban Village Group (1992) has drawn attention to the fact that buildings of wider importance require easy access from other communities and should be established on squares and boulevards on the edge of the urban village.

Neighbourhood centres usually provide the daily needs of residents. However, some civic services, specialist retailing and entertainment activities can not be established in all neighbourhood centres around the city. There are also some entertainment activities such as different sport races, exhibitions, festivals, drama performance and so on which are not usually available in a neighbourhood centre. In the same way some specialist goods and civic services are not available in neighbourhood centres either and the residents have to go to the larger urban centres which offer these kinds of facilities.

4-1-6- Summary

The neighbourhood centre as an entity can be considered a landmark for the city and may add symbolic meaning to the area. Establishment of a transit stop within the walking distance of residences and near the centre is essential to provide a good access to other local centres and the city as a whole. Where a mass transit system is provided through the centre, the provision of a light public transit system, inside the neighbourhood, is also recommended. There should also be adequate parking facilities screened from the public areas in order to facilitate the accessibility of the centre. The ground floor of structured parking facilities should be allocated for public use.

City-wide urban services which will attract out-of-neighbourhood visitors should be located within easy access of the edge of the neighbourhood. The number of visitors should not be so great as to undermine the community sense of the centre. A neighbourhood centre can also offer a potential for communal collaboration, in order to maintain the participation of the residents in different aspects relating to their living area.

4-2- CENTRE WITHIN THE NEIGHBOURHOOD

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│ Functional Aspects│      │ Perceptual Aspects│      │ Operational Aspects│
│  Chapter Four    │        │  Chapter Five   │        │  Chapter Six    │
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Centre and the city	Essential aspects
Centre within neighbourhood	Meaning
Services and facilities	Identity
Public Life	Visual aspects
	Aesthetics
	Orientation
	Human scale
	Associational aspects
	Sense of safety
	Sense of belonging

Sustainability
Post-design issues
Management
Maintenance

I. Introduction

In order to obtain a proper definition, each community, each physically distinct area requires its centre and those centres will establish an important aesthetic and symbolic meaning for the district or neighbourhood (Moughtin 1992; Lozano 1990). There are different reasons expressed for the necessity of a core area for a district, Gosling (1996 p230) states that the centre is the geographical fix for the whole place. 'The centre is like the mother figure for the development but the housing areas, like children, differ one from another inside the family frame'. This differentiation between these parts gives identity to them and people can recognise where they are. Greenberg (1995 p141) believes that 'the community solidarity and mutual responsibility is scaled by the town centre' and says that the centre gives the whole town its identity and tone. Gibson (1997) believes that in many cases the quality of local districts begins with a concentration of facilities at their centre.

II. Central Location

The role of the centre in formation of communities can be traced in history. An identified common space, generally placed in the central part, to give an equal access, can be found in different cultures; for example, the Greek 'Agora', Roman 'Forum', Mediaeval European 'Market square', Italian 'Piazza', French 'Place' and

Islamic 'Maidan' (Jekot 1994). The centre is the most common destination in the sense of frequency and of universality where both commercial and community activities are clustered.

The requirement to cluster urban facilities in a place and the central location of a neighbourhood centre is supported from different points of view:

- *Functional:*

Accessibility as a determinant principle of urban form is maximised at the centre with the availability of a transportation network. Market potential (access to producer and consumer) is also optimum at the centre. According to Banai (1998), theories of TOD and TND [2] emphasise the importance of a core for commercial activities.

- *Social:*

Clustering the urban services in one place can also provide some social advantages. Town centres traditionally form the heart of most communities and bring large numbers of people together. People are attracted to the core setting because that is where the action is (Bechtel 1977). Tibbalds et al. (1990) say that the local shopping centres are focal areas in the neighbourhoods not only because they guarantee the fulfilment of everyday needs but also because they function as informal meeting points.

Enhancing social relationships through the provision of gathering places is another main reason for developing neighbourhood centres (Alexander 1977; Urban Village Group 1992; Raggett 1995) and The Urban Village Group claims that the central square or place is the heart of the urban village and the barometer of both its vitality and visual quality.

- *Perceptual:*

Jacobs (1970) points out that the urban centres which grow up in lively, diverse districts count especially in district identification, particularly, when they contain a landmark that comes to stand for the place and in a way, for the district. The role of a neighbourhood centre as a public place for the whole area with all the required characteristics and also its symbolic meaning is also a primary contribution of the

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[2] Transit-Oriented Development 'TOD' and (neo) Traditional Neighbourhood Development 'TND' are the variants of the recently emerging models of 'New Urbanism in the US'.

centre to the surrounding residential areas. Those characteristics and meanings reflect the identity of the neighbourhood.

III.Main Functions of the Centre

A neighbourhood centre appears to have two main functions: first, to provide the urban services and facilities which fulfil everyday needs and second, to satisfy the need of human interaction and social relationships. Amerigo (1997) states that both house and neighbourhood have been studied from two points of view: physical, corresponding to equipment and services and social, referring to the social networks.

Calthorpe (1995) and Arendt (1994) value the social role of neighbourhoods in addition to their role in providing urban services. Emphasising the social effectiveness of public places, Arendt (1994 p5) refers to them as locations other than one's home or work place, but 'where life may be experienced'. He claims that these places are missing elements in American suburbs due to the zoning design or ignorance of parks and open spaces.

These two different roles of a neighbourhood centre will be discussed separately in two different subsections: 'Services and Facilities' and 'Public life'.
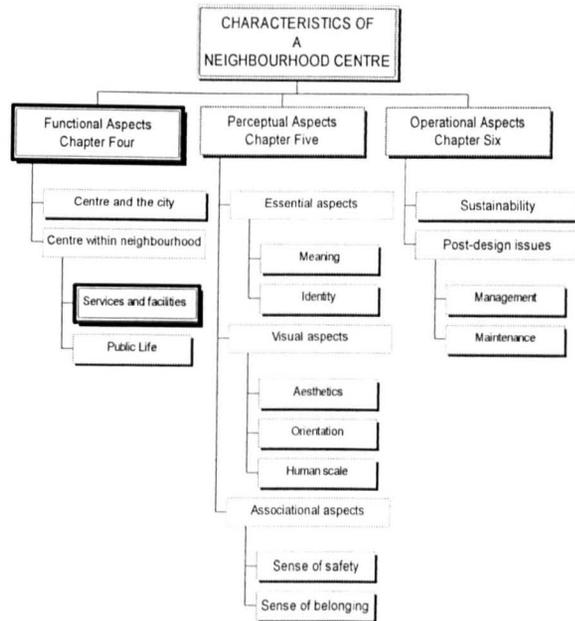
4-2-1- SERVICES AND FACILITIES

Urban services such as shops, civic buildings and recreational facilities are important components of a neighbourhood centre. They meet the daily needs of residents while at the same time, they contribute to the creation of focal points in the neighbourhood.

The neighbourhood needs an identifiable centre. Physical design can help establish vital centres by grouping institutions, facilities and amenities around a neighbourhood focal point (Calthorpe 1995). Nellessen (1994) believes that a dynamic, diverse, compact and efficient centre which provides a sense of place and enhances public life should have an easily accessible central core of commercial and community services, mixed with residential units and natural spaces.

This sub-section of the study comprises two sub-headings:

I.   Physical characteristics of the centre with regard to the provision of different services and public functions.

II. Types and size of public facilities and services in a neighbourhood centre; it also explores some principles concerning the size of neighbourhoods.

As the number, type and size of the facilities are basically dependant on the size of the neighbourhoods and decisions about both of these issues greatly differ on the basis of different social, cultural and economic conditions, the proposition of

a fixed list of factors for public facilities is not realistic. The economic decisions about different services offered in neighbourhood centres have to be made by the designers and planners according to the specific conditions of each project.

4-2-1-1- Physical Characteristics of Facilities

The preparation of a high quality exchange place with the broad meanings described by Greenberg (1995 p38) requires some specific conditions. The existence of some urban facilities in a neighbourhood may merely meet physiological needs of the residents, but unless this existence is enhanced by proper physical and social conditions, the opportunity for fulfilling psychological needs will not be provided.

Two basic conditions have been most frequently recommended for the design of urban facilities: proximity of urban services and the mixed-use design.

- *Proximity*

The proximity and connectedness of the facilities in a neighbourhood centre are repeatedly suggested. Two main aspects are more frequently mentioned:

I. Closeness of public services and residential areas. In this way, walking is encouraged and, as a consequence, more human interaction and social exchange will occur.

II. Connectedness of the facilities i.e. clustering them in one place. This helps the definition of the centre and improves its imageability and character.

Greenberg (1995) defines proximity and connectedness as a symbol of a city on a more compact and intimate scale, similar to historical towns. He claims that this quality should replace the fragmentation which exists in new areas, where the exchange of goods, knowledge and ideas is ignored.

- ***Mixed-use***

Mixed-use is appreciated from many viewpoints such as visual quality, vitality, safety and so on. Some of the advantages of a mixed-use centre are as follows:

I.   *More human interaction* takes place where many different activities are linked and a diversity of people is present, similar to traditional cities.

II. *The possibility of change* is one of the points mentioned by the Urban Village Group (1992). They claim that mixed-use design implies flexibility and therefore sustainability; in this way the village may become more self-sufficient.

Safety may be improved in a mixed-use area. The different functions established in a centre attract a number of users around the clock and maintain the safety of the place. Bianchini (1990) states that when diversity was eroded by rigid zoning policies, entire sections of city centres were transformed into empty and dangerous places in the evening and at weekends. Jacobs (1961) says that each sub-district must serve more than one primary function preferably more than two. The presence of people who go out-doors on different schedules and are in the place for different purposes make a safe and vital environment.

III. *Visual complexity and variety* needed for a space can be enhanced by mixed-use design which offers the opportunity of designing different types and sizes of buildings.

IV. *Reducing the dominance of one specific function* and giving the place a multi-dimensional character is also a salient condition obtained through mixed-use design. For example, most of the shopping malls are dominated by a commercial focus and the lack of cultural or recreational activities is a main factor preventing these spaces becoming real public spaces (Greenbie 1986; Greenberg 1995; Brown et al 1986). The disadvantages of this factor have to some extent been recognised and avoided in the recently built shopping centres such as Meadowhall and East Kilbride. For example, in the latter, by designating a large space for ice skating, right in the centre of the mall, the monotonous commercial atmosphere of the space is altered. This wide space can, on different

occasions, be transformed into a meeting place for social activities. Accordingly, although shopping may be considered as the most important function of a neighbourhood centre, the presence of cultural and recreational activities close to shops, promotes the sense of vitality (see also the section on 'Management').

V. *Improving the sense of belonging* by employing mixed-use design; where more people are attracted to the place due to the existence of a diversity of functions. The active participation of people in the centre enhances their sense of belonging to this place.

4-2-1-2- Type and Size of Facilities

The notion of focusing human activities away from traffic and toward the centre of the neighbourhood can be traced back to different projects in this century for example that of Perry (1929). In his view the neighbourhood unit concept was essentially based on the idea of establishing an elementary school, some recreational facilities and local shops in its centre. This concept of establishing urban facilities in the centre of towns and neighbourhoods is still an essential factor for urban designers.

Greenberg (1995) claims that the neighbourhood market place is the primary and most efficient exchange organ of the city. Nellessen (1994 p181) lists different activities which must be provided in a neighbourhood centre; those are 'general store, deli, restaurant, hardware store, travel agent, beauty salon, card store/gift shop, video rental, antique shop and grocery store.' He emphasises a balance of land uses and says that civic and social facilities, for example, places for worship, libraries, post offices, police and fire stations, in addition to the community and recreational facilities should be established in a neighbourhood centre.

Calthorpe (1995) expresses the San Diego policy of placing civic buildings in neighbourhood centres. The buildings comprise community centres, post offices, libraries, police and fire stations and day-care facilities which have been established in the central location of each neighbourhood; in most cases these nodes will also be next to a village green and transit stop.

Due to the changes which have occurred in retail activities during this century and the replacement of small shops with superstores, the nature of the neighbourhood centre, in order to survive as an urban service provider, has also altered. The previous small neighbourhoods with an elementary school and a small number of shops are no longer economically viable. New neighbourhood centres are more similar to village centres, where different kinds of activities and retailers are present and create a commercially competitive centre.

Herbert et al. (1990) divide the urban services into five categories which can be applied to the neighbourhood centres as well. Accordingly, the following groups of functions may be found in these centres:

1. Shopping: this category consists of different levels of services:

    *   personal: hairdresser, dry cleaner, photographer, etc.

    *   professional: banks, solicitors, estate agents, and so on

    *   catering and entertainment

    *   markets and shops

2. Wholesaling and warehouses

3. Offices including different administrative and transactional activities

4. Medical services

5. Public utilities such as schools, libraries, police, fire station and so on

Each neighbourhood centre, on the basis of economic and cultural conditions, may possess some of the above facilities. The size of the neighbourhood and its public services are mutually interdependent. As the neighbourhoods get larger they can accommodate more specialised functions. The knowledge about the critical mass of each service and facility is a salient factor in the viability of the centres.

In this section, after describing the new phenomenon of shopping malls and their negative effects on cities' public centres, the critical mass of public services as the economic factor supporting the viability of public centres is discussed and some suggestions with regard to the proper size of today's neighbourhoods are presented.

- ***Shopping: the essential activity***

Shopping can be considered one of the most important attractions of an urban centre (Reeve 1996). However, the existence of cultural and civic buildings in addition to entertainment facilities help to reduce the dominance of retail activity. Recently, shopping has become less of a daily activity due to the employment of women and more importantly because of an increase in leisure shopping. Families have started to spend more of their weekend time together (Morphet 1991). Banister (1992) also points to the growing number of journeys to leisure, social and shopping activities as car based journeys.

I. Shopping Malls: A New Urban Centre?

The decline of some urban centres in recent decades is due to the ignorance of the competition between these centres and the new form of retailing. In the last three decades many superstores, hyper markets and discount retail warehouses have been established. These new stores, which are largely located on the fringes of cities and towns, have had a considerable impact on neighbourhood and even city centres.

During the 1960s, neighbourhoods and smaller district centres were often usurped by a growing number of supermarkets. During the 1970s, larger stores and major chains were no longer interested in investing in local or neighbourhood shopping centres or even in the smaller district centres unless they were seen to retain some growth potential (NEDO 1983 quoted in DoE 1988). In the 1980s, it was generally no longer realistic to plan for a revival of local shopping centres in the inner cities since potential expenditure growth in these centres compared unfavourably with that of suburban and out-of-town centres (DoE 1988).

There are several reasons why shoppers prefer these new stores to traditional shops for example, lower prices and availability of a greater variety of goods in one place, and also more choice in selecting desirable goods. According to the research by DoE (1988), increased levels of car ownership in addition to the acquisition of freezers, caused the reduction in the frequency of food shopping.

Car-borne shoppers prefer to use the large new free-standing stores or district centres with good parking facilities (Davies 1984 quoted in DoE 1988). Less mobile and lower income groups are the people constitute the majority of users of the local

centres and who tend to follow a traditional pattern of shopping. They use small local district centres and make shopping trips on foot (Davies 1984).

II. People's Preferences

In spite of these new trends among shoppers, the study by Morphet (1991) suggests people's preference is to shop in traditional town centres, their second preference is for covered shopping centres, with edge of town centres coming last. Moreover, the importance of local centres from different aspects such as sustainability, psychology and public life should be considered and will be discussed in other sections. Lozano (1990 p8) refers to the malls as a symptom of urban life and states that this kind of shopping is now the strictly functional activity of purchasing that involves a simple trip from one's home to a shopping centre. He adds 'however, shopping was once also a social ritual that included window shopping, promenading, meeting friends informally, and exchanging information'. So the salient role of a neighbourhood centre in a new form, compatible to the present needs of users, must be strengthened by providing the optimum balance between different functions.

In general, the idea of a metropolitan area no longer dominates; a multi-centres urban area should be thought of, a place in which the old city exists but as only one centre. With regard to this, a balance of different shopping and entertainment facilities in addition to civic buildings and jobs must be provided in these centres while the number, type and scale of them are dependent on the scale and state of the centres.

• The critical mass of different functions

The viability of a neighbourhood centre in competition to many malls and shopping centres is, to a large extent, due to economic and commercial aspects. Both the private and the public sectors are engaged in this process. The provision of civic services, many kinds of offices and some cultural buildings is usually the responsibility of the public realm while the retailing and some entertainment facilities are mostly developed by the private sector. Accordingly, in order to maintain a viable neighbourhood centre, the critical mass which supports the various functions needed in the centre, has to be estimated, because it is essential for investors to guarantee their intended income. The critical mass of a function has two aspects:

I.   The number of people necessary to support the intended benefit of that function.

II. The number of services which should be established in a place, in order to attract shoppers to that centre, particularly when shoppers use cars.

Greenberg (1995) states that a critical mass of concentrated shops of a wide variety in a context is necessary to encourage one stop shopping and for the passer by to park the car and walk to several businesses.

The critical mass to a large extent specifies the size of the centre in the matter of estimating the adequate number of services to attract shoppers. It can also suggest the size of the neighbourhood in the matter of accumulating adequate numbers of people who should use the centre.

- **The catchment area of a neighbourhood centre**

As discussed previously, a key determinant factor for the size of a neighbourhood is the catchment area of different functions established in the centre. Considering the classification of urban services, suggested by Herbert et al. (1990), two factors arise and suggest that the economic planning of local services is usually a compromise. These factors are:

I.   *Different zones of influence for various functions* not only do the catchment areas of services between the categories differ, but they also alter among the different functions of one category. For example, the acceptable travelling distance to a library is considerably different from that to a primary school. Even different shops, according to what they offer, have different catchment areas.

II. *Change over time.* Economic conditions of those catchment areas or different services also vary over a period of time and can affect the efficient size of the neighbourhood centre.

Accordingly, two key points are illuminated:

I.   Urban centres do not exist in isolation (The Urban Village Group 1992), particularly in a highly mobile car oriented society. It would be impossible for any town or city to have a complete range of activities (banister 1992). Obviously the settlement can still be relatively efficient if a range of facilities and services are provided within walking or cycling distances.

II. The flexibility and compatibility to change is a salient factor for the viability of the centres.

There is another influential factor which determines the size of a neighbourhood centre's zone of influence. The walking or, in some cases, the cycling distances, particularly nowadays, when the use of the car is seriously discouraged.

Accordingly, the appropriate size of a neighbourhood can be considered with regard to its population and area. The size has to be flexible and dependent on the specific conditions of each place. Banister (1992) suggests that a town of about 25000 would have the shortest trip lengths, lowest door-to-door trip times and a high proportion of facilities and services within walking and cycling distance. Lynch (1982) suggests units of 20,000-40,000 people as an optimum size in which ordinary people can be active and feel connected to an identifiable community. In a research study by Owen (1987) he points out that the compact urban sub-units of 10000-30000 are self-sufficient in service provision and employment, in addition to being most energy efficient forms.

When area and population are considered as the key determinant factors for a neighbourhood centre, the density of cities emerges as being essential. This issue may lead to the suggestion of compact cities which are also recommended for creating more sustainable cities (CEC 1990). However, the concept of compactness should not lead to the simplification of urban problems and should respect all dimensions of urban life. On the whole, the provision of urban centres which offer as many services as possible in a convenient walking distance has to be profoundly considered today.

4-2-1-3- Summary

The existence of a core area is necessary for every community and district in order to construct its definition and identity. The provision of self-contained urban centres contributes to the enhancement of city life and a proper selection and concentration of services and activities promotes the viability and durability of the centres. The residences can have fairly equal access to the facilities when they are clustered in a core area, where its location on the natural pedestrian movement of the neighbourhood can support the vitality of the centre.

The size of a neighbourhood centre varies on the basis of its social and economic conditions. Recent suggestions for the size of neighbourhoods show the viability of units including 20,000-30,000 people. It seems that today's neighbourhoods have to be larger than their predecessors.

There have been suggestions for the overall form of a neighbourhood centre to be for example either linear or focal. Some designers believe that focal configurations are more memorable. However, its form should be obviously decided by individual designers according to the specific conditions of each project.

Two physical factors, mixed-use and proximity of urban services, are widely recommended with emphasis on the compactness of the core area. A balance of various functions from retailing to recreational, cultural, and social facilities is necessary where the critical mass of each function is already considered and the required number of visitors or shoppers is available around the centre. The provision of job facilities is also important particularly for women who prefer to work within close access to their homes.

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│ Functional Aspects │  │ Perceptual Aspects │ │ Operational Aspects │
│   Chapter Four   │    │   Chapter Five   │    │   Chapter Six    │
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- Centre and the city
  - Centre within neighbourhood
- Services and facilities
- **Public Life**

- Essential aspects
  - Meaning
  - Identity
- Visual aspects
  - Aesthetics
  - Orientation
  - Human scale
- Associational aspects
  - Sense of safety
  - Sense of belonging

- Sustainability
- Post-design issues
  - Management
  - Maintenance

4-2-2- PUBLIC LIFE

4-2-2-1- Introduction

Urban life is manifested by the presence of people in urban spaces. If this presence is associated with pleasant and enjoyable activities and is regarded as spiritually valuable by the people, an enhanced public life is gained. Participation in the public realm of a city has been viewed and discussed from different perspectives. However, there is consensus on the importance of human interaction as a psychological need for people (Lang 1994).

In spite of using T. V., radio and other electronic communication systems, the use of parks, theatres and recreational facilities has increased (Greenberg 1995). Many commentators have considered the public spaces as the most important elements in the city (Rivlin 1994; Gehl 1980; Alexander 1977; Jekot 1994). Gehl (1980) points to the recent growth of social activities in public spaces and says that public life and particularly street life have grown in number and scope in the form of folk festivals, carnivals and even everyday activities.

The main reasons for new trends for the revival of the city public spaces are due to some changes in the current life. The change in family pattern indicating an increased number of old people in good health is pervasive in industrial countries. New forms of jobs using new technology and efficiency measures cause a reduction

of work load and time spent at work. Consequently, more people have more spare time to spend. (Gehl 1980).

Public life comprises two kinds of formal and informal activities. Many specialised thematic centres, commerce, administrative, cultural etc. provide the opportunity of performing highly specialised and defined behaviours. However, the informal activities do not find space to be performed (Jekot 1994). Nostalgic feelings towards recent loss of public life is mostly with regard to the informal public activities, where the ideas of discovery, expanding one's mental horizons of the unknown, surprise, experiment and adventure are abandoned (Bianchini 1990; Alexander 1977).

4-2-2-2- Neighbourhood Centre and Public Life

Providing appropriate public spaces so as to perform some kinds of social activities and to engage in human interaction is an important function of a neighbourhood centre.

Public life in general is largely with strangers and is much about speculating and observation, whereas neighbourhood life, where people are not strangers, is more about verbal interaction. Brill (1989) states that this small scale neighbourhood life has eroded because economic principles of organisations have largely replaced social ones.

The members of a neighbourhood usually take advantage of the fact that they know many people. If they have a common background or any kind of shared interest or value, they can comprise a powerful context for a comprehensive social relationship. In fact social interaction, or lack of it, is to a large extent dependent on the existence of common political, ideological and economic sphere of interest among people. Where this context is present, a well-designed public space, shaped on their common interest, culture and life style, can facilitate and encourage the public activities.

According to Hallman (1984), there has been some decline in neighbouring activities in recent decades due to the factors such as:

     I.   The multiple sources of information and opinion available via mass media, travel, voluntary organisations and employment away from the local area.

II. Better transport increasing mobility beyond local village or district boundaries.

III. Increased differentiated interests and desires, as well as differentiated rhythms of work which result in lesser amounts of shared free time available for leisure.

IV. Better social services and greater prosperity and economic security. Sennett (1970 and 1977) mentions this point and says that economic abundance destroys the concept of sharing and communal experience and isolates and insulates the individual.

This process of diminishing neighbouring activities was aggravated by the establishment of privatised public realms especially in the form of shopping centres, whether in the suburbs or downtown.

Recently there has been much literature advocating the importance of social life and public spaces. These debates have had supportive effects on the regeneration of town centres and have to a large extent promoted public spaces (Montgomery 1996 & 1990; Raggett 1995). There are two main approaches to the revitalisation of public realm and urban centres:

– The first is the retailing viewpoint which mainly concerns the improvement of urban centres in order to increase the shopkeepers profits. This view, in some cases, focuses on the attraction of more and more shoppers as the main aim of the project (Reeve 1996).

– The second is the community viewpoint which is encouraged in order to improve the social life in cities and is manifested in the recent trends towards the traditional neighbourhoods. TND and TOD, in the US, and 'Urban village' and 'The New Village' in the UK are among the new outlooks which reflect this inclination.

4-2-2-3- Different Activities in Public Spaces

Public life and social relationships among people in fact embody some activities which are performed in public spaces. A limited number of people particularly if they have a common background and interest (e.g. residents of a neighbourhood) can create an appropriate context for comprehensive social activities. Activities such as greetings, conversation, discussion and play arise from people who know each

other, whereas in the city centres social activities will generally be more passive, such as seeing and hearing a great number of unknown people.

Activities in public spaces can generally be divided into two basic categories, namely, formal and informal. The former refers to:

- *'Necessary activities'*, which Gehl (1980 p11) defines as 'All activities in which, those involved are to a greater or lesser degree required to participate.' This kind of activity is related to everyday tasks from going to school, work, shopping, to waiting at the bus stop or bank queue and so on. They are usually related to walking. He lists some specifications for these activities such as:

  I.   They take place throughout the year.

  II. They are less dependent on environmental conditions.

  III. The participants usually have no choice.

- The second type named *'optional activities'*, are those which the participants may wish to do. To a large extent, they are dependent on the environmental conditions. They are not likely to be performed unless a supportive qualified setting for the desired activity is available. Gehl (1980) suggests that taking a walk to get a breath of fresh air, standing around, enjoying life or sitting and sun bathing are among these activities. Optimal exterior conditions such as good climate and inviting places increase the probability of these activities. On the other hand, the quality of public space can be measured through the degree of performing optional activities. Most recreational activities can be considered in this category.

- There is a third kind of activity which can result from the first two kinds, namely *'social activity'*. Although the presence of more than one person in a place provides the context for a social relationship, they are indirectly supported whenever the previous two kinds of activities exist in supportive conditions.

According to Gehl (1980 p14), social activities include the following main groups:

  I.   children playing

  II. greetings

  III. conversations

  IV. communal activities of various kinds

V. passive contact; for example simply seeing and hearing other people, as the most widespread social activity

Social activities are essentially performed among groups of people who know each other, but in bigger areas or city spaces some events or conditions may provide appropriate situations for social relationships. Whyte (1980) calls this situation triangulation and says that it means the process by which some external stimuli provide a linkage between people and prompt strangers to talk to each other. The stimulus can be a physical object like a statue or a street character or any unexpected or surprising event. Musicians and entertainers, for instance, can draw people together.

4-2-2-4- Activities and the Physical Environment

Activities and physical environment have a mutual relationship. After the environment is shaped on the basis of social relationships, it will influence public life. Gehl(1980) says that outdoor activities are influenced by a number of conditions; physical environment is one of the factors which influences the activities to varying degrees and in many different ways.

Historically the process of physical formation of urban spaces was involved with the process of forming communities and its cultural rules and life styles. The morphology of traditional towns can be considered as a physical manifestation of their social relationships. Jekot (1994) says that the public spaces of a city are an expression of the social life.

Gehl (1980) believes that in poor-quality streets and spaces only the bare minimum of the necessary activities take place and people hurry home, while in public areas of high quality even the necessary activities tend to take a longer time than usual and a wide range of optional activities will also occur. Rapoport (1986) names the quality of the space as supportiveness and says that the preferred settings work well for supporting desired activity and behaviour.

A knowledge of informal activities is a useful starting point for planning and designing public spaces. The culture and lifestyle of a given area as the principle influence on behaviour and activity will help in obtaining this knowledge. New achievements in the process of life can change the social image of public life and lead to new kinds of public activities, so the spaces which can be supportive for changes enhance the evolution of public activities.

This interrelation of local activities and physical formation of public places is one of the important factors for establishing the identity of a place. It helps the sense of uniqueness and can be perceived in many historical towns.

- ***Quality of public space***

Rapoport (1986 p175) believes that activities are not limited to 'instrumental aspects', but include 'latent aspects'. These are usefully conceptualised in terms of the activity itself, how it is done, associated activities and the meaning of the original activity. In this way, the quality of a setting for supportiveness of specific activity will be enhanced by the provision of latent functions. Thus, Rapoport comes to the conclusion that some functions may be important, even if not used in instrumental terms, simply by being there and communicating such qualities as: status, identity, appropriate image or environmental quality.

It is important to study the contextual qualities which enhance public life and promote the vitality of the centres. The presence of diversity of people has been considered an essential factor for successful urban spaces. Different groups of people depending on their age, gender, culture etc. demand different amenities and conditions. Provision of these various conditions is crucial for the vitality of the place. Rivlin (1994) lists some essential factors to promote the quality of urban life. They are:

I. Diversity: public life should reflect the diversity of the society which includes different groups, ages, gender etc.

II. Freedom of choice: represents the ability to exercise rights over public space as a member of society without restrictive rules and management policies.

III. Life in public: necessitates negotiation with the lives, rights and freedoms of others. This is especially difficult where diversity rather than similarity of users prevail.

IV. Peaceful ways of addressing conflicts: is also essential in public life.

The ability to define a territory around oneself or a specific group promotes the sense of safety and belonging and the provision of different social activities enables individuals to select their favourite one and increase the vitality of the place.

4-2-2-5- Basic Activities

The basic activities which usually take place in public spaces are walking, standing, sitting, seeing, hearing and talking. These activities can usually be considered as being part of other activities. Gehl (1980) considers that the attractiveness of a setting for these activities means that a broad spectrum of other activities will find a good basis for development. This is the case because many qualities are common to all activities and moreover, some more complex community activities naturally develop from the small daily ones.

Starting with optional activities which ultimately help the provision of social activities, pedestrian activity appears as the most basic. The main activity creating probability of face to face contact with people is pedestrian activity. Two main forms of pedestrian activities can be discussed, namely dynamic and static.

* *Dynamic pedestrian activity*

These activities mainly involve moving in a space. Rapoport (1986) suggests that interest is a principle criterion for movement in spaces. It is a perceptual quality and not only the fixed elements but furniture (semi-fixed features) and people are also involved to create interest. Street furniture, with some other urban elements, enhances the quality of public space and encourages informal activities; these are:

1) temporary and moveable markets, 2) booths, 3) stands, 4) water elements, 5) elements of zoning and segregation etc. (Lozano 1974).

In an article by Rapoport and Kantor (1967 p215), they mention that 'the sustained interest of a perceiver needs a stimulus field with some familiarity and some novelty', and that if the novelty is absent, there is a corresponding lack of interest since interest requires the unfamiliar factor to be learned.

Considering the hierarchy of needs suggested by Maslow (1970), who divided human needs into 5 categories from physiological needs, safety needs and need to belong, to higher needs of esteem and self actualisation, the supportive qualities for a pedestrian pathway will be:

I. Climatic design of the path considering sun, shade, wind protection from rain and pollution, so as to provide suitable comfort in walking space.

II. Safe and clean routes offering contact with nature such as greenery and trees, far from traffic dangers and speed. Hertzberger (1991 p68),

describing a pleasant walking space in Vichy Park Paris, emphasises the importance of nature and climatic protection. He says 'The main walks through the park are roofed with light weight metal structures, which gives the stroller the feeling of being both inside and out of doors at the same time.'

III. Provision the condition of contact with people and promoting the sense of community, for example, by offering the opportunity to view public activities while passing through the pathways (Lang 1994).

IV. Creation of ambiguous environments that have different opportunities of meaning for different peoples (Lang 1994) and adequate perceptual characteristics to fulfil the need for exploration and discovery. A well-designed pedestrian pathway, while providing familiar and understandable clues for orientation and legibility, prepares an optimal amount of unexpected elements or complexity to evoke the sense of interest. (See also the section on 'complexity')

V. Provision of neat and well-maintained spaces to achieve the need for the display of the civic status (Lang 1994) and also to enhance the sense of order and legibility.

Gehl (1980 p143) suggests that 'It is tiring to walk when the entire distance to a far destination is in sight. It is still more tiring and unacceptable to be forced to use routes other than the direct one when the destination is in sight.' An enjoyable walking network with alternative street spaces and small squares seems to be shorter than tiring monotonous pathways.

- *Static pedestrian activity:*

These activities usually consist of standing, sitting, lying, eating, working, playing and so on. In the following pages, the appropriate conditions for some of these activities are discussed. Rapoport (1986) states that liking is an important principle in choosing a static place and it is more influenced by associational aspects or meanings. Greenery and natural scenery are important factors for selecting a setting (Korpela et al 1996). Moreover, the presence of other people is also an essential factor in choosing those spaces. Whyte (1980) says that people are mostly attracted by other people and they do not seek quiet and isolated places.

Culturally appropriate and acceptable behaviour are salient for people's participation in these kinds of activities.

People attracted to static places are usually, at the time, using these spaces for rest. Therefore, having a good view is an important factor. These spaces should encourage visual exploration, especially of other people, from one spot. Rest places are usually wider than dynamic ones and are frequently preferred to make the most of the natural elements available. The presence of trees, flowers, plants and so on introduces the natural features, and using sun and shade, depending on the temperature, is an attractive factor for selecting a place. Enclosure and protection against climate are two essential factors while the provision of relationship to nature is not ignored. Gehl (1980) points out that protection from unpleasant weather is a salient factor which differs in different climates e.g. in Scandinavia, as the winter changes to summer, the number of people in the streets increases therefore, some efforts have been made to make year-round useable places or to create social spaces pleasant in winter.

Another attractive factor for inviting people to a static area is the availability of food shops. Any cafes, restaurants or coffee shops juxtaposed to these places provide the opportunity of eating and increase the occupation of the place (Whyte 1980). Moreover, the more people remain in a space the more opportunity there will be for social interaction. There are some associational activities which help the attractiveness of these places such as street music, street theatre, street traders etc. (Haughton 1994).

- *Different static activities:*

Standing

Standing, as one of these activities, has been divided into three categories (Gehl 1980 p149):

I. Stopping for a moment, which happens for different reasons, such as: for a red light, to look at something or to fix something etc. These kinds of stopping are not usually influenced by the physical environment.

II. Stopping to talk to someone. This activity occurs independent of time and place but for longer conversations suitable places are sought.

III. Standing for a longer duration, which usually takes place to view some activities, to listen to a lecture or music or for other reasons, but the specific factors in

choosing places for standing should be considered by designers. Gehl suggests some zones where standing occurs:

- Along the edges or the borders of the spaces because: these places are less exposed; one is not in the way of others and one can see but not be seen. Moreover, the personal territory around one is reduced to a semicircle in front of the individual. Alexander (1977 p755) says that more passive actions take place alongside the edge and more active ones in the middle. He adds that 'If the edge fails then the space never becomes lively.'

- When one's back is protected because: others can approach only from the front and this makes for a better sense of safety in the event of undesired invasion of personal territory.

Some kinds of urban furniture may provide more comfortable standing places, for example, something to lean on or place things near. Columns, street lamps, trees, gateways and corners are some physical supports. Bollards can function widely as such well defined supports for standing.

Generally speaking, according to Gehl (1980), people prefer to stand or sit near something and that is the reason for the substantial role of details in developing staying activities.

Sitting

Sitting is an important static activity which provides many other optional activities such as eating, reading, knitting, playing chess, sunbathing, watching people, talking, resting and also sleeping.

Sitting facilities are considered very important by many designers. Hertzberger (1971) says that the quality of sitting facilities can influence the evaluation of the public environment. As Gehl (1980 p157) discovers, 'Sitting locations are chosen far more carefully than the location for standing.' The reason may be the duration of staying, because in a sitting condition, staying may last much longer than standing. People usually seek support from the details of the physical environment for selecting sitting places. Niches, well defined spots and even the ends of benches are preferred where the individual territory of the person is more protected. Gehl (1980 p161) believes that 'Well-protected places (from sun, wind etc.) with an

unobstructed view of the surrounding activities are always more popular than the places offering fewer advantages and more disadvantages.'

It must be emphasised that a good view of the surroundings is crucial. Whyte (1980) says that steps are preferred for sitting not due to comfort of the perch but because of so much view which can be seen from it. So if the sitting area is situated on the upper level of the pedestrian pavement or a natural landscape, a good overview will be maintained. According to Whyte (1980), there are basically four amenities which are particularly important for sitting places: sun, tree, water and food.

Types of seats

There are mainly two kinds of seats: one that is designed and made specially for sitting, such as benches, chairs and so on; the other kind is physical elements whose primary function is not for sitting but are, nevertheless, used as seats, such as stairs, low walls etc. According to Gehl (1980 p163), steps are very popular places to sit on because they 'serve as a good look out.'

Gehl points out a crucial point ; that is the number of seats in a public place. If there are too many seats but unoccupied by people, it seems that the place is not popular or has been rejected and this gives a depressing impression. The place in which ordinary seats are limited but other physical objects are available which can be used as seats, has the advantage of appearing to function reasonably well, as other facilities come into use when needed. So Gehl firmly emphasises the design of multipurpose city furniture and facade details with various possibilities for use. Similar to Gehl's viewpoint, Hertzberger (1991 p63) mentions the architect's frequent miscalculation of the ratio between the size of the public space and the number of people that may be expected to use it. He says that 'If the street area is too large, too little happens in too few places, and in spite of all the good intentions to the contrary, the consequence is vast spaces which assume the nature of a "desert" simply because they are too empty.' On the other hand, Whyte (1980) suggests moveable chairs for indoor spaces. There is a considerable need for places to rest on, especially for the elderly, besides the usage of seats for recreational activity. These seats should be designed at regular intervals.

Different attitudes towards sitting

Different ages and people have different attitudes towards sitting places. For many people, mainly old, comfort and practicality is a weighty factor. They need to sit down and get up easily and to be comfortable for an extended period of time. The

old prefer sitting along pathways to be able to see the people and their activities perfectly (Whyte 1988).

Children and young adults have a different preference for choosing sitting places. They accept to sit anywhere: on the floor, street, stairs, edge of fountains on flower pots and so on. As Gehl (1980) points out, the general situation plays a more important role for them.

Finally, one can suggest that similar to places selected for standing, sitting areas must provide the opportunity of defining territory and maintain a protected place for users. Introducing a good view of the surrounding events and natural landscape and availability of food are essential factors for a preferred sitting area.

- *Associational activities*

There are some associational activities which enhance the pedestrian activities discussed above, such as hearing, talking and seeing.

Hearing

Appropriate conditions for hearing is an important factor which is not noticed unless a street is converted to a pedestrian route and the opportunity of properly hearing people is obtained. Gehl (1980) mentions that if the background noise exceeds 60 decibels, which is usually the case of mixed traffic streets, it is nearly impossible to have ordinary conversation. A distance as little as 5-15 centimetres is required for hearing the human voice. In this situation children and adults can speak only when the adult bends down to the child and this situation usually decreases the communication between children and adults. The ability to hear music, song and speeches enhances the interest in a walking pathway or in a sitting area.

Seeing

Seeing is mainly dependent on distances; the maximum distance for seeing events is about 70-100 metres (Gehl 1980). Lynch (1962) suggests a spatial dimension about 25 metres as a comfortable dimension for social relationship in a public space; he says that spatial dimensions greater than 110 metres are seldom found in good city spaces.

Lighting is another essential factor for seeing but it does not mean that brighter light is preferred; an adequate, warm and friendly lighting is largely favoured by people.

Talking

Talking is an activity which particularly contributes to social relationships and promotes the quality of public spaces. Except talking to accompanies, in many occasions, people talk to their acquaintances who meet in the public places. They choose appropriate places to talk on the basis of the duration of their talking.

There is another kind of talking and that is 'talking with strangers'. Gehl (1980) states that sitting side by side or engaging in the same activity or experiences, provides a suitable context for talking. Unusual events may contribute to initiating conversation and Whyte (1980) uses the term 'triangulation' to describe this situation.

The arrangement of physical elements may increase the opportunity for conversation. In 'The Hidden Dimension', Hall (1969) introduces different seat arrangements which provide conversation possibilities such as: chairs placed close together, around a table, or benches placed at an angle.

Playing areas for children are not only welcomed by the children but can also provide conversational opportunities for parents if the sitting areas are appropriately designed.

4-2-2-6- Summary

A neighbourhood centre should facilitate social interaction for the residents. As there is greater probability of face-to-face contact through pedestrian activities, two main forms of these activities, dynamic and static, have been discussed.

Walking as a dynamic pedestrian activity seeks specific conditions, among which interest is the most important. Creating variety in the physical environment enhances interest. Therefore, designing winding routes, changing the street space and experiencing a large space through a small one are some ways of achieving variety in addition to the complexity provided through the design of facades, ground surface, vegetation, and urban furniture (see also the section on visual aspects, chapter five). The quality of paving surface is also important to encourage people to walk, in particular, the elderly. The pavements have to be clearly defined and protected from undesirable climatic conditions. The length of the routes should be

within average human capacity and adequate seats at regular intervals for resting should be provided. The quality of lighting is also important in order to enhance the visibility and the sense of safety for the pedestrians.

Static pedestrian activities usually need wider spaces and take longer periods of time than dynamic ones. Protection against climate is essential for these spaces. The attractiveness of these places is promoted by natural features and good views toward landscape or popular activities. The presence of people in the area and the provision of an overview to these spaces will improve the sense of safety which is a salient factor. Availability of food shops is an effective enhancement.

The detail of the physical environment, either in the facade of buildings or within the spaces themselves, contributes strongly to their appeal. The quality of air and noise should be controlled in order to gain a desirable space. Availability of seats, appropriately arranged and located in well protected parts of the spaces with a good view, will not only invite people to sit but can also increase the possibility of conversation. The size, lighting conditions and cleanliness of these spaces are important factors enhancing the sense of safety and determining their use.

PRINCIPLES

Functional Aspects

1- Neighbourhood Centres and the City

1	The neighbourhood centre, as a whole, can be considered a landmark in the city; so the visibility of some features of the centre from the arterial routes promotes the legibility and the symbolic meaning of the centre.	Lynch 1981
2	Accessibility of the residents to a convenient public transport system via the centre is important. The transit stop should be located within a walking distance from the residential areas and near to the centre.	Moughtin 1992 Nellessen 1994
3	The transit stop should contain: a covered and comfortable sitting place, newspaper stand, bicycle racks, a litter receptacle, a clock, a telephone, and a food outlet.	Nellessen 1994
4	The provision of a light public transit inside the neighbourhood is appreciated while mass transit system is available within the neighbourhood and city areas.	Urban Design Group 1992
5	Adequate parking facilities have to be provided. The parking lots should be screened from the streetscape either by locating them behind buildings, trees or other kind of pleasant features. In case of structured parking, the ground level must be designed for retailing functions or other public spaces. Underground parking can be recommended where necessary.	Urban Design Group 1992 Nellessen 1994
6	There can be parking along the street where motor traffic is not heavy and pedestrian flow is not separated. Parallel or angle parking is recommended depending on the width of the streets and pavements. Where the street is fairly narrow, parallel parking is preferred.	Mashburn 1990 Urban Village Group 1992 Nellessen 1994
7	Some city-wide urban facilities may be offered through neighbourhood centres. Although the establishment of those urban services may improve the neighbourhood's financial and social conditions, the number of visitors to those facilities must be controlled not to exceed the limits which undermine the community sense of the neighbourhood centre.	Mashburn 1990
8	The buildings which are considered to be used by other communities must be located on the places of easy access; for example near the edge of the neighbourhood.	Urban Village Group 1992
9	A neighbourhood holding a specific meaning as a public residential setting offers a potential for communal collaboration. An organisational nucleus can be made through the neighbourhood centre to maintain the participation of the	Gans 1967 Jacobs 1970 Sanoff 1978 Nellessen 1994

residents in different issues of their living area.

2- The Centre and the Neighbourhood
2-1- Services and Facilities

1	The existence of a core area is necessary for every community and district in order to construct its definition and identity. They will be called neighbourhood centres hereafter although the size and population of them may differ from conventional neighbourhoods.	Lozano 1990 Moughtin 1992 Gosling 1996 Gibson 1997
2	The provision of relatively self-contained urban centres is essential for the provision of a good city life. The quality of these centres begins with a concentration of facilities in a place, and the viability and durability of these centres, to a great extent, is upon a proper selection of those services and facilities.	Greenberg 1995 Gibson 1997
3	The urban facilities and services should be integrated in the core area of the neighbourhood in order to provide a fairly equal access for all the residences. If the natural pedestrian movement of the neighbourhood takes place near the core area, the vitality of the centre would be also enhanced.	Jekot 1994 Banai 1998 Alexander 1977 Bechtel 1977 Tibbalds 1990 Urban Village Group 1992 Raggett 1995
4	A specific form can not be suggested for a neighbourhood centre. There are different suggestions for a linear or a focal form. Where some designers propose a linear centre, there are some suggestions that establishment of a centre around a square, as a defined space, seems to be more memorable and the sense of enclosure can be better created in this way. The square can accommodates different civic and commercial functions around a focal point.	Krier Cullen (1996) Unwin, 1909 Zucker, 1959 Collins, et al 1986 Duany et al. 1991 Urban Design Group 1992
5	Mixed-use design is firmly recommended from different viewpoints. The ground floor must be allocated to the public activities such as shops, restaurants and so forth.	Jacobs 1961 Greenbie 1986 Bianchini 1990 Urban Design Group 1992 Greenberg 1995
6	The proximity of different functions is essential to support vitality, safety and promote the sense of place.	Greenberg 1995
7	Although high density and compactness is fairly suggested for the central area of the neighbourhood, provision of a good relation to nature, greenery and open spaces will promote the quality of the place.	CEC 1990 Crookston et al. 1995 Sherlock 1996
8	A balance of various shops and stores should be provided to fulfil different needs of the residents. Those may include the daily needs of convenience goods, to some personal and specialist commodities such as clothing, stationary and so on. Some services such as beauty salon, travel agent, video rental and take away are also important.	Muller 1976 (quoted in Goldensohn 1986) Herbert et al. 1990 Nellessen 1994
9	The critical mass of each function should be precisely estimated, otherwise, the function can not revive. Moreover, the flexibility of	Greenberg 1995

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	the functions and their compatibility to future change is essential.	
10	Cultural buildings such as places of worship and libraries should be established while some kind of temporary exhibitions and galleries may be recommended.	Calthorpe 1995
11	With regard to the new trends of leisure shopping activities, different kinds of recreational facilities such as restaurants, coffee shops, sports hall and swimming pool are recommended for a local centre. Seasonal concerts, drama, film and so on may be performed in a multi-functional hall which can be used as a community centre as well.	Nellessen 1994
12	Health service facilities and surgeries in addition to the civic services such as police stations, post offices, fire stations and also public toilets must be established.	Herbert et al. 1990 Calthorpe 1995
13	There can be some offices, workshops and other job facilities which enable the residents to work in a close accessibility to their homes. These jobs will be mainly favoured by women.	Herbert et al. 1990 Urban Village Group 1992 Houghton et al. 1994 Nellessen 1994

2- The Centre and the Neighbourhood

2-2- Public Life

Pedestrian Dynamic Activities

1	Winding pedestrian routes (or creating any change in the terminating point on the route) enhance the complexity and improves the interest unless the destination is in sight.	Rapoport and Kanter 1967 GLC Study 1978 Gehl 1980 Lang 1994
2	A direct route is suggested when the destination is visible.	Gehl 1980
3	Changing the street space along the route and providing small squares help walking distance seem shorter.	GCL Study 1978
4	An intimate, clearly defined route is preferred to empty areas, even defining the routes with fence or trees is better than undefined edges.	GLC Study 1978 Urban Design Group 1992
5	The quality of experiencing a large space is greatly enriched when the approach is through a small space. This factor can be used in the centre's spaces by using thresholds or gateways.	GLC Study 1978
6	When large spaces should be crossed, moving along the edge instead of the middle is suggested to provide the opportunity of experiencing both the large space and the small details of the street facade; this also helps to the protection against climate.	Carpenter 1995
7	People, on the whole, do not like going up and down steps in pedestrian areas; therefore in designing vertical connections, it is important that the users feel these connections are easy and free of complications. This can be maintained through: • shorter flights interrupted by a landing.	GLC Study 1978 Gehl 1980

- starting downward rather than upward.

- not interrupting the direction nor the rhythm of walking.

- using flat ramps instead of stairs.

8	In large spaces low arcades are recommended to make a pleasant intimate space while protecting the pedestrians against climate.	GLC Study 1978 Hertzberger 1991
9	In pedestrian shopping streets it is preferred to have the opportunity of seeing both sides of the street during walking.	Hertzberger 1991
10	In pedestrian walks the width of the street should allow people to hear someone talking to them from the other side of the street while providing adequate space for the pedestrian flow.	Nellessen 1994 Carpenter 1995
11	The length of pedestrian routes should be around 400-500 metres. The acceptable distance in a given situation is not only the actual physical distance but also to a great extent the experienced distance. Therefore, the acceptable walking distance would be an interplay between the length of the street and the quality of the route.	Ritter 1964 Gehl 1980 Nellessen 1994
12	One of the most powerful agents for unifying and joining the town is the ground surface which can be crystallised into shapes formed by differing colours or textures which indicate action.	Cullen 1971 CLC Study 1978 Rapoport 1986 Nellessen 1994
13	Appropriate lighting should be provided in order to guarantee the safety and attraction of the place and to deter crime.	Nellessen 1994 Carpenter 1995
14	The provision of seats at regular 100 metres intervals for resting, especially for the elderly, should be considered.	GLC Study 1978 Gehl 1980
15	Appropriate pavement and surface conditions is necessary for the safety and convenience of the elderly and children.	Gehl 1980 Nellessen1994

2- The Centre and the Neighbourhood

2-2- Public Life

Pedestrian Static Activities

1	The public spaces, designated to the pedestrian static activities are usually wider than pedestrian pathways.	Rapoport 1986
2	The presence of natural features and green spaces is an important factor for the attractiveness of the space. This aim can be obtained through the provision of trees, flowers, plants and water; where available natural landscape and scenery are also favoured by people.	GLC Study 1978 Korpela at al. 1996
3	The presence of other people is an essential factor, so the place	

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	should have an overview to the popular activities of the surrounding places or pedestrian movement. Isolated places are usually rejected and do not provide the sense of safety.	Jacobs 1961 Whyte 1980
4	Protection against climate is a crucial point and can be obtained by the preparation of moveable elements which can be used depending on the weather and climatic conditions.	GLC Study 1978 Gehl 1980 Whyte 1980
5	Sun and shade are important features in choosing a rest space and therefore they should be carefully considered in the design of such spaces.	Gehl 1980
6	The rest spaces should not be screened from the pedestrian movement, otherwise, the sense of safety will be reduced. If a functional space can provide an overview to the rest area, the quality and safety of the place will be increased. For example, if a sitting area is in front of a restaurant, a shopping centre, an office building and so on, the safety of the place will be improved.	Newman 1973
7	As availability of food is important for a rest area, it is recommended to establish places such as coffee shops, restaurants, and take away near to these places.	Whyte 1980
8	The details of the physical elements and particularly the features along the facades and edges should be supportive for sitting and standing. For example, protective enclosure behind the seats, holes, niches, columns and trees or even flower pots and street lamps are useful to help people to define a territory around them.	GLC Study 1978 Alexander 1977 Gehl 1980
9	The rest areas should be free of pollution and noise; if these places are already pedestrianised the quality of the public life is enhanced, otherwise, the pedestrian flow should dominate and the movement of cars have to be reduced to the minimum degree.	GLC Study 1978 Gehl 1980
10	Seats should be provided in two types: first, as ordinary chairs and benches whose number can be limited. Second, as physical elements including details of the public space and urban furniture which provide the possibility of sitting on or standing next to. These latter forms will be occupied when necessary.	GLC Study 1978 Whyte 1980 Gehl 1980 Hertzberger 1991
11	The dimensions of a public place should correspond to the human capacities, for example seeing and hearing; a space with a 25 metres diameter can be considered as an appropriate suggestion for active public life.	Lynch 1962 Gehl 1980
12	Provision of appropriate lighting is salient for the attraction of people; the lighting should provide a warm and friendly environment.	Gehl 1980
13	The arrangement of benches or other seats is crucial for increasing the possibility of conversation. Curved benches, benches placed at an angle or opposite to one another are some suggested layouts. Chairs places close together, around a table, can also provide the opportunity of interaction.	Gehl 1980 Whyte 1980

14	Playing areas for young children should be established near rest places. The availability of appropriate seats with suitable arrangement can provide an opportunity of interaction for their parents.	Alexander 1977
15	The cleanliness and maintenance of the rest spaces has an essential role to provoke the sense of liking and should be seriously considered.	Garcia-Mira et al 1997
16	Edges of the spaces and some urban furniture such as signs or light posts, bollards and even trees play an important role for people to stand by or lean over. Many standing and pausing activities occur along edges and physical details of the spaces.	Alexander 1977 Gehl 1980

PART TWO

**DEVELOPING A LIST OF PRINCIPLES FOR DESIGNING
NEIGHBOURHOODS AND NEIGHBOURHOOD CENTRES**

CHAPTER FIVE

PERCEPTUAL ASPECTS

5-1- ESSENTIAL ASPECTS

Introduction

This section describes those aspects of a neighbourhood centre which are related to the meaning of the environment and help to create a mental structure of the place. These aspects are used as a means for expression and a source of identity for the residents. Attention to the meaning conveyed in the environment, and the communication of this meaning between the physical forms and people is a fairly new concept. This concept is developed by acquiring the ideas of semiology in linguistics, and using them in the field of environmental studies. Many new ideas in architecture and urban design have recently grown on the basis of this concept.

The meaning which is communicated is the result of a process comparing a stimuli in the environment with the observer's passed experiences. These experiences may be obtained either during formal education or daily activities. Each visual stimuli or physical condition conveys an essential meaning for the observer which mostly has to do with their cultural and societal attitudes and beliefs (Lang 1994), not to mention that the meaning itself comprises several levels (Gibson 1950). Symbols are thus supposed to be the best instances for the communication of meaning.

The concept of 'meaning' in the environment is utilised from different points of view and different terms are used for expressing this concept. The two following concepts of meaning are investigated in this section:

I. Meaning defined as the sense of place and place-making:

    It comprises a main approach appreciating the meaning of the environment. There are three components whose presence (and to some extent congruency) will create the phenomenon of place. These components are: the physical setting, the activities performed in that space and the meaning associated with these two.

II. Another view of the environmental meaning, identity:

    The term identity embodies two different meanings which despite appearing opposite, are complementary. Therefore, in one sense the term refers to properties of uniqueness and individuality and in another sense it refers to the qualities of sameness, in those features which one is associated with others (Byron 1996).

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                        │  CHARACTERISTICS OF │
                        │          A          │
                        │ NEIGHBOURHOOD CENTRE│
                        └─────────────────────┘
            ┌────────────────────┬─────────────────────┐
   ┌─────────────────┐  ┌─────────────────┐  ┌─────────────────┐
   │ Functional Aspects│ │ Perceptual Aspects│ │ Operational Aspects│
   │  Chapter Four   │  │  Chapter Five   │  │   Chapter Six   │
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| Centre and the city | Essential aspects | Sustainability |
| Centre within neighbourhood | | Post-design issues |

	Meaning	Management
Services and facilities	Identity	Maintenance
Public Life		

	Visual aspects	
	Aesthetics	
	Orientation	
	Human scale	
	Associational aspects	
	Sense of safety	
	Sense of belonging	

5-1-1- MEANING

5-1-1-1- Definition of Meaning

People react to environments in terms of the meanings the environments have for them. Although social situations influence people's behaviours, it is the physical environment which provides the cues (Rapoport 1982). The environment can be viewed as a form of non-verbal communication. Users need to read it, so that a decoding process must be considered. The meaning conveyed by the physical elements can be decoded when they match people's schemata. The role of encoding physical features is salient, because one should employ those cues whose meanings are understandable for people. Most people rely on such cues to act appropriately in different places, although some people are more sensitive than others (Rapoport 1982). The design of the environment can have direct or indirect effects on the behaviour. The former corresponds to the physical conditions which directly influence behaviour, moods, satisfaction, performance or interaction of users. The latter refers to the circumstances where the environment is used to draw conclusions about the social standing or status of its components and behaviour is modified accordingly (Rapoport 1977).

In traditional cities a clear system of communication was provided, where all messages were clear and the presence of shared symbols elicited predictable and appropriate behaviour. According to Rapoport (1977 p329) 'proposals have been made for designing modern cities as message systems, such as the need to rely

more on heraldic-verbal and eikonic-signs than on spatial cues' (Venturi 1977; Carr 1973).

People react to environment more globally than considering the details separately. In this process all the components of the environment from fixed features to semi-fixed and non-fixed are engaged. Rapoport (1982) considers the semi-fixed elements as communicating more than fixed features because people arrange them by their own interest. 'Meaning' encoded in the environment can communicate the context, provide the information about status, lifestyle, ethnicity and other variables (Rapoport 1982, 1977; Lang 1994).

Environmental meaning is less important: in small places where everyone in known, where there are rigid, known and widely accepted social hierarchies and where other cues are present and work well (Rapoport 1982).

Experiences show that, on the whole, designers tend to react to environments in perceptual terms whereas the lay public react to environments in associational terms (Rapoport 1982). Two main streams of literature refer to the meaning of the environment: those concerning place-making and those investigating the identity of the urban areas.

5-1-1-2- Definition of Place

The concept of place can be found in the ancient philosophical writings, where it was defined as the 'spirit of place' or the quality which evokes a feeling of belonging. Recently, a revival of the concept of place can be perceived in the literature of architecture, geography and psychology. Norberg-Schulz's ideas (1980) can be considered representative of architectural approach to the concept of place, while Canter (1977) presents a psychological view and Relph (1976) examines this concept from a geographical viewpoint. All the above perspectives define place in terms of three interlocking components: physical attributes, activities and conceptualisation and meanings associated with them. Van Eyck (quoted in Von Meiss 1990 p135) states that '... whatever space and time means, place and occasion mean more...'. For, space in the image of man is 'place', and time in the image of man is 'occasion'. Lynch (1976) advocates the importance of relationship of spaces with social and biological factors and says that the deepest meaning of any place is its sense of connection to human life and indeed the whole web of living things.

Sime (1986) describes a place as a physical location which engenders a positive satisfactory experience. A similar definition is also pointed out in the words of Norberg-Schulz (1980) when explaining the important role of architecture to be the provision of the physical features of a place which allow a person to dwell. Bearing in mind that dwelling is to be at peace in a protected place (ibid). On the whole, a place corresponds to the positive and pleasant attributes which can be perceived and felt by human beings in a space.

- ***Sense of place and identity***

'Meaning' which is widely accepted as a key component associated with a place is in some cases referred to as the 'character' of an area (Rossi 1989; Schulz 1980). In this cases this 'meaning' or 'character' can resemble the 'identity' of the areas as well. Sime (1986) states that 'sense of place' is highlighting the 'sense of identity' of a particular environment. He adds that the importance of preserving landscapes, historical sites or public urban settings which contribute to people's self identity is however an important message to planners who are in favour of place making (see also Bilsby 1967). Bell et al (1996 p562) also utilise a definition for place which is very similar to those for identity, defining the term place-making as 'creating a sense of place by using architecture to cue the memories that create the personal meaning and sense of place, such as restoring or revitalising a building or district.' Lang (1994 p177) attributes the term place mostly to the open spaces in human settlements and says that 'places have an identity because of either their perceptual (usually visual) or social character or both'.

- ***Towards creating places***

In spite of much research about place and place making, there is still not a clear design guide which can lead to the creation of places. There are some who think there is no need to measure objectively the relationship between people and environments, but only to understand in humanistic terms the nature of place experiences (Sime 1986). There is always a danger that a space may be perceived as a meaningful place to someone but not to others and so it has been argued that creation of a place solely by manipulation of the physical environment on behalf of users is hardly possible. Involvement of people in the process of production, decoration, furnishing and maintenance of their environment can help in the creation of places, while as discussed previously, improving the identity of a space can also effectively enhance the sense of place for the users.
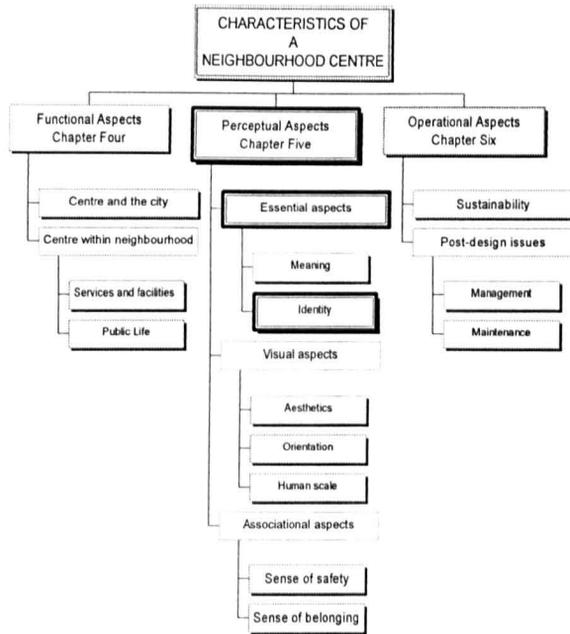
5-1-2- IDENTITY

5-1-2-1- Definition

Identity refers to two different meanings namely uniqueness and sameness. The former indicates 'the conditions of being one thing and not another': the definition appreciated by Rapoport (1981 p10) as being 'at the heart of the concept' of identity. The terms uniqueness, distinctiveness and character are to a large extent defining this quality and are widely used and valued by researchers.

The latter refers to commonalties associated with groups or categories. The social and cultural world is held to be composed of segments and membership allows the individuals to define themselves or be defined by others. If the world can be classified into 'cognitive domains' of any kind, the intra-domain differences establish the individuality and distinctiveness of each particular domain and the inter-domain similarities create the commonalties which indicate a group identity. Schneider (1986 p216) states a similar idea by defining the identity of some neighbourhoods in terms of their 'within-type similarities', on the one hand, and their 'between-type differences' on the other hand.

These two concepts of identity can contribute to the design of a neighbourhood centre. The first concept is in favour of creating uniqueness what O'Conner (1996

p20) refers to as 'the invisible city' which means something that gives an urban area its unique sense.

The second concept is also effective when the design is intended to support the cultural values and social behaviour of the residents in order to reinforce their sense of social identity. Considering neighbourhoods as social groupings in a defined area, the inhabitants can be identified with their neighbourhood or community. This concept of identity is mostly concerned with the sociological and psychological aspects of a neighbourhood. In this view, the neighbourhood is seen as a means by which the residents define their selves. Thus it is a vehicle for strengthening the bonds between residents and those between themselves and their environment (Kallus et al 1997).

The importance of neighbourhood as usually being the immediate setting and an extension of the self is advocated by many researchers (Lang 1994; Ittelson 1974 and Appleyard 1979). Ittelson (1974) says, the large cities are less effective in providing people with the conditions to identify with them, and by being broken up into phenomenal segments, the opportunity of identification will be better provided in those cities. In the same manner, Appleyard (1979) believes that the home environment, evolving with the modifications and adaptations that we make on it, becomes in some sense a part of ourselves; therefore, the home environment is most likely to be viewed as symbol laden. The congruency of the neighbourhood centre with the inhabitants' needs, cultural values and lifestyle, facilitates the process of mutual interaction of people and their built environment. In this way, the residents can achieve a greater sense of identification with their neighbourhood and its centre, particularly, when they have effective participation and influence over the creation of those spaces.

Rapoport (1981) believes that all forms of identity from individual through group, nation etc. involve a content and a boundary. The boundary is important because it specifies the limits of a unique area. That is why the importance of the transitional space seeks consideration. This, in fact, marks transitions between spatial domains.

5-1-2-2- Losing the Sense of Identity

The loss of identity in neighbourhood centres involves two processes:

I.   Universalism:

Modernism was developed by the idea of universalism and resulting uniformity of buildings and public areas led to the crisis of urban identity. As Lewis Mumford (quoted in Robins 1993 p304) states, 'The age of enlightenment had turned people's minds from the essential relation of geography and history; for it broke the established ties of tradition and place.'

There are many debates on the consequences of designing the environment regardless of their historical and geographical characteristics. As Cortesi, A. (1996 p23) says 'The decline of today's cities is not linked to their physical characteristics but it is due to the loss of the very values on which cities have been established and built since their beginning.' He then emphasises the role of architecture in helping the reconstruction of urban community values and enhancing the sense of place and identity.

II. Decline in local communities:

The diminishing process of locality as a means for social primary grouping and the sense of community, to some extent, weakened the social identity of locales and the process of identification with local areas.

5-1-2-3- Improving the Identity of an Area

Regeneration of urbanity and recovering the lost sense of identity is a major concern of today's planners and designers. Regionalism as one of these approaches attempts to put back into architecture what modernism took out, in other words, the continuity between past and present forms of spaces and buildings in a given place. Searching for the sense of place, improving the identity and uniqueness, efforts to contribute meaning and spirit to the urban spaces, are some new approaches to the regeneration of urban spaces.

Identity may enhance the quality of a place insofar as it can develop the sense of pride and belongingness among the residents of a catchment area. The uniqueness of a place may also help to attract large numbers of visitors and tourists and increase the financial development of the area.

John Montgomery (1996) defining the conditions of making liveable spaces, emphasises the activities performed and the identity attached to a place as more important than the tidiness and neatness of it. Respectively John Brouwer (1996) suggests that the primary concern of all designers working at settlement scale must

be to either discover or to create a true sense of place: the task of managing character and local distinctiveness to an area.

Referring to the psychological study conducted by Schneider (1986) in Germany, the most important factors in the perception of identity were historical type buildings and some kind of continuity which was symbolised in certain features of the physical environment. In other words, the role of relationship between past and present is emphasised in this study.

On the whole, there are two types of environmental features which mainly contribute to defining the identity of an area:

I.   The physical characteristics of a place.

II. The social conditions and the activities which are performed in a place.

- *Physical characteristics*

Categorising the physical environment into built and natural features, one can use both of the above factors to influence the identity of an area. In the case of natural features, the unique characteristics of the site and the use of indigenous vegetation and natural landscapes can contribute to the creation of identity and uniqueness of the place. The importance and impacts of the developments, compatible with the site, are clearly manifested in the organic growth of villages for they are built during long period of time on the basis of the geographical characteristics of their sites. Unwin (1920) states that readability of the town layout, in addition to the close tie to landscape, gives each town a unique character. Brouwer (1996) clearly explains this process and says, 'Because every site is unique in its combination of natural influences, every village developed its own unique response, tempered by trial and error and by evolution of type and morphology.'

With regard to the built environment, the use of indigenous materials, colours, forms and local techniques, in addition to the consideration of climatic conditions, (Lang 1994 p37) is also important in maintaining the identity of the place.

Apart from geographical characteristics, the cultural attributes and the lifestyle of the inhabitants can effectively contribute to the process of improving the identity of an area. Preservation of historical buildings and the use of cultural motives and

symbols will provide special character for an area. (MKDC 1975[3]) believes that the town character is bound up in its history. Schneider (1986) lists the important factors which improve the identity, among them historicity, historical significant buildings and historical centres are salient.

Frampton (1992) is among the commentators who emphasise the identity derived from designing with respect to the site. He says the specific culture of the region namely its history, becomes inscribed into the form and realisation of the work. This inscription has many levels of significance, e.g. the capacity to embody in built form the prehistory of the place and transformations across time. In this way the building or settlement helps us to form an interpretation of place and is critical to their identity. Moreover, the relationship of the settlement and the site is fundamental to a successful provision of uniqueness.

Recently, there have been some projects to enhance the distinctiveness of quarters in cities. The usage of cultural elements was employed to make a sense of identity for the quarters such as China Town in Manchester (Department of Environment 1994).

• *Social conditions and activities*

The activities performed in an area can contribute to the improvement of the identity. Three kinds of activities may be found in an urban area:

I.   Symbolic activities such as ceremonies, folk music, special customs and handicraft shops and so forth. MKDC (1975) says that attitudes and tradition are as important as the physical characteristics.

II. Social and leisure activities such as meetings, sports and games.

III. Functional activities such as workshops, educational facilities or some special services.

These activities effectively influence the character of a place as Alexander (1977) says that a place gets its character from repetition of events that happen most often and each of these recurring events is linked to a conceptual space. He adds that each town is made up of these conceptions which varies for different cultures.

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[3] The Northern Towns Planning Policies and Proposals (1975), prepared jointly by Milton Keynes Development Corporation and Milton Keynes Borough Council in consultation with Buckinghamshire county council.

Schneider (1986 p215) points out the importance of the native inhabitants of an area, those who represent the neighbourhood's tradition, and forms a 'reference group'. This group effectively contributes to the social identity of a neighbourhood. Heterogeneity, residential fluctuation and lack of social contact are negative factors for the sense of inner group, while social contact and duration of residency increase the feeling of biographically rootedness, belongingness and identification with a residential area.

5-1-2-4- Uniqueness and Identity

The process of establishing identity should mainly employ the potentials of the designated area. As each town or city is unique, it will have different problems and potentialities and at the same time, different opportunities. Considering this condition Montgomery (1990) appreciates the importance of building from what exists rather than plunking 'off the shelf' models for other towns and cities. It is the main idea introduced by Cortesi (1996) who suggests developing a system based on the relationship between individual components of design and simultaneously between each individual item and the environment as a whole. This system of relationships can acquire meaning for the settlement. The Urban Village Group believes that identity relies on consistency in the treatment of certain common elements in buildings and places and recommends to generate a list of codes which covers architects and urban designers' use. Gibbons et al (1991) express similar ideas by advocating the consistent use of materials and detailing with co-ordination of signs, graphics and colours. He thinks that development of a design vocabulary and the use of regional architecture contribute to the improvement of the identity. This is similar to the idea of Nellessen (1994) who suggests creating an architectural style by making congruency among as many architectural elements as possible. He calls these elements 'design vocabulary' (p244).

5-1-2-5- Architect's Constraints

As mentioned above, the character and identity of a place can be established through manipulation of the physical elements and/or activities performed in the area, but what a designer can contribute is limited to the physical aspects of the place. Although designing supportive settings for desirable activities may increase the qualitative and quantitative aspects of performing those activities, those activities can not be created by the mere provision of an appropriate setting and

without the existence of any social or cultural potentials. Thus, the role of architecture for providing a unique character for a place can be limited to the manipulation of the physical environment. Schneider (1986) lists the elements of the environment which people most often refer to as the manifestation of their neighbourhood identity. These elements mainly comprise two groups. The first group refers to the social aspects of the neighbourhood and the second one embodies the physical conditions.

The physical factors are: recreation and leisure facilities, spatial differentiation, various aspects of traffic, natural characteristics, certain characteristics of functions, historicity and the style or type of buildings.

Designing the environment in order to manifest the social and cultural identity of a group of users is a difficult task which seeks considerable investigation and survey about this particular group. Von Meiss (1990 p162) assumes three ways for reflecting the identity of a group in the buildings.

I. Interpretative: which requires attentive observation and deep understanding of the values and behaviours of the people and concerning the places and the architectural elements which is crucial to their identity.

II. Participation 1: this method consists of making the future users participate in the design of places and in this way maintaining the identity.

III. Participation 2: in this method architecture is proposed as a symbol of identity and may be created by the occupants themselves after completion of a strong structure.

Although in the three above approaches users and designers are considered as the main contributors to the creation of the environment: in the first one the designer is the main determinant who, by being concerned about the values and cultures of users, tries to find elements and motives which can convey meaning for them and make desirable relationships between people and places.

In the second and third approaches the role of users is directly seen in the process of design but the designer's role as the co-ordinator is salient. In this process, the wholeness and homogeneity which are essential aspects of manipulating unity and distinctiveness is performed by the designers, whose skills and design knowledge,

in addition to the people's expressions, will eventually provide the character and identity of the place.

5-1-3- Summary

There is not still a clear criteria for creating places which can be defined as meaningful spaces for the users. This is mainly due to the subjective nature of ascribing meaning to the environment. Physical environments which communicate a recognisable character and can create memory for the user are more meaningful for them. These memories can be produced by means of physical features or social activities.

The process of characterising a physical setting can be regarded as enhancing its identity. Identity has been defined by two complementary concepts namely, uniqueness and sameness. Uniqueness refers to the characteristics of an entity which helps it identification among other features whilst sameness refers to the characteristics which unifies the individual components of that entity.

Designing spaces with regard to their geographical, social and cultural conditions improves their uniqueness while considering a design vocabulary and style or a kind of congruency among the different components of the environment improves the unity of the place.
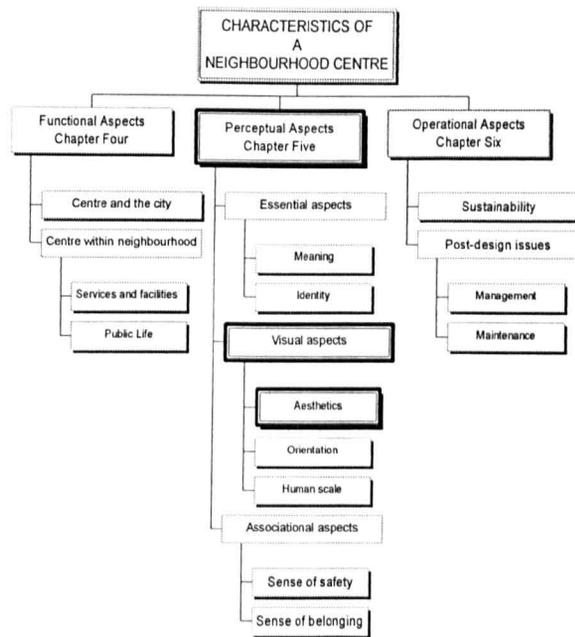
5-2- VISUAL ASPECTS

Introduction

The mutual relationship between man and the environment and the existence of communication between them was discussed in the previous sections of this chapter. This section of the thesis explores the visual characteristics of the physical forms and spaces which evoke favourable evaluative responses by the users and correspond to a sense of legibility and orientation. Day, C. (1990 p12) states that the experience of the built environment may be both exhilarating and banal and often the people do not examine their surroundings but 'breathe them in'.

This section comprises three sub-sections on aesthetics, orientation and human scale. Two concepts of order and complexity are discussed in the first sub-section; whereas the second one argues the main elements of legibility and memorability of a setting, developed on the basis of Lynch's (1960) theory of imageability of urban areas. The third sub-section briefly studies the human scale in urban spaces.

5-2-1- AESTHETICS

Aesthetics may be viewed as qualitative and idiosyncratic by people who think artistic design is a task for designers without consideration for public preferences. However, many researchers, particularly in the field of psychology, are in favour of finding some general principles for aesthetics which have been defined as 'favourable emotional appraisals or evaluations' (Ulrich 1983; Wohlwill 1974). Aesthetic variables have been categorised into two groups (Nasar 1994): Those related to the structure of forms for their own sake and those that relate to the content of forms. The former is referred to as 'formal aesthetics' whereas the latter, which is the study of human responses to the content of forms, is called 'symbolic aesthetics' (Lang 1988).

5-2-1-1- Symbolic Aesthetics

An individual experience of an environment is related to the interaction between the environmental features and the individual's knowledge structure. Thus this experience is highly dependant on the specific cultures, subcultures, and places which would affect the different responses and preferences across the content of the physical forms (Nasar 1994). Variables such as naturalness, upkeep, intensity of use and style have shown considerable consistency for the evaluation of the environment in several pieces of research in this field. This group of aesthetic variables, due to their high cultural dependency, is less likely to lead to widespread applicable results and should be investigated in different contexts.

5-2-1-2- Formal Aesthetics

Among the formal variables that researchers consider important to aesthetic response, three are more prominent, namely: order, complexity, and enclosure (Nasar 1994).

Lozano (1974) proposes that two visual inputs from the environment are necessary for human beings. The first must construct a simple order, easily understandable that would result in a continuity of fully anticipated experiences. The second group of inputs must construct a complex order, which is only partially understandable and will result in a sequence of partially unanticipated experiences and fulfil the needs of

the observer for variety and surprise. Accordingly, the physical characteristics should convey two qualities at the same time. Firstly, complexity, variety or ornament provide visual richness. Secondly, variables such as unity, order or harmony structure the richness. Berlyne (1971) says that complexity increases arousal where order decreases it and the aesthetic value is highest at a moderate level of arousal. Similarly, Kaplan and Kaplan (1982) adopt a model in which aesthetic value depends on our need for involvement and comprehension. Complexity creates involvement and coherence, as a kind of order, aids comprehension. Rapoport (1977) defines complexity as the number of noticeable differences per unit time and hence speed. He adds that complexity and clarity are complementary elements of the environment. One is a matter of cognition, the other of perception; on the larger scale clarity is needed, on the smaller, complexity.

- ***Order***

Order refers to the degree to which a scene hangs together or makes sense (Kaplan and Kaplan 1982). There are several variables which affect the perception of order. These are: familiarity, redundancy, compatibility, style and naturalness. Legible and coherent environments improve the perception of order. Most studies in environmental preference show that organising variables such as identifiability via a focal point, coherence, clarity, low contrast, in addition to replication of facade features such as materials, total shape, roof line, height and windows, predict preference (the Kaplans 1989; Devlin and Nasar 1989; Nasar 1984; Groat 1982).

- ***Complexity***

Complexity involves a comparison in which more independent elements, a larger difference between them, and less redundancy and pattern exist (Nasar 1994). According to Berlyne (1971 p149) a 'pattern is considered more complex, the larger the number of independently selected elements it contains'. Different terms are used to refer to this concept such as variety, diversity or visual richness.

The following are some benefits derived from a complex environment:

I.   Complexity, diversity and similar characteristics increase the interest and attractiveness of a place, where lack of visual complexity leads to a boring and relatively unstimulating cityscape (GLC study 1978; Parr 1965; Rapoport and Kantor 1967). Many researchers found that

complexity increased the perception of being interesting and attractive (Groat 1991; Nasar 1994).

II. Complex routes are experienced as short and remembered as long. Parr (1969) believes that in complex rich urban environments one can walk for long periods without becoming tired (see also Greenberg 1995).

III. Complexity in the form of uncertainty or novelty is responsive to the need of man for exploration.

Although most studies confirm an increase in interest associated with complexity, (Nasar 1994) the complexity has to be within a perceived order. Without it, there is chaos and disorientation (Rapoport 1977). According to Nasar, (1994) in order to provide the sense of pleasantness for the users, a design review might encourage the following:

I.   Ordering elements (compatibility or stylistic elements).

II. Familiar and historical elements and popular style.

III. Moderate complexity and discrepancy from the prototypical.

IV. Reduction in artificial nuisances (traffic, litter, billboards, poles, wires, dilapidation, and incompatible land uses).

The increase in complexity and atypicality would increase the interest and excitement where the use of natural materials and ordering and familiar elements would result in relaxing places.

- *Elements of complexity*

Only a few studies in environmental psychology have examined the physical bases for people's judgements of complexity and order and there should be more research in this field (Nasar 1994). However, with regard to providing adequate complexity and avoiding monotonous and boring environments, some recommendations may be helpful:

I. The overall layout of the place may provide a complex environment. Rapoport (1977) suggests encouraging exploration through designing various numbers of possible paths. A grid can allow alternative paths and more complexity can be achieved by slopes and change of level (see also Nasar 1989).

II. Lozano (1974) emphasises the role of hierarchy in enhancing the complexity as well as making order. He says that a structural hierarchy may be defined as a spatial system and each level of the physical hierarchy can be assigned a specific visual role in terms of conveying messages of unity and order or variety and complexity.

III. Nasar (1989) suggests the creation of mystery through streets and walkways which curve out of sight. This idea was previously mentioned by Alberti as quoted in Mumford (1961 p355). Cullen (1971) is also in favour of curving roads to maintain variety. The effects of turns and changes of direction in paths on increased perceived complexity is partly due to the fact that each such change increases uncertainty and hence information content (Rapoport 1977).

IV. Contrast between adjacent spaces creates complexity. This characteristic is a distinctive feature of medieval towns, where a large piazza or square is surrounded by tight, narrow, confined streets. The feeling of walking along a narrow pathway and passing unexpectedly into a large piazza creates such a profound contrast in spatial sensation as to evoke a feeling of exhilaration (GLC study 1978; Nasar 1989).

V. Lozano (1974) suggests rhythmical differences. He refers to the characteristics of an environment made up of sets of similar but not equal elements. These belong to a common and recognisable typology perceived by the observer in terms of the rhythmical differences appearing within the commonalities unifying the set (see also Nasar 1989). Greenberg (1995) compares musical rhythm with the composition of streetscape. He says that during the perception of the facade features, different levels of rhythmic groupings are created in the observer's mind. These rhythms help the ease of movement and the routes seems shorter. Therefore, the details in the environment such as columns and piers, doorways, niches, window mullions, planters, even signs or window mannequins or trees and vegetation are rhythmic devices that can contribute to the richness and complexity of the music of the street.

VI. Rapoport (1986) categorises the elements of the environment into fixed and semi-fixed and considers people as non-fixed. He says that all of

these elements contribute to the provision of complexity; to some extent semi-fixed elements, such as moveable furniture, temporary markets, and non-fixed, namely people, are more effective in the creation of complexity. Diversity of people and differences in uses and activities are important in perceived complexity (Rapoport 1977). He adds that, within cities, the preservation of the local character of areas and the building of new areas of diverse character in terms of uses, people and physical characteristics will increase complexity.

VII. Different light levels can also help to distinguish different areas. Moreover, architectural elements such as variation in form, shape, age, colour, material, texture and the use of walls, gates and courts can make noticeable differences (Rapoport 1977; Nasar 1989).

VIII.Mixed-use areas provide the opportunity for making variable and complex streetscapes by employing a diversity of buildings and functions (The Urban village Group 1992; Nellessen 1994; Nasar 1989).

Rapoport (1977) mentions two aspects of complexity. One refers to ambiguity or uncertainty as a perceptual quality, for example, a space which is not seen at one time, can be understood as complex or mysterious. The other refers to multiplicity of meaning and hence associational quality. This aspect is idiosyncratic and unpredictable and therefore, difficult for designers to manipulate.

Human beings not only need the visual input which contributes to a satisfactory level of orientation and variety but they also need both visual qualities to be present in the same environment because these factors have a mutual relationship. For example, in a very simple and monotonous environment the sense of orientation will be reduced because there are not enough clues to make sense of differences and the possibility of being lost is high. On the other hand, in very complex environments in which the clues are more than the perceptual capacity of mankind, the process of simplifying the codes and obtaining an understandable mental organisation about the place is too difficult. In these conditions the possibility of being lost is high as well.

In conclusion, an optimum balance between orientation clues and variety should be provided to lead to a well-defined and interesting place.

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                    │  CHARACTERISTICS OF │
                    │          A          │
                    │ NEIGHBOURHOOD CENTRE│
                    └─────────────────────┘
        ┌───────────────────┬───────────────────────┐
 ┌──────────────┐   ┌──────────────┐    ┌──────────────────┐
 │ Functional Aspects│ │ Perceptual Aspects│ │ Operational Aspects│
 │  Chapter Four │   │  Chapter Five │    │   Chapter Six    │
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- Centre and the city
- Centre within neighbourhood
- Services and facilities
- Public Life

- Essential aspects
  - Meaning
  - Identity
- Visual aspects
  - Aesthetics
  - Orientation
  - Human scale
- Associational aspects
  - Sense of safety
  - Sense of belonging

- Sustainability
- Post-design issues
  - Management
  - Maintenance

5-2-2- LEGIBILITY AND THE SENSE OF ORIENTATION

Legibility is the character of an environment that expresses how well one could explore extensively without getting lost (Kaplan 1982). An environment can provide the above conditions when it is both complex and ordered. A legible environment provides the sense of orientation. To orient ourselves in this world we need to simplify its complexity mentally and visually to obtain images that we can commit to memory. We need to be able to join the parts together in larger and simpler units without having to decipher the detail (Von Meiss 1990). Man needs to reduce the information and make a chaotic environment predictable, orderly and manageable. Rapoport (1977) states that a structure is being imposed on the environment by setting up routines and using only part of the available knowledge and information.

During the process of simplification and classification of the environmental information, an overall cognitive representation, the schemata or image, is produced, upon which people can orient themselves and use the environment.

5-2-2-1- Elements of Legibility

Emphasising differentiation rather than simplicity and uniformity, Lynch (1960) is the first who uses these characteristics of people. He finds some essential factors which suggest that there is a high probability that the environment evokes a strong image in any observer. The differentiation or variety must have a coherence and perceptible pattern or order which make it recognisable. He is concerned with the structure of cities manifested in mental maps of the inhabitants to show the cognitive urban legibility. What he finds can be used in a neighbourhood centre as important factors in improving the imageability of the centre, and ultimately can create the sense of orientation and safety. Stringer (1975 p218) states that environmental images are given three components: 'identity, structure and meaning'. A useful image enables one to identify objects or parts, to see their spatial or other relations with oneself or other objects and includes some practical or emotional meanings. Lynch (1960) introduces five identifiable features to define a memorable environment:

- *Paths*

They are described as the channels from which people observe the city while moving through it and are used as the organisers of environmental elements. If the formation of the paths and their connections can be perceived and understood easily, the place will have a legible structure. Lang (1994) considers paths as the most important element in orientation. One way to provide this quality is by using hierarchical spaces. The spaces are divided into categories by their differing sizes, proportions or even by the use of specific elements which provide them with identifiable characteristics. The passer-by can easily understand important urban fragments in this way. Map images seem easiest to form where the street pattern is regular with a single dominant path, particularly where there are characteristic nodes and unique landmarks (Rapoport 1977). Continuity of local centres and residential areas can generate recognisable paths and can provide some orientation clues (Lozano 1974).[4]

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[4]A neighbourhood centre should not be presumed as a separate shopping area isolated in a visionary island; conversely, the centre has to be considered in the continuity and connectivity to the

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According to Montello (1991), the disorienting effect of oblique routes being due to memory distortion should be considered in design. Winding roads hardly shape a recognisable pattern (Lozano 1990).

- *Edges*

Lynch (1960) describes edges as linear elements that act as boundaries between distinct phases of an urban area and form a break in continuity. Limitation is substantial in assisting the imageability of a place; if a place has defined borders, then the differences between two adjacent areas are emphasised. Von Meiss (1990) thinks that the absence of clear limits to most of the recent extensions to our towns and villages prevents us from forming an image of the city. He says that the limit creates both the interior and the exterior and each durable place is marked by limits.

- *Districts*

Lynch (1960) describes them as areas that are recognisable and distinct with a common character which is generally identifiable. In this way, one is conscious of entering into areas that display a unique physical and social character. Provision of unity among the different components of an area promotes the order and character of that setting. Alexander (1987 p12) mentions this quality using the term 'wholeness' and says that every whole must be a 'centre' in itself and must also produce a system of centres around it.

A neighbourhood centre should be positively distinct from the surroundings because it comprises the core and heart of the area. The social character of a neighbourhood centre is shaped by the social structure and the lifestyle of the residents and the physical character of the area is provided through using common physical elements, colours, materials etc. As Nellessen (1994 p244) says 'A small community is physically unified by common design features which include buildings' mass and style, facade treatment, materials and so on.' He names these elements 'design vocabulary'.

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surrounding areas. Conditions of permeability of the centre through the neighbourhood should be provided.

The other way of obtaining character is by designing the centre in tune with the site's characteristics and potentialities, which maintain uniqueness for individual places. Von Meiss (1990) outlines this effort by understanding the land as history, and as morphology leading to an architecture which, instead of ignoring, exalts the fundamental characteristics of the site (similar ideas by Rossi 1989).

- *Nodes*

According to Lynch (1960), nodes are places with a high level of memorability: squares, major street corners and interchange points are of this kind. Nodes are the core of focal areas; they are not only a space but a concentration of social activities. Mentioning the importance of activities, Rapoport (1977 p149) says that people 'orient themselves to activity centres'. In addition to the perceptible physical differences, other characteristics such as uses, affects, social identity and status, and even place names are important ways of creating focal points (Rapoport 1977).

In a neighbourhood centre, focal points have an important role in the memorability of the space. The memorability of spaces for the observers will be considerably enhanced if the whole area is articulated into some specific spaces with distinctive characteristics (either physical or social).

- *Landmarks*

Lynch (1960) describes them as the reference points which provide physical definitions in the city and are usually objects such as distinct buildings, monuments spires, signs and so on.

The neighbourhood centre as an entity can be considered a landmark for the whole area. The whole character of the centre and its memorability provide the opportunity of being identified as a focal point. If the density and height of buildings can be higher in the centre, a visual relationship with the surrounding areas would be provided and its role as a landmark would be emphasised; moreover, there should be some specific landmarks inside the centre in order to help the orientation of people. Appleyard (1969) suggests three main characteristics for distinguishing landmarks in an area. They can also be employed for designing features which are intended to be used as landmarks. These characteristics are:

I.   Identifiable forms, which include the contour, height, shape, complexity, maintenance and movement around the buildings.

II. Visibility from roads, or decision points and the number of people passing a major viewpoint of a landmark

III. Use, which includes intensity, uniqueness and significance. (also see Rapoport 1977 p118)

Paths and landmarks are important factors for cognitive learning. In areas lacking landmarks, paths take on greater importance, whereas in areas with poorly defined paths, landmarks take on greater importance (Nasar 1989).

Old users may use landmarks which no longer exist and younger people may use new projects which are ignored by older people.

5-2-2-2- Different Aspects of Orientation

Von Meiss (1990) explains the term orientation in a wider context. He believes that one feels three kinds of orientation. The first refers to the sky and earth and the importance of the path of the sun for the feeling of orientation. Next, he claims the importance of time through the feeling of seasons, the rhythm of vegetation and most importantly through the presence of the past and its spiritual values. The final point refers to the physical orientation of the town, the neighbourhood, the centre and the house.

The process of orientation, according to the above, includes different dimensions. If an environment could be enriched by the clues of different dimensions, the quality of orientation would be obtained completely. The clues of different dimensions include: cultural codes, the code of time (including daytime, the seasons, and the time in history - situation between past and future) and the awareness of physical location in an area by consciousness of direction and distances to specific landmarks and perception of an understandable and highly predictive spatial organisation.

Highly enclosed places such as many of today's shopping centres and malls lack many of the above codes. Daytime cannot be perceived, the codes of culture and past are ignored and the relationship with nature is minimised, so failing to provide

the meaningful codes of a successful centre, they cannot be considered as a neighbourhood centre. A monotonous environment leads to disorientation mainly for two reasons: lack of minimum differentiation and sensorial rejection to a degree where it becomes partially unperceived due to the natural reaction of the eye (Lozano 1974).

Orientation is largely visual although in some cases it may involve olfactory, tactile and acoustic information (Gibson 1952 quoted in Rapoport 1977 p186). Considering the physical elements as the main contributors to the sense of orientation, Lozano (1974) believes that a successful match of visual clues generated by the environment with cognitive structures and/or images stored in the observer's memory would result in the sense of orientation. Several visual clues are involved in this process such as space distance, light, colour, shape and texture gradients.
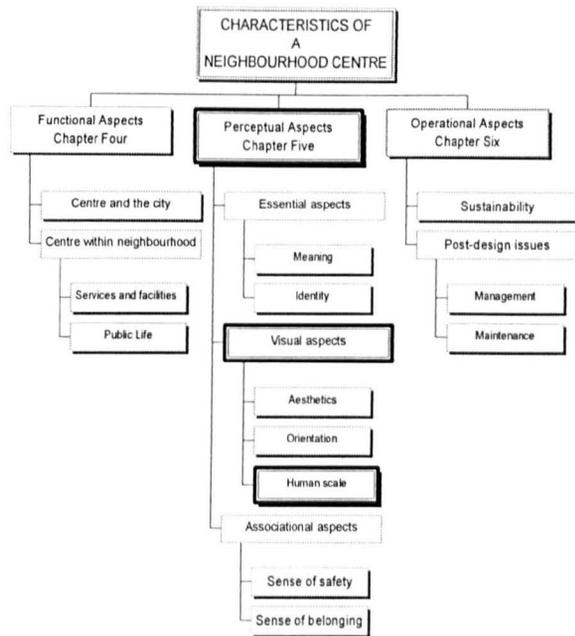
5-2-3- HUMAN SCALE

5-2-3-1- Definition

The human scale in the civic environment is approached from different viewpoints. For example, in the economy, the human scale refers to the conditions which support individual entrepreneurs and local business. In sociology, it goes along with the institutions which strengthen the community and provide the opportunity for the participation and interaction of people. In the physical environment it refers to the dimensions of the physical setting which are adaptable according to man's sensorial capacity, social and cultural factors, perceptual ability and physiological scales.

- *The sensorial capacity* of man is a salient determinant of the scale of the spaces. Blumenfield (1953 p36) says that

    "Scale in terms of visual form is the visual ability of a human person. This concept limits the distance from the object and from this distance can be derived the overall size of the object as well as the smallest parts, which serves as the module on which it is designed."

In this way, we can obtain the limits and elements of what we might call the public human scale. Summarising what Gehl (1980) explains about the social field of vision, one realises that when the distance is about 20-25 metres, most people can perceive the feelings and moods of others relatively clearly. At this point the meeting begins to become truly interesting and relevant in a social context. Although people can be perceived from about half a kilometre, facial features and age are not recognisable up to distances of about 30 metres.

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Gehl (1980) emphasises the consideration of the human senses, the way they function and the area in which they function. For example, he says that the senses are essentially frontly oriented and one of the best developed and one of the most useful senses, the sense of sight, is distinctly horizontal. Hearing is another important sense which should be considered. Within distances of up to 7 metres the ear is quite effective and beyond 35 metres the ability of hearing is greatly reduced. On the whole, narrow streets and small spaces in cities are perceived as intimate, warm and personal, conversely large spaces wide streets and tall buildings are often felt to be cold and impersonal (Gehl 1980; Arendt 1994).

- *Cultural distances:* Hall (1969) defines a number of social distances for different forms of communication in the Western European and American cultural sphere. Consideration of these dimensions, which are divided into intimate distance, personal distance, social distance and public distance, is important in designing public spaces. Social distance is mainly used in urban areas and is the distance for ordinary conversation among friends, acquaintances, neighbours, co-workers and so on. The sofa group with armchairs and a coffee table is a physical expression of this social distance.

- *Perceptual ability:* the perceptual ability of human beings, the appropriate amount of complexity and the design factors which enable the users to perceive order and organise the stimuli are the essential components of this dimension of the scale and have been discussed previously. It should be mentioned that speed is an important factor. If people move quickly, the representation of objects must be enlarged to be perfectly understood. Therefore, moving in a car requires different sizes and dimensions. In that case, the buildings should be large and poor in detail and signs must be very big to be seen. But it is important to know that real life takes place in pedestrian spaces.

- *Physiological scale:* this is the consideration of the relationship between the dimensions of the human body and the proportion of the spaces which people use. Activity patterns and body motions are dominant factors for the design of spaces (Nellessen 1994). The details of urban spaces such as ramps, stairs, urban furniture, bollards etc., are among the features which are mainly designed on the basis of physiological scale.

There are also two psychological aspects relating to the scale of public spaces, namely, spaciousness and enclosure. These two dimensions of urban spaces are briefly studied in the following pages.

5-2-3-2- Spaciousness

Spaciousness has been found to be among the formal variables that affect the aesthetic response (the Kaplans 1982; Nasar 1988; Ward and Russell 1981). Garcia-Mira et al. (1997) found 'spaciousness' the most important physical factor, corresponding to perceived quality of neighbourhoods, after the two other factors of social status and maintenance. Skjaeveland et al. (1997), confirmed the environmental attributes as being more powerful than the demographic variables, concluding that spaciousness is the most important factor having behavioural relevance (see also Joardar 1989; Kaplan et al 1989; Herzog 1992; Nasar 1994).

A certain amount of space is a basic prerequisite for the existence of a number of other physical features, concerning both appearance and functional mechanisms. Nasar (1989) claims that people prefer defined openness to wide-open spaces or highly enclosed spaces (see the Kaplan 1989; Ulrich 1983).

There are some benefits to spaciousness:

- Lynch (1960) mentions the possibility of higher legibility in spacious environments due to the visibility of more landmarks.

- Structured open space is known to increase place attachment because residents may have a better opportunity to define their own territory (Skjaeveland 1997).

- Spaciousness is also related to the social aspects of place attachment and may increase social contact (Kaplan et al 1989; Giuliani 1991).

5-2-3-3- Perceived Enclosure

Besides the above findings in the field of environmental psychology which value the spaciousness of the residential environment, some design professionals recommended the enclosure of spaces (Arendt 1994). For example the GLC study (1978) lists the advantages of an enclosed space as follows:

- strong sense of location and privacy

- easy to define territory and provision of surveillance

- decrease of vandalism

- increase of social contact between residents

This study valued the courtyard as a place of rest which is visually static and adds two other advantages for enclosure:

- excluding outsiders

- creating a microclimate.

There are some professionals who have investigated the physical conditions which lead to the sense of enclosure. For example Lynch (quoted in GLC study 1978 p38) claims that an external enclosure is most comfortable when its walls are one half or one third as high as the width of the space and if the ratio falls below one-fourth the space ceases to be enclosed. The GLC study (1978) suggests height to width ratio of 1.1 -1.2.5 for linear spaces such as routes where courtyards and squares, possessing height/width ratio less than 1.4, will not evoke the sense of enclosure. The Essex design guide (1975) proposes less height/width ratio for static spaces in comparison to dynamic spaces due to their finite length, where dynamic spaces, on the other hand, seem less claustrophobic and will demand greater height/width, if a harmonious balance is to obtained. This study also suggests a maximum height/width ratio of 1.4 for static and 1.2.5 for dynamic spaces in order to provide the sense of enclosure.

Not only is the height of buildings essential in perception of a well proportioned space, but the length/width ratio is also important. If the long axis of a static space exceeds its short axis by much more than 50%, it will be compromised to the extent that it will be regarded as a linear space (Essex design guide 1975).

Articulation of large public spaces into a series of visually separate spaces is proposed by (Essex design guide 1975) in order to relate them to the scale of human beings. On the whole, new urban residential areas should consist of a series of satisfactorily enclosed, contrasting spaces, each relating to the human scale.

5-2-4- Summary

Visual characteristics of an urban area have two main effects on the observer. First, to provide them with the visual clues to orient themselves and second, to be responsive to the aesthetic qualities of the area. Although aesthetic response seems personal, environmental psychologists search for general principles which are common across individuals. To have a better understanding, the aesthetic variables are divided into two main categories. The first group, named symbolic aesthetics, is based on the knowledge structure of the observer and is, accordingly, more culture and place dependent. The second group, named formal aesthetics, is concerned with the formal variables and is the focus of this review. Complexity, order and spaciousness, three prominent attributes of the environment, were described and the physical elements which contribute to creating these characteristics are explained. On the whole, familiarity and compatibility, in addition to naturalness and style, are the characteristics of a perceived ordered environment, whereas, mixed-use, use of different material and details and even diversity of people and activities contribute to the creation of diversity. A moderate amount of diversity is usually preferred where, the ordering elements are present and lead to the legibility of the place and, consequently, enhance the orientation of the observer.

The human scale in the urban spaces is also briefly discussed and some proportions and dimensions, more relevant to humane spaces, are suggested. The main points extracted from the above discussion are summarised in the list of principles on visual quality. It should be mentioned that from the principles relating to the different dimension of orientation, those related to the cultural codes and the code of time are considered in the section on identity and, in this section, the awareness of physical location is the main focus.

5-3- ASSOCIATIONAL ASPECTS

This section explores two main feelings which can be associated with a neighbourhood centre. After a brief description of the sense of safety and belonging as the main focus of this section, the physical and social conditions which enhance the creation of these feelings are studied.
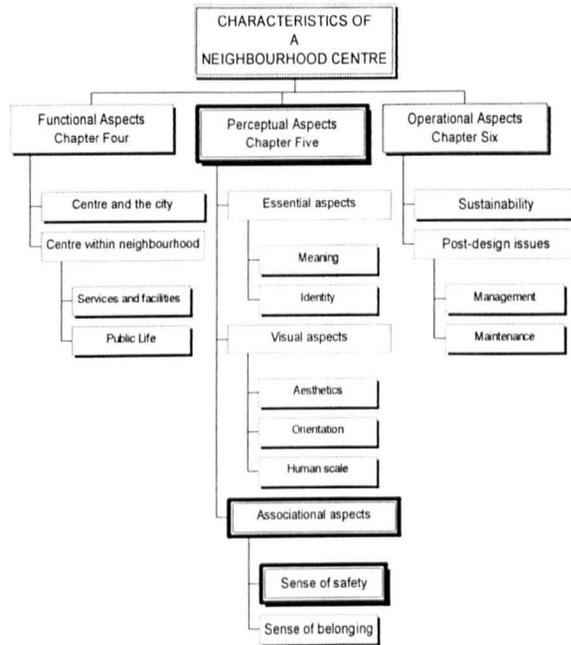
5-3-1- SENSE OF SAFETY

5-3-1-1- Definition

Safety is an essential quality for a liveable local centre. A well-designed environment without the sense of safety will not be popular and vital. As previously mentioned, Maslow (1970) introduces five fundamental needs and puts them into a hierarchy ; safety is the second one after the physiological needs necessary for survival. Lang (1994) believes that women more than men need to feel safe both physically and psychologically.

Coeterier (1994 p301), in a study of liveliness in town centres, discusses the necessary conditions of an environment to avoid alienation. Emphasising the importance of safety, he calls this quality as 'existential condition' and says that 'An environment must provide feelings of safety, stability and security; the concepts 'habit' and 'habitation' have the same root.' The sense of safety can be categorised into three levels and accordingly, different factors are involved in the provision of a safe environment.

5-3-1-2- Different Levels of Safety

I.   *A feeling of a stable and protected place.*

Stability is a salient factor which can be maintained through an organised society, a structure which has order and rules. Coeterier (1994) says that too drastic changes must be prevented and surveillance of rules have to be perceived. A proper managerial body can contribute to the completion of an appropriate design in order to achieve this aim. The management system of town centres has recently attracted considerable attention (Reeve 1996) and they seem a practical way of maintaining an organised public realm. However, if the privatisation of the spaces and the retailing focus which dominate these spaces can be replaced by the power and participation of the residents and users, it will probably have more positive effects. Jacobs (1961) pays particular attention to the principle of localised self government and Rivlin (1994 p293) suggesting the people's role in maintaining safe environment says 'There is a subtle destination between friendly observation that offers a sense of security and extensive rules and surveillance that act to restrict people's freedom.'

II. *The Presence of people and a feeling of an indirect control protecting against criminality.*

Jacobs (1961) makes a considerable contribution towards defining the necessary conditions of a safe environment. Her thesis about 'eyes on the street' discusses the circumstances which provide this situation. The presence of people around the clock in public areas is an essential factor. Mixed-use design and the concentration of different activities which attracts people for whatever purposes can also contribute to enhancing the sense of safety.

Oscar Newman (1973) has somewhat similar ideas to Jacobs for the provision of security. He suggests that major criminal activities are essentially dependent on the opportunities. So the ability of the criminal to remain anonymous is a basic factor. Suggesting the concept of territoriality and explaining the physical conditions which contribute to defining a territory for residents, users and other people in a place, he introduces some ways of reducing the opportunity of crime.

As Rivlin (1994) mentions, the public places which are under-used or those whose designs obscure their visibility are not safe.

III. *A deep feeling of being among a familiar social group; this* indicates a psychologically safe environment.

To feel part of a greater whole and to be among other people is a basic need for mankind. Coeterier (1994) states that the environment must not induce the feeling of powerlessness or helplessness. Neighbourhood social networks could play a significant role in fostering the ability to cope with urban problems (Baum 1996). Kempley (1998) blames the mobile population as a destructive factor in reducing the safety of urban areas and says that they never put down roots long enough to develop a self supporting community which can control and set norms of behaviour.

Jacobs (1961) emphasising the psychological sense of safety as one of the essential needs of people in urban areas, considers the familiarity with the place and the sense of self actualisation as the main ways of fulfilling this need. The satisfaction of this need enhances the attachment of people to a place. Some commentators believe that when people have no influence in the design or management of their environment, their psychological sense of safety is not properly fulfilled (Coeterier 1994; Mehrabian et al 1974).

To sum up, in appropriate conditions, the deep sense of safety is fulfilled where one feels a part of life and a member of the great family of man.

5-3-1-3- How to Make a Safe Environment

Nellessen (1994) describing the conditions of a safe environment emphasises the importance of the participation of people in the process of maintaining safety. He lists three factors for a safe urban area:

I.   Knowing the people who live and work in the community: the design and layout must promote personal interaction and neighbourliness. Meeting and chance of encounter should be encourage by the plan.

II. Ownership: the sense of security will be promoted when people own their home.

III. Value system: the greater sense of safety is in sharing values and when there is a pride of place.

Nellessen adds that the organisations responsive to people's needs such as van hire, car pooling, day care, religious and social agencies may improve the sense of

safety. By the same token and considering the social issues which influence the sense of safety, Loo (1986) describes his findings of a research project and concludes that high population density and increased building density are correlated with lesser feeling of safety and satisfaction; these factors also aggravate undesirable environmental conditions.

Studying the conditions of unsafe residential areas, Coleman (1990) is more concerned with the physical features of the environment and expresses the conditions which allow crime to happen. they are:

    I.   Anonymity

    II. Lack of surveillance

    III. Alternative escape routes

Facilitation of social contacts among the residents in order to minimise anonymity and design of facade features which increase the visibility and surveillance of people over public spaces are two key factors suggested in order to maintain safety. Loewen et al. (1993) suggest three factors to create a safe space. They are: light, open space where visibility is provided and unambiguous refuge where access to help is provided.
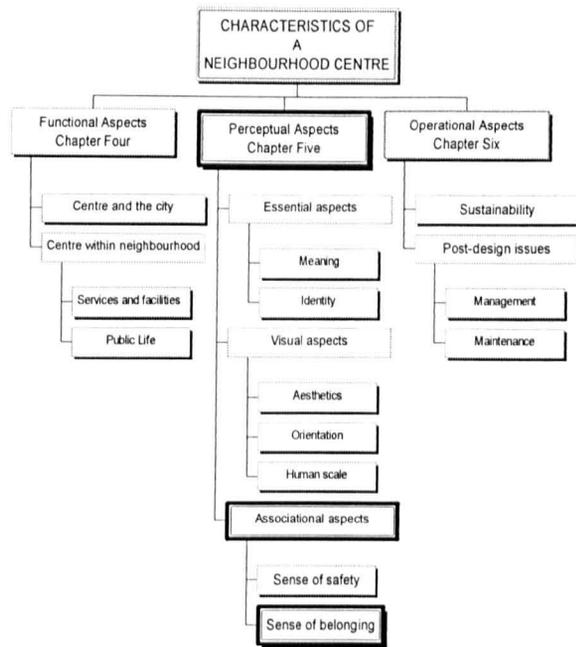
5-3-2- SENSE OF BELONGING

Sense of belonging is an important need of human beings (Maslow 1970). Lang (1994) categorises the feeling of belonging into three kinds: to a group of people, to a regional jurisdiction and nature and to a place. Ritter (1964 p115) with a sociological approach states that 'A feeling of belonging whether to a small group or a large group arises either out of the feeling that this group is making or suffering together, or from functional contact that is real and takes place daily'. Sense of belonging can be considered as a deep emotional relationship with an urban setting and goes beyond the physical imagination of the place. It involves all the good and bad memories and experiences of the place.

Several factors contribute to the creation of a sense of belonging to a place. Rivlin (1992), expressing that people should be allowed to make strong connections between the place, their personal lives and the larger world, addresses some key factors to achieve this aim:

I.   *Allowing accessibility to all groups around the clock.*

II. *Facilitating regular use of a public place by a group of loosely or strongly affiliated persons.*

Gehl (1980) suggests that sense of belonging results in greater use of public spaces and expansion of the residential environment beyond the actual

dwelling. The permission of young children to play outdoors promotes the sense of belonging for them. In other words, 'moving from small groups and spaces towards larger ones and from more private to the gradually more public spaces gives a greater feeling of security and a stronger sense of belonging' (p:61).

III. *User participation in design, and responsiveness of the site to the changing uses over time.*

Participation as a main factor for affiliation is valued by many commentators. Lang (1994) claims that strong association with a specific geographical area fulfils the need for security and affiliation. Hertzberger (1990) says that the more one can personally influence the things around one, can decide about one's surroundings and make relationship with it, the more one will feel emotionally involved with them.

IV. *Cultural, educational, historical and shared values.*

The sense of belonging will be improved among a group of people who possess shared culture and value systems which lead to a common life style. If such a group can be accommodated in a place where the physical structure can also be moulded by their common activities and beliefs, they will improve a great sense of belonging to the place. Schneider (1986 p21) expresses fairly similar ideas by mentioning rootedness and common values as two main factors and says 'The person's biographical rootedness in, or actual behavioural involvement with his or her neighbourhood, is salient in feeling of belonging' regardless of the neighbourhood type. Lang (1994) emphasises the use of symbolic motifs to give the people a sense of belonging.

V. *Legibility and imageability increases meaning and connection to the place.*

Pride of place may also contribute to the promotion of the sense of belonging (Nellessen 1994). The following characteristics of public spaces may enhance the sense of pride among the residents:

a) Uniqueness of places (historically, naturally, culturally etc.)

b) Maintenance and cleanliness of places, apart from encouraging the users to keep the place clean and tidy, can contribute to creating the sense of pride and consequently, belonging.

c) Places with developed social organisation, where people can participate in decision-making processes, can also provide the sense of belonging.

The first group of people who adopt an area and make it a place are those living or working there. Adoption fosters a sense of possession and encourages a sense of territory (Atkinson 1989). Employing intuitive common values among the inhabitants of a place, they can have a good sense of who can and who can not go there and can recognise the characters who may lead to trouble and should be watched carefully. This process which may result in a safe environment promotes belonging among the users of the place (residents, workers etc.).

Perceiving the sense of belonging among the visitors can show the high quality of a place. In such cases, the conditions of the environment should provide the facilities to make a sense of familiarity and encourage the visitors to use the public spaces freely. If the place provides the opportunity of defining a territory around individuals in order to perform their desired activity freely and permits them to engage in public life without difficulty, the sense of belonging will be evoked.

5-3-3- Summary

In conclusion, the sense of safety can be improved by the consideration of three aspects:

I. The perception of an organised society where the existence of physical and social rules protects people against danger. In practice, part of this aim can be fulfilled, for example, by the separation of traffic and provision of convenient pedestrian routes; a secure design of the physical environment especially for the children and the elderly is also important to maintain security.

II. The protection against vandalism and anti-social behaviour can to a greater extent, be maintained by locating the public spaces in close relation to the natural movements of people or within the territory of buildings, particularly when they are used continuously. Good lighting increases safety whereas high population density is a negative factor for the sense of safety.

III. The psychological aspects of safety when a sense of being among a social group, reduces the sense of alienation and isolation. This can be enhanced by making more opportunity of interaction among people. A well-designed network of pathways and open spaces or, in other words, meeting places is essential for this purpose. Having influence in the design and management of the centre enhances the psychological sense of safety as well.

The degree of practical involvement of people in an urban environment and the existence of shared values and commonalities influence the sense of belonging. If the length of using a place increases this sense will be deeper while the memories will help the promotion of the sense. The most relevant factor to the design of a centre, expressed by Rivlin (1992), is the effect of legibility and imageability of spaces on the promotion of the sense of belonging to them. Well-maintained and unique places enhance the sense of pride and belonging.

PRINCIPLES

Perceptual Aspects

1- Essential Qualities:

Meaning and Identity

1	A deep investigation of the historical and cultural background of a place is necessary to find out the 'meanings' and 'memories' associated to it in order to develop the spaces and nodes which convey these meanings.	Milton Keynes Development Company 1975 Schneider 1986 DoE 1994
2	An attentive observation and a study of the site is important to find out the geographical potentials and limitations. Some of the main aspects in this category are as follows:	Nellessen 1994 Unwin 1920 Lang 1994 Brower 1996 Frampton 1992
	a) Topography: the investigation of topography is necessary in order to determine the structural pattern of the place in tune with the natural landscapes and solar orientation.	Von Meiss 1990
	b) Climate: Concerning a climatic approach to the design of the place provides a better congruency with the geographical conditions and will eventually contribute to the provision of uniqueness.	Nellessen 1994
	c) Local resources: Using local materials, colours, forms and techniques in additions to the indigenous vegetation can contribute to the provision of uniqueness and identity.	Nellessen 1994
	d) Contextual compatibility: Understanding the characteristics and potentials of peripheral settings and providing appropriate relationship between the new settlement and the surrounding areas can enhance the quality and the identity of the place.	Von Meiss 1990 Frampton 1992
3	A set of design vocabulary which includes as many elements and details, involved in the design, as possible should be developed in order to provide the unity and enhance the identity. These design factors include both fixed and semi-fixed elements in addition to the vegetation used in the centre.	Nellessen 1994 The Urban Village Group 1992 Cortesi 1996 Gibbons 1991
4	Having visible ties to the region of which they are a part is important. This can be done by making the best of historical buildings and centres in order to evoke the sense of continuity with the past inhabitants.	Schneider 1986 Frampton 1992 Milton Keynes Development Comapany 1975
5	Deriving the structural pattern of routes and the spatial configuration of the centre on the basis of the social relationships of the users. Where the physical design of the centre is supportive to the social and cultural values of the inhabitants the identity of the place will be reinforced.	Von Meiss 1990 Schneider 1986 Rapoport 1977

2- Visual aspects

2-1- Aesthetics

1	Making order and character through unifying the components of the centre.	Kaplan and Kaplan 1982 Lynch 1960
	a) Overall structure, particularly, the use of hierarchical spaces, contribute to the creation of a unified and cohesive place.	Lozano 1974
	b) Using a design vocabulary for the facade features helps to make unity.	Nellessen 1994 the Kaplans 1989 Devlin and Nasar 1989 Groat 1989
	c) Familiarity with the physical elements, use of historic features, popular style and vernacular motives, or on the whole, congruent style to the site and regional characteristics help the perception of order and improves the character of the place.	Von Meiss 1990 Groat 1982 Nasar 1987 Nasar 1994
	d) A diversity of architectural styles may be encouraged but it should be well governed by design standards which reinforce the wholeness of the place. For example:	Nasar 1994
	I. Providing a list of acceptable materials and colours can help the cohesion.	Nellessen 1994
	II. Although the type and status of buildings should dictate their scale and treatment, suggesting a specific range of lot width for buildings helps obtain an acceptable grain and prevent chaos in the streetscape.	The Urban Village Group 1992 Nellessen 1994 Arendt 1994
	III. Building height should be determined by the character and function of individual buildings and their position within a block, street or square. Higher buildings are recommended to be built in the key sites while a limitation for the height range can preserve the wholeness of the place.	The Urban Village Group 1992 Nellessen 1994
	e) Design choice and location of street signs, lighting columns, brackets, bollards, seats and other street furniture should be congruent to the overall character of the place and enhance the identity.	The Urban Village Group 1992
	f) Naturalness and use of natural features enhance the perception of order.	Wohlwill 1982 Nasar 1994
	g) Reducing artificial nuisance such as traffic, litter, billboards, poles, wires, dilapidation and incompatible land uses enhances the perception of order.	Nasar 1994
2	Structured open spaces and defined openness should be provided in the centre.	The Kaplans 1976, 1989 Nasar 1988 Skjaeveland et al. 1997

	a)	Borders of the spaces is preferred to be defined clearly.	Nasar 1994, 1989 Herzog 1992
	b)	Street frontage should not be broken by too many setbacks. Where such setbacks are established they must be treated as landscape courts.	Nellessen 1994 Arendt 1994
	c)	Parking lots should be screened from the street, multi-level car parks should be in small plots, carefully designed to blend with their surroundings. The location of parking areas behind front buildings such as offices or shops is recommended.	The Urban Design Group 1992 Alexander 1977
3		The design of spaces should consider the human scale and the perceptual capacity of individuals.	Nellessen 1994 Arendt 1994
	a)	The amount of complexity of buildings and the scale of details of facades should be responsive to human perceptual capacity.	Nasar 1994 Rapoport 1977
	b)	The scale of the human body should be regarded in the design of urban furniture.	Nellessen 1994
	c)	The scale of spaces should be congruent with the capacity of human senses. A dimension between 25-30 metres is the maximum length of space recommended for active social contact.	Gehl 1980 Lynch (quoted in Cooper 1990)
	d)	A minimum height/width proportion of 1:4 for static spaces and a minimum height/width ratio of 1:2.5 for dynamic spaces are needed in order to provide the sense of enclosure.	The GLC study 1978 Essex Design Guide 1975 Nellessen 1994 Arendt 1994
	e)	Where a static space is to be designed the long axis should not exceed its short axis by much more than 50% otherwise it will be perceived as a linear space.	Essex Design Guide 1975
4		Visual richness has to be obtained through making complexity in different ways:	Arendt 1994
	a)	Hierarchy of spaces and routes should be considered.	Lozano 1974
	b)	Existence of various paths, slopes and variety of eye levels should be ensured.	Rapoport 1977 Cullen 1971
	c)	Curving streets, which provide the changing of vistas, views and terminating points should be used.[5]	Nasar 1989 Rapoport 1977 Cullen 1971 Alberti (quoted in Mumford 1961) Nellessen 1994
	d)	Articulation of spaces for different uses and activities is salient for the perception of complexity.	Cullen 1971

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[5] Some research findings show that winding loops decrease the readability of the place, therefore, provision of the environmental clues for orientation and legibility have to be considered where winding streets are used in the design.

e) Contrast between adjacent spaces, passing through a narrow pathway and arriving at an open square can create interest. The importance of thresholds and transitional spaces are more identified in this situation.

The GLC study 1978

f) Making small distances between the entrances, street corners and display windows create variety in the streetscape.

The Urban Design Group 1992

g) Use of rhythmical differences in details of the facades such as columns, piers, niches, window mullions, and even signs enhances the complexity.

Greenberg 1995
Lozano 1974

h) Use of different texture and materials of pavements enhances the complexity.

Nellessen 1994

i) A diversity of people, uses and activities contribute to making complexity. This appears to be achieved through providing supportive spaces for various activities for different ages and social categories. Mixed-use areas to a large extent provide this quality.

Rapoport 1977
the Urban Design Group 1992
Nellessen 1994

j) A diversity of vegetation, use of different trees, flowers and plants for different types of streets, use of different colours and also use of different light levels can contribute to creating complexity.

Cullen 1971
Nellessen 1994
Rapoport 1977

k) Using semi-fixed features such as street furniture, making facilities for market places or street vendors enhance the complexity.

Rapoport 1977

l) Long empty barriers and blank walls, large parking lots and too many vacant shops are negative points for making complexity.

Nellessen 1994

m) Too many set backs should be avoided along the streets.

Nellessen 1994

2-2- Orientation

1   The overall structure of neighbourhood and the configuration and connection of the paths have to be easily understood. The following principles enhance the people's image about the neighbourhood centre:

Lynch 1960
Arendt 1994

a) Hierarchy of the road network. The differences of the routes can be emphasised via differences of: width and proportion, material and texture of the pavements, use of various plants and greenery along the paths, use of different types of street furniture etc. Using these measures may help to enhance the memorability of the centre whereas the required complexity can be also obtained.

Lang 1994
Lozano 1974

b) Hierarchy of the formality of buildings. This means buildings become increasingly larger and more formal as one approaches the centre. The building density can also increase in the centre.	The Urban Design Group 1992 Arendt 1994
c) Continuity of the street network between the residential areas and the local centre. This is an important principle in promoting readability.	Lozano 1974 Nellessen 1994 Arendt 1994
d) Sequences of the spaces. Articulation of the whole space of the centre into some defined, meaningful parts with identifiable character can help the imageability, and consequently, orientation in the place.	Von Meiss 1990 Lynch 1960 Arendt 1994 The CLC study 1978
e) Inviting gateways enhance the definition of the place. The characteristics of boundary makers (height and location of fences, hedges and tree lines) should be considered.	Tibbalds et. al. 1990 Nellessen 1994 Von Meiss 1990
2 A focal point should be created for the local centre. A central and integrated location for the centre provides equal access and emphasises the importance of the centre.	Arendt 1994 Lynch 1960 Nellessen 1994
a) The special characteristic element and the main symbol of the neighbourhood centre should be established in this memorable space.	Nellessen 1994 Rapoport 1977
b) The whole neighbourhood centre, which is organised in a concentric form, may be considered a focal point for the area. If some high elements in the centre could be visible from residential area the role of the centre as a focal point will be promoted.	Jacobs 1970 Tibbalds et. al. 1990
c) Focal points should be designed in the meaningful nodes of the area where a concentration of social activities enhances the memorability of the place.	Rapoport 1977 Lynch 1960
d) There should be some landmarks in the centre to enhance the perception of the place. The individuality of certain buildings, spaces, signs etc., helps its recognition.	Lynch 1960 Appleyard
e) Some orientator landmark should be within a short distance from any place.	Lozano 1974

3- Associational aspects

Safety and Belonging

1 The existence of some kind of organisations for the management and maintenance of the centre is important. If such an organisation takes into consideration the values and interests of the residents and enjoys their co-operation, a more friendly, safe and sustainable place will be achieved.	Jacobs 1961 Rivlin 1994 Coeterier 1994 Nellessen 1994

2	Separation of pedestrian and motor vehicle traffic should be regarded to provide a secure environment.	The Urban Design Group 1992
3	Design of the physical elements in the centre should concern the safety of people particularly children.	
4	Providing the visibility of public areas reduces the opportunity of crime. Those spaces should be either located near the natural movement or within the territory of popular buildings in order to be viewed by passer-by or people in general. Under-used places should be revitalised to attract the users who will maintain the safety of place.	Jacobs 1961 Rivlin 1994 Coleman 1990 Loewen 1993 Newman 1973
5	Mixed-use areas are recommended to attract diversity of people for different purposes and fulfil the sense of safety.	Jacobs 1961
6	Extensions of opening hours for shops, establishment of residential buildings or some functions such as hotels, restaurants and so on, in relation to shopping areas or civic buildings, will provide the flow of people around the clock and will maintain the safety of places.	Cowan 1991
7	Design of meeting spaces in addition to appropriate pathways facilitate and encourage public interaction and improve the sense of familiarity and safety among the residents. The regular use of public spaces will also enhance the sense of belonging.	Coeterier 1994 Nellessen 1994 Gehl 1980
8	Good maintenance of the public spaces and their cleanliness may provide the sense of pride and enhance the sense of safety and belonging.	Nellessen 1994
9	Provision of organisations responsive to people's needs such as van hire, car pooling, day care, religious and social agencies can enhance the sense of safety.	Nellessen 1994
10	In order to promote the sense of belonging, the common values and beliefs among people can be reflected in the design of physical symbols and motifs in the centre.	Lang 1994 Schneider 1986
11	Establishment of organisation for direct involvement of people in making decisions for their neighbourhood help to improve their sense of belonging to the place.	Lang 1994 Hertzberger 1990
12	Designing a diversity of houses enables various families and different age groups to live together and provides the opportunity of living for a longer duration of time in a place; this may increase the sense of rootedness and subsequently creates a sense of belonging.	Schneider 1986

PART TWO

DEVELOPING A LIST OF PRINCIPLES FOR DESIGNING
NEIGHBOURHOODS AND NEIGHBOURHOOD CENTRES

CHAPTER SIX

OPERATIONAL ASPECTS

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                              ┌─────────────────────┐
                              │ CHARACTERISTICS OF  │
                              │          A          │
                              │ NEIGHBOURHOOD CENTRE │
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Functional Aspects Chapter Four	Perceptual Aspects Chapter Five	Operational Aspects Chapter Six

Centre and the city	Essential aspects	Sustainability
Centre within neighbourhood	Meaning	Post-design issues
Services and facilities	Identify	Management
Public Life	Visual aspects	Maintenance
	Aesthetics	
	Orientation	
	Human scale	
	Associational aspects	
	Sense of safety	
	Sense of belonging	

6-1- SUSTAINABILITY

6-1-1- Introduction

Sustainability as a concept in environmental thinking has been widely discussed by commentators in this field. This new approach to environmental design will have direct effects on urban development. First of all, this section will demonstrate the advocacy of the neighbourhood idea from a sustainability point of view, setting out the numerous principles to develop the urban areas on the basis of residential units or neighbourhoods. Next, the importance of neighbourhood centres and their advantages will be presented. Finally, the characteristics of the neighbourhood centres which support their sustainability will be described.

6-1-2- Definition

Sustainability has recently become important in urban design and in many other branches of environmental studies. All factors which contribute to the creation of a viable environment should be regarded from this new viewpoint. A retrospective view of traditional environments shows that they were more in tune with nature and the specifications of their surroundings. Modern man has tended to become less aware of his relationship to the environment. He has not only ignored the historical relationship which belongs to a place, but also neglected the geographical aspect of a site and its unique characteristics. The idea of developing the environment

regardless of historical, cultural and geographical features can not continue indefinitely.

Haughton et al. (1994) reject the inadequate policies which were brought into some cities from outside as part of the modernisation process. They advocate more sensitivity in the future in order to learn efficient practices from the networks of sustainable cities while considering and consulting more widely at the local level on local needs and resources.

Consideration of a sustainable environment emerged from the Brundtland Report (WCED, 1987) which defined sustainable development as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. A major underlying principle is that the stock of natural resources should not be depleted beyond its regenerative capacity (Breheny 1992).

This new viewpoint encourages rethinking about how man has used and abused his environment and seeks appropriate solutions which can reduce the damage. In other words, this new approach looks for the factors which can contribute to making viable and vital environments for living. Although the concept of ecological carrying capacity is central to sustainable development it is important to understand that sustainable development is not simply about the environment but, it is about the quality of life both now and in the future (Darlow 1996).

6-1-3- Sustainability and the Urban Areas

In the 1990s, the debate surrounding sustainable development has tended to concentrate on urban areas and in particular on the search for the sustainable city. Degradation of the natural environment in cities is due to the long process of industrialisation. For example, reliance on cars and motor vehicles and ignorance of walking distances in urban spaces has increased air pollution and encouraged the dispersal of urban areas which has ultimately reduced the inhabitants' social interactions (Ewing 1997). Girardet (1999 p11) states that 'Today we don't really live in a civilisation, but in a mobilisation of natural resources, people and products'. High-energy consumption to maintain ventilation systems of buildings is another consequence of this attitude to the design of the environment.

In 1990, a green paper on the urban environment was issued by the European Commission (EC). The first guide to sustainable development in the UK was published in May 1995 jointly by the University of The West of England and the

Local Government Management Board. According to this guide sustainable development is about maintaining and enhancing the quality of urban life, social, economic and environmental, while living within the carrying capacity of supporting eco systems and the resource base.

6-1-4- Sustainability and the Idea of Neighbourhood

The development of urban areas on the basis of residential units is widely advocated in order to achieve a more sustainable environment (Breheny 1992a; Orrskog and Shickars 1992; Banister 1992; Owen 1987; Breheny 1992b and Girardet 1999).

Owens (1992) suggests the values of developing large sub-centres within the main city area or through promotion of separate towns linked to the main city centres by strong public transport systems. He also suggests that the neighbourhood is the most important building block for urban planning when accompanied by the policy which emphasises diversity of building styles and ages, community participation and mixed-uses.

The existential/conceptual value of a neighbourhood with an appropriate centre can be considered as a means for sustainable design. Haughton (1994) claims that as the city gets larger, it becomes more dependent on the external eco-system, not only because consumption rises, but also because the internal capacity for food and energy production is reduced (see also Girardet 1999).

The neighbourhood idea, in the literature of sustainability, is mostly referred to as 'decentralisation concentration'. The provision of a central place which offers local services within walking distance of residences is crucial for these residential units. Gibson (1997) argues that concentration of facilities at their centres provides the quality of local districts. Creating neighbourhoods where walking is the most natural and pleasurable means of access between activities, is an important step toward providing a sustainable settlement.

6-1-5- The Importance of the Neighbourhood Centre

A neighbourhood centre contributes to the development of a sustainable residential district in different ways:

Firstly, by reducing the use of the car and encouraging walking and cycling. The concentration of the urban facilities is associated with a higher likelihood of walking to these types of facilities when they are within a ten-minute walk from their residences (Farthing et al 1995). In this case, the local facilities are more frequently used especially by young women. Local facilities have two effects on travel behaviour: first, the mode of transport used for journeys (encouraging trips on foot or by cycle) and secondly, the length of journey, particularly, by car. In this regard, following the Rio Summit (1992), the Department of the Environment (DoE) published Planning Policy Guidance 13 (1994) for a new attitude to land use planning which would reduce the need for travel. This would be achieved by bringing traffic - generating facilities like large retail stores back into the towns.

Secondly, by the provision of a diversity of activities, the centre can contribute to promote the self-sufficiency of the place. Not only the daily needs such as shopping, health services, post office etc., should be met but recreational facilities are also among the features demanded by local residents. The fulfilment of residents' needs in their local area is more important when we take into account the fact that (according to the census of 1985 & 1986) journeys to work in Britain are only 23.4% of all trips (Breheny 1992; Banister 1992). This is particularly the result of growth in leisure, social and shopping activities. Almost all of this growth is in car-based activities.

Farthing (1992) states that playgrounds and parks were visited much more frequently when they were provided locally. In this regard many patterns of uniformity should be replaced by diversity to obtain self-sufficiency which is a key factor in sustainable design. Not only should mixed-use be considered, but mixed farming and bio-diversity have to be respected as well.

6-1-6- Important Characteristics of a Neighbourhood Centre

Sustainability is a multi-dimensional concept. Some of the key factors which enhance sustainability of the neighbourhood centre and should be considered in its design are: design with nature, appropriate physical conditions, fulfilment of the qualitative characteristics, accessibility, local services and social conditions.

- **Design With Nature**

The existence of nature and natural features in cities are widely appreciated for different reasons, particularly, from a sustainable point of view. Respecting nature in the environment has two distinct aspects: the first one is the conservation of the natural resources and the other one is the significant impact of nature on the life of human beings. Many benefits are associated with proper contact with nature some of them are related to the physiological needs of people with others satisfying psychological needs.

I. Enhancing the physiological conditions

Haughton (1994) states that nature can help by moderating the impacts of human's activities such as absorbing pollutants and releasing oxygen. The Urban Design Group (1992) stress that parks, gardens and green spaces can produce an ecologically balanced and healthy development. Some writers argue that wildlife in cities is an essential adjunct to city living, providing a sensory stimulus for residents, and connection with nature which makes the people more environmentally sensitive in their behaviour (Hough, 1984, 1990).

Considering self-sufficiency as an important factor in sustainable developments, efforts should be made to fulfil as many residents' needs for vegetation and plants as possible at a local level. Barton (1996) argues that independency should be the main aim of a sustainable settlement and designers or decision-makers should be attempting to maximise the level of autonomy of the eco-system and also enhancing its life-giving qualities.

II. Improving the psychological circumstances

Apart from the physiological needs for nature there are many psychological advantages resulting from proximity to natural sites. Some sociologists believe that the need for open space is in itself deeply rooted in man (Ittelson 1974). Accordingly, contact with nature makes a change from work routine and thus satisfies a basic human need. The presence of features found in nature; the sky, mountains, forests, beaches, wilderness areas, water fronts and deserts have a special meaning for people (Rivlin, et al. 1992).

Human responses to vegetation are not merely aesthetic as Sheets et al. (1991) believe they are affective and cognitive as well. Vegetation can make people feel

better and make them view an urban area more positively. The efficiency of natural environments associated with better performance on attention measures is argued by Tennessen et al. (1995) and Kaplan (1995). The natural environments turn out to be particularly efficient in the stimulating of restorative effects.

The existence of natural settings is most frequently associated with the quality of life (Sheets et al 1991). Nasar (1989) says that vegetation correlates with order, unity, upkeep and openness all of which increase preference. They also contribute to one's sense of security and safety in public space (Francis 1989). Long view distances, open grassy areas and water are associated with high degrees of perceived safety. Kaplan (1983) found that the most important factors in neighbourhood satisfaction were the availability of nearby trees, well-landscaped grounds and places for taking walks.

Natural elements can also enrich the setting with regard to the educative potentialities. Francis (1989) states that natural features in playgrounds can support children's direct modification of the environment and increase environmental competence and learning for children and teenagers. Moreover, tranquillity and protection from external pressures are identified as the basic qualities associated with nature (Kaplan and Kaplan 1990).

The importance of nature in urban life is manifested in the desire of people to live in suburban areas. New telecommunication systems have been considered as an effective factor in increasing the dispersal settlement areas (Breheny 1992 p11); but there are some commentators who reject the effects of telecommunications on city life and argue that the range of telecommunication facilities available in rural areas will be always limited with their use focusing on major nodes i.e. cities. Moreover, the spontaneity and creativity of face to face contact can never be provided by telecommunications (Robertson 1990; Beaumont 1982 quoted in Breheny 1992 p155).

The awareness of such a wide range of qualities associated with nature and natural features ascertains their conservation and up-keep as a key factor in sustainable developments.

III. *Developing natural settings in a neighbourhood centre*

The sustainable city is developed to respect, and make the most of, natural environmental assets, to conserve resource use and to minimise impact on the local and wider natural environment (Haughton et al. 1994). Although a city's effects on the environment should be considered and each city must take the responsibility of conserving global resources, it does not resemble the prevalence of universalism which was promoted by modernism. On the contrary, identity and regional values are substantial issues which must be greatly respected.

Three important points have to be considered in the development of neighbourhood centres' natural settings.

- *Prevalent use of indigenous plants* because they require less maintenance than ornamentals. Moreover, they can help to restore a sense of nature to the city in a more direct way than more manicured parks (Rivlin 1992).

- *Development of brown fields* where green sites are avoided in order to conserve the greenery and vegetation.

- *Spreading out green areas.* Most environmentalists advocate the use of natural spaces within urban areas not only by employing formal parks but most importantly, by spreading greenery throughout the cities. Sherlock (1991) advocates the use of plots in front of, behind and between buildings. Hough (1984) claims that the use of selected wall creepers, urban roof gardens and the greening of transport corridors, in addition to their aesthetic appeal and support of wildlife, can reduce summer temperature and heat loss in winter. They can be especially valuable in creating insulation.

- In ecological and wildlife terms, the interconnection of natural spaces is of particular value and this has led to an emphasis on creating green corridors and wedges (Haughton et al 1994). With a similar viewpoint, Barton (1996) suggests that open spaces, which previously were considered as separate spaces for different interests, should be considered as a network serving a number of interrelated purposes.

Van der Valk calls these connected natural spaces in the cities 'the nature city' and believes that they can bring an end to the traditional conflict between the city and nature thus leading the way to a sustainable urban environment (Van der Valk 1991 quoted in Breheny 1992 p134). By spreading the greenery through the neighbourhood people can have access to it more easily. Alexander (1977) suggests a three minute walk as a proper distance to arrive at an open green space while Hook stresses the objective of a ten minute walk to open green spaces (quoted in Houghton 1978 p160). In the end, to bring nature back into the city, one can refer to Pattric Geddes (1915) who suggested the development of star-like forms, with axes of natural space intruding into the city.

IV. *Open green spaces and social interaction*

Open spaces such as parks and plazas can establish a sense of community and can give identity to an area by acting as landmarks and symbols. They can provide the opportunity for people to gather and share the experience of being in a place (Lang 1994; Darlow 1996). Rapoport (1982) stressing similar ideas emphasises the importance of parks in urban areas and recalls them as having the latent function of acting as social and cultural markers. Jacobs (1961) emphasises the role of neighbourhood parks in enhancing the social relationships of people. She lists some conditions to increase the liveliness of those parks in order to attract more people. Sufficient diversity in the immediate surrounding of the park is a salient factor and parks which are used in public-yard fashion tend to have four elements in their design: 'intricacy, centring, sun and enclosure' (ibid p113).

Identifying the desired and expected activities in a natural space can help design fixed features such as steps, benches, walls and ground surface so as to enhance the quality of potential activities and interactions between people or where necessary, the solitude of an individual (Lang 1994). Open spaces around residential areas can provide an opportunity for recreation, gardening etc.; in this way they make the opportunity for human interaction as well (The Urban Village Group 1992).

• *Physical Characteristics*

In order to develop a sustainable city some physical characteristics have been frequently recommended, among which, the following are the most important and relevant to the design of a neighbourhood centre:

I. *Compactness*: there is much literature in favour of the compactness of cities (Dartzig & Saaty 1973; Sherlock 1991; Elkin et al 1991; Breheny 1992; Carmona 1996), suggesting the development of high density areas in order to make more environmentally sustainable cities and to improve the quality of life. These arguments are mainly on the basis of the factors proposed in the EC Green Paper. There are two main criticisms against this view: first, the ignorance of an appropriate relationship with nature and second, the reduction of efficient natural energy resources such as solar energy and wind power in compact cities (Elkin 1991; Breheny 1992). The answer might be more green spaces alongside higher density developments.

II. Mixed-use development (Owen 1992; Breheny 1992; Carmona 1996).

III. Protection of the built heritage (Carmona 1996).

IV. The use of local materials (Van der Valk 1992; Carmona 1996).

V. The use of recycled materials (Carmona 1996).

- **Qualitative Aspects**

Promotion of the environmental qualities, preservation of regional and cultural identities, improvement of local distinctiveness and compatibility to change or in other words, the functional flexibility of the spaces and buildings in order to accommodate new uses, are some key factors for a sustainable development (The Urban Village Group 1992; Haughton & Hunter 1994; Carmona 1996).

- **Accessibility**

Among the numerous comments which introduce the characteristics of proper accessibility in a sustainable city, there are four primary factors, more relevant to the design of a neighbourhood centre. Those factors are as follows:

I. *Reducing the need for travel* is a fundamental point and can be maintained through the provision of as many jobs and services as possible at a local level (Owen 1987; Barton 1992; Carmona 1996). This idea, which will ultimately propose the development of local centres in the urban areas, has been discussed previously.

II. *Prevalence of public transport* use both between and within towns can effectively contribute to the reduction of air pollution (Breheny 1992a).

III. *Encouraging walking and cycling* with the development of appropriate pedestrianised or cycling routes (Battle et al 1994; Carmona 1996). A recent DoE study (Ecotec 1993), emphasised the significance of promoting the quality of walking routes in order to increase their use.

IV. *Permeability* and connectivity of routes should be considered in the design of the spaces (Carmona 1996).

• *Public services*

Safe sustaining of the neighbourhood with regard to its different aspects is recommended (Carmona 1996). The Urban Village Group (1992) and Jacobs (1961) suggest the self governance of a local area and Van der Valk (1992) cites the self sustaining of natural resources. A large number of researchers are in favour of having different public services and even jobs in the local centres (Darlow 1996).

• *Social and cultural issues*

Social and cultural values should be considered in a sustainable development. Haughton et al (1994) suggests that a sustainable city should conserve, enhance and promote its assets in terms of natural, built and cultural environment. Darlow (1996), suggesting the integration of cultural and sustainable policies in a local area, points out that these two have the same aim: improving the quality of life.

Emphasising the need to develop a culture that celebrates the local and everyday rather than further afield for experience and adventures, Darlow (1996) is also in favour of local centres particularly when they are used around the clock.

Paying more attention to arts and crafts, the use of nature and natural landscapes as a subject for art, installation of public arts and the use of art to promote the awareness of the environment are some important contributions of art to the development of a sustainable urban life (Darlow 1996).

To sum up, the essential points which are suggested for the development of a sustainable neighbourhood centre are listed in the principles presented at the end of this chapter. As social and environmental concerns are linked, the quality of social life would also be improved.

6-1-7- Summary

The neighbourhood idea as an important building block for urban planning is repeatedly suggested for sustainable cities. The conditions for self-sufficiency and flexibility for change, which are both appreciated qualities from a sustainable viewpoint, are better provided when mixed-use design and diversity of function are considered in a neighbourhood. The suggested role of neighbourhoods in producing food and offering local services within walking distances has also been discussed.

On the whole, some principles have been proposed in order to achieve a sustainable neighbourhood:

Firstly, the provision of a relationship with nature, as a salient principle for both its physiological and psychological advantages, is recommended. Secondly, some architectural characteristics such as compactness of the buildings, preservation of built heritage and the use of indigenous materials and techniques are proposed. Thirdly, reducing the need for travel, particularly the use of the car, and providing facilities for walking and cycling are suggested. Lastly, cultural and social values as the promoter of the environmental meaning should also be regarded.

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                              │   CHARACTERISTICS OF     │
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                              │  NEIGHBOURHOOD CENTRE    │
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              ┌────────────────────┬──────────────┬──────────────────────┐
     ┌────────────────┐     ┌────────────────┐     ┌────────────────┐
     │ Functional Aspects │   │ Perceptual Aspects │   │ Operational Aspects │
     │   Chapter Four     │   │   Chapter Five     │   │   Chapter Six      │
     └────────────────┘     └────────────────┘     └────────────────┘
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- Centre and the city
- Centre within neighbourhood
- Services and facilities
- Public Life

- Essential aspects
  - Meaning
  - Identity
- Visual aspects
  - Aesthetics
  - Orientation
  - Human scale
- Associational aspects
  - Sense of safety
  - Sense of belonging

- Sustainability
- Post-design issues
  - Management
  - Maintenance

6-2- POST DESIGN ISSUES

Introduction

Management means control and making decisions or the process of controlling and dealing with people and things. Maintaining is to cause something to continue or to keep it in good condition or working order by checking or repairing it regularly (Oxford Dictionary 1995). It seems that if management can be seen as the process of control, maintenance appears to be the product or result of this control.

This section of the thesis comprises two main sub-sections. The first sub-section studies the management of town centres and its effects on the physical design of public places. The second sub-section investigates the essential factors for maintenance of public spaces and their design implementations. In the first sub-section, after describing the importance and various dimensions of town centre management, two different views, namely private against public control of town centres, their benefits, and problems, are briefly discussed and design implementations of these concepts are then presented.

The second part, which is involved with the maintenance of town centres, mainly presents some principles suggested in the literature.

6-2-1-MANAGEMENT

Being considered a salient factor to achieve a good public place, management appears to be as important as the quality of design (Project for public spaces 1984). Lynch and Carr (1981) believe that management and design go hand in hand and Rivlin (1992 p246) says that 'design and management are critical phases in the endless process of creating human environments and keeping them fit for their intended uses'. She adds that any design is a balancing act amongst competing goals and priorities. The role of designers and managers in controlling the use of the resulting place and maintaining and adjusting its forms to satisfy changing needs is essential. Although management usually starts after the completion of the construction process, having a knowledge of different styles of management and also important points for maintenance may have some effect on the design of public spaces.

Recently there has been much debate on town centre management that can reveal some lessons to be learned for neighbourhood centre design. In this regard, two main streams of literature can be found. One values the people's and users' control over, and their participation and involvement with, the environment in order to achieve a successful public place. The other is in favour of privately controlled spaces where the private sector, mainly the commercial body of neighbourhood centres or, mostly the large retailers, has the most influence on public spaces.

6-2-1-1- Dimensions of Town Centre Management

According to the DoE (1994) three main functions are considered for town centre management:

I. Janitorial which considers the general appearance and maintenance of the centre, litter free zones, graffiti squads and so on.

II. Managerial is engaged with co-ordinating the effect of different departments and agencies.

III. Promotional is responsible for marketing the centre through staging events, and special promotions and through co-ordinating existing

initiatives whilst at the same time keeping local businesses and communities informed on the latest initiatives.

The first and third functions can be effectively promoted by the participation of people and users.

6-2-1-2- Privately Managed Public Spaces

• *Emergence of the idea*

Francis (1989) claims that there is an expanding public culture and increased appetite for public space in American society even though some researchers such as Sennett (1977) and Brill (1989) argue that American life has become more specialised. He adds that the isolation of suburban living, impersonal work environments and the increased stress of modern life, all contribute to an increased favour on the part of many people for public spaces. This viewpoint is supported by the commercial success of new market places in downtown areas and malls.

In Britain the idea of valuing and rehabilitating public spaces, in particular, town centres, started in the late 1970s (Reeve 1996). The perception of decline in many British town centres[6] and the growth of out-of-town shopping malls which accelerated this process of decline, ultimately led to the central government's pressure to discourage further out-of-town retail developments (PPGs 6 and 13 1993-1994)[7]. These efforts continued by seeking some solutions for the regeneration of town centres.

A new view of town centre management was suggested as an effective way for achieving vital and successful town centres, calling for more involvement of the private sector, particularly, large retailers, in the process of management.

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[6] For example in 1990, in a report (Caring for Cities) six symptoms were listed as characteristics of urban problem loss of: people, owner-occupiers, jobs, options, quality and above all hope.

[7] These papers followed the Environment White Paper in 1990, upon which, a review of all planning policy guidance notes was necessary to ensure that they reflect the emerging environmental agendas set in train by the Rio Summit. The PPGs 6 (1993) and 13 (1994) recommend the preservation of green sites, promotion of town centres and support of town centre management in order to encourage the residents and users to use their town centres and reduce the need for car travel and energy consumption as much as possible.

According to Reeve (1996), town centres in Britain have historically always been managed environments, made up of space which is a mixture of the publicly and the privately controlled environment. He claims that the North American model of 'Main Street' program and its financial partnership across the public and private sectors had some influence on shaping the new ideas. Kay (1990), describing the factors of a successful 'main street', says that design is important but is only one component. The presence of an executive director and an organisation that copies the mall's organisation, activities and promotions is important.

In Britain the new role of large retailers in the management body is due to two reasons: firstly, the large retailers felt that unless the town centre, as a whole, is made more attractive to the spending public, their investment in such locations would no longer be profitable; secondly, there was a decline in local authority funding. In the RTPI report (1990), one of the suggestions for the improvement of town centres was a new kind of management similar to that of shopping malls. This viewpoint was greatly supported by the retailers. This dominant retailing viewpoint of the improvement of town centres result in the idea of attracting more customers and money spenders to these places.

- *Opposition to the privatisation of town centres*

The private management of town centres has had to confront some opposition views. For example, Reeve (1996) believes that the treatment of town centres as a shopping mall is to transform them into a single minded environment with a loss of social richness and authentic vitality (the expression 'single minded' was firstly used by Walzer (1986) to express a space for one kind of activity which privileges one kind of user, 'the consumer'). Punter (1990) says that a public realm that excludes all but the credit card and the security of the car holder, will ultimately impoverish us all, while being an invitation to anti-social behaviour on the part of those excluded from or dispossessed of the full rights of citizenship.

In spite of much opposition to the private management of public spaces, the Town Centre Management (TCM) as an entity has been accepted and developed. There were under half a dozen schemes in operation in 1986, while in 1995 there were about one hundred and the growth rate is still increasing (Reeve 1996). The trend to give private developers greater responsibility for providing open spaces has resulted in some difficulties. For example, indoor atrium spaces are being developed in many cities as parts of the public spaces. Yet many of these places are not

accessible to the public. Lockable and fenced parks are another example. These spaces are mostly separated from the street and are supervised by guards and closed circuit cameras (Francis 1989).

The most important criticism made of the privately managed public places is with regard to the regulations which restrict some behaviour or the presence of some groups or social classes such as beggars and intoxicated people, who create difficulty for those who will be spending money. However, there are only a few managers who claim that they are only marketing a public commodity and not seeking social engineering (Reeve 1996).

- *In search of a friendly environment*

According to Reeve (1996), the Town Centre Management, being initially concerned with retailing, after about one decade of experience are now in favour of creating user friendly environments. The importance of establishing leisure activities among the commercial ones and even the willingness to see the centre used for collective purposes such as religion and political meetings is increasing. Accordingly, apart from creating identity, security measures and physical intervention, which were found to be the main aims of management strategies, seven other factors are now employed in order to create more active and improved town centres (Jones and Simmonds 1990; Wells 1991; Pattison 1993; ATCM et al 1994; Reeve 1996). According to those factors there should be:

     I. more opening hours during day and night

     II. better access and car parking

     III. better street cleaning programs

     IV. coherent and uniform hard and soft landscaping

     V. pedestrianisation

     VI. better sign-posting and better street lighting

     VII. shop mobility schemes

The use of new laws and control measures under TCM is ambiguous in terms of intended outcomes. On the one hand, they can be seen to have a positive influence on the vitality of town centres by creating a sense of security for the majority of users, irrespective of being consumers or not. On the other hand, they can be seen as devices to help ensure the presence of people who will behave in a fashion

conducive to consumption simply by virtue of creating a safe and monitored social space.

6-2-1-3- People's Control of the Public Places

Another viewpoint of town centre management suggests the provision of the active participation of people and users instead of introducing a by-law to restrict and control the problematic behaviour of some people. Jacobs (1961) says that peaceful streets and cities are not kept primarily by the police but by an intricate, almost unconscious, network of voluntary controls and standards among the people themselves.

Rivlin et al (1992) believe that appropriate physical designs and management policies can only be determined with a thorough understanding of social context and users, preferences and for a particular period in the evolution of the local public life.

Consideration of people's values and viewpoints in the improvement projects of town centres will lead to more friendly environments. According to Reeve (1996), Cleanliness, accessibility and safety are the main concerns of people and retailing role, historic character and pedestrianisation are also important factors for them.

* *Psychological benefits of people's control*

Direct engagement of people in the control and management of their environment, apart from provision of safety, will create meaning for them. Francis (1989) lists five levels of meaning which result from the involvement of people with their environment. They are:

    I.   Individual level, for example through experiencing a special event.

    II. Group level, for example through teenagers placing value or an ethnic group's tradition of celebrating festival in particular spaces.

    III. National level, for example through celebrating New Year's Eve. in special places.

    IV. Meaning obtained through direct involvement in the design of a place.

V. Direct involvement of users in the construction and maintenance of a place may also enhance meaning and attachment to public places e.g. many community built gardens provide this opportunity.

Lynch and Carr (1981) state that people's control of their environment is an important factor for user satisfaction. Personal control over the environment has been found to be an important mediating variable in reducing stress and the perception of crowding (Francis 1989). Lynch (1981) suggests that the environmental fit of a person and an environment is enhanced by the ability of a person to directly control or modify his environment. Francis (1989) lists four psychological benefits for direct control over the environment. They are: increasing attachment, decreasing stress, creating the sense of territory and enhancing the quality of public life.

- **Definition and Dimensions of Control**

Langer (1983) generally defines control as the mindful process of mastery. Francis (1989) defines control as the ability of an individual or group to gain access to, utilise, influence, gain ownership over, and attach meaning to a public place.

Lynch (1981) proposes five forms of spatial control as follows:

I. Presence: the right of access to a place.

II. Use and action: one's ability to use a place.

III. Appropriation: the ability of users to claim ownership either symbolic or real.

IV. Modification: the right to change the space to facilitate use.

V. Disposition: the ability to transfer one's use and ownership to someone else.

According to the National Gardening Association (1987), gardening is found to be the most popular out-door recreational activity which provides all of the five forms of participation and control expressed by Lynch (1981).

6-2-1-4- Design Implementation

The following are some generic principles which influence the above forms of control and can be considered by designers:

- *Access*

In order to provide the opportunity of access, firstly different kinds of access have to be studied. Francis (1989) suggests three types of access to a public place as follows:

    I.   Direct physical access; doors, walls, gates and so on are design devices to control this access.

    II. Social access; where a space is open to different classes or ages and types of users. For example, some places are poorly designed for children.

    III. Visual access, which is critical for people to feel safe and secure in public places.

As the first and third forms of access are more likely to be provided through the physical design, appropriate elements and devices should be employed by designers.

- *Ownership*

Ownership, either real or symbolic, is influential in the sense of control. Some neighbourhood parks or gardens have become owned as community land by local residents who are responsible for preserving and maintaining these sites. However, symbolic ownership is a more common way for users to feel part of a public space. This kind of ownership may have negative or positive effects. The former happens when ownership excludes people who would like to use a space and the latter occurs when ownership serves to invite people into a space by presenting order, maintenance and a sense of safety (Francis 1989). Here the question of articulation of open public spaces arises. Francis (1989) suggests that in open space design a balance between openness and the articulations that allows occupancy and use should be sought. This suggestion supports the ideas of structured openness discussed previously (section on Human scale), where the sub-divisions are used

by different groups and occasions and the visual access is provided for everyone. In case of large gatherings, the whole space can be occupied by the participants.

- *Ability to change*

The ability of people to change the space is also important and may enhance the neighbourhood streets, parks or other public places. Redesigning streets to control traffic or even the elimination of automobile movement is an example of this kind of control (Appleyard 1981). Initiating local groups such as friends of the park or providing playgrounds that support children's direct modification of the environment can be suggested for this kind of participation (Nicholson 1971).

Moveable chairs and the ability to touch or become actively engaged with water are also some ways of modification of the environment. Establishing markets, such as farmer markets, along with providing the opportunity of having control over the quality of food, are important steps toward more publicly controlled open spaces.
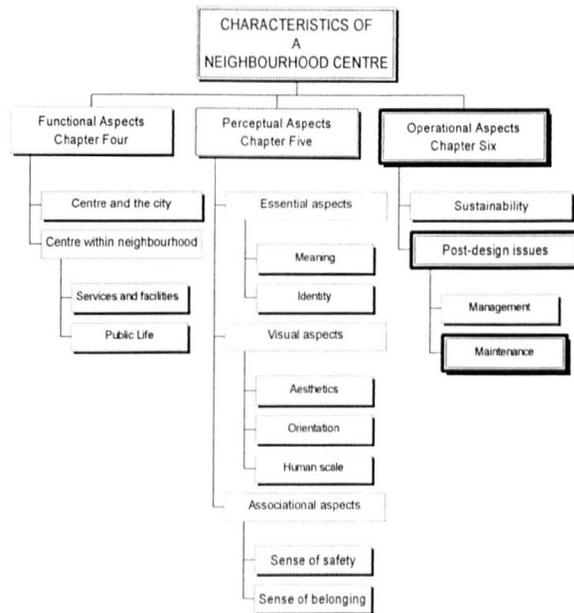
6-2-2- MAINTENANCE

One of the major principles in establishing environmental quality is the quality of maintenance of a place. Maintenance and upkeep of public spaces represent a successful management system. Relatively poor but well looked after places exhibit the sense of self-esteem and care of people and organisations that inhabit them and contribute to the perception of order (Lang 1994). Nellessen (1994) claims that maintenance of streetscapes and public spaces has many benefits such as instilling a sense of community spirit and creating pride of place. In a well-maintained environment further desire for community participation will be created. Most serious deterioration of multi-family and commercial structure starts with negligence of proper maintenance.

6-2-2-1- Some Principles to Maintain a Town Centre

The following principles about maintenance of town centres are summarised from Nellessen (1994 p258-9), Arendt (1994 p108) and Out of hours (1991):

1.   *Cleanliness*

      I.   Proper street cleaning equipment must be established, trash must be removed and internal parks and park ways must be kept clean.

      II. Snow ploughing and removal should be done on time.

    III. Public toilets should be properly sign-posted; all should have disabled provision.

2.   *Sign-posting*

    I.   Local maps and guides to introduce people to where things are and what is on offer should be adopted in order to make sure that local people and strangers can read their way easily from signpost to signpost.

    II.   Establishment of quite clear limits, entrances and exits to the town centre have to be noted.

    III.   Creating local standards for place naming and public signing is important. Carefully designed signs with external illumination could help to unify the district and provide it with a more positive image.

    IV.   Adoption of a coherent policy on street names and numbers should be considered.

    V.   Publishing a local book for school children to introduce important historic buildings, sites and places of special interest and helping young people to identify with their local centre, its topography and history is necessary.

    VI.   A survey of different groups is useful to assess the readability and effectiveness of central maps in people's way-finding.

3.   *Greenery*

    I.   Maintaining street trees and vegetation should be considered.

    II.   Leaf pick up and composting is necessary.

    III.   Tree and hedge pruning should be considered.

    IV.   Using seasonal adjustments such as seasonal flowers has to be ensured.

4   Property and street furniture

    I.   Street furniture must be maintained and painted properly.

    II.   Seasonal decorations should be adjusted.

    III.   Maintenance of properties should be controlled.

    IV.   Historic reservation and enhancement is salient.

V. As people want minimal maintenance for building exteriors, materials that have best weathered on older buildings should be identified and encouraged.

5.   *Social*

I. Community organisations must bring people together and allow them to share decisions about their community. People must know that they have a voice in the control of their community's maintenance.

II. Establishment of institutions for young people and children's activities such as fitness centres, child care facilities and toy libraries are recommended. Local young people can be encouraged to establish retailing skills such as crafts, fashion, second hand books, and computers.

III. Establishment of a union for shopkeepers to discuss ways of improving their relationship with the town centre is important.

IV. All the security measures for women should be considered particularly in car parking areas; some kind of safe transportation schemes should be provided.

6.   *Lighting*

I. The character of a district at night is dependent on the style of lighting.

II. Main routes should be well lit to give a sense of safety and security.

III. Utilising a large number of small light poles is recommended particularly in the 12 to 18 feet range.

IV. Shop windows should be left lit to make a more friendly environment at night.

7.   *Routes*

I. The routes that pedestrians make based on their own shortcuts across the car parks, parks and such places are desired lines which should gradually be incorporated into the agreed flow of pedestrian traffic.

II. Pedestrianisation should be encouraged during daytime, but flexibility for bicycles, cars and buses to gain access to these places at other times should be considered.

III. Car parking during the day and at night should be treated differently.

8.   *Opening time*

I.   The town centre should be regarded as an 18 hours a day and 7 days a week place.

II. Encouragement of local restaurant owners to use the centre at night helps the liveliness of the centre.

III. Encouragement of longer opening hours for town centre public libraries also enhances the vitality of the centre.

6-2-3- Summary

Two kinds of principles can be extracted from the discussion presented in this section. The first group of items are related to the physical design and programming of the centre and are the main focus of the present research whereas the second group of items, being mostly concerned with the maintenance and promotional aspects of the centre, are not within the limitation of a designer's responsibilities. However, having some knowledge about this group will undoubtedly influence the quality of design as well.

Ease of access either pedestrian, by bicycle or motor vehicle and the provision of safety for them are among the important factors. The physical characteristics which enhance these two qualities have to be considered. Cleanliness and well-designed signposts and lighting are also other physical dimensions which should be considered by a good management system. The preservation and rehabilitation of historic buildings affect the character of the place and should also be ensured.

With regard to the social issues, some promotional principles such as holding social gatherings and festivals are important. The provision of appropriate spaces for these meetings and the up-keep of these spaces are important. The opportunity of control at different levels should be provided for people; the residents and users should feel themselves as a part of their neighbourhood and have the chance to participate in its management and maintenance.

PRINCIPLES

Operational Aspects

1- Sustainability

1	The provision of a centre which fulfils the daily needs of residents essentially contributes to the design of a fairly self-sufficient neighbourhood which is appreciated from a sustainable view point.	Gibson 1997 Farthing 1995 DoE, PP 13 1994 Banister 1992 Orrskeg et al. 1992 Breheny 1992a/b Owen 1987/1992
2	The centre should be within walking distance from the residences (500 metres or less)	Sherlock 1996 DoE PP13 1994 Farthing et al. 1995 & 1992
3	The centre should preferably be a mixed-use area.	Carmona 1996 Brehenty 1992 Owen 1992
4	The centre is preferred to have higher density compared to its surrounding residential areas.	Carmona 1996 Breheny 1992 Elkin et al. 1991 Sherlock 1991 Dartzig et al. 1973
5	The nodal points of the area and the public transport modes should be in a close relation to the centre.	Nellesson 1994 Calthorpe 1995 Moughtin 1992
6	Diversity of buildings styles and functions are recommended in order to provide flexibility for any change of use.	Darlow 1996 Carmona 1996 Sherlock 1996 Crookston 1995 Breheny 1992 Owen 1992 Barton 1992
7	There should be a close relationship between the natural and the built environment; the development of a green space network and neighbourhood parks integrated with the spaces of the centre is suggested.	Carmona 1996 Sherlock 1991 Van der Valk 1991 Horsbrugh 1990 Hough 1984 Alexander 1977 Rapoport 1982 Jacobs 1961
8	The employment of conservation measures in site design, concerning the solar and wind orientation may reduce energy consumption.	Carmona 1996
9	Environmentally friendly techniques and materials should be applied.	Carmona 1996
10	The use of local materials and colours is preferred.	Van der Valk 1992 Carmona 1996
11	Natural landscape and assets must be preserved.	Haughton 1994 Carmona 1996
12	Open spaces have to be complemented with indigenous vegetation and colours. The implementation of the above two principles will enhance the individuality of the natural character and will promote the	Rivlin 1992 Carmona 1996

distinctiveness of the place.

13	Recycling of materials must be considered in order to make the most of natural resources.	Carmona 1996
14	Redevelopment should be replaced by rehabilitation.	Carmona 1996
15	The impact of noise and reducing its disadvantages is important.	The Urban Design Group 1992
16	When there is a need for travel to the town, the use of public transport systems, by the employment of appropriate means, must be encouraged.	Sherlock 1996 Breheny 1992
17	Pedestrian and cycling routes have to be developed for trips within the neighbourhood.	Carmona 1996 Battle et al. 1994 Ecotec 1993
18	Connectivity and permeability of routes, particularly pedestrian and cycling routes, is essential for a good access.	Carmona 1996
19	Limiting traffic flow in the public spaces has to be encouraged and supported.	Carmona 1996
20	The design of the centre should improve its distinctiveness by respecting the local context, heritage and historical clues within the urban fabric.	Carmona 1996 Darlow 1996 Houghton 1994
21	Community initiatives in environmental education and protection must be supported and the active participation of local communities has to be considered fundamental to originate a sustainable design.	Haughton1994 p311 Urban Village Group 1992 p17 Local Agenda 21 p27
22	Flexibility of the spaces and buildings is important to facilitate the accommodation of new functions and uses whenever needed.	Carmona 1996 Haughton 1994 p311 Lang 1994 p2 Urban Village Group 1992
23	More attention should be paid to the local arts which can be used in public spaces.	Darlow 1996

2- Post Design Issues

2-1- Management

1	The centre should be accessible during day and night and everyone should be able to pass safely through it whenever they wish. Not only is a direct physical access necessary but a visual access is also critical for people to feel safe.	Reeve (1996) Punter (1990) Francis (1989) Lynch (1981)
2	Different types of transit facilities have to be provided in the centre (public transit, private car, bicycle and pedestrian routes). However, unwanted motor traffic should be controlled in the centre.	Out of hours (1991) Appleyard (1981)

3	The provision of special facilities for access to the centre, especially for the elderly and children, should be considered.	Out of hours (1991)
4	Appropriate rules for controlling the dominance of motor traffic with proper flexibility during day and night should be considered.	Out of hours (1991)
5	A balance of different functions in the centre and minimisation of an individual dominant function will help its vitality, safety and operation around the clock.	Reeve (1996) ATCM (1994)
6	Measures for a legible environment such as clear structure of the place, appropriate location and interval for signposts, and carefully designed signs with external illumination should be considered.	Arendt (1994) Out of hours (1991)
7	A local book or guide should be introduced to provide some information on the place especially for children and visitors to the area.	Out of hours (1991)
8	Social relationships should be encouraged and facilitated by preparing different events and gatherings and also by establishing community organisations.	Nellessen (1994) Out of hours (1991)
9	The opportunity of involvement with the centre's public spaces should be provided for people; for example the establishment of community gardens, children's playgrounds with allowance for their direct modification and different kinds of markets appear to be helpful.	Nicholson (1971) Francis (1989) Lynch (1981) National Gardening Association (1987)
10	Particular institutions for young people and children's activities such as fitness centres, toy libraries, training facilities for increasing retailing or other skills and child care facilities are important.	Out of hours (1991) Nellessen (1994)
11	A balance between openness and articulation in the public spaces of the centre is needed in order to allow occupancy and use for different activities and groups while providing adequate space for the social events and gatherings.	Francis (1989)
12	The opening hours of shops, restaurants and other services should include the evening time in order to contribute to keeping the centre vital during the early hours of night.	Out of hours (1991)
13	Lighting trails with coherent design, appropriate for the centre, should be established to provide the sense of safety.	Arendt (1994) Out of hours (1991)
14	Main routes and shop windows should be lit at night to provide a safe and friendly environment.	Out of hours (1991) Arendt (1994)
15	Security measures for women, particularly in places such as parking areas should be provided.	Out of hours (1991)

2- Post design issues

2-2- Maintenance

1	Enhancement of the identity and character of the centre is an important factor to promote the perception of control and maintenance.	Reeve (1996)
2	Historic buildings and places should be identified, rehabilitated and preserved.	Nellessen (1994) Reeve (1996)
3	A proper cleaning system for different parts of the centre should be provided. This should embody the cleaning of parks and greenery in addition to various routes and public places. Removal of snow is also important.	Nellessen (1994) Out of hours (1991)
4	Maintenance of trees, flowers and using seasonal vegetation adjustments should be considered.	Nellessen (1994)
5	Street furniture and properties should be maintained and painted properly. Materials that are more resistant in changing weather can be identified and introduced to people.	Nellessen (1994)
6	Public toilets should be established where appropriate.	Out of hours (1991)

PART TWO

**DEVELOPING A LIST OF PRINCIPLES FOR DESIGNING
NEIGHBOURHOODS AND NEIGHBOURHOOD CENTRES**

CHAPTER SEVEN

DESIGN PRINCIPLES

INITIAL PRINCIPLES FOR DESIGNING NEIGHBOURHOOD CENTRES

Part two of the thesis was involved with a literature investigation to find out the important principles and their interplay in designing neighbourhood centres. Various dimensions of a neighbourhood centre, extracted from different resources, were identified and classified into the chapters and sections. In each section, the main concepts, ideas and debates on that particular topic were presented and discussed, and as many design principles as possible were drawn out of them. Each chapter is then concluded by setting out all the items which have been identified.

After completing the literature review, all the introduced principles which were presented at the end of each chapter were put together. They were all coded and those items which implied to similar or related issues were clustered. In this way, ten categories were created which embody the whole characteristics of a neighbourhood centre. As these principles were extracted from different approaches to the design of neighbourhood centres, some points were suggested in more than one section of the literature review and therefore some repeated or identical principles were found within the new categories. Reviewing the new categories, those duplicated or repeated items were removed and similar items were summarised and rewritten. At the end, a list of principles emerged which embody all the extracted items of the literature investigation. It should be noted that attempts were made to present each point only once in the most relevant category, even although it might be related to different aspects of neighbourhood centres. These principles are presented in the next following pages.

This initial list has to be tested in order to gain the validity necessary for implementation. On the other hand, since these principles are mostly extracted from the British and American literature, testing their validity in a cross cultural condition is also necessary. Accordingly, a survey was designed to check the initial list in two neighbourhood centres in Tehran. The results of the survey which are presented on the chapters in the third part of this thesis contributed to the development of the final list of generic principles.

DESIGN PRINCIPLES FOR
NEIGHBOURHOOD CENTRES

1   Centrality

Resource
Sections

1	The existence of a core area is necessary for every community and district in order to construct its definition and identity. They will be called neighbourhood centres hereafter although, the size and population of them may differ from conventional neighbourhoods.	4-2-1- services and facilities
2	The provision of relatively self-contained urban centres is essential for the provision of a good city life. The quality of these centres begins with a concentration of facilities in a place, and the viability and durability of these centres, to a great extent, is upon a proper selection of those services and facilities.	4-2-1- services and facilities
3	The urban facilities and services should be integrated in the core area of the neighbourhood in order to : • Provide a fairly equal access for all the residences. • Support the vitality of the centre by locating it on the most integrated part of the neighbourhood, where most of the natural pedestrian movement of the district take place. • Create a focal point.	4-2-1- services and facilities 5-2-2- orientation
4	The whole neighbourhood centre which is organised in a concentric form may be considered a focal point for the area.	3-1- city and centre 5-2-2 Orientation
5	Focal points should be designed in the meaningful nodes of the area where a concentration of social activities enhances the memorability of the place.	5-2-2- orientation
6	There should be some landmarks in the centre to enhance the perception of the place. The individuality of certain buildings, spaces, signs etc., helps its recognition. If some high elements in the centre could be visible from residential area, the role of the centre as a focal point will be promoted.	5-2-2- orientation
7	The special characteristic element and the main symbol of the neighbourhood centre should be established in this memorable space.	5-2-2- orientation

2 Functions

1	The provision of a centre which fulfils daily needs of residents mainly contributes to the design of a fairly self-sufficient neighbourhood which is appreciated from a sustainable view point.	6-1- sustainability
2	The centre should be a mixed-use area. A balance of different functions in the centre as well as minimising the dominance of an individual function will help its vitality. This will also attract a diversity of people for different purposes during the day and night, thus fulfilling a sense of safety and security.	6-2-1- management 6-1- sustainability 5-3- associational
3	Various shops and stores should be provided in the centre to fulfil the different needs of the residents. They may include both daily needs of convenience goods and some personal and specialist commodities such as clothing and stationary. Some services such as beauty salons, travel agents, video rental and take away are also important.	4-2-1- services and facilities
4	Cultural buildings such as places of worship and libraries should be established while some kind of temporary exhibitions and galleries may be recommended.	4-2-1- services and facilities
5	With regard to the new trends of leisure shopping activities, different kinds of recreational facilities such as restaurants, coffee shops, sports hall and swimming pool are recommended for a local centre. Seasonal concerts, drama, film and so on may be performed in a multi-functional hall which can be used as a community centre as well.	4-2-1- services and facilities
6	Health service facilities and surgeries in addition to the civic services such as police stations, post offices, fire stations and also public toilets must be established.	4-2-1- services and facilities
7	There can be some offices, workshops and other job facilities which enable the residents to work in a close accessibility to their homes. These jobs will be mainly favoured by women.	4-2-1- services and facilities
8	The critical mass of each function should be precisely estimated, otherwise, the function can not revive. Moreover, the flexibility of the functions and their compatibility to future change is essential.	4-2-1- services and facilities
9	The proximity of different functions is essential to support vitality, safety and promote a sense of place.	4-2-1- Services and Facilities
10	Some city-wide urban facilities may be offered through neighbourhood centres. Although the establishment of those urban services may improve the neighbourhood's financial and social conditions, the number of visitors to those facilities must be controlled so as not to exceed the limits which undermine the community sense of the neighbourhood centre.	3-1- Centre and City
11	The buildings which are considered to be used by other	3-1- Centre and

	communities must be located on the places of easy access; for example near the edge of the neighbourhood.	city
12	Extensions of opening hours for shops, establishment of residential buildings or some functions such as hotels, restaurants and so on, in relation to shopping areas or civic buildings, will provide the flow of people around the clock and will maintain the safety of places.	5-3-Associational

3   Public life

Resource

Sections

1	The public spaces, designated to the pedestrian static activities are usually wider than pedestrian pathways.	4-2-2- Public Life static pedestrian
2	The rest areas should be free of pollution and noise; if these places are already pedestrianised the quality of the public life is enhanced, otherwise, the pedestrian flow should dominate and the movement of cars has to be reduced to the minimum degree.	4-2-2- Public Life static pedestrian
3	Seats should be provided in two types: first, as ordinary chairs and benches whose number can be limited. Second, as physical elements including details of the public space and urban furniture which provide the possibility of sitting on or standing next to. These latter forms will be occupied when necessary.	4-2-2- Public Life static pedestrian
4	The rest spaces should not be screened from the pedestrian movement, otherwise, the sense of safety will be reduced. If a functional space can provide an overview to the rest area, the quality and safety of the place will be increased. For example, if a sitting area is in front of a restaurant, a shopping centre, an office building and so on, the safety of the place will be improved.	4-2-2- Public Life static pedestrian
5	The presence of other people is an essential factor for using public spaces, so the place should have an overview to the popular activities of the surrounding places or pedestrian movement. Isolated or under-used places are usually rejected and do not provide a sense of safety.	4-2-2- Public Life static pedestrian 5-3- Associational
6	Design of meeting spaces in addition to appropriate pathways facilitates and encourages public interaction and improves the sense of familiarity and safety among the residents. The regular use of public spaces will also enhance the sense of belonging.	5-3- Associational
7	A balance between openness and articulation in the public spaces of the centre is needed in order to allow occupancy and the use for different activities and groups, while providing adequate space for the social events and gatherings.	6-2-1- Maintenance

8	The arrangement of benches or other seats is crucial for increasing the possibility of conversation. Curved benches, benches placed at an angle or opposite to one another are some suggested layouts. Chairs places close together, around a table, can also provide the opportunity of interaction.	4-2-2- Public Life static pedestrian
9	Playing areas for young children should be established near rest places. The availability of appropriate seats with suitable arrangement can provide an opportunity of interaction for their parents.	4-2-2- Public Life static pedestrian
10	Since availability of food is important for a rest area, it is recommended to establish places such as coffee shops, restaurants and cafes near to these places.	4-2-2- Public Life static pedestrian

4   Access

Resource Sections

1	Different types of transit facilities have to be provided to the centre (public transit, private car, bicycle and pedestrian routes). However, the opportunity of controlling unwanted motor traffic should be provided for people.	6-2-1- Management
2	Accessibility of the residents to a convenient public transport system, via the centre, is important. The transit stop should be located within a walking distance from the residential areas and near to the centre.	3-1- Centre and City 6-1- Sustainability
3	The transit stop should contain: a covered and comfortable sitting place, newspaper stands, bicycle racks, a litter receptacle, clocks, telephones and a food outlet.	3-1- Centre and City
4	The provision of a light public transit inside the neighbourhood is appreciated while mass transit system is available within the neighbourhood and city areas.	3-1- Centre and City
5	Appropriate rules for controlling the dominance of motor traffic or the separation of pedestrian routes with proper flexibility during the day and night should be considered.	6-2-2- Management 5-3- Associational 6-1- Sustainability
6	Pedestrian and cycling routes have to be developed for journeys within the neighbourhood.	6-1- Sustainability
7	Connectivity and permeability of routes, particularly for pedestrian and cycling ways, are essential for a good access.	6-1- Sustainability
8	The provision of special facilities for access to the centre, especially for the elderly and children, should be considered.	6-2-1- Management
9	Adequate parking facilities have to be provided. Car parks should be screened from the streetscape either by locating them behind	3-1- Centre and City

	the front buildings or by trees or other kinds of pleasant features. Multi-level car parks should be in small plots carefully designed to blend with their surroundings and the ground level must be allocated to public spaces such as retailing. Underground parking can be recommended where necessary.	5-2-1- Aesthetics
10	There can be parking along streets where motor traffic is not heavy and pedestrian flow is not separated. Parallel or angle parking is recommended depending on the width of street and pavements. Where the street is fairly narrow, parallel parking is preferred.	3-1- Centre and City
11	Pedestrian routes should have the following characteristics:	
	a) A direct route is suggested when the destination is visible.	4-2-2- Public Life dynamic pedestrian
	b) An intimate, clearly defined route is preferred to empty areas, even defining the route with fence or trees is better than undefined edges.	4-2-2- Public Life dynamic pedestrian
	c) Since people, on the whole, do not like going up and down steps in pedestrian areas, in designing vertical connections, it is important to feel that they are easy and free of complications. This can be maintained through: • Shorter flights interrupted by a landing. • Starting downward rather than upward. • Not interrupting the direction nor the rhythm of walking. • Using flat ramps instead of stairs.	4-2-2- Public life dynamic pedestrian
	4. Appropriate pavement and surface conditions is necessary for the safety and convenience of the elderly and children.	4-2-2- Public Life dynamic pedestrian
	5. Providing seats at regular 100 metre intervals for resting, especially for the elderly is recommended.	4-2-2- Public Life dynamics pedestrian

5   Legibility

Resource

Sections

1	The overall structure of neighbourhood and the formation and connection of the paths must be easily understood.	5-2-2- Orientation
2	Designing hierarchical road network may help to enhance the memorability of the centre and create the required complexity for the place. The hierarchy of the routes can be emphasised via differences of width and proportion, material and texture of the pavements, using various plants and greenery along the paths,	5-2-2- Orientation

	and different types of street furniture.	
3	The hierarchy of the formality of buildings should be considered. This means buildings become increasingly larger and more formal as one approaches the centre. The building density of the centre can also increase.	5-2-2- Orientation
4	Continuity of the street network between the residential areas and the local centre is an important factor in promoting readability.	5-2-2- Orientation
5	Articulation of the whole space of the centre into some defined, meaningful parts with identifiable character can help the imageability and consequently orientation in the place. This factor is also important in open spaces, where defined openness and structured open spaces are preferred by people.	5-2-2- Orientation 5-2-1- Aesthetics
6	Borders of the spaces should be defined clearly. Inviting gateways and use of thresholds enhance the definition of the place. The characteristics of boundary makers (height and location of fences, hedges and tree lines) should be consciously decided.	5-2-2- Orientation 5-2-1- Aesthetics
7	Some orientator landmarks should be located within a short distance from any place.	5-2-2- Orientation
8	In addition to creating a clear structure for the centre, appropriate measures for a legible environment for example, carefully designed signs with external illumination, proper location and intervals should be provided.	6-2-1- Management
9	Some designers propose a linear centre however, there are some suggestions that the establishment of a centre around a square, as a defined space, seems more memorable. But, on the whole, it is not reasonable to suggest a particular form for neighbourhood centres.	4-2-1- Services and Facilities

6 Complexity

Resource

Sections

1	Visual richness has to be obtained through making complexity in different ways. This can be obtained through:	5-2-1- Aesthetics
	a) Producing a hierarchy of spaces and routes.	5-2-1- Aesthetics
	b) Ensuring the existence of various paths, slopes and a variety of eye levels.	5-2-1- Aesthetics
	c) Using curving streets, which provide the changing of vistas, views and terminating points. Some research findings show that winding loops decrease the readability of the place,	5-2-1- Aesthetics

therefore, provision of the environmental clues for orientation and legibility have to be considered where winding streets are used in the design.

d)	Considering the articulation of spaces for different uses and activities or changing the street space along the route. The provision of small squares is salient for the perception of complexity and helps make walking distance seem shorter.	5-2-1- Aesthetics 4-2-2- Public Life dynamic pedestrian
e)	Making contrast between adjacent spaces. Passing through a narrow pathway and arriving at an open square can create interest. The importance of thresholds and transitional spaces are more identified in this situation.	5-2-1- Aesthetics 4-2-2- Public Life Dynamic pedestrian
2	When large spaces have to be crossed, moving along the edge instead of the middle is suggested in order to provide the opportunity of experiencing both the large space and the small details of the street façade, in addition to the protection against climate.	4-2-2- Public Life dynamic pedestrian
3	Making small distances between the entrances, street corners and display windows, creates variety in the streetscape.	5-2-1- Aesthetics
4	Use of rhythmical differences in details of the facades such as columns, piers, niches, window mullions and even signs improves complexity.	5-2-1- Aesthetics
5	Use of different texture and materials of pavements enhances the complexity.	5-2-1- Aesthetics
6	Use of different colours and light levels increases the variety.	5-2-1- Aesthetics
7	Mixed-use design is firmly recommended from different viewpoints. The ground floor must be allocated to the public activities such as shops, restaurants and so forth.	4-2-2- Public Life dynamic pedestrian
8	Diversity of buildings styles and functions are recommended in order to make flexibility for any change of use.	6-1- Sustainability
9	Using semi-fixed features such as street furniture and making facilities for market places and street vendors is important to make variety.	5-2-1- Aesthetics
10	Too many set backs along the street facades, blank walls and long empty barriers should be avoided.	5-2-1- Aesthetics

7 Human scale

Resource

Sections

1	The design of spaces should consider the human scale and the perceptual capacity of individuals.	5-2-1- Aesthetics

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a)	The amount of complexity of buildings and the scale of details of facades should be responsive to human perceptual capacity.	5-2-1- Aesthetics
b)	The scale of the human body should be regarded in design of urban furniture	5-2-1- Aesthetics
c)	The scale of spaces should be congruent with the capacity of human senses. A dimension between 25-30 metres is the maximum length of space recommended for active social contact.	5-2-1- Aesthetics
d)	A minimum height/width proportion of 1:4 for static spaces and a minimum height/width ratio of 1:2.5 for dynamic spaces are needed in order to provide the sense of enclosure.	5-2-1- Aesthetics
e)	Where a static space is to be designed the long axis should not exceed its short axis by much more than 50% otherwise it will be perceived as a linear space.	5-2-1- Aesthetics
2	The centre should be within walking distance from the residences (500 metres or less)	6-1- Sustainability
3	The length of pedestrian routes should be around 400-500 metres. The acceptable distance in a given situation is not only the actual physical distance but also, to a greater extent, the experienced distance. Therefore, the acceptable walking distance would be an interplay between the length of the street and the quality of the route.	4-2-2- Public Life dynamic pedestrian
4	In pedestrian walkways, the width of the street should allow people to hear someone talking to them from the other side of the street while providing adequate spaciousness for the pedestrian flow.	4-2-2- Public Life dynamic pedestrian
5	In shopping streets, the opportunity to see both sides of the street while walking should be provided.	4-2-2- Public Life dynamic pedestrian
6	In large spaces, low arcades are recommended to make a pleasant intimate space while protecting the pedestrians against the elements.	4-2-2- Public Life dynamic pedestrian

8 Identity

Resource

Sections

1	A deep investigation of the historical and cultural background of the place is necessary to find out the 'meanings' and 'memories' associated to it in order to develop the nodes and places which convey these meanings.	5-1- Essential

2	Attentive observation and a study of the site is important to find out the geographical potentials and limitations. Following are some of the main aspects in this category:	5-1- Essential 6-1- Sustainability
	a) Topography: A deep investigation of topography in order to determine the structural pattern of the place and also consideration of the natural landscapes and solar orientation are necessary.	
	b) Climate: Considering a climatic approach to the design of the place in order to provide a better congruency with the geographical conditions is important and will eventually contribute to the provision of uniqueness.	5-1- Essential 6-1- Sustainability
	c) Local resources: Using local materials, colours, forms and techniques in additions to the indigenous vegetation, can contribute to the provision of uniqueness and identity.	5-1- Essential 6-1- Sustainability
	d) Contextual compatibility: Understanding the characteristics and potentials of peripheral settings, provision of appropriate relationship between the new settlement and the surrounding areas' heritage and historical clues, using familiar physical elements which are in congruent to the site, can all enhance the quality and the identity of the place.	5-1- Essential 6-1- Sustainability
3	Rehabilitation and preservation of the historical buildings is necessary in order to evoke the sense of continuity with the past inhabitants.	5-1- Essential 6-2-1- Maintenance
4	The structural pattern of routes and the spatial configuration of the centre should be derived on the basis of the social relationships of the users. Where the physical design of the centre is supportive to the social and cultural values of the inhabitants, the identity of the place will be reinforced.	5-1- Essential 5-3- Associational
5	Perception of order and character can be improved through unifying the components of the centre.	5-2-1- Aesthetics
6	Using an appropriate overall structure, particularly, hierarchical spaces, contribute to the creation of a unified and cohesive place.	5-2-1- Aesthetics
7	Developing a set of design vocabulary which includes as many elements and details involved in the design of the centre as possible, enhances the unity and identity of the centre. These design factors include both fixed and semi-fixed elements in addition to the vegetation used in the centre.	5-1- Essential 2-2-1- aesthetic, unity
8	One of the most powerful agents for unifying and connecting the town is the ground surface which can be crystallised into shapes formed by differing colours or textures which indicate action.	4-2-2- Public Life dynamic pedestrian
9	Although the type and status of buildings should dictate their scale and treatment, suggesting a specific range of lot width for	5-2-1- Aesthetics unity

	buildings helps obtain an acceptable grain thus preventing chaos in the streetscape.	
10	Building height should be determined by the character and function of individual buildings and their position within a block, street or square. Higher buildings are recommended to be built in the key sites while a limitation for the height range can preserve the wholeness of the place.	5-2-1- Aesthetics unity
11	Design choice and location of street signs, lighting columns, brackets, bollards, seats and other street furniture should be congruent to the overall character of the place and enhance the identity.	5-2-1- Aesthetics unity
12	More attention should be paid to the local arts which can be used in public spaces.	6-1- Sustainability
13	Designing a diversity of houses enables various families and different age groups to live together and provides the opportunity of living for a longer duration of time in a place; this may increase the sense of rootedness and subsequently creates a sense of belongingness.	5-3- Associational

9   Sustainability and Nature

Resource

Sections

1	Although high density and compactness has been suggested for the central area of the neighbourhood, provision of a good relation to nature, greenery and open spaces is necessary to promote the quality of the place.	4-2-1- Services and Facilities 6-1- Sustainability
2	The presence of natural features and green spaces is an important factor for the attractiveness of the space. This principle enhances the perception of order and contributes to the creation of complexity. Use of natural features such as trees, flowers, plants and water in addition to making the most of natural landscape and scenery should be considered.	4-2-2- Public Life static pedestrian 5-2-1- Aesthetics
3	The establishment of a neighbourhood park, well integrated with the spaces of the centre, should be considered in the design.	6-1- Sustainability
4	The employment of conservation measures in site design, for example, the solar and wind orientation, may reduce energy consumption.	6-1- Sustainability
5	Environmentally friendly techniques and materials should be applied.	6-1- Sustainability
6	Recycling of materials must be considered in order to make the most of natural resources.	6-1- Sustainability

7	Flexibility of the spaces and buildings is important to facilitate the accommodation of new functions and uses whenever needed. Accordingly, redevelopment should be replaced by rehabilitation.	6-1- Sustainability
8	Protection against the climate is a crucial principle and can be obtained by the preparation of moveable elements which can be used depending on the weather and climatic conditions.	4-2-2- Public Life static pedestrian
9	Sun and shade are important features in choosing a rest space and therefore, they should be carefully considered in the design of such spaces.	4-2-2- Public Life static pedestrian

10 Management

Resource

Sections

1	The existence of some kind of organisations for the management and maintenance of the centre is important. If such an organisation takes into consideration the values and interests of the residents and enjoys their co-operation, a more friendly, safe and sustainable place will be achieved and the sense of belonging will be improved.	5-3- Associational 6-1- Sustainability 3-1- Centre and City
2	The centre should be accessible during day and night and everyone should be able to pass safely through it whenever they wish. Not only is a direct physical access necessary but a visual access is also critical for people to feel safe.	6-2-1- Management
3	The opportunity of involvement with the centre's public spaces should be provided for people; for example, the establishment of community gardens, children's playgrounds that support their direct modifications and different kinds of markets appear to be helpful.	6-2-1- Management
4	Social relationships of people should be encouraged and facilitated by preparing different events and gatherings and also by establishing community organisations.	6-2-1- Management
5	Particular institutions for young people and children's activities such as fitness centres, toy libraries, training facilities for increasing retailing or other skills and childcare facilities are important.	6-2-1- Management
6	The opening hours of shops, restaurants and other services should include the evening time in order to contribute to keep the centre vital during the evenings.	6-2-1- Management
7	Cleanliness and maintenance have essential roles in making people like and feel at ease in a place as well as promoting a sense of pride and belonging. This should embody the cleanliness of parks, greenery, in addition to various routes and	4-2-2- Public Life Static pedestrian 6-2-2- Maintenance

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	public places. The removal of snow is also important.	
8	Enhancement of the identity and character of the centre is an important issue to promote the perception of control and maintenance.	6-2-1- Management
9	Reducing artificial nuisances such as traffic, litter, billboards, poles, wires, dilapidation and incompatible land uses, enhances the perception of order.	5-2-1- Aesthetics
10	Street furniture and properties should be maintained and appropriately painted. Materials that are more resistant in changing weather can be identified and introduced to people.	6-2-2- Maintenance
11	Planting flowers and using seasonal vegetation adjustments should be considered.	6-2-2- Maintenance
12	Providing appropriate lighting to guarantee the safety and attraction of a place is necessary. The lighting should provide a warm and friendly environment. Main routes and shop windows should be lit at night to provide a safe and friendly environment.	4-2-2- Public Life dynamic pedestrian 6-2-1- Management
13	Security measures for women particularly in places such as parking areas should be provided.	6-2-1- Management
14	Well-designed public signs, street names and building numbers have to be ensured.	6-2-1- Management
15	A local book or guide should be introduced to provide some information of the place especially for children and visitors of the area.	6-2-1- Management
16	The provision of organisations responsive to people needs such as religious and social agencies, van hire, car-pooling and day care can enhance the sense of safety.	5-3- Associational
17	Public toilets should be established were appropriate.	6-2-2- Maintenance

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PART THREE

THE SURVEY

CHAPTER EIGHT

DESIGNING THE SURVEY AND COLLECTING DATA

8-1 INTRODUCTION

Different concepts and viewpoints concerning neighbourhoods and neighbourhood centres in general, and the state of neighbourhoods in Iran and especially in Tehran, were described during the first part of the thesis. Emphasising the importance of neighbourhood centres for revitalisation and identification of the residential fabrics, particularly in Tehran, the aim of this study was focused on developing a list of generic principles for designing neighbourhood centres with particular reference to Tehran.

There were two main stages in this research:

- A literature review. While investigating various dimensions of a neighbourhood centre, the primary aim of the second part of the thesis was to identify the essential aspects of good neighbourhood centre design and to draw up a provisional list of design principles.

- A survey of residents' perceptions and opinions. This was undertaken in two contrasting neighbourhood centres in Tehran in order to justify, confirm and add to the proposed list of principles especially for Iranian conditions.

The results of the survey were not only employed to identify the attributes required for neighbourhood centres in order to check and expand the initial list of principles, but were also utilised to clarify the role of neighbourhood centres in the life of residents today and to contribute to the debates set out during the first part of this thesis.

The various stages of the survey are described during this part of the thesis. Chapter eight is involved with the process of designing different stages of the survey and collecting data. Data analysis and the procedure of gaining results is described during chapters nine, ten and eleven. Chapter twelve presents the findings of the study and the conclusion of the thesis. The final set of generic principles is presented at the end of this chapter.

8-2- PURPOSE OF THE SURVEY

The primary purpose of the survey was to evaluate the initial list of principles in the real world. Two main objectives were pursued during the field study:

- To find out the characteristics and attributes of those centres which were greatly appreciated or disliked by the residents.

- To identify the role of neighbourhood centres in people's daily life and to recognise what people do in those centres.

The first point comprised the main body of the study and contributed to the evaluation and expansion of the initial list of principles. These aims form the basis for formulating the questions of the interviews which are explained in the following pages of the thesis.

The evaluation draws heavily on the users' perceptions and assessments of their neighbourhood centre, with the assumption that 'the prime goal of design is to enhance and enrich the experience of people who are to inhabit the environment' (Lang, 1994 pXI). Accordingly, the residents of two neighbourhood centres were selected for the survey. The neighbourhood centres represented two opposite extremes with regard to the initial principles, in order to examine the effects of those proposed environmental attributes more effectively (Marans, 1987).

Figure 8-1: **Important aspects of the survey are shown in the following diagram.**
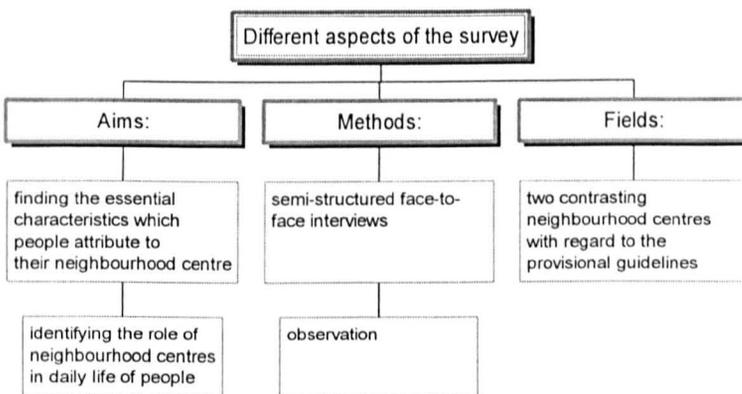
8-3- DESIGNING THE INTERVIEWS

Different methods of data collection were compared. The use of questionnaires was avoided due to some disadvantages such as misinterpretation of questions or simple refusal to reply. Finally, a face-to-face interview with the residents was chosen as a suitable method. This technique is widely recognised as being 'the most flexible and reliable method in survey research' (Golledge and Stimson, 1987 p27).

Various interviewing strategies (particularly those categorised by Patton 1990 pp288-9), from informal to formal, from in depth to breadth and either qualitative or quantitative were reviewed. The standardised open-ended interview was likely to produce the best type of data and be more in tune with the objectives of this research. Layder (1993 p41) calls this method semi-structured interview and explains its advantages as allowing people to respond in any way they choose. He adds that in this method 'the individuals' own interpretations and meanings are allowed to surface in the interview data' (ibid). In this method, the sequence of questions, which are worded in an open-ended format, are determined in advance and all interviewees are asked the same basic questions in the same order (Patton, 1990).

8-3-1- Formulating Questions

The questions were formulated so as to produce a mix of quantitative and qualitative data to complement their deficiencies. Attempts were made to avoid long interviews by minimising the numbers of questions and concentrating on the most important points. A total of fourteen questions were used during the interviews. (The questions are presented in appendix one). Bearing in mind the main aims which were previously explained, the questions were basically developed in two parts:

- The first part aimed at identifying the respondents' characteristics, the rate of using the centre and the activities performed in the centre.

- The second part, as the main body of open-ended questions, sought the respondents' evaluation, perceptions and preferences about their neighbourhood centre and reflected their desires and proposals.

The first type of questions which sought information about the respondents' characteristics, their behaviour and the level of using the setting, are called 'attribute

and behaviour questions' (de Vaus, 1991 p82). Questions regarding social characteristics such as income, job and level of education were avoided due to cultural conditions. These kinds of questions might be misinterpreted as intruding into private life and would not be welcomed by the respondents while they were not related to the main focus of the study either.

The second type of questions can be categorised as providing qualitative information. Qualitative data, as Hammersley (1992) describes, in fact '...document the world from the point of view of the people studied'. This type of question could be called 'belief or attitude question' (de Vaus, 1991 p82). By allowing the respondents to express their ideas openly, this method provided the opportunity to gather information which had not previously been anticipated. Consisting of six open-ended questions, this part was the most fruitful in gathering data which contributed to the assessment of the initial list of principles. It should be noted that, due to time limitations, it was not possible to investigate individually all the suggested items in the initial list.

8-3-2- Pilot Study

Pilot study is recommended by many researchers (Moser, et al. 1971; de Vaus, 1991) who believe that each question and the questionnaire as a whole must be evaluated in this way.

The formulated questions were piloted in two phases.

I.   In Sheffield. During this pilot study three aims were pursued:

- to identify the most relevant questions for the purpose of the study

- to evaluate whether the wording is clear for the respondents

- to check the appropriateness of the sequences of questions

This phase of the study was conducted in two urban centres: Broomhill and The Moor. Seven respondents in the former and eight in the latter were interviewed. The respondents who were interviewed in The Moor were also asked to draw a sketch of the place. After investigating the gathered data, the sketch was omitted from the questions since it was found to be difficult and time consuming for the respondents. Some of the questions were revised and rewritten.

II. In Tehran. A second pilot study was conducted in order to ensure:

- the clarity of the wording translated into Persian

- the appropriateness of the questions with regard to cultural values

During this study, which led to the final structure of the interviews, eight respondents in Golestan shopping centre were questioned.

8-4- SELECTING SAMPLES

The competence of the initial list of generic principles was tested through a survey in two neighbourhood centres. The aim of the survey was not to find out the statistical differences of the centres, but to test and expand the principles using the two neighbourhood centres. By choosing the two contrasting samples, differences would be magnified and more significant and meaningful results would be obtained. One centre conformed with the principles as far as possible and the other one did not conform and offered the least compatibility with the conditions and characteristics proposed in the initial list.

On the other hand, some shared attributes had to be presented in both samples in order to minimise the unwanted differences in people's opinions. Therefore, the following characteristics were sought for the early stages of selecting samples:

- a similar size of population

- being completed and occupied for at least five years in order to provide their residents with adequate opportunity to experience them properly

- fairly similar social characteristics in order to minimise the effects of group differences in the evaluation of the spaces

8-4-1- Current Conditions in Tehran

8-4-1-1- Size of centres

Different urban centres exist on a variety of scales in Tehran, from a small meeting place at the corner of a narrow street to a very large square surrounded by a considerable number of urban services and facilities. On the whole, and apart from

the main centre of the metropolis of Tehran, the existing centres can be classified into three common categories:

I. *District centres.* There are about twenty districts in Tehran, in which several neighbourhoods' needs, in terms of large facilities and services, are fulfilled in their centres (ACAUP 1992). These centres can be considered as individual city centres within the metropolis of Tehran.

II. *Neighbourhood centres.* These centres characterise a local centre to a greater extent than the former group. About 344 neighbourhood centres exist in Tehran, the circumstances and size of which are described in the following paragraphs (ACAUP 1992; Tajadod et al. 1992).

III. *Small meeting places.* Apart from the two above mentioned groups of centres, there are also a large number of public spaces adjacent to a small group of shops, a mosque, a school or a small green field. These small spaces are most often very popular and are utilised around the clock by the residents of the surrounding houses.

The samples were selected among the second group of centres since they had the advantages of both large and small centres. Large urban centres in general provide some positive characteristics which can be summarised as follows:

I. They provide the facilities to meet the different needs of the residents. People can find a larger diversity and range of goods offered in these centres and have a greater choice to select their desired services among the variety of facilities provided in these centres. In consequence, they have to attract adequate numbers of consumers to fulfil the critical mass needed by these services in order to encourage commercial investments.[1] They have to cover a large area and population.

II. They fulfil the sense of exploration and discovery of the users. The various numbers of urban services and the diversity of activities and spaces provided in these centres contribute to maintaining the complexity required for an active and vital urban centre.

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[1] According to Lozano (1990), a residential district which accommodates 15,000 inhabitants is required for the establishment of shopping centres or entertainment facilities.

In contrast, small urban centres also offer some desirable characteristics for city life such as:

I. Preserving the community life, identity and calm atmosphere of the residential units. The small number of public facilities provided in these centres can control the number of visitors from other parts of the city and improve the local sense of identity of the neighbourhood.

II. Pedestrian access to the dwellings. The provision of the centre within cycling and walking distance from the residences can considerably reduce the use of motor vehicles.

III. Improving the supportive conditions of social relationships among the residents by providing intimate public spaces and social organisations.

Neighbourhood centres seemed to possess the advantages of both the above groups and were more suitable for the survey. The neighbourhoods generally accommodated about 10,000-20,000 residents (ACAUP 1992; Tajadod et al. 1992) and the samples were selected among this group of urban centres.

8-4-1-2- Types of centres

The neighbourhood centres of Tehran on the whole can be categorised into four following types:

I. Traditional neighbourhood centres, mostly consisting of a small bazaar and a mosque with some local facilities, located in the old parts of the city and having recently experienced many constitutional changes. Many of them now accommodate city-wide functions and are gradually being integrated or transformed into the city centre commercial fabric.

II. Former village centres which have been slowly integrated into the city fabric.

III. Those clusters of shops and urban services which have been spontaneously shaped along the main streets or roundabouts and have been more or less accepted as a neighbourhood centre.

IV. Shopping malls, mostly indoor spaces, which have been recently developed and have replaced the previous forms of neighbourhood centres. The new fabrics of the city mostly comprise separated residential areas and the public centres.

The first and the second group of neighbourhoods comprise a small part of the city, mainly due to its rapid growth in recent decades. Traditional neighbourhoods have lost their local character. In many cases, houses have been transformed into warehouses, workshops or commercial centres, serving the whole city.

The village centres, although most of them correspond to a successful urban centre, were not chosen either, due to two reasons:

I.   They could hardly be considered a normal representative of a neighbourhood centre of a large city such as Tehran due to their originally rural character.

II. In spite of presenting desirable spatial structures and human spaces, the old and eroded conditions of many buildings and facades of these centres might have had some unpredictable effects on the people's evaluation and might have influenced the results of the research.

The fourth group of centres was also avoided because these recently developed areas were either incomplete and under construction, at the time of the survey, or have been recently built and the residents have not found enough time to use and evaluate them. Moreover, most of them had both some advantages and disadvantages, which undermined the intended character of the centres as a representative for an extreme condition.

Finally, two samples were selected from the neighbourhoods which had a completed centre and were known as identified residential areas for the citizens. The origin of both samples went back to about forty years ago and they accommodated a fairly similar size of population in spite of having a different density.

Efforts were made to choose samples with similar social dynamics in terms of level of education and income in order to minimise their effects on the results of the study.

8-4-1-3- Quality of centres

The initial list of principles were used to assess the qualitative aspects of the centres. During a pre-study around the city a number of neighbourhoods were identified which demonstrated the shared attributes necessary for samples. At the first stage it was intended to choose the appropriate neighbourhood.

During the search for a suitable neighbourhood, it was found that the neighbourhood centres which had survived and preserved their identity, despite the rapid growth and physical transformation of the city, had some clear and shared characteristics. These characteristics had helped to maintain their durability irrespective of the overall changes which had been taken place in the city.

Some of these characteristics can be summarised as follows:

I. *Being isolated from the main transit movement of the city*, especially highways, arterial routes and short cuts that make up the main traffic of the city. The hierarchical configuration of the streets accommodates local traffic within the neighbourhood and preserves the heart of the neighbourhood from being disrupted by the through traffic or mass movement.

II. *The existence of distinctive historical, cultural or religious buildings* or places in addition to the presence of specific natural features or views. These features contribute to the creation of identity for the neighbourhood and have substantial benefits in terms of increasing its vitality. Even speciality localised goods and handicraft workshops or unique local services have qualities which add to the distinctiveness and character of a place. These unique characteristics of the area keep the continuity and connectivity to the past and facilitate the memorability of the place even though some spatial changes have taken place.

III. *Limited scale and legible configuration* of the spaces. Facilitating the perceptions of the area, well-defined edges and the use of thresholds contribute to the definition of these neighbourhood centres. These factors also help the memorability and improve the identity of the place.

IV. *A balanced diversity of different urban facilities and services* gathered together. This characteristic helps to create an identifiable centre and improves the independence of the residents from other urban centres.

V. *Integrated homogeneous social structure.* This factor improves the sense of belonging among the residents. This identifiable sense of belonging to the place and people increases the use of the public spaces, and enhances the vitality and viability of the centre.

VI. *Preservation of original spatial structure and identity* of the centre while allowing scope for compatible improvement and renovation of the centre. In other words, in these centres development respects the existing structure instead of imposing a total redevelopment of the area.

8-4-2- Final Selection

According to the above discussion, and by employing the various principles in the initial list for the evaluation of the centres, the three most appropriate neighbourhood centres were pre-studied. However, none of them completely fulfilled the provisional criteria. After consulting with some professionals in Tehran, 'Shahrara' was selected as the sample for an appropriate neighbourhood centre, referred to as neighbourhood A hereafter (Figure 8-3). The centre of this neighbourhood showed 63% compatibility with the initial list of principles.

In a similar manner, three neighbourhoods which conformed least with the initial list were chosen as representing inappropriate centres. After local consultation, Mahmoodia was selected as the sample of an inappropriate neighbourhood centre and was called centre B (Figure 8-3). The centre of this neighbourhood was 25% in tune with the initial list of principles. The special characteristics of both samples are described in the following section of the thesis.

The two neighbourhoods consist of fairly equal numbers of residents. Neighbourhood A is a more compact area with higher density (Master Plan of Tehran, census 1992; Mohammedzada 1992) whereas neighbourhood B possesses a larger area with lower density. The approximate population of each neighbourhood is about 10,000.

Both neighbourhoods were built forty years ago and are residential areas containing public spaces and facilities.

The social conditions of the neighbourhoods are, to a large extent, similar. According to ACAUP (1992), these two neighbourhoods, being located in districts 1 and 2 of the metropolis of Tehran, have many similarities with regard to their residential, social and cultural conditions.

Figure 8-2: **The comparison of different characteristics of the samples.**

	characteristics	Neighbourhood A	Neighbourhood B
general	area (hectare)	90	160
	population (approximately)	12,000	10,500
Social[2]	residences quality	top	top
	ownership	65%	55%
	income (4 levels for the city)	level 2	level 1[3]
retail activity	**1- total shops**	**83**	**55**
1	food	28	16
2	personal - gifts	16	2
3	household goods	9	3
4	estate agents	7	2
5	hair dressers	7	3
6	builders' merchants	5	9
7	dry-cleaners	3	1
8	car repairers	2	6
9	taxi companies	1	3
10	photographers	2	1
11	vacant	4	9
recreational	**total facilities**	**21**	**2**
1	parks	1	0
2	restaurants	15	1
3	sport facilities	5	1
civic facilities	**total**	**29**	**12**
1	health services	17	4
2	schools	8	7
3	banks	4	1

[2] Social conditions are extracted from ACAUP (Atec Consulting Architects and Urban Planners), 1992, A project for regeneration of Tehran.

[3] Level 1 is higher than level 2.

Figure 8-3: **Location of neighbourhoods A and B in the city of Tehran** (base map from Hamidi 1997, vol. 2 p336)
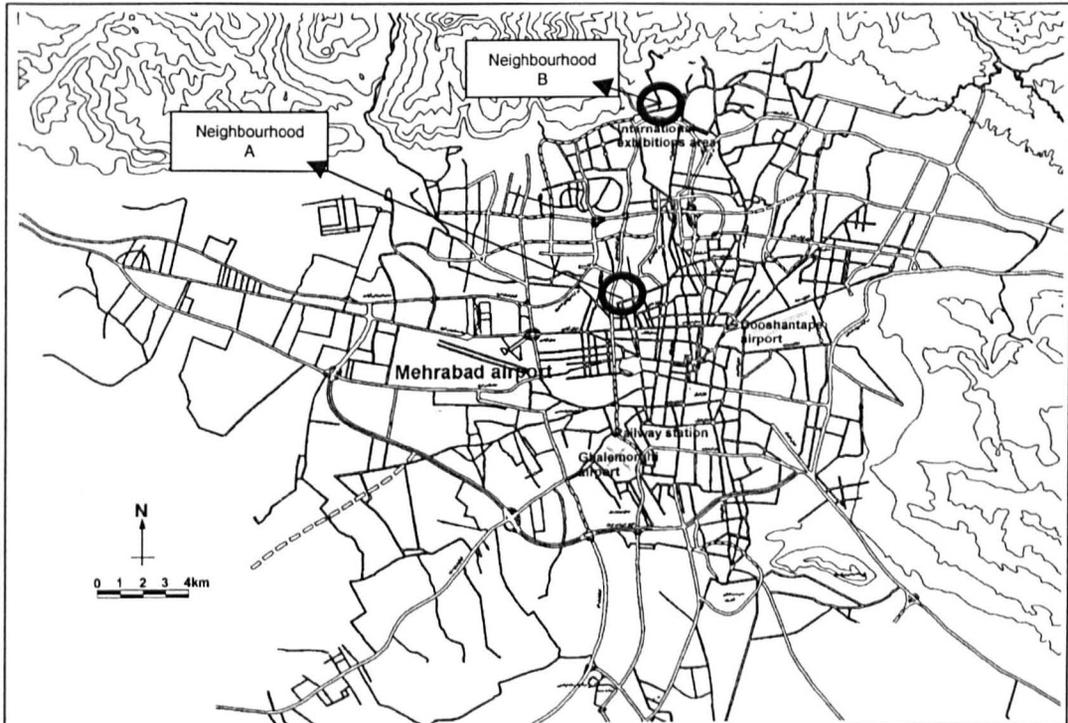
8-5- NEIGHBOURHOOD A (SHAHRARA)

8-5-1- Geographical Conditions

This neighbourhood is located towards the west part of Tehran. (Figure 8-3) The urban block which framed this neighbourhood is limited by a major highway on each of three sides and a dual carriageway. This urban block which is presented in Figure 8-4 comprises three different neighbourhoods; neighbourhood A is located in the north-east part of this block. The area of this neighbourhood is approximately 90 hectares and accommodates about 12,000 people.

Figure 8-4: **The urban block which includes Shahrara (neighbourhood A) is surrounded by highways and arterial roads** (base map from Map of Greater Tehran 1/10000, Gitashenasi Institution 1991)
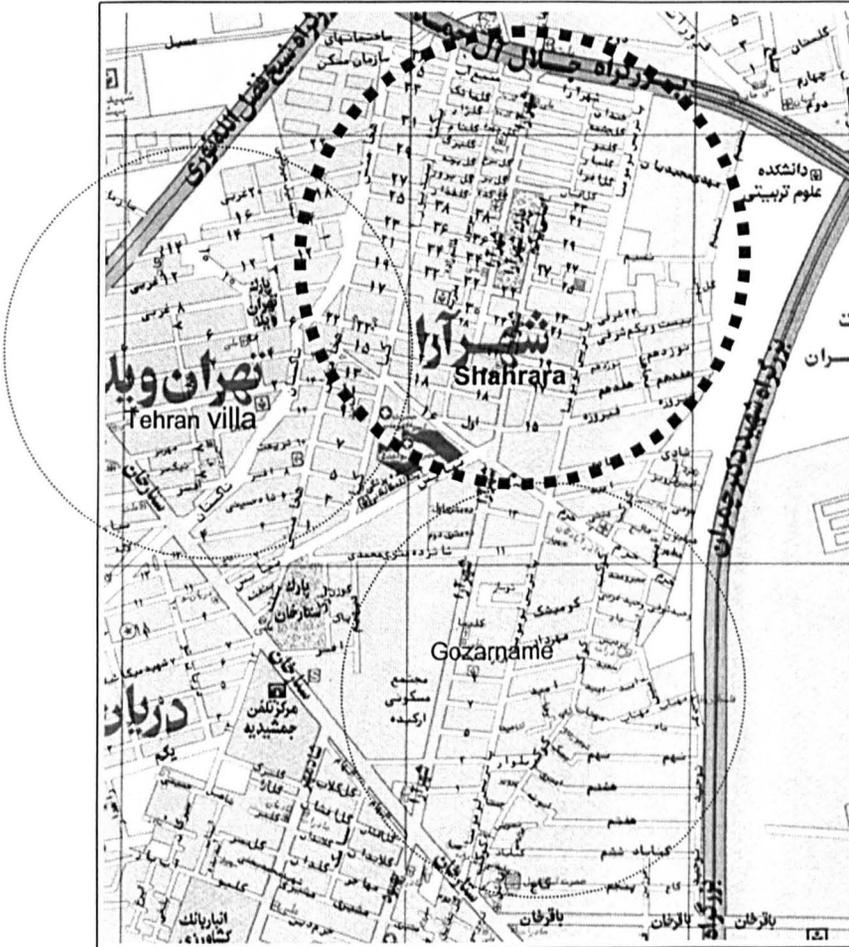
8-5-2- Residential Area

The residential area of this neighbourhood comprises two distinctive parts. The northern part is shaped by the original apartment blocks which were designed and constructed by a private agency about forty years ago. Each block, being three stories high, includes six apartments. One of the most important advantages of these blocks is the favourable open spaces in front of them. These areas which are now covered by greenery and trees contribute to the attractiveness of the place, while at the same time have an effective influence on reducing the pollution of the area. Both the red bricks, used in the facades of the blocks, and the open green spaces in front of them, participate in creating a unique character for this part of the neighbourhood (Figure 8-5).

Figure 8-5: **Original apartment blocks are located in the north of neighbourhood A. The green open spaces in front of these blocks as well as their distinctive façade materials enhance the individual character of this part of the neighbourhood.**

The southern parts were developed by individual owners.

View B

View A

View C

View D

View E
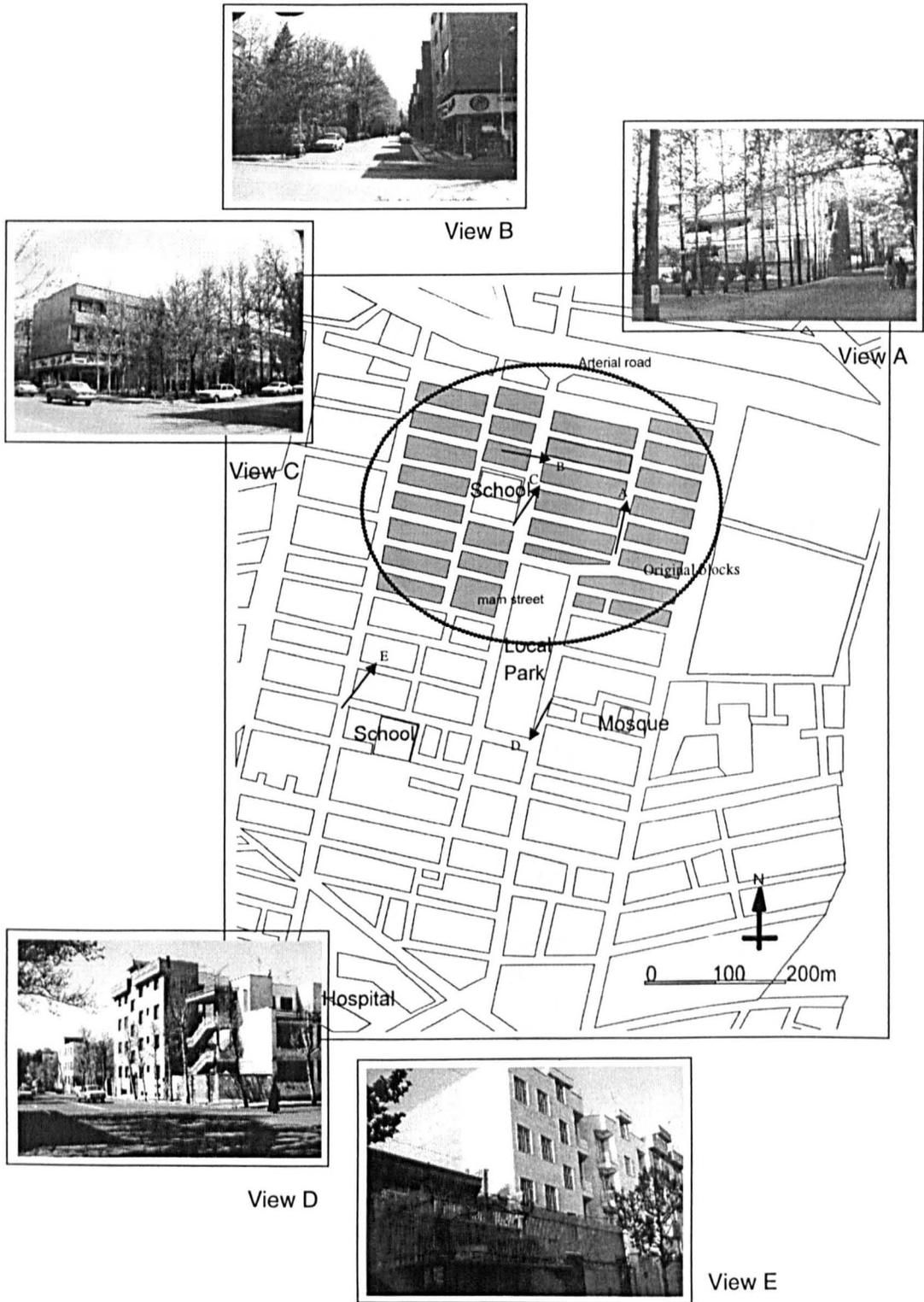
The southern part of the neighbourhood was developed by the individual owners. The original houses of this part were mostly built in one or two stories and had a private yard. These houses used to accommodate one single family. Recently, due to the great value of land and the growth of the population, many of these individual houses have been replaced by apartment blocks which are mostly four stories high (Figure 8-5). The homogeneity of the residential fabric is to some extent diminished by the construction of these new buildings. (Figures 8-6)

Figure 8-6: **New apartment blocks in neighbourhood A.**

8-5-3- Centre of the Neighbourhood

There is an identifiable centre which accommodates the majority of urban services and facilities, in this neighbourhood. A central park is the focal point of the neighbourhood and is limited by four streets. The main street of the neighbourhood, along which nearly all of the essential urban services have been developed, comprises the western border of the park. This street also provides the main access to the northern highway. An aerial view and a comprehensive map of the pattern of land use in the centre is shown in Figures 8-7 and 8-8.

Figure 8-7: **Aerial view of neighbourhood A (Shahrara)** (from The National Cartography Organisation)

The original apartment blocks

The local park of shahrara
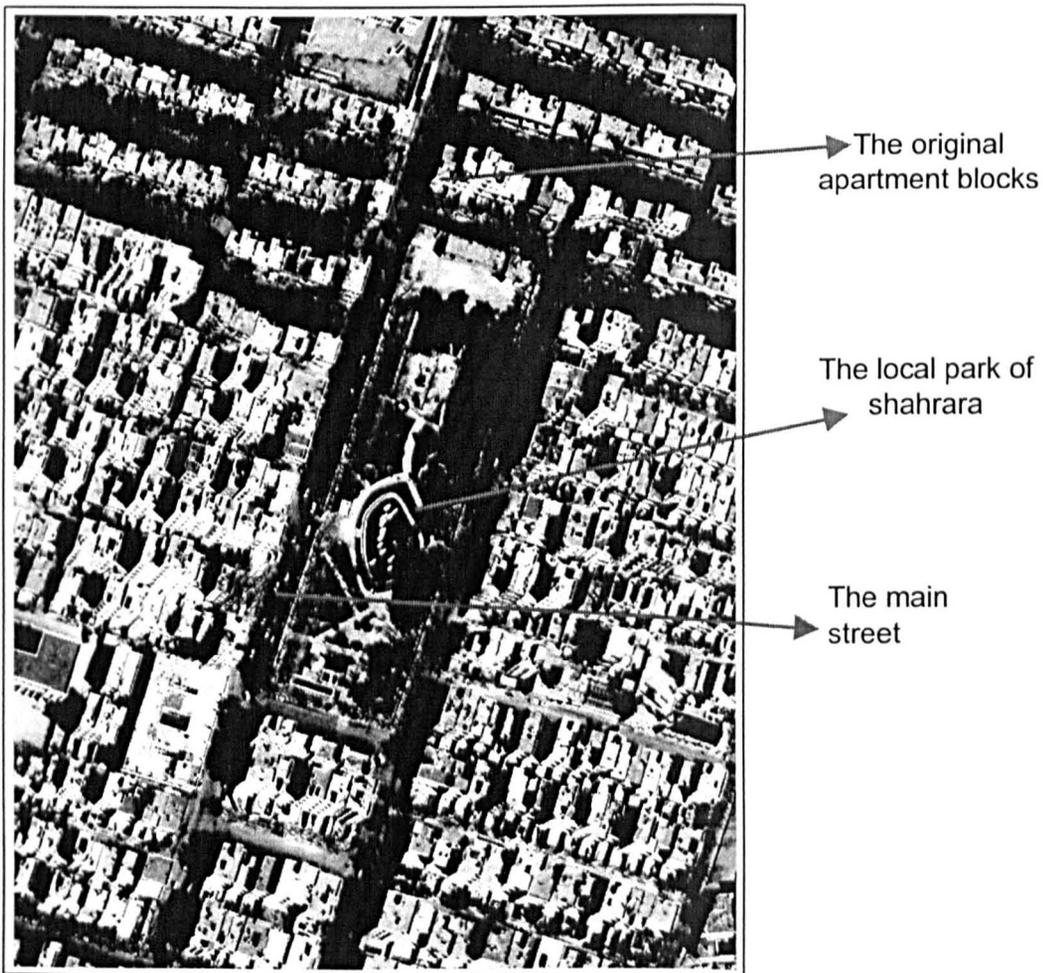
The main street

Figure 8-8: **Land use of the central area of neighbourhood A. The views of the main street show that the ground floor of buildings mostly accommodate shops and other public functions.**

View A

View B

View C

View D

The central park, which was established in 1958, covers an area of about 14,500 square metres. This park is surrounded by four streets, among which, the western and the eastern streets are the most crowded (Figure 8-9).

The area of the pathways and the playgrounds is greater than the green parts of the park and this point is a disadvantage for the park. According to Mohammedzada (1992), nearly 15,000 people, mainly from neighbourhood A, in addition to some visitors from other parts of the city, use this park. The evening times and weekends are the most crowded periods of the park. The park provides the opportunity for using a limited number of recreational facilities in addition to making social relationships among the inhabitants of the neighbourhood (Figure 8-9).

The majority of the residents in this neighbourhood live within walking distance of the centre and the park. The available facilities of the park are as follows:

1. A children's playground and a small sports field in the northern part of the park.

2. Sitting places with the opportunity for playing or watching chess in the eastern part of the park.

3. Greenery and plants which are found in every part of the park.

4. Pools and fountains which have been established in the central part.

5. Apart from many take aways and restaurants situated around the park, there are two food shops, one inside and the other on the southern edge of the park.

6. Games machines for young people are provided in an amusement arcade in the central part.

7. Sitting area and benches are distributed around the park.

8. A few toilets, located on the western side of the park.

Figure 8-9: **Plan and some views of different parts of the local park in neighourhood A.**

View A

View B

View C

View D

A view of the park,
looking from the south
to the north.

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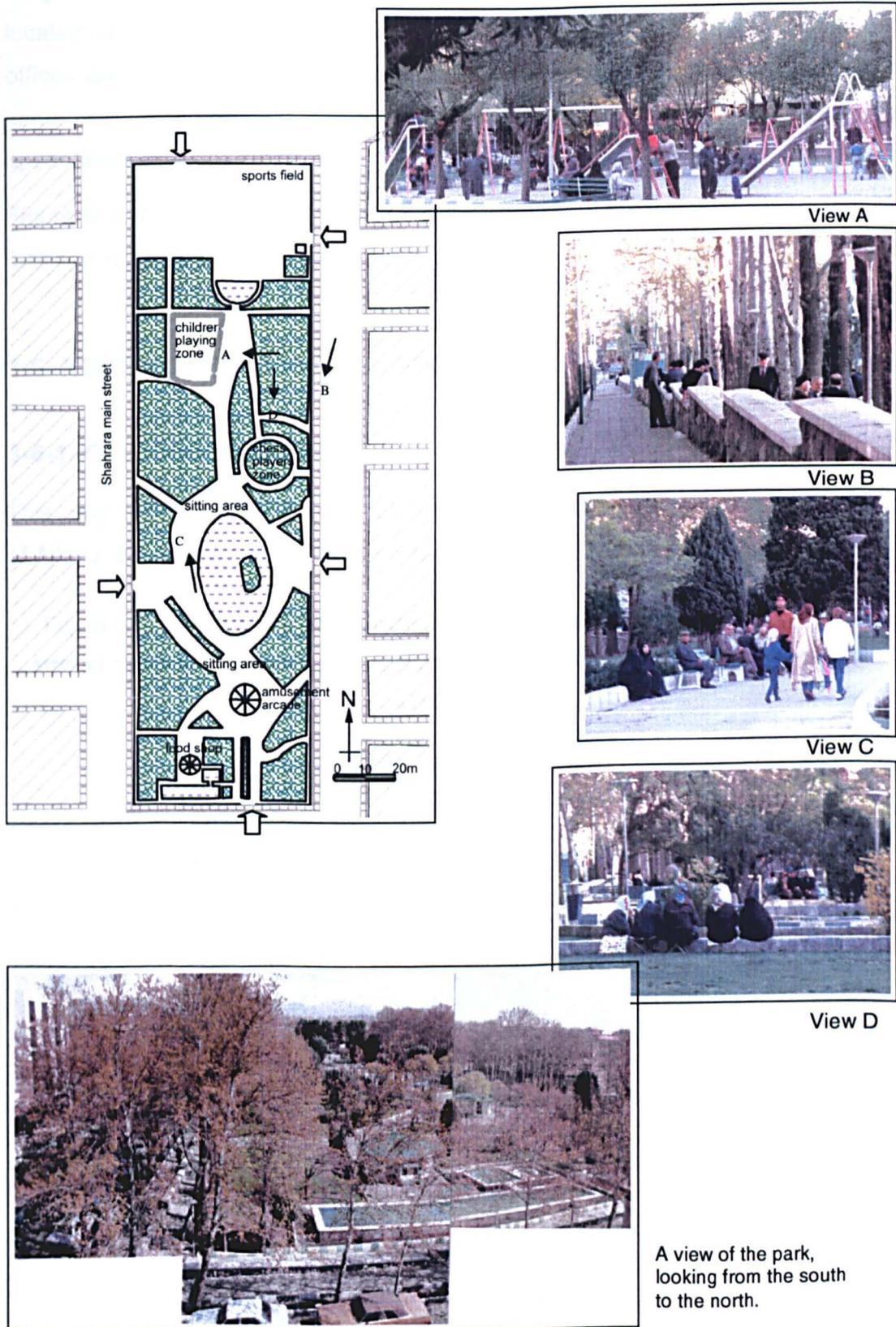
8-5-4- Functions in the Centre

Neighbourhood centre A is a mixed use area. A diversity of shops and stores are located along the main street, besides the park. Civic buildings, health centres, offices and other facilities are also established among the shops. There are also some residential buildings, located around the centre, and in some cases on the upper floors of public functions.

Figure 8-2 shows the number and diversity of urban services and entertainment facilities in neighbourhood A.

8-6- NEIGHBOURHOOD B (MAHMOODIA)

8-6-1- Geographical Conditions

This neighbourhood is located in the northern part of Tehran on the mountain-side of Alborz with a good reputation for a nice climate and natural views (Figure 8-3).

Figure 8-10: **Urban block which includes Mahmoodia (neighbourhood B) and the arterial roads of the area** (base map from Map of Greater Tehran 1/10000, Gitashenasi Institution 1991)

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The urban block which encompasses this neighbourhood comprises three separate neighbourhoods. Neighbourhood B is located in the southern part of this block (Figure 8-10). This urban block is limited by a main arterial road in the east and a major highway in the south, while the northern part is limited by the mountains. The western edge has some major public institutions such as a large hospital, a major university and a large parking lot belonging to the International Exhibition Centre of Tehran. The area of the neighbourhood is approximately 160 hectares which accommodates a population of nearly 10,500 people.

8-6-2- Residential Conditions

This neighbourhood was originally the site of large private gardens and houses including summer accommodation for wealthy Tehranians. At the moment, there are four different types of dwelling in the neighbourhood.

I. *The original houses.* There are a few original buildings remaining in the neighbourhood. They are mostly built in a common style, using the same materials and techniques (red bricks, white colour for the facade, wooden windows and sloping roofs). These original houses normally have large yards and gardens. (Figure 8-11)

II. *Large semi-detached houses.* Many parts of the neighbourhood are composed of this type of building. They are mostly two or three stories high and have large private yards or gardens (Figure 8-12). Although they do not correspond to a distinctive style or use the same materials, the use of similar dimensions and height maintains an ordered fabric in these parts of the neighbourhood.

III. *Small terraced houses.* A few parts of the neighbourhood accommodate working class people in small houses. Due to the small number of these dwellings which are mostly concentrated in the southern parts of the neighbourhood, the overall character of the neighbourhood is not influenced by this group.

IV. *New high rise and apartment blocks.* At the moment, a considerable amount of construction is in progress in this area. This neighbourhood is greatly favoured by both private and public developers and the old gardens are in danger of being replaced by large high rise blocks which would cause much

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damage to the eco-system and natural landscape of the neighbourhood. The newly established apartments are mostly more than four stories high and there are many buildings even higher than ten stories (Figure 8-13).

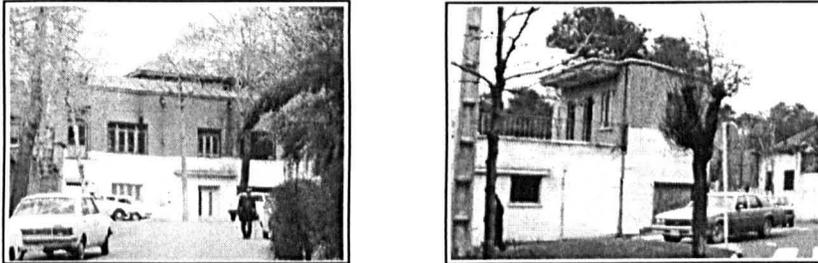Figure 8-11: **A few original houses have remained in neighbourhood B.**

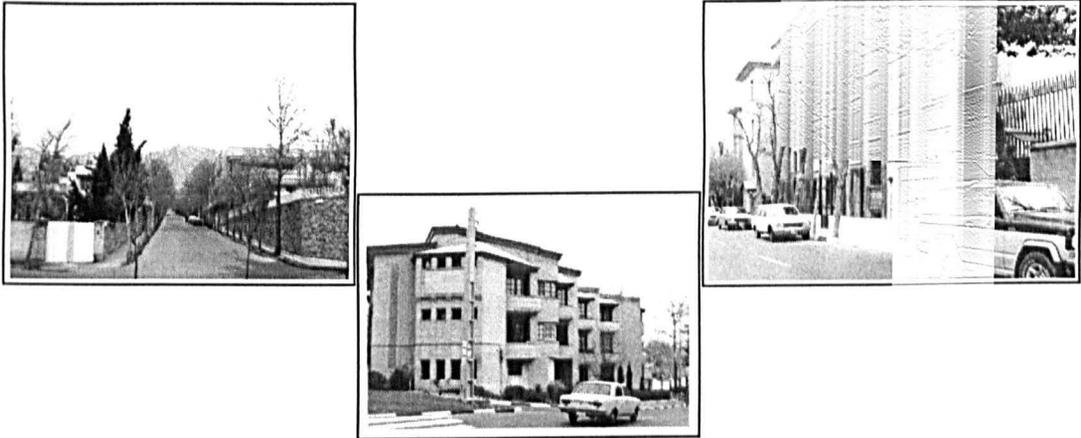Figure 8-12: **Large houses comprise the main residences in neighbourhood B.**

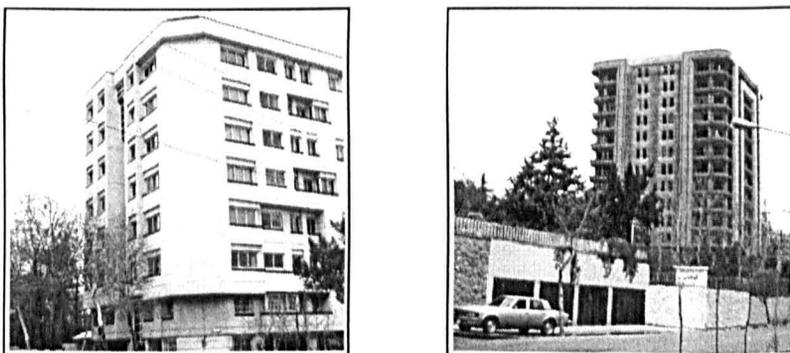Figure 8-13: **New high rise and apartment blocks have been recently built in neighbourhood B.**

Figure 8-14: **Aerial view of the central area of Mahmoodia (neighbourhood B)** (from The National Cartography Organisation)

8-6-3- Centre of the Neighbourhood

This neighbourhood centre comprises a main street, along which the urban facilities and services of the neighbourhood are located (Figure 8-15). This street has been recently used as a short cut between two arterial roads limiting the neighbourhood, and consequently heavy traffic has resulted. This through movement causes many problems for the neighbourhood. The western part of the neighbourhood is limited by the large parking area of the International Exhibition Centre of Tehran. This also imposes through traffic to the main street and is a negative feature for this neighbourhood centre. (Figure 8-10)

Most of the shops along the main street are convenience and grocery stores and the number of shops which offer building materials or car repair activities is very high compared to a conventional neighbourhood centre. At the moment, entertainment facilities are almost non-existent in the centre. Figure 8-2 shows the number of different facilities in this neighbourhood centre.

There is a seasonal stream which acts as a flood channel at the moment, crossing the neighbourhood from the northern to the southern part. In many parts along this channel, there are empty areas which have the potential of being used as green open space. (Figure 8-16)
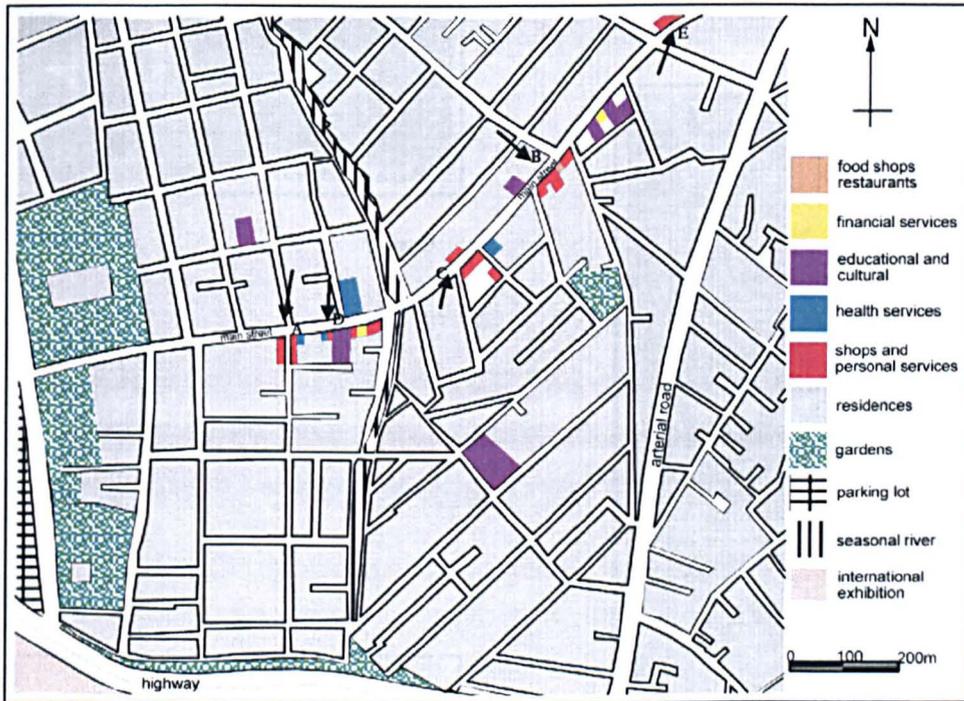
Figure 8-15: **Land use and some views of the shops in the main street of neighbourhood B**. Views A and B show the old shops and views C, D and E show the new shops.
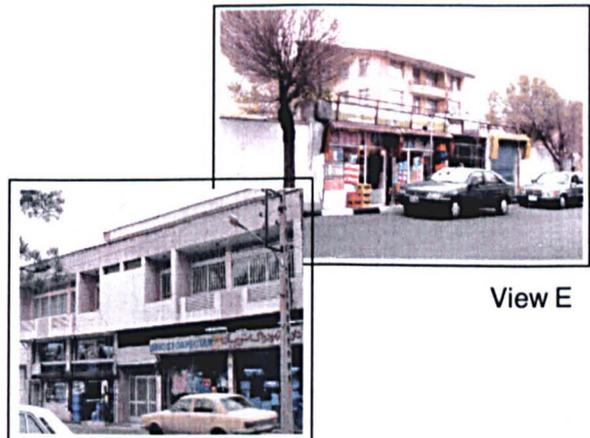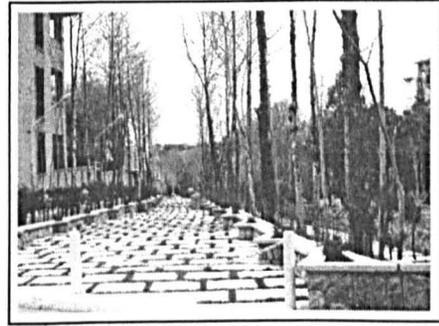

View A

View B

legend:
- food shops restaurants
- financial services
- educational and cultural
- health services
- shops and personal services
- residences
- gardens
- parking lot
- seasonal river
- international exhibition

0   100   200m

highway
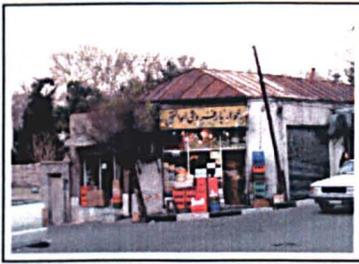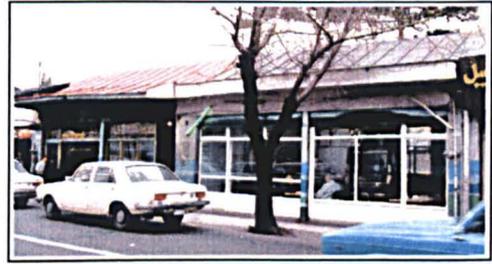
View C

View D

View E

Figure 8-16: **Along the seasonal stream there are empty areas which have the potential of being used as green open spaces.**

View A

View B
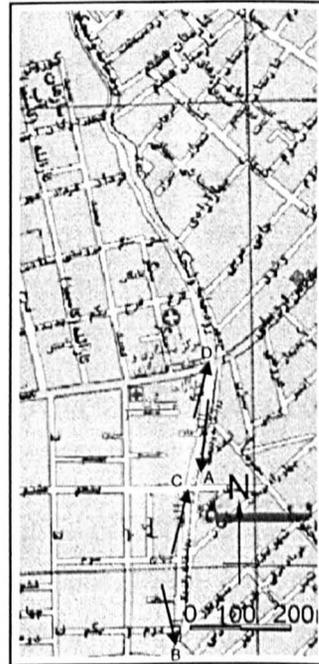
View C
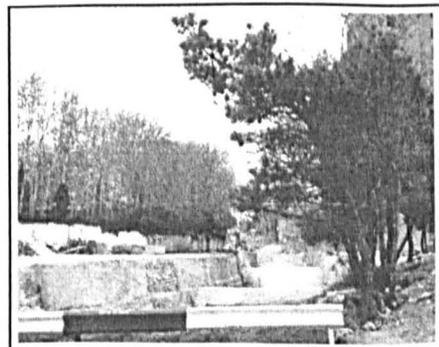
View D

8-7- COLLECTING DATA

8-7-1- Observation

Some stages of the survey were based on observation. This method was firstly used to compare different neighbourhood centres all around the city and select the intended samples. During this phase, each centre's conditions were compared with the initial list of principles and were scored by the researcher. These scores largely contributed to the selection of the centres. This method was also utilised to gain adequate information about the centre's available facilities and different qualities. This information could enrich the discussions and interpretations which followed the analysis of respondents' interviews.

These phases of the research might be to some extent similar to the participant observation about which Layder (1993 p40) states '... it allows the closest approximation to a state of affairs wherein the sociologists enter into the every day world of those being studied'.

The following paragraphs outline important steps conducted during the observation procedure:

I. The preparatory steps for observations had to be anticipated in order to facilitate the process and to gain better results (Bell, 1993). A list of all topics and aspects about which information was needed was prepared and official permission was requested and obtained.

II. There were more than ten visits to each neighbourhood which included: sitting and talking to people in the public spaces, sketching the open spaces and the gathering nodes, recording all of the services and facilities in the centre and taking a large number of photographs.

III. During this part of the research, observation was made as unobtrusive as possible particularly by choosing seats in appropriate situations and taking photographs either with people's permission or at a reasonable distance from them.

The observation was combined with interviewing the residents of the neighbourhoods as the main step of the field work. According to Bechtel et al. (1987), observation is a favourite matching method and will almost always precede or be accompanied by a questionnaire or interview.

8-7-2- Interviews

A total number of fifty interviewees participated in the survey programme for each selected neighbourhood. Considering the influential factors in sample size, explained by Marans (1987), and with regard to achieving a minimum population of thirty people which seemed necessary for statistical purposes, one hundred respondents were interviewed during the survey.

These groups of interviewees were among the residents of the two selected neighbourhood centres. The researcher expected to complete fifty interviews in each centre, half of them with men and half with women. The sample was intended to include different adult ages: those who were less than thirty five, between thirty five and sixty and over sixty years of age.

Figure 8-17: **Demographic characteristics of the neighbourhood centres.**

General demographic characteristics		Neighbourhood A Number of respondents	Neighbourhood B Number of respondents
number of interviews	total	50	50
	men	25	25
	women	25	25
Age of respondents	under 35 years old	19	20
	between 35 and 60	17	19
	more than 60 years old	14	11
Length of residency	under 5 years	12	18
	between 5 and 15 years	10	10
	more than 15 years	28	22
Place of interview	home	25	25
	centre	25	25

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In order to avoid biased data, two groups of respondents had to be involved in the survey procedure. Firstly, those who were present in the centre spaces and secondly those who were not in the centre. Accordingly, half of the respondents were questioned in the centre spaces and the other half were met at their homes.

To select the households of the neighbourhoods, due to the existence of various types of dwelling groups, the stratification method of sample selection (Marans 1987) was employed. In this regard, firstly, different zones of residences with different characteristics were explored and identified. Secondly, after dividing the number of respondents proportionately to the area of each zone, the expected number of respondents for each zone was found. Within each zone of residency the dwellings were selected on the basis of interval systematic sampling (Marans 1987). In order to fulfil the need for equal numbers of men and women, the participation of men or women was specifically asked at the door of every other selected house.

Face-to-face interviews were also conducted at the centre spaces. The researcher obtained interviews from people involved in different activities of the centre. In neighbourhood centre A, where the opportunity for recreational activities was to a greater extent provided, half of the respondents were questioned in the park and the other half were found among shoppers, users of banks and other civic facilities or among the passers-by in the centre.

In neighbourhood B, due to a lack of open spaces, the opportunity of meeting people was only provided along the main street and at the shops or other urban facilities of the centre.

The interviews were taken on randomly selected days of the week and also during weekends, within predetermined time periods. Considering the heaviest use of the centre spaces, two periods of time, between 9:30-12 in the morning and between 5-7:30 in the afternoon were selected for conducting the interviews. The selected days were considered so as not to coincide with any specific occasion such as holidays of the year. Each interview normally lasted about twenty minutes and they were all conducted by the researcher.

8-8- DATA ANALYSIS: DIFFERENT STAGES

The questionnaire, completed during the survey, was composed of two main parts. The first part was concerned with some quantitative facts about the respondents

and their use of their neighbourhood centres. The second part included some qualitative questions, which in fact concentrated on the residents' feelings and assessments about the centres. The analysis was aimed at extracting as many design principles as possible out of the answers to the second part of the questionnaire, while the data gathered in the first part also resulted in some design principles.

The first part of questions which dealt with some facts and objective factors of using centres was mainly analysed by coding and counting the answers. The results were presented in the form of charts and tables which show the percentages and rate of performing particular activities or using especial facilities in the centres.

In order to derive design principles from the data, particularly the open-ended questions, a conceptual framework, containing all of the relevant aspects of a neighbourhood centre was first developed. This framework, which was suggested on the basis of the theoretical discussions presented during the literature review, in fact illustrated the different parts of the initial list of principles. In other words, it presented the initial understanding of the key factors, constructs and variables of a neighbourhood centre and the presumed relationships among them. Three main categories and their sub-divisions are the components of this framework.

- *Functional characteristics* consisted of three sections: urban services and facilities; public life; and accessibility.

- *Perceptual characteristics* comprised five sections on centrality, legibility, complexity, identity and human scale.

- *Operational characteristics* included two sections on sustainability and management/maintenance.

A checklist was formulated in relation to the above categories and their relationships, to facilitate the analysis of the data (Figure 8-18). With regard to this, Miles (1994) states that these questions bring about some theoretical assumptions and explain which factors are to be established first. In fact the checklist helped to concentrate on the principles which were mainly looked for among the responses. Meanwhile, during the process of analysis, some differences between the centres were revealed. These differences in addition to some unexpected ideas and opinions expressed by the respondents were also utilised to revise and amend the initial list of principles.

After extracting the answers to the designed checklist out of data, they were illustrated in different forms of matrices and graphs.

Finally, those principles which were related to the design of centres were inferred and presented in order to be compared with the initial list of principles.

Figure 8-18: **Framework introducing different chapters of the third part of the thesis**
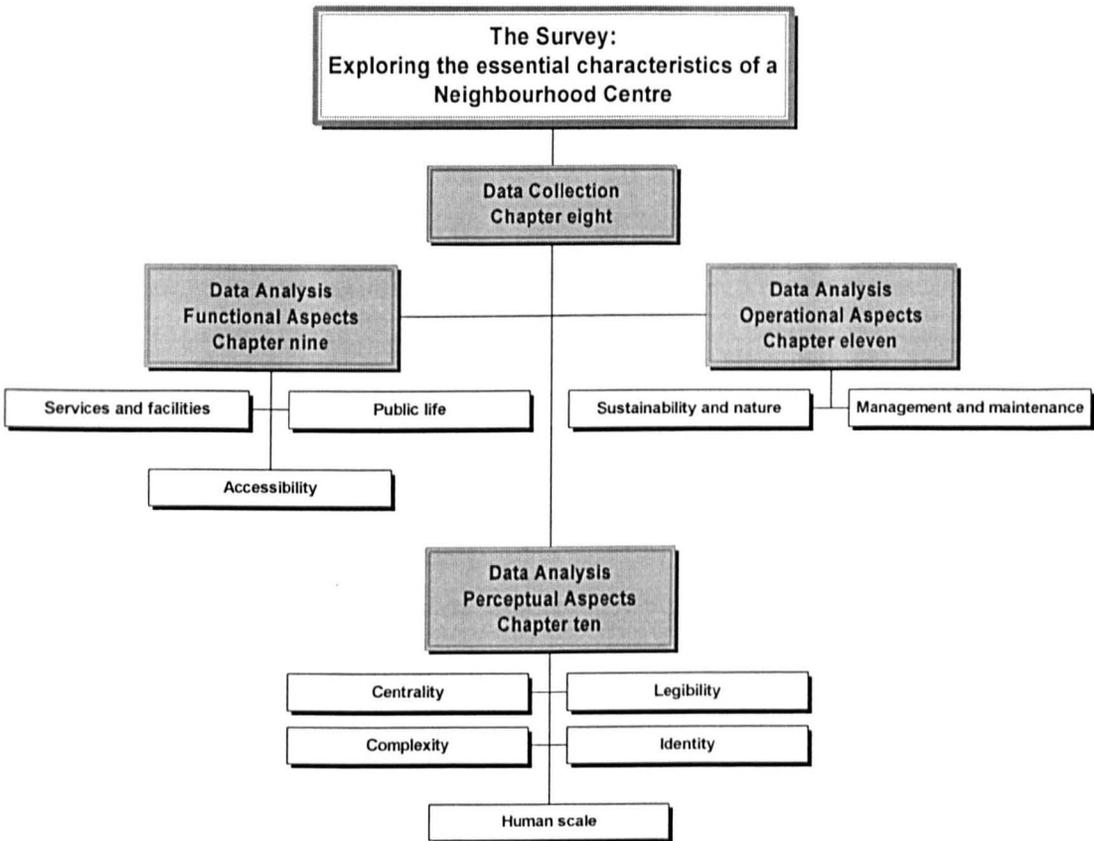
8-8-1- Formulating the Checklist

The checklist was formulated regarding the above categorisations in order to facilitate the analysis process and was basically explored among the responses to the open-ended questions. The answers to the first part of the questionnaires were also used where necessary. Whenever some ideas or concepts which were not predicted in the checklist were found to be repeatedly expressed, they were also separately considered during the analysis. The checklist is as follows:

8-8-1-1- Functional characteristics

I. Services and facilities

- Is the existence of urban services and facilities valued by the residents?

- What is the importance of different services from the residents' viewpoints?

- Which factors are more important in choosing a shopping area (prices, qualities of the environment or distances)?

- Are there any services which are not welcomed by the people and considered as a nuisance for a neighbourhood centre?

II. Public life

- Do people value places which support public life, and what are the main characteristics of such places?

III. Accessibility

- Do people value good access to their neighbourhood centre and which mode of access is mostly preferred: walking, use of public transit or using private car?

- Do people value good access to other parts of the city?

- Do people value air and noise quality in the centre?

- What do people consider as the main characteristics of a route with regard to the ease of access?

8-8-1-2- Perceptual characteristics

I. Centrality

- Are the centres, studied in the survey, perceived as identifiable entities and which one is more distinctive within its neighbourhood?

- Which factors contribute to the distinctions of the centre within the neighbourhood: a focal point, landmarks or recognisable compactness of functions, etc.?

II. Orientation

- What are the essential characteristics of the environment which contribute to the identification of different parts of the centre and improve the sense of orientation for the residents?

III. Complexity

- Is the complexity of the physical environment a determinant factor for evaluating a space as an attractive one?

IV. Identity

- Is the history and origin of the neighbourhood important for the inhabitants? How do they make their connection with the past through the neighbourhood centre? Are there any physical features which enhance this connection?

- Is an overall character identified for the centres and do people respect this character?

- Are there specific nodes, features or landmarks which are important for the respondents?

- Is there a specific activity or function which contributes to enhancing the identity of the centres?

V. Human scale

- What characteristics, related to scale, are mentioned by the respondents? any expression about distances, size, height and density of the buildings and spaces.

8-8-1-3- Operational characteristics

I. Sustainability and nature

- Do people value the contact with nature in their neighbourhood centre and what natural features do they appreciate more frequently?

- What are the advantages of a park established in a neighbourhood, and in particular, what is the influence of a park in improving the quality of a neighbourhood centre?

- What is the residents' opinions about compactness and high density in their neighbourhood centre?

II. *Management and maintenance*

- Do people value good maintenance of the centre and what aspects of maintenance do they consider the most important?

8-8-2- Exploring the Checklist Answers and Interpreting the Responses

Data analysis was divided into ten sections which were presented under three main categories of the checklist. During each section, the responses to the open-ended questions were reviewed several times and the answers related to the checklist were coded and classified. The first part of the interviews which dealt with the factual and objective factors of the samples were also reviewed where necessary in order to derive any related item.

Regarding the nature of the open-ended questions, similar concepts or ideas were found to be expressed by using different words or phrases. In this case, the words or phrases which referred to an identical concept or feeling were identified and gathered in the same groups. For example, when several respondents appreciated the availability of urban services in their neighbourhood centre, or expressed the advantages of the existing services, or talked about the importance of the urban services in their previous neighbourhood centre, they were found to mention similar opinions and were grouped together as valuing the availability of urban services in a neighbourhood centre.

Attempts were made to make explicit these groupings and interpretations by presenting some examples of the people's expressions in different sections of data analysis.

8-9- THE FORMAT OF ANALYSIS CHAPTERS

The analysis was carried out in three chapters, totalling ten sections, based on the checklist's different parts. During each section, the main theme was introduced at the beginning, after which a summary of the initial list of principles was presented and followed by the survey analysis. During the survey analysis, the formulated questions related to the concept of each section were explored among the responses. After discussing the findings of each section, the results were used to

establish design principles. A comparison between the initial list and these principles were presented in the form of tables at the end of each section.

Some differences in the evaluation of the centres' attributes emerged among the respondents different groups. These results were set out under the heading of marginal notes. Although these results mostly revealed some humanistic differences, they can be employed to enhance design by offering a better understanding about different group's preferences and opinions. The results of marginal notes were set out at the concluding chapter of the thesis.

PART THREE:

THE SURVEY

CHAPTER NINE

FUNCTIONAL ASPECTS
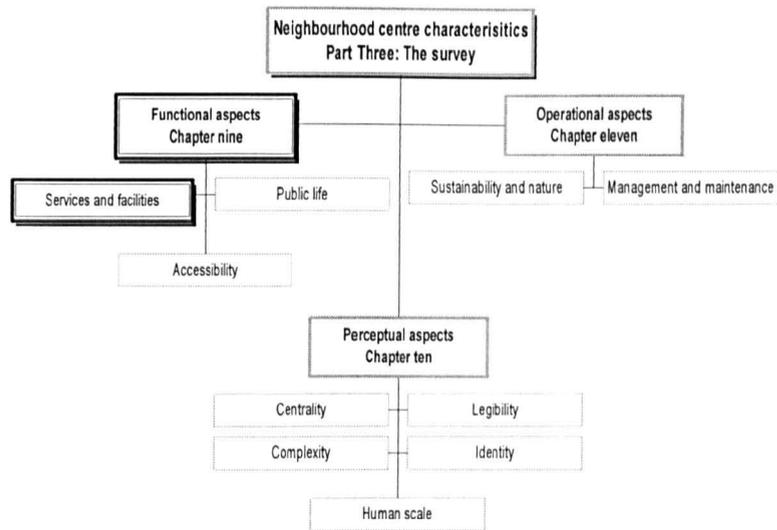
9-1- SERVICES AND FACILITIES

This section is concerned with the urban services and facilities provided in a neighbourhood centre. The conditions of the facilities which enhance the quality of the centre are mainly investigated.

9-1-1- Initial Principles

The relevant items of the initial list of principles are summarised as follows:

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1. A balance of different functions and facilities such as the following should be provided in the centre.

    a) shopping facilities at least to fulfil daily needs.
    b) cultural buildings such as schools, libraries and places of worship.
    c) recreational facilities, restaurants and sports halls.
    d) health services.
    e) job facilities.

2. The proximity and continuity between the functions should be regarded.
3. Critical mass of the functions should be considered.
4. City-wide urban services should be located near the main routes.
5. City-wide urban facilities should be selected in such a way that their expected visitors do not undermine the community sense of the residents.

9-1-2- Survey Analysis

The checklist questions addressing the characteristics of urban services in the neighbourhood centres were separately searched for among the responses to the questionnaires.

Question 1: Is the existence of urban facilities valued by the people?

The existence of shopping facilities, civic buildings such as health centres, post offices, and banks and also entertainment facilities such as restaurants and coffee shops was widely appreciated by the respondents in both neighbourhoods. The responses to questions 10, 11 and 12 of the questionnaire, mainly confirmed this issue.

In neighbourhood A, eighty-two percent of respondents valued the availability of urban services in their neighbourhood centre. Most of the respondents found the existence of a large variety of shops, medical centres and civic buildings an advantage for the centre. Entertainment facilities were repeatedly mentioned as important necessities of the centre. Only nine respondents in this neighbourhood (eighteen percent) did not express any opinions about the urban facilities.

Fifty-four percent of respondents believed that the present conditions of neighbourhood A were satisfactory and took the opportunity of using the above facilities. Twenty-eight percent had some suggestions for improving the current conditions: four out of this group (eight percent) proposed improvement of the variety and number of shopping facilities, while sixteen percent were in favour of developing the park and recreational services and six percent were concerned with the establishment of a library in the centre. Some opinions about the urban services were:

- 'Everything is handy around here, even if we do not go to the city for a whole year.' (old woman)
- 'An easy access to the shopping centre and other facilities is one of the advantages of this neighbourhood centre.' (middle-aged man)
- 'The existence of different services gathered together in the centre is the most advantage of the centre.' (young woman)

In neighbourhood B, the urban services were not perceived as adequate to meet the peoples' needs. Fifty-eight percent of respondents were dissatisfied with the current conditions of shops and had some suggestions to increase the number and the quality of shopping areas. Sixty-two percent of interviewees recommended the establishment of a local park and entertainment facilities. Only eight percent of respondents thought the available shops in the centre (which only fulfil a part of daily needs) were sufficient. There were also twelve percent who used other urban services and were not concerned with their neighbourhood centre services. Figure

9-1 shows the respondents' opinions about the availability of urban services in their neighbourhood. Some respondents in centre B said:

- 'Comparing this centre with where I lived before, the most important deficiency of this centre is lacking facilities such as a park and local shops.' (old man)
- 'Lack of adequate shops, a local park and recreational facilities are the worst things of this neighbourhood centre.' (middle-aged man)
- 'I have two main suggestions for this improvement of the centre: one is increasing the number and quality of shops and the other establishing a park and play ground for the children.' (middle-aged woman)
- 'One of the advantages of the main street is the presence of the shops along it.' (young woman)

Figure 9-1: **Respondents' viewpoints about the importance of urban services.**
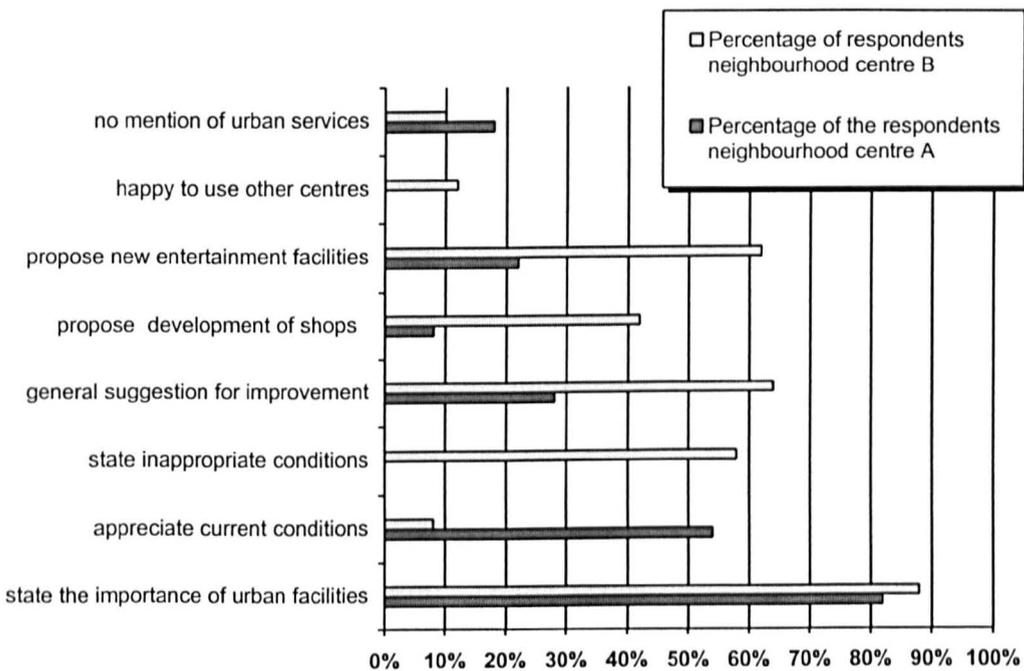
On the whole, the local services were of a great importance for the local residents. As figure 9-1 shows, the current conditions in neighbourhood B were not sufficient to fulfil the residents' needs and a large group of respondents had some suggestions for improvement of the centre. Existence of natural features such as parks and green spaces, and entertainment facilities, for example playgrounds and sports halls or cinemas, were particularly appreciated and desired in both centres. Comparing the residents' suggestions for improving entertainment facilities with the suggestions for increasing the shops which fulfilled daily needs of people, showed that entertainment activities were also regarded as very important. On the whole, it should be mentioned that sixty percent of the respondents in neighbourhood A valued the opportunity of living in a neighbourhood in which all of their needs with

regard to urban facilities were met in its centre, and there was no necessity for using other urban centres.

Question 2: What is the importance of different services from the residents' viewpoint?

To identify the priority and frequency of using different services of the neighbourhood centres, the direct use of each facility was questioned in the first part of the questionnaires. Moreover, performing some optional activities, in public spaces were also explored during the interviews. Different activities were classified under eight groups:

shopping, use of cultural buildings such as mosques and libraries, use of civic buildings such as banks and health services and use of institutions offering personal services such as hair dressing, referred to the direct use of facilities and services, whereas promenading, window shopping, and enjoying nature and natural features were investigated as the optional activities. The respondents' involvement in social interaction and talking to people were also questioned in the questionnaires. The amount of performing the optional and social activities, in fact indicated the contextual qualities of the centres. Although optional and social activities were studied in the section on public life, the importance of these activities, comparing to the direct use of urban functions or necessary activities as Gehl (1980) calls them, was studied during this section. In this way, the main reasons for attending the centre and the frequency of its use were more easily understood.

Comparison among the above activities was carried out in both neighbourhood centres A and B. However, as the opportunity of using a greater number of functions and facilities was better provided in neighbourhood A, the comparison was more fruitful in this neighbourhood. Responses to question 6 comprised the main sources for answering this question.

According to Figure 9-2, shopping was the most important function and was the most frequently and widely performed activity in both neighbourhoods.

In neighbourhood A, nearly half of the respondents expressed 'shopping' as the main purpose of going to the centre, while eighty-two percent were the users of the shops and shopping facilities.

Optional activities were in second position. Eighty percent of the respondents in neighbourhood A performed at least one of the activities in this group and about half

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of the respondents in this centre stated the performance of optional activities as their second purpose for going to the centre. The presence of natural features and enjoying the natural views gained great importance regarding these activities. This opportunity was provided by the local park in centre A where eighty percent of respondents made use of it. Conversely in centre B, as the environmental supportive conditions were not present, there were only a few people who took part in these activities.

Compared with the above mentioned functions, the use of civic buildings was less important for the respondents. Although seventy percent of respondents in neighbourhood A, and thirty-six percent in neighbourhood B used these facilities, these activities were normally ranked as the third, fourth or even fifth reasons for going to the centre.

In centre B, due to the lack of recreational facilities the civic buildings gained more importance and comprised the second purpose for using the centre after shopping. Conversely in centre A, more than one third of the respondents ranked them as their fifth priority for going to their neighbourhood centre.

Figure 9-2: **Ranking different activities performed in Centres A and B (scale: percentage of the respondents).**
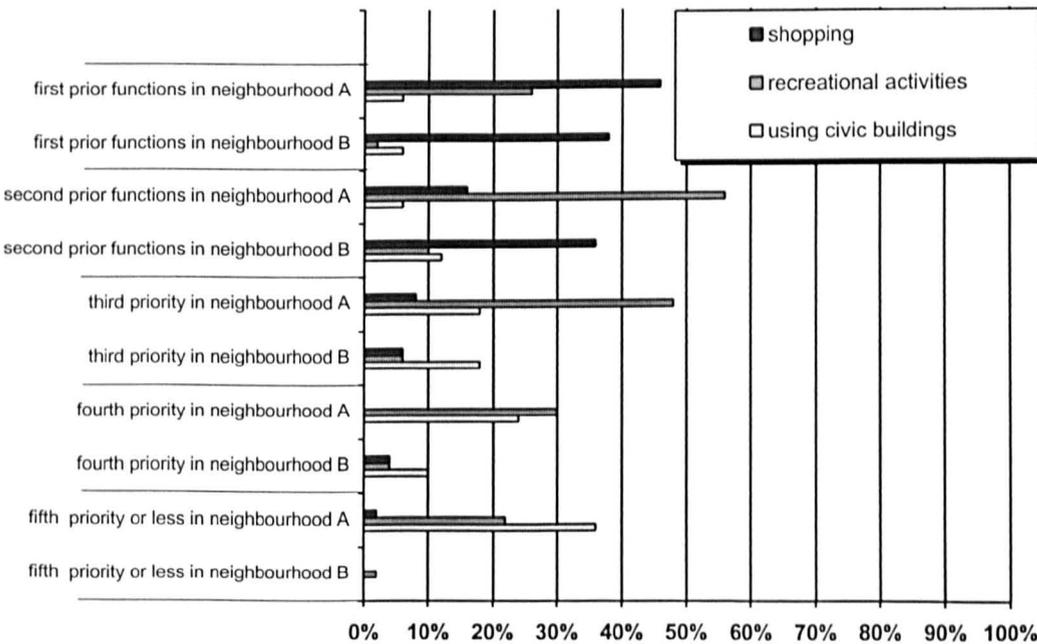
There is no dominant and outstanding cultural space in these two neighbourhoods. Each of them has a local mosque with a small library. The libraries were not adequate to fulfil the needs of all residents. Twenty-four percent of respondents in

neighbourhood A and twenty percent in neighbourhood B stated that they sometimes went to the mosque, but this activity was not ranked among the other activities in their centre.

Although ten percent of respondents in neighbourhood A pointed to the availability of good quality schools in their neighbourhood, there was no reference to the schools in neighbourhood B. As the schools are only used by children who comprise a particular group of people, these spaces were not regarded as public places among other central spaces and there was no suggestion concerning this function.

Hairdressing services were only used by eighteen percent in neighbourhood A and fourteen percent in neighbourhood B; this facility gained the least importance among the activities which were asked about in the questionnaires.

Question 3: Which factors are more important in choosing a shopping area (Prices, qualities of the environment, distance)?

The characteristics of a desirable shopping area and the supportive conditions for performing this activity were extracted from the responses to questions 8, 10, 11 and 12. After categorising the answers, six groups of factors emerged.

The first group which was repeatedly mentioned and was the most frequent one, was the proximity of the residential areas with the urban facilities and the possibility of pedestrian access to the shopping area. Ninety percent of respondents in neighbourhood A appreciated this advantage of their neighbourhood centre, while sixty-six percent of the interviewees in neighbourhood B disapproved the inadequate facilities of their neighbourhood centre, and blamed their obligation of using far distant urban centres.

The second factor was the number and variety of shops. Seventy percent in neighbourhood A appreciated the wide range of shops presented in centre A and a small number of them had some suggestions for improvement. Fifty-four percent in neighbourhood B were dissatisfied with the present circumstances of centre B and proposed the development of shops in number and variety.

The third factor, being involved with the associational activities which enhanced the shopping activities, was only expressed in neighbourhood A where the contextual conditions of these activities were present. Seventy-eight percent of respondents in neighbourhood A stated that they performed optional activities (Figure 9-3) while

shopping and many of them referred to this opportunity as a desirable condition for a shopping centre. For example some respondents said:

- 'I usually do my shopping and then sit in the park and speak to my friends.' (old woman)
- 'The presence of the park and many trees near the shopping centre is an advantage which I usually use.' (middle-aged man)
- 'I come to the park to talk with people while I use the centre for shopping.' (old man)
- 'I like to do window shopping when I go for shopping to the centre.' (middle-aged woman)
- 'Sometimes when I go shopping, I use the park or go window shopping as well.' (young woman)

The most important activities performed in connection to shopping were promenading and window shopping which was carried out by fifty-six percent of respondents. Twelve percent of interviewees stated their social relationships, and ten percent talked about walking and exercising during shopping activities (Figure 9-3).

Figure 9-3: **Optional activities performed along with shopping in neighbourhood A**
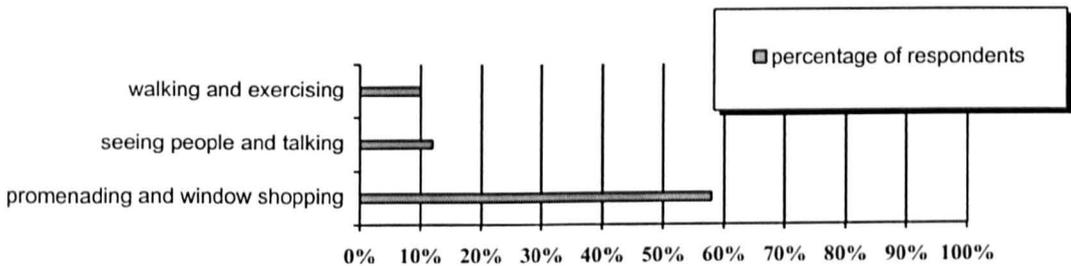
The fourth factor, particularly mentioned in neighbourhood B, was the quality of appearance and the cleanliness of the shops and shopping areas. There are many repair shops and building material stores in this centre which were considered detrimental to the appearance of the shopping centre. Many respondents complained about the careless attitudes toward the cleansing of the stores and the shop fronts along the pavements. Thirty-four percent of the interviewees in neighbourhood B, and eight percent in neighbourhood A, were concerned with this problem.

The fifth factor was the level of prices which is not under the control of an environmental designer. Prices of goods, offered in shops, comprised a dominant factor for using shopping centres. In both neighbourhoods a great number of respondents were concerned with the economical aspects of shopping in the local

stores. Thirty-six percent of respondents in neighbourhood B directly mentioned this problem while the respondents in neighbourhood A were not satisfied with the high prices of their local shops either (ten percent of respondents).

However, the large number of shoppers (more than eighty percent), in both neighbourhoods, revealed that in spite of high prices, the residents preferred to buy their essential goods, particularly food, from the local shops. Accordingly, the shops which catered for the daily needs of the residents should be within a short distance and easy access to their homes. The other goods which were not so necessary on a day-to-day basis could be bought in alternative shopping centres.

The last factor, mainly stated in neighbourhood B, was the availability of parking facilities. Twenty-two percent of the respondents in this neighbourhood referred to the parking facilities when assessing the suitability of the shopping area of their neighbourhood centre.

Figure 9-4: **Important characteristics of a shopping area**
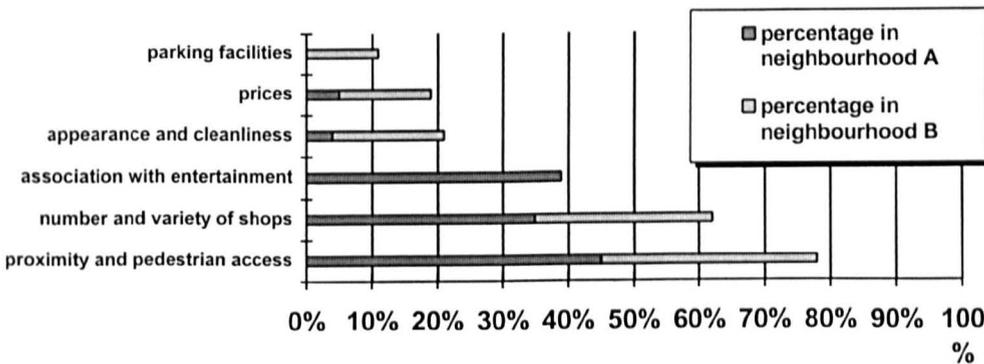
Question 4: Are there any services which are not welcomed by the people and considered as a nuisance for a neighbourhood centre?

This question emerged after a large amount of disapproval/complaint, regarding disadvantages of the parking lot on the edge of centre B, was recorded. Investigating the negative services or functions in centre B, it was found out that some attributes were in common among them; some of which, are explained in this section. The answers to these questions were mainly found among the responses to questions 8, 11 and 12.

In neighbourhood A, due to the relative absence of such services there was no comment on this issue. Only one respondent (two percent) referred to the inappropriateness of a car wash near a neighbourhood centre especially for polluting the surrounding areas.

In neighbourhood B, due to the presence of a larger number of car repair shops, building material stores, a hospital for aged people and moreover the parking lot of the exhibition centre, there was a larger amount of opposition towards these functions.

The heavy traffic was seen as the consequence of the exhibition parking lot by ninety percent of the respondents. Dirtiness and pollution as the result of some inappropriate shops and car repairs were mentioned by thirty-four percent. Air pollution as the consequence of heavy traffic was noted by fourteen percent and the unsuitable appearance of some shops was criticised by eight percent of respondents. Figure 9-5 shows the rank of problems created by the unsuitable conditions in centre B. Feelings about inappropriate functions in centre B included:

- 'I think the shops have to be maintained and cleaned.' (old man)
- 'These old shops should be replaced by some new clean ones. Car repair and building material stores are not suitable. At the moment the only acceptable shop is the confectionery.'(old woman)
- 'My only suggestion is the removal of the parking lot of the exhibition because of its so many problems for the neighbourhood.' (young woman)

Figure 9-5: **Unsuitable conditions in centre B**
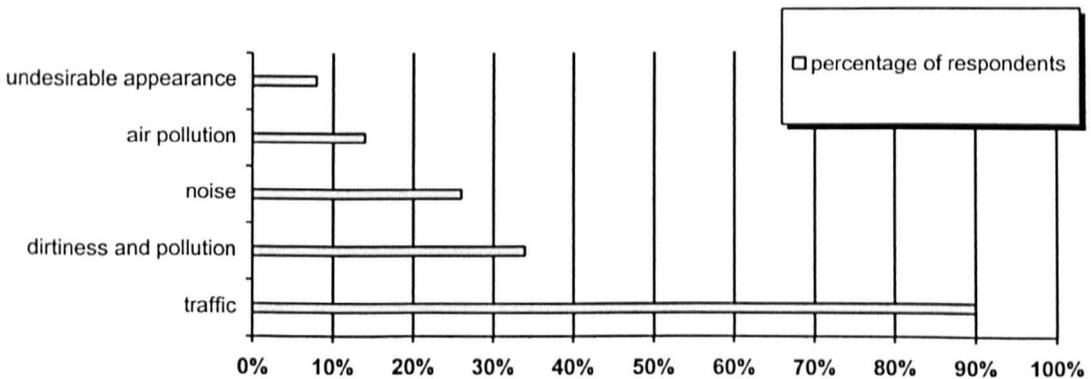
9-1-3- Discussion

The local services, particularly shops, were considered the basic components of a neighbourhood centre in both samples. In neighbourhood A, where the number and variety of services were more satisfactory and a better balance of facilities was provided; a greater number of respondents (more than half of them) appreciated the current conditions. By the same token, a large number of respondents in neighbourhood B were in favour of increasing the local shops and services in quantity and quality in order to fulfil their daily needs without the obligation of travelling to other local or city centres.

Some kinds of shops were considered inappropriate for a public space, such as a neighbourhood centre. For example, in centre B, apart from the inadequate number of shops to fulfil the daily needs of residents, the appearance of some shops such as the car repair or the building material stores was considered unsuitable for a local centre. The proportion of different facilities in the two centres is presented in Figure 9-6.

Figure 9-6: **The number of different facilities in neighbourhood centres A and B.**
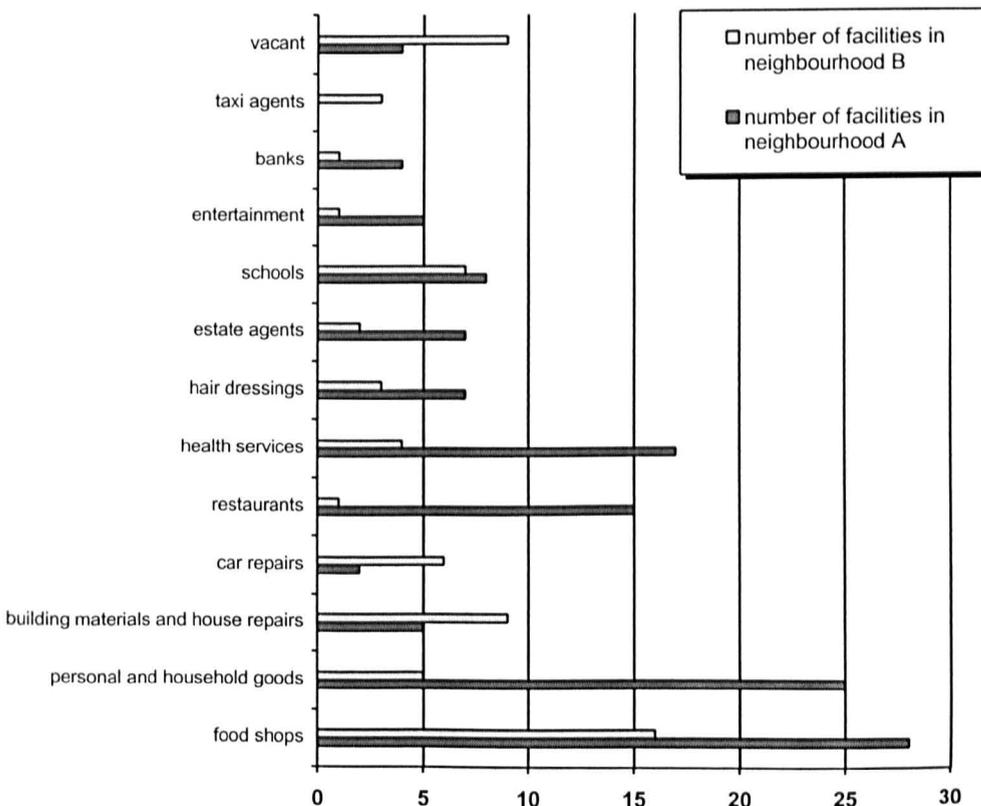
On the whole, two groups of facilities were most frequently mentioned: while shopping was the most recurring activity and the main priority for going to the centre; more provision of entertainment facilities and spaces related to leisure time appeared to be the main concern of the respondents, particularly for the young people in both neighbourhoods. The amount and priority of optional activities indicates their importance as the second activities after shopping (Figures 9-1 and 9-2). Therefore, apart from shopping facilities that comprised the basic part of the local services, those activities related to the leisure time of residents was essential in a neighbourhood centre. These activities cover a wide range of services from cultural such as libraries and cinemas, to sports halls and playgrounds and also parks and green spaces.

There is a considerable difference in the number of restaurants in the two neighbourhoods (Figure 9-6). It seems that the park and its rest spaces in centre A support the large number of coffee shops and restaurants around it, whereas in neighbourhood B, the lack of appropriate rest spaces was associated with the absence of food shops in the centre.

The third group of facilities, gaining less attention and priority, appeared to be the civic buildings, among which, there are some facilities such as banks, post offices and health services which normally meet the essential needs of the residents.

9-1-4- Marginal Notes

During the survey, some differences between men and women in performing different activities and using the facilities in the centre, were revealed (Figure 9-7). In both neighbourhoods shopping was more frequently done by women. A Chi-square test of independence was applied in order to assess the difference between men and women for shopping activities and the results showed a difference to 1% level of significance (χ^2=6.7 and df=1). Although the number of women who did window-shopping was also higher than men, their difference was not statistically significant. Women also enjoyed the scenery and green spaces of the centre more than men - their difference showed nearly 5% level of significance (χ^2=3.78 and df=1).

Figure 9-7: **Different activities performed by men and women**

(total percentage of the two centres)
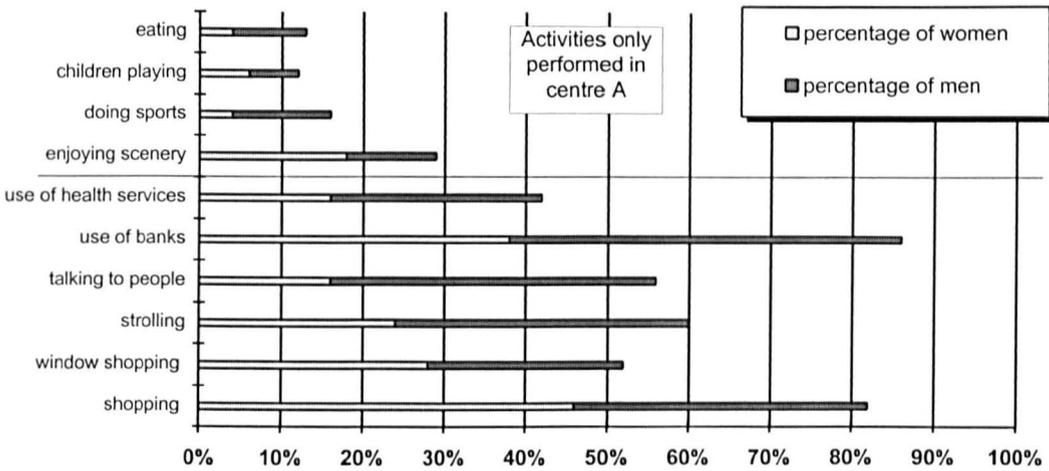
Doing sports and talking to people were the activities which were significantly more performed by men. Differences in doing sports showed 5% level of significance (χ^2=5.08 and df=1), while differences for talking to people showed 1% level of significance (χ^2=7.14 and df=1).

Some differences among the groups of residents according to the length of their residency in the neighbourhood were also revealed and they are presented in Figures 9-8 and 9-9. In neighbourhood A, the opportunity of using adequate services was to a higher degree provided and differences among the groups of residents in appreciating the local shops and the park were not statistically significant. However, in neighbourhood B, where the present conditions were not sufficient to meet residents' convenience needs, newcomers and middle-stay residents comprised the main body of respondents who were concerned with the inadequacies of the centre and more frequently proposed the establishment of shopping facilities and open green spaces. Differences between the long-stay residents and the two groups of newcomers and middle-stay residents in suggesting the establishment of a local park showed to 1% level of significance (χ^2=10.05 df=2) and differences in proposing development of shopping facilities showed to 5% level of significance (χ^2=7.76 df=2).

Nevertheless, the long-stay residents in neighbourhood B were comparatively more satisfied with the present conditions and showed a higher degree of patience towards the inadequacies of the centre. They used other urban centres more than the other groups to a 5% level of significance. This point may show the influence of familiarity and habit of the residents to the inadequacies of their neighbourhood

centre while the newcomers were more sensitive to the weaknesses and had not adapted to the current inappropriate conditions.

Figure 9-8: **Suggestions for the establishment of shopping facilities and a local park in neighbourhood B**
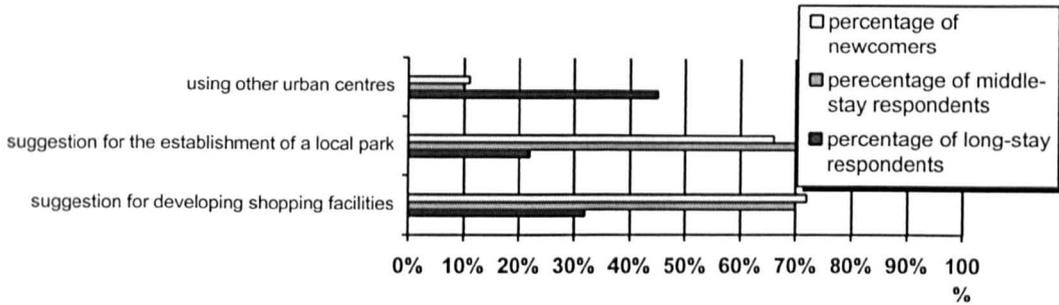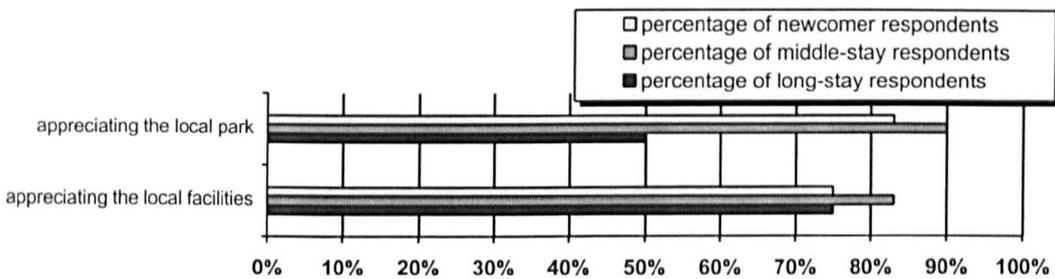

Figure 9-9: **Appreciating the current conditions in neighbourhood A**

9-1-5- Summary

A summary of the survey outcomes is presented in a table to be compared with the initial list of principles. On the whole, the importance of the local services and facilities was confirmed during the survey. Although shopping was considered as the anchor function in the centre, the existence of recreational facilities was also recurrently recommended. A balance of different urban services which enables the residents to fulfil all their needs within their neighbourhood centre was greatly appreciated and desired by the respondents.

Any function in the centre or around the neighbourhood which threatens the calmness, ecological quality and community sense of the residents was rejected. Even those jobs or functions which demonstrated unacceptable appearance in the centre and were visually incompatible with the neighbourhood were considered unsuitable and their removal from the area was proposed.

Figure 9-10: **Services and facilities: comparing the initial list of principles with the survey results**

Initial Principles	Survey Results	
1- A balance of different functions is necessary.	**1- A balance of different functions is necessary.**	A: 82% B: 88%
2- Establishment of shops particularly for daily and weekly needs is important.	**2- Establishment of shops particularly for daily and weekly needs is important.**	A: 82% B: 66%

3- Proximity and continuity between the functions is important.	**3- Some facts about shopping activities are:**
	a) shopping is the first aim for going to the centre.
	b) shopping is the most frequent activity.
	c) preferred characteristics of a shopping areas are:
	   I. ease of access to shops.
	   II. associated with entertainment.
	   III. variation of shops.
	   IV. good appearance.
	   V. good prices.
		A: 46%
		B: 38%
		
		A: 80%
		B: 84%

4- Entertainment facilities should be provided.	**4- Entertainment facilities should be provided.** a) their importance as the second prior facility should be regarded in design.	A: 80% B: 62%
5- Cultural spaces have to be established.	**5- Cultural spaces have to be established.**	
6- Provision of civic buildings should be regarded.	**6- Provision of civic buildings should be regarded.**	A: 70% B: 36%
7- Large city-wide urban services must be located near the main routes.	**7- Large city-wide urban services must be located near the main routes.** a) very large urban functions have to be avoided.	B: 56%
	8- Job facilities are good when minimizing their negative effects: a) screening where they are a visual nuisance. b) restricting or moving where there are environmentally negative effects.	A & B: 22%
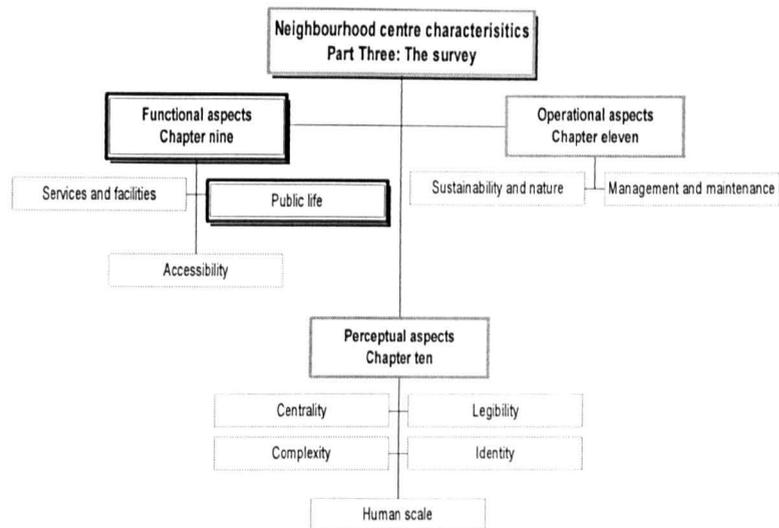
9-2- PUBLIC LIFE

Public life, the extent to which people value public spaces, and the conditions which support or constrain the performance of public activities, are explored in this section.

9-2-1- Initial Principles

The main relevant points of the principles are summarised in the following paragraphs:

---

1. There should be adequate spaces for different activities:
   a) pausing, staying and resting.
   b) playing.
   c) seeking privacy (territory).

2. Seats have to be provided.
   a) Other physical elements which can be used as seats should be prepared.
   b) Important qualities of seats which should be considered are:
      I. scale and comfort.
      II. cleanliness.
      III. congruency with dominant style.
      IV. location (protected, good view).
      V. arrangement conducive to talking.

3. Rest spaces should be:
   a) separated from vehicular movement and pollution.
   b) separated from pedestrian movement but not screened for the sense of safety.
   c) widened where there is no separation from the pedestrian movement.

d) properly defined, as borders play an important role for staying by or leaning over.

e) articulated with a dimension of about 25 metres.

f) facing social activities or landscapes.

g) near food shops.

h) near children's playgrounds.

i) overlooked by the adjacent buildings.

j) enhanced by physical details, which define the borders or are inside the spaces.

9-2-2- Survey Analysis

The importance of public life and the essential qualities needed for public spaces are investigated by exploring the responses to one basic question of the checklist.

Question: Do people use public spaces and which characteristics do they attribute to such places?

The first part of the question was mainly explored in the responses to question 6 in the questionnaires. According to Gehl's categorisation of activities, described in the literature review, people presence in public spaces is associated with three different activities. First, 'necessary activities' which were mainly discussed in the section on 'services and facilities'. Performance of the two other activities, namely 'optional' and 'social' were also to some extent studied in that section. However, as the focus of this section of the thesis, their frequency and supportive or constraining conditions are investigated in the following pages.

Optional activities include the performance of some voluntary activities in a space, for example, walking, promenading and eating. Social activities, being to some extent the consequence of optional activities, refers to the activities which involve more than one person (according to Gehl 1980).

The optional activities which were directly questioned in the questionnaires mainly consisted of the following six types: enjoying greenery and landscape, promenading/strolling, window shopping, doing sports or leisure activities, children playing and eating in public spaces.

Social activities were also explored by directly asking whether the respondents enjoyed watching other people and talking to them.

Figures 9-11 indicates the performance of these activities in the two neighbourhood centres.

In neighbourhood A, the supportive conditions of the centre, in particular the salient role of the local park, were apparent and perceptible by the large amount of optional activities performed in this neighbourhood centre. The most frequent and desirable activity was using the spaces of the local park as the rest space for the centre (Figure 9-11). This was expressed by eighty percent of respondents. Recreational activities, such as promenading, were the second most frequent in the centre and fifty-two percent of the respondents mentioned it. Window shopping, as the third optional activity, was performed by forty-four percent of the respondents; sports and leisure activities were performed by twenty-six percent and eating was the least favoured and was only carried out by twenty percent of respondents.

Figure 9-11: **Optional and social activities in neighbourhood centres A and B**
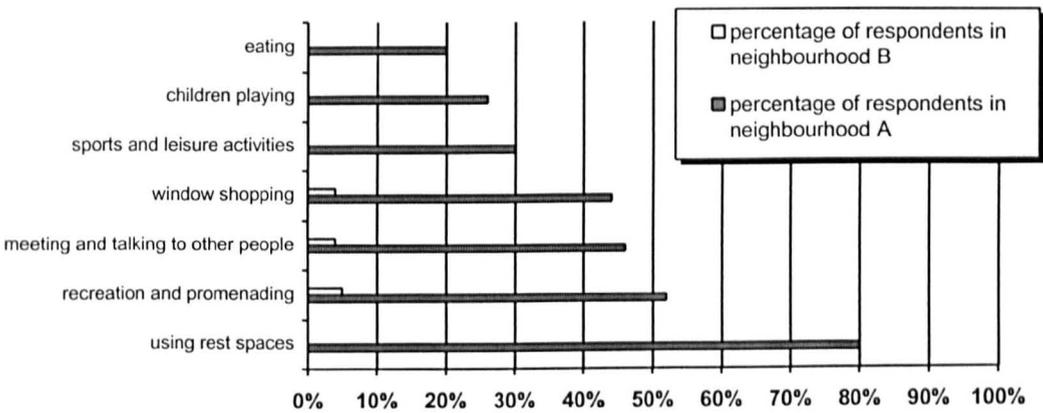
As Figure 9-11 shows, neighbourhood centre B did not provide suitable conditions which might encourage people's participation and presence in public activities and spaces. Only two of the above optional activities were carried out in this centre, and those only rarely. The most frequent was promenading, mentioned by only ten percent of respondents. The above differences in the two neighbourhoods were also reflected in social relationships and talking to people which were noticeably more significant in neighbourhood A where nearly half of the respondents gave social relationships as their reason for visiting the public spaces. However, in neighbourhood B only eight percent went out for social interaction.

To identify the reasons for these considerable differences between the two centres, the environmental conditions explained by the respondents were explored among the responses to questions 10 and 13 in the questionnaires. Figure 9-12 reflects the environmental factors of neighbourhood A which were given among the responses. Green spaces and natural features were the focus of attention of the respondents during their time spent in the public centres, and were highlighted by more than

seventy percent. The number and variety of shops were also considered key factors for visiting the neighbourhood centre and were mentioned by seventy percent of the respondents. Social integrity and considerate behaviour, not as an environmental condition but as a supportive context, were noted by fifty-four percent. Tranquillity was considered important by thirty-four percent and air quality by thirty percent of respondents.

Some reasons pointed out by the respondents were:

- 'The centre is a recreational place especially after improving the green spaces and increasing the shops' variety.' (middle-aged woman)
- 'Homogeneity of people and their familiarity is an advantage and you can spend your spare time here. If there was a cinema it would be a complete centre.' (young woman)
- 'Good urban spaces and the proximity of services in addition to the familiarity of people who are mostly rooted in this area provides opportunity for social relationships.' (middle-aged man)

There were also other essential factors which were stated. Thirty percent referred to the spaciousness of public spaces, twenty-two percent valued the presence of their friends and fourteen percent commented on the pleasant appearance of the buildings and spaces.

Figure 9-12: **Supportive conditions for performing optional and social activities in centre A**
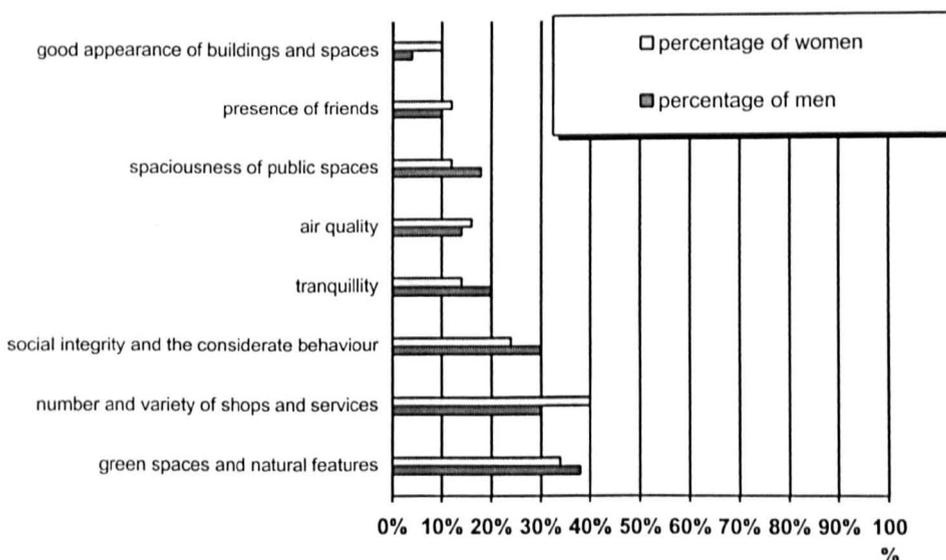

The above results were supported by the suggestion of sixty percent of respondents in neighbourhood B who asked for the establishment of a local park as a priority for improving centre B. Fifty-eight percent of interviewees were in favour of developing the shops in number and quality, and twenty percent were concerned about the lack

of entertainment and leisure facilities and proposed establishment of sports spaces and playgrounds in this neighbourhood (figure 9-13).

The constraining factors of the environment were also investigated through the responses and Figure 9-14 indicates the fundamental factors expressed. The heavy traffic on the main street in neighbourhood B comprised the principal inhibiting issue to visiting the centre. Ninety-six percent of the respondents were seriously concerned about this problem, while sixty-four percent directly noted that they avoid passing through the centre at peak traffic times.

Figure 9-13: **Respondents' proposals for improving centre B**
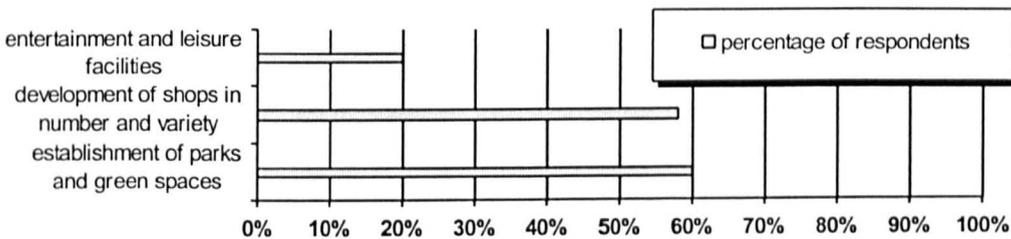
Inappropriate conditions of the pathways in the main street was the second constraining factor, particularly for pedestrian visitors of the centre. Thirty-eight percent of respondents were concerned about the inadequate width and inconvenient surface of the pathways. Eight percent of respondents were worried about the darkness and the insufficient level of lighting. Dirtiness, as the third important problem, was taken into account by thirty-two percent and unpleasant facades of buildings, particularly shops, were mentioned by twelve percent of the interviewees. Noise pollution was pointed out by thirty percent, while air pollution got the least attention and was only mentioned by eight percent of the respondents. Only fourteen percent of respondents in this centre stated the social integrity and high standard of behaviour among the residents.

Some comments relating to the inappropriate conditions of centre B included:

- 'Pavements are too narrow to walk without any public green space.' (young man)
- 'Except the heavy traffic, the main street is too narrow and there is not a pavement; so I try not to pass this route.' (old man)
- 'The narrowness of the main street and the heavy traffic, especially on bending points, increases the possibility of accident particularly when the lighting is not adequate. I myself fell down and my foot is not better yet.' (old woman)

Figure 9-14: **Undesirable conditions for public life in neighbourhood centre B**
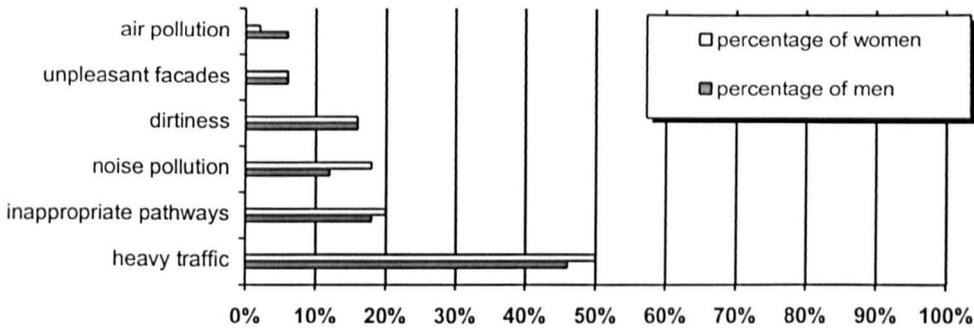
9-2-3- Discussion

Rest space is a general term used in this text to refer to the spaces which provide the opportunity for pausing, standing, sitting or resting in a public place. According to the initial list of principles, the first requisite for the performance of public life is the existence of rest spaces and also playing areas.

Neighbourhood centre A represented an active place with regard to public life. The streets surrounding the local park, accommodating the retailing activities and civic facilities, were used for social interaction and many groups of people could be found standing and talking on the street corners. There were also groups of residents or shopkeepers sitting in the semi-private spaces alongside these streets. The presence of various shops and the comparatively suitable width of the pathways encouraged people to use these spaces for their optional and social activities (Figure 8-9).

However, apart from the above advantages provided in this centre the presence of the local park provided the most conducive conditions for performing different public activities and could be looked upon as a public plaza. The availability of different spaces, allocated to different activities, provided the opportunity for performing a wide range of optional activities for a variety of people. It also provided the conditions for defining group territorial spaces. For example, a corner of the park was designated to chess players and several pairs of players were found in this particular area. The children's playground was another distinct space, being used only by the children and their parents. There were also some sport spaces which were mainly used by the young people to exercise or perform certain sports. Groups of older residents and retired people could also be observed in the seating areas.

There were also some seats in the comparatively segregated parts of the park which were normally used by people who sought privacy.

The seating spaces of the park were defined by very low edges, such as flower beds, demarcating the territorial space while allowing views towards other activities and giving a sense of safety to the space, in the same way as the playground and the chess players' zone. The total space of the park also provided a sense of safety because it was not so large that the inner spaces seem isolated from the peripheral movements and the low walls around it provided the opportunity of it being overlooked constantly.

Although there were many groups of people sitting in the local park (either on benches or low walls or on the ground) they made no particular comments about the provision or conditions of the seats. However, to understand the factors relating to seating and choice of seat, the writer's personal observation was used.

The park also provided views of natural features of the neighbourhood. There were four pools in the park, two of which were more noticeable that the others. The largest pool was located in the centre of the park, in which there were many fountains. The central location of this pool and the view to the fountains supported the popularity of the seats around it, especially for meeting people and enjoying the landscape (Figure 8-9). In fact, these seats were occupied by people most of the time. The northern pool, being surrounded by a line of old trees, gave a sense of isolation. Fewer pedestrians crossed this part of the park and therefore, this place was not usually occupied except by those who sought some sort of privacy. Two other places which attracted many people to sit around, were the children's playground and the chess players' zone which provided some social activities to watch. Therefore, it appeared that a view of the natural landscape or social activities was important for choosing seats.

Although many people in neighbourhood A disliked the park at crowded times (thirty six percent), the presence of a greater number of people around the central spaces of the park indicated that the people were, to some extent, in favour of seeing other people engaging in either a passive or active activity. Therefore, a complete separation of the rest spaces from the pedestrian pathways seemed undesirable, since the spaces around the northern pool were not frequently used.

Twenty percent of respondents noted the undesirable behaviour of certain groups, especially youths, in the park. A limited number of these respondents, particularly

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women, noted this issue as the main reason for avoiding the park and some others proposed the establishment of a sports hall to occupy the youths during their spare time. Making rules and restriction for some sorts of behaviour, in general, may seem limiting to peoples' choice to behave as they desire. However, it should be considered that the implementation of some measures which inhibit the social behaviour which is not accepted by the community, without imposing explicit forces would be welcomed by the general public.

On the whole, the total number of seats was not adequate during crowded times, in particular, on summer afternoons, evenings, and weekends when the park was occupied by a large number of people. During these periods, whilst many people sat on the benches, many others used the hard edging around the flower beds and the low walls surrounding the park to sit on. The latter might be occupied equally well from the park side or from the outside. Many people were gathered in small groups and talked together even though the arrangement of benches was not appropriate. Some of them were also using portable small seats which they had brought to the park with them.

Eating is an activity which may be associated with sitting in rest spaces. The existence of a coffee bar in the central part of the park and the presence of several snack bars, food shops and kiosks around the park illustrated the importance of food shops near the rest spaces. However, in centre B there was only one coffee shop which was only rarely used and then only by a certain group of people.

Since the park was so important for the optional activities, it was also the natural setting for social contact in the neighbourhood and twenty-two percent of respondents mentioned the presence of their friends in this place.

On the other hand, in centre B, the narrow pathways, in addition to the heavy traffic, provided such an unpleasant environment that the residents not only did not wish to spend their spare time in this centre but also avoided passing through it at peak traffic times. So, separation from vehicular movement was a key issue not only in rest spaces but also along pedestrian pathways. Furthermore, the lack of a local park in neighbourhood B was widely mentioned by the respondents and numerous suggestions for the establishment of a park in centre B supported the significant role of rest spaces in a neighbourhood centre.

The main social events that take place in Iranian cities and encourage people's participation and gathering, are either religious ceremonies on particular dates or

traditional events. The religious ceremonies which are attended by large numbers of people, are mainly organised by people themselves, through the local mosques. These ceremonial activities usually take place in the yards of the mosques or the open spaces around them. On some occasions the people pass through the main streets while performing these activities.

In neighbourhood B, a few people (four percent) mentioned the traffic problems during these ceremonial activities; this point may indicate the lack of appropriate public spaces in this neighbourhood. On the whole, social relationships would be encouraged and developed if the appropriate cultural and also entertainment meetings could be better organised in the public spaces, with particular attention to the young people and their interests and needs.

9-2-4- Marginal Notes

1. During the analysis some differences in performing optional and social activities were revealed between men and women (Figure 9-15). Enjoying the scenery and green spaces was the only optional activity which was significantly performed higher by women (10% level of significance). Although the number of women engaged in window shopping was also higher than men, their differences did not show statistical significance.

   Some activities such as promenading, eating and using rest spaces showed some minor differences between men and women; however, they were mostly carried out by men. Men and women almost equally went out for children playing. However, doing sports and seeing people or talking to them were performed significantly higher by men (level 5%, χ^2=5.08 df=1 and level 1%, χ^2=7.14 df=1 respectively).

   No significant difference was revealed between men and women in considering the supportive conditions for performing optional and social activities in their neighbourhood centre (Figure 9-12).

2. A main issue repeatedly expressed in both neighbourhoods concerned the consequences of the newly built apartment blocks. Two problems were mainly noted as the result of these housing developments and growth of population. In neighbourhood B forty-two percent of respondents were concerned about the decline of ecological conditions such as air and noise quality and the increase in the volume of traffic.

In neighbourhood A, eighteen percent of respondents expressed their oppositions towards the construction of new apartment blocks. Conditions for social interaction were better provided for in this neighbourhood and therefore the residents were more concerned about the sense of community and their social integrity. With regard to this, the disadvantages of the newly built apartments were judged as threatening to the existing integrated community.

Figure 9-15: **Optional and social activities in neighbourhood centre A**
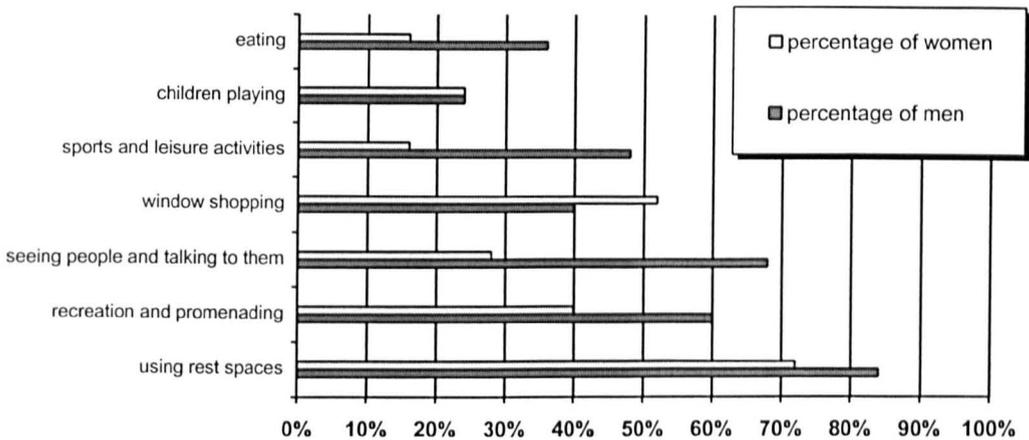
9-2-5- Summary

The importance of rest and open public spaces, for performing optional and social activities in neighbourhood centres, was widely supported by the respondents during the survey. Some essential characteristics of these spaces were revealed among the responses. A summary of the survey outcomes is presented in Figure 9-16 in order to be compared with the initial list of principles.

On the whole, the appropriate conditions for performing active pedestrian activities can be classified under the following groups:

1. Pausing, talking and standing usually occurred alongside the pedestrian pathways, where adequate width and convenient paving were provided, particularly, in conditions of calm traffic. The natural landscapes improved the above conditions while social integrity and the attendance of friends also increased the possibility of these activities.

2. Promenading and window shopping were carried out where a large number and variety of shops were present. The availability of natural

landscape, air and noise quality and, to some extent, social integrity enhanced the contextual conditions.

3. Sports and children playing were carried out when supportive settings were available. Opportunities for this could be improved, particularly if the availability of green spaces and suitable social contexts is adapted.
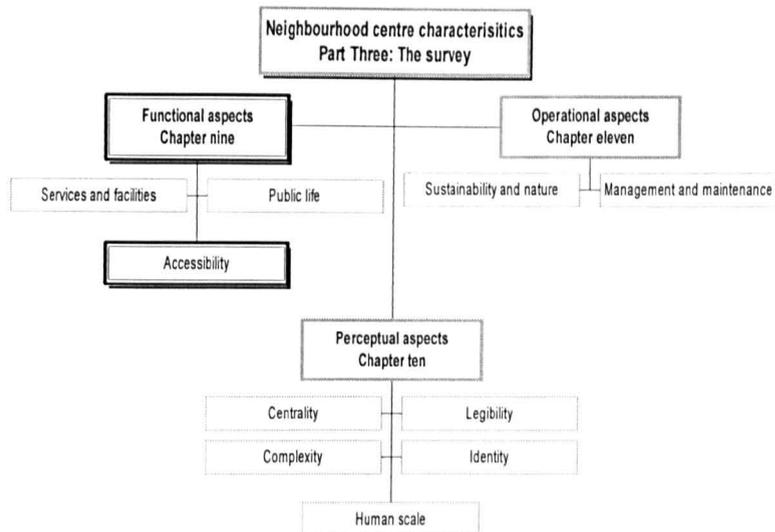
Passive pedestrian activities usually took place in rest spaces for a longer period compared with active ones. Among these activities sitting, resting and eating occurred more frequently in the rest spaces, especially where the following conditions were present:

1. free choice of performing different optional activities.

2. possibility of using territorial spaces for certain activities.

3. possibility of having privacy while being in public.

4. social integrity and possibility of meeting friends.

5. availability of natural features and landscapes.

6. air and noise quality.

7. being separated from heavy traffic.

8. an adequate number of people, not giving the sense of crowding, while making sense of being in a public place.

9. availability of food shops.

10. giving sense of safety by providing the opportunity of being overlooked, and also observing the pedestrian and even vehicular movements.

11. inhibiting anti-social behaviour, not acceptable by the majority of ordinary people, in an implicit and friendly manner.

During the survey the conditions and quality of seats were not cited by the respondents. People used other physical elements as seats, for example, low walls and steps, where people can sit casually and these were usually welcomed.

Figure 9-16: **Public life: Comparing the initial list of principles with the survey**

Initial Principles	Survey Results	
1- Necessity of adequate spaces for different activities: a) pausing. b) staying and resting. c) playing. d) seeking privacy.	**1- Necessity of adequate spaces for different activities:** a) pausing, standing, window shopping and talking. b) sitting, talking and eating. c) playing and sports. d) seeking privacy.	A: 82% B: 62% A: 60% A: 48% A: 44% observed
2- Necessary conditions of rest spaces: a) separated from vehicular movement and pollution. b) separated from pedestrian movement but not screened from them to enhance the sense of safety. c) widened where there is no separation. d) defined properly (dimension of 25 metres) edges play an important role for public activities. e) view towards social activities or landscape. f) availability of food shops and near children playgrounds. g) being observed.	**2- Necessary conditions for rest spaces:** a) separated from vehicular movement and pollution. b) presence of appropriate number of people engaged in active or passive pedestrian activities, not too many to create the sense of crowding and not too few to reduce the sense of safety. e) view towards social activities and natural features. f) availability of food shops, sports and amusement facilities. g) being observed. h) social integrity. I) limiting anti-social behaviour.	B: 96% A: 52% A: 72% A: 22% observed A: 54% A: 32%
3) Conditions of pausing and standing should be provided. a) availability of some physical details which defines edges or stand inside the spaces, in order to stand by or lean over.	**3- Conditions of pausing and standing should be provided.** b) adequate pathway width. c) large number of shops.	 B: 20% A: 70%
4- Conditions for playing and sports should be assured.	**4) Conditions for playing and sports should be assured.** a) supportive spaces and equipment.	 A: 34% B: 20%
5- seats are very important for the use of public spaces the following conditions enhance their quality: a) proper scale and comfort. b) cleanliness. c) congruency with dominant style. d) proper location. e) arrangement supportive to talk. f) adequate interval.	**5) Seats.** d) proper location. e) arrangement supportive to talk.	 observed observed
6- Physical details which can be used as seats are important.	**6- Physical details which can be used as seats are important, particularly the young people would use them more frequently.**	observed

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                    ┌──────────────────────────────────────┐
                    │ Neighbourhood centre characterisitics │
                    │        Part Three: The survey         │
                    └──────────────────────────────────────┘
          ┌──────────────────────┐              ┌──────────────────────────┐
          │  Functional aspects  │              │   Operational aspects    │
          │     Chapter nine     │              │     Chapter eleven       │
          └──────────────────────┘              └──────────────────────────┘
    ┌────────────────────┐  ┌────────────┐  ┌──────────────────────┐  ┌──────────────────────────┐
    │ Services and facilities │ │ Public life │  │ Sustainability and nature │ │ Management and maintenance │
    └────────────────────┘  └────────────┘  └──────────────────────┘  └──────────────────────────┘
          ┌────────────────┐
          │  Accessibility │
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                              │  Perceptual aspects  │
                              │     Chapter ten      │
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                    │  Centrality  │        │  Legibility  │
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                    │  Complexity  │        │   Identity   │
                    └──────────────┘        └──────────────┘
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                              │  Human scale │
                              └──────────────┘
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9-3- ACCESSIBILITY

Different modes of access to a neighbourhood centre and the extent to which people desire a convenient access to the local services are investigated in this section of the analysis.

9-3-1- Initial Principles

The initial principles can be summarised as follows:

1. The possibility to use different types of transport facilities should be provided in the centre, particularly with the following priorities:

   a) pedestrian and cycling routes.
   b) public transport.
   c) private car.

2. Pedestrian access should be encouraged through:

   a) locating the centre within walking distance from residences.
   b) locating the centre on the natural pedestrian route of the neighbourhood.
   c) encouraging pedestrian strategies:

      I. improving the quality of routes.

         • using distinctive texture and material for pavements.
         • altering the texture of pavement surfaces due to the change of activity.
         • choosing comfortable materials for walking.
         • considering safety measures particularly with regard to motor vehicles.
         • clearly defining the edge of routes.
         • making the vertical connections free of complication.
         • providing seats at regular intervals.

      II. improving the connectivity and permeability of routes.
      III. using direct route where destination is in sight.

3.   Encouraging the use of Public transport systems through:

   a)   providing a mass transport system between the neighbourhood and the city.
   b)   providing a light public transport system within the neighbourhood.
   c)   considering special facilities for the elderly.
   d)   making convenient transit stops within walking distance from residences and near the centre.

   I.   covered.
   II.   with sitting places.
   III. well maintained and clean.
   IV.   near to a food and newspaper kiosk.

4.   Possibility of access to the centre by private car is important when:

   a)   measures for calming traffic are provided.
   b)   adequate parking facilities are considered.

   I.   by using underground or structured parking facilities.
   II.   by making parking areas along the street.

   c)   parking lots are screened from public spaces.
   d)   in structured parking, ground level accommodates public functions.

5.   Air and noise pollution should be controlled by reducing the dominance of cars and other motor vehicles.

9-3-2- Survey Analysis

The respondents' viewpoints were investigated by considering four questions from the checklist.

Question 1: Do people point out the importance of good access to their neighbourhood centre and which mode of access is preferred?

The answer to this question was mainly found among the responses to questions 3, 4 and 10 in the questionnaires.

One of the main advantages of neighbourhood centre A, according to the respondents, was the convenient access to the local services and facilities. Fifty-eight percent of the interviewees appreciated this quality and talked about the handy facilities or nearness of shops and other services. Considering different modes of transport, ninety percent preferred to go to the centre on foot, only six percent used their cars to go to the centre and four percent either walked or used their cars. This point indicated the importance of easy access to the local centre, particularly on foot. Feelings about accessibility to centre A include:

   – 'This centre is very comfortable for shopping because everything is handy; even medical centres and a hospital are nearby.' (middle-aged woman)

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- 'Nearness of the urban facilities is the best thing about this centre.' (young woman)
- 'Closeness to the shopping centre and the motorways are the advantages of this centre.' (middle-aged man)

Conversely, in neighbourhood B, only eight percent of respondents talked about the existence of some local facilities such as bakeries and groceries within an easy access, whereas thirty-eight percent were concerned about the long distances to other centres where they had to go to fulfil their needs for shopping or to use other urban facilities.

Different modes of transport were employed to go to the centre in this neighbourhood. Thirty percent always went on foot, thirty-six percent only used their cars, while thirty-four percent alternatively used their cars or walked to the centre. Figure 9-17shows different types of access and the people's choices in both neighbourhoods.

Figure 9-17: **Type of transport and people's preferences**
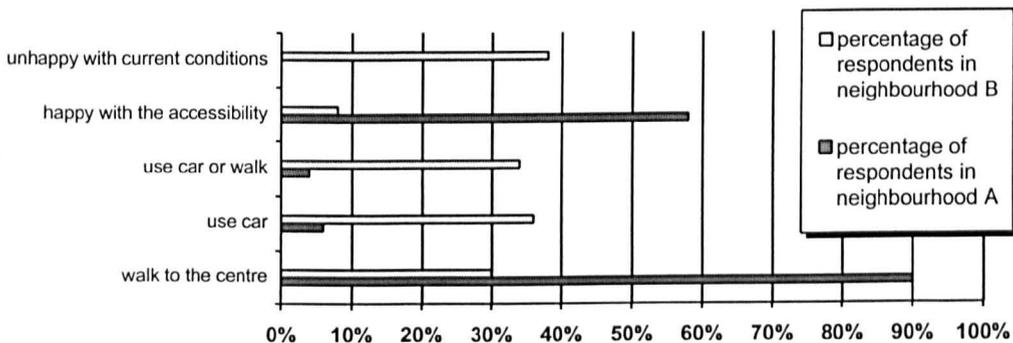
While centre A attracted many residents needing to use local facilities and its desirable conditions encouraged pedestrian access, centre B was mostly used as a route to other destinations in the city. On the whole, people went to centre B for two main purposes: shopping and passing through the main street to go to other places. Many respondents were not in favour of using the local services either due to their inadequate number and quality, or because of the high prices of goods. The pavements' quality was also a determinant factor in encouraging walking. For example, many people avoided walking along the main street of centre B due to the lack of appropriate pedestrian pathways and the fear of car accidents.

Figure 9-18 shows the types of transport in relation to the main reasons for going to the centre. People more frequently used their cars for passing through the centre; whereas they usually walked to the centre in order to use the local facilities,

particularly the shops. Differences between car users in centre B and those who only walked to the centre showed 5% level of significance (χ^2=4.26 df=1). This point shows the residents' preference for going to their local centre on foot, especially when they wanted to use the local facilities.

Figure 9-18: **Type of transport and the purpose for visiting the centre**
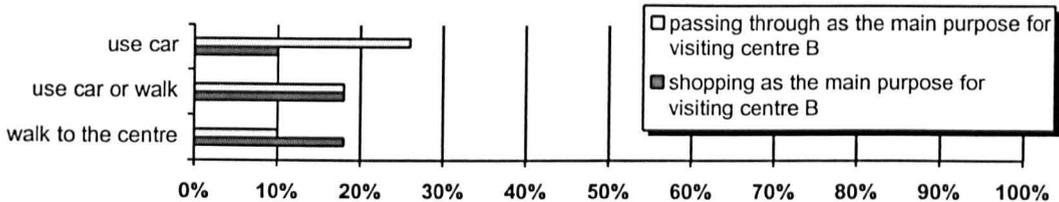
Question 2: Do people desire easy access to other parts of the city?

The responses to this question were mainly found among the answers to questions 8 and 10. According to the interviewees in both neighbourhoods, easy access to other neighbourhoods and the city as a whole was a key factor for assessing a successful neighbourhood centre. Twenty-eight percent of respondents in neighbourhood B and twenty-six percent in neighbourhood A appreciated the ease of access to the arterial roads and the public transport systems through their neighbourhood centre. Having good access to the highways and the main routes of the city was a great concern for the residents. Some of the respondents in neighbourhood B noted an easy access to the city as an advantage of centre B, while this centre was rejected for its considerable difficulties. For example they said:

- 'The only advantage of this centre is its easy access to the main parts of the city.' (middle-aged woman)
- 'Although the main street provides easy access to the different parts of the city, I have not chosen this route recently because of its traffic problems.' (young man)
- 'This centre is close to the highways and provides easy access to the city.' (middle-aged man)

Although the private car was the main mode of transport to the city, particularly in neighbourhood B, public transport systems were also mentioned as being important for going out of the neighbourhood.

Figure 9-19: **Access to the city and other neighbourhoods**
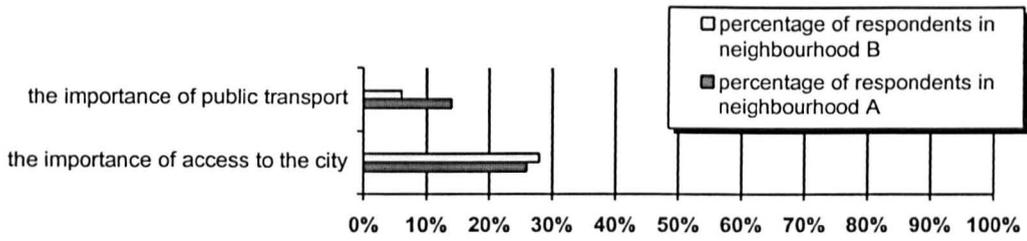
The public transport system was mostly used for travelling to other neighbourhoods or different parts of the city and was not usually employed for moving within the neighbourhood. There were some comments on the quality of public transport systems in both neighbourhoods such as: punctuality and number of buses, widening the range of routes and increasing the accessibility to other parts of the city (fourteen percent of respondents in neighbourhood A and six percent in neighbourhood B). Figure 9-19 shows the respondents' opinions about access to the city and other neighbourhoods.

Question 3: Are people concerned with the air and noise quality in the centre?

This question was put in this section because air and noise pollution as a consequence of heavy traffic was noted by a large number of respondents, particularly in neighbourhood B, where the heavy traffic was the main problem of the centre. The answer to this question was found in the responses to questions 10 and 11 in the questionnaires. Air and noise pollution, associated with heavy traffic, were frequently mentioned in neighbourhood B, where twenty-eight percent of the interviewees complained about the noise pollution and ten percent were worried about the air pollution. All of them blamed the heavy traffic for producing these problems. According to the respondents, neighbourhood B was known for its nice climate and air quality because of the existence of large gardens and green spaces and these qualities had been recently under threat.

In neighbourhood A, there were only a few comments on this issue (two percent mentioned the noise pollution) and the current conditions as a calm centre were appreciated by thirty percent of the respondents.

Figure 9-20: **Air and noise pollution in the centres**
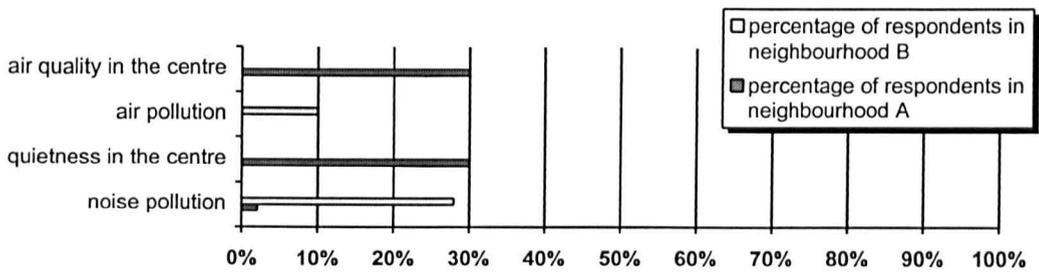
Question 4: What do people consider as the main characteristics of a route with regard to the ease of access?

The answer to this question was mainly found among the responses to questions 11 and 12. The essential points which people frequently mentioned were divided into three different categories: the first category dealt with the conditions of movement and the types of vehicles. The second, considered the physical qualities of the routes. The third investigates the proposals and solutions which people suggested in order to improve conditions.

1- Movement

The amount of traffic and the types of vehicles, passing through the centre, were important factors for the quality of access. With regard to this, the conditions of centre B were worse than those of centre A and thirty-six percent of interviewees in this neighbourhood emphasised the hours of wasted time in traffic jams near centre B. In total, ninety-four percent of respondents were worried about the heavy traffic in the main street of neighbourhood B and gave different reasons for this problem; for example they said:

> – 'The main street has recently been getting worse, particularly, after replacing the gardens and large houses with high rise buildings.' (middle-aged man)
> – 'This street is very narrow and contains heavy traffic especially when the parking area of exhibition is open.' (young man)
> – 'The traffic problem of this street is getting worse everyday. The existing shops along the street cause parking problems and they should be removed from this street.' (old man)

Forty-six percent stated the growth of population due to the newly built apartment blocks, whereas eighteen percent mentioned the through vehicular movement due to the short cuts between two main arterial routes on either side of the centre. Fifty percent of respondents blamed the unsuitable location of the exhibition parking area

which is on the edge of the neighbourhood. They considered this parking area as a detrimental feature for the main street, multiplying through traffic and even imposing traffic problems on the residential streets within the neighbourhood.

The permission for heavy vehicles and lorries to pass through the narrow spaces of centre B was also rejected by eight percent of the respondents in this neighbourhood, particularly due to the threatening possibility of accidents.

Figure 9-21: **Conditions of movement in centres A and B and reasons for the heavy traffic as expressed by people.**
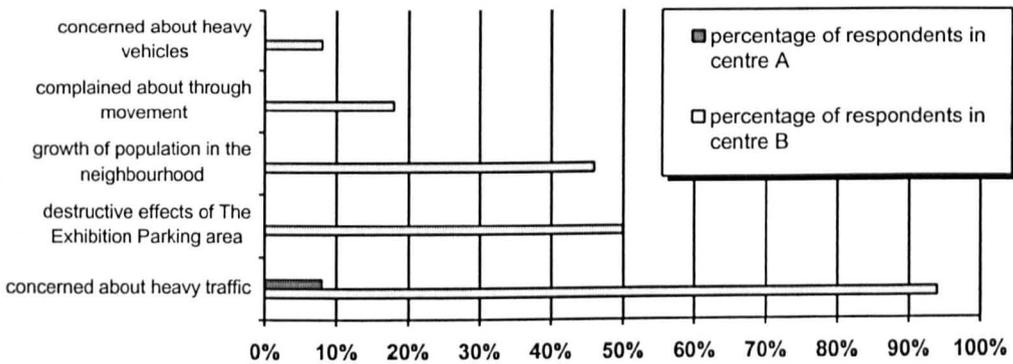
Conversely, in neighbourhood centre A, only eight percent of respondents thought of the main street as conveying heavy traffic and saw this issue as a problem due to the through movement between the arterial routes around the area.

2- Physical conditions

Some physical characteristics were more frequently referred to as being effective for the ease of movement in a neighbourhood centre.

In centre B, there were more comments on traffic issues due to the existing problems in this street. The inadequate width of the main street was noted by sixty percent of the respondents. They viewed the narrowness of the street, particularly at the bending points, as the fundamental reason for the problematic movement of vehicles and pedestrians in this centre. Inappropriate paving and road surfacing was mentioned by thirty-six percent of the interviewees in neighbourhood B. Sixteen percent of respondents were exclusively concerned about the quality of pavements which resulted in their preference for using cars rather than walking to the centre.

Concerning car users, the inadequate parking facilities were cited by thirty-two percent of the respondents in neighbourhood B. Many of them avoided using the local services due to the deficiency in parking facilities. They preferred to use other

centres even though they had to travel a long distance. Darkness of the centre and the inadequate lighting intervals were noted by eight percent of respondents as physical inadequacies of centre B, especially for pedestrians.

Figure 9-22: **Physical conditions of routes in the centres.**
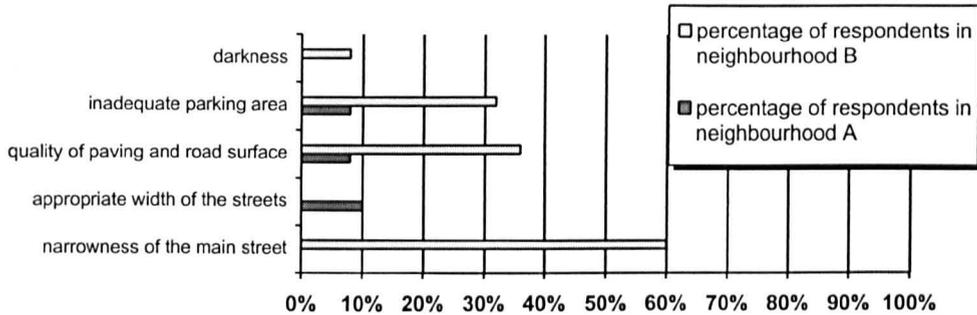
In neighbourhood centre A, only eight percent of respondents complained about the inappropriate surface of the roads. There were also eight percent who were concerned about the probability of emerging parking problems when the new apartment blocks, under construction, are completed. Ten percent of respondents appreciated the suitable width and the openness of the streets in this neighbourhood. As a result, the physical conditions of routes such as the width, paving surface and the efficiency of parking facilities were important factors to define the ease of access to the centre.

3- Solutions and proposals

Studying the residents' proposals for solving the current conditions or improving the accessibility of the centre can reveal some design factors as well. While in neighbourhood B, sixteen percent of respondents had recently avoided passing the main street and used alternative routes to escape this congested street, a large number of residents were concerned about this major problem and made different suggestions as to overcoming the difficulties and eliminating the heavy traffic. For example they said:

– 'The main street and its pavements have to be widened.' (young man)
– 'I think the widening proposals for the main street are not advisable because in fact this street should be prevented from being used as a short cut for the surrounding arterial routes.' (young woman)
– 'The main street, apart from being wider, should be one way as well.' (middle-aged woman)

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Sixty percent suggested widening the main street in order to accommodate a greater amount of movement. Twelve percent were in favour of establishing parallel routes to accommodate part of the current movement and to reduce traffic congestion in the main street. Eight percent preferred one way strategies to reduce the traffic and six percent proposed the radical idea of moving the exhibition parking lot from its current location to solve the problem. In neighbourhood A, due to the absence of such problems there were no comments on this issue.

Figure 9-23: **Suggestions for the traffic problems in neighbourhood B**
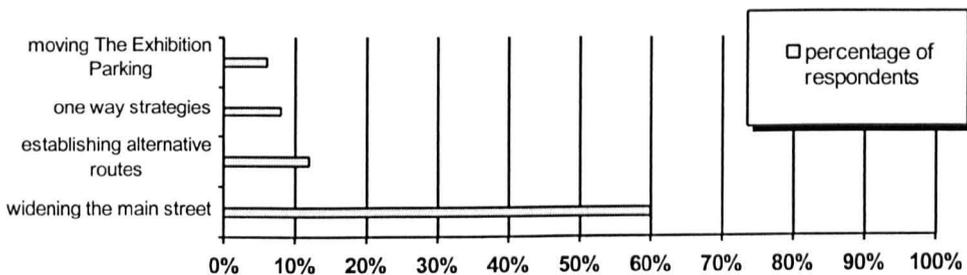

9-3-3- Discussion

The issues related to the accessibility of the centre were categorised into three groups and are discussed separately.

Firstly, the important points raised during the survey, with regard to different modes of access, are explored.

- *Walking,* as the favourite mode of access to the neighbourhood centre, can be enhanced by the presence of supportive environmental conditions (Figure 9-18 and 9-22). According to the survey, the presence of a convenient pathway, separated from vehicular movement and without the risk of car accidents, was a key factor for the ease of access. Most of the respondents in both neighbourhoods walked to the centre when they wanted to use the local facilities (Figure 9-17 and 9-18). The location of the centre within the local natural pedestrian route would improve the vitality of the centre and a greater number of pedestrians would pass through it. However, if the centre was situated along the main vehicular route of the area in the manner of centre B, many people would have only passed through it in their car without the opportunity of using the services or making social interaction and many traffic problems would have

been created as well. Figure 9-24 shows an overall comparison of the two centres.

Figure 9-24: **An overall comparison of the two centres, regarding pedestrian access**
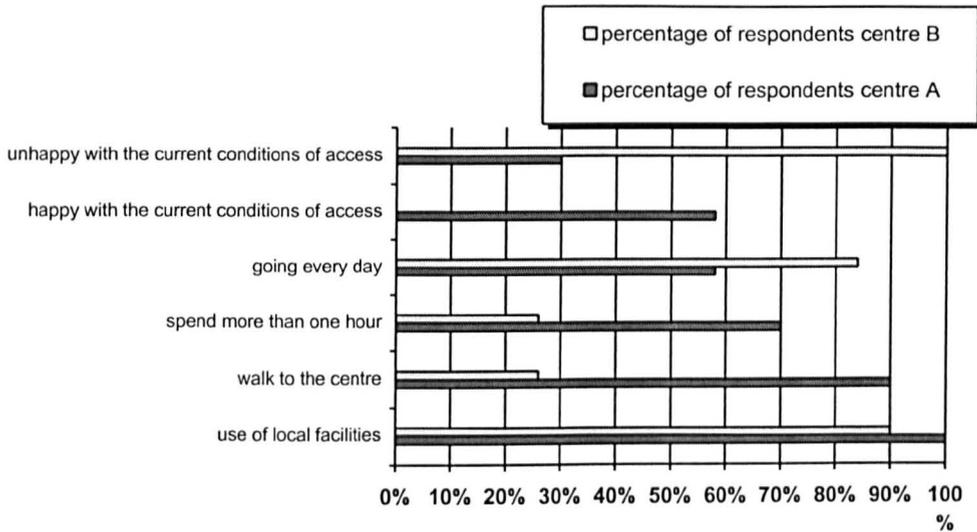
- *The private car* was used where a convenient pedestrian access was not provided and, in this case, the provision of parking areas became an important factor. There were no comments on structured parking in the neighbourhoods because both places lacked those facilities. The parking areas in both neighbourhoods were along the streets. In neighbourhood A, the comparatively calm traffic, the adequate width of the main street, and the greater number of people who walked to the centre, contributed to eliminating parking problems in the centre. Conversely, in neighbourhood B, the narrowness of the main street, and the presence of a heavy through movement, aggravates the parking problems. Some respondents even demanded rules to restrict car parking along the main street in order to decrease traffic congestion. Different measures for calming traffic and separating vehicles from the pedestrians were also considered very important.

- *The public transport* system was important for access to the city districts and was not normally used within the neighbourhood. In neighbourhood A, the respondents more frequently commented on the conditions of public transport particularly on increasing the variety of routes and destinations, improving punctuality and fixing prices. In neighbourhood B, due to the presence of a greater number of affluent people among the residents, the use of the private

car or taxi was more prevalent. No one expressed any ideas about the transit stops and their quality, although the conditions of these places, particularly in centre B, were not appropriate (without seats and uncovered).

Secondly, the importance of air and noise quality, expressed by the residents in both neighbourhoods, and its association with the mode of access is investigated.

- In neighbourhood A, the convenience and the quietness of the place was highly appreciated by the respondents. One of the factors contributing to the creation of convenience was the easy access to the local facilities. Quietness can also refer to the lack of noise pollution and both these factors may be related to the absence of heavy traffic.

- By the same token, in neighbourhood B, noise and air pollution were noted among the problems by the residents, who unanimously associated these problems with the heavy through traffic in the centre. The location of centre B, on the city's natural vehicular movement, has transformed this space into a very busy place, which was not desirable for the residents.

Thirdly, the location of the centre is studied, with particular regard to the overall vehicular and pedestrian routes in the neighbourhood. Using Chi-square test of independence, the frequency of using centre A and B, on a daily basis, showed a difference to 1% level of significance (χ^2=10.5 df=2). As Figure 9-25 shows, in neighbourhood B, compared to neighbourhood A, a greater number of respondents travelled to the centre on a daily basis and mostly passed through the main street by car (Figure 9-17). Most of these trips were made due to the location of the centre on the main vehicular route of the neighbourhood. The use of the main street in neighbourhood B, as a short cut between the arterial roads and highways, has transformed this local street into a very busy one. This point causes hours of wasted time, due to traffic jams in this street, expressed by thirty six percent of respondents. Twenty-two percent even stated that they passed through the main street several times a day.

However, centre A is located on the local pedestrian movement and as Figure 9-26 shows, a large number of people (seventy percent) spent more than one hour in their centre and used its spaces and facilities on a daily basis. However, the dominance of pedestrian access is not undermined by vehicular movement in this neighbourhood.

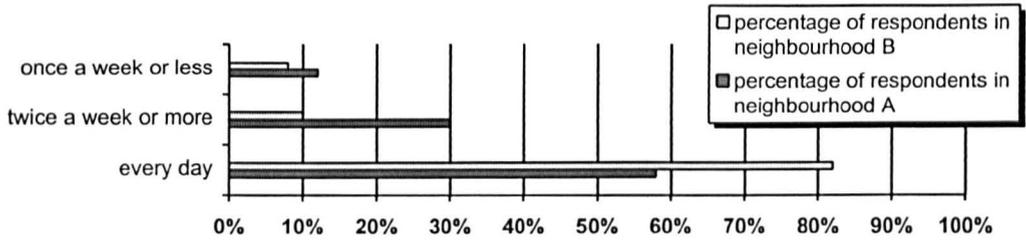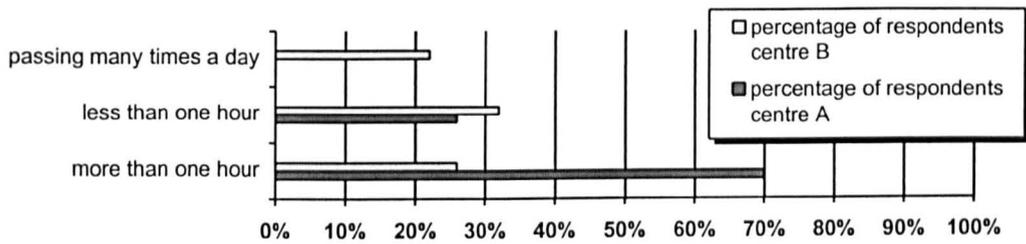Figure 9-25: **Frequency of going to the centres**

Figure 9-26: **Length of time in the centres**

Every factor which contributed to increasing the number of motor vehicles in the spaces of the neighbourhood centre was rejected by the respondents. For example, development of the centre along the short cuts or on the main vehicular movement, establishing large urban services which impose a great number of trips to the centre (such as the exhibition parking area), permitting through movements of heavy vehicles and increasing the number of residents by new housing developments were all disapproved of by the residents.

The width of the routes has to be adequate for the amount of traffic flow, either for vehicles or pedestrians. However, in neighbourhood B there were many widening proposals for the main street. Although by widening this street some traffic problems may eventually be reduced, at the same time, the connectivity of the two sides of this street would be decreased at the price of easier vehicular movement. Therefore, it seems that the prime action should be diverting the through movement off the main street and increasing the dominance of pedestrian access.

9-3-4- Summary

The survey results are summarised and presented in Figure 9-27 in order to be compared with the initial list of principles. Among different types of access to the centre, pedestrian access was widely preferred by the respondents. Easy trips to other parts of the city either by private car or by public transport systems were considered important as well. Pedestrian routes within the neighbourhood should possess some qualities in order to be evaluated as convenient. Distances about 600 metres or less were considered comfortable and should be separated from vehicular movements. The latter point will result in improving the air and noise quality and minimising the risk of accident. Appropriate pavement surface was of a great concern as well.

Public transport was particularly used for *travelling out of the neighbourhood*. The public transport systems such as buses and minibuses were most frequently used by the general public, whereas more affluent residents usually used their private cars or ordered taxis. Punctuality of buses, a wide range of routes and fixed prices were recommended for the enhancement of the public transport systems. Although the literature indicates more encouragement for using public transport systems after walking and cycling, the results of the survey showed that people most frequently used their car where appropriate conditions for walking were not provided and the use of public transit services were of least importance.

Private cars were not a dominant mode of access to the neighbourhood centres; however, the possibility of using cars had to be considered. Calm traffic was a key factor. Conditions which increased the amount of traffic such as developing the centre along city's main vehicular route or establishing large urban magnets in the centre or unlimited increase in the population density of the neighbourhood had to be avoided. The availability of appropriate and adequate parking areas was important for a successful centre. The surface of the roads had to be carefully maintained.

Figure 9-27: **Accessibility: Comparing the initial principles with the survey results**

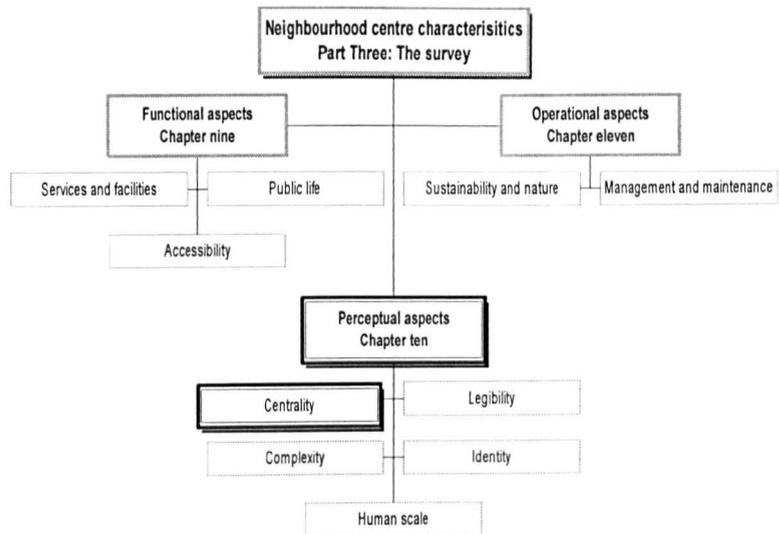| **Initial Principles**	**Survey Results**	

1- Providing different types of access:
a) pedestrian and cycling routes.
b) public transit.
c) private car.
	1- Providing different types of access:
	a) current access to the centre.
	   I. first: walking.
	   II. second: private car.
	b) to other parts of the city.
	   I. first: private car.
	   II. second: public transit.
		A: 94%
		B: 64%
		
		A:26%
		B:28%

2- Pedestrian access should be encouraged through:
a) centre within walking distance (under 500 metres).
b) pedestrian strategy.
c) locating on the natural pedestrian movement.
d) encourage walking and cycling by:
   I.   improving the quality of routes.
   •   distinctive texture for paving and change of texture with change of activity.
   •   suitable and safe paving materials.
   •   safety measures against motor vehicle.
   •   air and noise quality.
   II.   connectivity and permeability of routes.
	2- Pedestrian access should be encouraged through:
	a) centre within walking distance (under 600 metres).
	b) pedestrian strategy.
	c) locating on the natural pedestrian movement.
	d) encouraging walking and cycling by:
	   I. improving the quality of routes.
	   • suitable paving materials.
	
	   • separated from traffic.
	
	   • air and noise quality.
	
	   • adequate width.
		A: 58%
		B: 46%
		
		B: 94%
		
		A: 8%
		B: 36%
		
		A: 0
		B: 94%
		A: 50%
		B: 36%
		
		A: 10%
		B: 60%

3- Public transport should provide:
a) access to city and other neighbourhoods.
b) light public transport within the neighbourhood.
c) convenient transit stops within walking distance from the residences and near the centre:
   I.   covered.
   II.   seated.
   III.   clean and well-maintained.
   IV.   near food and newspaper kiosk.
	3- Public transport should provide:
	a) access to city and other neighbourhoods.
	b) no comments were found on public transit within neighbourhood.
	c) no comments on convenience of transit stops.
	d) comments on quality of buses:
	   I. punctuality.
	   II. wide range of routes.
	   III. fixed prices.
		A: 14%
		B: 6%

4- Access by car should be provided, considering:
a) measures for calming traffic.
b) adequate parking areas:
   I.   underground parking.
   II.   parking along the street.
c) parking lots screened from the centre.
d) ground level of parking areas for public functions.
	4- Access by car should be provided, considering:
	a) measures for calming traffic.
	b) adequate parking facilities.
	   I. ----
	   II. parking along the street should not increase the traffic congestion.
	e) avoiding to locate the centre on the main vehicular movement of the area.
	f) preventing establishment of very large urban services near the neighbourhood centre.
	g) proper road surface.
	h) prohibiting heavy vehicles to pass through the centre.
	i) considering width of the routes compatible to the traffic flow and the scale of vehicles.
		A: 8%
		B: 32%
		
		A: 8%
		B: 18%
		
		A: 0
		B: 50%
		A: 8%
		B: 36%
		
		A: 2%
		B: 8%
		
		A: 10%
		B: 60%

5- Control of air and noise pollution by reducing the dominance of motor vehicles.	**5- Control on noise and air pollution by reducing the dominance of motor vehicles.**	A: 2% B: 38%

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PART THREE

THE SURVEY

CHAPTER TEN

PERCEPTUAL ASPECTS

10-1- CENTRALITY AND THE IMAGE OF THE CENTRE

This section first investigates the degree to which respondents identified a centre within their neighbourhood after which, the elements which improve this identification are discussed.

10-1-1- Initial Principles

The principles relevant to this section are summarised as follows:

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1. Visual items which enhance the differentiating of the centre from the surrounding environment are:
   a) being the focal point of the neighbourhood.
   b) terminating the main routes of the neighbourhood at the centre.
   c) provision of defined spaces and thresholds.
   d) existence of landmarks or special characteristic elements of the neighbourhood.
   e) having different height and density from the surrounding.

2. Social issues which help the image of the centre are:
   a) the existence of meaningful nodes in terms of public life in the centre's spaces.
   b) presence of higher density of people in the centre.

3. Functional characteristics emphasising the centrality are:
   a) concentration and closeness of shops, urban services and entertainment facilities.

10-1-2- Survey Analysis

Two questions were formulated in the checklist in order to investigate the people's perception of a unified, distinctive centre in their neighbourhood. The first question was focused on the level of identifying the centres within neighbourhoods A and B with concern to the differences between the samples. The second question was intended to find the elements of this differentiation.

Question one: Are the centres perceived as identifiable entities and which centre is more distinctive within its neighbourhood?

The answers to the above question were mainly found among the responses to questions 3, 10, 11 and 12 in the questionnaires. The extent to which a centre was identified in the neighbourhood was not directly asked during the interviews. Therefore, when responses related the centre's issues to the neighbourhood as a whole, or considered some residential characteristics as the centre's attributes, was interpreted as indicating fewer identifications of the centre.

Although all the questions asked in the interviews were directly concerned with the characteristics of the neighbourhood centre, there were many respondents who referred to the general affairs of the neighbourhood while expressing their opinions about the centre. References to the general issues of the neighbourhood were considerably greater in neighbourhood B, where the characteristics of an identifiable centre were less perceptible.

The rapid, unplanned development of the residential blocks and the unwanted consequences of these new developments were among the general characteristics mentioned in both neighbourhoods. The consequences of these new developments were perceived differently in the neighbourhoods. In neighbourhood A crowding, social problems and threatening the community sense of the neighbourhood were associated with these developments, whereas in neighbourhood B ecological degradation and traffic were the main concerns of the respondents.

On the whole, fifty-eight percent of respondents in neighbourhood B and thirty-four percent in neighbourhood A associated the general issues of the neighbourhood with the characteristics of the centre. For example, in response to the question 'what are three worse things that you can say about the centre ?' some respondents in neighbourhood B said:

- 'They are the new apartment blocks which would bring about many problems.' (young woman)
- 'The new developments are the negative aspect of the neighbourhood .' (young man)
- 'The new buildings have been replaced previous nice gardens of the neighbourhood.' (middle-aged woman)

Some examples of the best and worst things in neighbourhood A are as follows:

- 'The new residential developments may be followed by cultural degradation of the neighbourhood.' (young man)
- 'The residents mostly belong to the same social classes and the new residences may weaken this balance.' (middle-aged man)

Question 2: Which factors contribute to the distinction of the centre within the neighbourhood, a focal point, a landmark or recognisable compactness of functions etc.?

The answer to this question was explored among the responses to questions 7,8,10,11,12 and 13 in the questionnaires. The factors which helped the distinctiveness of the centres within their neighbourhoods were, in some cases, similar in both neighbourhoods and completely different in the others. All together, three factors were more frequently expressed as the differentiating elements: a focal point, such as the role of the park in neighbourhood A, the amount of movement, and the location of the public facilities.

Figure 10-1: **Factors contributing to the differentiation of the centre within the neighbourhood.**
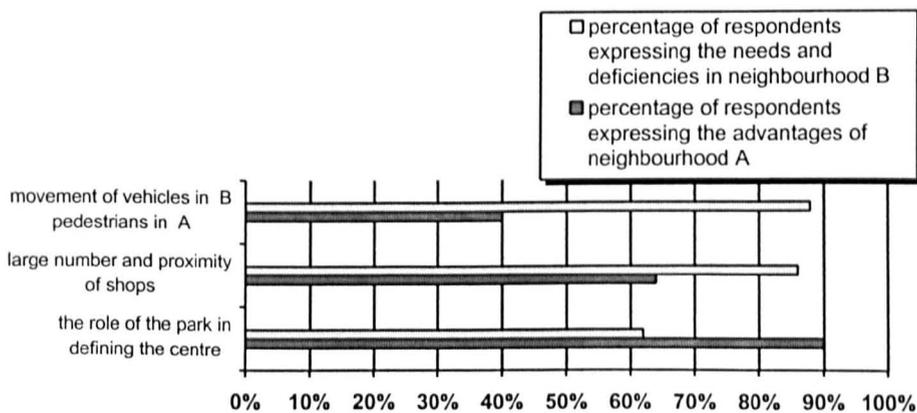
A- Park as a multi-faceted factor:

The manifold role of the park in the identification of centre A was widely noted by ninety percent of respondents in this neighbourhood. By the same token, in

neighbourhood B the importance of a local park was strongly emphasised by sixty-six percent of respondents who suggested the establishment of a park in their neighbourhood.

The multi-faceted role of the park, in the distinction of centre A, can be categorised under the following six headings (Figure 10-2):

1-*Centrality*: The suitable location of the park, where the main paths of the neighbourhood pass by or terminate, was appreciated by twenty-two percent of respondents in centre A. Similarly, centre B is also along the most integrated route of the neighbourhood and this factor contributed to the identification of this centre where about fifty-four percent of respondents simply passed through because of its location.

2- *Focal point*: The role of the local park as the gathering place where people meet their friends and make social relationships was mentioned by fifty-eight percent of respondents. This green space contains almost all of the small number of recreational facilities and playgrounds available in this neighbourhood and the opportunity for social interaction, compared with the other spaces of the centre, was better provided in this space.

3- *Contrast density*: The openness of the park, in contrast to the compactness of the surrounding areas, was explicitly mentioned by forty-two percent and implicitly by twenty-six percent of respondents.

4- *Defined space*: The park as the only well-defined space of the centre, was sometimes referred to as the *centre* of the neighbourhood. Sixty-two percent of the respondents in centre A cited this space as an identified place.

5- *Landmark*: Thirty percent of interviewees referred to the park as a landmark for the centre.

6- *Connective medium*: The role of the park as a connective element which improves the unity of different components and enhances the imageability of the centre was implicitly expressed by sixteen percent of interviewees. For example they said:

  - 'The park, together with the facilities around it, are the advantage of the neighbourhood.' (middle-aged woman)
  - 'The park and the shops around it are the best things of the centre.' (young man)

Figure 10-2: **Various characteristics of the park which enhance the image of centre A**
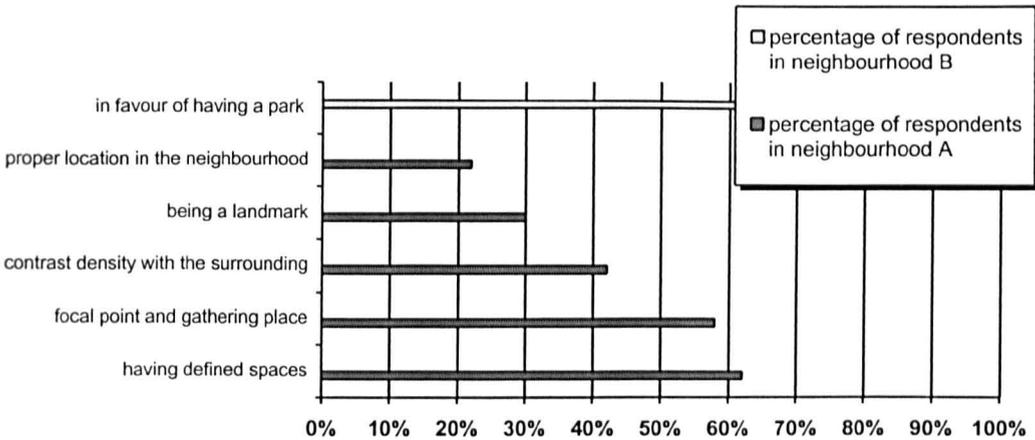
B- Movement as a distinguishing factor:

Vehicular movement was particularly distinctive in neighbourhood B, where the main characteristic of the centre, according to the respondents, was its heavy traffic which differentiated the centre from other parts of the neighbourhood. The high density of vehicles was noted by seventy-eight percent of respondents. 'Noisy and crowded' were also other characteristics, attributed to this centre by sixty-eight percent of interviewees.

Pedestrian density was more perceptible in neighbourhood A. Forty-eight percent of respondents in centre A talked about meeting their friends, or speaking to people in the centre and particularly in the park. Therefore, centre A was seen as the most crowded part of the neighbourhood in so far as forty percent of respondents did not like the crowded periods of the park particularly in the summer evenings.

C- Functions as a differentiating element:

The last factor which contributed to the distinction of the centre within the neighbourhood was the existence of shops and urban services such as banks, health services , schools, park and so on. In neighbourhood A, clustering of these functions, in addition to the continuity between them, was important for the distinction of the centre within the neighbourhood.

Sixty-four percent of respondents in this centre appreciated the grouping of facilities which maintained a mixed use area in the central part of the neighbourhood.

In neighbourhood B, eighty-six percent of respondents defined their neighbourhood centre as the place of shops, banks, schools and some other urban facilities, but the majority of them (fifty-four percent) believed that the number and quality of the current services in their centre were not adequate and should be developed in order to meet the needs of the residents. Dispersion of the shops as a disadvantage for the centre was also mentioned by a few respondents.

10-1-3- Discussion:

In neighbourhood B, the respondents expressed their opinions about the general issues of the neighbourhood more frequently than those in neighbourhood A. Chi-square test of independence was applied to check the differences and the results showed 2% level of significance (χ^2=5.79 and df=1). It possibly means that the differentiation clues between the centre and the neighbourhood were less present in centre B and the residents were unlikely to separate the centre from the other parts. In summary, it seemed that compared with centre A, centre B, presented less imageability and distinctiveness for the residents of this neighbourhood.

On the whole, more sense of centrality was perceived in centre A due to the following three factors:

- The existence of the local park as an open space (contrast density), public place, connective medium, in an appropriate location, and as a landmark.

- The clustering of different functions such as shops, banks, offices and entertainment facilities, and the recognisable continuity among these functions.

- The absence of a disruptive traffic, which disperses the various parts of the centre and diminishes the sense of the centre as a unified entity.

The lack of the above factors in neighbourhood B decreased the perception of the centre as an identified place in this neighbourhood, whereas, the heavy vehicular traffic in the main street also diminished the human atmosphere of the place and caused a greater sense of dispersion among the components of this centre.

10-1-4- Marginal Notes

The comparison of the responses shows that the long and middle-stay residents in both neighbourhoods were more likely to consider interrelationship between different issues and different parts of the neighbourhood than newcomers. Sixty-eight percent of long-stay residents in centre B and forty-two percent in centre A, compared with thirty-three percent of newcomers in centre B and sixteen percent in centre A, had some responses about general problems or advantages of the neighbourhood while they were responding to the questions directly related to the centre. Chi-square test of independence was applied to assess the differences of the residents in both neighbourhoods. The results of the test was more precise in centre B and showed to 0.1 level of significant (χ^2=5.547 df=2). In centre A (χ^2=2.52 df=1) the differences among the long-stay residents and newcomers was near to 10% level of significance but the middle-stay residents did not show statistically significant differences.

Apart from revealing the differences between the identification clues of the two centres, this comparison may indicate some differences among the respondents concerning the length of their residency in the neighbourhood. A longer period of residency appeared to show more familiarity with the area which enabled the residents to perceive their neighbourhood's issues deeply and analyse the reasons behind them more easily.

Figure 10-3: **The residents who mentioned neighbourhood issues while expressing their opinions about the centre**
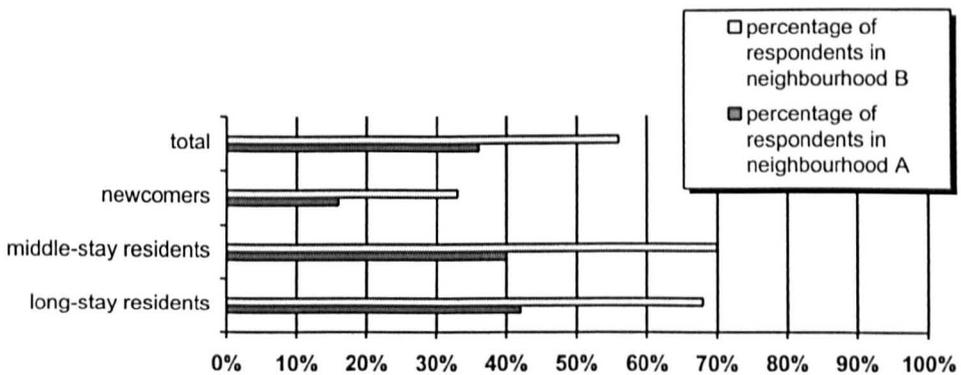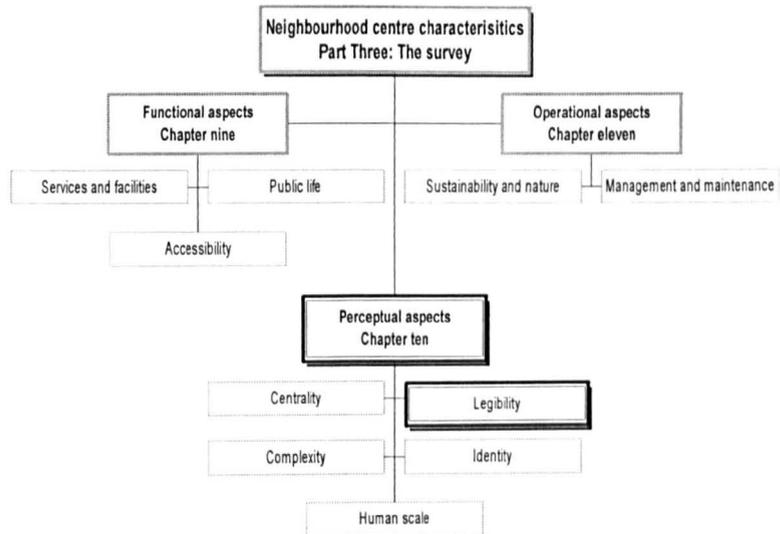
10-1-5- Summary

The survey findings are summarised and presented in Figure 10-4 in order to be compared with the initial list of principles.

More sense of centrality is perceived if the conditions of a focal point is provided in the centre, where grouping and continuity of functions and facilities, visual attractiveness, good access and public life, all tend to converge towards it. A centre would be better identified by the presence of landmarks, and also, particularly if it demonstrates a contrasting density compared to its surroundings. Presence of a unifying structure, in addition to well-defined spaces and use of thresholds, are also essential for a better identified centre. The amount of vehicular or pedestrian flow can effectively contribute to distinguishing the centre within the neighbourhood. However, overcrowded spaces and heavy traffic in the centre are both undesirable conditions, in particular, the dominance of motor vehicle in the main spaces of the centre has to be reduced as much as possible in order to minimise any disruption by through movement.

Figure 10-4: **Centrality: Comparing the initial list of principles with the survey results**

Initial Principles	Survey Results	
1- Visual items: a) designing different height and density.	**1-visual items:** a) designing different density from the surrounding area. For example creating spaciousness particularly in compact areas.	A: 42%
b) existence of landmarks.	b) existence of landmarks.	A: 30%
c) making well-defined spaces and thresholds.	c) making well-defined spaces and thresholds.	A: 62%
	d) connective structure.	A: 16%
d) terminating routes at the centre.	e) terminating routes at the centre.	A: 22% B: 54%
2- public life: a) centre locating on the meaningful nodes.	**2- Public life:** a) being the focal point of the public life.	A:48%
b) demonstrating a higher density of people.	b) demonstrating a higher density of people (but limited).	A:40%
3- functions: a) closeness of shops, urban services and entertainment facilities.	**3- Functions:** a) closeness and continuity of urban services and entertainment facilities.	A:64% B:86%
	4- Movement: a) higher level of movement increases differentiation but should be limited.	B: 88%

10-2- LEGIBILITY AND ORIENTATION

Giving awareness of the physical location through the environmental clues is an essential factor which is the main concern of this section.

10-2-1- Initial Principles

According to the initial list of principles, the sense of orientation can be achieved through employing the following influential items:

1. Environmental clues:
   a) observation of the sun and natural views (mountains, fountains, vegetation and so on).
   b) presence of landmarks.
   c) appropriate location and intervals of signposts.
2. Easily perceptible structure:
   a) hierarchical paths.
   b) size and proportion.
   c) specific physical features (plant and vegetation, furniture, materials etc.).
   d) continuity and connectivity of paths.
   e) defined edges using gateways or thresholds.
   f) articulation and enclosure of spaces.

10-2-2- Survey Analysis

The respondents' feelings about the sense of orientation in their neighbourhood centre were investigated by formulating one question in the checklist.

Question: What are the essential characteristics of the environment which contribute to the identification of different parts of the centre and consequently, improve the sense of orientation among the residents.

The answer to this question was mainly found among the responses to question 10 and 11 in the questionnaires.

Generally speaking, respondents did not express many ideas regarding the sense of orientation. In neighbourhood A, twenty percent of respondents clearly talked about different spaces of the park such as the playing area, the amusement arcade and the chess players' zone. This point indicates that the articulation of this green space facilitated its identification and influenced the image of people about this space. Hierarchy of street grid was, to some extent, noted by people in this neighbourhood. Some respondents referred to the routes' width for classifying them into different areas. For example, among twenty percent of respondents who talked about street grid some said:

  - 'The street configuration is planned properly and there is no traffic problems due to the adequate width of the main streets.' (middle-aged man)
  - 'The residential streets are wide and well planned.' (middle-aged man)
  - 'New developments should be constrained on the narrow streets of the neighbourhood.' (middle-aged man)

The green spaces along the original blocks were an identifiable clue for this part of the neighbourhood and were noted by twelve percent of respondents.

The green open space of the park was highly appreciated and this space was the key orientation element in this area. Seventy percent of respondents referred to this point by expressing various ideas such as:

  - 'The park is the most beautiful element of the centre.' (old woman)
  - 'The park is the famous element of the neighbourhood.' (young woman)
  - 'The park, in spite of being small, is the most advantageous element of the centre.' (young woman)

In neighbourhood B, the heavy traffic of the main street was the most identifiable factor pointed out by ninety-six percent of the respondents. The existence of the local services along this street were also noted by eighty-six percent of the respondents. The residential parts of this neighbourhood were most often remembered as calm, quiet and green areas.

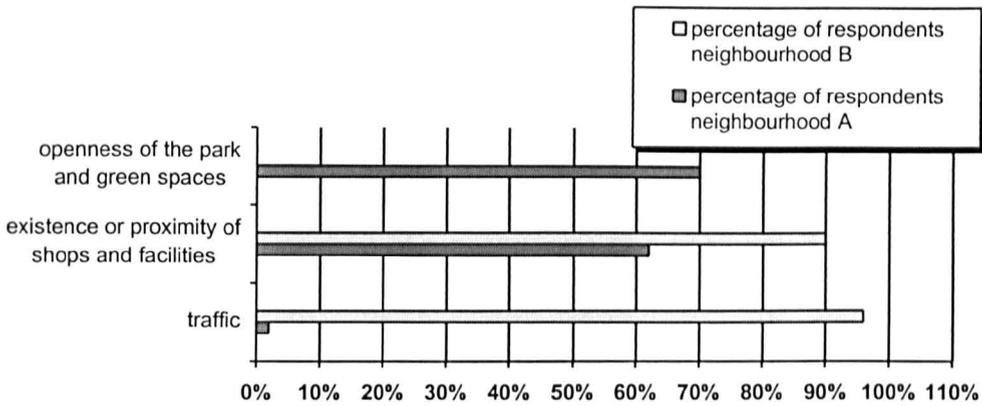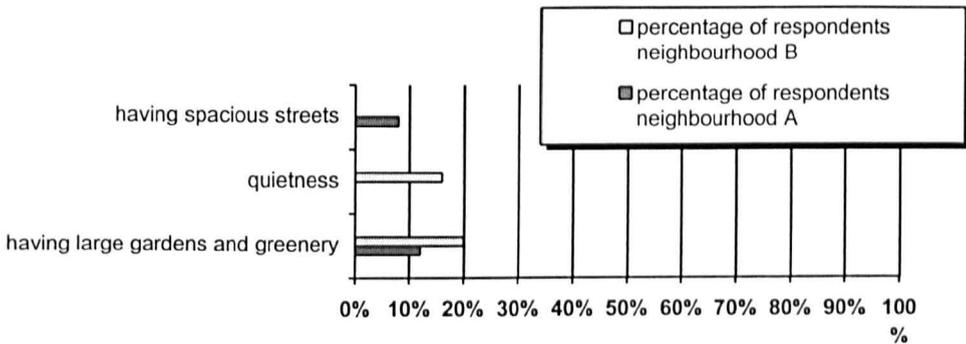Figure 10-5: **Influential factors in the recognition of the centres**

Figure 10-6: **Distinctive qualities attributed to the residential streets.**

10-2-3- Discussion

Investigation of people's perception and evaluation about the physical environment, particularly visual qualities, are normally carried out through specific psychological methods and tests which were out of the scope of the present research. Bearing in mind the general open-ended questions asked in the questionnaires, it was rather unrealistic hope to obtain exact responses related to the visual qualities of the centre. Therefore, the initial principles related to this section have to be investigated more comprehensively in the future by employing the required techniques.

According to the respondents, the existence of the local park in centre A, and its open space, which was in contrast with the surrounding residential area, was the most identifiable part of the neighbourhood. The calmness and quietness of centre A was mentioned by thirty percent of respondent. The park is completely defined by borders and gateways. The low walls surrounding the park, in fact, make its visual

borders, while it is accessible around the clock without any limitation. Articulation of the park into some memorable spaces was important and twenty percent of people pointed out different parts of the park with their special characteristics. On the whole, this park was seen as a visual clue and a landmark for the neighbourhood and contributed to defining the streets around it as the main streets of the neighbourhood. The proximity and concentration of shops and urban facilities (expressed by sixty-two percent of respondents) also contributed to promoting the memorability of the place and consequently, the sense of orientation.

According to twelve percent of respondents, the green spaces in front of the original apartment blocks characterised the original residential streets, while eight percent of respondents noted the spaciousness of the residential streets as a distinguishing clue for these parts.

In neighbourhood centre B, the hierarchy of the streets was not defined by the alteration in size and proportion. However, the through movement and the heavy traffic mainly contributed to defining the main street. The existence of shops and urban facilities also helped the identification of the centre as the main street. It should be mentioned that, due to the absence of an adequate number of urban facilities in neighbourhood B, the existence of a few shops, banks and schools was considerably effective for the identification of the centre, while in centre A, not only was the presence of large number of services important but also their proximity and concentration was essential.

Twenty percent of respondents in centre B, noted the large amount of greenery as the identification factor for the residential streets and sixteen percent cited the quietness of the residential parts contrasting to the high level of noise in the centre as the differentiating clues between the two areas.

10-2-4- Summary

The legibility of the centre as the key factor for orientation seeks some environmental conditions. The respondents in both centres cited some attributes when referring to different spaces of the centre, most of which can be considered as the distinguishing factors of the environment. Conscious use of these factors can facilitate the process of orientation in the neighbourhood and particularly the centre.

As the results of the survey show, the factors involved in the process of orientation were not completely mentioned in the responses to the questionnaires, however, a

summary of the survey outcomes is presented in Figure 10-7 for comparison with the initial principles.

To sum up, Contrast of size, proportion and density of spaces, and contrast between open spaces and compact built environment are employed by people to identify their environment. Existence of greenery and vegetation is also effective in the recognition of places. Concentration of urban facilities such as shops is also memorable and helps the orientation process. Articulation of spaces, defining them and using gateways are important for creating the image of space and enhance the legibility of the place. Apart form these physical features, the amount of movement and the level of noise can also improve the sense of orientation in a place

Figure 10-7: **Legibility and orientation: comparing the initial principles with the survey results**

Initial Principles	Survey Results	
1- Environmental clues: a) observation of the sun and natural views. b) landmarks. c) appropriate location and intervals for signposts.	**1- Environmental clues:**	
	a) traffic flow and noise.	A: 4% B: 96%
	b) quietness and calmness.	A: 30% B: 12%

2- Legibility of overall structure through:
a) designing hierarchical paths, using:
   I. different size and proportion.
   II. specific features.
	2- Legibility of overall structure through:
	a) hierarchical paths.
	   I. different size and proportion.
	   II. specific features:
	    • concentration of shops.
	    • existence of greenery.
		A: 20%
		A: 62%
		B: 86%
		A: 12%
		B: 20%

a) considering hierarchy of buildings' formality. b) continuity and connectivity of paths. c) defined edges using gateways and thresholds.	a) define edges, using gateways and thresholds.	observed
d) articulation and enclosure of spaces.	b) articulation of spaces and enclosure.	A: 20%

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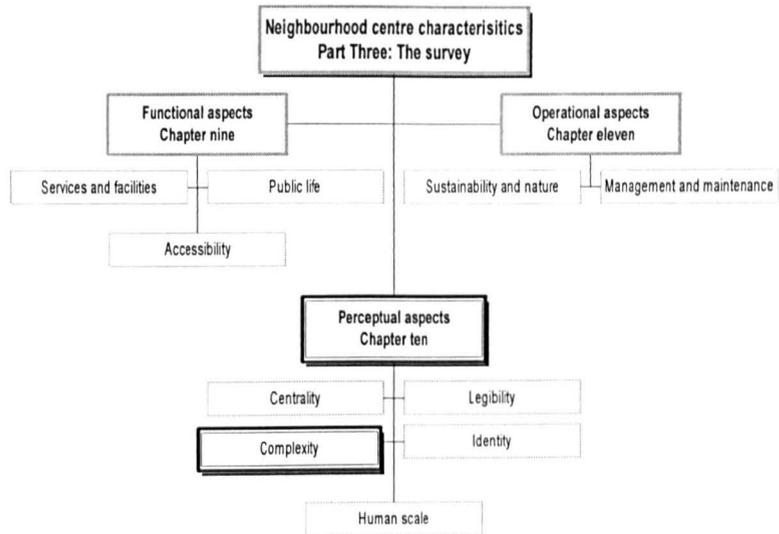
10-3- VARIETY AND COMPLEXITY

The importance of variety and complexity as the visual qualities of the centre are investigated in this section of the analysis.

10-3-1- Initial Principles

The applicable principles have been categorised into two groups as follows: the constructive principles, and the destructive items:

Principles enhancing the complexity:

1. Fixed features:

   a) considering mixed use and variety of functions.
   b) making hierarchical routes and spaces.
   c) providing clues and variety by applying short distances between entrances, street corners and display windows.
   d) changing the terminating view and eye levels on the pedestrian routes.
   e) changing street spaces along the routes and articulating the spaces.
   f) designing ordered street facades but not monotonous ones particularly by changing the details (rhythmic).
   g) using thresholds and gateways.
   h) designating the ground level of buildings to public activities.
   i) using street details such as street furniture or elements for people to sit on or stand by.
   j) using different materials and textures, colours and light levels.
   k) using vegetation and greenery.

2. Semi-fixed features:

   a) considering areas for market place.
   b) making facilities for street vendors.

3. Non-fixed features:

a) presence of people engaging in different social activities.

Principles reducing the quality of the streetscape:

1. Too many set backs.
2. Long blank walls.
3. Long parking lots.
4. Many vacant shops and buildings.

10-3-2- Survey Analysis

Question: Does complexity add to the attractiveness of a place?

Thirty-eight percent of respondents appreciated the appearance and quality of the spaces in centre A; however, they did not go further to explain their criteria for their evaluation. In other words, visual qualities were not directly cited among the responses to the open-ended questions in the interviews. On the whole, in neighbourhood A, some relevant factors were pointed out by the respondents among which, two physical factors were repeatedly appreciated as the attractive points of the centre. Both greenery and green spaces (expressed by forty-four percent of respondents) in addition to the large number and variety of shops (noted by thirty-four percent of respondents) can be considered effective in creating variety in the centre and were approved of by the residents.

By the same token, in neighbourhood B, the absence of the above elements was widely cited as the main deficiency of this neighbourhood centre, where fifty-six percent of the interviewees were in favour of developing the shops in number and variety, and sixty-two percent had many suggestions for the establishment of a local park and green spaces in the centre. Moreover, the great distance between the shops was considered a negative factor for the centre. For example, one of the interviewees said:

> – 'The shops are too far apart and this point discourages people from walking along the main street.' (young woman)

Figure 10-8: **Influential factors in maintaining visual complexity.**
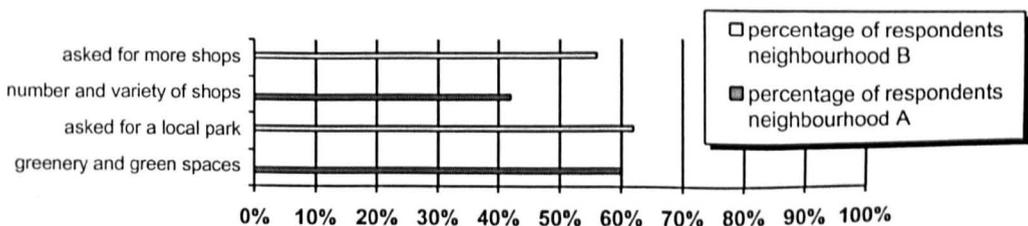
10-3-3- Discussion

Since there were only a few direct references among the responses to the relevant factors of this section, the researcher's observation was also employed to compare the centres in order to gain some results. Supposing that optional activities are performed where the supportive environmental conditions are to a certain extent present (Gehl 1980), two factors in both centres are compared: first, the optional activities done in the centres and second, the physical conditions which contribute to the enhancement of their variety and complexity. In this way, it is possible to find out if complexity can improve visual appearance and, consequently, increase the performance of optional activities.

1- Performing optional activities. Both physical and social conditions can obviously contribute to making an appropriate place for these activities. Social incongruity and the absence of safety are salient factors which inhibit optional activities in spite of the presence of appropriate physical conditions. Concerning centres A and B, there was no evidence of safety problems that discourage people from using the centres. Although thirty-two percent of respondents in centre A were concerned about the appropriateness of social behaviours of the young people, particularly in the park, and, in some cases, were even discouraged from using this space, the performance of optional activities was considerably higher in this centre compared with centre B, in which there were no comments on social problems.

In response to the question, 'Is there any specific time that you do not wish to go to the centre and why?' there was no reference to the lack of safety or any feelings about an unsafe environment. It seemed that the considerable differences for performing optional activities between the two centres should, to a large extent, be due to their physical differences. For example, promenading and window shopping as two prototypes for voluntary activities were studied. The results of the interviews showed that in neighbourhood B these activities were performed significantly less than in centre A (to 0.001 level of significance, $\chi^2=18.3$ and df=1). Eight percent of respondents in centre B, compared with forty-six percent in centre A, did window shopping and sixty percent out of this group in centre A rated this activity among their three favourite activities in the centre.

Promenading was also noticeably favoured in neighbourhood A. Fifty percent of respondents mentioned their engagement in this activity but only ten percent of respondents in neighbourhood B were interested in performing this activity in their

neighbourhood centre. Differences showed to 0.001 level of significance (χ^2=19.02 df=1).

Other optional activities, such as enjoying landscape, eating or recreation, about which respondents were questioned during the interviews, could not be compared in the two centres because centre B lacked the necessary context for their performance.

Figure 10-9: **Optional activities in the centres**
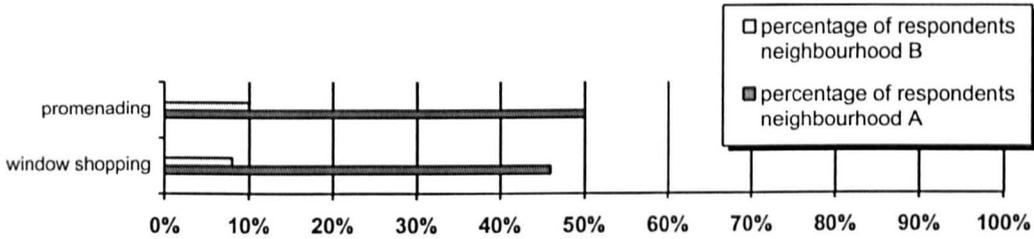
2- Studying the physical differences may assist understanding of some of the reasons for behavioural changes in the two centres. Therefore, the physical conditions of the two centres are compared on the basis of the researcher's observation. The important points which seem to be effective in the visual quality of the centres are presented:

Neighbourhood A	Neighbourhood B
• The existence of the park adjacent to the shopping area provides the natural landscape and open green space and contributes to the variety of the space.	• Lack of a local park or public green space near the centre.
• Connectivity of the shops and continuity between display windows with a greater variety and better appearance.	• Presence of long blank walls, fairly long distances between the shops, and dispersed display windows with the existence of many car repair shops or vacant shops without any display windows.
• Short intervals between street corners and variation in the street views and spaces provided by the green spaces.	• Long distances between street corners and fairly monotonous streetscape defined by outside house walls running alongside the main street.
• Greater number of elements in the facade of buildings for people to sit on.	
• Use of gateways for the park.	
• More use of ground levels for the public activities, particularly along the main street.	• Apart from the cluster of shops, the ground levels are either residences or the surrounding walls of the yards and gardens.

Apart from the problems such as heavy traffic, air pollution, and inconvenient pavements which existed in neighbourhood B, the above comparison showed that there were noticeable differences in the visual qualities of the two centres as well. For example, the variety and complexity in the streetscape was greater in neighbourhood A, upon which a more attractive environment for window shopping, promenading and leisure activities was provided.

On the other hand, environments which are too complex are not desired either. The people are also involved in increasing the amount of complexity (Rapoport 1977). However, the presence of people in the public spaces is desirable to the degree that it does not cause overcrowding. Fifty-two percent of respondents in neighbourhood A referred to this point when talking about the crowded time of the park and evaluated these conditions as inappropriate for social activities. For example, in response to the question 'Is there any specific time that you do not wish to go to the centre and why?' some respondents said:

> − 'I do not go to the park on the weekends and holidays because this
>   space is too crowded ' (young woman)
> − 'I do not like to go to the park on summer afternoons because of
>   overcrowding.' (middle-aged woman)

On the other hand, one respondent said:

> − 'I do not like to go to the centre during the holidays and when the shops
>   are not open.' (young women)

Therefore, while the presence of people is essential for the vitality of a place, the attendance of too many people is not desirable.

10-3-4- Summary

There are a few points that can be inferred from the responses with regard to the complexity of the visual qualities in the centre. A summary of these points is set out in Figure 10-10 in which the initial principles can be compared with them.

Most of the survey outcomes in this section are based on researcher observation and comparison of the two centres. The respondents explicitly noted the presence or absence of variety in shops or greenery and vegetation, but despite expressing some physical evaluations such as 'ugly facades' or 'beautiful streets', they did not explain the physical elements constructing these feelings.

Figure 10-10: **Complexity and variety: comparing the initial principles with the survey results**

Initial Principles	Survey Results	
Enhancing principles: **1. Fixed features:** a) mixed use and variety of functions.	**Enhancing principles:** **1. Fixed features:** a) mixed use and variety of functions.	A: 42% B: 56%
b) hierarchical routes and spaces.		
c) short distance between entrances, street corners and display windows.	c) short distance between entrances, street corners and display windows.	observed
d) change of terminating view and eye level.		
e) change of street space and the articulation of spaces.	e) change of street space.	observed
f) rhythmic facades.		
g) using thresholds and gateways.	g) using thresholds and gateways.	observed
h) ground level for public activities.	h) ground level for public activities.	observed
i) using street furniture and details.	i) using street furniture and details.	observed
j) using different materials, colours, texture and light levels.		
k) using greenery and vegetation.	k) using greenery and vegetation.	A: 60% B: 62%
2. Semi-fixed features: a) facilities for market place. b) facilities for street vendors.		
Diminishing principles: 2. Too many set backs.	**Diminishing principles:**	
3. Long blank walls.	2. Long blank walls.	observed
4. Long parking lots.		
5. Many vacant shops.	3. Many vacant shops.	observed
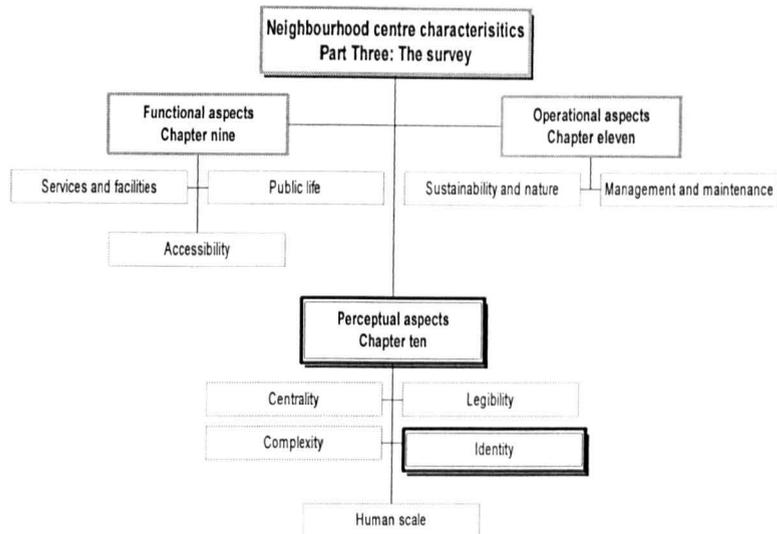
10-4- IDENTITY

The environmental principles which improve the identity of a neighbourhood centre are the main concern of this section. The extent to which the origin and the distinctive character of a neighbourhood centre is important for the residents is also studied.

10-4-1- Initial Principles

A summary of the relevant principles for improving the identity of a neighbourhood centre is presented first:

1. Geographical identity and natural uniqueness can be achieved through:
    a) congruency with the site (topography and landscape).
    b) considering the local climatic conditions and appropriate design.
    c) preservation of natural assets.
    d) using indigenous vegetation.
    e) using local materials and techniques.

2. Cultural identity can be improved through:
    a) using cultural symbols as landmarks.
    b) preservation and rehabilitation of the historical features and meaningful nodes.
    c) deriving the structural pattern of routes and spatial configuration of the centre on the basis of the social relationships and the needs of the users so that the physical design can be supportive for the social and cultural events. (Inadequacies may be assessed by discovering any event which takes place out of the centre due to lack of suitable space.)

3. Unifying the components of the centre:
    a) developing an overall structure.

b) developing a set of design vocabulary for the elements of both fixed and semi-fixed features, (urban furniture) and the paving.
c) suggesting special lot width and limitation for the height range.
d) use of common plants.
e) paying attention to the local art.

4. Designing a diversity of houses for different ages and families and for a longer period of time to increase the sense of rootedness.

10-4-2- Survey Analysis

Respondents' opinions were investigated by employing the checklist questions and at the end, the results of the study were compared with the initial principles.

Question 1: Is the history and origin of the centre important for the residents? How do they preserve the continuity with the past? Is there any physical feature which enhances this continuity?

According to the respondents, attention to the history and origin of the neighbourhood, more than evoking the sense of pride and happiness was associated with nostalgia for lost qualities. The two neighbourhoods are not historical places and originated about forty years ago, but in the last decade crucial changes occurred, which were not welcomed by the residents. Responses to the above question were mainly found among the answers to question 8, 11 and 13 in the questionnaires.

In neighbourhood B, sixteen percent of respondents, who were among the long and middle-stay residents, described the previous neighbourhood as a calm and quiet place and talked about the former attractive green spaces formed by large gardens and houses. Although there was not much reference to the founders and original inhabitants of the neighbourhood, the respondents who had been living there for more than ten years believed that the quality of the area had gradually declined due to the recent residential developments. The centre was described as 'crowded' and 'noisy' by sixty percent of respondents who compared the current conditions with the past.

In neighbourhood A, which has recently experienced growth of population due to the newly built apartment blocks, forty percent of respondents expressed their nostalgic feelings towards the past conditions. Some referred to the calmness and quietness of the past and most of them confirmed that the recent housing

developments and population growth had destroyed the social integrity and the sense of community in the neighbourhood. Fourteen percent of respondents made some references to the founders of the neighbourhood and the original inhabitants of the area. They said that the neighbourhood had been established by the private sector and most of the occupants belong to an ethnic group. The respondents who were the members of this group had a greater sense of pride in the place and more frequently appreciated the social integrity and desirable relationship of the people in this area.

The interview responses did not indicate the presence of a historical place or feature which provides the continuity to the past. The most important factor seemed to be the familiar atmosphere and the desirable character of the neighbourhood, which was going to be threatened.

Respondents in neighbourhood A were more concerned about the social conditions while in neighbourhood B, calmness and environmental conditions comprised the main anxiety for the residents.

Figure 10-11: **Nostalgic feelings towards the past conditions in both neighbourhoods**
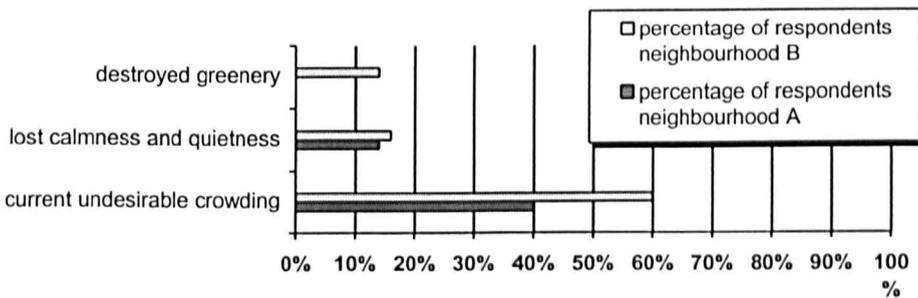
Question 2: Is the overall character of the centre identified and respected by the respondents?

This question was mainly explored among the answers to the questions 10, 11 and 13 in the questionnaires. The distinctive character of the neighbourhoods, in spite of the new rapid changes, was still perceived and valued by many interviewees.

In neighbourhood B, eighteen percent of respondents cited the nice climate, and eighteen percent pointed to the large green gardens and houses as the prominent characteristics of the neighbourhood. Social homogeneity and the high standard of behaviour among the people were noted by fourteen percent of interviewees and the quietness of the neighbourhood was appreciated by twelve percent.

The presence of open green spaces, social homogeneity, tranquillity, air quality and well designed urban spaces were noted as the dominant characteristics of neighbourhood A. Fifty-eight percent of respondents mentioned the availability of natural features and the green spaces where 'tranquillity' and 'convenience' were two characteristics attributed by fifty percent of interviewees and the air quality of the place was also appreciated by thirty percent. For example, in response to the question 'If you want to describe the centre by using three adjectives, what would they be?' some said:

- 'Calm, convenient and quiet are the best attributes for this neighbourhood centre .' (young woman)
- 'Here is a calm environment, not very crowded and not very empty and I will not leave this place.' (middle-aged woman)
- 'Here you can find tranquillity, convenience and good people.' (young man)

Fifty-two percent believed that the integrity of people and their friendly and respectful relationships made an essential contribution to defining the character of centre A. The original residential areas of neighbourhood A presented special characteristics in the neighbourhood. The use of red bricks and the same height and size of buildings specified this part of the neighbourhood. Twenty-two percent of respondents appreciated the appropriate design of the street configuration in this part and in particular, the existence of the open green spaces between the original blocks.

Figure 10-12: **Important qualities of the centres expressed by the respondents**
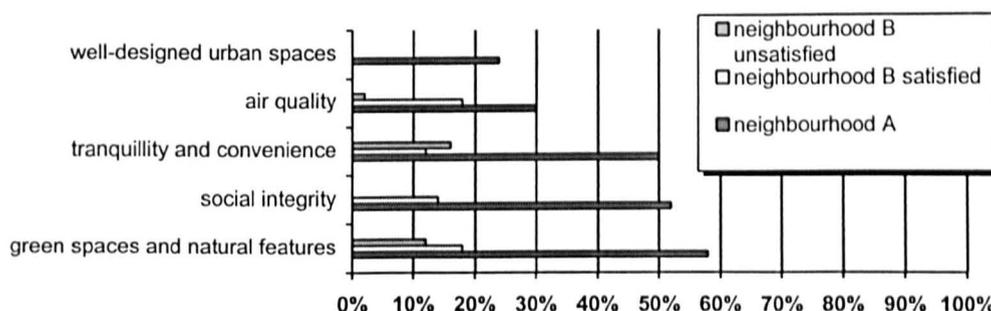
As figure 10-12 shows, neighbourhood A presented more desirable conditions particularly with regard to its centre's features. On the contrary, the residential parts of neighbourhood B included the advantageous conditions and centre B demonstrated none of the appreciated points in neighbourhood B.

Question 3: Are there specific nodes, features or landmarks which are important for the respondents?

The answers to this question were mainly found in the responses to questions 10, 11 and 13 in the questionnaires.

According to the interviews, no explicit reference was made to a distinguished feature or building in neighbourhood B as being a landmark for the centre. Although some respondents talked about the cluster of shops and the mosque, these features did not gain the symbolic role of a landmark for the neighbourhood. In fact, the parking area of the Exhibition centre, in spite of creating so many problems for the area, was more memorable for the residents.

In neighbourhood A, the most remarkable feature was the *local park,* which was referred to by fifty-eight percent of respondents and was considered as the focal point of the neighbourhood.

Question 4: Is there any specific activity or function which contributes to giving identity to the centre?

This question does not involve the physical conditions but is concerned with the functions of the centre. The answers were found among the responses to questions 9 and 12 in the questionnaires.

In neighbourhood B, the car park of the International Exhibition centre of Tehran and its location on the west side of the neighbourhood, caused many negative effects on the centre. According to fifty percent of respondents, the inappropriate conditions of the main street were severely worsened by the heavy traffic during the exhibition seasons, in so far as some of the residents avoided passing through the main street in that time.

The existence of a unique activity or function in a neighbourhood centre or around the edge of it may have some positive or negative effects which, to some extent, influence the character of the area. If the given character is in tune with the community life and suitable for the scale of a neighbourhood, it would be supported by the residents. However, if the dominance of that particular function is in the process of diminishing the centre's qualities or creating some problems, the residents would show resistance to it, such as with the parking area in centre B.

10-4-3- Discussion:

This section of the thesis, being engaged with the conceptual aspects of design, was not supposed to completely investigate the relevant principles of the initial list. Some principles were not found in the design of the two centres. For instance, this part of the study was limited by the lack of historical features, outstanding landmarks and social or culturally important activities or spaces. However, apart from the principles which were derived from the responses to the questionnaires, the researcher's observation was also employed in order to compare the centres' physical conditions and obtain more fruitful results.

The characteristics of site, the social circumstances, the physical congruency and the perceptual identity comprise the main parts of the following discussion:

A- Site characteristics: The Alborz mountains, located on the north side of Tehran, comprise the most valuable natural landscape of the whole city. These mountains with their dominant view over the city can be considered the macro natural assets of the city. However, the natural features of each neighbourhood, providing the natural landscape on a local scale, can be considered as the micro natural asset of the area.

At present, the most important natural feature in neighbourhood A is the local park which was built nearly forty years ago and was used and admired by ninety percent of the respondents. The park, as well as the green areas and well designed open spaces in front of the original residences, were the most distinguished physical features. The open green spaces between these blocks were in continuity with the park's green spaces and made a unified character for the neighbourhood. This character was enhanced by the ordered, red brick facades of the original blocks, so the material and style of buildings were also important in creating a recognisable character.

The location of neighbourhood B on the lower slopes of the Alborz Mountains is a unique opportunity for this neighbourhood. Despite the fact that the layout of the centre does not respond to the favourable characteristic mentioned, six percent of respondents noted the particular advantages of the neighbourhood; for example they said:

> – 'The new high-rise buildings have destroyed the nice view of the mountains.' (middle-aged woman)

- 'One of the advantages of this neighbourhood is its closeness to the mountains and the nice climate.' (middle-aged woman)

Apart from the special view of the mountains, there had been some private gardens and green spaces that contributed to creating identity for the place and only a few now remain. Thirty percent of interviewees expressed their respect for the green sites, which can be considered as the micro natural assets of the neighbourhood. For example some interviewees said:

- 'The green spaces of the residential parts are one of the advantages of this neighbourhood.' (middle-aged man)
- 'The existing gardens have compensated for the lack of a local park and created calmness and quietness for the neighbourhood.' (young woman)
- 'The new apartment blocks have destroyed the previous beautiful gardens and green spaces of the neighbourhood.' (middle-aged woman)

Generally speaking, there were no recognisable indigenous plants in these neighbourhoods. Some respondents in neighbourhood B mentioned the previous existence of some local trees and vegetation which had gradually disappeared due to the residential developments. In neighbourhood B, there were still a few old houses and buildings which used local techniques and materials such as sloping roofs and red bricks. However, the new buildings are completely different and the old style and materials are not used any more.

To sum up, the overall location of the neighbourhood and its macro landscape was important for the people but not as much as the local natural landscape (six percent versus thirty percent in neighbourhood B). The local landscape was of great concern to both neighbourhoods (ninety percent in neighbourhood A and thirty percent in neighbourhood B). The environmental conditions such as the air quality was also taken into account by the respondents (thirty percent in neighbourhood A and eighteen percent in neighbourhood B).

B- Cultural and social character: There were no important historical features in centres A and B which could influence the identity of the neighbourhood. According to the respondents in neighbourhood A, the existence of a fairly cohesive population was important to enhance the character of the neighbourhood. The social relationships among the residents were not only expressed by about half of the respondents, but were also perceptible in the groups of people gathered together in various parts of the local park. In this way, the social identity of neighbourhood A,

despite being perceived by people, was not reflected in the built environment in the form of any symbolic feature.

C- The physical compatibility between the centres and the residential areas was a concern for the residents especially in neighbourhood B, where the original houses and the old shops which remained in the centre, shared some common architectural elements and techniques. The current conditions were not acceptable and twenty-eight percent of respondents in this neighbourhood noted this problem. While the residential parts comprised large houses or high standard apartment blocks, the appearance of shops and other facilities in the main street reflected considerably lower conditions which did not suit them. In neighbourhood A, the public facilities and the residences showed a higher degree of compatibility and there were no comments on these issues.

D- Perceptual Identity: During the process of reviewing the interview responses, there were repeated expressions referring to tranquillity and quietness in the neighbourhoods and centres as a desirable characteristic. This point which was not predicted in the initial principles, appeared to gain considerable importance for the respondents and will be called the perceptual identity hereafter. A combination of factors seem to be involved in the creation of this quality which was described by the use of different terms such as 'Convenience', 'tranquillity', 'calmness', and 'quietness'. In crowded and high-density metropolitan cities such as Tehran, with all their urban characteristics of noise, air pollution, heavy traffic, speed etc., the availability of a calm and convenient neighbourhood centre would be an advantageous situation. According to respondents in centre A, where the existence of this quality was widely appreciated, some environmental conditions, not present in centre B, were perceptible such as: easy access to the centre and its facilities, calm traffic, the existence of greenery and air quality, the absence of noise pollution, and appropriate social relationships. A neighbourhood seemed to be regarded as a refuge for the residents and its centre, being the public shared space, should convey this feeling. Although a city centre or any other urban centres may grow without restriction, a neighbourhood centre, mainly because of its effects on the tranquillity of its residents, has to be preserved from urban problems; the calmness and quietness of these places are respected by the residents.

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10-4-4- Summary

The important factors extracted from the survey are presented in Figure 10-13 in order to be compared with the principles.

To sum up the results, the origins and history of the neighbourhoods were important for the residents, particularly for those who had lived in the area for a longer period. Social characteristics and ecological conditions of neighbourhood centres were more frequently noted in comparison to the physical circumstances. Social cohesion was an important factor for characterising a neighbourhood and the existence of public places for people to meet informally was considered necessary. The natural assets of the neighbourhood both at macro and micro levels, were widely considered to be of great importance as the characterising elements. Calmness and tranquillity were items widely desired for a residential district.

A relative compatibility between the residential fabrics and the public buildings in the centre was suggested to maintain a coherent character for the neighbourhood.

A dominant activity or function in a neighbourhood, which would result in changing the character of the area, was widely rejected if annoying consequences were anticipated.

Figure 10-13: **Identity: comparing the initial principles with the survey results**

Initial Principles	Survey Results	
1- Geographical character: a) congruency with the site (topography and landscape). b) considering local climatic conditions in design. c) preserving natural assets. d) using indigenous vegetation. e) using local materials and techniques.	**1- Geographical character:** a) congruency with the site (topography and landscape). b) preserving local natural assets.	B: 6% A: 90% B: 30%
2- Cultural character: a) using cultural symbols as a landmark. b) preserving and rehabilitating historical features. c) providing appropriate spaces for social and cultural events.		
	3- Social character: a) great appreciation of respondents for the social cohesion of the neighbourhood.	A: 52% B: 14%
	4- Perceptual character: a) great appreciation of respondents for calmness and tranquillity of the neighbourhood and its centre.	A: 50% B: 12%

5- Physical unity:
a) providing compatibility between the buildings of the centre and the residential areas.
b) concerning the elements which contribute to the unification process:
  I. street furniture.
  II. common plants.
  III. design vocabulary, common materials and style.
	5- Physical unity:
	a) providing compatibility between the centre's buildings and the residences.
		B:28%

6- The character associated with a dominant activity, established in the neighbourhood.	**6- The character associated with a dominant activity, established in the neighbourhood.**	B: 50%
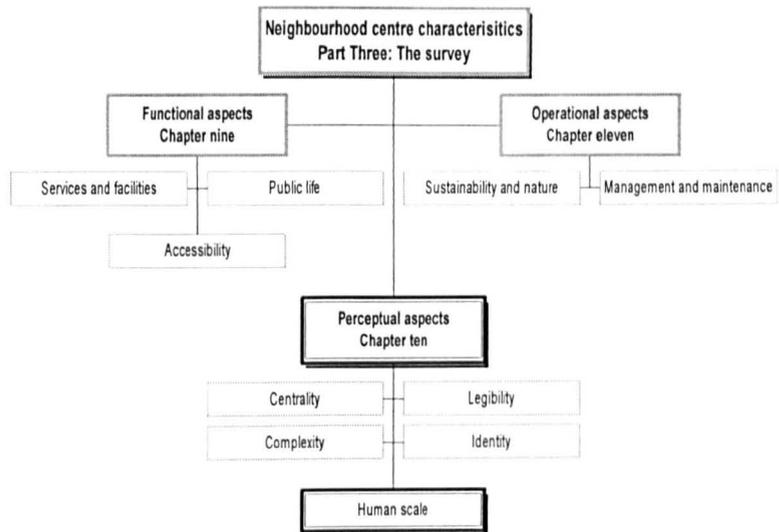
10-5- HUMAN SCALE

This section is involved with the general issues related to the scale of the spaces in a neighbourhood centre and the appropriate distances with regard to the human capacities.

10-5-1- Initial Principles

The relevant principles are as follows:

1. Considering the perceptual capacity of mankind in designing the complexity and details of the environment.
2. Regarding the scale of the body in designing street furniture.
3. Considering dimensions about 25-30 metres for active social spaces.
4. Regarding appropriate proportions where a sense of enclosure or static space has to be achieved.
5. Considering walking distances (around 500 metres) where pedestrian access has to be encouraged.
6. The quality of the routes (the views and the pavement conditions) is also important for an experienced distance.
7. The pedestrian walks should provide intimacy by:
    a) visibility of the display windows on both sides of the route.
    b) possibility of talking from one side to the other.
8. In large spaces the pavement intimacy can be obtained through:
    a) low arcade over the path.
    b) defining the edge of paths for example with natural elements.
    c) moving the path along the edge of buildings.
9. Encouraging small shops rather than super stores.

10-5-2- Survey Analysis

One question was formulated in the checklist in order to find out people's opinions about the appropriate scales in a neighbourhood centre.

Question: What characteristics related to scale are important for the respondents: any expressions about distances, size, height and density of the buildings and spaces?

The following results were mainly found among the responses to the questions 10, 11, 12 and 13 in the questionnaires. Three substantial issues related to scale were pointed out by the respondents:

Favoured openness: the need for open spaces in the neighbourhood was emphasised by the interviewees. Open spaces were considered essential not only to introduce natural features but also to be used as a common gathering place for the neighbourhood. Seventy percent of respondents in neighbourhood A expressed their appreciation of the openness of the central area. 'Exhilarating' and 'delightful' were terms used to express their opinions about this open space. For example some interviewees said:

> – 'The park is an advantage and an exhilarating element.' (young women)
> – 'The park and the presence of my friends in the park make me relax.' (young man)
> – 'The spatial configuration and openness is appropriate in this neighbourhood and this place is suitable for residing.' (middle-aged man)

The central park in neighbourhood A covers about 60x220 metres and maintains different roles in the neighbourhood. It is used as a unifying element in the centre and connects the various surrounding public services and shops and creates unity. It is not so large that the nearby facilities are dispersed and not so small that it does not make sense of a green open space. The opportunity for public life and social interaction is provided in this place, and has transformed it into a plaza-like space, while preserving the natural features.

The respondents in neighbourhood B, also desired to have a local park and widely mentioned the lack of an open space in their neighbourhood. Sixty-two percent of interviewees in neighbourhood B expressed this problem and proposed the establishment of a park. Figure 10-14 reflects the respondents' viewpoints about a local park in the neighbourhood.

Figure 10-14: **Importance of open green spaces in a neighbourhood centre**
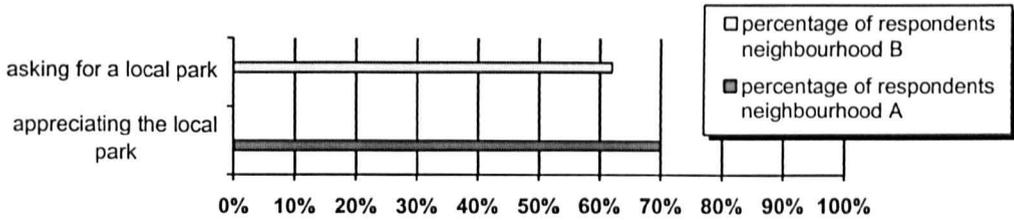
The open green spaces of the original residences and the spacious streets in neighbourhood A, were also appreciated by a group of respondents (sixteen percent).

On the contrary, in neighbourhood B, the narrowness of the main street was regarded as inappropriate especially in view of its heavy traffic and seventy-two percent of the respondents proposed its widening.

Desired access: easy access to the centre and its facilities was highly appreciated by the respondents. A large group of respondents in both neighbourhoods appreciated the opportunity of having shopping and other urban services within walking distance of their residences (A: ninety percent appreciated and B: sixty-six percent desired). In neighbourhood A, most of the residences are within a walking distance of about 600 metres from the centre and this nearness, in addition to the diversity of the urban facilities available in the centre, fulfilled various needs of the residents. In neighbourhood B, the residents' needs were not met by the current services and the majority of them used other urban centres, especially the regional centre of Tadjrish, which is about 1.5 kilometres away from this neighbourhood centre. Thus, convenient walking access between the residences and the urban facilities is not provided in this neighbourhood. Figure 10-15, reflects the respondents' desire for close access to the urban services in neighbourhood B, while indicating the satisfaction of the respondents in neighbourhood A.

Figure 10-15: **Importance of convenient access to the urban facilities, particularly, with regard to walking distances**
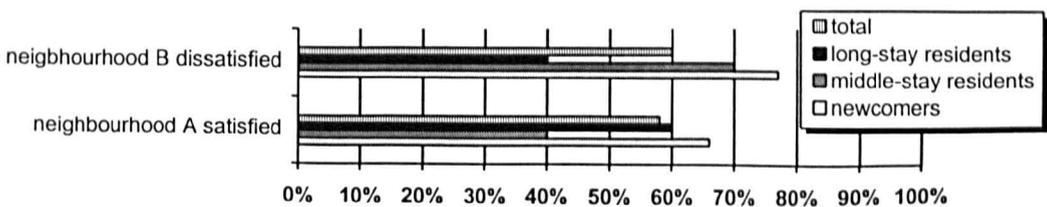
Undesirable density: Density of buildings and the resulting population, was a main concern for the respondents in both neighbourhoods. Overcrowding, associated with the recently built residential units, was repeatedly disapproved of by the respondents. It seemed that the physical density of the buildings, was not as important as their consequences with regard to their social and environmental problems. However, there were many comments on the difficulties emerging as a result of a more physical density; for example, diminishing of natural assets, less possibility to view the sky, less ventilation in the neighbourhood and social heterogeneity.

Figure 10-16: **The group of respondents who were opposed to the newly built apartment blocks and the increase in density of buildings**
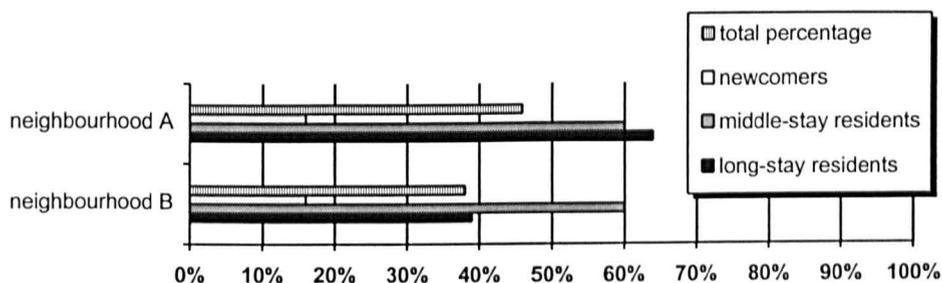
10-5-3- Discussion

Firstly, the considerable appreciation of the existing greenery and open spaces in neighbourhood A indicates the importance of openness in the compact neighbourhoods of a crowded city such as Tehran.

Many commentators in western countries, basically in the US, are in favour of providing intimacy in urban spaces to enhance the opportunity of social interaction. However, in compact neighbourhoods such as A and B, the aspiration for an open area, particularly with natural features, revealed a key factor; and that is the importance of contrast between the peripheral area and the centre in a neighbourhood. In sprawl neighbourhoods the compactness of the centre may be admired by the residents while in the high density districts openness is viewed as an exhilarating quality for the centre.

The comparison of the two neighbourhoods with the initial principles concerning the intimacy of pavements and resting places, showed that the recommended intimacy for routes and pavements needed some more deliberation:

- The narrowness of the main street in neighbourhood B was a fundamental disadvantage noted by the majority of respondents, particularly because of the heavy traffic and its consequences in this street. Thus, when intimacy is regarded the amount of through movement and especially the dominance of pedestrians in the route should be born in mind.

- The intimacy of pavements and resting spaces is by no means in opposition to the openness. Accordingly, the design and the arrangements of the paths and sitting spaces inside the open spaces needs substantial efforts. For example, in neighbourhood A, the presence of the local park was completed by the provision of intimate sitting spaces and small squares inside the park where the surrounding low walls were also greatly used by people. The width (2/5 metres) and the quality of the pavements along the main street in the neighbourhood were supportive for the residents' social interaction. The existence of some public nodes along the street corners, illustrated this quality. In neighbourhood B, the inappropriateness of the scale (under one metre) and the surface of pavements was a constraining factor for the pedestrians. Eighteen percent of respondents in neighbourhood B directly mentioned this problem.

Secondly, satisfaction for the convenient access to the facilities in centre A and the dissatisfaction expressed for the current conditions in centre B, clarified the acceptable distance between the residential facilities in a neighbourhood especially for the pedestrians. Accordingly a maximum distance of 600 metres (as in centre A) appeared to be suitable for pedestrian access: a-from the residences to the centre and b- for the length of a pedestrianised route. Of course, the quality of pavements played an essential role for the pedestrians as well.

The last item of the principles regarding the preference of small shops to the superstores could not be investigated in these neighbourhoods due to the absence of superstores in the area. It should be mentioned that at the present time the majority of retailing activities in Tehran are performed in small shops and by individual entrepreneurs. Recently there have been some department stores established around the city especially in the newly developed areas. However, at the present time, it seems too soon to evaluate the consequences of these superstores and people's preferences.

10-5-4- Marginal Notes

As Figures 10-15 and 10-16 show, the long-stay residents in neighbourhood B were less concerned about the inadequacies of this centre in terms of an inadequate number of urban facilities or lack of a local park; however, they were the main opposition group for the recent changes of the neighbourhood (Figure 10-17), especially the newly built apartment blocks and the consequent crowding of the area.

Figure 10-17: **Different opinions about the central spaces**
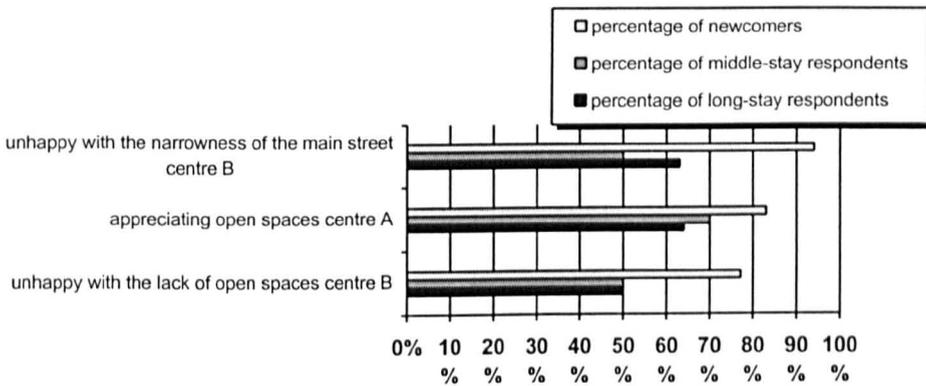
10-5-5- Summary

A summary of the survey outcomes is presented in Figure 10-18 to be compared with the initial principles. On the whole, the importance of open spaces in neighbourhood centres, particularly in compact residential districts, was approved. These spaces would be more desirable with the presence of natural features and greenery. These open spaces can be articulated by means of low border (natural or built), change of surface materials and so on in order to increase the intimacy and human scale of the paths or rest spaces. Defining a pedestrian pathway should relate to the amount of through movement. Emphasising the narrowness of the route in order to enhance the intimacy of the space may become a disadvantage if it restricts through movement and even discourages the use of the route. The quality of pavements is an essential factor for encouraging pedestrians to walk while distances around 600 metres or less appeared to be acceptable for easy pedestrian access. Residential density and the compactness of buildings is rejected where the ecological conditions, convenience, calmness and the social cohesion of the neighbourhood are threatened.

Figure 10-18: **Human scale: comparing the initial principles with the survey results**

Initial Principles	Survey Results	
1. Considering the intimacy of routes by providing: a) visibility of windows on both sides. b) possibility of talking from one side to the other.		
	2- Avoiding destructive factors for a narrow route for example: a) heavy through movement (vehicular or pedestrian). b) too narrow to walk (e.g. under one metre).	A: 8% B: 94% A: 0 B: 36%
	3- Designing open spaces especially for high-density neighbourhood centres.	A: 70% B: 62%
4- Designing intimate pavements by using: a) low arcade. b) defined path. c) moving along the edge. **5- Using accepted diameter for rest places.**	**4- Desirable openness can be completed by:** a) making intimate defined pathways. b) designing intimate resting places by employing defined borders or changing the surface materials etc.	Observed Observed Observed
6- Pedestrian routes should be 500 metres or less.	**6- Distances under 600 metres are perceived acceptable for the pedestrians.**	A: 90% B: 66%
7- Providing appropriate pathways for children and the elderly.	**7- Pavement quality should be considered.**	A: 8% B:36%
	8- Limiting the growth of density and compactness of the residential parts.	A: 38% B: 46%
9- Encouraging small shops.		

PART THREE

THE SURVEY

CHAPTER ELEVEN

OPERATIONAL ASPECTS
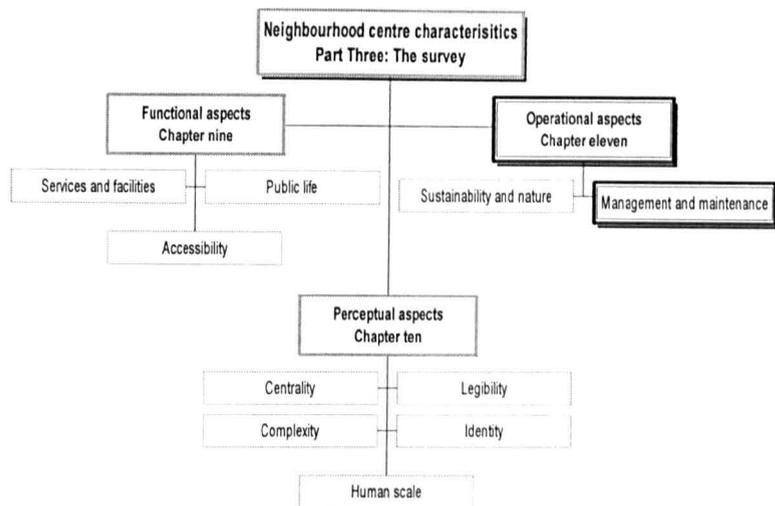
11-1- MANAGEMENT AND MAINTENANCE

This section is concerned with the role of management system in enhancing public life, and issues concerning the maintenance of a neighbourhood centre.

11-1-1- Initial Principles

The relevant principles can be summarised into the following groups:

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1. Providing safety and access to the centre by:
   a) ensuring accessibility during the day and night, not only physically but also visually, to enhance the sense of safety.
   b) increasing the vitality at night by keeping shops, restaurants and places of this kind open in the evenings.
   c) considering adequate lighting in order to increase the sense of safety. Main routes and shop windows should be lit at night.
   d) considering security measures for women where necessary.
   e) providing necessary facilities for the elderly and disabled.

2. Encouraging people's involvement by:
   a) making facilities which help people to associate with one another e.g. community gardens, markets and children's modification playgrounds.
   b) preparing various social events and gatherings.
   c) making institutions for young adults, teenagers and children such as fitness centres, libraries and training facilities.

3. Maintaining the environment by:
   a) providing an efficient cleaning system for various spaces.
   b) reducing artificial nuisances such as traffic, litter billboards, poles, wires and incompatible land uses.
   c) maintaining the street furniture.

          d)   planting and maintaining permanent and seasonal vegetation.

4.   Providing information by:

          a)   erecting well designed public signs, street names and building numbers.

          b)   introducing a local book to provide some information about the place.

5.   Ensuring necessary facilities by:

          a)   establishing religious and social organisations to help people.

          b)   providing agencies such as van hire, car pooling and day care.

          c)   providing public toilets.

11-1-2- Survey Analysis

The results of the survey have been analysed with concern for one main question in the checklist in order to investigate people's opinions about the management body of their neighbourhood centre. The answers to the question have been found among the responses to questions 10, 11 and 12 in the questionnaires.

Question: Are the residents concerned with management and maintenance of their neighbourhood centre? Which aspects of the maintenance are more important for them?

Maintenance was a great concern for the residents in both neighbourhoods. Different issues which related to the managing system and maintenance of the centre were cited by the respondents and the most important comments are presented in Figure 11-1.

Figure 11-1: **Issues related to the management and maintenance in centres A and B**
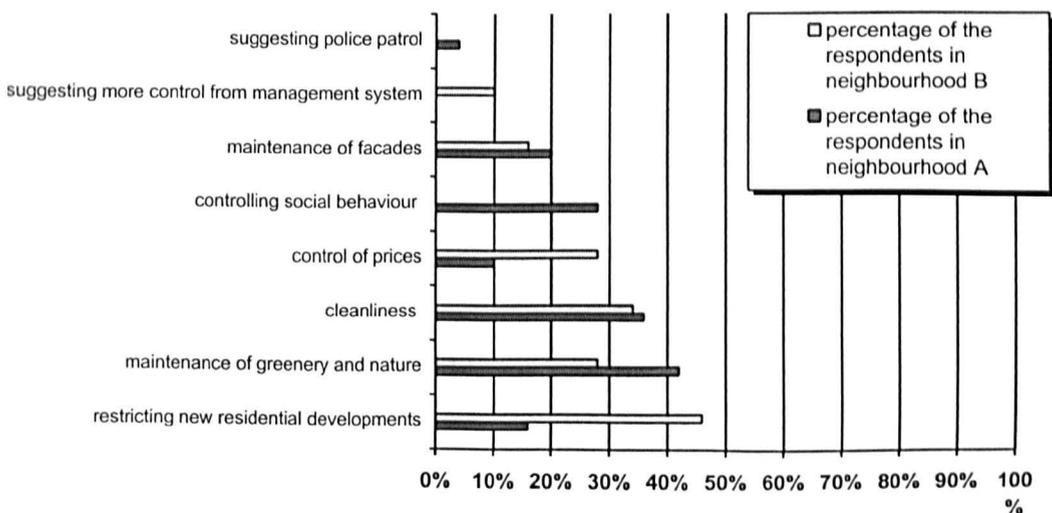
There were some differences in the respondents' opinions between the two centres, due to their physical differences. In neighbourhood A, the most frequent issue was the upkeep of the greenery, trees, and vegetation of the neighbourhood and particularly of the park, which was the most important natural asset of the neighbourhood. Forty-two percent of respondents noted the importance of maintaining natural features. The interviewees in this neighbourhood had two opposite viewpoints: while nearly half of them (twenty-two percent) thought the local park and the centre had improved as regards the natural features, the other half criticised the lack of good management services in the area. Similarly in neighbourhood B, twenty-eight percent of the respondents appreciated the large amount of greenery as a unique characteristic of their neighbourhood, although half of this group was still seriously worried about the elimination of some green spaces.

Cleanliness was also frequently noted and was considered as a criterion for assessing the efficiency of the management system. Thirty-six percent of respondents in neighbourhood A talked about the cleansing issues in the centre and of those fourteen percent noted the park's cleaning system. An efficient rubbish collecting system was demanded by fourteen percent of the interviewees. Although some interviewees (four percent) saw the dirtiness of the spaces as resulting from changes in residents' behaviour and their carelessness about cleaning the neighbourhood, there were others who evaluated the centre positively and talked about the recent improvements in the cleanliness of the centre (eight percent) and of the local park (six percent).

Some positive and negative comments about the cleanliness in centre A were:

> – 'At the end of summer time, when the dried leaves shed, there is not an efficient cleaning system and the people do not keep the spaces clean either.' (young woman)
> – 'The park is not cleaned properly.' (middle-aged man)
> – 'The street should be cleaned regularly.' (middle-aged woman)
> – 'Cleanliness is one good thing about this neighbourhood.' (old man)
> – 'The park is fairly clean.' (old man)

In neighbourhood B, although the main concern of the respondents with regard to the management's responsibility was focused on restricting the new residential developments, the cleanliness of their neighbourhood centre was also considered very important and was mentioned by thirty-four percent of respondents. Many of them viewed the cleansing problems as being the result of management deficiencies and shopkeepers' failure to keep their shop fronts clean especially

along the main street. Only one respondent thought of the main street in centre B as a clean space. Some comments relating to the cleanliness in neighbourhood B were:

- 'The management system has not succeeded in cleaning the area properly and the centre is dirty.' (young man)
- 'Dirty is a suitable adjective for this centre.' (young man)
- 'Dirtiness is a problem for this neighbourhood centre.' (young man)
- 'The food shops along the main street do not care about cleaning the shop fronts.' (middle-aged women)
- 'The seasonal river is a dirty element in the neighbourhood.' (young man)

The new residential developments were one of the main concerns in neighbourhood B, where forty-six percent of respondents thought these developments should be restricted. Similarly in neighbourhood A, sixteen percent of respondents were opposed to the newly built apartments particularly with regard to 'their undesirable social consequences'.

In fact, in neighbourhood A the social aspects of the neighbourhood were looked upon as being threatened by these new developments, whereas in neighbourhood B destruction of green spaces and natural features and environmental pollution were seen as the consequences of them.

Twenty-eight percent of interviewees in centre A were worried about the social behaviour, particularly of the young people, in the local park. Among this group twenty percent blamed the increase of unacceptable social behaviour among the young people, whereas eight percent appreciated the reduction in bad behaviour during the recent years. Some respondents sought the management's control of the youngsters' behaviour and suggested giving them guidance in order to improve the social conditions of the centre. In this regard, some respondents in neighbourhood A said:

- 'Comparing with other parts of the city, the young people's problems are less in this centre.' (young woman)
- 'I suggest the youngster hanging around in the centre should be controlled.' (young women)
- 'I go through the park but I do not use it.' (young woman)
- 'Showing the right way to young people is important.' (middle-aged woman)
- 'The lack of sports halls, cinema and entertainment facilities has caused groups of youngsters to hang around.' (old man)
- 'The number of people who just hang around has been reduced and this factor adds to the quality of the centre.' (young man)

The maintenance of streetscapes and the upkeep of facades was noted by twenty percent in neighbourhood A and eighteen percent in neighbourhood B. The respondents in neighbourhood B proposed the improvement of shop fronts, which were considered a deteriorating factor for the visual quality of the main street. In neighbourhood A, the restoration of old facades was frequently mentioned particularly by the newcomers to the neighbourhood (six percent), whereas the old inhabitants of the area were mostly in favour of constructing new buildings in the centre (fourteen percent), by which they thought a nicer environment would be produced.

The maintenance of street furniture was noted by twelve percent of respondents in neighbourhood A; the equipment of the local park was particularly important for them. Some of them appreciated the removal of fences around the park, the painting of the borders and the improvement of the pools and fountains; others had suggestions for building drinking fountains in addition to making kerbs around the vegetation and plants where necessary.

Twenty-eight percent of interviewees in neighbourhood B were concerned about the high prices of goods offered in their neighbourhood centre and many of them preferred to shop in other centres which they knew to be cheaper. Parallel to this, ten percent of the respondents in neighbourhood A were also dissatisfied with the high prices in their neighbourhood centre.

The above mentioned respondents in neighbourhood B did not suggest any control on the shopkeepers to reduce the prices and found a solution by abandoning the shopping area, while in neighbourhood A nearly all of those respondents proposed strict price control for the shopkeepers by the management system.

The lighting of the centre was mentioned by four percent in neighbourhood A and eight percent in neighbourhood B, where there was some risk of car accidents due to the inadequate lighting system.

Four percent of respondents in neighbourhood A were in favour of police patrols at night in order to increase the safety of the neighbourhood. Ten percent of the respondents in neighbourhood B directly asked for more supervision by the management body of the centre in order to solve the existing problems.

11-1-3- Discussion

Reviewing different factors mentioned by interviewees in relation to the management and maintenance of their neighbourhood centre, two groups of items were identified. The first were those general items which corresponded to the whole society and could be seen as the city-wide issues. Controlling the residential developments, making policies for controlling shops' prices or even programmes for guiding social behaviour of the young people are among this group, even though the local residents' co-operation and suggestions can be effective in finding some localised suitable solutions or making appropriate decisions for future actions.

Among this group of factors, limiting residential developments, especially because of their ecological consequences and controlling shop prices, were the two main concerns of the respondents in neighbourhood B, where the respondents asked for more control from the management system over all aspects of their neighbourhood centre.

Controlling and guiding social behaviour was of great concern in neighbourhood A, where better social relationships and a greater sense of community were perceived.

The second group of factors, such as cleanliness of the area, maintenance of greenery and facades, lighting and so on, were more locally based and could be independently maintained by the local management system.

Cleanliness as a major concern of respondents was taken into account similarly in both neighbourhoods. Although some respondents in centre A saw the dirtiness of the spaces as the result of bad management, there were some who thought these problems were created by the carelessness of the residents particularly in recent years. Some respondents in neighbourhood B blamed the shopkeepers for their failure to clean the shop fronts along the main street. On the whole, all these respondents asked for a better rubbish collecting system and for the local people to be more responsible.

Maintenance of the greenery, trees and vegetation was widely supported in both neighbourhoods and more attention and responsibility from the management body was demanded in order to improve the natural assets of the centre.

Public spaces, in both neighbourhoods, could be freely used during the day and night and there was no privatised space around the centre, so there were no

comments regarding this. Provision of suitable lighting was suggested by some residents in both neighbourhoods, particularly in centre B.

Specific needs of young adults and children were frequently considered by the respondents. Provision of appropriate spaces and facilities for their entertainment and recreational activities such as sports halls and playgrounds, where they could spend their spare time, was widely suggested.

The appropriate conditions for the elderly were, to some extent, provided in neighbourhood centre A and their presence in the local park indicated this issue; while in neighbourhood centre B, the unsuitable pavements and inadequate lighting, in addition to the lack of rest spaces, prohibits the presence of old people.

Women's safety was not a problem in these neighbourhoods since women do not usually spend much time outside during the late hours at night. In the responses to the question 'Is there any time that you do not like to go to the centre?' there was no reference to the lack of safety. Only one respondent in neighbourhood A asked for police patrol during night in order to improve the safety of the residents.

There were no comments on public signs or public toilets in either centre, although at present these centres lack the latter facility.

11-1-4- Marginal Notes

Comparison of the responses given by women and men showed that women expressed their concern about the maintenance of street facades more frequently than men but their difference was not statistically significant (Figure 11-4).

There were some differences among the respondents with concern to their length of residency. The long-stay residents in both neighbourhoods were the main concerned group about preserving the greenery and showed a difference to 5% level of significance (χ^2=7.45 and df=2) compared to other groups of inhabitants.

In centre A, the long and middle-stay group were mainly worried about the cleanliness while in centre B the differences between the respondents was not significant. In centre B, the newly built apartment blocks were criticised by the long and middle-stay residents significantly more than newcomers (1% level of significance, χ^2.=9.76 and df=2)

Although the maintenance of street facades and the control of youngsters' social behaviour were mainly proposed by the long-stay respondents in centre A, the

differences among the three groups of respondents was not statistically significant
(Figures 11-2 and 11-3).

Figure 11-2: **Maintenance and different groups of respondents in centre A**
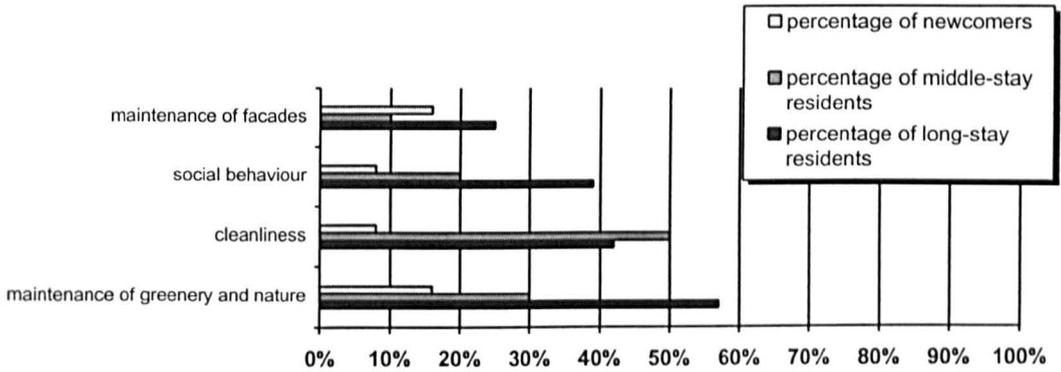
Figure 11-3: **Maintenance and different groups of respondents in centre B**
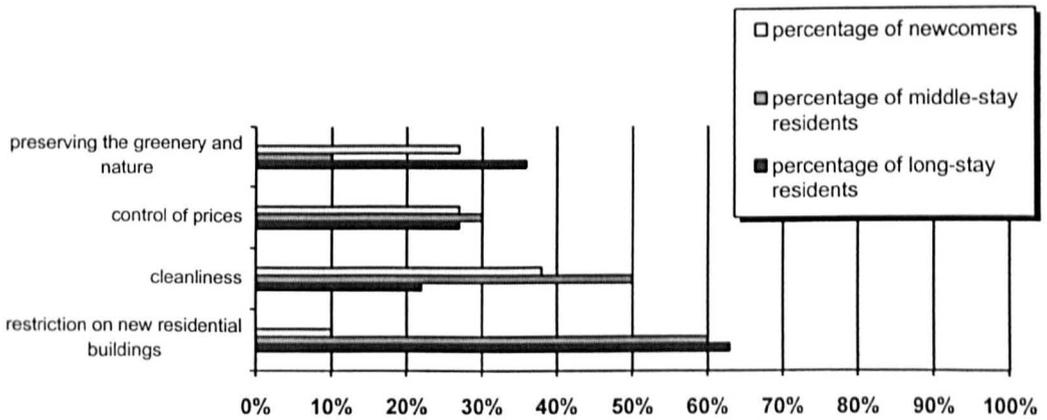
Figure 11-4: **Fundamental factors of a management system according to the respondents in neighbourhoods A and B**
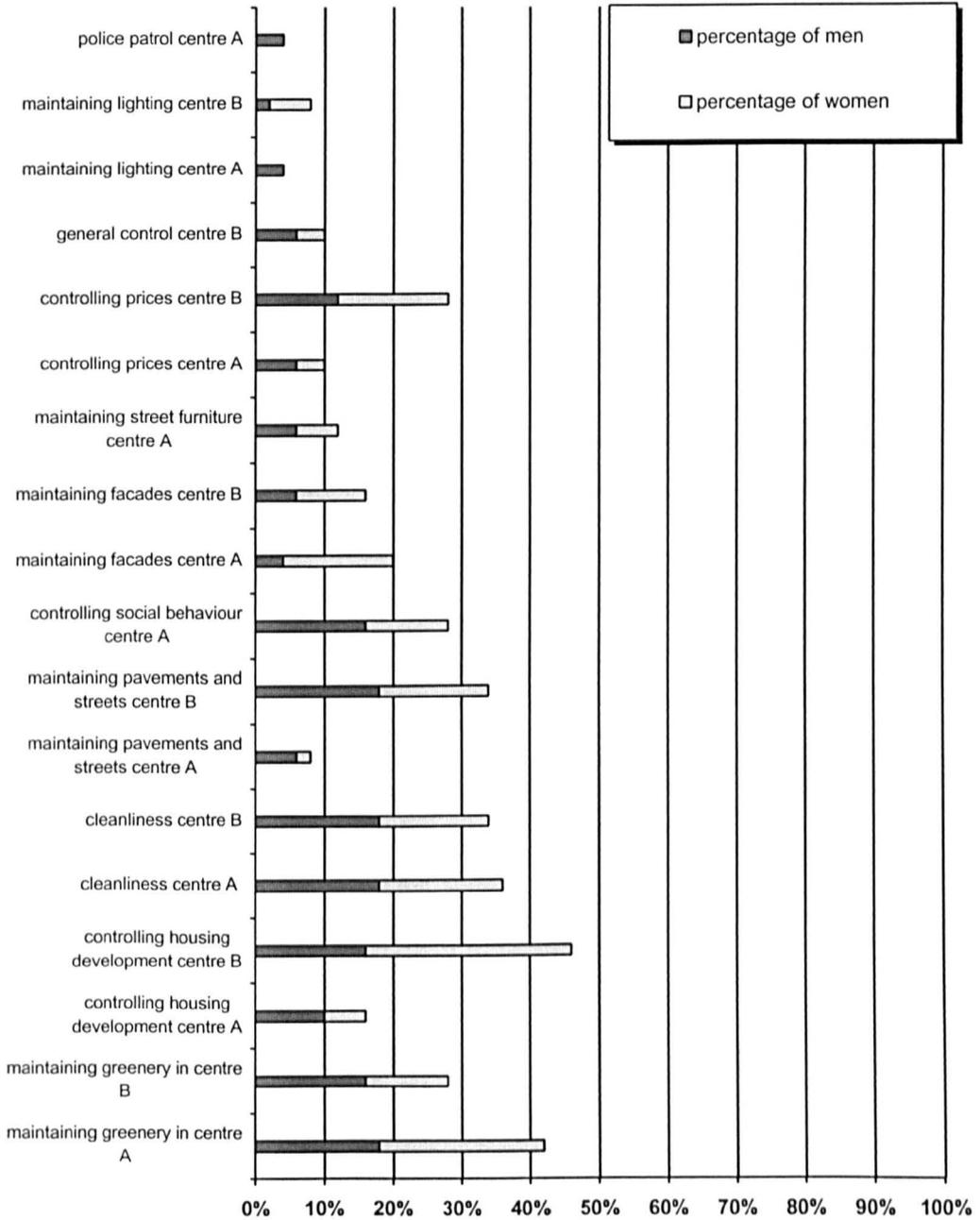
3-1-5- Summary

A summary of the survey results is set out in Figure 11-5 in order to be compared with the initial principles. The first group of principles (mentioned in the initial list at the beginning of this section) was not a problem according to the current conditions as the centres were both accessible at all times and there were very few safety problems. However, the acceptable quality of the pavements and also street surfaces, in addition to a good lighting system, was of concern to the respondents.

The second group of principles was not mentioned by the respondents because the social events are usually arranged by the local mosques and management system is not engaged in this issue at present.

The third group was the main concern of the respondents. Maintenance of the green spaces and natural features, facades of buildings and shops and also the cleansing system of the neighbourhood were considered very important. Rejecting the newly built apartments was, to some extent, due to a concern in preserving the natural assets of the neighbourhood. There were no comments on the fourth and fifth groups of principles. However, the control of prices was regarded as important and was considered to be the responsibility of the management body of the centre.

Figure 11-5: **Management and maintenance: comparing the initial principles with the survey results**

Initial Principles	Survey Results	
1- Safe access to the centre by: a) providing physical and visual access during the day and night. b) increasing the opening hours in the evenings to enhance the vitality. c) providing adequate lighting. d) providing security measures for women. e) preparing especial facilities for the elderly and disabled.	**1- Safe access to the centre by:** a) providing physical and visual access during the day and night. b) increasing the opening hours in the evenings to enhance the vitality. c) providing adequate lighting. d) providing police patrol at night.	observed observed A: 4% B: 8% A: 4%
2- Increasing people's involvement by: a) initiating facilities which help people to associate with one another. b) organising social events. c) establishing institutions for training the young people.		
3- Increasing maintenance through: a) preserving and upkeep of natural features. b) providing an efficient cleansing system. c) reducing artificial nuisance. d) maintaining street furniture. e) maintaining the facade of buildings.	**3- Increasing maintenance through:** a) preserving and upkeep of natural features. b) providing an efficient cleansing system. c) ...... d) maintaining street furniture. e) maintaining the facade of buildings. f) maintaining pavements and street surface.	A: 42% B: 28% A: 36% B: 34% A: 12% A: 20% B: 18% A: 8% B: 36%
4- Providing information through: a) providing well designed public signs. b) introducing a local guide book.		
5- Ensuring necessary facilities such as: a) religious and social organisations. b) responsive agencies such as van hire and day care. c) public toilets.		
	6- General Issues: a) controlling unsuitable social behaviour. b) restricting new development. c) controlling the prices of goods.	A: 28% A: 16% B: 46% A: 10% B: 28%
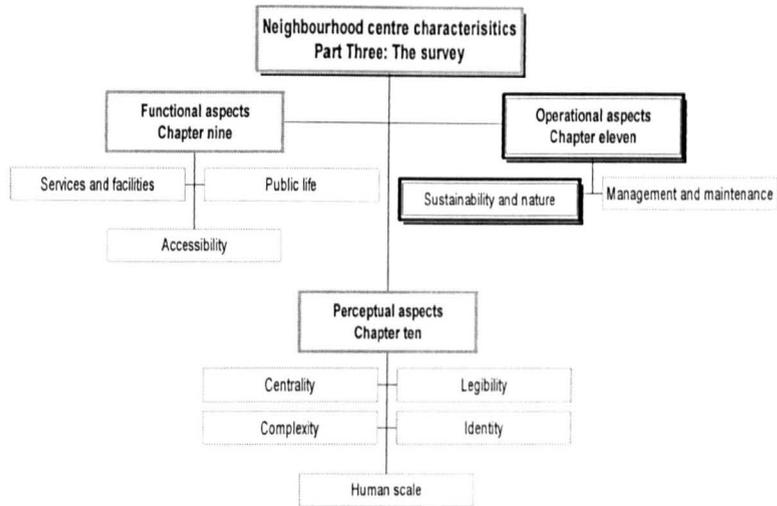
11-2- SUSTAINABILITY AND CONTACT WITH NATURE

This section is involved with specific issues, expressed by the respondents, which can be placed under the heading of sustainability. Moreover, contact with nature through the centre and its importance for the inhabitants is also investigated.

11-2-1- Initial Principles

The initial principles comprised two different parts: the first part introduces the different ways of contact with nature in a neighbourhood centre and the second part is concerned with some general issues in sustainability. A summary of important principles is presented below:

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1. Making a relationship with nature in the centre through:
   a) providing open green spaces and neighbourhood parks.
   b) introducing fragmented natural features such as trees, flowers, plants and water.
   c) using natural landscape and scenery of the site in the centre's layout.
   d) taking into account the visibility of the sky and sun.

2. Concerning sustainability of the centre through:
   a) consideration of the solar and wind orientation.
   b) consideration of recycling materials.
   c) flexibility of the spaces and buildings to accommodate new functions and uses.
   d) use of moveable elements depending on the climatic conditions.
   e) use of environmentally friendly techniques and materials.

11-2-2- Survey Analysis

Two questions were formulated in the checklist to find out the people's responses in the interviews regarding the importance of nature and another question was formulated to assess whether the residents respect any item related to sustainability.

Question 1: Do people like the existence of natural features in their neighbourhood? Which characteristics of nature are more frequently cited?

The answer to this question was mainly found among the responses to questions 6, 8 and 10 in the questionnaires. Use of the local park and its green spaces was a favourite activity performed by ninety-two percent of the respondents in neighbourhood A. The remaining group (eight percent) who did not use these spaces mainly attached two types of reasons namely: social problems (four percent) and dirtiness or insufficient maintenance of the park (four percent). Appreciation of the local park in neighbourhood centre A went further by considering this place as one of the advantageous factors of the centre according to fifty-two percent of respondents. For example some of them said:

- 'The existence of large amount of green spaces is admirable and characterises this centre.' (middle-aged man)
- 'The park is the best place of the centre. It is comfortable and intimate.' (old man)
- 'The park is the most famous feature of the centre.' (middle-aged woman)

In neighbourhood centre B, twenty-four percent of the respondents expressed their concern regarding the green spaces of the area. Nearly half of this group admired the existence of gardens and private green spaces as a positive aspect of the neighbourhood, while the other half were worried about the recent residential developments and their destructive effects on the greenery of the area. Sixty-two percent of the respondents in this neighbourhood suggested the establishment of a local park as an essential requisite of the centre. Green spaces and trees, among the natural features, gained the most frequent attention of the interviewees. Some respondents in centre B said:

- 'As there is not a local park in this neighbourhood, we have to use distant parks which is difficult.' (middle-aged man)
- 'There are no open green spaces here, somewhere to entertain, there are only some attached private gardens in the neighbourhood.' (young man)

– 'A park should be established in this neighbourhood especially for a better air quality and because of the population growth.' (middle-aged women)

The visibility of the sky and particularly the sun was mentioned by six percent of respondents in neighbourhood A and two percent in neighbourhood B; ten percent in neighbourhood A visited the centre only during the summer time.

Natural landscape was only mentioned by four percent of respondents in neighbourhood B where the specific location of the neighbourhood on the mountainside of Alborz should have been taken into account.

Figure 11-6: **Different types of contact with nature and people's preferences**
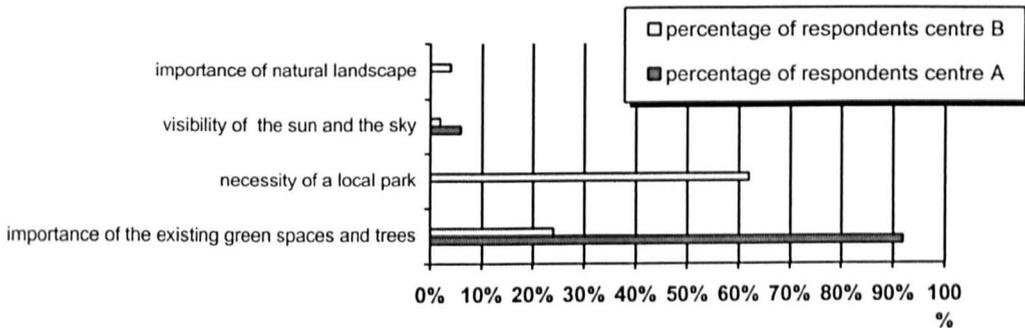
Question 2: *Which qualities are associated with a park in a neighbourhood centre?*

The answer to this question was mostly found in the responses to questions 10 and 13 in the questionnaires. The effects of a park on a neighbourhood centre, referring to the respondents viewpoints, can be categorised into two groups: first, those meeting physical needs and second, those affecting the psychological needs. The first group comprises two essential items:

A. Air quality and ecological effects were mentioned by thirty percents of respondents in neighbourhood A and fourteen percent in neighbourhood B.

B. Provision of entertainment and leisure activities were associated with the park by twenty-eight percent in neighbourhood B and sixty-eight percent in neighbourhood A.

Some examples of the respondents' viewpoints are:

- 'Being a recreational space is an advantage for the centre.' (middle-aged women)
- 'The park is the most important feature but there should be more playgrounds for the children and young people within this space.' (middle-aged woman)
- 'The air quality and the park are the most valued aspects of this neighbourhood.' (old woman)

The second group is particularly cited in neighbourhood A due to the existence of the local park:

A. Tranquil and comfortable were two adjectives attributed by thirty-two percent of respondents to centre A. Twenty-six percent of interviewees in neighbourhood B, who were living in the streets with large gardens and green spaces, also attributed this quality to their living places and in some cases expressed their nostalgic feelings towards the recent loss of this quality due to the newly built residences in the neighbourhood.

B. Descriptions such as 'bright and cheerful' were mentioned about the centre by eight percent in neighbourhood A.

C. There were also six percent in this neighbourhood who saw their centre as a 'beautiful' place.

Some examples of the respondents' opinions are:

- 'The park is exhilarating and relaxing.' (young man)
- 'The centre is bright and cheerful and the park is an advantage for the place.' (young woman)
- 'The green spaces and nature are advantages for the neighbourhood, making a relaxing and intimate feeling.' (young woman)

Figure 11-7: **Advantages of introducing nature in the centre**
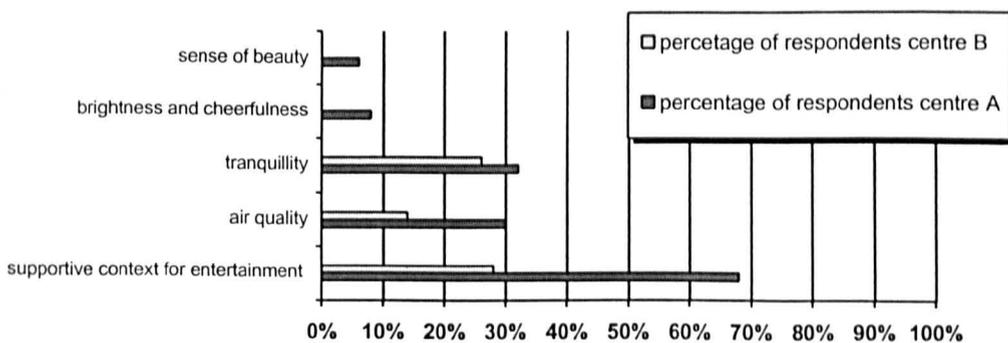
Question 3: Which factors of sustainability were more often noted by the residents?

Maintenance of the green spaces and natural features was the main concern of forty-two percent of residents in centre A and twenty-eight percent in centre B. Air quality of the centre and the neighbourhood was also admired by thirty percent in centre A and fourteen percent in centre B. This point indicated the residents' awareness of the ecological aspects of the environment. The respondents' attention to the renovation and maintenance of the facades, in addition to their comments on improving the structures in the park, both reflected their awareness about the importance of properly preserving the current buildings and spaces. This point was most frequently stated in neighbourhood A for example, some respondents said:

- 'The renovation of the old facades and attention to the appearance of buildings is my only suggestion for this neighbourhood.' (young woman)
- 'The facades of old buildings have to be renovated.' (middle-aged man)
- 'Attention must be given to restoring the streams and providing necessary facilities.' (middle-aged man)

New housing developments, particularly in neighbourhood B, were also rejected by forty-six percent of respondents mostly with a concern to their ecological consequences such as destroying green spaces and increasing air and noise pollution and the overcrowding of the neighbourhood. This point also indicated the awareness of the respondents concerning some characteristics of a sustainable environment.

Apart from ninety percent of interviewees who walked to centre A and were very satisfied with this kind of access, there were sixty-six percent in centre B who were in favour of a closer access to the shops and entertainment facilities rather than using their car for shopping in distant centres as they do at present. This tendency also indicated their attention to energy and time conservation.

11-2-3- Discussion

Contact with nature and natural features were greatly appreciated by the respondents in both neighbourhoods. Although three methods of introducing nature were suggested in the initial list of principles, the first kind, the use of fragmented natural features, was more frequently cited by the respondents. The existence of

trees and greenery gained the highest level of attention and was associated with many desirable consequences in both neighbourhoods.

The advantages of a local park in a neighbourhood can be categorised under three sub-headings:

- *Psychological effects.* In this regard, the restorative effects of natural settings have been investigated and suggested in the literature. Moreover, the presence of nature enhances the perceived order in the environment as well. The survey results also showed some psychological effects of the park and greenery on the residents. On the whole, three feelings were associated with the existence of greenery and local park: expressions of the tranquillity, quietness and calmness of the centre; those referring to brightness, cheerfulness and delight; and those concerning beauty and the good appearance of the centre.

- *Sustainability.* Improving air quality and wild life preservation were two advantages of a park according to the literature review. During the survey the importance of air quality was also frequently noted by the respondents.

- *Physical effects.* Many respondents associated the presence of greenery and local park with entertainment activities and perceived these spaces as an appropriate context for promenading and recreation.

It should be mentioned that trees were of a great concern to the respondents. They were considered necessary not only for the park's spaces but also many comments on planting trees alongside the streets were put forward. In centre B, one respondent called the main street an ugly place merely because of the lack of trees.

Being able to see the sun and sky was considered desirable by some interviewees. This point should also be noticed in the design of indoor shopping centres. There was not much attention paid to the natural landscape in these centres. Centre A lacked this quality while the layout of centre B, in spite of its unique location on the mountainside, did not respond to this advantage of the site. However, the importance of natural landscape was not fully investigated during this study but should be examined in the future.

Proper conservation and maintenance of the existing facilities and amenities of the neighbourhood were demanded by the respondents. Where any deficiency in the management system, which resulted in a loss of these features was perceived, the respondents severely criticised the authorities.

11-2-4- Summary

The results of the survey are summarised in Figure 11-8 in order to be compared with the initial principles. On the whole, natural assets of the neighbourhood were of great concern for the residents, in that they provided them with ecological comfort and appropriate context for leisure and entertainment activities. The natural features also improved the tranquillity, exhilaration and beauty of the place. The effects of natural elements on the durability and sustainability of the environment were to some extent felt by the respondents even though they were not clearly aware of the relevant debates over the recent years. Therefore, they widely suggested proper maintenance and preservation of nature in the centre.

Nature was mainly perceived in the existence of green spaces and trees and, to some extent, the possibility of having visible access to the sun and sky. However, the importance of natural landscape was not examined due to the lack of suitable examples in these neighbourhoods.

Table 11-8: Sustainability and nature: comparing the initial principles with the survey results

Initial Principles	Survey Results	
1- Making relationship with nature through:	**1- Making relationship with nature through:**	
a) providing open green spaces and neighbourhood parks.	a) providing open green spaces and neighbourhood parks.	A: 90% B: 62%
b) introducing fragmented natural features.	b) introducing fragmented natural features.	A: 90% B: 62:
c) considering the visibility of the sky and sun.	c) considering the visibility of the sun and sky.	A: 6% B: 2%
d) considering the visibility of natural landscapes such as mountains, rivers and lakes.	d) considering the visibility of natural landscape such as mountains.	B: 4%
2- Concerning the sustainability of the centre through:	**2- Concerning the sustainability of the centre through:**	
a) considering solar and wind orientation.		
b) using recycled materials.		
c) making the spaces and buildings flexible for new uses.		
d) using moveable elements compatible with climatic conditions.		
e) using environmentally friendly techniques and materials.		
	f) upkeep and preservation of natural features.	A: 42% B: 28%
g) encouraging rehabilitation instead of redevelopment.	g) conservation and maintenance of the existing buildings and facilities.	A: 14% B: 14%
	h) avoiding any development which could result in air pollution.	B: 46%

PART THREE

THE SURVEY

CHAPTER TWELVE

CONCLUSIONS

I. INTRODUCTION

The main aim of this research was to develop a list of principles relevant to the design of neighbourhoods and in particular neighbourhood centres; at the same time, the hypothetical conception of the importance of neighbourhood centres for the well-being of the inhabitants was also tested.

The first stage of the study involved the literature review, during which a provisional list of principles on the basis of both prescriptive and explanatory theories in architecture and urban design was developed. Moreover, different concepts upon which neighbourhoods have been developed during this century were investigated.

The second stage of the study, the survey, was designed to pursue the above mentioned aims: first, to amend the provisional list and obtain a final set of generic principles relevant to the design of neighbourhood centres; and second, to assess the role of neighbourhood centres in the current residential districts and to find out what people do in those centres. Attempts were made to identify any principles which might otherwise be omitted, especially by gathering people's opinions in some open-ended questions.

This chapter attempts to draw together the results of both stages of the research and sets down the final set of generic principles considered to be relevant to the design of neighbourhood centres with particular attention to Tehran.

II. DIFFERENT SECTIONS OF THE CONCLUSION

This chapter comprises three sections:

1- The final list of generic principles, comprising the essential outcome of this research, is the revised form of the provisional list on the basis of the survey findings and is presented at the end of this chapter. It should be mentioned that due to the multi-faceted nature of a neighbourhood centre, not all the relevant factors in the provisional list were completely investigated and discussed during the survey and there remain some items which should be studied in the future. On the whole, sixty-five percent of the items on the provisional list were covered during the study and seventeen items which were not in evidence on the initial list were also

revealed during the survey. Most of these items are related to design matters and the rest are mostly relevant to the management system of neighbourhood centres.

2- The primary findings explain the importance of local centres for the well-being of their residents. Those items which were added following the survey and contributed to the amendment of the initial list are also presented in this section.

3- The secondary findings are in fact the conclusion of the marginal notes presented in different sections of the analysis. This section concerns the respondents' differences in the perception and evaluation of their neighbourhood centre, based on their gender or length of residency in the neighbourhood. Although this section does not comprise the focus of the study, it can enhance the understanding of users' feelings and evaluations and ultimately lead to the creation of a better human environment.

12-1- PRIMARY FINDINGS

On the whole, the importance of neighbourhood centres is widely expressed by the residents. The centre has been viewed from two different points of view: first, as the area where local services are concentrated, particularly the shopping centre; and second, as the heart of the neighbourhood, the place where people should gather, meet informally and spend their leisure time.

The centre has been viewed as a refuge for the inhabitants of the area, a place that can separate them from the hazards of a polluted, over-populated city. Apart from the sense of community and knowing people and shopkeepers which was initially thought to be a key indicator for a successful neighbourhood centre, three other qualities emerge as very important for the residents. A sense of tranquillity, spaciousness, and convenience were three characteristics of a neighbourhood centre which are appreciated and desirable. These qualities seek supportive physical conditions which should be identified and regarded in design.

12-1-1- Problems in Extracting Results

A neighbourhood centre can be viewed from two different perspectives, as container and as contained. As container, the physical characteristics of the place have to be studied and, as contained, the activities, feelings and meanings associated with the place must be investigated. Although, during the field study, an attempt was made to concentrate the respondents' attention on the physical aspects of their neighbourhood centre, the people's interests and responses more frequently referred to the containing aspect; they could express their activities and feelings much more explicitly than they could discuss the physical conditions.

Bearing in mind the three chapters of analysis, the first and the third ones which mainly investigate the functional and operational aspects of the centre are more fruitful in terms of providing explicit and numerous responses for evaluating the initial list of principles.

Although the perceptual aspects, which are the main concern of the second chapter, have direct effects on people's feelings and evaluations, they could not be easily discussed and analysed by the general public. Therefore, during the analysis,

attempts have been made to compare the respondents' feelings and assessments with the physical conditions of each centre. In other words, the appropriateness of the container has been assessed with regard to the desirable containing and in this way the proper containing, identified and explained by people, can lead to establishing proper physical conditions. Despite the above problems, fifty-four percent of the items in the chapter on perceptual aspects have been evaluated during the survey, using both the residents' opinions and the researcher's observation. Those remaining principles of the initial list which were not completely examined during this study require specific tests and techniques and have to be investigated in detail in the future.

The comparison of the survey outcomes and the initial list of principles resulted in some new items which had not been found during the literature survey. These findings, which are presented below, mainly contributed to the amendment of the principles.

12-1-2- Design-related findings

12-1-2-1- Centre as a functional place

1- Shopping is the first priority and the most frequent activity in the centre. Meeting the shopping needs, particularly the daily needs, is a key factor in the success of a neighbourhood centre. Moreover, the presence of a large number and variety of shops associated with broad pavements is important for social life and increases pedestrian activities such as standing and pausing.

2- Shopping areas have to demonstrate some characteristics to be evaluated as appropriate: ease of access, particularly pedestrian access, is very important; leisure shopping associated with entertainment activities is favourable and variety of shops with good appearance gained particular attention during the survey. This point has been discussed in the literature review and the survey shows that in a different cultural context people also prefer leisure shopping.

3- Entertainment facilities were the second concern of the respondents. Existence of greenery and trees were particularly important not only for their ecological effects but also for evoking the sense of tranquillity, cheerfulness and beauty.

The salient role of the green spaces for residents' leisure time transforms the local park into the most important feature in the centre, where not only many optional

activities and sports occur but also social activities are concentrated. One of the important advantages enhancing the rest spaces of a neighbourhood park is the visibility and visual relationships with the other parts of the neighbourhood centre. In this way, the rest spaces of the park are transformed into a plaza or neighbourhood square. The intimate scale of these rest spaces should be considered, for example the borders can be defined by employing low walls or plants or using distinctive surface textures. These plaza-like places can be viewed as a medium or a connective structure for relating different components of the centre together.

4- Jobs have a salient impact on the centre. Provision of an educative environment which maintains the opportunity for learning for the residents and in particular for young people, fulfils the highest level of human needs and provides the best qualities for an urban space. With regard to this, the following suggestion is made by the researcher as the outcome of not only the survey and the literature review, but the observation and experience of different urban centres in Iran and Britain. One simple way of creating an educative environment is by using small workshops in the centre, in which some necessary goods for the local people are produced. If these workshops display the process of producing goods for the users, this provides double advantages for them: first, the opportunity of producing goods of higher quality as a result of being observed by the general public; second, creating a learning context particularly for young people and children. For example, a confectioner can demonstrate the process of producing sweets and pastries or a carpenter can make his workshop observable and so on.

5- The productive workshops in a neighbourhood centre have to be friendly to the environment; not only must the air and noise quality of the centre be protected but the visual quality should be carefully preserved. An unpleasant appearance or uncleared rubbish will decrease the quality of the centre. For example, shops selling construction material and car repair shops should be designed in such a way that they do not become a nuisance for the centre. Work places or any other function established in the centre should not impose traffic problems on the area either.

6- Accessibility of the centre is of major concern to people. Pedestrian access to the centre is the most favourite type of access, where spacious pavements, avoiding crossing heavy vehicular movements, are the main requisite. In these conditions the existence of public transport systems within the neighbourhood is not very important.

7- Separating the main spaces of the centre from the vehicular traffic is a salient factor which should be seriously considered in design.

If a neighbourhood centre is located on the main vehicular movement of the city or, in other words, a through route or a main access road to the city passes through the centre, the sense of locality and unity will be greatly destroyed. However, the centre should be particularly located on the natural pedestrian movement of the neighbourhood in order to preserve the vitality of the place. Despite this, convenient access to the arterial routes and main access to the city should also be provided from the centre.

12-1-2-2- Centre as a place for public life

8- The existence of a focal node is necessary for the centre. The entertainment facilities provided in the centre can provide a suitable context for social relationships. More sense of community is perceived with the presence of the following conditions:

- possibility of contact with people through the provision of pedestrian access between the centre and the residences by providing broad and secure pavements.

- presence of rest spaces with good visual connections to other spaces of the centre.

- closeness of the centre and the residences even with the possibility of viewing the centre from the residential parts.

- social cohesion and knowing neighbours and local people.

9- Concern about how young adults and children spend spare time was among the main social issues in these centres. Therefore, provision of adequate entertainment and recreational activities for them is very important. A local park can be viewed as one of the appropriate contexts for these activities, in which sports' equipment and adventurous and exciting facilities can be provided. Different spaces of the park must be designated for different uses; for example, sitting areas can be more supportive to the activities favoured by adults and the elderly, while play and sports areas are more suitable for exciting games demanded by young people.

10- Public places which offer the opportunity for staying and sitting are not desirable when crowded. Although the presence of people is necessary to give a sense of

safety and vitality to a public place, over-populated spaces are rejected. Crowded places do not provide an appropriate space to define a territory around oneself, nor do they allow the separation of non-compatible uses.

11- Identity is an important factor in the centre. A greater concern for the identity of the neighbourhood centre is associated with a longer length of residency.

12- Sense of quietness and tranquillity, as a desirable quality, is provided where appropriate social and physical conditions are present. Hence ecological conditions, pleasant climate and air and noise quality also contribute to making a distinctive character for a place.

13- Social integrity and homogeneity of the residents increased the level of social relationships and the sense of community. The physical conditions which communicate the status of the resident are also a characterising factor in the neighbourhood and therefore, the compatibility between the neighbourhood centre and its surrounding residential areas is important. If the residential parts indicate the accommodation of a high status group, a neighbourhood centre with the same quality is demanded by the residents, otherwise the sense of belonging and pride in the centre will not be created.

14- There would be negative reactions from the residents if these identifiable characteristics of a neighbourhood were to be threatened; for example, by group mobility or large residential developments which rapidly change the density of population.

15- Management plays an essential role in the centre. The success of a neighbourhood centre in fulfilling the needs of the residents and maintaining all the expected conditions cannot be fully achieved only by the design of the centre. The management system of a neighbourhood centre can also effectively contribute to promoting the qualities and completing the conditions which are pursued in the design of the centre.

A large number of respondents' proposals, concerning the improvement of their neighbourhood centres, referred to the management system and its efficiency. Although these factors are not directly related to the urban spaces and are beyond the responsibility and capacity of an urban designer, they require considerable attention in order for a satisfactory urban centre to be achieved. From small issues such as price control, punctuality of the public transport system and the destination

of bus routes, to large issues such as controlling inappropriate social behaviour, the arrangement of social events and programmes for young people, it is apparent that a powerful and popular management system is the best means of organisation and achieving results.

16- Maintenance of the appearance of the neighbourhood, the street facades and the paving surface are also of great concern to the residents.

17- The participation of the local residents in decision making and management of their neighbourhood seems to be a beneficial step towards solving these problems. After some years of formal municipality and its control by the central government, which more or less caused a kind of alienation from the urban life and space (Madanipour, 1994), it seems reasonable to involve the residents of a neighbourhood in the process of decision making and even in the implementation of their ideas for the improvement of urban centres.

12-2- SECONDARY FINDINGS

This section summarises the marginal notes, derived during data analysis, and investigates the respondents' differences in evaluation and perception of their neighbourhood centres. Residents' feelings and activities in their neighbourhood centre are compared by employing three areas of categorisation: first, on the basis of different genders; second, concerning their length of residency and third, age differences among them. Although these results were not directly used in the final list of principles, having knowledge of them can help the designers to create a better and more humane place for different types of users.

12-2-1- Differences concerning gender

Some differences among men and women were revealed during the analysis of chapter one on the functional aspects. The use of various facilities in the centre, *performance of optional activities and also engagement in the social life of the* neighbourhood were to some extent different between men and women. Gender differences in defining the characteristics of the centre which support their intended activities was also looked for in order to achieve some design principles.

12-2-1-1- Using urban services

The main necessary activities (as Gehl, 1988 calls them) performed in the two centres were: shopping, using health services and using banks. Figure 12-1 shows differences between men and women in doing these activities. Women are the main shoppers while men use the other two services more frequently (see also section on 'services and facilities' Figure 9-7).

Chi-square test of independence was applied in order to find out the significance of differences. While the number of women as the main shoppers was to 1% level of significance higher that men (χ^2=6.7 df=1), differences for using other facilities, namely health services and banks, were not statistically significant.

Figure 12-1: Differences between men and women in using urban services

Activities	Percentage of women		Percentage of men	
	neighbourhood A	neighbourhood B	neighbourhood A	neighbourhood B
shopping	88%	96%	72%	72%
health services	28%	4%	40%	12%
banks	44%	32%	64%	32%

12-2-1-2- Public life and optional activities

Although, compared to men, women more frequently go window shopping and a large number of them enjoy strolling about and looking at the flowers and scenery, the number of men who are involved in optional activities is to some extent larger than that of women. Chi-square test of independence showed that enjoying scenery and natural views is more performed by women (10% significant difference χ^2=3.78, df=1). However, men more frequently do sports; differences between men and women in doing sports showed to 5% level of significance (χ^2=5.08 df=1). Men are also to 1% level of significance more involved in social contacts and talking to people (χ^2=7.14 df=1). Figure 12-2 shows the frequency of performing optional activities.

Figure 12-2: Differences between men and women in performing optional activities

Activity	percentage of women		percentage of men	
	neighbourhood A	neighbourhood B	neighbourhood A	neighbourhood B
window shopping	52%	4%	40%	8%
enjoying the scenery	72%		44%	
strolling	40%	8%	60%	12%
eating	16%		36%	
children playing	24%		24%	
doing sport	16%		48%	
talking to people	28%	4%	68%	12%

12-2-1-3- Supportive conditions of the centre

The important characteristics of the centre which encourage or facilitate the engagement in optional activities and social life are also investigated on the basis of

gender differences. Chi-square test of independence did not show significant statistical differences among them. Due to their interest in window shopping, women more frequently emphasised the variety and number of shops as the important factor, with valuing open green spaces as the next most important. Men considered the existence of green spaces as the key factor with the social integrity and the number of shops coming next. Figure 12-3 shows the different views among men and women in centre A with regard to the supportive conditions for performance of optional activities. Centre B could not be investigated due to lack of contextual qualities.

Figure 12-3: **Differences between men and women in evaluating the supportive conditions of centre A for performing optional and social activities**

Supportive factors	Percentage of women	Percentage of men
number and variety of shops	80%	60%
social integrity	48%	60%
good urban spaces	24%	36%
green open space	68%	76%
air quality	32%	28%
presence of friends	24%	20%

12-2-1-4- Discussion

As the results show, women seem to be more interested in and engaged with the passive optional activities, in other words, in what they can do on their own, such as enjoying scenery, window shopping or strolling. They are less dependent on group activities even though many of them do make social relationships and talk to people. This fact may be the outcome of cultural values. Women are nowadays present in every aspect of social life, different levels of occupations and education while complying with cultural conventions which encourage the preservation of their decorum and formality in public spaces and protect their dignity. Although the public realm in Iran was, and to some extent, still is dominated by men (Madanipour 1994) particularly in small towns and communities, the observation of large cities such as Tehran shows considerable changes. The presence of women in most of the public places and in particular neighbourhood centres and local parks has increased in recent decades because these places offer familiar social conditions and are more or less occupied by cohesive populations. The increase of the female population of

public spaces reduces the feeling of dominance by men and facilitates the attendance of more women in these places.

The design of the spaces may also facilitate the attendance of women. It appears that the articulation of spaces can better provide the opportunity of defining territories; places which are neither isolated nor within the central and main view of others may be more welcomed by women. This is a research theme which needs to be addressed in future by the investigation of women's needs and feelings in public places.

12-2-1-5- Summary of the gender differences between respondents

- *Women are the main shoppers.*
- *Women are more engaged in passive optional activities and compared to men are less group-dependent in public places.*
- *Men are the main group involved with active optional activities and social life in public spaces.*

12-2-2- Differences Concerning the Length of Residency

12-2-2-1- Introduction

During the first steps of data analysis some differences among the respondents' points of view were revealed. The interviewees' similar feelings and attitudes could be clustered in groups divided by the temporal characteristics of the residents. It seemed reasonable to classify the interviewees into groups on the basis of their length of residency in order to find out their perceptive/evaluative differences.

Three periods of: under five years of residency, between five and fifteen and more than fifteen years were considered for the following reasons:

- Economic, political and social changes which emerged after the war period (starting from 1990) in Iran initiated and facilitated the rapid residential developments in different cities and particularly in Tehran. Factors such as improvement of economic circumstances, governmental encouragement for construction and establishment of dwellings, and, more importantly, the growth of population in recent decades and, consequently, increasing demand for new residences, together caused the establishment of a great number of new residences and apartment blocks in different parts of the country.

Most of the neighbourhoods in Tehran encountered a period of rapid socio-physical changes and many new residential areas were also extended around the city. This was followed by the housing of new residents in different areas. The respondents who have been living less than five years in their neighbourhood belong to this group.

- The second group living in the neighbourhood between five and fifteen years were found to comprise a small group because during the period of war not only was the mobility of people low, but there were also some restrictions on immigration from all over the country to Tehran (Planning and Urban Design Department, 1992: 159-160).

- The third group who have been living more than fifteen years in that place can be considered as the native inhabitants of the neighbourhoods.

The first group are named as 'newcomers', the second group, 'middle-stay' and the third 'long-stay' residents of the neighbourhood. Another categorisation on the basis of the respondents' age was also applied during this phase of the study in order to

cross check the results and the findings are discussed whenever significant differences are perceived. In this regard, the respondents were divided into three groups: 'young adults' was applied to those under thirty five years old; 'middle-aged' was for people between thirty-five and sixty and 'old' described those above sixty years old.

12-2-2-2- Results

Different attitudes and feelings among these groups of residents which were revealed during the data analysis mainly related to five aspects of the centre namely: functional efficiency, maintenance, change and crowding, access and overall satisfaction. It should be mentioned that some of these differences are based upon the perceptions and feelings of the respondents, while others consist of the facts about their behaviours and activities in the centre.

- **Functional efficiency**

Differences among the residents with regard to the functional aspects were mostly perceived in centre B which was the representative of an inappropriate neighbourhood centre. This centre was criticised for various reasons, one of which was inadequate urban services and facilities, with particular attention to shopping conditions. The long distance to a centre that can offer necessary services and meet the residents' needs was a main concern for the respondents. The lack of a local park was also widely criticised by the respondents. However, the residents' opinions with regard to these inadequacies were different.

Applying chi-square test of independence, a significant difference to a level of 5% resulted among those who proposed shopping developments (χ^2=7.769 df=2) and a difference to 1% level of significance among those who proposed establishment of a local park.

The newcomers and middle-stay residents were the main body who were mostly concerned about these problems and widely suggested the development of shopping facilities and local park. Conversely to these two groups, long-stay residents were the group most satisfied with the current conditions of the centre with a difference to 5% level of significance (χ^2=7.67 df=2). (Figure 12-4)

Figure 12-4: **Differences between the residents in evaluating the functional efficiency of their neighbourhood centre**

Functional conditions	long-stay residents		middle-stay residents		newcomers	
	centre A	centre B	centre A	centre B	centre A	centre B
Proposing development of shopping facilities		32%		70%		72%
Appreciating the availability of shops and civic facilities	76%		50%		76%	
Suggesting establishment of a local park		22%		70%		66%
Appreciating the existence of a local park	78%		90%		84%	
Dissatisfied with far distance to urban facilities		42%		78%		90%
Mainly using other urban centres		45%		10%		11%

The above perceptions and evaluations were followed by the fact that many of the respondents, especially among the long-stay group, went to other urban centres for shopping, mainly 'Tadjrish', the nearest district shopping area.

Another categorisation on the basis of age was also applied to the respondents in centre B in order to cross-check the above results. Accordingly, the middle-age group of residents were the main body who were in favour of a local park (level of significance 1%, χ^2=12.26 df=2). While the old respondents were to some extent concerned about establishment of a park, the young adults were the least concerned group in this regard.

Similarly, age difference in evaluating distances to urban facilities was also significant and the middle-aged respondents were the main group who desired nearness to the local services (level of significance 5%, χ^2=5.9 df=2). Chi-square test of independence was also used to find out if there are any significant age differences between the respondents in centre A with regard to their opinions about the local facilities and the park. However, the results showed no significant statistical differences among them.

Figure 12-5: **Age differences in evaluating urban facilities**

Functional conditions	young	middle-age	old
valuing nearness of local services	60%	84%	45%
Proposing establishment of a local park	35%	89%	63%

● **Maintenance**

Issues related to the maintenance of the environment also revealed some differences among the residents. Long-stay residents in both neighbourhoods were the most concerned about the upkeep of greenery in the centre. Chi-square test of independence showed a difference to 5% level of significance between this group and other groups of residents (χ^2=7.45 df=2). While in centre A, the long and middle-stay residents were to 10% level of significance more concerned about the cleanliness, the respondents' differences in centre B were not statistically significant. There were also some management factors such as controlling inappropriate social behaviour and maintenance of facades which were more frequently suggested by the long-stay residents in centre A but the differences were not statistically significant.

Figure 12-6: **maintenance of the centres and the residents' points of view in neighbourhood A**

Various factors of maintenance	Long-stay residents		Middle-stay residents		Newcomers	
	centre A	centre B	centre A	centre B	centre A	centre B
up-keep of greenery and natural features	56%	36%	30%	10%	16%	28%
cleanliness	42%	22%	50%	50%	8%	38%
social behaviour	38%		20%		8%	
maintenance of facades	26%		10%		16%	
restriction of new residential development	14%	64%	20%	60%	16%	16%
control of prices		26%		30%		26%

- **Change and crowding**

According to the respondents in both neighbourhoods, rapid development of the residential buildings comprised the main recent physical change in their neighbourhood. In centre B, the differences among the residents who rejected these new developments showed to 1% level of significance. Long and middle-stay residents as the main opposite group thought these constructions would ultimately increase the population, degrade the ecological aspects of the place and cause a sense of crowding.

The long-stay respondents in both neighbourhoods noted two factors as the main consequences of the growth of density in the neighbourhood. Those in centre A drew attention to the social effects of the centre and blamed the changes for a decline in the sense of community and social integration. Those in neighbourhood B found significant the decline in ecological aspects such as the amount of greenery and air quality; meanwhile, they were also in favour of keeping the character of the place as a high status residential neighbourhood with large private houses and gardens (Figure 12-6).

- **Mode of access**

The majority of respondents in centre A (ninety percent) preferred the pedestrian access to their local centre. However, in centre B, many of the respondents used their cars for going to the centre. Although some differences among the three groups of respondents were perceived with regard to the mode of access to the centre, these differences were not statistically significant (Figure 12-7).

Figure 12-7: **Different modes of access to centre B**

mode of access	long-stay residents	middle-stay residents	newcomers
pedestrian	36%	20%	18%
only private car	27%	30%	50%
using car or walking	36%	50%	22%

- **Overall satisfaction**

A longer period of residency showed some effects on the overall satisfaction of the residents with regard to the functional and spatial conditions of the centre (Figure 12-4), while it also showed more sensitivity to the human-dynamic aspects and level of crowding (Figure 12-6: restriction of new residential development). Longer residency was also important for evoking the sense of belonging towards the place

since all of the respondents who expressed their sense of belonging (ten percent in neighbourhood B and fourteen percent in neighbourhood A) were among the long-stay group.

12-2-2-3- Discussion

First, some characteristics of the neighbourhoods are compared in order to clarify the contextual conditions which resulted in the interviewees' different evaluations about their neighbourhood centres. In neighbourhood A, the welfare conditions are to some extent provided and the physical changes have not considerably affected the overall character of the neighbourhood. In other words there has not been a considerable social, physical or ecological change due to the recent new developments. Although many buildings have been constructed in the neighbourhood the overall character of buildings and their occupants is in tune with the existing conditions of the neighbourhood. Therefore, the respondents, almost irrespective of their length of residency, expressed fairly similar feelings and, on the whole, were satisfied with the current circumstances (Figure 12-4).

In contrast in neighbourhood B, there have been many changes in recent years. New developments in this neighbourhood are physically, ecologically and to some extent socially different from the character of the place. Although a large number of the previous residences were large single houses with gardens, the new developments are mostly comprising high rise apartment blocks. There are also some newly built low-cost developments which are not in tune with the overall character of the place. Some differences, perceived among the three group of residents in this neighbourhood, are summarised below.

The newcomers and the middle-stay residents are the main body who proposed establishment of a local park and development of shopping facilities. However, the long-stay residents were less critical of the deficiencies of the centre and are the main group who uses other urban centres without complaint.

On the other hand, the results of the age differences also showed that middle-aged respondents are more concerned about the availability of local services and park. This may be due to their greater responsibility in family life and the work place in comparison to the young adults and the elderly. It should be mentioned that the elderly usually live with their family in Iran and they are unlikely to be engaged in shopping activities on their own. Therefore, less attention to the availability of local services is perceived among this group.

Long-stay residents in both neighbourhoods were mainly concerned about the upkeep of greenery, whereas in centre A both long and middle-stay residents paid particular attention to the cleanliness of the place as well. In addition to this, the long and middle-stay residents in centre B were the main opposing groups for the newly built apartment blocks.

To sum up the results, the long-stay residents are mostly in favour of keeping the positive physical characteristics of their neighbourhood and its centre, especially when these characteristics communicate the status of the residents. They are more opposed to human dynamic changes such as growth of population, increase in traffic and the whole sense of crowding (Figure 12-6).

The middle-stay group's attitudes and feelings concerning welfare issues showed some similarities to those of the newcomers (Figure 12-4), while their attention to the positive physical aspects was more in tune with those expressed by the long-stay residents. Their attention to the negative consequences of changing density and crowding particularly in the form of new housing developments is also similar to those of the long-stay respondents (Figures 12-6 and 12-7). The newcomers are the main group concerned about the welfare conditions.

It can be concluded that a longer period of residency affects the evaluation of the physical conditions by the inhabitants; in other words, people get used to the environment and to a lesser degree perceive its inadequacies. This point was expressed by some respondents in neighbourhood B who had been living there from their childhood. They said they could not make a proper evaluation because they had no experience of living in other conditions. Long-stay residents were also the only group who expressed their sense of belonging to the place.

The results of the study are in tune with the results of the study conducted by Bonnes et al (1991). They found that the residents' temporal experience, particularly the length of their residency, affects their satisfaction with physicostatic aspects but not with the human-dynamic aspects and the level of crowding.

12-2-2-4- Summary of the differences between respondents on the basis of their length of residency:

- *Newcomers to a greater extent are concerned with the welfare conditions.*

- *Middle-aged group is to a greater extent in favour of local services and facilities.*

- *Long-stay residents are the group which is most tolerant of the physical deficiencies of the neighbourhood.*

- *Long and middle-stay residents are the group which is most concerned about the physical changes which may initiate crowding and traffic problems or diminish the character of the place.*

- *Sense of belonging improves with the length of period of residency.*

GENERIC PRINCIPLES OF NEIGHBOURHOOD DESIGN

INTRODUCTION

The multi-dimensional nature of a neighbourhood centre requires different approaches to the problem of its design. The initial steps, usually concerned with the planning process, mainly include economic and political decision making. This phase is then followed by organising the requirements for the design of the centre. The following principles are prepared to assist anyone involved in designing, rehabilitating or managing neighbourhood centres.

Section one of the principles (consisting of five sub-sections) is primarily aimed at those directly engaged in the design of the centres, such as architects, urban designers and landscape architects. This section introduces the principles of visual and conceptual aspects of design. *Section two* (including three sub-sections) mainly deals with the functions and activities accommodated in the centre. In other words, this section is more about 'the contained' whereas section one is about 'the container'. Although this section is aimed mainly at designers, it includes information which can be used by the management body of the centre as well. *Section three* (comprising two sub-sections) is mostly relevant to the management system of the centres. However, it includes many items which should be considered in the design in order to provide appropriate context and conditions through which the management body can successfully operate.

As the principles are based on literature investigation as well as survey analysis, they include both general and local specific items. The latter group of principles would be mainly applicable to the special conditions of Tehran and similar cities, although it may be useful in other contexts as well. However, the application of these principles to other cultural or physical conditions needs further investigation.

The generic principles are divided into two types: the first deals with the general factors which are based on the literature review, most of which have been supported in the survey as well. There is no specific mark for this group and they comprise the majority of the principles. The second type are essentially based on the survey findings. This group is marked by putting an 'S' at the end of them.

It should be mentioned that some items among the principles may appear obvious; however, as a comprehensive list is pursued, all necessary items have been put in the list. Some principles are suggested in more than one section because different

aspects of a neighbourhood centre overlap and cannot be completely separated. These overlapping principles are only presented in one sub-section of the list where possible; however, there exist some items which are repeated due to their importance in different sections, or in order to achieve comprehensive sub-sections in the list.

Figure 12-8: **Different sections and sub-sections of the generic principles**
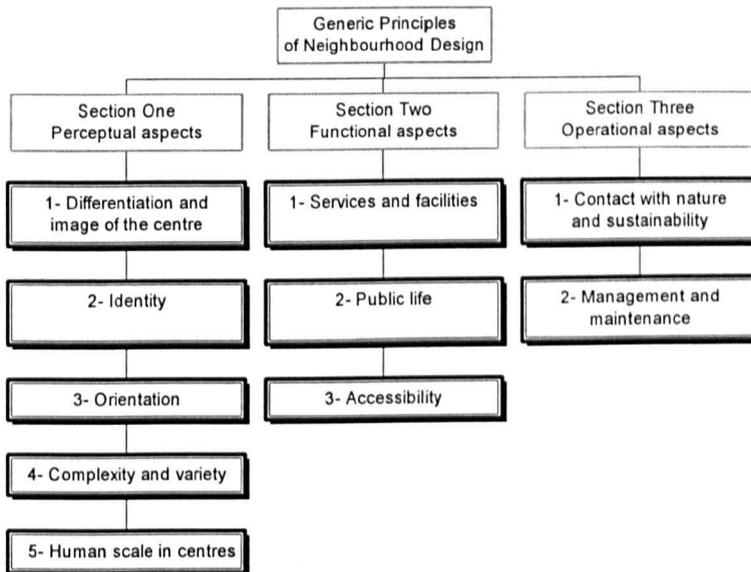
SECTION 1: PERCEPTUAL ASPECTS

The perceptual aspects of the centre embody all the visual inputs principally related to the fixed features of the environment which comprise the overall layout, the buildings and the spaces between them.

This section consists of five sub-sections. The important principles for differentiation and the image of the centre within the neighbourhood are set out in the first sub-section. The second one presents those items which can enhance the meaning and identity of the centre. The third sub-section on legibility and sense of orientation, introduces the principles related to the overall layout of the centre upon which the awareness of physical location can be enhanced. The fourth sub-section on complexity and variety is responsive to the needs of people for exploration and the provision of interesting spaces and the last one, human scale, provides a design responsive to the natural human capacities.

1-1- DIFFERENTIATION AND THE IMAGE OF THE CENTRE

The existence of a core area is necessary for every community and district in order to construct its definition and identity.

The design begins with the differentiation of the centre within the neighbourhood. The extent to which a part of a neighbourhood is differentiated as its centre, is salient in the imageability and memorability of that place. A distinguishable centre, acting as a landmark or as a focal point, is referred to more easily and can be viewed as a place which belongs in common to all the residents of the neighbourhood. Below are some basic steps towards satisfying the sense of differentiation for a centre within a neighbourhood. The first group of principles which deals with the physical aspects of the centre is more important for designers.

Principles

1.   PHYSICAL CHARACTERISTICS:

A. Use the street network to emphasise the sense of centrality, for example, by locating the centre at a common terminating point of the routes which connect the residential areas together, or establishing the centre around the main pedestrian street of a hierarchical system of routes.

B. Enhance the spaciousness of the centre by providing public open spaces especially in compact residential fabrics. (S)

C. Differentiate the centre from its surroundings by gateways or thresholds.

D. Differentiate the centre from its surroundings by changing the height of buildings. Building higher constructions in the centre has two advantages: it facilitates its recognition and provides visual connectivity with the residential areas.

E. Locate the landmarks of the centre in appropriate points so that they can be seen from a distance especially from the main peripheral roads and also from the surrounding residential areas.

F. Unify different components of the centre into a one whole. For example, use a connective structure which integrates all parts into a distinctive entity such as a street or a square; or use common styles or materials in buildings to enhance the unity.

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2.   FUNCTIONS

A. Concentrate the urban facilities and services of the neighbourhood in the centre. This integration of public functions in the core area facilitates an equal access for the residents, increases the vitality and legibility, and creates a focal point for the neighbourhood.

B. Locate the urban services and entertainment facilities close to each other to maintain their continuity and to comprise a unified centre.

3.　　**MOVEMENT:**

> A. Provide the opportunities for more pedestrian movements in the centre compared with the surrounding residential areas. However, the number of people should not indicate an overpopulated place, which is undesirable. Avoid high density vehicular movement which reduces the sense of unity and safety even though it increases the differentiation between spaces.

4.　　**SOCIAL CONDITIONS:**

> A. Integrate the centre with the main nodes of the neighbourhood in terms of community and social life, where public activities are concentrated. In this way, the centre will be promoted to become the focal point of public life in the neighbourhood.

> B. Establish the especial characteristic element and the main symbol of the centre in this focal point of public life.

Notes:

A well-defined imageable centre does not mean that the entity should be separate, isolated from the surrounding urban fabric to form an island, particularly when this separation is through the establishment of parking areas or main roads. The centre of East Kilbride, New Town, near Glasgow or the centre of Milton Keynes are good examples of this kind of isolation where the absence of continuity between the centre and the residential areas is emphasised by the large car parks and highways. The lack of connectivity and continuity is not desirable, particularly for pedestrians and the idea of promoting social life. The identification of the centre can be achieved through employing thresholds in order to define the edges of the centre and improve the imageability, while maintaining continuity of the spaces.

1-1: CENTRALITY

Summary

KEY POINTS ENHANCING THE SENSE OF DIFFERENTIATION OF THE CENTRE WITHIN THE NEIGHBOURHOOD:

1. Central and integrated location, emphasised by the street network.

2. Spaciousness.

3. Defined spaces.

4. Marked by landmarks.

5. Unified.

6. Concentration of functions and activities.

1-2- IDENTITY

The extent to which a neighbourhood centre is meaningful for the residents and the degree of its uniqueness are the main concern of the first part. Two groups of principles are introduced. The first group involves physical aspects and represents the ways of giving or developing the identity of a centre. In this part, four approaches, in terms of geographical, cultural, functional and unifying, are mentioned. The second group, referred to as perceptual identity, emphasises the importance of some psychological qualities or conditions which characterise the centre.

Principles

1.   PHYSICAL IDENTITY

A. Employ all the geographical conditions of the site in order to obtain a unique character for the centre. An attentive observation and study of the site is needed to find out the geographical potentials and limitations.

a) Determine the structural pattern of the centre in congruence with the site's topography, natural landscape, views and solar orientation.

b) Consider the climatic conditions in the design of the centre. Measures concerning the sun, shade, wind and temperature have to be regarded.

c) Identify, value and preserve the local natural assets of the place.

d) Use indigenous vegetation and colours.

e) Use local materials and techniques.

B. Identify, value and preserve the cultural and historical features and buildings of the place.

a) Identify the characteristics and potentials of peripheral

settings especially the surrounding heritage and historical clues in order to provide appropriate relationships between them and the new developments.

b) Use cultural symbols and local arts, for example as landmarks or motifs on the buildings (including national, regional and local culture).

c) Provide/design appropriate spaces for cultural events, memorials, festivals and activities of this kind.

C.   Unify the components of the centre to maintain a whole entity and to increase the perception of order and character in the place.[1]

a) Use a connective structure such as a defined square or street, in order to connect and integrate the different components. Use hierarchical spaces in order to create a unified and cohesive place.

b) Develop a set of design vocabulary which includes as many elements and details as possible which are involved in the design in order to provide the unity and to enhance the identity. These design factors include both fixed and semi-fixed elements in addition to the vegetation used in the centre.

c) Employ the ground attributes in order to unify and connect different spaces. Design the ground surface into shapes formed by differing colours or textures which indicate action.

d) Suggest a specific range of lot width for buildings to obtain an acceptable grain and prevent chaos in the streetscape (different type and status of buildings should be considered for their scale and treatment).

e) Consider a height range for buildings to preserve the wholeness of the place. Determine the height of buildings by their character, function and their position within the block and build the higher buildings in the key sites.

f) Design and locate street signs, lighting columns, brackets, seats and other street furniture in tune with the overall

character of the place.

D. Establish or promote a specific function whether formal or informal in the centre. Functions such as workshops, educational institutes and cultural places which dominate other services in terms of importance increase the identity of the centre.[2]

2.   PERCEPTUAL IDENTITY [3]

A. Identify and preserve meaningful nodes and gathering places which accommodate the community life of the residents. A thorough investigation of the historical and cultural background of the place is necessary to find out the 'meanings' and 'memories' associated to it in order to develop the nodes and places which convey these meanings.

B. Design and develop spaces for contemporary or permanent social events such as lectures, music performances, theatres and exhibitions.

C. Improve the compatibility of the centre and the residential areas by considering the physical clues and characteristics which communicate the status and social class of residents, for example those manifested in the size of residences, style of buildings and so on. (S)

D. Arrange the centre's spatial configuration so that the calmness and tranquillity of the place can be enhanced. Screen incompatible uses in order to avoid conflicts and stress and maintain a convenient and peaceful place. (S)

Notes

1- There may seem to be some similarities between the following items and the two foregoing groups. However, the above principles indicate some relations with the cultural, historical or geographical characteristics of the centre, while the following can be individually used and can only be utilised to integrate the segmented components of the centre.

2- If the dominant activity is in tune with the community life of the neighbourhood and does not impose environmental problems, its presence is enhancing and promotes the character of the centre; otherwise, it will be destructive to the centre and undesirable for the residents.

3- Perceptual identity indicates the characteristics of a place which were the result of some physical or social conditions of the neighbourhood and are not directly related to the influential domain of a designer. However, these conditions communicate some characteristics and qualities which are perceived and clearly valued by the people.

1-2: IDENTITY

Summary

> **KEY POINTS IMPROVING THE IDENTITY OF A CENTRE:**
>
> 1. Valuing and employing the unique characteristics of the site, such as topography, natural views, climate etc.
> 2. Use of local natural assets, vegetation, colours, materials and techniques.
> 3. Use of cultural symbols and arts.
> 4. Preservation of historical features.
> 5. Provision of spaces for social and cultural events.
> 6. Preservation of social nodes.
> 7. Unification of the centre's components.

1-3- ORIENTATION

Raising awareness of physical location is the main aim of this part. The sense of orientation is undoubtedly enhanced in a legible place, where in the process of design, the factors which are salient in the imageability and memorability of the setting are considered. The overall spatial structure of the centre is a main factor, while the environmental clues can obviously enhance the legibility as well. The distinctive characters of the individual components can also provide the residents with an easier sense of orientation within their neighbourhood centre.

Principles

1. PERCEPTIBLE STRUCTURE

A. Design the overall street network of the neighbourhood and particularly the centre's spatial configuration so that it can be easily understood. For example use a hierarchical path system to promote the legibility of the place by employing the following principles:

    a) Use different sizes and proportions for the street network.

    b) Arrange the hierarchy of buildings on the basis of their formality. This means that they become increasingly larger and more formal towards the centre. The Density of the centre can also be higher than that of the residential areas.

    c) Use different styles of buildings, facades or shop fronts and even paving material and texture to define the hierarchy of the paths.[1]

    d) Use a different style of street furniture to increase the perception of hierarchy.

    e) Use different plants and vegetation to make hierarchical paths.

B. Consider continuity and connectivity of pedestrian routes, both within the spaces of the centre and between the centre and the residential areas.

2. ENVIRONMENTAL CLUES

A. Provide the possibility of seeing the sun and natural landscapes in the centre.

B. Locate orientator landmarks within a short distance of any place.

C. Consider appropriate location, proper interval and external illumination for signposts.

3. DEFINED SPACES

A. Articulate the whole space of the centre, particularly the open spaces, into some defined, meaningful parts with an identifiable character in order to enhance the imageability and consequently sense of orientation.

B. Clearly define the borders of spaces. Consciously determine the characteristics of boundary makers (height and location of fences, hedges and tree lines) in tune with the overall character of the place. Use inviting gateways to enhance the definition of spaces.

4. DISTINCTIVE CHARACTER

A. Characterise the spaces of the centre by the provision or concentration of particular services, functions, events or activities.[2]

B. Consider the volume of traffic as a distinguishing factor among different parts of the centre. (S)

C. Consider the amount of noise as an influential factor for the differentiation of spaces. (S)

Notes

1- In East Kilbride New Town, near Glasgow, the central shopping mall is a good example of employing different colours and styles for shop fronts to change the character of some paths and to improve the legibility of the place, while the unity and integrity of all components are also preserved.

This alteration can help the sense of orientation, whereas in some other shopping malls, such as Cumbernauld and Milton Keynes, due to the lack of this factor a lower level of legibility is obtained.

2- This idea is very similar to what Lynch calls 'the nodes': the points which are meaningful for people and are accordingly distinctive. The places where daily markets are held can be good examples of providing such a recognisable meaningful character, e.g. Buxton market place.

1-3: ORIENTATION

Summary

KEY POINTS FOR THE LEGIBILITY AND SENSE OF ORIENTATION:

1. Overall readable structure.

2. Use of hierarchical paths.

3. Connectivity of routes.

4. Defined spaces.

5. Visibility of environmental clues.

6. Distinctive character of spaces.

1-4- VARIETY AND COMPLEXITY

Variety and complexity are important characteristics of a place that fulfil the psychological needs of exploration and excitement for people. This quality can also provide visual clues to improve the sense of orientation. Although the fixed and semi-fixed features of the place are the focus of design, it seems that non-fixed features e.g. the people, also considerably add to the variety and complexity of urban centres.

Some visual characteristics may improve the complexity of the place whereas others can diminish the sense of variety. Therefore, the following principles are divided into two groups: enhancing and diminishing.

Principles

1.   ENHANCING PRINCIPLES

A. Design mixed use buildings and spaces. Allocate the ground level to public activities such as shops, restaurants and so forth.

B. Use hierarchical spaces and routes.

C. Design street corners, building entrances and display windows not too far from one another, for example with a maximum distance of fifty metres, in order to provide visual clues and variety and also to encourage walking.

D. Use curving pedestrian pathways that provide changing vistas, views and terminating points.

E. Articulate spaces for different uses and activities. Change the street space and provide small squares along the route to increase the perception of complexity and help walking distance seem shorter.

F. Use details of the street facade to increase complexity. Design ordered but not monotonous facades. This means a repetition of a common order by using columns, piers, niches, window mullions and even signs, all with some differences in details which maintain

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complexity and avoid chaos.

G. Design various paths, slopes and a variety of eye levels.

H. Design Contrasting adjacent spaces, for example by passing through a narrow pathway and arriving at an open square.

I. Use different texture and materials for pavements.

J. Use different colours and light levels.

K. Design a diversity of building styles and sizes not only to increase the complexity but also to make flexibility for any change of use.

L. Design some details in facades or within spaces, for example the elements which are used by people to sit on or stand by, such as flower boxes and low walls.

M. Use greenery and plants in the streetscape and public spaces.

N. Utilise semi-fixed features such as market places, street vendors, kiosks and sign boards to create complexity and variety.

2.   DIMINISHING PRINCIPLES:

A. Avoid designing too many set backs alongside the street.

B. Avoid allowing long blank walls and large parking areas along the street facades.

C. Find ways to encourage reusing or screening of vacant shops and buildings along the street facades. *(S)*

Notes

Variety and complexity of a neighbourhood centre is a key issue in maintaining the vitality of the centre. Although fixed and semi-fixed features of the environment mainly provide the clues for orientation, maintain the aesthetics and uniqueness of the centre and convey its identity, the people's need for exploration and interest is considerably fulfilled by non-fixed and to some extent semi-fixed features of the environment. Since a neighbourhood centre is used on a daily basis by its residents, they gradually get used to the physical elements of the centre. Some changes in the semi-fixed elements and, more importantly, events and activities for people can effectively provoke the sense of interest and exploration among the residents; for example, changes in display windows and market place, and

organising street music and exhibitions and activities of this kind can essentially enhance the complexity and vitality of the centre.

1-4: COMPLEXITY

Summary

KEY POINTS ENHANCING THE VARIETY OF THE CENTRE:

1. Mixed use design.

2. Ground level of buildings for public activities.

3. Hierarchical spaces and routes.

4. Short distance between entrances, street corners and display windows.

5. Ordered street facade with variety in details.

6. Change in the street spaces and terminating points.

7. Articulation of spaces.

8. Contrast between adjacent spaces.

9. Various paths and slopes, change of eye level.

10. Street furniture and vegetation.

11. Different materials, colours and light levels.

12. Semi-fixed features such as market place and street vendors.

13. Avoiding long parking areas, blank walls, too many set backs and vacant shops and buildings.

1-5- HUMAN SCALE

Appropriate scales and proportions of spaces compatible with people's natural capacities is the focus of this sub-section. The public spaces of neighbourhood centres, especially of pedestrian and vehicular routes and open spaces are mainly considered.

Principles

1.   **PEDESTRIAN ROUTES**

> **A.** Consider a central location for the centre to provide almost equal access within walkable distances for all the residences (around 500 metres or less in one direction); in this way, people will be encouraged to walk to the centre.

> **B.** Design pedestrian routes regarding three factors related to human capacities, namely, length, width and quality of the route.

>> **a)** Provide intimacy for the route by using an appropriate width which creates the following conditions. Of course adequate space for the pedestrian flow must be considered.

>>> **I.** In shopping streets, ensure the visibility of display windows on both sides of the route to passers-by.

>>> **II.** Make it possible to pedestrians to talk to each other from one side of the route to the other.

>> **b)** Use low arcades to make intimate spaces, particularly in large areas. In this way, the pedestrians would also be protected against climate.

>> **c)** Design the length of pedestrian route to be within walkable distance, that is, around 500 metres.[1]

>> **d)** Ensure the quality of the pavements is appropriate for the use of people, particularly the elderly and children; for example, provide safe and convenient stairs, ramps, surface materials and so on.

2. OPEN PUBLIC SPACE

A. Provide open public spaces in neighbourhood centres, especially in high density areas. Enhance these spaces by the provision of suitable pathways and sitting spaces.[2] (*S*)

B. Ensure the scale of detail in facades and the amount of complexity in spaces are in tune with human perceptual capacity.

C. Design the street furniture with regard to the scale of the human body.

D. Design intimate resting spaces with appropriate scale which is congruent with the capacity of the human senses. Dimensions between 25-30 metres are the maximum length of space recommended for active social contact.

E. Enhance the sense of enclosure by considering a minimum height/width proportion of 1:4 for static spaces and a minimum height/width ratio of 1:2.5 for dynamic spaces.

F. Where a static space is required, do not design the long axis of the spaces so as to exceed its short axis by much more than 50%, otherwise it will be perceived as a linear space.

4. GENERAL ISSUES

A. Encourage development of small shops and local entrepreneurs which indicate greater engagement of local people in the economic aspects of their neighbourhood. In this way, there is increased opportunity for familiarity between the shopkeepers and shoppers, which reinforces the ties of the community.

B. Apply some rules to restrict growth of population density and compactness of buildings in the neighbourhood, realising that overcrowded places are rejected by people. (*S*)

Notes

1- The acceptable distance in a given situation is not only the actual physical distance but also, to a great extent, the experienced distance. Therefore, the acceptable walking distance would be an interplay between the length of the street and the quality of the route.

2- Open green spaces are desirable places in many cities and especially in hot, compact cities such as Tehran. The articulation of these spaces into intimate parts transforms them into plaza-like places used for the gathering of people and their public life. In this way, the intimacy required for public places can be provided.

1-5: HUMAN SCALE

Summary

KEY POINTS CONCERNING THE HUMAN SCALE OF THE SPACES:

1. Pedestrian routes should possess: Intimate width, length about 500 metres or less, and quality pavement.

2. Vehicular routes should allow only for calm traffic and not be too broad.

3. Diameter for active social spaces should be around 30 metres or less.

4. Amount of complexity and detail should be responsive to human perceptual capacity.

SECTION TWO: FUNCTIONAL ASPECTS

This section comprises three essential functions of a neighbourhood centre: first, providing urban services and facilities; second, enhancing the appropriate context for social life of the residents and third, maintaining the proper access to different parts of the centre, the neighbourhood and the city.

2-1- SERVICES AND FACILITIES

A fairly self-sufficient neighbourhood has to fulfil daily needs of the inhabitants. The provision of public services and facilities comprises a fundamental factor for establishment of neighbourhood centres. Particular attention should be paid to the quality of these services, which are the main body of the centre and provide the main purpose for going there. The essential functions of a neighbourhood centre, their required conditions and to some extent their influences on the centre are presented in the following:

Principles

1.	**BALANCE OF FUNCTIONS**[1]

A. Design a mixed use centre with a balance of different functions. In this way, the attendance of different people for different purposes will also enhance the vitality and safety of the place.

B. Consider the priority of different functions in designing the services of the centre. Shopping facilities are the most important functions, whereas entertainment facilities as the second most essential services and civic buildings as the third group of services should also be established. (S)

C. Consider the proximity of different functions in order to support vitality and safety and promote the sense of place.

2.   SHOPPING FACILITIES

     A.   Provide primarily the shops which fulfil daily needs of residents, such as convenience stores, greengrocers' and bakeries.

     B.   Provide a variety of shops to cover as many necessary goods demanded as possible, such as clothing and stationery. Provision of some personal services[2] such as hairdressers and travel agencies are also important.

     C.   Locate some personal services such as car repair, car wash and building material stores in sites which are screened from public spaces because these services are visually unpleasant and environmentally polluting. Their pollution should also be controlled. (S)

     D.   Provide some temporary services with the co-operation of local management systems in order to satisfy those needs of the residents which are not permanently fulfilled in the centre. Organising daily markets or establishing centres in which the residents can employ new technologies for distance shopping are among such facilities. In this way, a considerable number of daily trips to cities will be decreased. (S)

3.   ENTERTAINMENT FACILITIES

     A.   Establish various recreational and entertainment facilities in the centre with particular attention to young adults and children as the primary group who should be provided with these facilities. (S)

     B.   Design entertainment and shopping facilities close to one another in order to provide opportunity for using both simultaneously and fulfilling the new trends of leisure shopping.

     C.   Provide appropriate spaces for cultural facilities such as libraries, worship places, schools and art galleries in addition to seasonal or temporary exhibitions, concerts and dramas. Designing a multi-functional hall in order to accommodate different activities is recommended.

     D.   Provide food shops, restaurants or take-away shops in the centre,

especially close to the rest and gathering spaces.

4.   CIVIC FACILITIES[3]

Design civic facilities such as health services, post offices, financial offices (bank, insurance etc.), police station, fire station and also public toilets.

5.   JOBS IN THE CENTRE

A. Provide some job premises such as offices, workshops and light industry to improve the quality of the centre. These facilities are particularly favoured by women.

B. Prevent development of jobs which may produce any difficulty or pollution for the area.

C. Encourage the provision of an educative environment by providing the possibility of displaying the process of production in the workshops of the centre. This point is especially important and will enhance the experience of children and young people. (S)

D. Consider the ultimate effects of any dominant function around the neighbourhood. For example, some city-wide urban facilities may improve the neighbourhood's financial and social conditions, but the number of visitors to those facilities must be controlled so as not to exceed the limits which undermine the community sense and destroy the public life of the centre. (S)

6.   GENERAL ISSUES

A. Locate the buildings which are likely to be used by other communities in places of easy access, for example near the edge of the neighbourhood.

B. Extend the opening hours for shops, and establish residential buildings or some functions such as hotels and restaurants near shopping areas or civic buildings to provide a flow of people around the clock and maintain a sense of security.

Notes

Some words have to be defined:

1- 'Function' refers to all functional spaces of the centre which are used publicly such as shops, parks, health services, sport halls and banks.

2- There are some services such as hairdressing, household-repair shops, car repair shops and the like, which are referred to as 'personal services'.

3- 'Civic facilities' indicate the services such as financial services, post offices and health services which do not relate to shopping, cultural, educational, and entertainment facilities. These services normally belong to the public.

2-1: SERVICES AND FACILITIES

Summary

> **KEY POINTS WHICH ENHANCE THE QUALITY OF FUNCTIONS IN THE CENTRE:**
>
> 1. Provide a proper balance of different functions.
>
> 2. Locate the functions in close proximity.
>
> 3. Consider shopping, particularly those meeting daily needs, as the primary function.
>
> 4. Ensure that entertainment facilities, particularly for children and young adults, are the second most important facilities.
>
> 5. Establish civic buildings as the third most important services.
>
> 6. Provide job premises and control their visual and ecological problems where necessary.
>
> 7. Locate city-wide services on the edge of neighbourhood and control their effects on the community life of the centre.

2-2- PUBLIC LIFE

A neighbourhood centre should provide the appropriate conditions for public life and social activities. Life in public, which may be reasonably accompanied by social interaction, occurs in appropriate conditions, which should be provided by the environment, physically and socially.

Principles

1.	GENERAL PHYSICAL CHARACTERISTICS OF PUBLIC SPACES

A. Design meeting spaces and appropriate pathways in order to facilitate and encourage public interaction and improve the sense of familiarity and safety among the residents. The regular use of public spaces will enhance the sense of belonging as well.

B. Locate the centre along the natural pedestrian movement of the neighbourhood to ensure the presence of people around the clock and create a sense of safety and vitality for the centre.

C. Allow the surveillance of public spaces by providing visual access from the adjacent buildings or pedestrian pathways in order to enhance the sense of safety.

D. Provide public spaces with an overview of where other people are, for example the popular activities of the surrounding or pedestrian movement. Isolated or under-used places are usually rejected and do not provide a sense of safety.

E. Locate public spaces in sites which are free of pollution and noise. If these spaces are already pedestrianised, their quality is also enhanced, otherwise, the pedestrian flow should dominate and the movement of cars has to be reduced to the minimum degree.

F. Consider the climatic conditions and provide appropriate sunshine and shade according to the conditions. Protect the spaces against wind and rain.

2. **GENERAL SOCIAL ASPECTS OF PUBLIC SPACES**

A. Estimate the number of people in public spaces as it is a critical factor for the perceptual quality of the places; overpopulated spaces are unattractive for the users and create the sense of crowding. (*S*)

B. Encourage friendly measures and rules to control inappropriate social behaviour or social activities which are not accepted by society. The co-operation of the local residents is of great importance for finding the best solutions. (*S*)

3. **APPROPRIATE CONDITIONS FOR WALKING AND STANDING**

A. Consider the width of pavements, congruent with the amount of normal pedestrian flow of the route. (*S*)

B. Provide a large number and variety of shops alongside the route, particularly in order to encourage walking. (*S*)

C. Design spaces for street music, artists and vendors in order to provide favourable complexity and encourage the presence of people.

D. Avoid long blank walls by having short distances between street corners and designing entrances to buildings not too far apart from each other. Provide kiosks such as those selling newspapers to encourage standing and pausing.

E. Consider the importance of designing the edge of spaces and urban furniture such as sign or light posts, bollards, and even the use of trees. They are important elements for people to stand by or lean over because many standing and pausing activities occur along edges and physical details in the spaces.

4. **APPROPRIATE CONDITIONS FOR SITTING AND RESTING**

A. Provide a balance between openness and articulation in the centre's spaces in order to allow occupancy and use for different activities and groups while providing adequate space for large social events and gatherings.

B. Separate the sitting places from the main pedestrian movement or

widen them where there is no separation.

C.   Locate rest spaces where a good view toward the social activities or pathways exists.

D.   Locate rest spaces with good views towards natural landscape where possible.

E.   Provide spaces with a good view of social activities, but with less possibility of being the focus of attention or observation by others, so as to encourage use by people who seek privacy.

F.   Provide food shops near the sitting areas.

5.   SPORTS AND PLAYING SPACES

A.   Design sports and amusement facilities particularly for young adults and separate these spaces from incompatible uses, for example, rest spaces used by the elderly. (S)

B.   Establish playing areas for children. These spaces must allow surveillance through pathways or adjacent buildings but should be separated from other incompatible uses. Provide appropriate seats with suitable arrangement to increase the opportunity of interaction for parents.

6.   THE QUALITY OF SEATS IN THE CENTRE

A.   Provide seats particularly in stay and rest spaces in order to encourage people to use them. However, it is not recommended to have too many seats in order to avoid the sense of desertion when the seats are not occupied.

B.   Design some physical elements that can be used as seats when necessary.

C.   Arrange the seats to encourage talking and social interaction. Curved benches, benches placed at an angle or opposite one another are some suggested layouts. Chairs placed close together, around a table, can also provide opportunity for interaction. Also provide some seats for people who seek privacy.

D. Locate the seats where it is most appropriate regarding climatic conditions, sun and shade.

E. Locate the seats so that people feel their backs are protected; for example, most people prefer to sit on seats along the edge of spaces or pathways.

F. Design comfortable seats with appropriate scale, particularly for the seats which are mostly used by the elderly.

G. Consider the style of seats so that it is congruent with the dominant style of the centre.

H. Ensure the maintenance and cleanliness of seats.

2-2: PUBLIC LIFE

Summary

KEY POINTS ENHANCING THE PUBLIC LIFE IN THE CENTRE:

1. Design meeting spaces and spacious pathways.

2. Allow visual access for public spaces to increase the sense of safety.

3. Provide measures against ecological problems and pollution.

4. Consider climatic conditions.

5. Provide variety in pedestrian pathways e.g. by designing shops, street corners and street social events etc.

6. Provide articulated and defined spaces for sitting and resting.

7. Provide a good view towards natural landscape or social events in the rest spaces.

8. Provide seats with appropriate location and quality.

9. Provide sports and playing facilities for the young people.

10. Design edges and details in the spaces to be appropriate for sitting on or standing by.

2-3- ACCESSIBILITY

The degree of satisfaction with a neighbourhood centre greatly depends on the quality of access to it and people place great value on convenient access to their local services. The following principles are concerned with different modes of access and the appropriate conditions which should be provided for them.

Principles

1.   GENERAL ISSUES

A. Provide the possibility of using different modes of transport to the neighbourhood centre. The first priority should be given to pedestrian routes, after which public transport and private cars should also be provided for, particularly in large neighbourhoods where the distances are beyond average walking capacity.[1]

B. Provide special facilities so that the elderly and children have easy access to the centre; for example, appropriate conditions for wheelchair and baby carriers should be considered.

2.   PEDESTRIAN ROUTES

A. Consider pedestrian strategies and provide appropriate walking and cycling routes for trips within the neighbourhood and particularly between the centre and its surrounding residential areas. This point is mainly important when there is heavy vehicular movement around the centre and also in order to encourage walking within the neighbourhood.

B. Ensure flexibility of pedestrianisation rules according to changes of situation at different times of the day, night and weekends.

C. Design pedestrian routes with the following characteristics:

   a) A length within walkable distances (around 500 metres or less).

b) Appropriate permeability and connectivity, particularly within the centre.

c) Direct routes towards destinations when the destination is visible.

d) Intimate, clearly defined routes instead of empty areas; even defining the route with a fence or trees is better than undefined edges.

e) Adequate seats at regular intervals for resting, especially for the elderly (100 metres is recommended).

f) Appropriate pavement quality, especially by employing the following principles:

    I. using comfortable and distinctive materials for paving.

    II. using safety measures against motor vehicles.

    III. changing materials or textures where the activity changes.

g) Easy vertical connections which are convenient and free of complication for pedestrians. This factor is very important because people do not like going up and down steps in pedestrian areas. This can be maintained through:

    I. using shorter flights interrupted by a landing.

    II. starting downward rather than upward.

    III. not interrupting the direction nor the rhythm of walking.

    IV. using flat ramps instead of stairs.

3.   PUBLIC TRANSPORT

Encourage the use of public transport systems by providing appropriate vehicles and transit stops. The following enhancing principles have to be considered.

A. Provide public transport systems on two levels for a neighbourhood centre: First, a fast system for access to the city and other

neighbourhoods. Second, particularly in the case of large neighbourhoods, consider a light public transit system within the neighbourhood.

B. Design a convenient transit stop with easy access from the centre. The following characteristics are essential for the quality of the transit stop:

   a) covered.

   b) available seats.

   c) close to newspaper stand and bicycle racks.

   d) with easy access to a litter receptacle, a clock and a telephone.

   e) close to a food outlet.

   f) clean and well-maintained.

C. Take into account the quality of buses or other public transport systems, as an important factor to encourage their use. [2] (*S*)

4. **ACCESS BY PRIVATE CAR**

Provide the necessary conditions for private cars as an alternative means of access to the centre.

A. Provide adequate parking facilities as a key factor for convenient access by car. Different types of parking can be established as follows:

   a) Design multi-level car parks in small plots so as to blend with their surroundings; allocate the ground level to public spaces.

   b) Screen the parking lots at street level from the adjacent street or spaces either by locating them behind the front buildings or by trees or other kinds of pleasant features.

   c) Design underground parking where necessary.

   d) Allow parking along the street where motor traffic is not heavy and pedestrian flow is not separated. Parallel or angle parking is recommended depending on the width of street and

pavements. For example, propose parallel parking where the street is fairly narrow. Do not permit parking along the street where the parked vehicles obstruct the fluency of vehicular movement.

B. Control the traffic flow of the centre:

    a) Locate the main street of the centre out of the main vehicular movement of the area. In other words, do not locate the centre around short cuts, otherwise there will be a large amount of through movement which destroys the quality of the centre. (*S*)

    b) Prevent main vehicular routes cutting through the centre. However, if there is such a route, it should possess the following characteristics:

        I. Reduce the volume of traffic flow by deviating vehicles to the alternative routes passing around the centre's spaces. (*S*)

        II. Use traffic calming measures to control through vehicular movement.

        III. Design convenient and safe crossing routes for pedestrians at reasonable intervals.(*S*)

        IV. Design convenient pathways regarding the amount of pedestrian flow alongside the road. (*S*)

    c) Consider traffic regulations which are aimed at specifically limiting through lorries and large vehicles. (*S*)

C. Ensure appropriate and well-maintained road surfaces. (*S*)

Notes

1- Although the use of public transit is widely encouraged for its various advantages, most people still prefer using their own car.

2- This point is not related to the design of the centre and can be considered among the management responsibilities.

2-3: ACCESSIBILITY

Summary

KEY POINTS ENHANCING ACCESS TO THE CENTRE:

1. Design different modes of access, pedestrian, private car and public transit.

2. Encourage walking to the centre by providing an integrated location for the centre, within walkable distances and having high quality pedestrian routes.

3. Provide public transport systems to the city through the neighbourhood centre.

4. Maintain the quality of transit stop.

5. Provide access for private cars but control the dominance of motor vehicles in the centre.

6. Provide adequate parking facilities and screen them from public spaces.

SECTION THREE: OPERATIONAL ASPECTS

This section embodies two sub-sections. The first one emphasises the importance of natural features and a proper contact with nature in the centre of a neighbourhood. Those principles which enhance the sustainability of the centre are also introduced. The second sub-section is concerned with the management and maintenance of the centre.

3-1- CONTACT WITH NATURE AND SUSTAINABILITY

The centre of a neighbourhood as a place which is used on a daily basis has a salient role in meeting the psychological needs of the residents. Natural environments have proved to be deeply relaxing and calming for people. The presence of natural features enhances the attractiveness of the place, increases the perception of order and contributes to the creation of complexity. Therefore, the aim of this part is to ensure the enhancement of the centre by the use of natural elements. Nature can be introduced in different levels and ways. The following points firstly, comprise some ways of creating a relationship with nature and secondly, give some ideas concerning a local park in the centre. Finally, some points for creating a sustainable centre are presented.

Principles

1.   CREATING A RELATIONSHIP WITH NATURE

     A. Introduce some fragmented natural features, such as different plants and vegetation or water in different shapes.

     B. Consider the visibility of the sky and sun in the centre's spaces.

     C. Choose an appropriate orientation and layout for the centre in order to make the most of natural views and landscapes such as mountains, rivers and lakes, where available.

D. Use natural materials in the facade of buildings or in paving surfaces and street furniture in order to improve the sense of relation to nature.[1] (*S*)

E. Establish a local park well integrated with the centre's spaces.[2] (*S*)

2. LOCAL PARK: GENERAL CHARACTERISTICS

A. Locate the park so as to preserve the intimacy and enclosure needed for the spaces of the centre.

B. Articulate the spaces of the park and provide a well-structured open space.

C. Provide necessary equipment for entertainment and leisure activities and erect them inside the spaces which are allocated to those functions.

D. Ensure the visibility of different spaces of the park through the pedestrian pathways or adjacent spaces in order to maintain its safety.

3. SUSTAINABILITY IN THE CENTRE

Consider the sustainability of the neighbourhood and its centre, in terms of its physical, ecological and social issues, through a proper design and a responsive management body. The following principles introduce some effective steps towards achieving a sustainable environment.

A. Consider a suitable compactness for the central area of the neighbourhood, not only to provide the public services and facilities needed by the residents, but also to maintain a good relationship with nature, greenery and open spaces in order to promote the quality of life.

B. Ensure the flexibility of spaces and buildings to facilitate the accommodation of new functions and uses whenever needed. Accordingly, redevelopment should be replaced by rehabilitation.

C. Employ conservation measures in site design concerning the solar and wind orientation to reduce energy consumption.

D. Consider sun and shade in design of rest spaces, especially in different climatical conditions.

E. Prepare moveable elements which can be used depending on the weather and climatic conditions, since protection against climate is a crucial point for using public spaces.

4.   SUSTAINABILITY AND MANAGEMENT

A. Make the local community aware of sustainable factors and encourage their support.

B. Make efforts to maintain old facades and improve the appearance of buildings.

C. Ensure good maintenance of the greenery and natural features. (*S*)

D. Enhance the sense of community by encouraging people's participation in different aspects of their neighbourhood and also prepare social events.

E. Preserve the community sense of the neighbourhood by restricting any disruptive factor for example:

a) Control the establishment of new residential developments particularly when they bring about over-population problems. (*S*)

b) Restrict the establishment of large scale services which impose heavy traffic on the centre. (*S*)

H. Encourage people to use separate rubbish bins for producing recycling materials.

Notes

1- One of the effective ways of introducing nature to the centre is by employing natural materials in the buildings and spaces. The urban spaces of British towns and cities were found more friendly due to the use of natural materials, especially in the facade of buildings and the surface of pavements in comparison to the current conditions of Tehran. The expanded use of cement and asphalt in all parts of public

spaces in Tehran, apart from having less opportunity for providing complexity or defining spaces by changing materials, has reduced the warmth and friendly effects which could be provided through using natural materials such as brick, stone, wood and so on. Therefore, this item has been added to the principles.

2- Establishment of a park which can provide a natural setting for the residents of a neighbourhood is emphasised during both literature investigation and survey; however, a question emerges about the appropriate location of a park, whether near the centre or in the peripheral area of the neighbourhood?

The park is the natural setting of the area; it is a facility which has to be accessible for all of the residents. According to the survey, the best mode of access proved to be pedestrian, and therefore, the equal distance within the walking dimension is the favourable one. The best location of the local park would be in the heart of the neighbourhood or near its centre to provide the above conditions. On the other hand, the coexistence of park and other facilities in juxtaposition to each other can provide the residents with the opportunity of mixing entertainment and shopping and is usually a desirable condition. It will also help the ecology of the centre and add to the beauty and cheerfulness of the place.

There are many advantages which emerge with the existence of a local park in a neighbourhood centre. The importance of a natural setting for its restorative effects on directed attention, tranquillising and enlivening the mind, was discussed during the literature investigation. During the survey, the two additional points of cheerfulness and sense of beauty were suggested, which all together comprise the psychological effects of a natural setting.

There are other advantages such as wild life preservation and reduction of air pollution which can be categorised under the sustainability benefits of a local park. However, considering the scale of a local park and particularly one located in the heart and central part of the neighbourhood, it is clear that it cannot provide the necessary space to contribute to preserving wild life and this idea is more related to very large green areas, such as a city park.

3-1: NATURE AND SUSTAINABILITY

Summary

IMPORTANT POINTS FOR INTRODUCING NATURE AND CONSIDERING SUSTAINABILITY IN THE CENTRE:

1. Make the most of the site's natural potential.

2. Use natural materials and features.

3. Establish a local park with structured spaces, convenient and near to the centre.

4. Consider flexibility of buildings and spaces.

5. Take into consideration the solar and wind orientation.

6. Use environmentally friendly materials and techniques.

7. Provide more density of buildings in the centre, compared with the residential areas.

3-2- MANAGEMENT

The efficiency of a neighbourhood centre in maintaining a convenient human environment cannot be completed only through the physical design of the spaces; the existence of some kind of organisation for the management and maintenance of the centre is also important. If this organisation co-operates with the residents and the arranged regulations are shaped on the basis of their values and beliefs, a safer, more friendly and sustainable place will be achieved and the sense of belonging will be improved.

Principles

1.   SOCIAL ISSUES

A. Ensure the accessibility of the centre for all of the residents both day and night. In other words, everyone should be allowed to pass through the centre whenever they wish. Provide not only direct physical access, but also visual access for people in order that they feel safe. In this way the centre as the heart of the neighbourhood would indicate a truly public space.

B. Encourage the opening hours of shops, restaurants and other services to include the evening time in order to keep the centre vital during the evenings.

C. Provide the people with the opportunity of involvement with the centre's public spaces, for example, through community gardens, children's playgrounds (flexible enough to be modified by their users) and different kinds of local markets.

D. Arrange different events and gatherings and also establish community organisations in order to facilitate social relationships.

E. Promote particular institutions for young people and children's activities such as fitness centres, toy libraries, training facilities for increasing retailing or other skills, and child care facilities.

2.   SAFETY AND GUIDANCE

A. Provide appropriate lighting to guarantee the safety and attraction of the place. The lighting should provide a warm and friendly environment. Ensure the main routes and shop windows are lit at night. Design light trails so as to provide the spaces with adequate visual access to every hidden corner.

B. Design public signing and street numbering so as to improve orientation and legibility of the centre since the sense of orientation also enhances the sense of security and safety. (This point is of great importance for non-resident users).

C. Provide a local guide book to introduce some information about the neighbourhood and its centre.

3.   PROVISION OF SPECIAL NEEDS

A. Arrange special regulations or provide appropriate physical conditions to satisfy particular needs of the elderly, children and the disabled.

B. Provide necessary arrangements for emergencies.

C. Provide safety measures, particularly for women in segregated spaces.

D. Provide public toilets and ensure their maintenance and cleanliness.

4.   MAINTENANCE AND UPKEEP

A. Provide an efficient cleaning system for various routes, greenery and public places since the cleanliness and maintenance of the place has an essential role in making people like and feel at ease in a place. Cleanliness also enhances the sense of pride and belonging. The removal of snow is also important.

B. Enhance the identity and character of the centre since it is an important issue to promote the perception of control and maintenance.

C. Reduce artificial nuisance such as traffic, litter, billboards, poles,

wires, dilapidation and incompatible land uses to enhance the perception of order.

D. Maintain and paint street furniture and properties. Identify materials that are more resistant to changing weather and make people aware of them.

E. Plant flowers and use seasonal vegetation adjustments around the year.

5.   CONTROLLING PRINCIPLES

A. Maintain close co-operation between the management body and the residents in order to solve the problems of the centre or to find reasonable ways to reduce them; for example find ways to control unacceptable social behaviour among the youth in public spaces. (*S*)

B. Control over retailing activities particularly the prices of goods. (*S*)

C. Ensure the quality of buses or other public transport systems with particular attention to the following conditions: (*S*)

a) punctuality.

b) wide range of routes to different destinations.

c) fixed prices.

3-2: MANAGEMENT AND MAINTENANCE

Summary

**KEY POINTS FOR MANAGEMENT SYSTEM OF A
NEIGHBOURHOOD CENTRE:**

1. Provide day and night access to the centre.

2. Provide vitality at night by accommodating appropriate functions, maintaining suitable lighting systems and allowing proper surveillance.

3. Enhance the legibility of the centre for non-residents by appropriate signing and numbering and preparing local guide books.

4. Meet the needs of particular users.

5. Control unsuitable social behaviour, high prices and public transport facilities.

6. Provide the opportunity for social events and participation in neighbourhood affairs.

7. Maintain the greenery, street furniture, street surface and pavements.

8. Encourage the maintenance of building facades.

9. Provide efficient systems for cleanliness.

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APPENDIX ONE: THE QUESTIONNAIRE (English translation)

Neighbourhood: No:
Respondent age: Male ☐   Female ☐   Note:
Date: Time:

(for the respondents who are met in the centre):

1. Do you live in this neighbourhood?   Yes ☐   No ☐
    (If not) Which area are you coming from?

2. How long have you been living here?   Years   Months

3. How frequently do you go/come to this neighbourhood centre?

4. How do you usually go/come to the centre?
    walking ☐   using car ☐   using public transport systems ☐

    (if walking), Is there any difficulty for walking to the centre?

    (if by car), Is there any difficulty for going/coming by car?

    (if public transport), Is there any difficulty for going/coming by public transport?

5. How long do you usually spend in the centre?

6. Which of these activities do you regularly do in the centre? (Please rank them by their importance.)

    ☐ shopping
    ☐ window shopping
    ☐ promenading
    ☐ enjoying the landscape and nature
    ☐ working
    ☐ social contact and social activities (please mention the activity)
    ☐ playing (children)
    ☐ eating (which places)
    ☐ leisure and sports (which facilities do you usually use?)
    ☐ cultural activities (please mention the activity)
    ☐ using urban facilities:
            post office
            financial services
            health services
            hair-dressings or beauty salons
    ☐ other activities (please mention the activity)

7. Among the above activities, are there any that you never do? Why?

8. (If the respondent has been living in the neighbourhood for more that ten years go to question A, for those living less than ten years go to questions B and C):

    A. Have there been any changes in this neighbourhood centre during the period of your stay here? What is your opinion about the changes?

    B. Where did you use to live before coming here?

    C. How do you compare this neighbourhood centre with your previous neighbourhood centre?

9. Is there any specific time that you do not wish to go to the centre? Why?

10. What are three best things about this neighbourhood centre?

11. What are three worst things about this neighbourhood centre?

12. In your opinion, what is needed to improve the centre?

13. If you described this centre with three adjectives, what would they be?

14. Finally, is there anything that you would like to say about this centre?

APPENDIX TWO: PAPERS

During the period of this research, some papers were presented or published by the researcher in different conferences or journals. The titles of these papers are as follows:

1. The Neighbourhood: A Multi-Dimensional Entity

Paper presented in The Fourth Seminar of Iranian PhD researchers in Europe; London, July 1998.

2. Differences in the Interpretation and Evaluation of the Built Environment (Designers Versus Non-Designers)

Paper accepted for publication in The International Journal of Humanities in Iran, March 1999.

3. The Value of Neighbourhoods: A Cultural Approach to Urban Design

Paper presented in The Third International Conference of the European Academy of Design; Sheffield Hallam University, 29th March-1st April 1999.

4. Ethical Aspects of the Past Architectural Training and The Built Environment

Paper presented at the 'Ethics of Building' Conference; University of Central Lancashire 10th-12th April 1999.