PLANNING FOR SUSTAINABLE COMMUNITIES IN SUBURBAN RESIDENTIAL NEIGHBOURHOODS: THE CASE OF ÜMİTKÖY, ANKARA

A THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES OF
MIDDLE EAST TECHNICAL UNIVERSITY

BY

MELDA AÇMAZ ÖZDEN

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR
THE DEGREE OF DOCTOR OF PHILOSOPHY
IN
CITY AND REGIONAL PLANNING

JUNE 2013

Approval of the Thesis:

PLANNING FOR SUSTAINABLE COMMUNITIES IN SUBURBAN RESIDENTIAL NEIGHBOURHOODS: THE CASE OF ÜMİTKÖY, ANKARA

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ABSTRACT

PLANNING FOR SUSTAINABLE COMMUNITIES IN SUBURBAN RESIDENTIAL NEIGHBOURHOODS: THE CASE OF ÜMİTKÖY, ANKARA

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June 2013, 281 pages

This research mainly focuses on the notions of liveable and sustainable community within suburban residential neighbourhoods. The concepts of 'community' and 'sustainability of communities', which have been studied within the context of urban planning, as well as many other disciplines within the framework of urban studies are of inevitable importance in terms of developing healthy and liveable cities and urban spaces. This study, therefore, intends to provide us with a theoretical framework to discuss and evaluate the sustainable community concept in urban environment, specifically in Turkey. It also evaluates the capacity of this theoretical framework to be used as an assessment instrument for communities.

The highly limited understanding of sustainability in the urbanization process causes considerable problems among the communities in urban areas. The growing problems and piecemeal solutions to them indicate the complexity of urban planning and urbanization processes. Particularly since the 1980s, some Turkish cities have been experiencing rapid urbanization and suburbanization. The suburbanization concept, which is another focus of this research, has been developed as an alternative solution to the complex problems of city centres and residential neighbourhoods within the immediate vicinity of city centres, such as inadequate quality of life, insufficient housing supply, and the desire for new life styles. Liberal policies which reinforce this tendency have led to the re-definition of urban practices and today's urbanization problems.

The sustainable community concept, which constitutes the major focus of this study, has emerged around the 2000s in the international planning and urbanization studies. Developed countries have determined, as their major objective, the enhancement of sustainable community, and they have identified their urban planning policies according to this view-point. Sustainable communities are liveable social, spatial, environmental, economic, and administrative elements. Urban problems such as impairment in the quality of life, unhealthy and unsafe environment, weaknesses of social network, loss of sense of place and community are provided with solutions through sustainable community building/development in micro-scale.

Usually defective policies and inappropriate approaches have been observed in Turkish urban growth and suburbanization practices, as well as practices under the illumination of international experiences. Therefore, the key motivation of this research is to remedy this

deficiency and to provide an exemplary study for local planning application related to sustainable communities in micro-scale. This study focuses on the assessment and analysis of sustainable communities in suburban residential neighbourhoods.

The research aims to identify the sustainable community components, or indicators, of suburban residential areas. The research examined the case study areas according to these sustainable community indicators, which have been identified through the literature review. The case study areas were selected in Ümitköy, a suburban residential neighbourhood of Ankara, and the community, neighbourhood and sustainability concepts were examined here. The research has selected case study areas with different spatial and design characteristics to understand how sustainable community development concept is influenced by spatial design. Thus, the research seeks to understand the reciprocal relationship (or interaction) between spatial design and sustainable community development. Additionally, the research findings obtained particularly from the suburban residential areas are discussed in relation with specific and pre-determined sustainable community components. The findings of the case studies in Ümitköy indicate the need for an approach towards sustainable community development within the planning and design processes from the neighbourhood scale to the scale of housing cluster in suburban areas.

Keywords: Sustainable communities, sustainable and liveable neighbourhoods, socio-spatial components of sustainable communities, housing estates, Ümitköy, Ankara

ÖZ

KENT ÇEPERİNDEKİ KONUT MAHALLELERİNDE SÜRDÜRÜLEBİLİR TOPLULUKLARIN PLANLAMASI: ANKARA ÜMİTKÖY ÖRNEĞİ

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Haziran 2013, 281 sayfa

Bu araştırma, kent çeperindeki konut mahallelerinde yaşanabilir ve 'sürdürülebilir topluluk' kavramına odaklanmaktadır. Kent planlama ve kentsel çalışma alanındaki birçok disiplinin alanına giren topluluk kavramı ve toplulukların sürdürülebilirliği, sağlıklı ve yaşanabilir kentlerin ve kentsel alanların geliştirilmesi açısından vazgeçilmez önem taşımaktadır. Bu nedenle, bu çalışma, Türkiye özelinde kent planlama yazınında önemle üzerinde durulması gereken sürdürülebilir topluluk kavramı ve bu kavramın kentsel çevrede uygulanabilirliğini tartışmak ve değerlendirmek için kavramsal bir çerçeve oluşturmaya çalışmaktadır.

Sürdürülebilirlik yaklaşımının kentlerin gelişim süreçlerinde eksik veya çok sınırlı anlaşılması ve uygulanması, kentsel alanlarda bulunan topluluklar üzerinde önemli sorunlar doğurmaktadır. Büyüyen sorunlar ve bu sorunlara karşı üretilen parçacıl çözümler, aslında, kent planlama ve kentleşme süreçlerinin karmaşıklığını da işaret etmektedir. Özellikle 1980'lerden itibaren, Türkiye'deki büyük kentlerde çok hızlı büyüme ve banliyöleşme deneyimleri yaşanmaktadır. Bu çalışmanın da odaklandığı banliyöleşme kavramı, metropolitan kentlerde, özellikle kent merkezlerinde ve yakın çevresindeki konut alanlarındaki yaşam kalitesinin yetersizliği, yeterli konut sunumunun sağlanamaması ve yeni yaşam biçimlerine olan talebe bağlı olarak ortaya çıkmıştır. Bu yönelimi hızlandıran liberal politikalar, kentleşme pratiklerinin yeniden tariflenmesine ve bugünkü sorun alanlarının oluşmasına neden olmuştur.

Bu araştırmanın odaklandığı temel kavram olan sürdürülebilir topluluk kavramı, özellikle 2000'li yıllardan sonra uluslararası planlama ve şehircilik gündemine girmiştir. Gelişmiş ülkelerin kent planlama uygulamalarında sürdürülebilir topluluk gelişimi temel hedef olarak belirlenmiş; ve kent politikaları, farklı ölçeklerde, bu amaca yönelik biçimlendirilmiştir. Sürdürülebilir topluluk kavramı yaşanabilir sosyal, mekansal, çevresel, ekonomik ve yönetsel bileşenleriyle birlikte değerlendirilen bütüncül bir kavramdır. Yaşam kalitesinin azalması, sağlıksız ve güvensiz çevrelerin artırılması, sosyal iletişimin zayıflaması, mekana ve topluluğa aidiyetin azalması gibi kentsel sorunlar alt veya mikro ölçekte sürdürülebilir toplulukların ve mahallelerin geliştirilmesiyle çözüm üretilebilecek problem alanlarını tarifler.

Uluslararası deneyim ve yaklaşımların ışığında değerlendirildiğinde de, Türk kentlerinde yaşanan kentsel büyüme ve banliyöleşme bir çok sorunlu politika ve yaklaşıma işaret etmektedir. Bununla birlikte ülkenin kendi iç politikaları, dinamikleri ve özellikleriyle birlikte değerlendirildiğinde sorun alanının karmaşıklığı daha da anlaşılabilir olmaktadır. Bu

araştırmanın sürdürülebilir toplulukların kentdışı alanlardaki yerleşim bölgelerinde değerlendirilmesine ve incelenmesine odaklanmıştır.

Araştırmanın temel amacı, kentdışı yerleşim alanları için sürdürülebilir topluluk bileşenleri ve göstergelerini yazın taraması aracılığyla tanımlamak; ve sürdürülebilir topluluk bileşenleri ve göstergelerine bağlı olarak, Ankara'da Ümitköy banliyö yerleşiminde belirlenen örnek çalışma alanlarını incelemektir. Bu araştırma, farklı mekansal yapı ve tasarım özelliklerine sahip örnek alanları inceleyerek, sürdürülebilir topluluk geliştirme kavramının mekanın tasarımından nasıl etkilendiğini anlamaya çalışmaktadır. Dolayısıyla, bu araştırma, mekan tasarımı ile sürdürülebilir topluluk geliştirme kavramlarının etkileşim içinde olduğunu göstermeye çalışmaktadır. Ayrıca, kentdışı konut alanları özelinde elde edilen bulgular, belirlenen sürdürülebilir topluluk bileşenlerine göre tartışılmıştır. Ümitköy'de yürütülen görgül alan araştırmasına dayalı olarak bu araştırma, banliyölerde mahalle ve konut kümesi ölçeğinde planlama ve tasarım uygulamalarında sürdürülebilir topluluk geliştirme yaklaşıma ihtiyaç olduğu sonucuna varmıştır.

Anahtar Kelimeler: Sürdürülebilir topluluklar, sürdürülebilir ve yaşanabilir mahalleler, sürdürülebilir toplulukların sosyo-mekansal bileşenleri, konut siteleri, Ümitköy, Ankara

To my beloved mother, husband and daughter...

ACKNOWLEDGMENTS

I would like to express sincere appreciation and deepest gratitude to my supervisor Assoc. Prof. Dr. Müge Akkar Ercan for her valuable contribution, guidance, encouragement, criticism, advise, motivation, and endless patience throughout the intense period of my research. I am very lucky for getting the chance of studying with her.

I would like to gratefully thank Prof. Dr. Baykan Günay, Prof. Dr. Ali Cengizkan, Assoc. Prof. Dr. Serap Kayasü and Assoc. Prof. Dr. Aysel Odabaş Uslu for their valuable criticism, comments, guidance and contributions throughout the research process.

I would like to thank to residents in case areas for their assisting and cooperating to questionnaire. I would like to thank to my colleague Assist. Prof. Dr. Feray Koca for her support and encourage. I would like to gratefully acknowledge the moral supports of Assist. Prof. Dr. Gül Yücel. I would like to thank to my friends Didem Özbey Acar and Yeliz Yalçın Köse for their support, friendship, and having enjoyable times in our meetings.

I would like to cordial and special thanks to my parents, my mother Hacer Açmaz who always encourages me to achieve my goals and guides with her acumen; and my father Selim Açmaz who always successes to smile at me in any circumstances of every steps of my life. Their strong support, immense patience and unending love on me made many things easier during the hard times of the research period. I would like to thank to mother-in-law Sevinç Özden for her support, favor and patience. I would like to thank my brother Emre Açmaz and his wife Duygu Açmaz for supporting and encouraging me with their best wishes.

I would like to thanks heartedly to my beloved husband Dr. A. Tolga Özden –past, present and future- who challenge and inspire me in so many way, and for his love, encouragement, patience and support. Derin Özden, my peerless daughter also deserves many thanks to bring joy and meaning to my life. Both Tolga and Derin, you are the most beautiful things that ever happened in my life.

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CHAPTER 1

INTRODUCTION

1.1. Background of the Research

City is a never-ending project...

The key argument of this research was generated in the times when the efforts of planning urban areas were considered together with the process of space production. These periods need to be explored in order to understand the current developments and problems, which will affect the future of the urban life and structures. In particular, urban built environment cannot be thought separately from neither the presence of 'human being', nor the presence of 'community'. Therefore, the developments in urbanization and urban practices need to be analyzed in relation with community development practices. The historical developments can help us understand the future of urban areas and neighbourhood development in Turkey. In other words, such historical investigation is more important than ever for the ongoing urban development approaches in Turkish cities to achieve sustaining healthy and pleasant environmental conditions, which provide safety, security, satisfaction, and physical and emotional well-being of the inhabitants.

The great impact of industrialization particularly by the 18th century in the old European continent has drawn the attention to the shifting old and new urban fabrics, and transforming urban life. The former structure of the dualistic relation depended on urban life, which was composed of peasants and aristocrats. In the 18th century, with the Industrial Revolution, this structure transformed into another system in which proletarian and bourgeois classes emerged and developed. This transformation changed the urban life in terms of socio-economic and cultural relations, which also affected the metamorphosis of the physical environment. In these transforming periods, urban areas and structures were not able to meet the physical and other needs of urban dwellers. The drastic population increase in urban areas along with the rapidly growing needs of citizens brought about many problems, as well. Insufficient physical and social infrastructures and buildings is a major cause of such stressful events as natural hazards, fires, epidemics, pollution, and congestion in transportation systems, which also created unsafe spaces within the urban fabric. These problematical developments enforced new urbanization practices and planning decisions. Accordingly, re-planning or ordering of the existing structure attempts were made, breeding the key concepts of 'beautification', 'improvement', and 'order' for the urban transformation approaches in the Western cities (Yerasimos, 1999). As Günay (2007) states, in the Western urban development experienced in the end of the 19th century and the beginning of 20th century, urban periphery was composed of suburbs, mass housing areas, and new cities, all of which were located on the corridors formed by the railways and roads, and the general structure of cities were core areas and periphery. The core area is composed of a street network and building blocks which display a continuing and side by side urban texture characteristic, and depends on implementations in the single urban plots. Central business

districts also were located in the urban core area. In the Western cities, the urban core was developed in the 18th and 19th centuries. The newly emerging capitalist society in those periods transformed the urban areas. In other words, the cities –both urban texture and transportation systems- were planned and built to meet the needs of these newly emerging societies and the capitalist system (Günay, 2007).

Although similar and high concentration developments, transformations, practices, disappointments or successes experienced in Western cities were not observed to the same effect in Turkish cities, some of the experiences of Western urban development practices and opinions tried to be carried to the Ottoman cities, particularly to the capital city of Istanbul in the 19th century. Von Moltke, a German planner and soldier, was invited to Istanbul in the first quarter of the 19th century (1836-1839) by the Ottoman Emperor and was asked to prepare a city plan for the capital city Istanbul. In the following period, some important laws and regulations were put into effect including İlmühaber (1839), Ebniye Nizamnamesi (1848), Turuk ve Ebniye Tüzüğü (1865), Ebniye Kanunu (1882), all of which focused on the beautification and ordering of the city centre in Istanbul (Tekeli, 1999; Tekeli, 2010). However, most of those regulations were piecemeal attempts towards urbanization practices. Widening the roads, prohibiting dead end streets (*cul-de-sac*), controlling building heights, and planning the damaged areas (by extensive fires) were typical examples of these piecemeal approaches to urban planning in Istanbul.

Although some approaches were inherited from the Ottoman period, the Young Republic (of Turkey) followed a very different urbanization policy after the foundation of the nation state in 1923. The new state had also a new discourse on urban fabric. First of all, the new regime needed to change all the governmental, administrative and political systems of the former state of Ottoman Empire. In addition, it had to apply its own administrative, social and even cultural reforms, mostly depending on the development and strengthening of the understanding of nation state. These reforms, inevitably, had major impacts on the physical environment. Developing a new capital city, Ankara, was one of the foremost ideals of the young state. According to Keleş and Duru (2008, p.29), in the first years of the Young Republic, the importance given to Ankara is evident in the population growth statistics. Investments in the new capital changed the vision of the city, and Ankara became the new attraction point of the country, which resulted in the rapidly growing population. They also give a specific example; in 1919, the population was only 20.000, whereas in 1927, it was 74.000, and it increased to 226.000 in 1945 (as cited in Yavuz, 1980, p.13).

Cities of the Republic regime would not only be the symbol of the newly founded nation state, but also they would be probably the most powerful attempt to remove all remains of the former system, including the power of old capital, İstanbul. Along with the nation state discourse, modern approach and discourse to physical environment developed particularly in the 1930s. The urban planning and building production processes of the new capital became the priority of the modernist discourse of the new regime. Akdeniz (1997, p.37) asserts that the Law (Number 583) of Expropriation was put into force in 1925, which directly affected the urban development and growth of Ankara. Through this law, it was accepted that constructing a new city was cheaper and more effective than re-organizing the old one (Akdeniz, 1997, p. 37). Indeed, the New City (Yenişehir), what is known as Kızılay today, was determined as the growth direction of the urban development, and expropriation of the land in the new city area had began (Akdeniz, 1997). Naturally, the speed of new planning

and building approaches were limited with the conditions of the time such as qualified man power, materials and supplies, and financial resources. Ankara, which had implemented Lörcher, Jansen, and Yücel-Uybadin planning decisions and practices in the first half of the 20thcentury could be mentioned as one of the most striking efforts in order to achieve urban transformation and development according to new state's modernist discourse. In other words, the new regime attempted at using the transformation of urban physical environment which was a strong tool for the transformation of the community.

Geray (2000: p.11) stresses that Ankara, being the capital city of Turkey, was given priority and special importance, for it would set an example of urban development for other cities, which were also planned to be 'modern' and 'healthy'. Upon coming to Ankara to plan the new city, Jansen analyzed the urban statistics to realize that, according to the initial estimations, Ankara would have a 300.000 population in the 1980s. However, the population had already exceeded this number in the 1950s. This situation resulted in both housing and infrastructure deficiencies, and led to the development of a new plan which was prepared by Yücel-Uybadin in 1953. Particularly by the 1950s, there was a pressure on the government for additional floors in the existing residential plots within the urban areas. These pressures were effective in that, in 1951, a cabinet decree allowing for additional floors was implemented (Geray, 2000, pp. 12-13). Geray (2000) states that it was in 1950 that a prediction related to squatter housing was made, showing that more than 100.000 people, about 34% of Ankara's population, were living in shanty houses (as cited in Yavuz, 1952: pp.72-73).

Mass migration from rural to urban areas which accelerated particularly by the 1950s revealed the vulnerable structure of the physical environment in many parts of the country. The modernist approach of the Republic regime was trying to develop a new urban environment and constructing a new city nearby the old city of Ankara. In these days, Ankara's population increased significantly. The rapidly growing populations and the increasing density in the urban neighbourhoods were indicative of very basic problems similarly to those experienced by Western urban modernization and urban growth processes following the industrial revolution. Ankara welcomed the newcomers who migrated from different parts of the country and who belonged to different socio-economic structures. Ankara, as the new capital and governmental head of the country, needed many officers (public servants) and labour power to administrate and construct the modern city. Some of the bourgeoisies, politicians and other qualified educated population living in the former capital were also coming to the new capital to complete and strengthen the ideal of modernist discourse, declaring the end of the former system. Peasants and unqualified population of rural areas also migrated to the urban area in order to change their destiny and seize the various opportunities provided by the cities to earn their life. The urban core area of Ankara was basically formed through the plans of Lörcher, Jansen, and the 1950s' Yücel-Uybadin plans (Günay, 2007). As Günay maintains, the main target of the Republic was to change the mentality from being community to being citizen (2007). To this end, scales and spaces of the urban areas needed to be designed according to the modern civilization standards. Building of city parks, clubs, and *Youth Park* (Gençlik Parkı) in Ankara all addressed to the new citizen and his/her city ideal. The first threshold for urban areas was reached in 1950s, and this resulted in the development of Yücel-Uybadin plan, which led to the demolish-and-build approach. The implementation of the 1990 Plan in 1980s started a new period wherein the city was spreading into the urban periphery (Günay, 2007).

The new city was constructed just next to the old one, and historical neighbourhoods comprised the public buildings, cultural buildings, social and recreational areas, and new roads. The housing estates developed within the new city borders were generally built for labours and public servants. Herman Jansen's plan was initiated both to develop the New City and renew the old one (Şahin, 2006, p. 112). However, as Şahin (2006, p.112) indicates, the renewal process was not entirely in concordance with plan decisions, but it mostly hinged on the internal dynamics. The new development movements climbed the agenda along with the new construction attempts which were all influenced by the expanding liberal policies and transition to the multi-party democracy by the 1950s.

Tunçer (2010) states that the birth of the concept of conserving the historical sites of Ankara dates back to 1930s, when the Hermann Jansen Plan was developed. Jansen was a supporter of the Garden City Movement, and he planned Ankara accordingly. Günay (2005) accepts the Jansen Plan as a holistic and comprehensive plan because of the way it describes Ankara and because it offers many analysis and plans including master plan and application plans. The Yücel-Uybadin Plan of Ankara, which was developed in 1957, planned a city of 750.000 (Tunçer, 2010). Kızılay (the New City) emerged as the new urban core and reflected the modern face of the city through the exhibition of new architectural products (Tunçer, 2010).

Cengizkan (2004) states that the Lörcher plan formed the base for the Jansen Plan's spatial arrangements. What marks the Lörcher Plan was its attitude towards the old city, which was also accepted as destructive for the historical site. Tirkeş (2010: p.55) asserts that Ankara has a different urbanization history which differentiates it from many other examples due to its bases on the construction of modern state ideology during the planning and implementation processes of the urban structure. Karakaya (2012) states that a wide range of reformation which took into account of new institutional, social, and cultural environment was urgently needed to construct the new Republic.

The old city was hosting the locals and old neighbourhoods, but not limited with them. Low-income newcomers migrated from different parts of the country, and nearby towns and villages of Ankara constituted the other inhabitant section of the old city. These different groups and communities were sometimes sharing the same neighbourhoods and socio-cultural environment. This encounter caused different levels of urban tension within the physical environment. The neighbourhoods and communities that densely existed in those areas had developed through time period due to different conditions and needs. Among the many criteria of being a community in a neighbourhood, family ties, citizenship, economic relations, religion, socio-cultural ties, living in the same area for a long period could be mentioned as the foremost moral and normative references. Therefore, it is obvious that there were communities before the development of the new capital in a different area in Ankara. Those communities were living and sharing the life in the old and historical neighbourhoods of the city. However, these communities collapsed or transformed due to the rapidly changing urban population, physical environment, and other factors. Both the physical and social environments of the community were under constant pressure due to various internal or external factors (Figure 1.1). The stress on the existing communities stemmed from the outer pressure of immigrants, political decisions and other factors or inner pressure of socio-economic demands and environmental changes. Nevertheless, the resistance to the change and demolishment of the community have been continuing because people still believe that a

liveable, safe and sustainable environment can be achieved through strong community ties and belonging to a community.

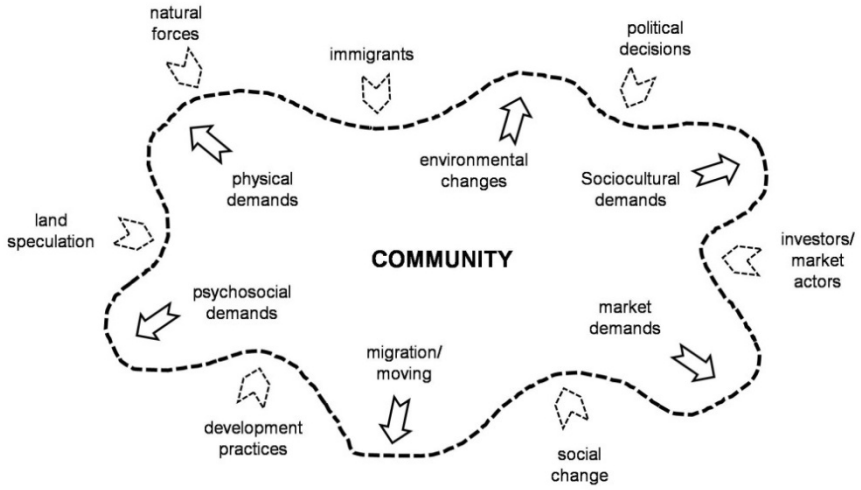


Figure 1.1: Some of the External and Internal Forces Cause Pressure on the Community Structure which Results in Social and Physical Change

The development experiences of the Western cities in the 19th and 20th centuries were not experienced likewise in Turkey due to various reasons as mentioned before. The foremost reason was that the urban density development was prepared when the rapid growing experience did not start yet (Günay, 2007). Following the rapid growing and migration experiences, the urban texture could not meet those developments. The planners did not prefer to prepare new development areas, but instead, they preferred to increase the construction rights within the existing urban plots (Günay, 2007). As a result, original and authentic texture of Ankara disappeared, and the infrastructures including the transport systems have become insufficient (Günay, 2007).

Günay (2005) asserts that the deciding group related to the urban density and sprawl is the high-income group who also influences the behaviour of other groups in finding and inhabiting within the urban and suburban areas. Therefore, when the high-income groups as the dominant deciders settle in an area, most of the investors move to that area and locate their activities in that region. As a result, the other groups have very limited alternatives for moving and inhabiting in a healthy and sustainable environment which is also affordable. Günay (2005) adds that free market approach, which follows the high-income groups at the end, prepares its problematic and chaotic end, bringing about uncertainty of urban development.

The pressure increased as a result of the rapid population growth in urban areas of Ankara resulted in unhealthy physical development practices particularly in old and historical neighbourhoods. The deficient infrastructure which could not meet the needs of physical environment and people along with the missing or insufficient housing policies resulted in illegal building practices. Those buildings were the ones constructed generally by the households and/or their relatives even over one night without any technical and regulative

services. Therefore, they were called *Gecekondu* (meaning 'squatter house'). On the other hand, the existing building stock in the old neighbourhoods had been facing deterioration due to illegal usage and/or insufficient financial support of households who mostly belonged to low-income groups. People who had relatively better financial sources preferred to move to other areas and newly developing lands. The deficient integrative housing policies which descended from the Ottoman period also affected the unhealthy development of the urban land and housing stocks. Insufficient housing stocks within the old city centre could not meet the newcomers and residents most of whom were the officials employed for the public services in Ankara. Therefore, the public policy oriented those people to the new housing estates which were constructed in the suburban areas or newly developing lands around the old city centre. The first plans of the city (such as the plans of Lörcher and Jansen), which had also foreseen this need, developed new housing estates around the city centre. By this housing approach, for the first time, new lands including agricultural areas were allocated for the new housing estates. The modernization of the state through the modernization of the public was to be completed and supported with the building of apartment blocks, which was regarded complementary to the modernization project. Apartment blocks served a new way of life for many people and were accepted as the modern life. Moreover, those buildings met the housing needs of 'official class' who were moving to the new capital city, Ankara.

According to Aras and Alkan (2007), the urban areas which have various activities and complex relation networks are shaped by the intervention of different actors in different roles. Sometimes, these interventions emerged as a reflection of conscious policies, but many times they are the products of informal relation networks. As a result, the urban forms display different growing tendencies (Aras & Alkan, 2007). This development tendency sometimes affects the urban macro-form positively, but sometimes it does so negatively. In the beginning, the squatter settlements were innocently built due to the housing needs that stemmed from migration to urban areas by the 1950s. These developments, in other words, solely reflected people's search of shelter. In the following periods, however, they turned out to be income sources, which have negative impacts on the urban development. The squatter areas began to be demolished and apartment blocks were built in those areas. This transformation and urban regeneration changed not only the physical environment but also the socio-cultural structures (Aras & Alkan, 2007).

The rapidly deteriorating old and historical city centre of Ankara along with unsuccessful or insufficient renovation and regeneration approaches caused the emergence of slum areas in these regions. Corrosion and disturbance in these areas triggered the movement towards the suburban areas. That is, a demand to live in the periphery of the city centre, far from these unwanted areas emerged as an alternative urban life style. The urban sprawl became the growing interest of both residents and investors particularly after the 1950s. Building new communities and living environments in the periphery of city centre which started in the 1930s and accelerated in the 1950s has been continuing for decades through mass housing policies, which have been implemented by both public and private sectors. Kamacı (2009: p.327) points out that the urban characteristic developments observed in the urban periphery started in the second half of 1970s through the cooperatives' land preferences in those areas in Ankara. After 1975, the urban centres could not provide sufficient land for particularly cooperatives, and the existing urban plot stocks became very expensive. Therefore, as Kamacı (2009) states, many investors began to prefer the urban periphery in Ankara, where the land is relatively cheaper (as cited in Altaban, 2002).

Building cooperatives are the typical mass housing projects parallel to the urban sprawl approach. Space production process in the city centre or old neighbourhoods and suburban areas heavily depends on two major production types: '*build-and-sell system*' and '*housing cooperatives*'. The concept of building cooperatives has changed in the recent years (particularly by the 1980s) because of the intervention of the state to the housing construction sector through Mass Housing Administration(TOKI) - a state agency which was founded in 1984 to provide social housing in Turkey. TOKI's approach to the provision of housing sites has been re-forming the structure and physical environment of the city, specifically in Ankara; more importantly, it has affected the community and neighbourhood understanding.

Around the 1980s, Neo-liberal policies dominated the urban development processes. While the Modernist policies, prevalent since the 1930s, were replaced by post-modern understandings, the liberalist approach had powerful impacts on not only socio-economic policies, but also urban planning and building sectors. The modernist approach pursued a dream of constructing a modern society on the ashes of former system, which depended on community and kinship relations within the neighbourhoods. The post-modernist approach, which has accelerated since the 1980s, has started to re-define the society relations in different scales. Building in urban areas and using the land have become profitable attempts for many building investors. Mainly, developing new urban clusters and quarters around the old city centres and in suburban areas gained popularity as an urban growth approach in this period. For many middle-income dwellers, new housing areas developed in suburbs have served better alternatives to start a new life, compared to those in the inner city of Ankara. Likewise, these new suburban neighbourhoods have functioned as the only alternatives to keep out of and be protected from the crowdedness, pollution and insecurity of the old city centre, sub-centres and neighbourhoods. However, the risk of developing new ghettos in suburban areas has also emerged from those urban sprawl approaches. The communities preferring to live in these new apartment blocks, villas or gated residential clusters, developed by either housing cooperatives or private construction contractors/firms far from the city centre, have already developed their own ghettos. As such, this approach and new housing developments have been also criticised because of their disconnectedness with city centre and other neighbourhoods. Suburban residents somewhat broke ties with the rest of the city.

Another break from the city centre particularly in recent years has been observed through the public buildings. The buildings of public services, specifically the buildings of some ministries, have been constructed on the empty lands close to the main transportation arteries along the extensions of the city in Ankara, particularly along Eskişehir Road (also called Dumlupınar Boulevard). Consequently, the employees of these public agencies have increasingly preferred to live in the suburban areas or areas closer to their workplace. This shiftin understanding is in parallel with the development of suburban housing approach conducted by both public (primarily TOKİ) and private (housing cooperatives, build-and-sell contractors, construction companies etc.) sectors.

To sum up, with the proclamation of the republic in Turkey, one of the important projects of the new and modern state -that is, creating the capital city project- has already started altering and transforming Ankara. During this period, the growing and sprawling urban area

has become a huge construction site wherein multi-story apartment buildings have been constructed. Today, the growth and transformation of the city continues as a result of the current neoliberal economic policies and approaches. However, the speed and the effects of this transformation, development, regeneration and rebuilding processes on both old and new neighbourhoods of the city have created many problem areas as mentioned before. Therefore, a discussion on this rapid and devastating growth of the capital city is inevitable. In particular, urban periphery which is mostly affected by the rapid urbanization and building activities within the suburban areas needs to be discussed to reveal the problems experienced in those areas.

1.2. Definition of the Research Problem

'Community' is one of the crucial matters of concern for the profession and discipline of urban planning. To understand and examine how to (re)shape community and the interaction between community and space appeared to be the key issues in urban planning. 'Community' has re-emerged as the object, target and solution to urban problems (Armstrong 2010, 11). Every intervention in an urban area affects community directly or indirectly, and influences social and physical structure, quality of life and productivity of the cities deeply. Urban communities, on the other hand, need a safe and healthy environment, good and affordable public transportation, sustainable neighbourhood planning, well-designed open and public spaces, better use of urban land, strong economy, job opportunities, accessible community services and much more. Therefore, urban planners should deal with urban community as a focal point of urban planning for understanding how cities can become economically, socio-spatially and socio-culturally more sustainable.

Community concept which is defined through strong relations within a neighbourhood depending mainly on cultural, social and economical aspects in the old and historical city centre is asserted to be lost in the suburban life. Urban periphery and suburban life are believed to be apart from strong community relations. It is necessary to re-describe and re-form the transportation corridors, and re-organize the physical, socio-cultural, socio-spatial, psychological and economic needs of suburban residents who prefer to live in suburban areas and satellite cities. All these needs and demands point to an increasing complexity and difficulty of a network construction in urban areas. It seems really difficult to connect the urban periphery and suburban areas with the city centre and other cities located around Ankara in terms of transportation.

In fact, the problems at the macro scale directly or indirectly appear as the micro-scale problems in the scales of neighbourhood and housing estate. The connection of suburbs to the city centre and the success of this connection also affect the connection of neighbourhoods among each other, as well as their connection with the city centre. The failure of a network within a neighbourhood affects the liveability of the settlement, changes the healthy and safe living conditions of the communities, and increases the stress level among the residents. These criteria and problem areas increase dissatisfaction, decrease the quality of life, and affect the sense of community and belonging in the neighbourhood.

The physical environment is marketed only through the quality of construction of building by the market actors. Generally the residents are not involved in the planning and building processes which are generally produced by very limited market actors. In other words,

building production process largely excludes communities, citizens and the city from the planning and building decisions. This view indicates the piecemeal planning approach which was also experienced in the 19th century in Turkey.

Some urban problems of the Western Worldare similar tothoseexperienced in Turkish cities for years. Due to these experiences related to physical environment development practices, equitable and balanced usage of sources have become important among the public and politicians. Protecting and carrying these sources into the future for the next generations are the main aspects of the shifting approach in natural and built environment usage. The idea of 'sustainability' has emerged basically from these shifting approaches. '*Sustainability*' concept, as an umbrella concept, encompasses many issues and dimensions. '*Sustainable urban areas*', '*sustainable community*' and '*sustainable neighbourhood*' are some of these subtitles and concepts. These concepts are important for the current study in order to evaluate and understand the community and neighbourhood developments within Ümitköy, which is a suburban area located in Ankara. The study explores and discusses the sustainability criteria in terms of liveability, safety, sense of community and belonging, residents' satisfaction, social interaction and neighbourliness and some other socio-spatial and socio-cultural concepts within a neighbourhood.

Emerging, developing and growing suburban areas and living understanding which also have become adjacent with other suburban areas in Ankara is worth exploring and analyzing. Urban life in the periphery of the city through suburban and satellite cities has many examples in Ankara, all of which are parallel with recent discussions of sustainable community and neighbourhood concepts. These discussions involve the idea of '*healthy communities*' which can be developed and sustained through better planning of liveable neighbourhood and housing environments.

In theory, similar problems related to the sustainable community and neighbourhood development under some specific criteria are observed by both international and national circles. Declining old and historical city centres due to different factors, and serving suburban life in terms of alternative living environment, in fact, cause other problem areas. These problem areas can be listed as follows:

- isolation,
- alienation,
- insufficient access to the urban services,
- unqualified and problematic physical environment development which makes life difficult,
- barriers which limit many physical and other activities of the users.

New planning approaches both in theory and practice have been developed due to the former experiences and increasing importance of sustainability concept, all of which have been targeting to find solutions to the problematic areas of urbanization and urban planning. Some of those new approaches are 'new urbanism', 'smart growth', 'new pedestrianism', and 'transit-oriented planning'.

Sustainable living environment and community development approach, in fact, is beyond the sheltering need and targets to meet the peaceful, healthy, safe and active life needs of people. According to ASLA in both city and neighbourhood scales, providing various and healthy

transportation, housing and recreation area alternatives adds social value and increases living standards and extends life expectancy (ASLA, 2012). Integrating the thoughts and needs of community directly to the planning and building processes can make social interaction more powerful and understandable, which improves the awareness among the community as well. Thus, social value added programs and spaces are not only embraced by users, but also they are protected and developed by users. In order to develop and determine the tools for this approach, it is necessary to arrange a flow from both top-to-bottom (from macro-to-micro scale) and bottom-to-up (from micro-to-macro scale). The macro scale, which can be defined as sustainable regional planning, sustainable cities, and the micro scale, which can be exemplified as case specific tools of sustainable neighbourhood, sustainable landscape, housing and green buildings, indicate both sequential and interpenetrating elements (Figure 1.2).

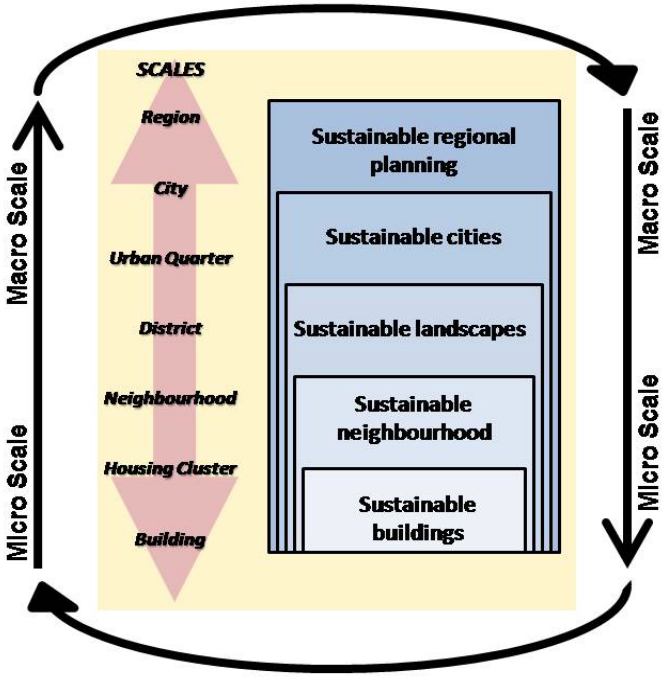


Figure 1.2: The Flow and Relation of Sustainable Planning and Application Approaches from Macro-scales to Micro-scales and Reverse Scales

Due to the rapidly growing and uncontrolled urban areas in Ankara along with the sprawling and dispersing living environments, main transportation system depends on motorway and heavily private cars. Alternative transportation systems and vehicles such as mass-transportation vehicles, rail system, subway, and bicycle are not or very limitedly planned. Moreover, environmentalist and nature-friendly transportation systems are taken into account least when the city plan is developed and the living environments are growing. The framework of the transportation system which connects urban and suburban areas is accepted in advance as automobile-dependent system which has weak ties in terms of physical planning of transportation networks. This kind of transportation planning does not give a chance to other alternative systems and destroy the environment and ecology which also cause unpleasant and unhealthy living environments. Sustainability of living areas is affected negatively because of ill-structured transportation system.

The problem areas have accumulated within the city. Finding and producing solutions to those problems through the conventional methods and procedures have become difficult. For this reason, in order to develop successful solutions to the problems that the urban areas have been facing and experiencing for years, a paradigm shift including new policies and strategies is needed. Sustainability concept is one of the foremost concepts that have been developed for this paradigm shift (Figure 1.3).

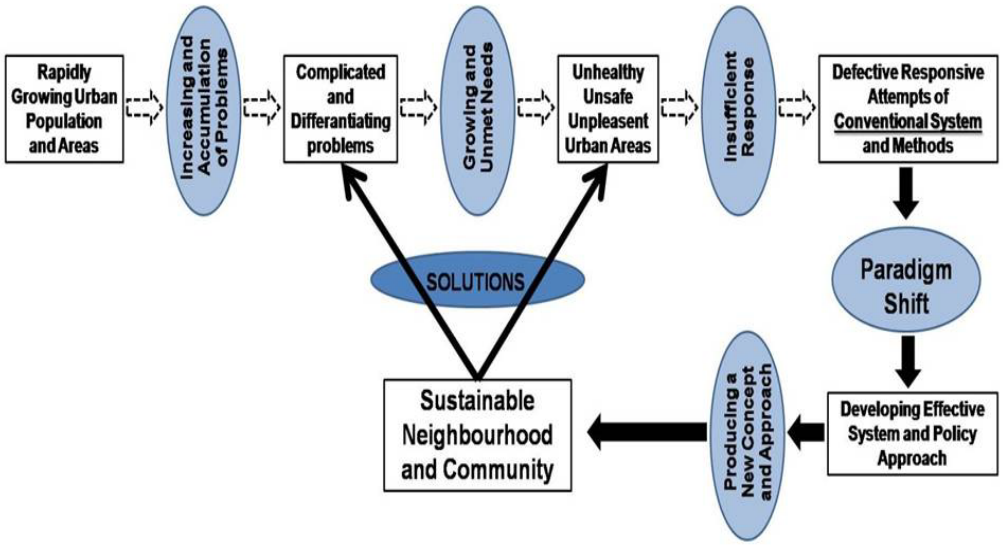


Figure 1.3: The Paradigm Shift from Conventional Planning Understanding to Sustainability Concept

Particularly in physical environment and housing concepts, some basic criteria were developed through 'Habitat Agenda' in 1996 in order to develop sustainable living environments which take economy and ecology into account. In this framework, the idea of producing sustainable communities in order to sustain living environments under the sustainable development concept was put forward. Sustainable community concept, in fact, indicates the interconnectedness and complementary part of physical and social environment on the one hand, and progressive effect of social sustainability on the other hand. From this point of view, sustainable community is evaluated and used to enhance apartment life and communities living in apartments which are seen as problematic areas in Turkey. Multi-storey apartment blocks which are very typical of Turkish urbanization and which are preferred by both public and private sectors particularly in recent years have led to many discussions as well.

In line with these discussions, this research study evaluates and assesses urban form and structure within neighbourhood and building scales from sustainable community development point of view. The effects of the structure and development of different spatial and social environments in urban scale on the neighbourhood and community development also draw the frame of this research (Kellett, Fryer, & Budke, 2009). Although planning concept concentrates on physical planning of the living environment, it is not limited with it; it also encompasses and examines social, economic and other elements of the community, all of which are shaped, altered and/or transformed by the physical environment. It is important to determine and discover those elements, and to enhance and develop the strong sides of those elements, which could be accepted as a necessity for the integrity of the planning discipline.

The problem addressed in this research study is the physical planning approach which is seen as the only method and strategy to develop a liveable environment, whereas the other needs of the community who plan to live in that environment are not taken into account. Yet, healthy development of a community is as important as the development of a resident in order to achieve a healthy and integrated development. According to Oktay (2003), healthy development of a resident can be secured through a balanced and holistic development. This development needs to be supported by the physical, emotional, mental and spiritual structures. It is expected that resident development will influence the community in order to enhance and develop the community as well (Oktay, 2003). In that sense, as Oktay (2003) argues, in order to accept a single housing as a 'home', only physical characteristics are not enough. This view is also relevant for the group of housings. In a housing estate or group of housings, if only physical standards of the buildings are taken into account, people living in that environment do not feel satisfied with the living conditions and they are not expected to develop sense of belonging to both physical environment and the community living in that environment (Oktay, 2003). Therefore, 'community development' concept comes to the forefront particularly in mass housing production areas. Oktay asserts (2003) that community development is defined as a key concept which provides, supports and enhances meeting and togetherness of a community in an environment through both pre- and post-development periods of the physical environment (Oktay, 2003). Consequently, planning, design and application processes of the physical environment necessitate a holistic view which takes into account all the factors including physical ones, all of which develop a community. Therefore, healthy and sustainable production of a community is considered to be the main objective and more important in comparison to the spatial production, and various ideas on inclusive design/planning are discussed today.

In order to provide a healthy living environment for the community and the resident, it is important to take into consideration both the physical characteristics of the space and their relation to the community and the resident as well. If the resident develops sense of belonging to the space and outside of the space within the neighbourhood, and develops a relationship with the community that she or he shares the same environment, this means that social sustainability is achieved. Achieving social sustainability also supports and enhances the physical or spatial sustainability. Hence, the physical criteria which form the space and space-resident, building-resident, housing estate-resident, neighbourhood-resident and community-resident relations are all interdependent issues and they affect each other. Therefore, sense of belonging to a space also feeds sense of belonging to a community, and is accepted as an important factor to develop sustainability in a neighbourhood. In addition to accessibility, safety, security, quality and other factors, the physical interaction of space with its environment and the neighbourhood in which it is located are influential in developing and enhancing a healthy and sustainable interaction. It is obvious that some questions emerge from social and physical interaction which is seen as an important factor for achieving sustainability criteria. Some of those questions can be given as follows;

- How can sense of belonging to a neighbourhood be developed?
- How can sense of belonging to a community be developed?
- How can a healthy relationship between neighbourhood and resident be developed?

- How can sustainable community concept be developed in urban areas? Are there any particular and new dimensions and/or criteria for Turkey and Ankara as there are for the global scale or examples?
- How can an urban unit which hold people and community together be developed?

The questions above and similar ones, in fact, give important clues to evaluate sustainable communities within the neighbourhood and building scales. According to Williams (2000), in addition to the importance of buildings alone, it is also important to get those buildings together and form a schema to develop a sustainable community (Williams, Burton, & Jenks, 2000). Setting up the schema affects not only the satisfaction level of users and the community directly but also the development of a sustainable neighbourhood (Williams, Burton, & Jenks, 2000). Therefore, success of the schema reflects the success of the characteristics which form the community and the neighbourhood. Successfully formed schema has strong contributions to the development of aesthetic views, and affordable and functional environment, all of which are important for sustainability (Williams, Burton, & Jenks, 2000).

The evaluation and measurement of user satisfaction level in a living environment in terms of sustainability needs a holistic point of view in which various and complex relations and connections are determined. As it is mentioned before, the relationship of resident with space or building solely is not enough to determine the criteria for living environment sustainability. Many relationships come to fore to form a frame of interdependent connections (Figure 1.4).

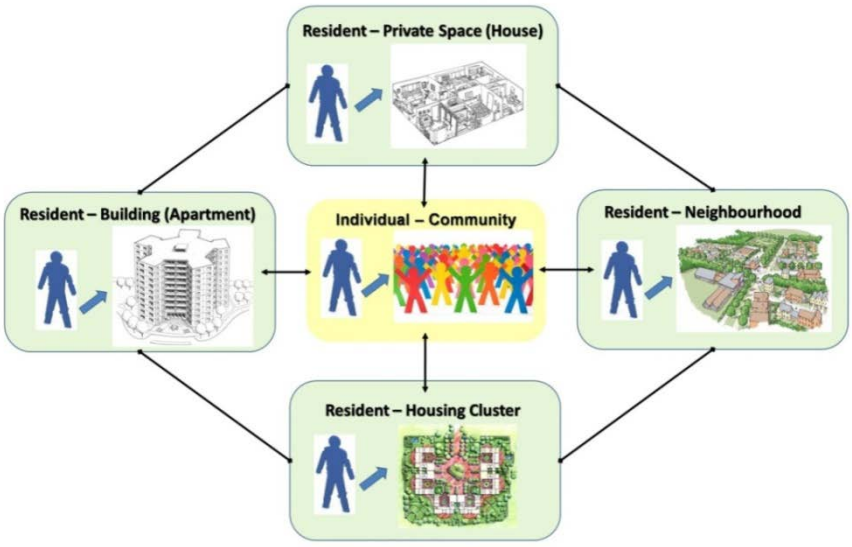


Figure 1.4: The Relationships and Connections between a Resident and Built-Environment in Different Levels Ranging from Micro to Macro Scales

The evaluation of factors which form the sustainable community within a resident scale reveals that the network formed by those connections is very complicated, fragile and dense (Figure 1.5). Rapidly growing urban areas which cannot meet the needs of users, in fact, point to the complicated structure of this network. As a result, it is necessary to evaluate all the actors in this network, which helps to develop a healthy community from a holistic point of view.

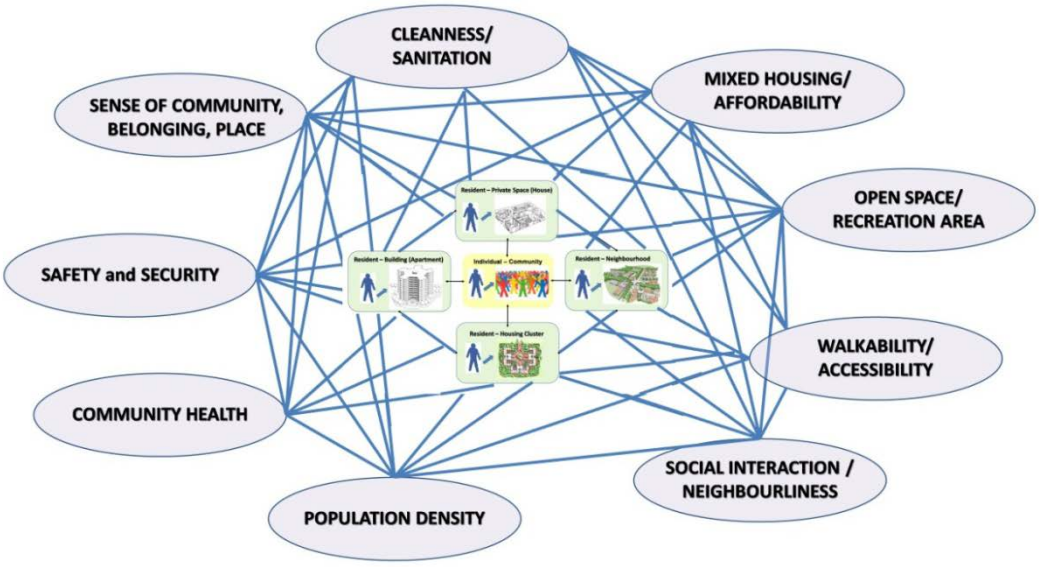


Figure 1.5: The Complexity and Interconnectedness of Some Components Playing an Important Role in Developing a Sustainable Community and Neighbourhood

Jacobs (1961) argue that some of the needs should be met within the space and neighbourhood in order to provide a healthy living and progression of a community (cited in Leyden & Michelbach, 2008). Jacobs believes that it is necessary to develop a neighbourhood schema which includes pedestrian friendly transportation network and facilities such as shopping spaces, restaurants, bars and cafés, and other social interaction spaces (Leyden & Michelbach, 2008). According to Jacobs (1961), these kinds of areas and relations, on the one hand, provide diverse social interaction alternatives, and on the other hand contribute to meeting needs of the community living in the same area (cited in Leyden & Michelbach, 2008). A community living in this kind of neighbourhood both helps to protect their own privacy and to develop and enhance the social interaction methods. Jacobs asserts (1961) that both the residents and the community have developed reliance on and confidence in each other through a healthy and a successfully designed and applied social interaction which helps to shape a healthy community (cited in Leyden & Michelbach, 2008).

Especially after the 2000s, creating ‘sustainable communities’, as a new main target, has been strongly emphasized in the literature on urban planning as well as in some planning and design projects. When urban projects in developed countries, like the US and the UK are examined, it is possible to note that the recent schemes generally aim to build sustainable communities as a solution for multi-dimensional problems of cities since the 1990s (Akkar Ercan, 2010). Moreover, these projects are based on integrated, comprehensive, and strategic approaches as a national urban planning strategy including public-private sector cooperation (Priemus 2005, 7).

Sustainable community is a crucial notion because sustainability is related to the quality of life in a community and is related to economic, social and environmental systems (Hart, 1999). These systems and quality of life provide a healthy, creative, productive and meaningful life for all community members at present and in the future (Hart, 1999).

Therefore, if urban community is sustained, the negative environmental effects will be minimized, while social and economic advantages will be maximized.

The concept of 'sustainable community', which is defined as the place where people want to live, correspond their diverse needs, increase social interaction and neighbourliness, feel safe and secure, and access local services easily provides sense of community and belonging; creates sense of place; increases neighbourhood satisfaction; encourages physical activity; provides public transportation and walkability; minimizes automobile dependency; offers diverse and affordable housing; and increases quality of life(Kline, 1996; Roseland, 1998; Hempel, 1999; Lock, 2003; ODPM, 2003; Power, 2004; ODPM, 2005; Raco, 2007; Academy for Sustainable Communities, 2007; Smith, 2008; McDonald, Malys, & Malienė, 2009; Brownill & Carpenter, 2009;Kellett, Fryer, & Budke, 2009; Barton, Grant, & Guise, 2010; Colantonio & Dixon, 2011; Woodcraft, Hackett, & Caistor-Arendar, 2011; Mayerl, 2012; Partnership for Sustainable Communities, 2013) is a new term in planning literature in Turkey. In Turkey, there is an important gap in terms of building sustainable communities in the micro-scales. This research study is based on the concept of 'sustainable community' in suburban residential areas.

Based on all the arguments and assumptions, the current study seeks to answer the following questions:

- How should the built environment be designed to create a sustainable community?
- How does the built environment affect the development of a sustainable community?

The sub-questions which the present research seeks to address are:

1) What makes community sustainable? (or) What is required to build a sustainable community?
2) How can sustainable community in suburban residential areas be assessed?
3) What are the differences or similarities between different types of housing estates with different design and architectural characteristics within the same neighbourhood in terms of sustainable community indicators?

The research emphasizes how to manage the relationship between 'people' and 'space', or between 'community' and 'built environment'. The major hypothesis of this research is that the architectural and design characteristics of a neighbourhood and housing estate, and the characteristics and organisation of community itself are mutually influential in developing a sustainable community (Figure 1.6). Therefore, land use practice which is necessary to develop a physical environment/spatial design is directly linked to the success or failure of sustainability in community planning.

This thesis argues that in order to develop community sustainability in a neighbourhood and housing estate scale, physical characteristics of the built environment solely is not enough (*hypothesis-I*). Another argument of the thesis is that it is only possible to develop, enhance and sustain healthy communities through combining social and spatial planning and design of liveable neighbourhood and residential areas (*hypothesis-II*). It is also argued that the production of space in the suburban area of Ankara mainly depends on physical characteristics, whereas this approach excludes the other needs of community, the indicators of community well-being and social design (*hypothesis-III*).

Figure 1.6: The Focus, Questions and Hypothesis of Research

1.3. Method Design

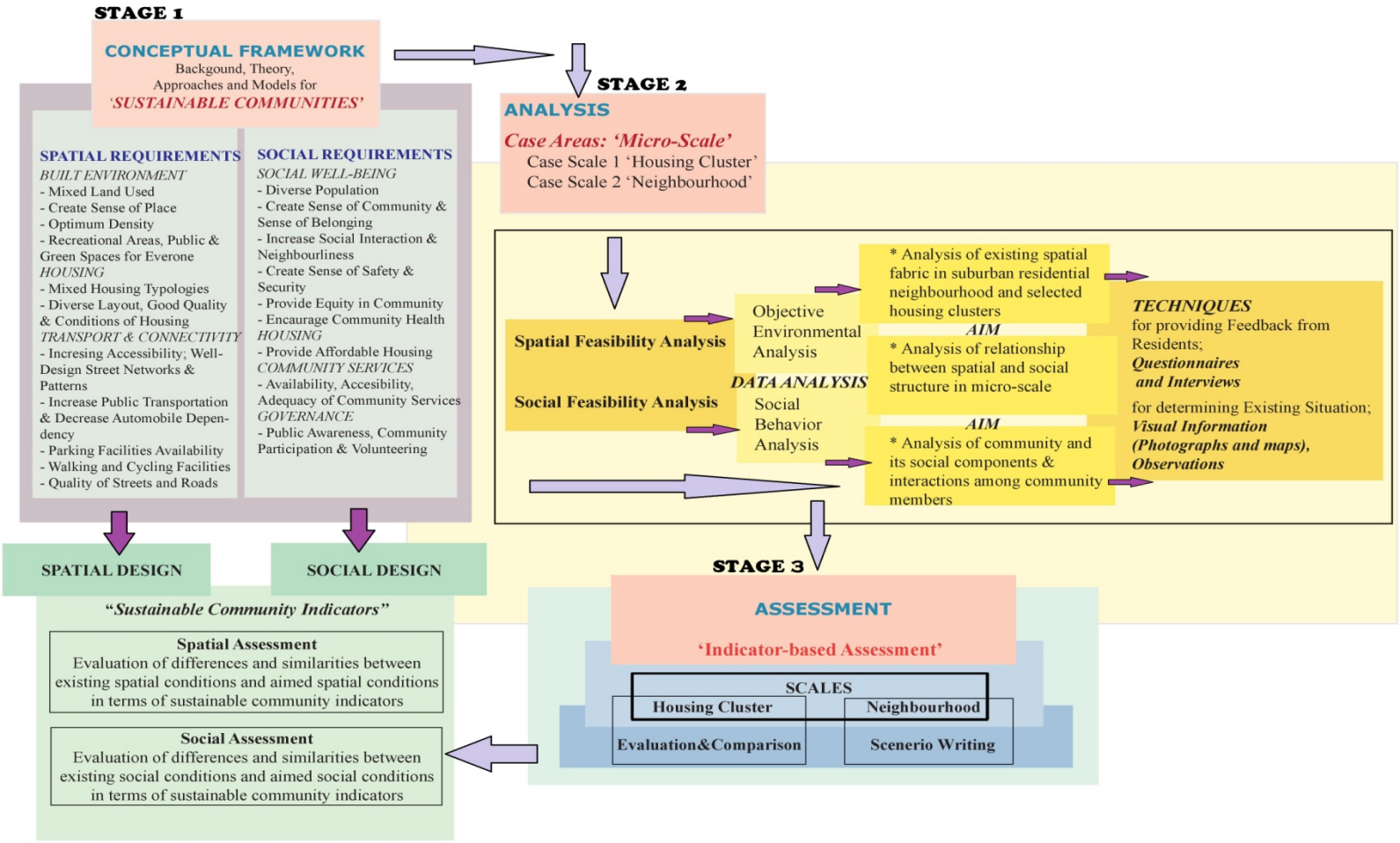
Based on the urban planning approach defined, this research study aims to identify the components and attributes of sustainable communities in suburban residential neighbourhood, and assess and evaluate sustainable community development in suburban area in terms of the social and spatial dimensions of sustainability. In other words, it aims to analyze the sustainable community components and indicators in a suburban area of Ankara in order to understand and evaluate the success level of integrity of social and spatial characteristics within housing estate and neighbourhood from community sustainability viewpoint. This analysis is conducted through the comparison of different building types in a suburban area through predetermined community indicators related to socio-spatial sustainability concept.

The research was conducted in Ümitköy which is a suburban district located in Çayyolu in Ankara. Multistage cluster sampling techniques are used in housing estates of Ümitköy. The general objective of the study is to evaluate the community sustainability indicators in Ümitköy residential area which was selected as the case study area. The selected district is a large urban area. The research, however, is limited with three residential community units which are located very close to each other. These residential estates are selected based on a type study on Ümitköy suburban area. In other words, all these community units represent a different type of design characteristics and physical/spatial features. The data collected is based on these three distinct residential areas. The research particularly focuses on these three residential areas which have been designed in different physical types, and evaluates each residential area according to its design characteristics in order to understand the impact of the physical design on the sustainable community design and/or development. It is assumed that different physical development in different residential areas has different impacts on community development process.

The study seeks to assess sustainable communities in the selected suburban area via indicator-based evaluation method. Indicator-based evaluation method to assess the sustainable communities is used in three different types of housing estates (or residential community units) and their neighbourhood area. These are:

- Case 1 ‘Mutluköy Site’; made up of attached houses with a private garden and five-storey attached apartments with a common garden
- Case 2 ‘Çamlıca Bulvar Site’ and ‘Kalemköy Site’; including multi-storey apartments with a common garden
- Case 3 ‘Meksika Avenue’; composed by street-type apartments, each with its own resident plot with a private garden

These different types of housing estates give us different perspectives and information about the relationship between built environment and sustainable communities. The research explores similarities and differences between different housing estates in term of building sustainable community.


STAGE 1
CONCEPTUAL FRAMEWORK
Backgound, Theory,
Approaches and Models for
'SUSTAINABLE COMMUNITIES'
SPATIAL REQUIREMENTS
BUILT ENVIRONMENT
- Mixed Land Used
- Create Sense of Place
- Optimum Density
- Recreational Areas, Public & Green Spaces for Everone
HOUSING
- Mixed Housing Typologies
- Diverse Layout, Good Quality & Conditions of Housing
TRANSPORT & CONNECTIVITY
- Incresing Accessibility; Well-Design Street Networks & Patterns
- Increase Public Transportation & Decrease Automobile Dependency
- Parking Facilities Availability
- Walking and Cycling Facilities
- Quality of Streets and Roads
SOCIAL REQUIREMENTS
SOCIAL WELL-BEING
- Diverse Population
- Create Sense of Community & Sense of Belonging
- Increase Social Interaction & Neighbourliness
- Create Sense of Safety & Security
- Provide Equity in Community
- Encaurage Community Health
HOUSING
- Provide Affordable Housing
COMMUNITY SERVICES
- Availability, Accesibility, Adequacy of Community Services
GOVERNANCE
- Public Awareness, Community Participation & Volunteering
STAGE 2
ANALYSIS
Case Areas: 'Micro-Scale'
Case Scale 1 'Housing Cluster'
Case Scale 2 'Neighbourhood'
Spatial Feasibility Analysis
Social Feasibility Analysis
DATA ANALYSIS
Objective Environmental Analysis
Social Behavior Analysis
AIM
* Analysis of existing spatial fabric in suburban residential neighbourhood and selected housing clusters
AIM
* Analysis of relationship between spatial and social structure in micro-scale
* Analysis of community and its social components & interactions among community members
TECHNIQUES
for providing Feedback from Residents;
Questionnaires and Interviews
for determining Existing Situation;
Visual Information (Photographs and maps), Observations
SPATIAL DESIGN
SOCIAL DESIGN
"Sustainable Community Indicators"
Spatial Assessment
Evaluation of differences and similarities between existing spatial conditions and aimed spatial conditions in terms of sustainable community indicators
Social Assessment
Evaluation of differences and similarities between existing social conditions and aimed social conditions in terms of sustainable community indicators
STAGE 3
ASSESSMENT
'Indicator-based Assessment'
SCALES
Housing Cluster
Neighbourhood
Evaluation&Comparison
Scenerio Writing

1.4. Structure of the Thesis

This research study consists of eight chapters. Chapter 1 gives information about the background of the research, defines the research problem, the questions and the hypothesis, and also introduces the research method. Chapter 2 discusses the background, theory, approaches and models of 'sustainable communities' and reviews the literature on it. Also, it presents some fundamental concepts such as community, neighbourhood community, sustainable development, and sustainable communities. Chapter 3 presents sustainable community component and indicators related to social and spatial design. These components and indicators include six main themes: social well-being, built environment, housing, transport and connectivity, community services, and community governance. Each component is examined in detail. Chapter 4 defines the method of the research, which is based on the review of relevant literature about sustainable community indicators. This chapter also introduces the data collection techniques during the fieldwork and research design. Case studies examine design in two different scales: neighbourhood as a meso-scale and housing estate as a micro-scale in suburban residential district. Chapter 5 gives information about Ümitköy as a meso-scale, and assesses the district in term of the neighbourhood-level sustainable community components and indicators. Chapter 6 and 7 assess sustainable community components and indicators in selected housing estates as a micro-scale in term of socio-spatial dimensions. Chapter 6 emphasizes that selected housing estates, which are located in these neighbourhoods, are introduced and evaluated. Moreover, these housing estates are assessed considering 'spatial design' indicators which are based on developing sustainable communities. Chapter 7 evaluates selected housing estates in terms of 'social design' which determines the components of sustainable community. Both Chapter 6 and 7 also present a comparison between these housing estates in terms of sustainable community indicators. Finally, Chapter 8 summarizes the research findings, discusses them in relation with the sustainable community indicators, and explains the contributions and limitations of the research study and its implications for future research.

CHAPTER 2

SUSTAINABLE COMMUNITIES: BACKGROUND, THEORY, APPROACHES AND MODELS

2.1. Introduction

This chapter aims to provide a theoretical and conceptual framework on sustainable community in residential neighbourhoods and areas. It focuses on two main concepts: 'community' and 'sustainable community'. The first part of this chapter concentrates on the terms 'community' and 'neighbourhood' a socio-spatial concepts. It defines and evaluates the approaches to the concept of 'community', and explains 'neighbourhood community' as a microcosm. The second part of the chapter examines the concepts of 'sustainability' and 'sustainable development', and their historical evolution. The third section focuses on 'sustainable community' in terms of its definitions, characteristics, approaches and models.

2.2. Community and Neighbourhood as a Socio-Spatial Pattern

'Community' and 'neighbourhood', both essential concepts, represent the socio-spatial dimension of planning in local scale. Communities are studied by many theorists in different disciplines. First, this section explains the classical sociological perspective of the 'community' concept and 'the community-society dichotomy'. In addition, it explains the transformation of this term. Second, it discusses the 'neighbourhood community'. A neighbourhood community can be defined as a limited territory sharing common areas, common services and common risks, and residents engaging in social interaction and social networks among each other.

2.2.1. Defining and Evaluating Approaches to the 'Community' Concept

This part of the study focuses on understanding the 'urban community', which consists of social, cultural and economic attributes within social sciences. 'Community' is an important concept in urban sociology and urban planning because urban planning whose main concern is residents or community has to understand and examine how to (re)shape community and interaction between community and space. Every intervention to urban space affects community directly or indirectly. Moreover, physical design of residential sites and neighbourhoods build and sustain communities. Therefore, planners should deal with the urban community as a centre point of planning studies to understand how cities can become ecologically, socio-culturally and economically more sustainable.

The term 'community', which has been studied since the late-nineteenth century in social sciences, comes from Old French *comunete*, from Latin *communis*, which means 'common' (Compact Oxford English Dictionary of Current English, 2005). 'Community' as a term has been subject to various disciplines and has been ascribed different meanings. The earlier studies in sociology define the term by underlining 'the community-society dichotomy'. The

studies of Ferdinand Tönnies, a Germansociologist, could be accepted as one of the most significant ones. In the late-nineteenth century, Tönnies (1887) defined two types of social groupings: 'community' and 'society' in his book, 'Gemeinschaft und Gesellschaft (Community and Society)', and explains the differences between them as a two poles (Bell & Newby, 1972; Evans, 2001). While the community concept refers to groupings based on feelings of togetherness, an idealized precapitalistic, preindustrial and homogeneous rural village, society refers to groups that give priority to their residents' aims in a capitalistic, industrial and heterogeneous urban modern society ((Wireman, 1984, p. 1; Tönnies, 2002, p. 42). Moreover, while a community has some characteristics such as mutual bonds, beliefs, folkways, language, common will, the social ties of society are generally superficial, and relation is contractual for specific and limited purposes (Tönnies, 2002, pp. 34, 42). In addition, a community is understood as a real, organic life and living organism, while a society as an imaginary artefact and mechanical structure (Tönnies, 2002, pp. 33, 35). According to Tönnies (as cited in Bell and Newby 1972, p. 25), there are three central aspects of community: blood, place (land) and mind, with the sociological consequences of kinship, neighbourhood and friendship. According to him, humanity was moving from a period of Gemeinschaft (community) to a period of Gesellschaft (society) (Wireman, 1984, p. 1).

Table 2.1: 'Pattern Variables' of Talcott Parsons (Bell & Newby, 1972, p. 26; Rocher, 1974, p. 4; Talcott Parsons 'An Outline of the Social System', 2008)

'Pattern Variables'	
Expressive (Community/Gemeinschaft)	***Instrumental (Society/ Gesellschaft)***
Particularism	***Universalism***
While *'particularism'* refers to personal relationship of actors, *'universalism'* refers to general rules like law or action is governed by generalized standards	
Diffuseness	***Specificity***
While *'diffuseness'* refers to the mode of orientation is outside the range of obligations defined by the role-expectation, *'specificity'* refers to the definition of the role as orienting to the social object in specific terms	
Ascription	***Achievement***
While *'ascription'* refers to the ascribed social position which is related to who you are, for example son of duke, *'achievement'* refers to the achieved social position which related to what you do, for example a collage graduate (Quality versus Performance)	
Affectivity	***Affective neutrality***
While *'affectivity'* refers to one expresses their orientation in terms of immediate gratification, *'affective neutrality'* refers to deferment immediate gratification in favor of moral interests (emotional or unemotional options)	
Collectively orientation	***Private/self orientation***
While *'collectively orientation'* refers to manners which shape with needs to wider population or interests of all residents together, *'private/self orientation'* refers to manners which shape with needs to resident or self-interests.	

Similar to Tönnies' dichotomy, Parsons identifies a dualism in social interaction and names it as 'pattern variables' which is the basis of his system for analysis of social action (Bell & Newby, 1972; Rocher, 1974). Pattern variables consist of two main concepts: expressive (Gemeinschaft) and instrumental (Gessellschaft). Community (expressive/gemeinschaft) would seem to involve particularism, diffuseness, ascription, affectivity and collectively orientation, while most industrial societies (instrumental/gessellschaft) comprise the attributes of universalism, specificity, achievement, affective neutrality and self orientation (Table 2.1) (Parsons & Shils, 1962, p. 77; Bell & Newby, 1972, pp. 22-26). 'Pattern

variables' generally are used in order to display behaviour differentiation between modern society and traditional community.

The community-society dichotomy is referred to in other classical sociology studies, such as "Maine's status society and contract society, Spencer's militant and industrial forms, Ratzenhofer's conquest state and cultural state, Wundt's natural and cultural polarity, Durkheim's mechanical and organic solidarity, Cooley's primary and secondary (implicit) groups, MacIver's communal and associational relations, Zimmerman's localistic and cosmopolitan communities, Odum's folk-state pair, Redfield's folk-urban continuum, Sorokin's familistic vs. contractual relations, Becker's sacred and secular societies"(Tönnies, 1957, p. 12; Bensman & Vidich, 1975, p. 1)

Table 2.2: Anthony Richmond's Rural-Urban Continuum (Bell & Newby, 1972, pp. 47-49)

	Traditional	***Industrial***	***Post-Industrial***
Form of Organization	Gemeinschaft	Gessellschaft	Verbindingouretzschaft
Typical Way of Interaction	Communities	Society/Associations	Social Networks
Principle Mode of Production	Agricultural	Mechanical	Automated
System of Stratification	Quasi-feudal	Class	Meriotocracy
Main Means of Communication	Oral	Written	Electronic
Main Means of Transport	Horse & Sail	Rural & Urban	Inter & Urban
Type of Migration	Forced (push)	Voluntary (pull)	Transillenct (two-way)
Mode of Migration of Migrants	Assimilation/ Isolation	Pluralistic	Active Mobilization

As one can see from the Tönnies', Parsons' and other sociologists' studies, 'community' is a term which should be differentiated from 'society'. Conversely, today the concept of 'community' is different from community-society dualism and needs to be re-defined and re-evaluated in conformity with today's conditions. 'Community' has been defined in various ways in different disciplines. In some resources, the term 'community' is described as a group of people living together in a particular geographical area; some of them define it as an area of common life; and some also address its ecological meaning and define it as an association of organisms (Bell & Newby, 1972; Crow & Allan, 1994; Compact Oxford English Dictionary of Current English, 2005). According to Smith (2001), the community concept could be considered in different ways, one of which is 'territorial or place community'. It can be seen as a geographical area where residents live together and have something in common, locality (Crow & Allan, 1994; Smith M. K., 2001). It may not have a sense of shared identity (Smith M. K., 2001). The second one is 'interest or elective community', the residents of which share common characteristics other than place. In this type of communities, African community and Muslim community being well-known examples, residents connect together by some factors such as religious affiliation, belief, common interests, background, occupation, sexual orientation, nationality, racial origin, and ethnic origin (Smith M. K., 2001; Compact Oxford English Dictionary of Current English, 2005).

The term 'community' has been studied not only in sociology, but also other disciplines such as planning, health, education, and politics. Therefore, it has many definitions which are shaped different disciplines instead of having a single definition. The 1955 article titled 'Definition of Community; Areas of Agreement' written by George Hillery mentions ninety four different community definitions in a context analysis (Wellman, 2001, p. 7; Thorns,

2002, p. 108). Thorns (2002) identified three connected fundamental meanings of community: geographical meaning, local-social system and human relationships. In addition to Warrens' study, Mark Gottdiener (1994) adapted Warrens' study, and he produced his own classification about community, as well as defining six types of community such as ethnic villages, interactive middle-class neighbourhoods, diffused community, anomic community, transitory community and defended community (Paddison, 2001, p. 199).

In some studies, community is defined as the synthesis of the three notions mentioned above. Bell and Newby (1972, pp. 28-29), for example, suggest that besides kinship, there are three main components of community: area, common ties and social interaction. After examining the social life of American neighbourhoods, Warrens (1977, as cited in Paddison, 2001, p. 198) identifies three factors which help distinguish between different types of communities:

> *"1. Identity referring to a notion related to the sense of place residents have, including the extent to which they consider that they have shared values and interests with neighbours;*
> *2. Interaction referring to the pattern of neighbouring within the area, the strength of the ties linking residents;*
> *3. Linkages referring to the degree of closure of the local area from other parts of the city, adjacent or otherwise, and the purposes served by these linkages, such as to establish political leverage within external institutions operating at a city-wide level so as to gain some advantage for the local area".*

According to Sussman (1959, as cited in Bell and Newby, 1972, p. 30), however, "the features of social interaction, structures for the gratification of physical, social and psychological needs, and limited geographical area are the basic variables while defining community". Sussman (1959) also claims that "community can exist when interaction between residents have the purpose of meeting resident needs and obtaining group aims and goals"(Bell & Newby, 1972, p. 30). No matter how it is defined, a community is man's natural habitat. Gusfield (1975, as cited in McMillan and Chavis, 1986) focused on two separate meanings of community; one of them refers to the geographical and territorial meaning including the different scales such as neighbourhood, town, city, and the other meaning is "quality of character of human relationship without reference to location".

> *The Department of the Environment, Transport and the Regions in Britain defined more complicated description in 1997; "community is a cultural organism which includes some crucial attributes such as personal attributes (age, gender); beliefs (stemming from religious, political values); economic position (occupational status, employment status, income or wealth, housing tenure); skills (educational experience, professional qualifications); relationship to local services (tenants, patients, carers, providers); place (attachments to neighbourhood, village, city or nation)"* (Jacobs & Dutton, 2000, p. 110).

A community is defined as a group of people that interact with each other and live in a common location. The community members can share a common environment, common

interests, and common risk. As far as a place-based community is concerned, heterogeneity and diversity can be dominant factors on this community instead of homogeneity. Nevertheless, sometimes, similarity and uniformity among residents (for example, squatter housing area, gated-community) may become defining attributes of a place-based community.

According to Bartle (2007), there are six dimensions of community:

1. ***The belief-conceptual dimension;*** *which can be explained as world views of residents about universe, cause and effect relationship of nature, religion belief, residents' role in the world around them.*
2. ***The aesthetic-value dimension;*** *which refers to pattern of ideas, thoughts, justifications and viewpoints that residents have about good and bad, about beautiful and ugly, and about right and wrong.*
3. ***The social or institutional dimension;*** *which is composed of social roles and status in everyday life with their responsibilities, commitments, duties, rights. Moreover, social organisation in community is shaped by patterns of behaviours and social interaction.*
4. ***The political dimension;*** *which includes variety of governments and management systems, power relationships and decision making.*
5. ***The economic dimension;*** *which is tools of production and consumption that allocate of resources, goods, services.*
6. ***The technological dimension;*** *includes a collection of tools and skills which provide how to deal with the physical environment, and refer to 'interface between humanity and nature'*(Bartle, 2007)

The residents need to have a 'sense of place', 'sense of belonging' and 'sense of community' in a community which is defined as a locality or placed. Adoption to and perceiving of surrounding and physical environment by the residents indicate the definition of 'sense of place'. According to Xu (1995), emotional safety and happiness are provided by successful identification of a place. In order to develop and improve a strong sense of place, powerful interaction between human and visual environment is necessary. Moreover, as Xu (1995) asserts, a sense of personal identity is developed through a strong sense of place which also supports the improvement of sense of belonging to physical environment. Belonging to a community is a demand for better physical and mental health. Advanced social well-being in the community, which is defined as a good relationship between the residents and other people in the neighbourhood communities, also is a result of a strong sense of belonging. Smith (2001) points out "the community's crucial symbolic role ... generates residents' sense of belonging". Talen (1999, p. 1367) indicates that the resident interaction and sense of community is "a factor of homogeneity but not a locale". In addition, he (1999) claims that the resident interaction has the potential to encourage the sense of community.

In some research in urban sociology, some theoreticians discuss the 'community lost'. Wellman, a sociologist, mentioned the 'community-lost approach' in relation with urbanization and industrial development (cited in Wireman, 1984, p. 29). Wellman (2001, pp. 14-15) claimed that "spatially-dispersed relationships and activities cause the movement of interactions from public spaces to private homes". Wellman (2001, p. 4) claims that the increasing computer-based social network causes person-to-person interactions, called 'networked residentism'. The increasing residential geographical mobility, distance-free

communication, resident isolation and alienation from community engender the sense of community and caused limited interactions in neighbourhood (Wireman, 1984, p. 29; Wellman, 2001, pp. 14-15). "This does not mean that community has been lost but that it is much less likely now to be locally based and locally observed" (Wellman, 2001, pp. 14-15).

2.2.2. Neighbourhood Community as a Microcosm

If a community is discussed in relation to a specific geography or location, another crucial concept, 'neighbourhood', should be mentioned. 'Community' and 'neighbourhood', which are linked and interact with each other, are not interchangeable. Some researchers emphasized that the former is related to social debate and the latter to spatial debate (Peterman, 2000, p. 20; Thorns, 2002, p. 107; Barton, Grant, & Guise, 2010, p. 30). While the neighbourhood concept refers to the sub-division of the location, the community concept refers to a social group living in the same locality and having common services, values and resources (Berk, 2005).

> *"The vision of community is one of a harmonious, socially and culturally mixed community and geographically, this community is placed-based; it is located in the urban neighbourhood"* (Imrie & Raco, 2003, p. 79)

The neighbourhood is a fundamental planning unit of a city for urban planners. It is the most essential unit which one community can hold in spatial scale. Many urban studies have accepted "the neighbourhood as the microcosm of the city, and the city as an aggregate of neighbourhoods" (Wellman, 2001, p. 13). According to Hallman (1984, p. 11), the neighbourhood is a natural phenomenon, and it is like cells within larger settlements. Barton, Grant and Gruise (2010, p. 5) emphasized this as follows:

> "*neighbourhood is the unique scale in human habitation (which) makes them small enough to reflect the personal; lifestyles, social networks and quality of life, yet they are also of sufficient size for their nature to affect the environmental impacts and economic function of districts, towns and cities".*

Neighbourhood includes dwellings occupied by residents, and usually community facilities and buildings with other uses (Hallman, 1984). Moreover, it is a limited area within a bigger urban area where residents, named neighbours, and interact socially (Hallman, 1984). The boundaries of neighbourhood may be based upon social, historic, political, geographic and economic considerations (Ahlbrandt & Brophy, 1975).

When the 'neighbourhood community' is concerned, even if the members of a community share a common location, or neighbourhood, residents may not have common values such as believes, needs, traditions, expectations, interests, and preferences. A community or a sense of community emerges when the residents share these common entities in neighbourhoods. Besides, to build a community or to enhance the sense of community, it is important to have a common location or neighbourhood. In other words, the socio-spatial construction of locality and city is a critical issue. In this study, instead of territorial or place-based community, the concept of 'neighbourhood community' is used because this concept represents the socio-spatial structure in the local scale.

> *"Neighbourhood community as people within a limited territory possessing shared values, common interests, and norms of conduct, engaging in social interaction and mutual aid, and having their own groups, associations, and institutions to help meet their basic needs***"** (Hallman, 1984, p. 34).

Actually, the existing literature demonstrate that the neighbourhood community has some diverse characteristics in terms of residents' believes, genders, ethnicities, income levels, education levels, ownership of capitals, language, and many other similar attributes. Here, the important question is how these different qualities interact with each other. Social interaction in neighbourhood community is provided by social networks, which is shaped by socio-demographic, socio-cultural and socio-economic structures of the residents. In addition, the dimensions of social interaction depend on the resident's behaviours, habits, customs and experiences. The report titled 'The Persistence and Transformation of Community: From Neighbourhood Groups to Social Networks', written by Barry Wellman (2001), argued that "community has become embedded [more] in social networks than groups".

The book named 'Shaping Neighbourhoods: for Local Health and Global Sustainability' written by Hugh Barton, Marcus Grant and Richard Gruise (2010) is a useful resource related to neighbourhood and community studies. The book offers some perceptions of neighbourhood through 'mental maps' which show how residents define their neighbourhood, and what the key nodes, edges and centres of activity are. Barton, Grant and Gruise (2010, p. 101) also point out three issues related to neighbourhood community: i) 'access and safety', which are the two issues representing how far residents of all ages and abilities feel safe while moving in and around neighbourhoods; ii) 'image' showing what images and associations local residents have of neighbourhood and why; and iii) 'history', which is about what features residents value as an element of the past.

According to sociologist Suzanne Keller (1968, p. 87, as cited in Hallman, 1984, p. 15), there are four elements of neighbourhoods: "(1) geographic boundaries, (2) ethnic or cultural characteristics of the inhabitants, (3) psychological unity among people who feel that they belong together (4) concentrated use of an area's facilities for shopping, leisure, and learning". Keller (1968, as cited in Hallman, 1984, p. 16) implies that these four elements are combined rarely in neighbourhood in the modern city.

Table 2.3: Five defining issues for neighbourhood (Barton, Grant, & Guise, 2010, p. 28)

Neighbourhood may be defined in terms of five issues;	
ADMINISTRATIVELY	by ward or parish boundaries is basic method of defining local boundaries; this provides clear obligation and legitimacy
AESTHETICALLY	by distinctive characters (e.g. age and building form); this can be defined by analysing of maps and aerial photos supplemented by personal knowledge
SOCIALLY	by perceptions of local residents
FUNCTIONALLY	by catchment areas for local services; catchments may be defined empirically by pedestrian surveys and time/distance mapping
ENVIRONMENTALLY	as traffic-calmed areas where through traffic is excluded and the quality/safety of living environment is paramount

From the 1900s to today, neighbourhood planning[1] has been discussed through different perspectives (social, physical, political dimensions) in order to reconstruct the community which was assumed as 'loss of community'. In the early 1900s, 'the settlement house movement'[2], which aims to decrease poverty and enhance social relations such as face-to face relationship and neighbourly relations, took the social dimension(Burkholder, Chupp, & Star, 2003). From the 1920s to the 1960s, 'neighbourhood unit approach' dealt with redesigning the physical structure of the neighbourhood in order to strengthen social relations and establish an ideal neighbourhood concept (Burkholder, Chupp, & Star, 2003). From the mid-1960s to the 1980s, the community action movement addressed the socio-political dimension, especially citizen involvement in the decisions which affected the residents' everyday lives (Burkholder, Chupp, & Star, 2003)**.**

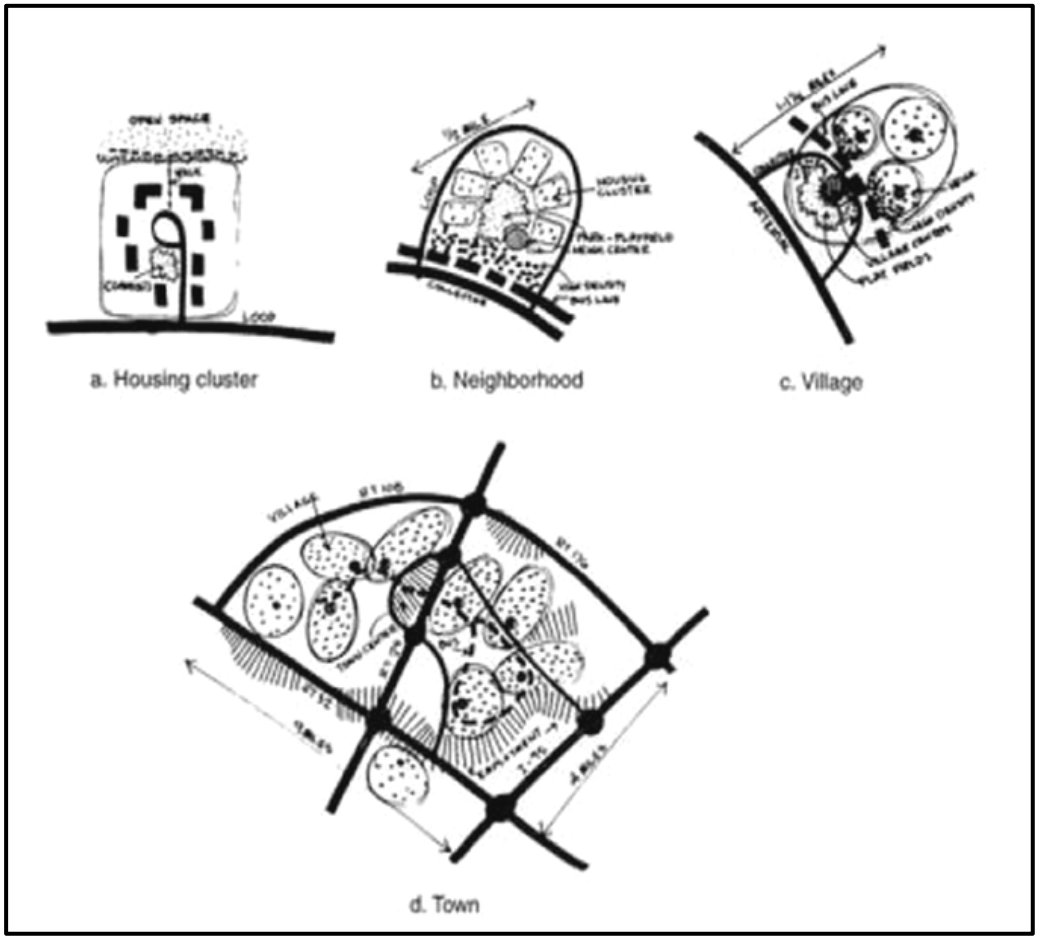


Figure 2.1: Different scales of spatial communities; a. Housing estate, b. Neighbourhood, c. Village, d. Town (Kılınçaslan, n.d)

[1]Neighbourhood/community planning should be about more than the physical design of local space (Peterman, 2000, p. 22). Neighbourhood and community should not be isolated and independent from other parts of city; therefore, planning should focus on building community and interacting among residents in neighbourhoods link with communities (Peterman, 2000, p. 22). "Neighbourhood is based on spatial memories, spatial imagery, the spatial framework of current activity, and the implicit spatial components of ideals and aspirations" (Hallman, 1984, p. 47)

[2]"The Settlement House movement which began in London about 1885 was the first conscious recognition of the neighbourhood as a basic unit in the urban structure or planning" (Shambharkar, 2008, p. 31)

The 'Neighbourhood Unit' is a significant concept in the planning literature (Figure 2.2). The concept was proposed by the American sociologist and planner Clarence Arthur Perry through a monograph Regional Plan of New York and Its Environs in 1929 (Wang, 1965; Lawhon, 2009). The neighbourhood unit[3] was developed as the representation of ideal residential neighbourhood without such problems as lack of safety, distant location of community services, traffic congestion (Shambharkar, 2008; Lawhon, 2009). Perry was influenced by Charles Horton Cooley, who was a sociologist. Cooley supported that the primary group which refers to face-to-face relations and close associations has a significant role in shaping "the social nature and ideals of resident" (Lawhon, 2009, p. 7). The idea focused on enhancing the local social life in a self-contained unit, which had all community services within walking distance (Barton, 2000).

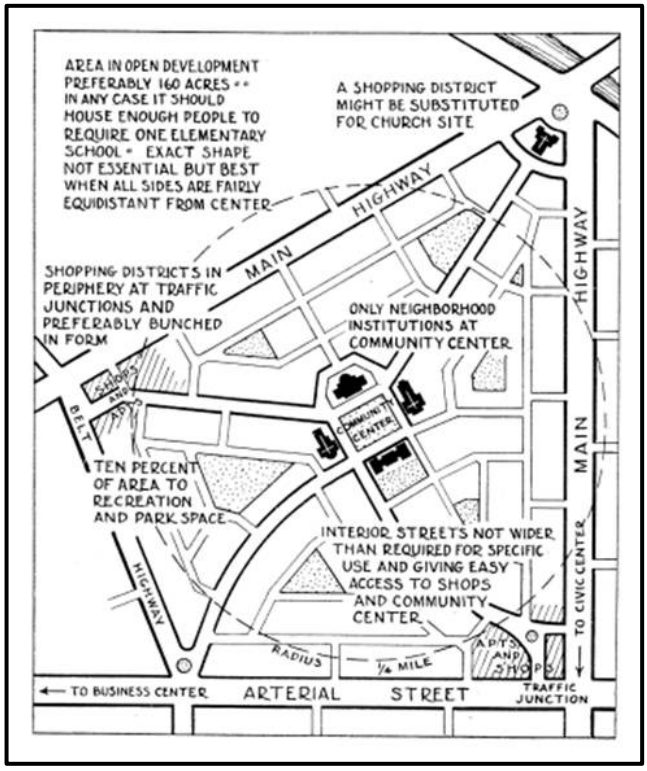


Figure 2.2: Clarence A. Perry's Neighbourhood Unit
(Lawhon, 2009, p. 5; Talen, 2009, p. 15; Murrain, 2012, p. 148)

Perry suggests six principles of neighbourhood unit: size, boundaries, open spaces, institution sites, local shops and internal street system (Shambharkar, 2008). Regarding the 'size', the neighbourhood unit should be appropriate of a size which can accommodate one elementary school (Shambharkar, 2008). In addition, there is a convenient walking distance to community services such as shops, schools, open spaces, community centres (Shambharkar, 2008). For instance, children can reach their school within 5 minutes (approximately 400 metres) (Lawhon, 2009). Population depends on the size of the neighbourhood unit (Wang, 1965; Shambharkar, 2008). In terms of 'boundaries', the plan of a neighbourhood should consist of open spaces, community centre, local shops within the boundary of arterial roads (Shambharkar, 2008). Arterial roads circumscribe all sides of a

[3] "In 1972, the American Institute of Architects adopted the neighbourhood unit as the recommended 'Growth Unit' for future urban growth. The growth unit would range in size from 500 to 3,000 dwelling units (population of between 1,700 and 10,000)" (Shambharkar, 2008, p. 31)

neighbourhood (Wang, 1965). The 'open space' means that a neighbourhood unit should consist of open spaces, small parks, recreational areas, making up at least 10 percent of the neighbourhood land area (Wang, 1965; Lawhon, 2009). As for 'institution sites', a school should be conveniently located in the centre within neighbourhood unit (Wang, 1965; Shambharkar, 2008; Lawhon, 2009). The term 'local shops' involves the community services that exist in the neighbourhood unit such as primary school, shopping centre, sport centre, community centre adjacent to the main road (Wang, 1965; Shambharkar, 2008; Lawhon, 2009). Finally, as regards the 'internal street system', the streets should provide a safe environment for pedestrians and decrease the traffic, and offer both functional and aesthetic solutions (Wang, 1965; Shambharkar, 2008; Lawhon, 2009).

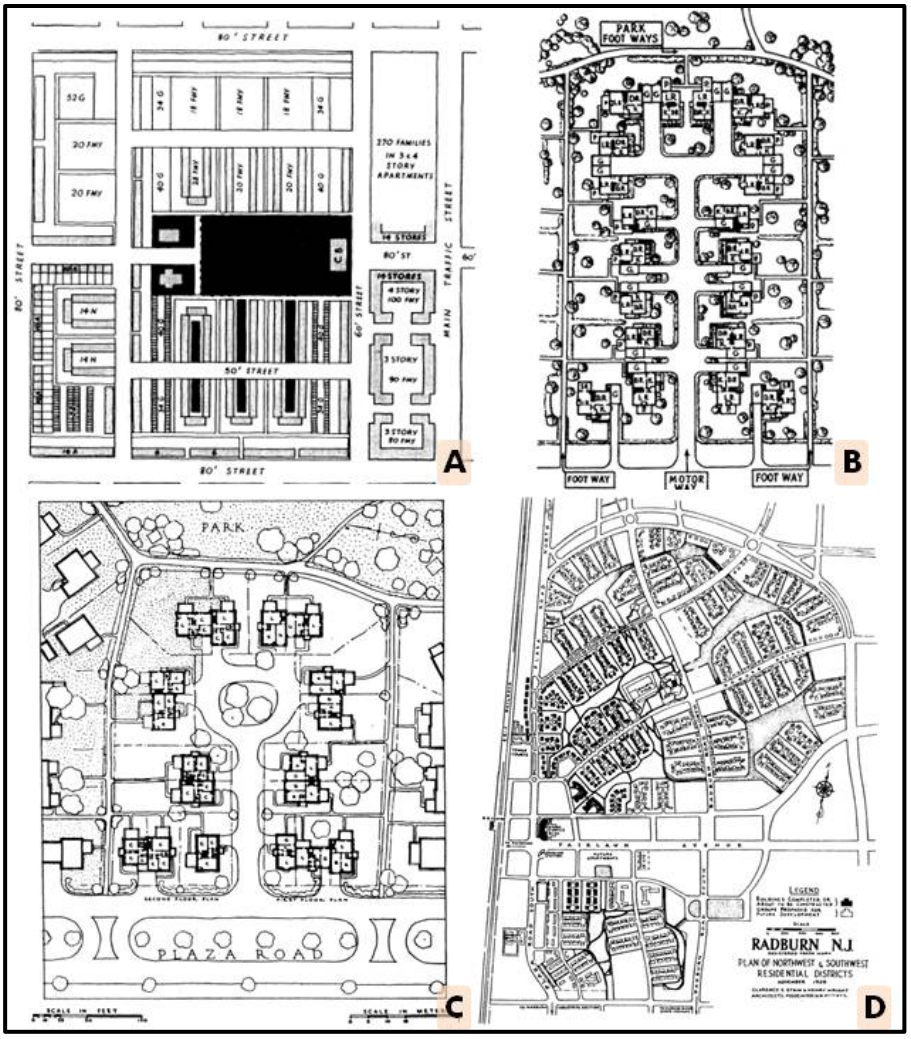


Figure 2.3: Radburn Plans **A:** Diagram reproducing a sketch in the 'Study of Application of Sunnyside Planning Principles to a larger City Area', a report prepared by Henry Wright in December, 1924. The idea of the Radburn superblock with an inner park is emerging. **B:** Plan of a typical 'Lane' at Radburn. The park in the centre of the superblock is shown at the top, the motorways and footways to the houses are at right angles to the park. **C:** Plan of Burnham Place. This grouped houses with spacious Cul-de-Sac. The turning circle allows vehicles to turn and get away more easily, and it provides an island for planting. **D:** Plan of the Residential Districts, dated November, 1929 (Stein, 1949, pp. 220, 223, 225, 247).

Alternative to Perry's neighbourhood unit, Henry Wright and Clarence Stein suggested the concept of neighbourhood unit by making some difference at Radburn, New Jersey (Lawhon, 2009). Acceleration of wheel-based transportation in the 19th century particularly following the industrial revolution has brought many problems such as congestion, pollution and unsafe streets for people. The Radburn idea, in fact, borrowed its name from a neighbourhood in Fair Lawn, New Jersey (USA), and it was developed as a solution to the problems of vehicular transportation in residential areas located in urban and/or suburbia environment. This neighbourhood project has was developed by Clarence Stein and Henry Wright in 1928 for a population of 25.000 people in Fair Lawn region, New York (Gökçe, 2007). This idea is based on the initial steps and thoughts of the Garden City approach, which was developed in the beginning of 20th century. Although Radburn is a private name given to a designed neighbourhood area, it has become a new and fundamental solution in the 20th century to the rapidly growing urban transportation problem.

According to Martin (2001), the Radburn project is accepted as a benchmark and even a prototype of Ebenezer Howard's 'Garden City' idea by many planning historians. Subramani (2008) defines the Radburn approach and design as the development of 'superblocks' which forms groups of housings. In these groupings, there are dead-end streets in the entrance facades providing vehicular access to the dwellings, and a central garden or park located on the back facades which are accessible by walking pathways. In addition, it asserts that the Radburn project implemented in 1929 was initiated as a response to the increasing dominance of automobile age in American suburban and residential areas.

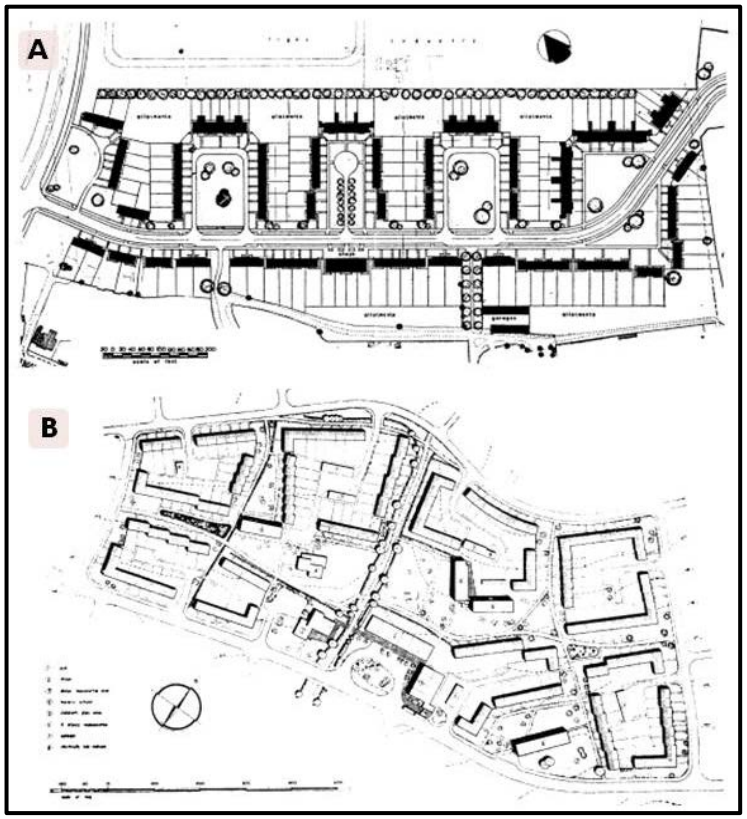


Figure 2.4: A: Plan of Dallington Fields, Northampton; Layout Plan Showing Conventional Cul-de-Sac Treatment Discussions on which Gave Rise to the Radburn Experiment at Eastfield **B:** Plan of Greenhill, Sheffield; Radburn Type Superblock(Womersley, 1954, pp. 183, 193)

According to Womersly (1954), the Radburn approach integrates architectural and social grouping of dwellings successfully. Moreover, this integration enhances land saving through effective recreation and green area planning. It, basically, separates the vehicular and pedestrian traffic in order to provide more secure, clean and accessible environment for the residents. This separation is achieved by dead-end streets which are also called as lanes. Some typical types are Cul-de-Sacs or T-Shape lanes (Womersley, 1954). Womersly (1954) defends this approach and the meaning of dead-end streets within the Radburn idea as follows:

> *"The Radburn idea is much more than 'A Service Cul-de-Sac Layout' as this article has endeavoured to explain. Its basic aim is to segregate pedestrian and vehicular traffic and, in thus providing a safe footpath system, to exploit to the full the natural amenities of the site and the possibilities of an architectural grouping of dwellings, independent of the traffic roads".*

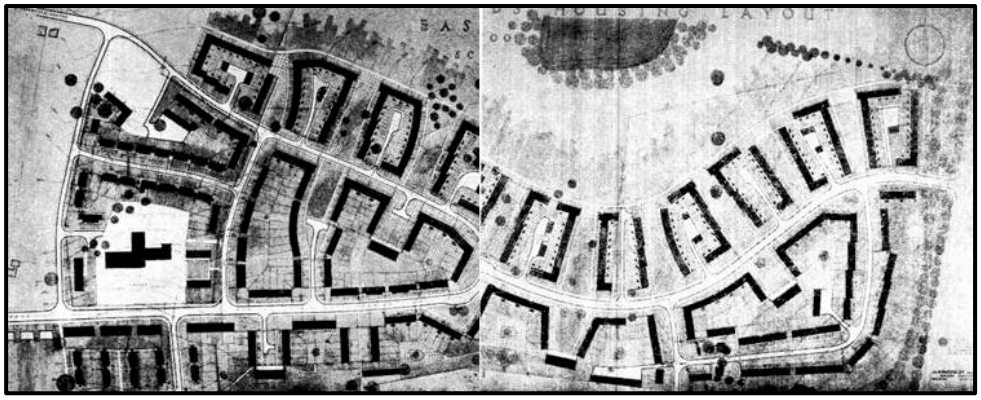


Figure 2.5: Plan of Eastfield, Northampton (Womersley, 1954, pp. 186, 187)

Martin (2004), similarly, highlights the main elements of the Radburn approach: *Gardenesque, pedestrian-accessible, child-friendly,* and *vehicle-free open space*. He also adds that the internal open space which is designed for the common area of the dwellings is a social interaction area which connects residents and the nature in an environment just beside the dwellings. Therefore, this combination of social and recreational area is accepted as an ideal and beneficial living environment for the residents.

Although the Radburn idea reflected the characteristics and understandings of its time, the main identity of the idea is a flexible model and can be adapted to even the 21st century planning approach. The basic principles which make it a flexible and adaptable model are outlined as follows (Martin, 2004):

- *"Integrity/comprehensiveness of the open space system*
- *Open space features and facilities*
- *Transitional zones of ownership/autonomy*
- *Accommodation of cars"*

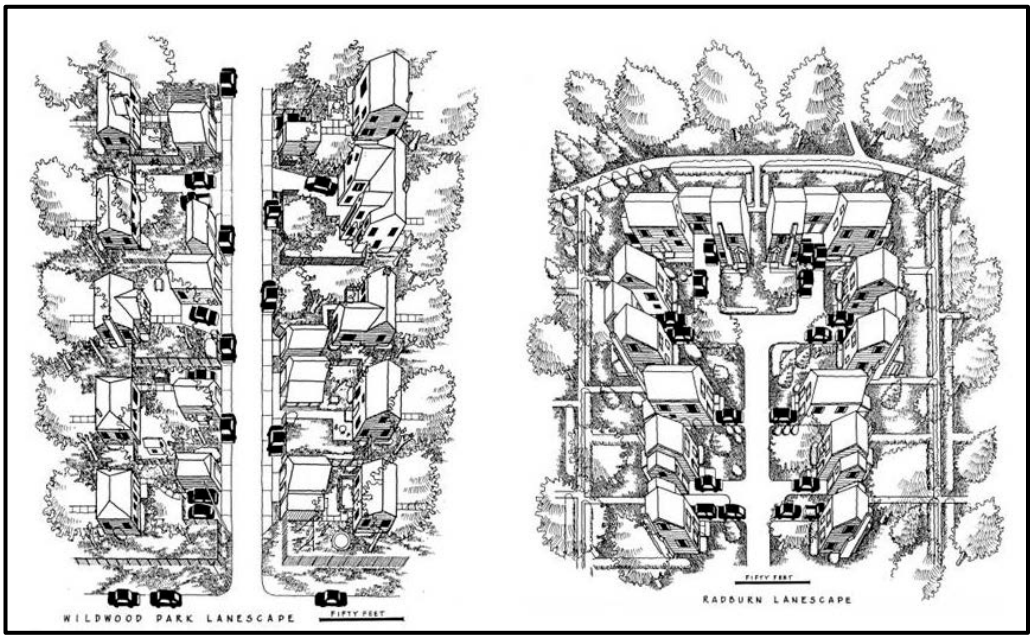


Figure 2.6: Radburn Landscapes (Martin, 2001, pp. 161, 162)

Similarly, it is expressed that the Radburn idea is a system approach which tries to develop a balance between vehicular and pedestrians in a living environment (Grammenos, Craig, Pollard, & Guerrera, 2008). The increasing problems and the complexity of urban transportation systems need to shift towards a more convenient, safe and environment-friendly travelling, particularly in and around the residential areas. This problematic view of the current situation is expressed as follows:

> *"Current literature indicates a general agreement that recent planning approaches to laying out road networks in suburban districts generate problems, such as lack of connectivity, disorientation and danger. It is argued that their designs follow mainly traffic engineering norms that focus on vehicle movement and, consequently, overlook pedestrian travel"* (Grammenos, Craig, Pollard, & Guerrera, 2008).

Clearly, the Radburn idea is seen as a response to these problems (Grammenos, Craig, Pollard, & Guerrera, 2008), which is very typical of both urban and suburbia environments even today. Today, this idea is still in the agenda of many planners, social scientists and other related professionals. The traffic and transportation problems which have been continuing for decades orient people to develop new solutions or adaptations of the former ones such as the Radburn idea and approach. In other words, the argument on the success or failure, applicability, reliability and affordability of more than a hundred-year-old idea has been keeping many people busy.

2.3. The Concepts of 'Sustainability' and 'Sustainable Development'

"The Earth is enough for everyone's need, but not for everyone's greed." M. Ghandi

Over the last century, the natural resources have been exploited indiscriminately and thus have decreased dramatically (Kunz, 2006; WCED, 1987). After the Second World War, the uncontrolled urban growth and industrial development negatively affected the cities and caused environmental deterioration and unplanned land resources. Especially since the 1960s, many countries have remarkably suffered from environmental pollution, and experts have drawn attention to these environmental problems (Lock, 2003; Bozloğan, 2007). These environmental problems and concerns triggered debates over the concept of 'sustainability' after 1960s (Bozloğan, 2007). Since then, 'sustainability' has become "one of the most ubiquitous, contested, and indispensable concepts of our time" (Castro, 2004, p. 195).

Upon growing interest in environmental sustainability, some experts initially organized international networks or groups, while others published books related to global environment problems. Furthermore, many national and international authorities became aware of the necessity to use the renewable and non-renewable resources. In 1962, Rachael Carson, who was a biologist and ecologist, published the book 'Silent Spring', dealing with harmful effects of pesticides, which are used on farm areas, on the human health and animal species, especially on birds (Kroll, 2001; Wheeler, 2004). Carson is seen as the advocate of sustainability, and Kroll (2001) mentioned that the book had an important role in describing the fundamental principles of modern environmentalism, and it is now almost universally accepted.

Carson's work was followed by many books such as Kenneth Boulding's *The Meaning of the Twentieth Century* (1964), Barry Commoner's *The Closing Circle* (1971), and Barbara Ward and Rene Dubos' *Only One Earth* (1972) (Wheeler, 2004, p. 21). In 1972, 'Limits to Growth', a report of D.H. Meadows, D.L. Meadows, J. Randers, and W.W. Behrens III was published by Club of Rome, and it became more prominent in environmental thought (Wheeler, 2004; Kunz, 2006). This report opened up an important discussion on such influence of human action on the environment as global population, and resource consumption (Wheeler, 2004; Kunz, 2006). Considering the results of a rapidly growing population and limited resources, the report strongly suggested that an urgent action be taken towards limiting population and economic growth in both developed and developing countries (Castro, 2004; Kunz, 2006).

In the 1960s, these ideas were echoed in the civil society. Some non-profit environmental organizations started to campaign towards environmental protection and sustainable development. 'Environmental Defense Fund (EDF)', the United States-based non-profit environmental advocacy group is one of these organizations, which started to pursue legal solutions to environmental damage in 1967 (IISD, 1997). In addition, 'Friends of Earth International (FOEI)', which is the world's largest grassroots environmental network and bottom-up group, has campaigned on most crucial and urgent environmental problems and also social issues since 1969 (IISD, 1997).

The concept of 'sustainability' was globally discussed in the early-1970s under the leadership of the United Nations (UN). 'The UN Conference on the Human Environment (UNCHE)', which was held at Stockholm on 5-16 June 1972, was the first meeting at the global scale dealing with the global environment and development needs (UNEP, Environment for Development, Declaration of the United Nations Conference on the Human Environment, 1972; Kroll, 2001; UN, 2001; Gardiner, 2002). Participated by 113 nations, the conference turned into an action point of UN in terms of environmental studies (UNEP, Environment for Development, Declaration of the United Nations Conference on the Human Environment, 1972; UN, 2001). The aim of this meeting was to give the following message: all nations should take precautions in order to protect the environment because the environmental resources were accepted as a basic feature of economic development (UNEP, Environment for Development, Declaration of the United Nations Conference on the Human Environment, 1972). The conference vision was that 'there is one world'; therefore, all countries should take equal responsibilities so as to protect and develop the world's common resources (IISD, 1997; UNEP, Environment for Development, Declaration of the United Nations Conference on the Human Environment, 1972). The conference is success for the environment on the macro-scale, the adopted of the 'Stockholm Action Plan for the Human Environment', which was the first global action plan (UN, 2001). Also, it "provided the basis for a standard agenda and a common policy framework to deal with the first generation of environmental action" (UN, 2001).

In 1980, 'International Union for the Conservation of Nature and Natural Resources (IUCN)', whose focus was on the physical environment rather than on social environment, firstly used the term 'sustainable development' (Atkinson, 2000). This was followed by the 'World Commission on Environment and Development (WCED)', which prepared the 'Brundtland Report' in 1987, and defined 'sustainable development' as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987, p. 16; Hecht, 1999, p. 111; Lock, 2003; Castro, 2004, p. 196; Drexhage & Murphy, 2010, p. 8). In this way, the concept of the sustainable development started to be regarded as a wider concept which encompassed not only the environmental issues, but also social and economic issues.

The Brundtland Report (1987) focused on the basic requirements for sustainable development, which are "reviving growth, changing the quality of growth, meeting essential human needs, ensuring a sustainable level of population, ensuring and enhancing the resource base, reorienting technology and managing risk, merging environment and economics in decision making" (WCED, 1987, p. 41). This report suggested that increasing the production and supplying equal opportunities to residents would provide sustainable development (WCED, 1987). The report identified "deforestation, desertification, loss of biological diversity, soil and land degradation and so on" as the major global-scale ecological problems that sustainable development policies were to address (Kroll, 2001, p. 328).

In June 1992, almost 20 years after the Stockholm Conference, 'UN Conference on Environment and Development (UNCED)' was hold in Rio de Janeiro at 'the Earth Summit' (UN, 2001). With this conference, sustainability was accepted as a universal concept, and it was declared that development and sustainability should be managed together and in the balance (UN, 2001). "Additionally, Rio agreement reflects some consensus such as

commitment to clean air, clean water resources, restoration and respect for our ecological biodiversity, use of renewable sources, and the construction of participative methods of governance for living in harmony with our neighbourhoods and with Earth" (Lock, 2003, p. 56).

Following the Rio Report in 1992, 'Agenda 21', "a comprehensive global action plan for socially, economically and environmentally sustainable development in the 21st century, was prepared"(Roseland, 1997; Drexhage & Murphy, 2010). It determined four major elements for sustainable development: 'social and economic dimensions to development', 'conservation and management of natural resources', 'strengthening role of major groups', and 'means of implementation' (Table 2.4), which aimed to inform and evoke states, institutions and residents related to "the harmonization of efforts to develop sustainable development indicators at the national, regional and global levels"(UN, 1992). This plan also included "the incorporation of a suitable set of these indicators in common, regularly updated and widely accessible reports and databases" (UN, 1992, p. 347).

Table 2.4: Elements of Agenda 21 (Gardiner, 2002, p. 4)

Elements	Issues
Social and Economic Dimensions to Development	Poverty, Production and Consumption, Health, Human Settlement, Integrated Decision - Making
Conservation and Management of Natural Resources	Atmosphere, Oceans and Seas, Land, Forests, Mountains, Biological Diversity, Ecosystems, Biotechnology, Freshwater resources, Toxic Chemicals, Hazardous Radioactive and Solid Wastes
Strengthening Role of Major Groups	Youth, Women, Indigenous Peoples, Non-Government Organizations, Local Authorities, Trade Unions, Business, Scientific and Technical Communities, Farmers
Means of Implementation	Finance, Technology transfer, Information, Public Awareness, Capacity Building, Education, Legal Instruments, Institutional Frameworks

Following Agenda 21, 'The UN Commission on Sustainable Development (CSD)' prepared a report, titled 'Indicators of Sustainable Development: Framework and Methodologies' in 1996 (first draft) to develop some indicators of sustainable development to be used in the decision-making process at national level and also to provide early warning in time to prevent economic, social and environmental damage (UN, 2007). The indicators were categorized under four themes, namely social, environmental, economic and institutional (Tencati, 2006, pp. 3-4; UN, 2007, pp. 300-303) (Table 2.5 and Figure 2.7). According to CSD (2004 cited in Tencati, 2006, pp. 3-4), this report can be accepted as a provision of "the core set of indicators all of which will be made available for member countries in order to assist their efforts in measuring progress toward sustainable development".

Table 2.5: Theme Indicator Suggested by CSD
(CSD, 2004 cited in Tencati, 2006, pp. 3-4; UN, 2007, pp. 300-303)

# SOCIAL		
Theme	**Sub-theme**	**Indicator**
Equity	Poverty	▪ Percent of Population Living below Poverty Line ▪ Gini Index of Income Inequality ▪ Unemployment Rate
	Gender Equality	▪ Ratio of Average Female Wage to Male Wage
Health	Nutritional Status	▪ Nutritional Status of Children
	Mortality	▪ Mortality Rate Under 5 Years Old ▪ Life Expectancy at Birth
	Sanitation	▪ Percent of Population with Adequate Sewage Disposal Facilities
	Drinking Water	▪ Population with Access to Safe Drinking Water
	Healthcare Delivery	▪ Percent of Population with Access to Primary Health Care Facilities ▪ Immunization Against Infectious Childhood Diseases ▪ Contraceptive Prevalence Rate
Education	Education Level	▪ Children Reaching Grade 5 of Primary Education ▪ Adult Secondary Education Achievement Level
	Literacy	▪ Adult Literacy Rate
Housing	Living Conditions	▪ Floor Area per Person
Security	Crime	▪ Number of Recorded Crimes per 100,000 Population
Population	Population Change	▪ Population Growth Rate ▪ Population of Urban Formal and Informal Settlements
# ENVIRONMENTAL		
Theme	**Sub-theme**	**Indicator**
Atmosphere	Climate Change	▪ Emissions of Greenhouse Gases
	Ozone Layer Depletion	▪ Consumption of Ozone Depleting Substances
	Air Quality	▪ Ambient Concentration of Air Pollutants in Urban Areas
Land	Agriculture	▪ Arable and Permanent Crop Land Area ▪ Use of Fertilizers ▪ Use of Agricultural Pesticides
	Forests	▪ Forest Area as a Percent of Land Area ▪ Wood Harvesting Intensity
	Desertification	▪ Land Affected by Desertification
	Urbanization	▪ Area of Urban Formal and Informal Settlements
Oceans, Seas and Coasts	Coastal Zone	▪ Algae Concentration in Coastal Waters ▪ Percent of Total Population Living in Coastal Areas
	Fisheries	▪ Annual Catch by Major Species
Fresh Water	Water Quantity	▪ Annual Withdrawal of Ground and Surface Water as a Percent of ▪ Total Available Water
	Water Quality	▪ BOD in Water Bodies ▪ Concentration of Faecal Coliform in Freshwater
Biodiversity	Ecosystem	▪ Area of Selected Key Ecosystems ▪ Protected Area as a % of Total Area
	Species	▪ Abundance of Selected Key Species
# ECONOMIC		
Theme	**Sub-theme**	**Indicator**
Economic Structure	Economic Performance	▪ GDP per Capita ▪ Investment Share in GDP
	Trade	▪ Balance of Trade in Goods and Services
	Financial Status	▪ Debt to GNP Ratio ▪ Total ODA Given or Received as a Percent of GNP
Consumption and Production Pattern	Material Consumption	▪ Intensity of Material Use
	Energy Use	▪ Annual Energy Consumption per Capita ▪ Share of Consumption of Renewable Energy Resources ▪ Intensity of Energy Use
	Waste Generation and Management	▪ Generation of Industrial and Municipal Solid Waste ▪ Generation of Hazardous Waste ▪ Management of Radioactive Waste ▪ Waste Recycling and Reuse
Transportation	Transportation	▪ Distance Traveled per Capita by Mode of Transport
# INSTITUTIONAL		
Theme	**Sub-theme**	**Indicator**
Institutional Framework	Strategic Implementation of SD	▪ National Sustainable Development Strategy
	International Cooperation	▪ Implementation of Ratified Global Agreements
Institutional Capacity	Information Access	▪ Number of Internet Subscribers per 1000 Inhabitants
	Communication Infrastructure	▪ Main Telephone Lines per 1000 Inhabitants
	Science and Technology	▪ Expenditure on Research and Development as a Percent of GDP
	Disaster Preparedness and Response	▪ Economic and Human Loss Due to Natural Disasters

The third UN conference, 'World Summit on Sustainable Development (WSSD)', was organized in Johannesburg on 26 August - 4 September 2002. The conference hosted "ten thousands of participants including heads of State and Government, national delegates and leaders from non-governmental organizations, businesses, and other major groups" (Sibley, 2007, p. 2). The conference focused on five main themes: water and sanitation, energy, human health, agricultural productivity, and biodiversity and ecosystem management (Sibley, 2007). With all these conferences, the UN has not only become a key international agency for global environmental issues, but it has also managed to draw significantly the world attention to the environmental sustainability issues.

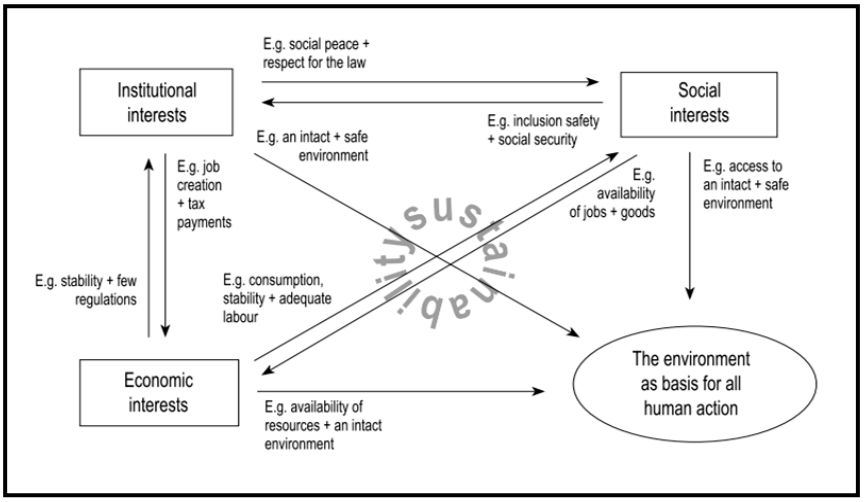


Figure 2.7: Sustainability in a Field of Tension (Kunz, 2006, p. 23)

Apart from these UN-based efforts, in 1992, the World Bank first broadcasted a report on sustainable development, which mainly focused on development and environmental protection including protecting biodiversity, providing clean air, sanitation, and clean water and managing of soils (Castro, 2004). In 2003, the World Bank issued another report, entitled 'Sustainable Development in a Dynamic World' (Castro, 2004; World Bank, 2003). The aim of this report was to provide economic development, to manage human, social, physical, natural assets, and also to reduce poverty and inequality at local, national, and international levels (World Bank, 2003). The report tried to determine the dynamics of economies and effective policies to ensure a better quality of life for the residents and communities (World Bank, 2003).

> *"Sustainability is debate about how to live. It suggests we rethink our relationship to the cultural construct we call 'nature', to the earth, and to each other (Schama, 1995, cited in Neuman, 2005). Sustainability refers to the way things ought to be and how we ought to live" (Neuman, 2005, p. 17)*

As mentioned above, the concepts of 'sustainability' and 'sustainable development' were associated with the interaction area between social, environmental and economical issues. In other words, the interaction between economic competitiveness, social inclusion and environmental sustainability has become the heart of sustainable development (Brownill & Carpenter, 2009). 'Venn diagram'is the most commonly used illustrator to explain Three E's model of sustainable development (equity, environment, economy) (Saha & Paterson, 2008).

To make cities better places, in both industrialized/developed and developing countries, the following are crucial:

- *"Urban development should be based on public participation, and public consciousness/awareness should be increased,*
- *Indicators of sustainable development are needed to guide policies and decisions at different levels of society, ranging from village to town, city, county, state, region, nation, continent and world,*
- *Indicators should be clearly defined, reproducible, unambiguous, understandable and practical. They should reflect the interests and views of different stakeholders and compact, covering all relevant aspects,*
- *The urban development should involve risk-based and scientifically sound environmental policies,*
- *The urban development should be based on a strong, fair, and enforceable regulatory framework,*
- *The urban development should ensure a vision and values of the community or region for which it is developed,*
- *The urban development should consist of monitoring and feed-back"*(Hecht, 1999; Bossel, 1999, p. 7)

Over the last three decades, the term of sustainable development has started to have a crucial role for the spatial forms such as regions, cities, districts, communities, neighbourhoods, and buildings. Sustainable development is not an end-state arrangement; it is a strategic planning and dynamic process (Lock, 2003). Sustainable development can be defined as "the kind of human activity that nourishes and perpetuates the historical fulfilment of the whole community of life on earth" (Bossel, 1999, p. 2). To assure higher quality of life for all residents, sustainable development should have environmental, social, economic, institutional, cultural, and psychological dimensions on the practice of urban and land-use (Bossel, 1999).

2.4. Sustainable Communities

This part presents the definition of sustainable community and its significance. In addition, it defines four approaches to community sustainability in Hempel's theory. Moreover, some developed countries' (UK and US) policies are mentioned as the pioneer urban planning and policies related to sustainable communities.

2.4.1. What are Sustainable Communities?

> *"Creating cities, towns and communities that are economically, environmentally and socially sustainable, and which meet the challenges of population growth, migration and climate change will be one of the biggest tasks of this century" (Woodcraft, Hackett, & Caistor-Arendar, 2011, p. 5)*

'Sustainable cities' has become an important theme of the sustainable development discussions since the 1990s (Colantonio & Dixon, 2011). Particularly, the urban sustainability concept, which includes different dimensions of spatial, social, economic, environmental and institutional structures, has been considered as the main goal of the urban

planning projects. In addition, urban form and sustainability relationship has gained a strong place among the planning literature (Colantonio & Dixon, 2011). In the 1980s, while urban planning projects focused on physical and economic revitalization of area, social and cultural well-being has been given importance by the 1990s (Colantonio & Dixon, 2011). Therefore, two significant terms 'community' and 'neighbourhood' have been raised. Following this conceptual shift, government policies have been reshaped and regulated through emphasizing strong community, social well-being, active and collaborative citizenship (Colantonio & Dixon, 2011). On the other hand, the 'local community' concept constitutes the focal point of the sustainability policies and projects (Colantonio & Dixon, 2011).

In the literature, many definitions are available related to the sustainable community concept. These definitions generally "highlight the relationships between local quality of life and local or regional levels of population, consumption, political participation and commitment" to in tertemporal equity in order to achieve community sustainability (Hempel, 1999, p.48). In other words, these definitions set a relationship between the quality of life of community and economic, social and environmental systems (Hart, 1999). This view is also supported by the following words of Smith (2008):

> *"Being a central concern of community development, (sustainable) neighbourhoods have been still taken an importance place among many people's daily lives, particularly of families. This need and concern necessitate looking and approaching more sensitive to the design of the environment which includes housing and public building quality, to the services essential for daily life, and to the networks and groups which people belong to in their neighbourhood"*

In fact, sustainable neighbourhood is a tangible concept because people living in that neighbourhood can feel, see and touch the environment which hosts the sustainable community. The quality of the environment which is associated with the quality of the psychological, social and cultural services makes the neighbourhood a most preferred living area. Thus, a sustainable neighbourhood is expected to offer a quality physical environment with well-defined and healthy socio-cultural networks. In other words, sustainable neighbourhoods are

> *"places where people want to live and work, now and in the future. They meet the diverse needs of existing and future residents while they are sensitive to their environment and contribute to a high quality of life. They are safe and inclusive, well planned, built and run and offer equality of opportunities and good services for all. For communities to be sustainable, they must offer hospitals, schools, shops, good public transport, as well as a clean and safe environment. People also need public open space where they can relax and interact and the ability to have a say on the way their neighbourhood is run. Most importantly, sustainable communities must offer decent homes at prices people can afford"* (McDonald, Malys, & Malienė, 2009, p. 50).

For Hart (1999), if urban community is to be sustained, the negative environmental effects should be minimized, while social and economic advantages should be maximized. To

minimize the negative environmental effects, it is crucial to settle the balance between usage and protection of environmental resources. To maximize the positive social effects, it is important to increase the quality of life and social capital for every member of community in addition to the promotion of social inclusion. Maximization of economic effects in a positive way necessitates evaluation of decisions related to community in terms of cost-benefit analysis, and reviving of economic activity at local scale.

Hempel (1999, p. 48) defines sustainable community interestingly: the contemporary fashion which "interlinks economic vitality, ecological integrity, civic democracy and social well-being in the same pot", and he believes that these interlinked areas cultivate a high quality of life and encourage "a strong sense of reciprocal obligation" among community members.

Hempel draws an ideal for sustainable communities who are, in fact, under the threat of high levels of pollution, consumption and population which are all beyond the regional carrying capacity. According to Hempel (1996b and 1998, cited in Hempel1999, p. 48), it is possible to prosper this ideal in a sustainable community if

- *"their members share an ethic of responsibility to one another and to future generations,*
- *prices of their goods and services reflect, where practical, the full social costs of their provision,*
- *equity mitigation measures protect the poor from the regressive impacts of full-cost pricing,*
- *community systems of education, governance, and civic leadership encourage informed democratic deliberation,*
- *the design of markets, transport, land use, and architecture enhance neighbourhood liveability and preserves ecological integrity".*

Kline's (1995) ideal of sustainable community is similar to Hempel's. Kline points out the sustainable communities which represent the successful integration of four key objectives: ecological integrity, economic security, high levels of quality of life, and citizen empowerment with added responsibility. However, all these ideal approaches also reveal the fact that sustainable communities are not monotype or uniform structures because they have different attributes which can be changed from one place to another. These characteristics of different groups need different solutions and decisions in terms of absorbing sustainability criteria. In that sense, locality and local characteristics stand out as the important and motivating concepts which build connection between physical environment, economic structure and local residents. Solutions and decisions on the community directly affect the dynamics of that community and need to take into account the local characteristics. Although different communities living in rural, suburban, and urban neighbourhoods can all benefit from the sustainable community strategies and techniques in order to invest in healthy, safe, and walkable environments, these strategies have to take into consideration the community's different peculiar context and needs (Partnership for Sustainable Communities, 2013).

> *"A more sustainable community recognizes and supports people's evolving sense of well-being which includes a sense of belonging, a sense of place, a sense of self-worth, a sense of safety, a sense of connection with nature, and provision of goods and services which meet their needs, both as they define*

them and as can be accommodated within the ecological integrity of natural systems" (Kline, 1996).

Therefore, the decisions and implementation of solutions should be consistent with local dynamics and sustain urban community through prosperous, dynamic and creative solutions. If this consistency can meet the needs and expectations of the local community as far as possible, it is welcomed and adapted more easily. Roseland (1998) defines the sustainability criteria of a community in the following words: "A sustainable community is continually adjusting to meet the social and economic needs of its residents while preserving the environment's ability to support it"

Brownill and Carpenter (2009) generate the definition of sustainable community through the combination of economic growth and environmental sustainability in their following words: Sustainable community can be defined "as combining economic growth with the creation of environmentally and socially sustainable development by encouraging good design and active citizenship" (Brownill & Carpenter, 2009, p. 256).

Colantonio and Dixon (2011) summarize the main components of sustainable communities:

- *"Balancing and integrating the social, economic and environmental components of their communities*
- *Meeting the needs of existing and future generations*
- *Respecting the needs of other communities in the wider region or internationality to make their own communities sustainable"* (Colantonio & Dixon, 2011, p. 33)

Evidently, sustainable communities highly embody the well-known principles of sustainable development. Although there are very general definitions related to sustainable community concept and components, as it is aforementioned before, particularly the components of the concept can vary among the regions and counties due to the different needs, culture, urbanization profiles, problems and aims of the locals. On the other hand, Mayerl (2012) draws attention to the unchangeable primary components of sustainable communities all of which are necessary to effectively construct and settle the goals and practices of the sustainable community approach. These components are defined as "i) its focus on long-term integrated system approaches, ii) healthy communities, and iii) quality of life issues by addressing economic, environmental and social issues" both interdependent and integrated (Mayerl, 2012).

To create sustainable communities, it is crucial to perform an integrated approach to social, economic and environmental problems of communities. The fragmented policy and strategies to develop solutions for the problematic issues result in failure of sustainability approach. Hart (1999, p.2) supports comprehensive understanding and claims that community problems are excepted as isolated issues if the social, economic and environmental dimensions are seen as separate systems. For instance, any of the problems related to social area, in fact, has the potential to affect the economic issues. Some of the social originated problems or even some of the solutions to those problems can trigger other problems some of which turn into economic problems. Therefore, the relation between problems in different structures within a community reveals the interdependency of problems, and solutions as well. This interdependency view necessitates a more

comprehensive approach to the sustainable neighbourhood concept which integrates physical, social, economic and environmental structures. Government of Ireland (2009) supports this view as "sustainable neighbourhoods are areas where an efficient use of land, high quality design, and effective integration in the provision of physical and social infrastructure combine to create places people want to live in".

According to Kellett, Fryer, & Budke (2009, p.16), the demand of sustainable community development can be met if only this demand is considered from a comprehensive view-point "sustainable community planning and design demands holistic, integrative and balanced approaches to the spatially and technically complex spheres of environment, economy, and equity, including social and cultural dimensions of sustainability".

Hempel (1999) remarks the painful steps to convince many people in the environmental movement which aims to clean up the air, water and soil while protecting the species and conserving the natural sources. These lessons reveal that greater attention should be paid to the different needs and characteristics of communities whereas fragmented and isolated solutions depending on single legislative documents and limited pollution strategies contribute little to the development of sustainable communities and neighbourhoods (Hempel, 1999). Thus, quality of life through sustainability approach can be achieved if the environmental, social and economic goals are integrated at the both community and regional levels.

Various criteria of the sustainable community are used. One of them is transportation. Having different transportation choices which make travelling easy for people (for instance from home to work) along with housing opportunities is determined as an important ideal of sustainable neighbourhood. The transportation convenience and proximity of housing to various destinations also bring some other advantages such as lower transportation costs, reduction of air pollution and storm water runoff, decrease of infrastructure costs, preservation of historic properties and sensitive lands, saving time in traffic, increase of economic resilience and meeting market demands for different types of housing at different prices (Partnership for Sustainable Communities, 2013). Using energy efficiently is also considered as an important criterion for sustainable communities. Energy problems have been emerging, and it needs more attention than ever. Therefore, states and communities need to use energy sources efficiently in order to sustain the energy independence along with protecting natural environment and human health both of which are directly related to energy production and consumption (Partnership for Sustainable Communities, 2013).

The sustainable community development idea has been discussed among the international agenda very frequently in the last 30 years period. The rise of supporters of the idea particularly in the last three decades indicates the importance and vitality of the concept. However, the emergence of the concept and the debate on developing sustainable communities go back to far more than three decades. The literature related to the concept of sustainable community can be rooted in some leading works and approaches which were produced in the end of the 19th century and beginning of the 20th century.

The different usage of the 'sustainable community' concept corresponds to many terms such as *green cities, eco-cities, sustainable cities, sustainable neighbourhoods, eco-communities*, and *liveable cities* in the literature. "These concepts and terms have been discussed widely

by many urban and community-based[4] designers, practitioners, visionaries, and activists in different fields of urban ecology, growth management, bioregionalism, neo-traditional architecture, environmental planning, community self-reliance, and appropriate technology" (Hempel, 1999, p. 68).

The rapidly growing populations in the urban areas and the effects of industrial production (or mass production) facilities constructed in and around the cities particularly in the 19th century revealed the insufficiencies of urban infrastructures and the housing stock. All these radical changes had enormous impacts on the daily routines of many people. Not only the physical environment but also the socio-cultural and economic relations had started to shift. The pressure on the urban environment pertaining from modernization and industrial revolution has brought along a reaction. This reaction settled a discourse in urban planning area firstly within the works of Ebenezer Howard (in 1898) through the Garden City concept and idea. The roots of sustainable community movement is bounded to the Howard's idea and dated to the end of 19th century.

The pioneer works of Patrick Geddes and Lewis Mumford were the other housing estates of the movement. The work of Geddes 'Cities in Evolution', which was published in 1915, had a reading on the negative effects of industrialization on a geographic community. These negative effects mainly concentrated on the exhaustion of the resources. From this view, Geddes pointed out to integrate environmental protection and social organization in urban design. While the works of Geddes were influencing Mumford (1924, 1926, cited in Hempel 1999), he was seeking to develop and suggest a model for modern design of human settlements which was respecting and reconstructing the communitarian social tradition. According to Mumford, the need for a new approach for constructing contemporary human settlements had pertained from the loss of community in a 'machine civilization' due to the consequences of social and environmental degradation caused by industrial revolution. Many other movements related to sustainable community understanding have been emerged in the following decades following the works of Howard, Geddes and Mumford. Those attempts also looked for discourses, methods and techniques to settle and construct sustainable community ideal. Some of the most influential ones can be listed as follows:

- Garden Cities in 1898 by Ebenezer Howard (UK)
- City in Beautiful Movement during the 1890s and 1900s (US)
- New Urbanism 1993
- Ahwahnee Principles 1991
- Compact City or Urban Intensification in UK
- Smart Growth in US
- Liveable Communities
- Lifetime Neighbourhoods
- Healthy Cities/Communities
- Urban Village
- Community Design and Community Based Planning Traditional Neighbourhood Plan
- Neo traditional Communities
- Micro Urbanism
- New Pedestrianism
- Walkable Communities
- Transit Oriented Development
- Slow Cities
- Urban Ecology and Eco-City Movement
- Social Capital Debate of the 1990s

[4]According to Kesler and O'Connor (2001), community-based movements can be classified as seven movements; "the healthy community movement, the sustainable community movement, the community building movement, the liveable community movement, the civic democracy movement, the safe community movement, the smart growth movement" (Kesler & O'Connor, 2001).

Today, there are still many attempts to find answers and develop new approaches in the meaning of reaction to the insufficiencies of urban design and development. The ongoing policies and strategies which cannot cope effectively with the adverse effects of uncontrolled urban growth and declining urban neighbourhoods along with the deficient infrastructures and buildings raise the issues on the current urban approaches. The former reaction mainly based on the effects of industrialization which caused a shift from traditional agricultural society to modern society. However, today's society has been confronting with adverse problems such as economic and political disturbances, growing affects of disasters, climate change phenomena, uncontrolled consumption and rapidly decreasing of natural resources, diversified security and safety issues, trans-boundary water sources and their usage etc.

Hempel (1999, 51) asserts that today's sustainable community movement is also a reaction, but this reaction is partly to former decades which have not developed and implemented effective policies and strategies in order to limit and manage the urban sprawl. In other words, Hempel (1999) assumes the ongoing policies and their tools of planning, zoning and redevelopment as inadequate. Moreover, he claims that another part of this reaction has pertained to urban quality of life concerns which have been growing in recent years. These concerns related to improvement strategies which are effective on the social, economic and ecological well-being of communities have an important place in the agenda of sustainability.

Hempel (1999) draws the attention to the environmentalists' critics who have already lost confidence in the ongoing political approaches and capacities of national and international institutes. This loss of confidence results in greater willingness to attacking the environmental problems in a global and comprehensive manner which also constitutes a source for sustainable community mobilization. In this sense, a considerable number of environmentalists have tended to accept the slogan "think globally, act locally", which was very popular in the 1980s (Hempel, 1999). This view, in fact, underpins the frame of the response to the increasing number of regional, national and global environmental problems at the local level which helps the environmentalist to have more comprehensive, accessible and tractable tendency. This approach of comprehensive thinking in the local scale has reached the peak during the 1992 Earth Summit in Rio de Janeiro (Hempel, 1999; Agyeman, 2005). In addition, 'Agenda 21' plans which represent both local and national sustainable development strategies were agreed on by the participating nations. These plans also anticipate and put forward the community-oriented strategies which have been assumed as growing interest among the communities and accepted as the adjunct approaches to sustainable ideas in general (Hempel, 1999).

In the following period, in 2002at the Local Government Summit of the World Summit on Sustainable Development in Johannesburg, local authorities invited from all over the earth were encouraged to make decisions and implement policies through Local Agenda 21, which aimed to reinforce sustainable development and enhance sustainable communities and cities while assuring global common goods (Agyeman, 2005).

Hempel (1999) claims that the dissatisfaction among many people including scholars, planners and environmental practitioners with the integration problematic in the management of social and natural systems has motivated them to adopt sustainable community ideas. In

other words, sustainable community ideas are accepted as a good and effective way to encourage the integration of social and natural systems.

Integration of different systems and structures under the concept of sustainable community needs a comprehensive and collaborative thinking which necessitates interdisciplinary and crosscutting approaches (Hempel, 1999). These approaches help to construct a well-defined problem frame and policy response. These approaches also facilitate thinking in a wide range of interdisciplinary studies which broaden researchers' and the community's horizon. In that sense, these approaches encourage:

> *"...environmentalists to think carefully about the social and economic needs of a community; developers to understand something about ecosystem management; civic leaders to recognize the interdependence of communities in both economic and ecological terms; and ordinary citizens to draw connections between civic engagement and quality of life" (Hempel 1999, 52).*

According to him, the integrative structure of sustainable community concept enhances the planning and policy making through a set of mutual goals.

> *"A sustainable neighbourhood is socially cohesive, environmentally sound, and economically viable, providing a high quality of life for all residents while making a positive contribution to the overall health of the environment and leaving an affordable legacy for future generations"* (Kellett, Fryer, & Budke, 2009)

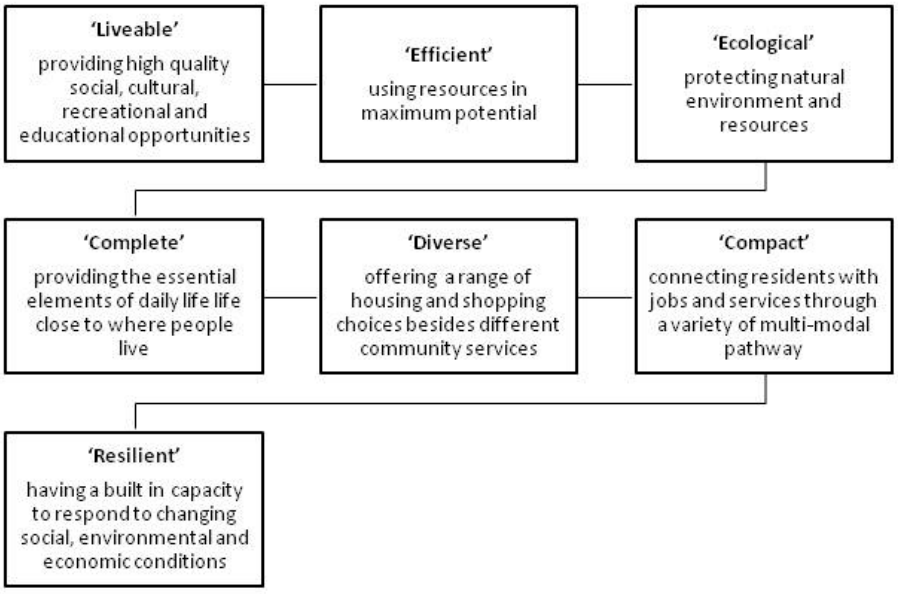


Figure 2.8: Sustainable Neighbourhood Principles
(Kellett, Fryer, & Budke, 2009, p. 11)

2.4.2. Approaches to Community Sustainability

This part of research defines the approaches to sustainable community in terms of different viewpoints. Despite the diversity and variety in definitions, aims and background, Hempel (1999) identifies four approaches to community sustainability (Table 2.6):

- Capital approach
- Urban design approach
- Ecosystem management approach
- Metropolitan governance approach

Table 2.6: Major Approaches to Community Sustainability (Hempel 1999, 54)

Sustainable community orientation	Underlying foundation	Conceptual challenge	Analytical challenge	Key indicators
Capital theory	Economics and accounting	Nature as capital	Elasticity of substitution	Natural income accounting
Urban design	Land-use planning and architecture	Planning vs. markets; "design with nature"	Constraints posed by existing development	Density, open space, traffic flows, jobs/housing balance
Ecosystem management	Ecology	System thinking, natural vs political boundaries	Critical loads and stress points; interconnections	Urban habitat type, impervious surface area, size of ecological footprint
Metropolitan governance	Regionalism	Asymmetrical interdependence	Incentives for intergovernmental cooperation	Number of regional councils, joint power agreements, metro tax-base sharing

2.4.2.1. Capital theory

Many economists and social scientists have attempted to define sustainability in terms of shared capital or constant capital. In other words, all communities have some resources and these resources can be used to fulfil the present needs and produce new resources for the future needs in the length of time (Flora, 2007; Jacobs, 2007).They are generally called 'community capital'. The dynamic balance among these capitals can provide sustainable communities and emerge healthy ecosystems, vital economy and social well-being (Flora, 2007).

There are many classifications related to community capital models in different resources. For example, Bourdieu (1986) identified three forms of capital which are social capital (networks, membership, relationship, interaction), economic capital (cash, assets), and cultural capital (forms of knowledge, skills, education. Serageldin (1995) identified the essential requisites of sustainability as the retention for future generations of four types of capital: natural capital, manmade capital, human capital, and social capital. On the other hand, Flora (2007) determines seven types of capital: natural capital, human capital, social capital, built capital, cultural capital, political capital and financial capital.

'Social capital' is the connections among community members and is related to human well-being, but on a social level rather than resident level (Ekins & Medhurst, 2006). It refers the bonding, bridging, linking and connections among communities' members and organizations

(Imrie & Raco, 2003; Flora, 2007). According to Flora (2007), social capital is significant for creating a healthy ecosystem and a vital economy, besides social well-being.

According to Imrie and Raco (2003), there are three main elements of social capital, which are social network, social norms and levels of trust. Social capital is social glue which holds a community together; it includes the 'social networks' which assist the progress of social interactions among members of community and support an efficient and cohesive community (Hancock, 2001; Ekins & Medhurst, 2006; Flora, 2007). To build a strong and wide social network in a community, a higher level of trust within the community members is needed.

Social capital depends on mutual trust, civic engagement, social justice, social interaction, reciprocity, collective identity, cooperative action, shared objectives, working together, the sense of a shared future, the sense of belonging, networks in the community and bonds between residents (Imrie & Raco, 2003; Flora, 2007). Putnam (2000) defines some composite measure of social capital including the following indicators:

- *"intensity of involvement in community and organizational life*
- *public engagement (e.g. voting)*
- *community volunteering*
- *informal sociability (e.g. visiting friends)*
- *reported levels of trust"*(Ekins & Medhurst, 2006, p. 483)

While OECD (2001) determines some indicators of social capital as "context indicators, self-sufficiency, equity, health, social cohesion", World Bank (1997) defines these indicators as "horizontal associations, civil and political society, social integration, legal and governance aspects"(Ekins & Medhurst, 2006, p. 483). According to Ekins and Merdhurst (2006, p. 492), social capital has four characteristics: "values such as trust, equity; social health such as social integration and cohesion and social exclusion; social organization such as social networks, horizontal associations, hierarchical organizations, diversity; governance such as political arrangements, legal, financial arrangements".

According to Hancock (2001, p.276), social capital has both an informal form related to social network which includes 'social cohesion' and 'civicness' and a formal form related to social development program which ensures residents "have equitable access to such basic determinants of health as peace and safety, food, shelter, education, income and employment". The important point related to social capital is how community members can emerge their own common objectives, cooperate to achieve these aims and deal with some difficulties and obstacles in their own community. Community members can consider alternative ways of reaching common aims, solve shared problems, and create social cohesion in community (Ekins & Medhurst, 2006; Flora, 2007).

'Natural capital', sometimes named to as environmental capital or ecological capital, is a term used primarily by ecological economists. "Natural capital can be considered as the components of nature that can be linked directly or indirectly with human welfare" (Ekins & Medhurst, 2006, p. 477) 'Ecosystem services,' which are the benefits residents derive from ecosystems can be grouped into four services. They are 'provisioning services' such as food, water, biochemical, natural medicines; 'regulating services' such as "air quality regulation, climate regulation, water regulation, erosion regulation, water purification and waste

treatment, land degradation regulation, disease regulation, natural hazard regulation; 'supporting services' such as soil formation, photosynthesis, nutrient cycling, water cycling; 'cultural services' such as cultural diversity, spiritual and religious values, educational values, inspiration, aesthetic values and natural beauty, social relations, sense of place, cultural heritage values, recreation and ecotourism"(Millennium Ecosystem Assessment, 2001; Flora, 2007).

'Human capital' was defined as mental and physical health, the knowledge, personal skills and abilities, competencies, education, labour productivity and motivation, inventiveness and entrepreneurship, leadership and productive potential of residents that facilitate the creation of personal, social and economic well-being (Hart, 1999; Ekins & Medhurst, 2006). "These elements not only contribute to a happy, healthy society, but also improve the opportunities for economic development through a productive workforce" (Ekins & Medhurst, 2006, p. 477). According to the research conducted by South Dakota State University, there are four main concepts to analyze the human capital: "learning from others, working in groups; education, formal and informal, accessing information at the library or on the internet, experiences, or knowledge that creates wisdom, leadership development, reading, training, and practicing skills"(Jacobs, 2007). Formal and informal education of human capital provides to "enhance their resources and to access outside resources bodies of knowledge in order to increase their understanding, identify promising practices, and to access data to enhance community capitals" (Hart, 1999, p.17; Ekins & Medhurst, 2006, p.477). If the community members can realize their treasure of skills, abilities, knowledge, willingness to cooperate and the power of working together, they can discover and increase their human capital of community and use human capital for the beneficial of both resident and the community (Jacobs, 2007).

'Build capital', sometimes called manufactured or human-made capital, produces material goods and infrastructure, which are used to produce all services (Ekins & Medhurst, 2006). The main components include buildings, roads, machines, tools, technologies and infrastructure such as transport, networks, communications, waste disposal systems (Hart, 1999; Ekins & Medhurst, 2006). Flora (2007) implies that built capital can enhance the quality of other capitals. Therefore, the efficient and sustainable use of building capital should be innovative, creative, suitable and flexible so that it can meet the needs of the community.

The intersection of natural capital and human-made capital is determined as a 'cultural capital'. Cultural capital, which refers to the feeling of togetherness in the community, includes symbols and language, ethnicity, generations, stories, foods, festivals, celebrations and events (Jacobs, 2007). Bourdieu (1987) identifies three sub-types of cultural capital. The first one is embodied state which is incorporated in mind and body and also is strongly linked to resident's habitus, a person's character and way of thinking, way of knowing (Bourdieu, 1986). The second is institutionalized state which is mainly understood in relation to the labor market, such as educational qualifications and academic credentials (Bourdieu, 1986). The third is "objectified state, simply existing as cultural goods such as books, artifacts, dictionaries, scientific instruments, works of art and paintings" (Bourdieu, 1986, p. 47).

'Political capital', which is about the power structures in communities, is based on connections, organizations, and authorities (Jacobs, 2007). Flora (2007, p. 6) claims that political capital is related to "the ability to influence standards, rules, regulations and their enforcement of those regulations which manage the distribution of resources and the ways they are used". Jacobs (2007) emphasizes that social capital, which is the network of connections among residents and organizations in a community, affects the level of political capital which can be held by residents, groups or institutions. There are some activities related to political capital such as discussing politics with family and friends, voting, reading newspaper, increasing their awareness, keening observer of contemporary affairs related to their community, local and national level (Jacobs, 2007). When political capital is at a high level, it could be asserted that community has "the collective ability to find their own voice and to engage in actions that contribute to the well-being of their community" (Flora, 2007). On the other hand, when a community has lack of political capital, it can be directed by dominant forces easily and the community cannot participate in decisions related to their future, and community cannot use opportunities and cannot voice their needs and expectations.

'Financial or economic capital' reflects the productive power of the other types of capital. "Healthy employments and equitable distribution ensures that residents' and communities' basic needs are met". (Hancock, 2001, p. 276). Jacobs (2007) indicates that financial capital is more than just money, and is probably the one community capital which has the potential to impact all of the other capitals (Jacobs, 2007). Financial capital which is related to financial resources such as income, wealth, investment is often the easiest to measure, and it can be used to measure the other community capitals (Jacobs, 2007). Financial capital is a necessary issue to increase the life quality of a community, "to invest in community capacity building, and to accumulate wealth for future community development" (Flora 2007, p. 6). In addition, financial capital is a driving force to broaden all community capitals, to invest in the growth of the community and to ensure sustainability for the future (Jacobs, 2007).

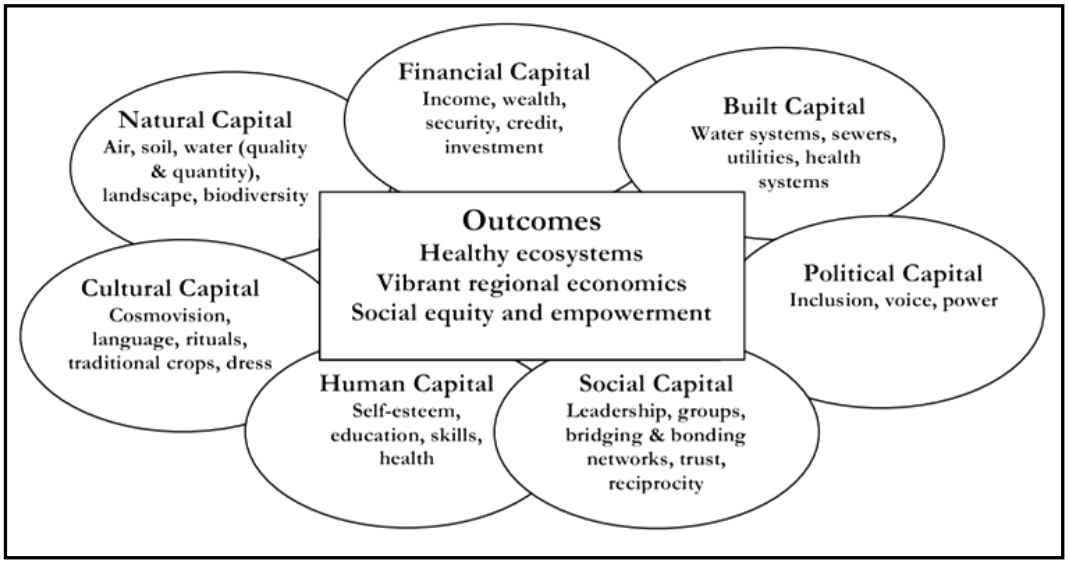


Figure 2.9: The Seven Types of 'Community Capital' (Olson, 2006 cited in Jacobs, 2007, p. 1)

According to Jacobs (2007, p. 1), "communities are systems that have inflows and outflows, ups and downs, progression and regression". Developing 'community capitals', which is

defined as a dynamic integration and interaction of social, natural, human, manufactured, cultural, political, financial capital, is a significant approach to analyze and understand how communities can be sustained and processed (Figure 2.9). If these types of capital started to decrease, some problems such as social exclusion, isolation, alienation, urban poverty and deprivation can be seen in especially urban areas. The important point is to identify all capitals in the community and use them as a planning tool. Once the community capitals are identified, it is possible to use them as planning tools for the future. Then, it is also possible to find out where the strengths and weaknesses, opportunities and threats of a community are, where they need assistance and where partnerships should be developed if community capitals are lacking (Jacobs, 2007).

2.4.2.2. Urban design theory

Urban design theory is a preeminent approach for sustainable communities (Hempel, 1999). To rebuild more sustainable urban environments, there are some urban design approaches such as "the compact city (Jenks et al, 1996), the polycentric city (Frey, 1999), the urban quarter (Krier, 1998), the sustainable urban neighbourhood (Rudlin and Falk, 1999), the urban village (Aldous, 1997), the eco-village (Barton, 1999), and the millennium village (DETR, 2000)" (Biddulph, Franklin, & Tait, 2002, p. 1). Moreover, some other urban design approaches such as 'New Urbanism', 'Urban Village', and 'Smart Growth' offer design principles to build sustainable neighbourhood and communities (Hempel, 1999). All these approaches represent an urban design theory that emphasizes principles such as mix-used, housing, transportation and accessibility, community services, walkability and automobile dependency, social interaction, environmental quality, governance, and efficient energy use (Hempel, 1999).

Today's planning approaches such as New Urbanism, Smart Growth and Sustainable Cities have a common approach based on "sustainable communities" and "sustainable development". Sustainability provides a "balance or dynamic harmony between the hardware and the software of the cities, to reconcile the body (forms, colours, odours, sounds) and the soul (culture, history, energy, magnetism) of the cities" (Mega, 1996, p. 134)

'The New Urbanism,' which focuses on the physical environment besides social structure, appeared in the early 1990s in the US (Wheeler, 2004). There are ten fundamental principles of New Urbanism: walkability, connectivity, mixed use and diversity, mixed housing, quality architecture and urban design, traditional neighbourhood structure, increased density, green transportation, sustainability and quality of life. The New Urbanism approach is based on enhancing diversity, walkability, and human scale environment, and "the goal of the Congress of Urbanism (CNU), founded in 1993, is to create buildings, neighbourhoods, and regions that provide a high quality of life for all residents, while protecting the natural environment" (Liang, 2010, p. 10). Talen (1998) emphasized that the aim of new urbanism design theory is building a sense of community (Liang, 2010, cited in New Urban News, 2009). According to Liang (2010), there are three fundamental principles: increased housing density, enhanced public open space, and developed design control and streetscapes (as cited in Adler, 1995).

There are different scales for the application of New Urbanism planning:
"1. The metropolis, the city and town;

2. The neighbourhood, the district and the corridor;
3. The street, the block and the building" (Liang, 2010, pp. 10-11).

He emphasizes (2005, p.4) that the New Zealand Ministry for the Environment determines seven design qualities (the "7 Cs") to achieve sustainable design:

"Context: seeing buildings, places and spaces as part of whole towns and cities
Character: reflecting and enhancing the distinctive character, heritage and identity of our urban environment
Choice: ensuring diversity and choice for people
Connections: enhancing how different networks link together for people
Creativity: encouraging innovative and imaginative solutions
Custodianship: ensuring design is environmentally sustainable, safe and healthy
Collaboration: communicating and sharing knowledge across sectors, professions and with communities"

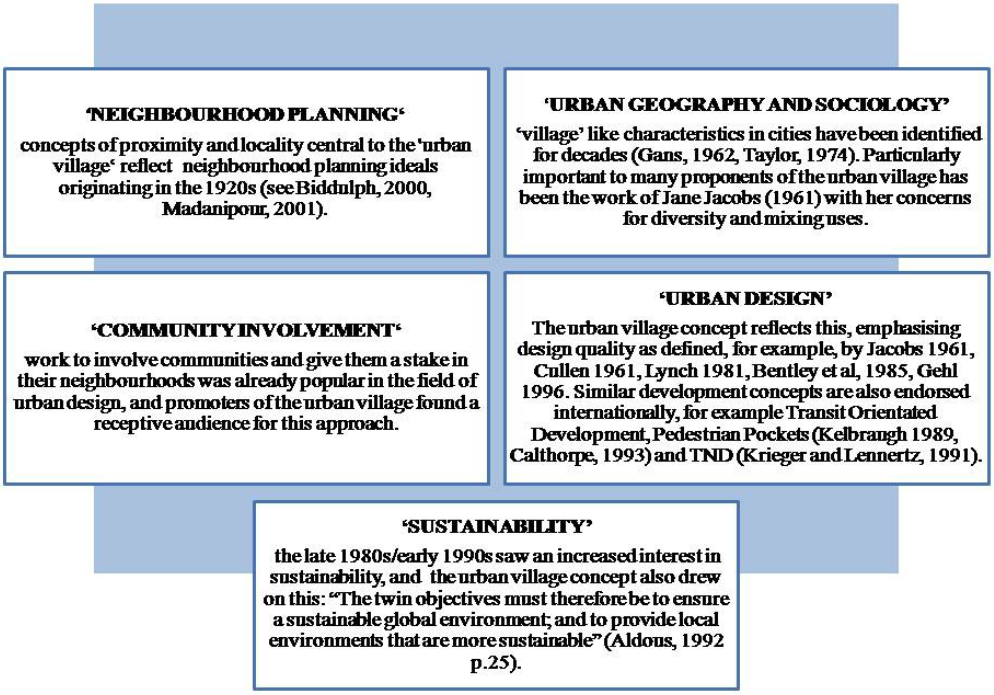


Figure 2.10: Legitimacy for the 'Urban Village' Concept was Derived through Adoption of a Variety of Discourses (Biddulph, Franklin, & Tait, 2002, p. 7)

At the end of the 1980s, the 'Urban Village' approach was suggested by the Urban Villages Group to provide mixed use urban areas and sustainable environments with building sense of community and sense of place (Biddulph, Franklin, & Tait, 2002, p. 9 as cited in Aldous, 1992). According to Hempel (1999), urban designers emphasize the importance of transportation issue for sustainable development. Especially, Engwicht (1993, as cited in Hempel, 1999) highlights re-organization and re-design of the transportation systems based on exchanging from movement to destination. In addition, the major problem of cities is the dependency of private automobile (Newman & Kenworthy, 1989 cited in Hempel, 1999). Another important subject of urban design is walkability. These urban design approaches focus on the high-density and mixed-use areas as they encourage walkability and accessibility (Hempel, 1999).

Among them, the most important one is the idea that a community should coexist with nature in a 'healthy, supportive, diverse and sustainable condition' (McDonough, 1992 cited in Hempel, 1999, p.55), and that it should have a well-defined edge, as well as a location, size, and character that permit the close integration of housing, jobs, attractive open space, cultural and recreational amenities, and facilities essential to the daily needs of citizens (Calthorpe, 1993 cited in Hempel, 1999, p.55).

2.4.2.3. Ecosystem management / Ecosystem-based management [5]

The welfare of human communities depends on healthy and viable ecosystems; therefore, the fundamental goals are sustainability of natural resources, improving their quality, and using all resources efficiently and fairly. Therefore, ecosystem management focuses on managing natural resources within dynamic ecosystems for promoting sustainable development (Leech, Wiensczyk, & Turner, 2009). Ecosystem management approach is an integrated approach including interaction among ecological, socio-cultural, economic and institutional issues in community design and development (Platt, Rowntree and Muick, 1996 cited in Hempel, 1999), and aims at conservation and enrichment of all ecosystems (Leech, Wiensczyk, & Turner, 2009; Hempel, 1999). Even though there has been a tendency towards integrating the human and ecological dimensions in recent years, socio-political factors in community design and development have generally been disregarded (Yaffee et al., 1996 cited in Hempel, 1999). In Quinn's definition,

> *"ecosystem-based management is an approach to guiding human activity using collaborative, interdisciplinary, and adaptive methods with the long-term goal of sustaining desired future conditions of ecologically bounded areas that, in turn, support healthy, sustainable communities"* (Leech, Wiensczyk, & Turner, 2009, p. 3).

> According to the handbook written by Coast Information, team ecosystem management is *"an adaptive approach to managing human activities that seeks to ensure the co-existence of healthy, fully functioning ecosystems and human communities. The intent is to maintain those spatial and temporal characteristics of ecosystems such that component species and ecological processes can be sustained, and human well-being supported and improved"* (Leech, Wiensczyk, & Turner, 2009, p. 3)

Ecosystem management approach is based on a regional approach to sustainability; it is, thus, close to the metropolitan approach (Hempel, 1999). The approach defines some regions called 'bioregion' including city and biological environment (Hempel, 1999, p. 58). A bioregion is determined as a region of "unique natural characteristics that occur throughout a

[5] *"In the literature, the terms ecosystem management (EM) and ecosystem-based management (EBM) are used more or less interchangeably. Some authors prefer the term EBM because it emphasizes the human role (i.e., makes it clear that we are managing people, not ecosystems). Others prefer EM because of concerns that EBM seems to put ecosystems above all other considerations. In general, the preferred term seems to be ecosystem-based management (EBM) is preferable to ecosystem management because it reflects the notion that the activity is the management of human interactions with the ecosystem rather than the ecosystem itself."* (Leech, Wiensczyk, & Turner, 2009)

particular geographic area" (Berg, 2002). Wheeler (2004, p. 136) defined a 'bioregion' as a "distinctive plant and animal communities that form a typical natural mosaic of ecosystems".

Bioregionalism, which is popular among the advocates of sustainable community, aims to develop an "understanding of ecological interdependence among ordinary citizens who share a particular bioregion, thus helping the residents recognize their personal stake in the proper management of ecosystems" (Hempel, 1999, p. 58). According to Berg (2002), bioregional approach aims to enhance and sustain natural systems, correspond and improve basic human needs such as food, shelter, water, energy, and cultural information. Bioregionalism determines that there are some subsystems within ecological communities, and human communities are one of the subsystems (Naess, 1989 cited in Hempel, 1999). In other words, this approach emphasizes that human settlements are a part of a bigger ecological system and that the role of human being is not the owner of the nature, but tenant of the nature (Hempel, 1999).

Increasing human populations rapidly cause some pressures on ecosystems and bring about some global problems such as climate change, global nutrition problems, global water problems, and endangered species. Therefore, all community members have some crucial responsibilities in both coping with these problems and sustaining their communities. As the environmental problems have become dangerous for the human life and all ecosystems, both national and global integrated preventive policies have been developed, and the negative impacts of the activities on the environment have been tried to be determined. Therefore, strategic planning has a very important role in order to manage and monitor the ecosystems. Strategic planning is both multi dimensional plan and multi actor process. Strategic spatial planning is the complete studies developed as a result of the associated work among stakeholders. In addition, the important points of strategic planning are management; control and monitoring while applying and after applying plan. Moreover, Geographic Information System and Remote Sensing Applications are very useful tools to monitor and analyze ecosystems by preparing different scale and layered maps.

2.4.2.4. Metropolitan governance theory

According to the metropolitan governance[6] theory, sustainable communities are defined as "communities that achieve and retain improvements in quality of life without diminishing the quality of life enjoyed by other communities, now and in the future" (Hempel, 1999, p. 59). This definition underlines governance which is required to achieve community-based sustainable development (Hempel, 1999; Kroen, 2009). This approach to sustainability and sustainable communities requires the adoption of a regional perspective:

> *"The point of this 'residentistic' account of communities is that sustainability may require something different: a 'community-of-communities' approach. The practical implication is that sustainable communities may have to be assessed regionally, if not globally. It is the interactions between communities as much as the interactions within that*

[6]This approach is named as 'new regionalism' by some North American researcher (Frisken & Norris 2001; Swanstrom 2001; Savitch & Vogel 2000 cited in Kroen 2009, 78) or 'new metropolitan governance' (Brenner 2003b cited in Kroen 2009, 78).

> *determine each community's potential for sustainability. The political implication of this argument is a renewed emphasis on regionalism and what I have termed glocalism"* (Hempel, 1999, p. 60)

The advocates of this approach claim that "a regional framework of governance is necessary for community-based concepts of sustainability to succeed" (Hempel, 1999, p. 60). The major reason behind this argument is the existence of strong interdependence of communities "which requires regional and sub-regional cooperation in promoting environmental quality and economic opportunity, discouraging trends and developments (e.g., excessive growth in population, resource consumption and undesirable land uses) that restrain regional capacity for ecological renewal and for political presentation, coordination and cooperation" (Hempel, 1999, p. 61).

> Richard Levi*ne (Hiss, 1996, p. 7 cited in Hempel, 1999, p. 61) suggests that 'metropolitan regionsisthe largest unit capable of addressing the many urban, architectural, social, economic, political, natural resource, and environmental imbalances in the modern world, and at the same time, the smallest scale at which such problems can be meaningfully resolved in an integrated and holistic fashion.*

The metropolitan governance approach has come to order again in North America, Western Europe and Australia since 1990s (Brenner, 2003b, 2002; Keating, 1998; OECD, 2001; McGuirk, 2005; Jouve, 2005 cited in Kroen 2009) due to some matters such as environmental degradation, sprawl development, and traffic congestion (Wheeler, 2002 cited in Kroen 2009). Metropolitanism takes notice of reliance on public-private partnership besides the consensus building in order to establish regional reciprocity (Hempel, 1999). Orfield (1997, as cited in Hempel 1999) supported that some coalition politics are required related to redistribution of regional resources and opportunities; therefore 'consensus building' has significant role to reach wealthy communities. According to him,

> *lies in building coalitions between inner city neighbourhoods and blue-collar suburbs for the purpose of forcing more equitable tax base sharing with wealthy suburbs, thereby helping to redirect urban expenditures towards a more balanced and integrated portfolio of environmental, social and economic investments, spread across diverse communities; moreover the infrastructure investment (transportation, energy, water and sewer systems) to create a more equitable and sustainable life among communities and citie" (Hempel, 1999, p. 61).*

2.4.3. Sustainable Community Models

Following the 1992 Earth Summit and the 2002 World Summit, sustainable community development has become more important than ever among the political agenda of many developed countries. The governments in these countries, such as United States and United Kingdom, have published policies and arranged legal documents to develop and enhance sustainable communities. This section explores the models which set out the major principles in order to achieve sustainable communities. It focuses on two different model approaches. The first one examines the policy examples from the UK which were particularly developed

by the UK government following the Industrial Revolution. The second one looks over the some particular policies from US examples which were developed after the Second World War.

The preference to choose US and United Kingdom examples mainly depends on the pioneering attempts of both countries at developing and improving theories, approaches and practices related to sustainable community concept. Those attempts, among the other ones, cover the development of new institutional structures and related centres which belong to both governmental and nongovernmental organizations. These organizations have been dealing with diverse concepts and issues all of which are directly related to sustainable communities.

It seems essential to overview the development of general urban politics and experiences before focusing on the sustainable community conception in two countries. This is important to evaluate and understand the past experiences and developments in both countries in order to assess the problems encountered during this process and the solutions developed for those problems. As a result, this brief summary helps to understand the process related to the development of sustainable community within the urban planning literature of these countries, and the conditions which have prepared this conceptual transformation and advancement.

2.4.3.1. Policy examples from the United Kingdom

After the Industrial Revolution, many problems such as pollution, unhealthy environment, and insufficient infrastructure led to dented urban areas and poor quality of life. In addition to these urban problems, the urban sprawl and decentralisation were determined as the main urban planning problems in UK (Alexander, 2009). The 'Garden City Movement'[7], which is based on combining the positive aspects of both urban and rural areas (married town and country), intended to produce self-contained settlements, and also was a pioneer for urban redevelopment (Kartal, 1979; Lock, 2003; TCPA, 2007). The Garden City idea segregates the residential and non-residential area; however, it provides accessibility to other areas such as employment areas and town centre. Also the green belt, helps restrain urban sprawl.(Mike Raco (2007, p.78) emphasized the term 'controlled expansion' (Lees, 2003; TCPA, 2007). In the UK's urban policy history, the Town and Country Planning Association (TCPA), which was founded in 1899, played a major role in promoting the Garden City Movement. The Garden City idea was proposed by Ebenezer Howard (1805-1928). The first example of Garden City was Letchworth (Parker and Unwin, in 1904), and the second was Welwyn Garden City (Louise de Soisson, in 1920) (Lock, 2003).

In the meantime, London was developing uncontrollably, and its urban problems were increasing; moreover, the Second World War affected the cities profoundly (Lock, 2003; Raco, 2007). Therefore, the cities destroyed in the war need comprehensive thorough 'tear down and rebuild' planning. In 1946, 'The New Towns Act' was accepted with the aim of re-planning the town (Lock, 2003; Raco, 2007; TCPA, 2007). 'New Towns Programme' was the largest housing building programme after the Second World War (Alexander,

[7]The book 'To-morrow: A Peaceful Path to Real Reform was written by Ebenezer Howard in 1898, and republished in 1902 under the more widely-known title of 'Garden Cities of Tomorrow' (TCPA, 2007).

2009). With this act, the United Kingdom was the first country which had an urban development policy (Kartal, 1979). Moreover, the programme built housing for over three million people and totally 32 new settlements between the years 1946 and 1970 (Woodcraft, Hackett, & Caistor-Arendar, 2011). New towns were built by 'development corporations' in metropolitan areas to restrict the development of large cities like London (Kartal, 1979). First of all, development corporations made a new-town plan, and then built its houses, physical infrastructure, commercial buildings and green areas (Kartal, 1979). Corporation was not selling the houses and commercial buildings; it was only renting them (Kartal, 1979). The New Town Programme provides important feedback; it shows that disregarding the community and social dimensions cause some problems in the long term:

> *If we are to have any chance of creating vibrant new communities that offer residents quality of life and that open up new opportunities - communities that are well balanced, integrated, sustainable and well connected- then we have to think about building for the wider needs of the whole community, not just focus on building homes*(Silverman, Lupton, and Fenton' 2005 cited in Woodcraft, Hackett & Caistor-Arendar, 2011, p. 15)

With 'the Town and Country Planning Act' in 1947, local authority produced a comprehensive local plan related to land use (Lock, 2003). Although the government tried to manage the urban growth and build new settlements, by the 1970s local planning authorities and policies were insufficient in combating poverty and social deterioration (Lock, 2003).

The former legislative documents of Town and Country Planning Acts which had a traditional planning understanding related to the years 1947 and 1968 had been already left behind. According to the 1947 policy approach, the plans were prepared and approved by the central authority which concluded land use decisions through the drawings on base maps within a regional planning format; in other words, the planning strategy mainly depended on the physical planning strategy and policy (METU, 1998). The 1968 Act of Town and Country Planning experienced and highlighted the social and economic resolutions (METU, 1998). Today's planning acts of the Local Government and Planning, which came into effect in 1980, and the Housing and Planning, which came into force in 1986, replaced the former Acts of 1947 and 1968. A more detailed analysis related to the new Acts is given in the following section (METU, 1998).

In the 1990s, the new term 'urban renaissance' emerged in the UK urban planning applications[8]. The term consists of "sustainable development, social inclusion, urban governance, wealth creation, health and welfare, crime prevention, educational opportunities, freedom of movement, good design, and environmental quality" (Lees, 2003, p. 66). It was used interchangeably with 'urban sustainability' in some important documents such as Urban Task Force and Urban White Paper (Lees, 2003, p. 67). The UK Government published Urban Task Force (UTF) report 'Towards an Urban Renaissance' in 1999, and

[8]There are some key terms related to urban planning applications in UK listed as 'reconstruction' in the post war years, 'renewal' and 'redevelopment' in the 1960s-1970s, 'regeneration' in the 1980s, 'renaissance' in the 1990s (Lees, 2003).

one year later in 2000 the Urban White Paper (UWP) 'Our Towns and Cities-The Future: Delivering an Urban Renaissance (Lees, 2003; Bell & Lane, 2009).

Urban Task Force emphasized the urban decay, and aimed to move residents into cities and urban neighbourhoods (Lees, 2003).

> *"The Urban Task Force will identify causes of urban decline in England and recommend practical solutions to bring people back into our cities, towns and urban neighbourhoods. It will establish a new vision for urban regeneration founded on the principles of design excellence, social well-being and environmental responsibility within a viable economic and legislative framework"* (DETR, 1999, p.1 cited in Lees, 2003, p.63)

Urban White Paper (UWP) is "a more holistic and inclusive approach that should be taken to regeneration, and proposed that Regional Development Agencies should drive the urban renaissance and sustainable communities agendas forward" (Bell & Lane, 2009). UWP based on 'a new vision of urban living' for cities, towns and suburbs propose "a high quality of life and opportunity for all, not just the few" (Lees, 2003, p. 64). There are some requirements to achieve high quality urban living:

- *"People shaping the future of their community, supported by strong and truly representative local leaders*
- *People living in attractive, well kept towns and cities which use space and buildings well*
- *Good design and planning which makes it practical to live in a more environmentally sustainable way, with less noise, pollution and traffic congestion*
- *Towns and cities able to create and share prosperity, investing to help all their citizens reach their full potential*
- *Good quality services –health, education, housing, transport, finance, shopping, leisure and protection from crime- that meet the needs of people and business wherever they are"*(Lees, 2003, p. 64).

The Local Government Management Board in the UK (1998) developed a model which defines the characteristics of sustainable communities that espouses the environmental, social and economic goals. The model aims to determine the key principles to achieve sustainable communities under the objectives of protecting environment, meeting social needs and promoting economic success. Table 2.7 summarizes the major policy actions to develop sustainable principles.

> "*Neighbourhoods need to comprise a mix of uses which work together to encourage formal and informal transactions, sustaining activity throughout the day. The mixing of different activities within an area should serve to strengthen social integration and civic life"* (DETR, 1999, p.40 cited in Lees, 2003, p.77)

Table 2.7: Sustainable Community Model Developed by Local Government Management Board, UK (DETR 1998)

A Sustainable Community Seeks to:	
Protect and enhance the environment	- Use energy, water, and other natural resources efficiently and with care - Minimise waste, then re-use or recover it through recycling, composting, or energy recovery, and finally sustainably dispose of what is left - Limit pollution to levels that do not damage natural systems - Value and protect the diversity of nature
Meet social needs	- Create or enhance places, spaces, and buildings that work well, wear well, and look well - Make settlements 'human' in scale or form - Value and protect diversity and local distinctiveness and strengthen local community and cultural identity - Protect human health and amenity through safe, clean, pleasant environments - Emphasize health service prevention action as well as cure - Ensure access to good food, water, housing, and fuel at reasonable cost - Meet local needs locally wherever possible - Maximise everyone's access to the skills and knowledge needed to play a full part in society - Empower all sections of the community to participate in decision-making and consider the social and community impacts of decisions
Promote economic success	- Create a vibrant local economy that gives access to satisfying and rewarding work without damaging the local, national, or global environment - Value unpaid work - Encourage necessary access to facilities, services, goods, and other people in ways which make less use of the car and minimize impacts on the environment - Make opportunities for culture, leisure, and recreation readily available to all

In the UK, the spatial and urban policy in the 2000s became increasingly concerned with the creation of sustainable communities (Raco, 2007). The term 'sustainable community' was proposed by the UK Government in 2003 (ODPM, 2004; Power, 2004; SDC, 2006; Academy for Sustainable Communities, 2007; Raco, 2007; Bell & Lane, 2009). In February 2003, the report titled 'Sustainable Communities: Building for the Future' was published by the Office of the Deputy Prime Minister (ODPM) (Power, 2004; Academy for Sustainable Communities, 2007; Raco, 2007; Bell & Lane, 2009). The Sustainable Communities plan has affected on the discourses of planning across the UK (Raco, 2007, p. 170).

> *"A wider vision of strong and sustainable communities is needed to underpin this plan, flowing from the Government's strong commitment to sustainable development. The way our communities develop, economically, socially and environmentally, must respect the needs of future generations as well as succeeding now. This is the key to lasting, rather than temporary, solutions; to creating communities that can stand on their own feet and adapt to the changing demands of modern life. Places where people want to live and will continue to want to live"* (ODPM, 2003, p. 5).

Table 2.8: What Makes a Sustainable Community? (ODPM, 2004)

According to ODPM (2003), The Sustainable Communities Plan identifies some of the key requirements of sustainable communities as being:

- A flourishing local economy to provide jobs and wealth;
- Strong leadership to respond positively to change;
- Effective engagement and participation by local people, groups and businesses, especially in the planning, design and long-term stewardship of their community, and an active voluntary and community sector;
- A safe and healthy local environment with well-designed public and green space;
- Sufficient size, scale and density, and the right layout to support basic amenities in the neighbourhood and minimise use of resources (including land);
- Good public transport and other transport infrastructure both within the community and linking it to urban, rural and regional centres;
- Buildings -both individually and collectively- that can meet different needs over time, and that minimise the use of resources;
- A well-integrated mix of decent homes of different types and tenures to support a range of household sizes, ages and incomes;
- Good quality local public services, including education and training opportunities, health care and community facilities, especially for leisure;
- A diverse, vibrant and creative local culture, encouraging pride in the community and cohesion within it;
- A 'sense of place';
- The right links with the wider regional, national and international community.

In 2003, the government launched the 'Communities Plan' (*Sustainable Communities: Building for the future*), which is programme for building sustainable communities in both urban and rural settlements. According to the plan, sustainable community should offer "decent homes at prices people can afford, good public transport, schools, hospitals, shops, a clean, safe environment, and open public space where they can relax and interact, and the ability to have a say on the way their neighbourhood is run" (Smith 2008). The plan also determines eight components of sustainable community which are governance, transport and connectivity, services, environment, equity, economy, housing and the built environment and society and culture (Table 2.9).

> *"… places where people want to live and work, now and in the future. They meet the diverse needs of existing and future residents, are sensitive to the environment, and contribute to a high quality of life. They are safe and inclusive, well planned, built and run, and offer equality of opportunity and good services for all"*(ODPM, 2005, p. 6; Raco, 2007, p. 167).

Table 2.9: Components of Sustainable Communities Identified in 2003 Community Plan (Academy for Sustainable Communities, 2007)

Governance	**Well run communities with effective and inclusive participation, representation and leadership.**
Transport and Connectivity	**Well connected communities with good transport services and communications linking people to jobs, health and other services.**
Services	**Public, private and community and voluntary services that is accessible to all.**
Environmental	**Providing places for people to live in an environmentally friendly way.**
Equity	**Fair for everyone in our diverse world and for both today's and tomorrow's communities.**
Economy	**A thriving and vibrant local economy.**
Housing and the Built Environment	**High quality buildings**
Social and Culture	**Active, inclusive and safe with a strong local culture and other shared community activities**

The two models of sustainable community suggested by the UK governments include scientifically, technically, economically and socially feasible goals. Nevertheless, to achieve these goals, there should be certain indicators. "In 2003, the UK government commissioned a review to clarify what the term community sustainability meant and to identify the necessary skills to create sustainable communities. The Egan Review, published in 2004, identified seven factors: governance, social and cultural, housing and the built environment, economy, environmental, services and transport, and connectivity" (Woodcraft, Hackett, & Caistor-Arendar, 2011, p. 15).

The Egan Review, published on 19 April 2004, consists of "the Egan Wheel". It has eight key components for defining the sustainable community:

- *"Active, inclusive and safe - fair, tolerant, cohesive,*
- *Well run - effective and inclusive participation,*
- *Well connected - good services, access and links,*
- *Well served - good public, private and voluntary services,*
- *Environmentally sensitive - caring for environment and resources,*
- *Fair for everyone - just and equitable,*
- *Thriving-flourishing and diverse economy and jobs,*
- *Well-designed and build - quality environment"* (Figure 2.11) (Brownill and Carpenter 2009, 257; Roberts 2008).

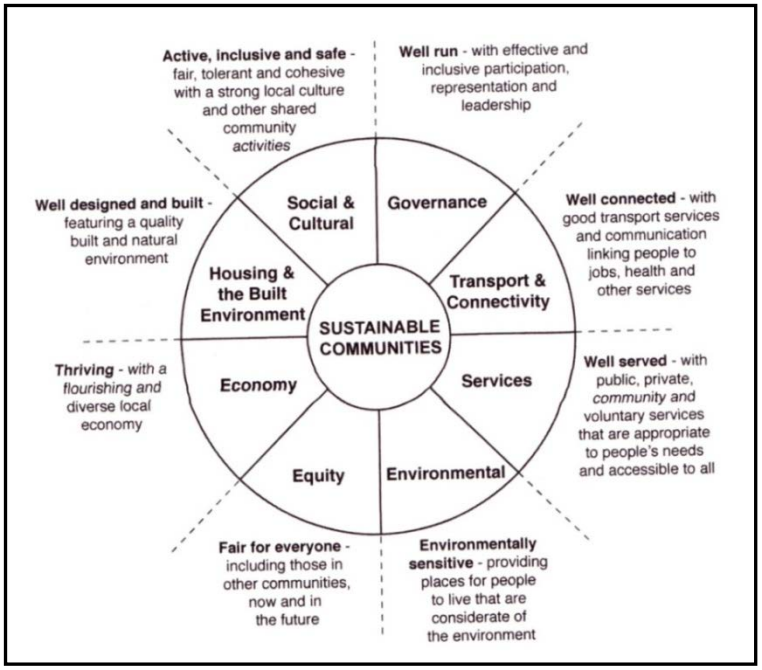


Figure 2.11: 'The Egan Wheel': Defining Sustainable Communities (Manzi et al. 2010, 17; Brownill and Carpenter 2009, 257; HCA Academy-Homes and Community Academy 2009; Active Citizenship Toolkit 2009; UK Presidency, Office of the Deputy Prime Minister December 2005)

The Bristol Accord on the sustainable community agenda was accepted in 2005(Colantonio & Dixon, 2011). The UK Office of the Deputy Prime Minister's (ODPM) Five Year Plans consist of two main titles 'Homes for All,' which focuses on housing affordability, and 'People, Place and Prosperity', which focuses on governance and neighbourhood revitalization(Colantonio & Dixon, 2011). The common point of both approaches is building and developing sustainable communities by the government. According to ODPM (2006), "the concept of sustainable communities can be considered as: the success of sustainable communities policies will depend on the effective interaction of spatial planning, transportation, the economy, the environment and a number of other policy interventions"(Colantonio & Dixon, 2011).

Table 2.10: Organisations in UK Engage in Sustainable Communities (Academy for Sustainable Communities, 2007)

"Identifying key professional and semi-professional organisations, representative bodies and statutory agencies concerned with building sustainable communities"	
Architects, Surveyors and the Built Environment	▪ **Royal Institute of British Architects** ▪ **Chartered Institute of Architectural Technologists** ▪ **Royal Institute of Chartered Surveyors** ▪ **Landscape Institute** ▪ **Commission of Architecture & the Built Environment** ▪ **Civic Trust**
Planning	▪ **Royal Town Planning Institute** ▪ **Town and Country Planning Association**
Housing	▪ **Chartered Institute of Housing** ▪ **National Housing Federation** ▪ **Housing Corporation**

Sustainable community planning aims to fulfill long-term socially, environmentally and economically feasible communities by focusing on some basic issues such as governance, transport and mobility, environment, economy, services, equity, diversity, mixed used, identity, citizens and residents participation, cooperation and involvement (Table 2.11) (Energie-Cities 2009).

Table 2.11: Basic Commitments for Liveable, Affordable, Sustainable Neighbourhoods and Communities (Energie-Cities 2009)

Governance	Well managed neighbourhoods with effective and inclusive participation, representation and leadership.
Transport and Mobility	Well connected communities with good transport services and communication linking residents to their work places and services (health, education, recreation, commercial areas etc). Residents should be able to assure as many of their needs as possible within walking distance from their homes. Good public transport infrastructure is essential in order to limit car use.
Environment	Providing the opportunity for people to live in an environmental friendly way (low energy consumption or passive buildings, minimised waste generation, recycling, use of natural and environmental friendly materials, minimising water consumption etc) and enjoying clean, safe surroundings.
Economy	A flourishing and lively local economy.
Services	Availability of public, private, community and voluntary services which are accessible to all residents.
Equity	Fair for each resident and for both present and future generations (decent homes at prices people can afford, services reasonably priced for all, public open spaces accessible to all).
Diversity	Create socially cohesive and diverse communities through a mix of social categories (mix of housing types and employment opportunities, shared community activities by all) and mix of generations.
Mixed used	As a crucial difference to existing suburbia areas which are often zoned (keeping separately residential areas from industrial and commercial quarters), a sustainable neighbourhood offers mix of functions (living, working, making use of recreational and commercial areas).
Identity	Active, inclusive and safe with a strong local culture and other shared community activities; provide the sense of community and belonging that many residents seek. Therefore, each neighbourhood needs a clear centre (a place where residents can find shops, social and cultural activities etc).
Citizens and residents participation, cooperation and involvement	Residents need to interact and be involved in the co-creation of their neighbourhood and they need to have a say on the way their community is managed. Neighbourhoods do more than house people; they form a support for wider activities, providing many of the social services that link residents with each other, giving rise to a sense of community.

2.4.3.2. The United States Polices

The great migration wave to the United States and its urban areas between 1915 and1930 and the Great Depression beginning in 1929 led to massive social, economic, physical and cultural changes in the United States and its cities (Keating, 1999; Gotham, 2001; American Planning Association, 2006). Following the Second World War and the second migration wave between 1940 and 1970 markedly affected the demographic pattern of cities and the socio-economic composition of urban residents (Keating, 1999; American Planning Association, 2006). According to the American Planning Association, while the great migration resulted in ‘ghettoization’ of neighbourhoods in urban areas, the second migration wave resulted in ‘ghetto expansion’ and ‘second ghettos‘(American Planning Association, 2006). In other words, these two heavy migration processes led to new ethnic and racial isolated neighbourhoods in the urban areas.

Many American cities suffered from both physical and socio-economic deterioration of inner-city areas after the Second World War (Gotham, 2001). The middle and upper income residents starting to move out of inner-cities and into suburban areas to create their homogenous communities and get rid of the problems of urban areas are known as a 'white flight', which is one of the dynamics of suburbanization,(Peterman, 2000). On the other hand, the residents of distressed urban neighbourhoods in inner-cities had to face massive problems such as poverty, unemployment, physical deterioration of building, poor public services, vacant open spaces, and social and spatial exclusion (Keating, 1999). The emergence of polarization and the fragmentation in inner-city was explicitly dominant between small populations of upper income residents and the majority of low income residents (Becker & Collins, 2000).Social inequalities and social exclusion in urban areas seem to have caused social and spatial differentiation and segregation. 'Ghettoization', which is one of the results of social and spatial differentiation and segregation, and "white flight" created large spatial inequalities and inefficient land use pattern (American Planning Association, 2006).

In the United States, a number of local, state, and federal efforts have been undertaken since the twentieth century; most of them have focused on the construction of new housing and reinforcing financial markets. Others have emphasized the prevention of inner-city decline and rehabilitation of an aging housing stock (Ahlbrandt & Brophy, 1975).Indeed, the federal government have become effective on policies and programs related to poorer quality and deteriorated urban neighbourhood and have shaped neighbourhood initiatives (Kaplan, 1991; Keating, 1999). Therefore, if the federal policies and applications can be evaluated historically, it can shed light onto the approaches of the Unites States related to neighbourhood revitalization and the past evolution of distressed neighbourhoods.

According to Rosenthal (1988), the federal government has invested significant physical and financial resources for two main purposes. First, they hoped to provide affordable housing and improve the equal and adequate housing opportunities for low and moderate income residents (public housing, rental and home ownership subsidy programs). Secondly, they aimed at revitalization of central cities, community development and neighbourhood preservation (Rosenthal, 1988). On the other hand, Peterman (2000) asserted that the federal urban policy focused on the elimination of slums, the reuse of land for middle-class housing and the revitalization of city cores following the Second World War (Peterman, 2000). According to researchers, the federal policies and efforts have both positive and negative impact; for example, "while urban renewal have been piecemeal and haphazard, urban development action grant program have been qualified and accomplished" (Keating, 1999, p. 14; Becker & Collins, 2000, p. 5).

The federal government had managed the urban redevelopment and renewal programs since the mid 1940s. The lifespan of dominant federal-aided urban redevelopment and renewal programs were between 1949 and 1973 (Hommann, 1993). The dominant status of federal government initiatives reshaped community planning as a contemporary approach after the Second World War (Gilbert & Specht, 1977). With the US Federal Housing Act of 1949, the federal government planned "a decent home and suitable living environment for every family, contributing to development and redevelopment of communities and to the advancement of the growth, wealth and security of the nation"(Gilbert & Specht, 1977, p. 2;

American Planning Association, 2006, p. 79). Therefore, the main objectives of federal government for urban redevelopment was the clearance and rebuilding of slum neighbourhoods and completely deteriorated areas and the construction of new building and financing public housing (Keating, 1999; Becker & Collins, 2000; American Planning Association, 2006).

According to Keating (1999), urban redevelopment programs, which were directed by the Federal Housing Act of 1949, led to exacerbate urban economic, social and residential patterns. Moreover, the great amount of low rent housing estates was demolished, and residents were displaced by urban redevelopment/urban renewal and slum clearance (federal bulldozer or urban removal) in the 1950s and 1960s, and these were never replaced by comparable units (Gilbert & Specht, 1977; Hommann, 1993; Halpern, 1995; Keating, 1999). Although one of the objectives of the Housing Act of 1949 was to provide public housing, limited amount of land could be redeveloped for public housing, and generally it could not provide sufficient amount of housing estates for the slum residents to be displaced from sites(Keating, 1999; Gotham, 2001).

With the Housing Act of 1954, the name of the program 'urban redevelopment' was changed into 'urban renewal'; in other words, the phase of 'urban renewal' was popularized with the Housing Act of 1954 (Gotham, 2001). The programs of federal government policy shifted from the redevelopment and slum clearance to rehabilitation areas in the year of 1954 (Kelly, 2004). On the other hand, slum clearance for urban redevelopment and renewal continued by the federal government as the legitimate 'public interest' in the 1950s and 1960s (Gilbert & Specht, 1977). Becker and Collins (2000) claimed that 'the Urban Renewal Program', which continued between 1949 and 1974, did not achieve upgrading socio-economic conditions of central city resident (Keating, 1999; Becker & Collins, 2000). The Housing Act of 1954 required both municipalities as a local government to manage building and housing code enforcements, and communities manage the enforcement of housing and neighbourhood plans (Ahlbrandt & Brophy, 1975; Kelly, 2004).

Furthermore, the Housing Act of 1954, which supplied rehabilitation of housing projects, consisted of a new approach to planning called 'Workable Program', which aimed to develop an action plan for urban renewal (Kelly, 2004; Conant & Myers, 2006). The Workable Program focused on community improvement and comprehensive master plan to constitute social, economic and racial mixed communities besides codes and ordinances which outlined required building standards to prevent the deterioration of housing (Kelly, 2004; American Planning Association, 2006). Below are some planning requirements related to Workable Program (Kelly, 2004, p. 147):

- *"Projecting future land-use needs; areas to be used for residential, commercial and industrial purposes and ,*
- *Thoroughfare plan; consisting of system of existing and proposed major streets,*
- *Community facilities plan; location and type of current and proposed schools, recreation areas and public facilities,*
- *Public improvements program; recommendations for future public facilities,*
- *Zoning ordinance and map; zoning districts clearly marked according to land use,*

- *Subdivision regulation plan; including standards for adequate lot sizes and arrangements, utilities and street improvements"*.

Starting with Workable Programs required establishment of a comprehensive plan which should include solutions to reduce or overcome social, physical and economic problems in the decayed and slum areas (Conant & Myers, 2006). In addition, the program provided both code enforcement and relocation assistance for housing for displaced families, and community participation to include poor and minority groups in community renewal planning process (Kelly, 2004; American Planning Association, 2006; Conant & Myers, 2006). On the other hand, according to Keating (1999, p. 3), "many distressed urban neighbourhoods and their cities had to face the massive problems of industrial decline, a shrinking tax base, and automobile culture fueling urban sprawl, a breakdown in family structure, racial tensions, crime, and drugs after mid-century"

In the 1960s, the urban policy started to transform with the effects of civil right movements (Gilbert & Specht, 1977). Indeed, the civil rights movement which was against the discrimination in housing and jobs and also social and spatial segregation was dominant in the 1950s-1960s. However, in the 1960s, civil right movements gained greater importance, and many riots broke out (1964-1968) such as New York's Harlem (1964), Los Angeles's Watts (1965), Cleveland's Hough (1966), and Detroit's Twelfth Street (1967)(Becker & Collins, 2000). This urban predicament led to resistance against displacement, discrimination and segregation which was produced by urban redevelopment and renewal; therefore, the approach of federal urban policy had shifted from physical redevelopment to socio-economic revitalization in the 1960s although "this pragmatic shift was short-lived" (Becker & Collins, 2000). In 1968, Civil Rights Act (Fair Housing Act) which ended social and spatial discrimination was established (American Planning Association, 2006). While between the 1920s and the 1960s, the urban policy, generally focused on physical dimension of neighbourhood planning[9], urban policy from the mid-1960s to the 1970s concentrated on community action approach with an emphasis on political dimension to dealt with poverty by increasing citizen involvement (Burkholder, Chupp, & Star, 2003)

The United States' urban policy has focused on neighbourhood revitalization since the early 1960s and has invested significant physical and financial resources to revitalize inner-city areas (Kaplan, 1991; Becker & Collins, 2000). The revitalization strategies substantially dealt with distressed neighbourhoods which needed the larger investment and attributes of neighbourhoods (Turnham & Bonjorni, 2004).According to Ahlbrandt and Brophy (1975, p.5), "neighbourhood decline is a process which occurs over time and at varying rates". The strategy of neighbourhood and community revitalization depends on the conditions of an area, problems of the neighbourhood, opportunities and disadvantages of the community, and the rate of decline (Ahlbrandt & Brophy, 1975). By the mid 1960s, local and federal governments became "convinced of the necessity of marrying programs of social and physical improvement" (Washnis, 1974, p. v).

[9] "*Neighbourhood planningis a process whereby residents and other stakeholders learn about their neighbourhood, envision a shared future and develop strategies to shape it for the better and sustain it for the long term. The process results in a plan that encourages and directs future social and economic investments toward the development of a healthy neighbourhood"*(Burkholder, Chupp, & Star, 2003, p. 9)

In 1965, the Department of Housing and Urban Development (HUD), which aimed at building strong and sustainable communities, improving quality of life, and providing affordable housing programs for low income families, was established by the Department of Housing and Urban Development Act 1965(Rosenthal, 1988; Keating, 1999; Becker & Collins, 2000; American Planning Association, 2006; HUD, 2010). In 1966, HUD started an ambitious project called 'Model Cities' as a federally assisted community development program to deal with major problems of urban areas with the Demonstration Cities and Metropolitan Development Act of l966 (or the Model Cities legislation) which emphasized comprehensive planning to rebuilding and rehabilitation physical and social structure of cities by concentrating both federal and local resources (Gilbert & Specht, 1977; Rohe & Gates, 1985; Keating, 1999; Becker & Collins, 2000; American Planning Association, 2006). The Model Cities Program, which was a federal initiative, aimed to provide assistance and grants to community group and cities to revitalize the selected poor neighbourhoods and deteriorated districts in urban areas besides community participation (Kaplan, 1991; Keating, 1999; American Planning Association, 2006). One of the notable achievements was improved management, coordination, and planning techniques of local government besides providing citizen involvement issue (Washnis, 1974). Nevertheless, the Model Cities Program faced some problems such as inadequate funding, poor planning, and loss of presidential support; therefore, it could not reach its objectives entirely, and it ended in 1974 (Washnis, 1974; Keating & Smith, 1996; Keating, 1999; Becker & Collins, 2000).

In 1974, Housing and Community Development Act was established, creating 'the Community Development Block Grant Program (CDBG)' instead of Model Cities Program (Rohe & Gates, 1985; HUD, 1995; American Planning Association, 2006). CDBG, which was one of the major programs (bottom-up approach) of HUD, was the main housing improvement program, directed by the federal government besides an entitlement to state and local government (Varady, 1986). The CDBG program had a common goal to "reduce disparities in well-being among neighbourhoods"(Turnham & Bonjorni, 2004, p. 13) The objectives of the program were encouraging citizen participation, acquiring suitable living environment, increasing quality of social services, ensuring decent affordable housing, providing rehabilitation of housing estates, creating jobs, and increasing physical and economic situation for low and middle income communities(Varady, 1986). HUD determined the 'successful neighbourhood revitalization strategies' as follows:

- *"to obtain commitments to neighbourhood building,*
- *To make neighbourhoods attractive for investment,*
- *To generate neighbourhood participation,*
- *To support the use of neighbourhood intermediary institutions,*
- *To foster the growth of resident-based initiatives"* (Turnham & Bonjorni, 2004, p. 14)

Although the CDBG program was one of the wide-range and enthusiastic neighbourhood upgrading programs, little attention was given to racial issue, nor was it specific to communities which created comprehensive community revitalization strategies (Varady, 1986; Turnham & Bonjorni, 2004).

In 1977, the Housing and Community Development Act created 'the Urban Development Action Grants (UDAG)' which provides a funding system for poor and distressed communities for residential, commercial and industrial revitalization purposes (HUD, 1995;

Becker & Collins, 2000; American Planning Association, 2006). Neighbourhood Self Help Development Act (NSHD) enacted in 1978 (Bratt, 1985). The act of 1978 aimed to conserve and revitalize urban neighbourhoods by providing assistance to neighbourhood organizations in order to understand the need of their own communities, and also funding the programs which meet the needs and objectives of community (Bratt, 1985; Keating, 1999).

The role of the federal government in inner-city areas significantly diminished and several federal urban programs had to be ended due to the recessions during the 1980s (Becker & Collins, 2000). In other words, the federal government retreated from revitalization efforts in cities in this period. In the years between 1982 and 1992, the responsibility of urban revitalization efforts devolved to state and local government because the federal initiative had been impotent and inadequate (Marciniak, 1981; Becker & Collins, 2000). According to Halpern (1995), accumulated misguided initiatives in the 1950s and overwhelmed initiatives in the 1960s, besides the energy crisis of the 1970s which slowed the urban growth, started to produce some problems in urban areas such as deterioration in urban neighbourhood, devastation of housing stocks, corruption of social institutions, homelessness, service unavailability and inefficiency, increasing crime rate in the 1980s (Halpern, 1995; Lawrence, 2001). According to Mincy and Weiner (1993), the number of people living in distressed neighbourhoods and suffer from poverty grew from 3.8 million to 10.4 million between 1970 and 1990(Keating, 1999). The number of community-based organization in deteriorated inner-city areas increased in this period; however, community-based organizations which achieved community order and encouraged community/neighbourhood spirit failed to solve devastation facing the inner-city areas(Lawrence, 2001). Since the mid-1980s, new theories and strategies such as welfare-to-work initiatives, poverty dispersal strategies, mobility strategies, self-sufficient initiatives linked to public housing subsidies, and community-based initiatives (such as Renewal Community, Empowerment Zones and Enterprise Communities) have developed by governments and researchers to deal with poverty and decay in inner-city areas(Lawrence, 2001).

'Empowerment Zones and Enterprise Communities', which are important community revitalization strategies, were administered by HUD from 1994 to 2010. According to HUD's report (2010), whose title is 'Interim Assessment of the Empowerment Zones and Enterprise Communities (EZ/EC) Program', EZs/ECs programs aims "to encourage comprehensive planning and investment aimed at the economic, physical and social development of the neediest urban and rural areas in the United States"(HUD, 2010). In 1993, the federal government adopted the zone programs called 'Empowerment Zones (EZs)/ Enterprise Communities (ECs)' as a community-based initiative which aimed to provide funding opportunities and tax incentives to distressed urban and rural communities ("the urban areas designated by HUD, and the rural areas designated by the U.S. Department of Agriculture")(Hirasuna & Michael, 2005; Oakley & Tsao, 2006). Actually, 'Enterprise Zones' originated in England in the 1970s; following in the early 1980s, resident states enacted the zone programs (Hirasuna & Michael, 2005). By 1985, at least 40 states had passed the enterprise zone legislation and determined elements of zone programs in terms of their needs and visions (Hirasuna & Michael, 2005).

The main objective of enterprise zone is encouraging economic revitalization in blighted neighbourhoods (Becker & Collins, 2000). "Enterprise zone programs designate specific areas as 'zones' that qualify for lower taxes and, in some cases, less government

regulation"(Hirasuna & Michael, 2005, p. 2). Empowerment Zones (EZs)', which is community revitalization strategy, combine place-based strategies (i.e., enterprise zones) and people-based strategies (education, job training)(Becker & Collins, 2000). The Empowerment Zones include some similarities with the 1966 Model Cities Program and also EZs program was developed based on the evaluations and lessons derived from Model Cities (Krumholz & Star, 1996; Becker & Collins, 2000).

The EZs/ECs programs[10] were based on comprehensive community based strategic planning and investment that aimed to pursue an integrated approach addressing the economic, physical and social revitalization of distressed urban and rural communities/neighbourhoods besides enhancing community development and community involvement/participation (Halpern, 1995; Oakley & Tsao, 2006; HUD, 2010). Empowerment Zone (EZs) required four fundamental principles: "i) strategic vision for change, ii) community-based partnership, iii) economic opportunity, and iv) sustainable community development" (Turnham & Bonjorni, 2004; Oakley & Tsao, 2006; HUD, 2009).

- ***Strategic Vision for Change;*** in the EZs program local government prepare a strategic plan which includes definition of problems, community needs assessment, short/long term realistic objectives and strategies for achieving these goals, strength and weakness/opportunities and threats. In addition, the strategic plan should determine "vision" for future which explains how to create economic development and self-sufficiency, and encourage sustainable community development (HUD, 2009). Strategic plan and process set outs performance standards for measuring progress (Oakley & Tsao, 2006; HUD, 2009).

- ***Community-based Partnership*;** encouraging community involvement/participation, and interaction among all stakeholders (such as state-federal-local governments, local business, community organizations, local public health and social service departments, environmental groups, faith-based organizations, schools and universities, and residents)(HUD, 2009). The principle provides a coordination public and privates resources in the revitalization of distressed neighbourhoods (Oakley & Tsao, 2006).

- ***Economic Opportunity*;** the first priority in revitalizing the distressed neighbourhoods is providing employment opportunities, job training and job placement services for residents in order for the community to become economically self-sufficient (HUD, 2009). Authorized organizations and governments help to overcome some economic problems such as transportation, child care, and low quality job skills (HUD, 2009).

[10]In December 1994, 71 urban areas (the six sites designated as Empowerment Zones) were designated as the EZs/ECs (Turnham and Bonjorni 2004, 10). In 1994 (December 24), in the first-round, six cities were designated; *Atlanta(GA), Baltimore(MD), Chicago(IL), Detroit(MI), New York(NY), and Philadelphia-Camden(PA). Additionally,* two supplemental zones Los *Angeles(CA) and Cleveland (OH)* received Empowerment Zone funding to implement their plans and programs for revitalizing distressed neighbourhoods(Krumholz & Star, 1996; Gittell, Newman, & Pierre-Louis, 2001; Oakley & Tsao, 2006). In 1998 (December 31), second-round designations were announced; 20 designations (15 urban and 5 rural areas) added to EZs program (15 urban areas were in; *Boston (MA), Cincinnati(OH), Columbia(SC), Columbus(OH), Cumberland County(NJ), El Paso(TX), Hungtington(West Wirginia, OH), Gary(East Chicago, IL), Knoxville(TX), Miami(FL), Minneapolis(MN), New Haven(CT), Norfolk (VA), Santa Ana(CA), St.Louis(Missouri, IL)*(Gittell, Newman, & Pierre-Louis, 2001).

- ***Sustainable Community Development*;** increasing the quality of life and creating sustainable, liveable and vibrant communities by the way of comprehensive community-based strategic planning to revitalization which integrate social, human, community, economic, environmental development. Accordingly,

  > sustainable community development principle *"should preserve the environment and historic landmarks, address 'brownfields' clean-up and redevelopment, explore the economic development advantages of energy efficiency and the use of renewable energy resources, and improve the quality of and/or access to health care and human services, education, child care, affordable housing, transportation and public safety. A community where the streets are safe, the air and water are clean, housing is affordable and secure, and human services are accessible, and where a vital civic spirit is nurtured by innovated design, is a community that can be a source of strength and hope for its residents*(HUD, 2009).

The 'HOPE VI' program, which was sponsored by the U.S. Department of Housing and Urban Development (HUD), was designed in 1993 with the aim of addressing distressed public housing developments in inner-city neighbourhoods (Turnham & Bonjorni, 2004). According to the report named 'A Decade of HOPE VI: Research Findings and Policy Challenges', this effort is "one of the most ambitious urban redevelopment programs, providing housing assistance for the poor families, in the United Nation's history" (Popkin, et al., 2004, p. 1). This long-term process program consists of demolition, rebuilding and redevelopment efforts in revitalization areas. In contradiction to past housing redevelopment program, HOPE VI focuses on the following objectives: to build sustainable communities, provide public-private partnerships, enhance home ownership, adherence to principles of 'new urbanism' and neighbourhood-wide redevelopment (Popkin, et al., 2004; Turnham & Bonjorni, 2004).

In 1996, HUD conducted a survey throughout the country related to evaluation of homeownership and revitalization (Kirchner, et al., 2007). Based on the results of the survey, 'New American Neighbourhoods: Building Homeownership Zones to Revitalize Our Nation's Communities', HUD created 'Homeownership Zones (HOZ)' project[11] as a part of large-scale national strategy focused on expanding homeownership development for revitalizing blighted neighbourhoods (Turnham & Bonjorni, 2004; Kirchner, et al., 2007). In order to revitalize vacant buildings and develop homeownership, HUD provided a seed money for communities (Turnham & Bonjorni, 2004).

[11]In order to benefit the funding, more than 100 applicants submitted proposal, and in 1997 (April 8) the first six HOZ winning proposals were awarded; *Sandtown-Winchester in Baltimore(MD), Willert Park Village in Buffalo(NY), Villages of Central in Cleveland(OH), Park DuValle in Louisville(KY), Cecil B. Moore in Philadelphia(PA), and Del Paso Nuevo in Sacramento(CA)*(Kirchner, et al., 2007). In 1997 (July 7), HUD announced another funding program on the behalf of Homeownership Zones program, and almost 70 applicants submitted proposals (Kirchner, et al., 2007). In 1998 (March 27), the results of new funding program announced, and the additional six districts were awarded; *University Park in Flint(MI), Fall Creek Place in Indianapolis(IN), Long Beach(CA)(withdrew from HOZ program), Mount Morris in New York City(NY), Cantera Peninsula in San Juan(Puerto Rico), and Canal Banks in Trenton(NJ)*(Turnham & Bonjorni, 2004; Kirchner, et al., 2007). In both two rounds, most of cities chose their HOZ neighbourhoods within their Empowerment Zones or Enterprise Community areas (Kirchner, et al., 2007).

HOZ neighbourhoods use funding to create single-family housing estates and revitalize neighbourhood in the light of the principles of 'new urbanism' (Turnham & Bonjorni, 2004; Kirchner, et al., 2007). HUD and the Congress for New Urbanism (CNU) worked together and prepared 'The Principles for Designing and Planning Homeownership Zones Guide', which was published in July 1996(Kirchner, et al., 2007). These principles[12] are summarized as follows(Kirchner, et al., 2007, pp. 10-11).

- *"Neighbourhoods should be compact, pedestrian-friendly, mixed-income and mixed-use; citizens should be encouraged to take responsibility for maintenance, evolution of their neighbourhood, and protect their communities,*
- *Areas of daily living activities should be accessible within walking distance (especially for elderly and young residents who cannot drive); an interconnected network of streets should be designed to encourage walking; promote public transportation, reduce the number of automobile usage, and conserve energy,*
- *Neighbourhoods should have many housing types and levels to bring people of diverse ages, races, and incomes into daily interaction in order to enhance the community bonds essential to authentic community,*
- *Architecture and landscape design should define streets and public spaces as areas of public use; the design of streets and buildings should reinforce safe and comfortable environments but not at the expense of accessibility and openness,*
- *Architecture and landscape design should grow from local climate, topography, history, and building practice; all buildings should provide their inhabitants with a clear sense of location, weather, and time; designs should incorporate natural methods of heating and cooling,*
- *There should be many public spaces/open spaces which promote concentrations of civic, institutional, recreational, and commercial activities; and many community gardens and parks should be distributed within neighbourhoods,*
- *The preservation of historic buildings and landscape should be provided".*

In 1996, another important program, called 'Community Outreach Partnership Centre Program (COPC)' was established by HUD. This program is different from others in term of its method; it aims at community revitalization through community and university partnerships (Turnham & Bonjorni, 2004). The COPC program supported a broad range of community development and revitalization activities, including improvement housing, increasing quality of physical environment, providing some technical assistance, education programs and life skills training, economic development, and information technology (Turnham & Bonjorni, 2004). According to participants, 67% of COPC projects is partially successful, %45 of COPC activities is fully successful, and only %10 of COPC projects failed or never got started (Turnham & Bonjorni, 2004).

> In the United States, President's Council on Sustainable Development (1997) defines sustainable communities as *"healthy communities where natural and historic resources are preserved, jobs are available, sprawl is contained, neighbourhoods are secure, education is lifelong, transportation and health*

[12] These principles were adopted from the final report *"Interim Evaluation of HUD's Homeownership Zones Initiatives"* produced by Kirchner, et al. in 2007, produced for U.S. Department of Housing and Urban Development (HUD).

care are accessible, and all citizens have opportunities to improve the quality of their lives" (Table 2.12)(US The President's Council on Sustainable Communities Task Force, 1997).

Table 2.12: Task Force Policy Recommendations (US The President's Council on Sustainable Communities Task Force, 1997)

- ***Community-Based Public Dialogue, Planning, Priority- Setting, and Implementation***
  Bring people together to identify, prioritize, and learn about key issues in their community; develop a vision of what they want their community to be; set goals for realizing that vision; establish indicators for measuring progress; identify the resources needed to reach the goals; and implement actions that will advance them.
- ***Open and Inclusive Decisionmaking***
  Encourage and facilitate open and inclusive decisionmaking processes.
- ***Access to Information on Sustainable Communities***
  Increase the ability of communities to improve their economic, environmental, and social well-being by improving access to usable information about sustainable communities initiatives, and disseminating that information to interested parties and key decisionmakers.
- ***Cooperation Among Communities***
  Encourage the communities within a region to work together on issues that transcend their political boundaries.
- ***Building Design and Rehabilitation***
  Streamline processes and encourage design and rehabilitation of new and existing buildings to use energy and materials efficiently, enhance public health, preserve historic and natural settings, and contribute to a sense of community identity.
- ***Community Design***
  Design new communities and improve existing ones to use land and infrastructure efficiently, promote mixed-use and mixed-income development, retain public open space, and provide diverse transportation options to integrate the places in which people live and work with the natural environment.
- ***Reduce Sprawl and Promote Smarter Growth***
  Reduce sprawl and promote smarter geographical growth of existing communities and the siting of new ones to enhance economic opportunities and meet future needs while conserving open space and respecting the carrying capacity of the natural environment.
- ***Creation of Strong, Diversified Local Economies***
  Promote economic development strategies that capitalize on unique local attributes and on technological advances in energy and resource efficiency, to create jobs and build strong, diversified local economies.
- ***Basic Education, Job Training, and Lifelong Learning***
  Expand and coordinate education and job training programs to allow all people to expand their knowledge and improve their ability to adapt to the changing job market and participate in community affairs as informed, educated citizens.
- ***Cleanup and Redevelopment of Brownfield Sites***
  Create partnerships with community residents, environmental organizations, community development corporations, lenders, businesses, and all levels of government to clean up, redevelop, or stabilize brownfield sites.
- ***Financing Sustainable Communities***
  Create partnerships to remove barriers to and expand access for financing innovative community initiatives.
- ***Public Safety***
  Encourage citizens, law enforcement, and governments to work together to make communities safer.
- ***Community Environmental Protection Pilots***
  Explore the feasibility and effectiveness of alternative environmental regulatory systems through community-level pilot programs.
- ***Pollution Prevention Partnerships***
  Increase public-private pollution-prevention efforts at the community level.
- ***Prevention and Natural Disaster Reduction***
  Shift the focus of the federal disaster relief system from cure to prevention.

There are some other community development and neighbourhood revitalization programs which are sponsored by several foundations and institutions except for HUD. These programs are as follows:

- 'Building Sustainable Communities' sponsored by Local Initiatives Support Corporation (LISC)
- 'Living Cities' sponsored by The National Community Development Initiative
- 'Neighbourhood and Family Initiative (NFI)' sponsored by Ford Foundation

- ‘Comprehensive Community Revitalization Program’ sponsored by Surdna Foundation
- ‘Rebuilding Communities Initiative’ sponsored by Annie E. Casey Foundation

‘Local Initiatives Support Corporation (LISC)’, which is the largest community development organization in the US, was founded in 1979. LISC aims to build sustainable communities and improve the quality of life in distressed neighbourhoods; therefore, it determines five fundamental essential issues; enhancing built environment, increasing family income and assets, strengthening economic vitality, accessing education, and supporting health and environment (LISC, 2009). The program provides loans, grants, investment opportunities, technical and management assistance by ensuring participate in their communities.

The ‘Living Cities’ program has been funded since 1991.The first decade of the program was managed in three rounds (1991-1994, 1994-1997, and 1997-2001); the second decade was between the year between 2001 and 2011 (Turnham & Bonjorni, 2004). The program includes real estate projects, non-real estate projects, and increasing community capacity projects. It focused on four targeted pilot cities (Baltimore, Chicago, Miami, Twin Cities) in the new decade period (2001-2011)(Turnham & Bonjorni, 2004). Based on an integrative approach, it addresses housing, job opportunities, asset buildings.

‘Neighbourhood and Family Initiative (NFI)’, which was began by Ford Foundation in May 1990, is a comprehensive community development program aiming to improve physically, socially and economically the four targeted neighbourhoods in four cities (Detroit, Hartford, Memphis, and Milwaukee)(Gittell & Vidal, 1998; Turnham & Bonjorni, 2004). The program focused on setting priorities and needs assessments of neighbourhood within the strategic planning process. Therefore, while comprehensive change is one of the important principles of the program and provides comprehensive assessment of the social, economic, and spatial needs and priorities of neighbourhood, citizen cooperation is also important (Turnham & Bonjorni, 2004). The NFI program consisted of revitalizing the physical environment (such as repairing, renovation, and beautification), leveraging of community capitals (social, economic, human capital, etc.) for community development/neighbourhood improvement and creating synergies among different types of community capitals, and enhancing economic development (Turnham & Bonjorni, 2004).

The ‘Comprehensive Community Revitalization Program’ was initiated by Surdna Foundation in 1992 and was sponsored by multiple partners in the end of the 1990s (Spilka & Burns, 1998; Turnham & Bonjorni, 2004). The program aims to enhance capacity building for four poor neighbourhoods in South Bronx, NY and addressing social and economic needs of neighbourhoods (Turnham & Bonjorni, 2004). The principles of the program are given below (Turnham & Bonjorni, 2004):

- *“Selection of community-based organizations to take the lead in neighbourhood organizing,*
- *Strengthening local collaborations and linkages,*
- *Improving access to skills training, jobs, and education,*
- *Improving social and other services,*
- *Boosting economic development,*
- *Addressing environmental concerns”.*

Annie E. Casey Foundation, which is a private charitable organization, sponsors many programs about disadvantaged children and families besides community revitalization. One of the projects of the foundation was 'The Rebuilding Communities Initiative (RCI)', which was launched in 1993 with the aim of building safer and more convenient places and increasing the capacity of distressed neighbourhoods (Turnham & Bonjorni, 2004). It consisted of three phases: "planning, capacity building, and implementation with the following objectives" (Turnham & Bonjorni, 2004):

- *"Improving housing and infrastructure,*
- *Increasing capital investments in the neighbourhood,*
- *Using neighbourhood institutions to improve their capacity,*
- *Developing collaborative of local agencies,*
- *Using existing capital to maximize impact on the neighbourhood,*
- *Increasing residents' power".*

On June 16, 2009, three fundamental institutions[13] in US came together to improve communities and make liveable neighbourhoods related to housing, transportation, environment, and infrastructure (Partnership for Sustainable Communities, 2013). The partnership determined six fundamental liveability principles to "provide more transportation choices, promote equitable and affordable housing, enhance economic competitiveness, support existing communities, coordinate and leverage federal policies and investment, value communities and neighbourhoods (Partnership for Sustainable Communities, 2013)".

[13] The U.S. Department of Housing and Urban Development (HUD), U.S. Department of Transportation (DOT), and the U.S. Environmental Protection Agency (EPA)

CHAPTER 3

SUSTAINABLE COMMUNITY COMPONENTS AND INDICATORS

3.1. Introduction

Community refers to a group of residents who live in the same place, share common services of locality, and have interaction (Long & Hutchins, 2003). Community can be studied in different scales. In this research, mainly neighbourhood and housing estate scales are considered. That is, sustainable community indicators are determined according to these two scales through literature evaluation. At this point, community sustainability refers to that residents desire to live in the same place today and in the future (Long & Hutchins, 2003), and this place provides them with opportunities and different services which match their needs.

Sustainable communities can be assessed through determined 'indicators' which are also named as *community indicators*. According to Hempel (1999, p. 63), determining reliable community indicators are crucial in order to observe improvements and changes of different communities periodically. Indicators are necessary assessment tools in order to determine the problems related to community (Phillips, 2003; Swisher, Rezola, & Sterns, 2003). These indicators need to evaluate the capacity and resiliency of community, observe liveability of community, and meet present and future needs of community (Hempel L. C., 1999).

In the spatial scale, community indicators inform about past orientation, present conditions, and future trends of locality (Hart, 2003; Oleari, 2000 as cited in Phillips, 2003). The indicators provide qualitative and quantitative information for planners and other authorities related to locality about how a community can be shaped and designed in order to fulfil the resident's needs and desires, and improve quality of life in locality (Phillips, 2003; Swisher, Rezola, & Sterns, 2003).

The community indicators should be based on multi-dimensional framework acquiring social, economic, environmental and institutional dimensions, and they provide valuable information about both general conditions and small details related to locality (Phillips, 2003; Swisher, Rezola, & Sterns, 2003; Dluhy & Swartz, 2006). Community indicators and objectives influence each other directly and indirectly, and they present how to reach the determined objectives related to community and locality (Swisher, Rezola, & Sterns, 2003; Kellett, Fryer, & Budke, 2009).

According to Dluhy and Swartz (2006), there were different projects which focused on the economic indicators, social indicators, healthy communities and cities, quality of life, benchmarking and performance measures. Projects concerned with economic indicators through the twentieth century focused on economic well-being, whereas projects concerned with social indicators by the 1960s structured on social well-being and conditions such as housing, wealth, safety, mobility, employment, and participation (Dluhy & Swartz, 2006).

Both the 'economic and social indicator projects' in the former years followed a top down approach (Dluhy & Swartz, 2006). In contrast, healthy communities and quality of life projects observed a bottom up approach (Dluhy & Swartz, 2006). 'Healthy communities' focused on improving a common sense of community health which included physical, social, environmental, economic and behavioural issues (e.g., Pasadena, 1992) (Table 3.1) (Dluhy & Swartz, 2006). 'Quality of life projects' embarked on in the 1980s and the 1990s concentrated on objective and subjective indicators related with resident and community well-being (example, Jacksonville Quality of Life Indicators, 1995) (Table 3.1) (Dluhy & Swartz, 2006). 'Benchmarking and performance measures', which can include both top down and bottoms up approaches, in the 1990s pointed out discussions conducted on policy making from social and economic point of view (e.g., Oregon Benchmarks, 1994) (Table 3.1) (Dluhy & Swartz, 2006).

Table 3.1: Indicator Lists of Three Sample Projects Conducted in the US (Oregon Benchmarks, 2009; Pasadena/Altadena Quality of Life Index , 2012; Jacksonville Quality of Life Indicators , 2012)

SAMPLE 1: Pasadena / Altadena Quality of Life Index		
1. Sustainable Economy	Education	· Community Safety
· Living Wage	· Community Involvement in Public	**6. Transportation**
· Employment and Economic	Education	· Transportation
Development	· Literacy and Life-long Learning	**7. Environmental Quality**
· Child Care	**4. Participatory Democracy**	· Air and Water Quality
2. Housing for All	·Civic Involvement	· Valuing our Open Space
· Housing	**5. Community Life, Arts and Culture,**	· Sustainable Environment
· Homelessness	**and Safety**	**8. Healthy People**
3. Education	· Arts and Culture	· Access to Health Care
· Academic Achievement in Public	· Neighbourhood Engagement	· Community Health Improvement

SAMPLE 2: Oregon Benchmarks	*SAMPLE 3: Jacksonville Quality of Life Indicators*
1. Quality Jobs for All Residents	**1. Economy**
·Economic Performance	**2. Social environment; social well being & harmony**
·Education	**3. Arts, culture and recreation**
2. Engaged, Caring, Safe Communities	**4. Healthy community**
·Civic Engagement	**5. Responsive government**
·Social Support	**6. Transportation and Mobility**
·Public Safety	**7. Public Safety; Safe community**
3. Healthy, Sustainable Surroundings	**8. Natural Environment**
·Built Environment	**9. Education**
·Natural Environment	

Recently, many projects have focused on 'sustainability' and 'sustainable cities'. One of the important examples is 'Sustainable Seattle'[14] project in the US, which concentrated on 'sustainable community indicators' (Table 3.2) (Dluhy & Swartz, 2006; Bell & Morse, 2008). This project, which indicates voluntary sector indicator, is accepted as a best practice model (Bruggmann, 1997; Wheeler, 2004). It emphasized the protection of natural environment and enhancement of social structure along with economic development (Dluhy & Swartz, 2006).

[14]The original title of the project is 'Sustainable Seattle's Indicators of Sustainable Community 1998'.

Table 3.2: Indicator Lists of Sustainable Seattle Project in the US
(Sustainable Seattle: Indicators of Sustainable Community, 1998)

Sustainable Seattle Indicators of Sustainable Community (1998)				
Environment •Wild Salmon •Ecological Health •Soil Erosion •Air Quality •Pedestrian and Bicycle-Friendly Street •Open Space near Urban Villages •Impervious Surfaces	**Population & Resources** •Population •Water Consumption •Solid Waste Generated and Recycled •Pollution Prevention •Local Farm Production •Vehicle Miles Travelled and Fuel Consumption •Renewable and Non-renewable Energy Use	**Economy** •Energy Use Per Dollar of Income •Employment Concentration •Unemployment •Distribution of Personal Income •Health Care Expenditures •Work Required for Basic Needs •Housing Affordability •Children Living Poverty •Emergency Room Use for Non-ER Purposes •Community Reinvestment	**Youth & Education** •High School Graduation •Ethnic Diversity of Teachers •Arts Instruction •Volunteer Involvement in Schools •Juvenile Crime •Youth Involvement in Community Service •Equity in Justice •Adult Literacy	**Health & Community** •Low Birth-weight Infants •Asthma Hospitalizations for Children •Voter Participation •Library and Community Centre Usage •Public Participation in the Arts •Gardening Activity •Neighbourliness •Perceived Quality of Life

In this research, sustainable community components related to sustainable community indicators are categorized under six main themes:

1) social well-being,
2) built environment,
3) housing,
4) transport and connectivity,
5) community services,
6) governance

Although 'environmental infrastructure'[15] and 'economic viability'[16] terms are not included within this research, they can be accepted as other components of sustainable communities.

[15]Carrying capacity, eco-design and planning, and environmental health can be determined as the sub-themes of environmental infrastructure. Carrying capacity is related to ecological conditions and resistance of local area. Some indicators related to design and planning in terms of ecological issues should be determined in order to develop awareness among government, as well as authorized planners and architects. The other sub-theme, eco-design and planning, has the indicators such as solar energy usage in street lighting, the reuse or disposal of wastewater, environmental friendly construction material, isolation of buildings, eco-design urban furniture and exploiting best solar orientation of buildings, gardens, parks and open spaces. Environmental health refers to awareness of local residents about environment, solid waste management, water quality and consumption, energy usage, recycling, potable water. There are some indicators related to environmental health: level of local community living by minimizing negative effects to environment (walking, cycling and recycling), quality of potable water used by local residents, water consumption, urban solid waste production and energy consumption.

[16]Economic viability of neighbourhood is the critical issue for the economic vitality of the city. District centre vitality and resilience of local economies are important domains of the theme. District centre vitality is related to usage of commercial services, including markets, shops, malls, banks, restaurants, café, pastry etc. Therefore, commercial facility pattern is determined as mixed of zoning in the area. Quantity of commercial facilities is another important data for sustainable communities in terms of corresponding the residents' needs. In addition, resilience of local economies consists of some significant indicators such as level of community income, level of unemployment rate, and local work opportunities. (Barton, Grant, & Guise, 2010)

These six main themes consist of sub-themes which are presented in Figure 3.1. The following sections discuss these components in detail.

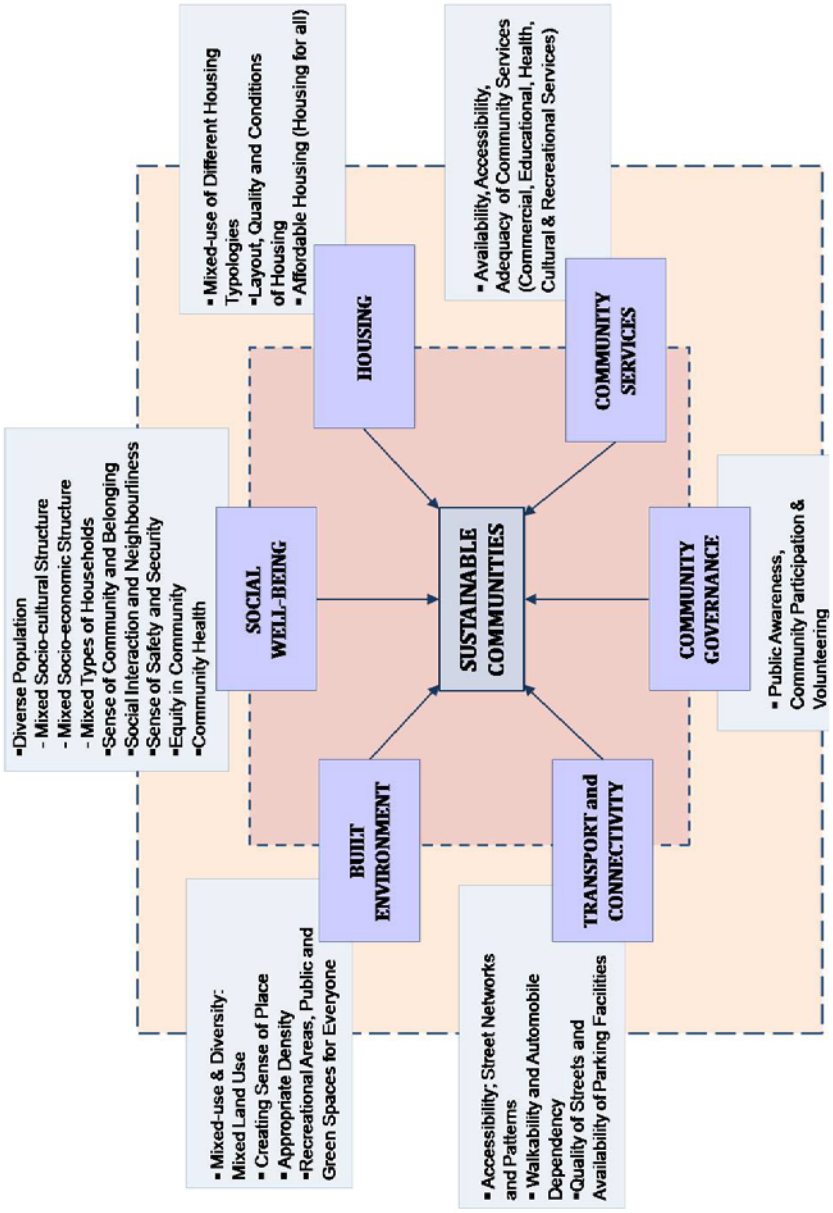


Figure 3.1: Main Themes and Sub-themes related to 'Sustainable Community Indicators'

3.2. Social Well-being

Social well-being is structured on the sub-themes of 'diverse population', 'sense of community and belonging', 'social interaction and neighbourliness', 'sense of safety and security', 'equity in community', 'community health'. High-quality social infrastructure and social well-being reinforce interaction among community members, and create a sense of belonging to the community and place. Thus, neighbourhood plans need to provide common places to increase a sense of community, social interaction and integration to create sustainable communities. Table 3.3 presents the term 'well-being' in terms of the individual, group, community, economy, and environment.

Table 3.3: Wellbeing Indicators Framework (Salvaris & Wiseman, 2004)

Social and community wellbeing				Democracy governance	Economic wellbeing	Environmental wellbeing
Individual wellbeing	*Group wellbeing*	*Community wellbeing*				
		Qualities	*Structures*			
Health and wellbeing (physical and mental)	Children and families	Fairness, equal opportunity, social mobility	Public and civic institutions	Democracy	Viable and sustainable productivity	Health and sustainability of ecological systems
Education and training (whole of life)	People on low incomes	Social capital and trust	Planning and physical infra-structure	Human rights	Economic vitality	Environmental quality (air, water, land)
Income, wealth and poverty	People with disabilities	Health and viability of communities	Community services	Justice and legal rights	Appropriate job creation	Environmental diversity (species etc.)
Safety and security	Women	Citizenship and community participation	Transport	Good governance, effective management	Healthy regional, local economies	Sustainable use of natural resources
Personal development	Older persons	Creativity, enterprise and innovation	Media and communication	Local government		
Housing	Ethnic groups	Crime and social dysfunction	Culture and the arts			
Employment and work life	Indigenous people		Recreation and sport			
	People in remote rural communities					

3.2.1. Diverse Population

The concept of 'mixed and diversity' is an important criterion for sustainable communities and neighbourhoods. Mixed and diverse neighbourhood can be evaluated through five main issues: mixed socio-cultural groups, mixed socio-economic groups (mixed income), mixed types of households (single residents, couples, young families, mature families), mixed land-use (residential, commercial, recreational, institutional structures), and mixed housing types (detached, semi-detached, duplex house, apartment) (Figure 3.2).

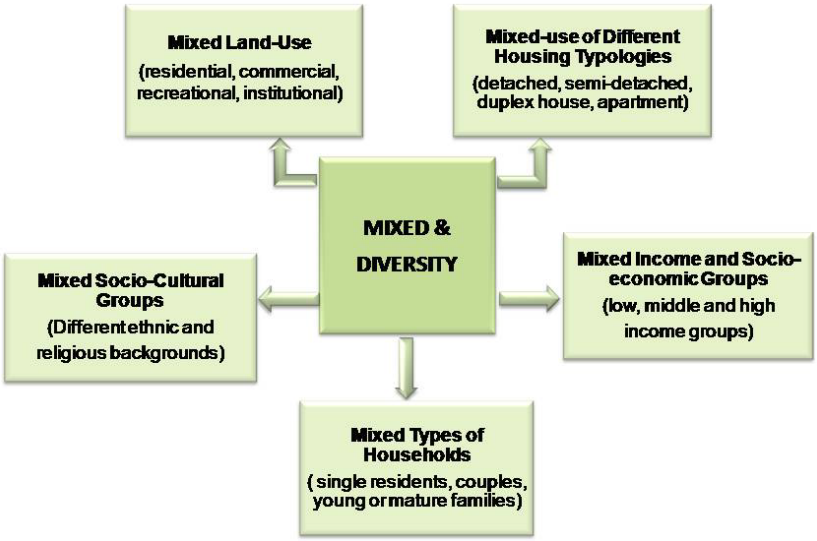


Figure 3.2: The Grouping of 'Diverse & Mixed Community'

The presence of 'diverse population' which includes a mixed socio-cultural structure, mixed socio-economic structure and mixed types of households indicates one of the attributes of communities. Diverse groups consist of different age groups, cultural, ethnic and religious backgrounds as a socio-cultural structure; different income groups and economic activities as a socio-economic structure; different households as single residents, couples, young families, mature families. The types of households refer to family size and household composition. Household diversity provides a wide range of social interaction among various social groups, thus contributing to community richness (Kellett, Fryer, & Budke, 2009).

Some researchers claim that high level of social mix, especially with socio-cultural and socio-economic structures, cause inadaptable behaviour among residents (Bramley et al., 2006 cited in Colantonio & Dixon, 2011); on the other hand, social mix including socio-economic and socio-cultural structures have important contributions to the improvement of tolerance, reciprocity, respect and engagement among residents (Manley, van Ham, & Doherty, 2011; Lehmann, 2012).

> *"Mixed housing tenure policies are frequently espoused as a vehicle to create more socially mixed neighbourhoods. The idea is that mixing homeowners with social renters will create a more diverse socio-economic mix in neighbourhoods, removing the potential of negative neighbourhood effects (Musterd and Anderson, 2005 cited in Manley, van Ham, & Doherty, 2011). Mixed housing strategies -often involving large scale demolishment of social housing- have been explicitly adopted as part of neighbourhood improvement schemes by many governments including those in the Netherlands, the United Kingdom, Germany, France, Finland, and Sweden" (Atkinson and Kintrea, 2002; Kearns, 2002; Musterd, 2002, cited in Manley, van Ham, & Doherty, 2011).*

3.2.2. **Sense of Community and Belonging**

The other issue that needs to be considered is the 'sense of community and belonging'. Community is a locality in which residents develop and sustain a 'sense of belonging' and 'sense of community'. Building desirable sense of community and belonging depends on the effective and sufficient interaction of community members by having positive feelings because a strong sense of community provides feeling of safety, enhances residential satisfaction, and establishes strong ties between residents and their surroundings. To construct better physical and mental health, residents desire to belong to a community. A strong sense of belonging also enhances social well-being of the community.

Social well-being is defined as a good relationship between residents and other people in neighbourhood or housing estate. Smith (2001) mentions and emphasizes the importance of community's distinctive and symbolic role in creating a sense of belonging among the residents' needs. Emily Talen (1999, 1367) claims that interaction of residents alongside sense of community indicate a homogeneity factor more than a locale factor. Therefore, resident interaction is assumed to be used in order to encourage sense of community by some researchers (Talen 1999). In addition, sense of community may be encouraged via resident interaction (Talen, 1999).

McMillan and Chavis (1986) structure a comprehensive approach for creating a 'sense of community' which identifies four attributes; "a) membership, b) influence, c) integration and fulfilment of needs and d) shared emotional connection"(McMillan & Chavis, 1986)(Figure 3.3).

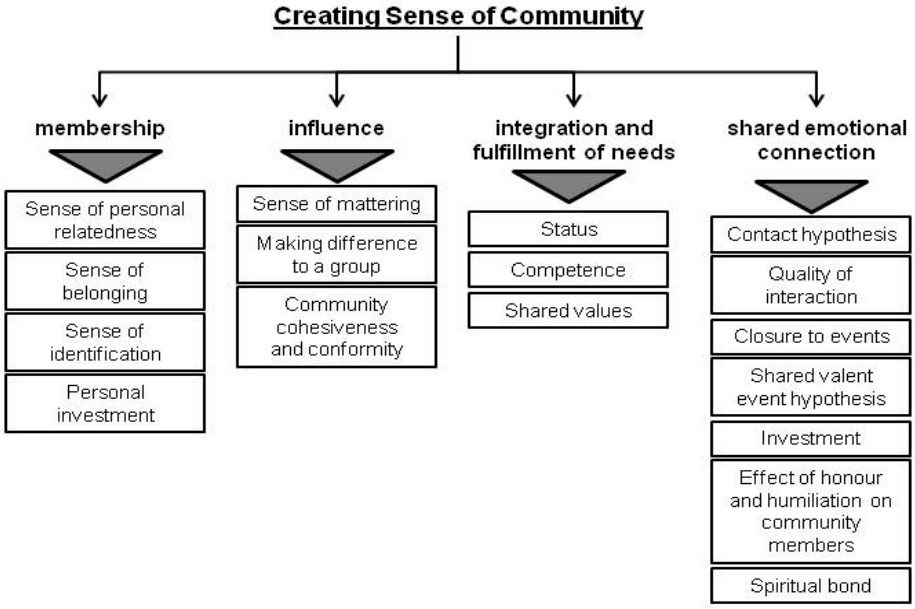


Figure 3.3: Components and Sub-components of 'Creating Sense of Community'

According to McMillan and Chavis (1986), 'membership' attribute depends on sense of personal relatedness, sense of belonging, sense of identification, and personal investment (Figure 3.3). While a sense of belonging refers to the feelings, believes, and expectations of acceptance by the community, a sense of identification refers reciprocal statements, and resident feels like a part of community (McMillan & Chavis, 1986) (Figure 3.4). Personal investment refers to personal feelings of community membership and residents' sense of community. McMillan and Chavis (1986) implied that membership has 'boundaries'[17]. They define who is in and who is out. With membership emotional safety, security and protection of personal space, and 'a common symbol system' become important by creating and maintaining a sense of community (Figure 3.4). Understanding the common symbols system is necessary to understand a community. While symbols represent landmarks, architectural styles within the neighbourhood level, flags, national holidays are the symbols which are represented within the national level (McMillan & Chavis, 1986)(Figure 3.4).

[17] *"The role of boundaries is particularly relevant to a neighbourhood community. The earliest research on community in American sociology focused on the boundaries established by neighbourhood residents (e.g., Park & Burgess, 1921). Park and the Chicago School's ecological model explain the mechanisms of classes and ethnic groups as they work out spatial relations among themselves (Bernard, 1973); boundaries define who is in and who is out"* (McMillan and Chavis, 1986: 10).

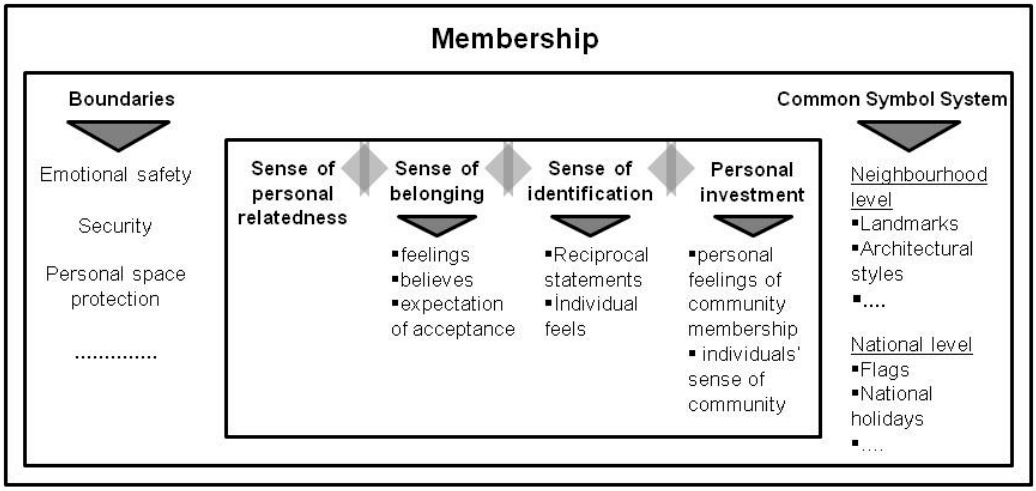


Figure 3.4: Membership Components

'Influence' is the second attribute which defines a sense of community. McMillan and Chavis (1986) describe the term as a bidirectional concept, and related it to 'a sense of mattering', 'making difference to a group' and 'community cohesiveness and conformity' (McMillan & Chavis, 1986)(Figure 3.3). The first direction of the influence refers to a member to be attracted to a community according to Peterson & Martens; Solomon; and Zander & Cohen (1972, 1960, 1955, as cited in McMillan and Chavis 1986) (Figure 3.5). The second direction refers to a community's ability to influence its members according to Kelley & Volkart and Kelley & Woodruff (1952, 1956, as cited in McMillan and Chavis 1986) (Figure 3.5).

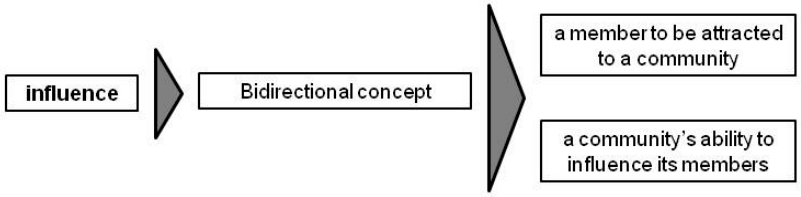


Figure 3.5: Bidirectional conceptual structure of influence

'Integration and fulfilment of needs' is determined as the third attribute, and McMillan and Chavis (1986) identified the term as a 'reinforcement' which is a motivator of behaviour to maintain a positive sense of togetherness (Figure 3.6). If some people's skills or competence are beneficial for some other residents, they are attracted to those people. Cohen (1976) and Doolittle & MacDonald (1978) emphasized that residents have similar emotional and intellectual needs, expectations, goals, priorities, and 'shared values' provide integrative force for cohesive communities (cited in McMillan and Chavis 1986) (Figure 3.6).

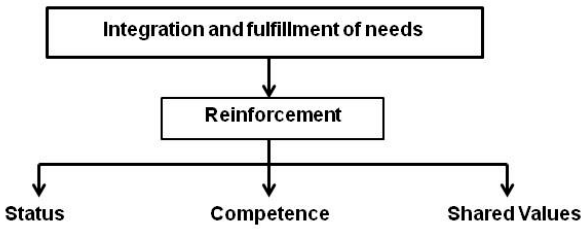


Figure 3.6: Integration and Fulfilment as Reinforcement Attribute Influence

McMillan and Chavis (1986) determined 'shared emotional connection' as the fourth attribute (Figure 3.3). It has some elements[18] "contact hypothesis, quality of interaction, closure to events, shared valent event hypothesis, investment, effect of honour and humiliation on community members, and spiritual bond"(McMillan and Chavis, 1986) (Figure 3.7).

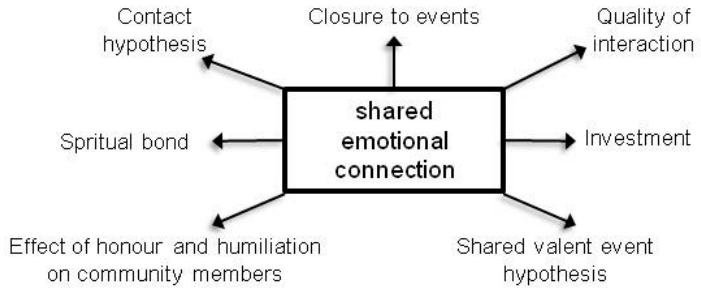


Figure 3.7: Elements of Shared Emotional Connection Influence

Table 3.4 overviews the elements of shared emotional connection with special reference to McMillan and Chavis (1986).

Table 3.4 Brief Definitions of Shared Emotional Connection Elements

Shared Emotional Connection	
Elements	**Definition and/or Explanation**
Contact hypothesis	The more people interact, the more likely they are to become close according to Allan & Allan; Festinger; Sherif, White, & Harvey; Wilson & Miller (1971, 1950, 1955, 1961, cited in McMillan and Chavis 1986).
Quality of interaction	The more positive the experience and the relationships, the greater the bond. Success facilitates cohesion according to Cook (1970, cited in McMillan and Chavis 1986).
Closure to events	If the interaction is ambiguous and the community's tasks are left unresolved, group cohesiveness will be inhibited according to Hamblin; Mann & Mann (1958, 1959, cited in McMillan and Chavis 1986).
Shared valent event hypothesis	The more important the shared event is to those involved, the greater the community bond.
Investment	Determines the importance to the member of the community's history and current status.
Effect of honour and humiliation on community members	Has a significant impact on attractiveness of the community to the person according to Festinger; James & Lott (1953, 1964, cited in McMillan and Chavis 1986).
Spiritual bond	Refers spiritual connection of the community and Bernard (1973) calls this factor "community of spirit" (cited in McMillan and Chavis 1986).

[18] *"This element of shared emotional connection can be traced through Tonnies' (1957) use of the term Gemeinschaft: a social unity based on locale"* (McMillan and Chavis 1986, 14).

3.2.3. Social Interaction and Neighbourliness

Man-produced residential areas as a whole have considerable physical, social and psychological impact on people's life (Cengizkan, 1980). In that sense, neighbourhood is defined as the very basic and simple unit within an area which is characterized by and which organizes the parts of the whole. Due to different needs and satisfaction from a living environment such as street design, shops, institutions, parks, pedestrian ways, safety and accessibility in residential areas., smaller groups need to be developed which all together define the neighbourhoods. People living in a society in an area also make up the members of that society. Every member of a group of people who lives in a dwelling is inherently a member of that society as well. Therefore, Cengizkan (1980) determines the neighbourhood as 'a shell for the smallest group in the city'.

Particularly by the industrial revolution, the rapid economic, physical and social change in the urban structure also has continuing and dynamic impacts on the neighbourhood understanding. Deterioration of human values due to the transformation of the agricultural society into industrial society also developed the discussions on the sake of family and society structures. As Cengizkan (1980) stresses, neighbourhood concept serves as a healer for human values among the industrial urban development process (as cited in Gallion and Eisner, 1963). Mumford (1966) holds a similar idea that the neighbourhood concept represents the curing of human values and enhancing the social integration among the community (cited in Cengizkan, 198). Mumford (1966) adds that neighbourhood consciousness is motivated by urban growth, particularly in terms of suburb development. Although neighbourhood development was seen as an important attempt to form the modern society in an industrial age, there were doubts on the power of successful neighbourhood design in terms of its capacity to produce solutions for all issues within a living environment and among the society.

There are numerous indicators and factors which form the neighbourhood. The complexity of those factors and the other internal and external factors produced by the society and the liberal economic system has made it difficult to settle and sustain the neighbourhood. The neighbourhood design and development, in particular residential area production, is not only under the control of man, but natural environment and other factors are also effective in this process. Therefore, various relations which control and sustain the success of the neighbourhood have to meet many dependent factors. Morris and Mogey (1965: pp.115-119) state the influencing factors of relations as follows: “age, sex, social status, proximity, provision for privacy, age of the residential community, homogeneity of the members and the amount of insecurity in the neighbourhood” (cited in Cengizkan, 1980: p.14).

Integration of streets and public spaces in a living environment indicates the success level of a neighbourhood (Benfield, 2010). The pedestrian friendly approaches are accepted as one of the foremost indicators of success levels. Benfield (2010) states the determining factors as 'higher walkability, reduced automobile dependence, conserved land, and more opportunities for social interaction'.

On the other hand, this approach to the neighbourhood concept has been assessed from different perspectives by different disciplines and decision makers throughout the

history(Cengizkan, 1980). City planners, architects and administrators all review the concept from their view-point. Table 3.5 summarizes these approaches and views. This view reveals the fact that the concept needs a multidisciplinary and holistic evaluation in order to sustain the neighbourhood development and enhancement in a living environment. Therefore, particularly for local areas which have original development history and practices, as well as socio-cultural and economical structures a long with the different residents neighbourhood development needs more attention.

Table 3.5: Historical Perspectives of the Different Disciplines to 'Neighbourhood' Concept

	Problem Focus	Aim
City planners	▪ Predicting the boundaries of a neighbourhood, ▪ The questions of demography, ▪ Service provisions of the district.	▪ Understanding and knowing about the social and psychological consequences of one-class communities as compared with communities of residents from several social and economic strata.
Architects	▪ Considering the physical formation of a neighbourhood, including streets, housing formation, social centre with its amenity buildings etc., without paying sufficient attention on the environment's total qualities, with its skeleton formed of social networks and meanings.	▪ Learning the various meanings of privacy among the several social strata in order to redesign the space within houses conforming needs of privacy as the families change in size and composition.
Administrators	▪ Dividing the land according to administrator units, topographical and land use characteristics.	▪ Knowing the role of organized groups and their tendencies in community action.

'Social interaction and neighbourliness' affect the sense of community and belonging. Age is considered as determining factor for neighbourliness. Thus, ageing lowers the level of residential mobility. Therefore, the ageing residents tend to develop colligation and communication with other residents (Pilch, 2006). In addition, land use patterns and built environment characteristics have important impacts in terms of increasing 'social interaction' and 'sense of community' in neighbourhood (SCI, 2012). Moreover, built environment design and physical composition related to urban morphology all encourage the level of social interaction and neighbourly activity (Talen 1999, Bergen, Skjaeveland and Garling 1997 as cited in Pilch 2006). Festinger (1950, as cited in Pilch, 2006) exemplified this effect of physical characteristics as giving the 'Cul-de-Sacs' example encourage neighbouring.

The residence satisfaction related to the neighbourhood, the length of the dwelling period in the same neighbourhood/housing estate, the presence of common places for neighbourhood interaction, the reason(s) of living preferences in this neighbourhood/housing estate, the proportion of people to the overall population in the neighbourhood who are concerned about and aware of the community problems, the sense of optimism about the future of the neighbourhood or district, the level of social interaction and meeting with friends and neighbours (social network) all become important measurement criteria of the sense of community and social interaction levels among the residents of a neighbourhood and housing estate (Figure 3.8).

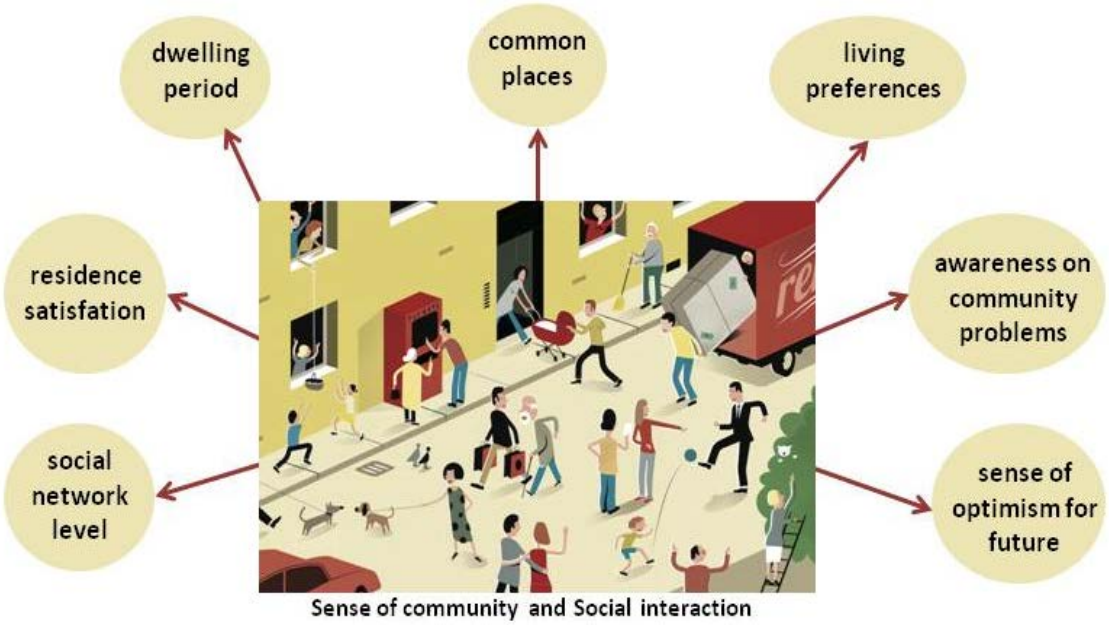


Figure 3.8: Measurement Criteria for Sense of Community and Social Interaction (Neighbourhood illustrationproduced by Gert Albrecht)

3.2.4. Sense of Safety and Security

'Sense of safety and security' is another sustainable community indicator. These two concepts, in fact, indicate two distinctive meaning. Safety refers to more physical understanding in terms building's structural, constructional and non-structural components whereas security refers to more judicial concepts such as burglary and assault. These are assumed as complimentary and important parts for developing community sustainability.

Community members need to feel safe. Feeling safe and secure is required not only for the psychological health of the community members, but also for the neighbourhood vitality. The level of crime and anti-social behaviour in a neighbourhood need to be decreased and community-friendly policies are required in order to develop sustainable communities (Long & Hutchins, 2003). In addition, Long and Hutchins (2003) claim that the fear of crime is more widespread than the experience of crime; this view asserts that both issues need be taken into account in an effective assessment process for sustainable places. If the fear of crime is high among a community, the resident's satisfaction level tends to dramatically decrease. Residents' desire to live in environments which provide many opportunities also indicates living in safe and healthy environments in which they can bring up their children peacefully (Salvaris & Wiseman, 2004).

Burglary and theft rate (or major crime rate), traffic accident rate, perceptions and fear of residents from violence and crime (Long & Hutchins, 2003; Salvaris & Wiseman, 2004), percentage (%) of people who feel safe when walking alone at night (Salvaris & Wiseman, 2004), percentage (%) of residents who are anxious about deliberate damages such as vandalism and graffiti to public and private properties, and safety of education services become important metrics in this sense.

Built environment has an important role both in eliminating the abetment in crime and creating a sense of safety and security (Liang, 2010; SCI, 2012). Elizabeth Wood, the first director of Chicago Housing Authority and one of the pioneer writers studying on sense of safety and security, signified the physical design in order to reach healthy social infrastructure and improve the quality of life (Robinson, 1996). Wood developed specific design guidelines in order to enhance sense of safety and security. These guidelines aimed to "improve visibility of apartment unit, create spaces where residents could come together, and increase the potential for resident survivability" (Robinson, 1996; Colquhoun, 2004; Cozens, 2008). However, Wood's ideas and design criteria have never been proved because they could not have the chance to be actualized (Robinson, 1996).

Jane Jacobs' 1961 book titled "The Death and Life of Great American Cities" focused on the criticism of modernist approach to urban development, and recommended some new planning ideas by evaluating decayed American neighbourhood. What was interesting about this work was its emphasis on the social urban structure and interaction of residents along with the physical urban fabric. Jane Jacobs's book is one of the initial studies on evaluating the relationship between criminal behaviour and urban decay (Robinson, 1996; City of Virginia Beach, 2000). Jacobs claims that active streets and sidewalks have important contribution to lowering crime level; therefore, pedestrians need to be encouraged to use pedestrian streets both natural and informal surveillance. In other words, streets which are used actively and have street-level merchants can be controlled "voluntarily and naturally by residents (Robinson, 1996; Cozens, 2008).

Shlomo Angel emphasized safety and crime in his study[19] through the definition of the term 'the critical intensity zone', which focuses on pedestrian intensity on the street (Cozens, 2008). Angel relates the aggrieved or pleasantness level of residents to the land-use intensity. If the intensity increases, crime event(s) tend to grow among the community, and vice versa (Cozens, 2008).

On the other hand, in 1972, Oscar Newman formulated a new concept named as 'defensible space'. This term along with Oscar Newman's work are accepted as leading attempts to define and analyze Crime Prevention through Environmental Design (City of Virginia Beach, 2000; Cozens, 2008). Newman studied on crime and built environment relationship; therefore, he focused on both social and physical attitudes of public housing (City of Virginia Beach, 2000). He analysed and compared Pruitt-Igoe and Carr Square Village in St Louis in the USA. While Pruitt-Igoe was developed as a high-rise public housing project including 2740 units, Carr Square Village was a row-housing development (Newman, 1996; Cozens, 2008). In Pruitt-Igoe project (Figure 3.9), apartment blocks' ground floors and first floors were designed for community activities whereas in the third floor of each apartment, communal corridors with laundry, communal room and garbage room were located (Newman, 1996).

[19]Shlomo Angel's study: 'Discouraging Crime through City Planning' (published in 1968).

Figure 3.9: Views from Pruitt-Igoe Blocks
(St. Louis Housing Authority & HUD, 1974; Lawson, 2007)

According to Newman, in Pruitt-Igoe, buildings suffered from vandalism, graffiti, garbage, litter, and other crimes; in addition, long corridors, elevators and stairs were notoriously insecure places (Newman, 1996). A great majority of residents (60%) living in Pruitt-Igoe area felt unsafe when moving alone in and around the buildings. The Pruitt-Igoe was demolished in 1972. Charles Jenks (2002), a postmodern architectural historian, claimed that the demolishment of Pruitt-Igoe was the day of death of modern architecture (Jencks, 2002). On the other hand, Carr Square Village are older (built in 1943) and smaller residential buildings in comparison with Pruitt-Igoe (Cozens, 2008) (Figure 3.10). Although both residential developments (Pruitt-Igoe and Carr Square Village) have similar social structure, one was destroyed and the other one survives (Newman, 1996). Therefore, Newman seeks answers to the following question: what is the importance of design or the role of built environment in these two different residential developments? (Newman, 1996; Cozens, 2008).

Figure 3.10: Views from Carr Square Village Houses (Downtown St. Louis website, 2012)

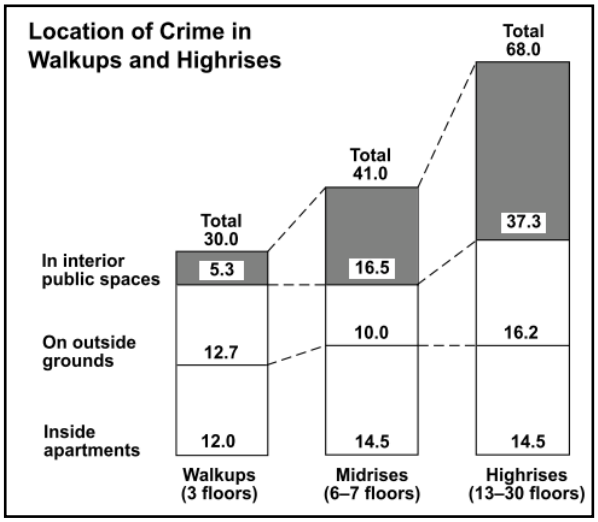


Figure 3.11: The Relationship between Crime Level and Building Height Shows the High Crime Level Particularly in Public Spaces (Newman, 1996, p. 13)

Newman compared the level of crime among buildings with different heights (Figure 3.11). The results revealed that lower buildings had potentially low crime levels (Newman, 1996; Colquhoun, 2004). Newman's analysis particularly focused on storey, size, scale, public area, open space, and degree of ownership and responsibility of the public houses (City of Virginia Beach, 2000). From those analyses, Newman developed the term 'defensible space' with four main criteria to constitute safer and better places; territoriality, surveillance, building image and milieu. 'Territoriality' refers to subdivided residential environments such as public, semi-public, semi-private and private hierarchically; therefore, residents could determine their own space as 'this is my territory' (Ünlü, 1998; Colquhoun, 2004). 'Surveillance' refers to design doors and windows to provide observation and control in open spaces and entrances (Ünlü, 1998). 'Building image' refers to use proper building materials which correspond to the identity of residents (Ünlü, 1998; Colquhoun, 2004). 'Milieu' refers to improve safe and secure areas juxtaposition of other facilities (Ünlü, 1998; Colquhoun, 2004). In addition, these criteria are recapped by Cozens as follows:

> *"Defensible space promotes the use of design to enhance* ***territoriality*** *and promote* ***a sense of ownership*** *by declining between private and public space using real and symbolic barriers. Building and site design increase* ***surveillance*** *the image of housing were also central to defensible space"* (Cozens, 2008, p. 156).

Crime Prevention through Environmental Design (CPTED) approach bases on the development of "the proper design opportunities and effective use of the built environment" in order to satisfy crime perception and reduce crime fear of residents to increase quality of life (City of Virginia Beach, 2000; Zahm, 2007; Liang, 2010). C. Ray Jeffery, who was also a criminologist, coined the CPTED term in 1971 (Robinson, 1996; Cozens, 2008; George, 2012). Jeffery's ideas and approach related to CPTED which were also expressed in his book "Crime Prevention through Environmental Design (published in 1971)" were influenced by the works of Jane Jacobs. Particularly, in his the theory Jeffery claims that "the design of our physical environment directly affects our behaviour" by being inspired by Jane Jacobs who was a strong supporter of community-based planning approach (George, 2012).

"Evaluations of Crime Prevention through Environmental Design (CPTED) strategies have shown a 30-84% reduction in robberies, depending upon how many CPTED components were implemented. In one study of Chicago public housing, researchers found that the greener the surroundings, the fewer the number of crimes that occurred. Specifically, buildings with high levels of greenery had 48 percent fewer property crimes and 56 percent fewer violent crimes than buildings with little or no greenery"(SCI, 2012).

3.2.5. Equity in Community

Neighbourhood should provide equal access and opportunities for all residents of community by strengthening vibrant diversity of culture. In this sense, 'equity in community'becomes important. Equity is a two-fold concept: 'intra-generational equity', which means "equity among current residents", and 'inter-generational equity', which means "equity between current and future residents" (Ditor, O'Farell, & Bond, 1999). Intra-generational equity consists of two types of equalities: social equity and geographical equity (Ditor, O'Farell, & Bond, 1999). While 'social equity' ensures equal income distribution and benefit from public services and resources besides basic human needs as food, shelters, 'geographical equity' refers to that communities leading to negative and positive contributions to environment (Ditor, O'Farell, & Bond, 1999). In geographical equity, a community is not responsible for undesirable negative effects to environment caused by another community, therefore communities should decrease their effects to global environmental problems (Ditor, O'Farell, & Bond, 1999) (Figure 3.12 summarized above information).

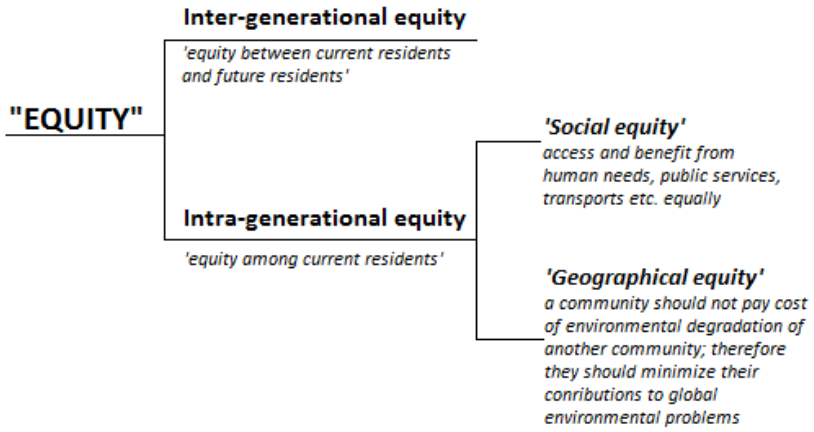


Figure 3.12: Types of 'Equity' (Adapted from Ditor, O'Farell, & Bond, 1999)

In a sustainable community, all residents can reach the community opportunities and facilities equally. Equity means that all community members have similar opportunities and access to all forms of community capital. Especially vulnerable groups (disabled and elderly people, woman with children, pregnant women, etc.) should not be fallen through the cracks in community design projects. Accessibility of vulnerable groups to neighbourhood facilities (public transport stops and stations, health and community facilities, recreational areas, etc) and the design of streets and open public spaces (e.g., continuous and proper width of sidewalks with stairs or ramps for vulnerable groups) are targets of sustainable community development.

3.2.6. Community Health

'Community health' is an important indicator for sustainable communities. Health is defined by the World Health Organization (WHO 2003) as a "state of complete physical, social and mental well-being, and not merely the absence of disease or infirmity" (Wilkinson and Marmot 2003 cited in Ditor, O'Farell and Bond 1999, p. 21, Barton, Grant and Guise 2010, p. 8, Dannenberg, Frumkin and Jackson 2011, p. 5).

A well-planned built environment offers some opportunities allowing for physical activities. This design feature plays a crucial role for physical, social and mental health of residents (Transportation Research Board, 2005; Curran, Grant, & Wood, 2006; Dannenberg, Frumkin, & Jackson, 2011). Physical activity is classified under two categories: utilitarian physical activity (such as walking to work, cycling to school each day), and recreational physical activity (such as playing football) (Curran, Grant, & Wood, 2006; Dannenberg, Frumkin, & Jackson, 2011). These two different categories can be encouraged by designing built environment (Dannenberg, Frumkin, & Jackson, 2011). Mixed land used, well-connected streets, residential density, safe parks and recreational areas increase 'walkability', which is an important term for sustainable community planning (Lee & Rubin, 2007; Dannenberg, Frumkin, & Jackson, 2011). According to some research findings, adults living in highly walkable neighbourhoods make forty-one more minutes of total physical activity per week than adults living in neighbourhoods with a low level of walkability (Sallis, Saelens et al. 2009 cited in Dannenberg, Frumkin and Jackson 2011).

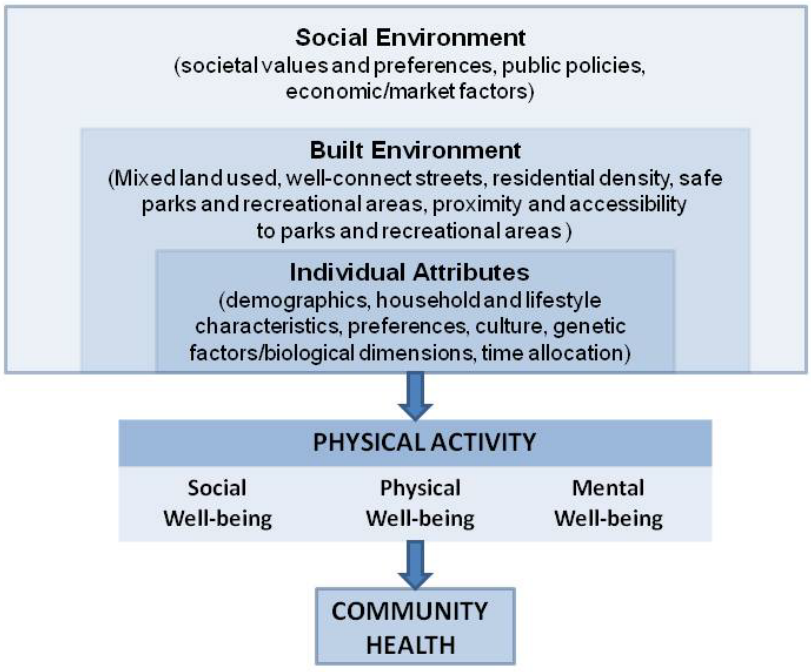


Figure 3.13: The Components which Constitute to 'Community Health'
(Adapted from Transportation Research Board 2005)

Proximity and accessibility to parks and recreational areas are significant for increasing physical activity (Transportation Research Board, 2005; Dannenberg, Frumkin, & Jackson, 2011). Residents living within a 400 meter walking distance (or 10-minute walking distance)

to parks, recreational activities or accessible and well-design playgrounds support physical activity of children and reduce the risk of childhood obesity (Cohen et al. 2007 cited in Dannenberg, Frumkin and Jackson 2011). Moreover, neighbourhood aesthetics and quality of streets encourage recreation activities (especially walking), and residents feel more pleasant and cheerful (Dannenberg, Frumkin, & Jackson, 2011) when they are involved in these activities. Green areas, which provide social interaction to residents, diminish the level of physical or mental pressure, as well as improving mental health and well-being (Dannenberg, Frumkin, & Jackson, 2011). Furthermore, the condition and quality of resident's house have an important role on improving mental health and well-being of residents (Dannenberg, Frumkin, & Jackson, 2011).

Figure 3.14: Ten Issues Recommended Building Healthy Community(Adapted from) (Lee & Rubin, 2007; Healthy Communities by Design, 2012)

> *"Designers and planners can create more supportive, cohesive places by the way they design buildings and neighbourhoods. Walkable, human-scaled, and safe neighbourhoods with shared public and semi-public spaces such as parks, squares, and tree-lined neighbourhood streets can promote, or at least provide opportunities for, health-promoting social interaction"*(Dannenberg, Frumkin, & Jackson, 2011, pp. 109,110).

Unfortunately, high rates of automobile dependence led to declining physical activity in daily life, and residents do not prefer using public transportation (Transportation Research Board, 2005). If the community services are mostly within long distance (for instance, schools, markets, health facilities), residents can find using private car as more practical and convenient (Transportation Research Board, 2005).

The following indicators exemplify the level of community health; "the ability to recognize external and internal pressures on sustainability that are manifested as health issues, the level of access to adequate health care by residents in the community, access to initial person who

can identify health problems, number of hospitals that are looking at human effects of pollution"(Liebl, et al., 1998). Salvaris and Wiseman (2004) determined some health indicators such as "infant mortality rate, disability adjusted life expectancy, disability adjusted life years, self assessed life satisfaction, suicide rate, percentage of older people living in institutions (versus independently or with family), public spending on public health as percentage of GSP, waiting times for health and community services, rating of quality of health and community services" (Salvaris & Wiseman, 2004). "The percentage of residential dwellings within 2.5 km (walking distance) of the following building uses: retail sales, food and beverage, business/office, neighbourhood schools and grocery stores, the percentage of residential dwellings within 8 km (cycling distance) of the following building uses: retail sales, food and beverage, business/office, neighbourhood schools and grocery stores" (Curran, Grant, & Wood, 2006).

3.3. Built Environment

Built environment has an important role in planning and design researches and applications to build sustainable community. Well-planned land-use pattern provides higher quality of life and enhanced sustainable communities. Building density and quality of built environment (including parks and recreational areas, open spaces, green infrastructure, roads and streets, all public and private spaces) are crucial attributes for sustainable community development and neighbourhood planning. The appearance and opportunities of the neighbourhood and high quality and identity of built environment increase the level of resident's satisfaction and pleasure. Therefore, some titles are determined such as 'mixed-land use', 'sense of place', 'density', and 'recreational areas, public and green spaces for everyone' in order to evaluate built environment.

> *"Among the numerous components and systems that must be considered during this process are: size, scale, height, and density of buildings and infrastructure; the role of neighbourhoods within the community; arrangement and mix of activities, land uses, developed versus open spaces and public versus private spaces; visual relationships among landmarks, streets, buildings, and other elements of the built form; presence, location, and vitality of community facilities and service centres; public transportation and pedestrian systems; the relationship among urban, suburban, and rural surroundings; and the cohesion of the region in which the community fits"* (Geis & Kutzmark, 2006)

Planning and design are the significant tools of shaping and managing the built environment to meet residents' needs and achieve sustainable community development (Geis & Kutzmark, 2006). Understanding the interaction and relationship between residents and built environment is a useful tool for urban design, and it is necessary for building community sustainability (Geis & Kutzmark, 2006).

3.3.1. Mixed-Land Use

'Mixed-land used provides diversity for community, and it is one of the major characteristics of sustainable communities. Mixed land-use is important for community sustainability; however, according to Barton (2000), appropriate level of mixed-land used in neighbourhood is discussed. Spatial arrangement of land uses determines the efficient distribution of

services in neighbourhood (Kellett, Fryer, & Budke, 2009). Such communities offer a mixed-used zoning including residential, commercial, recreational, working, education and health facilities with appropriate size, scale, design and layout in a neighbourhood scale. Moreover, community services are located within walking distance in neighbourhoods with mixed land used (Dannenberg, Frumkin, & Jackson, 2011).

When mixed use and single use are compared in terms of functionality, the former has the potential to increase attractiveness of living environment (Liang, 2010). However, it is only possible to socially and economically benefit the wellbeing of an area if the mixed use approach is applied successfully (Liang, 2010). The successful application develops a strong sense of place, which produces much more attractive and sustainable approaches than the single use understanding (Liang, 2010). Moreover, successful mixed use has three major characteristics which can be ordered as providing choice, ease of access and sense of being through actively and dynamically developed urban living environment (Liang, 2010). The level of activity which is created by mixed use approach is asserted as greater and denser than the whole activity needs of residents living in the area (Liang, 2010). This is critically important in terms of making remarkable contribution to the living environment location and character. (Department for Communities and Local Government, 2002, cited in Liang, 2010).

Liang (2010) states that increase in quality and appearance can be attained through successful mixed use from the environmental view-point. Quality enhancement of environmental characteristic within an area can be accepted as an important factor to determine the level of attractiveness. Another important factor of the successful mixed use is the alternatives provided for safe and sustainable transport. Beside the motorised transport depending on private cars, public transportation and trips on foot are the fundamental alternatives of mixed use planning. Development and expansion of public transport and pedestrian alternatives reduce the use of private motorised transport. Today's communities' dissatisfaction of and complaints about accessibility and transportation to the many urban facilities including social, commercial and community related ones have emerged the need to mixed use approach which provides effective access to those facilities (Liang, 2010). Therefore, proximity to the urban facilities and areas even in crowded city or town centres enable effective, pedestrian and environmental friendly solutions and alternatives through a well designed mixed use development (Department for Communities and Local Government, 2002, cited in Liang, 2010).

Liang (Liang, 2010) asserts that location and proximity advantages of urban activities and facilities do not depend directly on mixed use approach, but this approach supports the ease and variety of transport vehicles by bringing people together, all of which contribute to the development and application of sustainability criteria. Mixed use approach also helps to develop sustainable solutions for road congestion and traffic pollution which affect time consumption in transportation and human health directly (North Shore City Council, 2005). Therefore, determining the location of mixed use functions in a region are important factors in order to develop effective planning which contributes to sustainable development (Liang, 2010). In that sense, housing the functions together particularly to provide walking distances in an area helps to develop successful mixed use approach. The housing design will not be effective only for town or city centres, but it is also beneficial and adaptable for suburban centres (Liang, 2010).

Liang (2010) defends that safety of the built environment along with the convenience can be sustained through mixed use developments all of which have widely contribute to the town centre's vibrancy and attractiveness. Moreover, according to Liang (2010), housing type, particularly in town and suburban centres, is affected positively due to the provisions of mixed use planning and design opportunities in a living environment.

> Mixed-used development is defined by North Shore City Council's (in the Auckland region of New Zealand) as "*combining different uses in close, compatible relationships, a mixed use development is one that contains non-residential (commercial, community, recreational or institutional) spaces, as well as residential ones. A mixed use development may be as large as an entire precinct, or as small as a single unit that contains both living and work spaces …… it may be organised vertically, horizontally, or as some combination of the two"* (Liang, 2010, p. 14).

Mixed-land used development in a neighbourhood brings high level of accessibility owing to the convenience of community services in the neighbourhood. In consequence, this type of planning decreases automobile dependency besides promoting walkability and increasing physical well-being (Friedman, 2007). However, in housing scale as a micro level, and mixed-use functions (i.e., existing both residential and commercial facilities in the same housing or apartment block) can decrease resident's satisfaction level.

Liang (2010) defines the mixed use concept as the development of diverse living and working functions and activities including social, commercial, cultural and residential which are located in a close proximity within a neighbourhood. Liang asserts that if this conception is supported and used in urban design along with the connectivity and relatively high intensity of different uses, many problematic issues can be solved and neighbour sustainability can be achieved(Liang, 2010). Figure 3.15 demonstrates the contribution to the enhancement of community and neighbourhood sustainability.

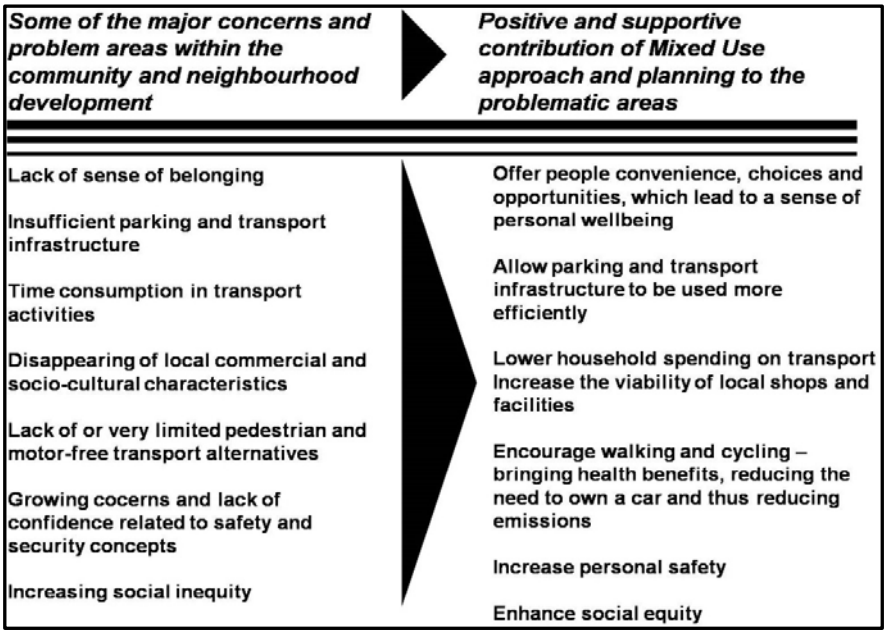


Figure 3.15: Contribution of Mixed Use Approach within the Urban Planning (Adapted from Liang, 2010, p.9)

Mixed use approach in different scales range from urban block design to neighbourhood development and in different dimensions range from horizontal to vertical dimensions enhance the integration and attractiveness of neighbourhood design (Liang, 2010). Figure 3.16 demonstrates these scales and dimensions.

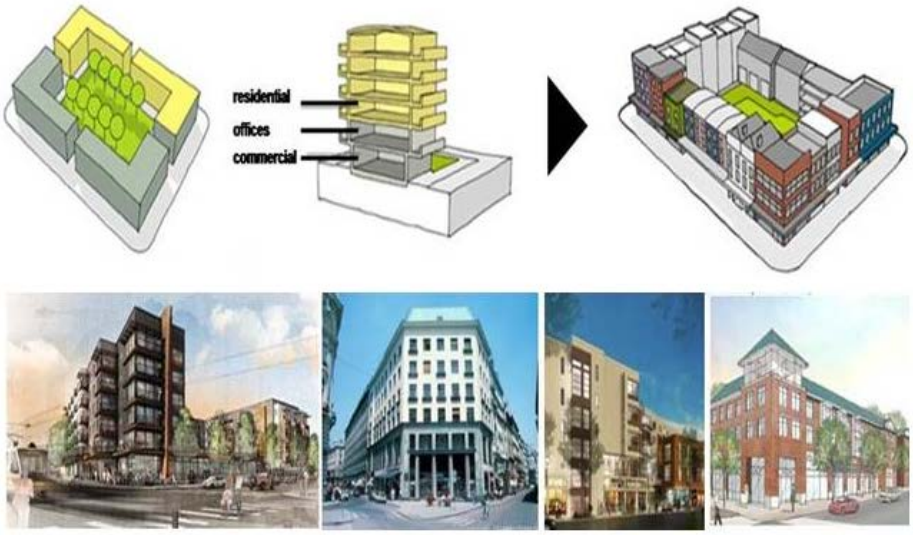


Figure 3.16: Mixed Use in Building and Urban Block Scales Determined in Both Vertical and Horizontal Scales (North Shore City Council, 2005)[20]

'Vertical' mixed use conception designs a single building so as to accommodate different functions which have multiple commercial, cultural, and residential uses. In a general understanding, ground floors are allocated to commercial functions whereas upper floors are used for offices, residential units and other functions. According to 'Horizontal' mixed use development, adjacent buildings are designed and located in urban blocks which have different purposes and functions. The diversity of functions fulfilled in different buildings contribute not only walking advantages for tenants and residents but also it encourages various outdoor activities such as dining (Adelaide City Council, 2009 cited in Liang) (Figure 3.16).

3.3.2. Sense of Place

'Creating sense of place' has an important role in building sustainable communities. The term can be defined as that residents internalize and perceive their surroundings and physical environment. Identification of a sense of place provides emotional safety and happiness (Xu 1995). A strong sense of place can be improved by increasing a strong interaction between resident and a particular place. Being pleasure from physical environment and existing opportunities that correspond to needs are some issues to enhance resident's attachments to locality and support the state of belonging to place. Smith (2008) emphasized that 'sense of

[20] Building pictures are adopted from the following sources:
http://www.cornerstonecommerce.com/phase-II-concepts.html
http://djcoregon.com/news/2012/01/09/financing-set-for-155-unit-apartment-building-in-north-portland/
http://friendsofsdarch.photoshelter.com/image/I0000lupDve.KIeQ
http://www.eua.com/markets/live/mixeduse

localness and distinctiveness', which offers some experiences, pleasure and happiness help develop residents' sense of place.

According to Stedman (2003), geographic locations and places are defined and symbolized according to people's emotional and perceptive approaches which are named as sense of place. This conception is also the source of identification of place meanings (Stedman 2003). Tuan (1980) elaborates the meaning of the concept, underscoring the awareness level and attribution related to a place which forms the special characteristics of the space and differs it from other spaces. Place meanings are produced from various historical, cultural, social, ecological, and physical attributes (Sullivan, Schuster, Kuehn, Doble, & Morais, 2009). Stedman (1999) points out that although the sense of place can be measured through quantitative indicators within the community sustainability, there is a need to understand the root causes. (Sullivan, Schuster, Kuehn, Doble, & Morais, 2009, p. 173)

Liang (2010) remarks that a 'sense of place' can be developed through experience and knowledge of people related to a particular area. Liang enlarges this description and adds that there are many specific characteristics related to a place all of which develops different levels and kinds of knowledge for the people. These can be "knowledge of the history, geography and geology of an area, its flora and fauna, the legends of a place, and a growing sense of the land and its history after living there for a time" (Liang, 2010, p. 20).

Essential elements of the 'sense of place' are categorized under two main titles: the community and the physical elements of a place (Liang, 2010). The 'community' is defined as "the people who feel attachment or a sense of belonging to a place", and the physical elements are defined as "the tangible elements which contribute to the special character or familiarity of a place" (Liang, 2010, p. 20). Liang draws the attention to the importance of the definition of the community in order to make clear the sense of place definition. Liang (2010) frames the characteristics of the 'sense of place' definition in order to show the adaptable structure of the definition due to changing physical, social, cultural and other factors:

- Although the sense of place is directly related to the personal specifications and characters, there are some commonly shared values which belong to some places,
- The 'sense of place' conception refers to a dynamic understanding which is likely to change by time and through different communities,
- The 'community' concept influences the tangible and intangible characters and elements of the 'sense of place' conception, and this relation is necessary to take into account both commonalities and differences of the groups in a place.

Liang (2010) explains the tangible (physical) and intangible elements of the 'sense of place' conception under various features, all of which have important influence on the sense of place value developments. Figure 3.17 illustrates those features.

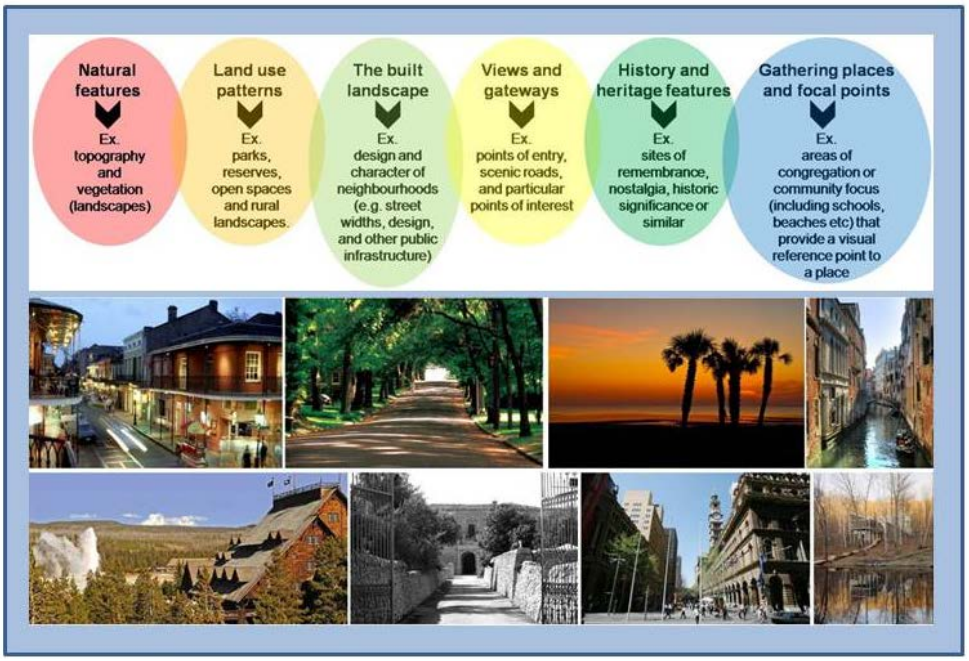


Figure 3.17: Sense of Place Features (Adopted from Liang, 2010, p.20-21)[21]

People need to develop sense of place in order to identify the space and create a cognitive map. According to Making Sense of Place Inc (2009, cited in Liang, 2010), cultural history and natural environment can be better protected , enhanced and sustained if only a strong sense of place can be developed. Liang (2010, p.21) emphasizes that 'lack of sense of place sometimes refers to placeless'. Put differently, placeless landscapes are defined as the spaces which have deficient or very limited relationship to the places in which they are located (Liang, 2010). In this regard, the spaces which do not have the potential to develop a sense of place among people such as “roadside strip shopping malls, petrol stations, convenience stores, fast food chains and chain department stores” are referred as placeless landscape elements. Moreover, Liang exemplifies some of the historical sites or districts that turned out to be placeless due to the functional and physical transformation they experienced in time. For example, such places which have transformed densely to the commercial spaces for tourism and new housing developments are accepted to have lost of their sense of place (Liang, 2010).

Figure 3.18 illustrates also the sense of place features including both tangible and intangible which have similarities with the one given in Figure 3.17. However, Figure 3.18 defines the features in detail and categorized them more systematically. By this categorization, this

[21] Pictures are adopted from the following sources:
http://www.rgs.org/OurWork/Schools/Teaching+resources/Key+Stage+3+resources/Impossible+places/Is+Las+Vegas+a+Real+place.htm
http://www.bullcitymutterings.com/2009/09/trees-and-sense-of-place.html
http://fineartamerica.com/featured/a-sense-of-place-rich-leighton.html
http://www.infinitedial.com/2007/11/throughout_our_search_for_the.php
http://www.bowdoin.edu/news/archives/1bowdoincampus/002583.shtml
http://www.smh.com.au/news/national/a-citys-heart-builds-on-a-sense-of-place/2007/09/30/1191090943420.html
http://places.designobserver.com/feature/a-sense-of-place-a-world-of-augmented-reality-part-1/13618/
http://www.fodors.com/world/hotel-awards/2010/best-sense-of-place-8/

figure clarifies the characters of the different features, and their connectedness with each other (Stephens Planning & Design, 2011).

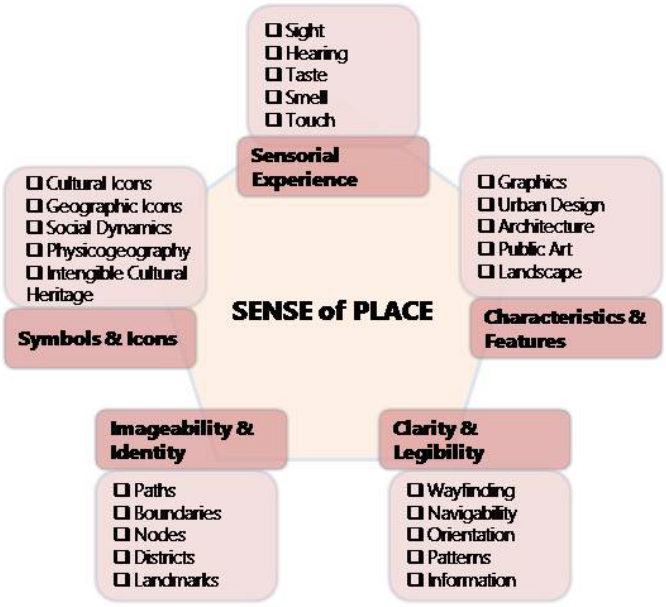


Figure 3.18: Components of 'Sense of Place' (Adapted from Stephens Planning & Design, 2011)

3.3.3. Density

'Density' may have an impact on the social interactions of city residents. It may also have uncertain results on the social sustainability of urban areas from sociological point of view (Colantonio and Dixon 2011). Low density housing is accepted as an important step, and in general, it is supported by people in order to develop positive effects on the living environment. According to Forsyth (2003, cited in Sivam and Karuppannan 2012), a basic distinction is made very often comparing the high and low density through the inherently evil and inherently good perception. High-density is appreciated in some parts of urban area in order to minimize average travel lengths and maximize the level of accessibility (Barton, Grant and Guise 2010, 243). As cited by Colantonio and Dixon (2011), on the one side of the argument, higher density is believed to assist the progress of social interactions (Talen 1999); however, on the other side, it is believed to cause weakening social ties and sense of community among the residents (Freeman 2001). Some empirical studies conducted by Breheny (1992), and Williams, Burton and Jenks (2000) emphasize that there is no relationship between "higher density and reduced automobile trips" (cited in Neuman, 2005, p. 12). A considerable number of planning theories including New Urbanism, Smart Growth and Transit Oriented Development (TOD) have revealed and supported that higher density developments are more sustainable particularly in the US, the UK, Australia and New Zealand (Sivam and Karuppannan 2012).

Density is an important key word for sustainable communities. Density can be understood as population density, residential density, and building density. Population density can be assessed according to the total number of people living per hectare (i.e., percentage (%) population density = the total number of people / area of land) (Sivam and Karuppannan 2012). Density is generally explained through the relationship between a given or determined

physical area and the number of people who live or use that area. In other words, it refers to the ratio of population or number of dwelling unit to (determined) area (Burton 2000; Cuthbert 2006; Forsyth 2003; Forsyth et al. 2007; Jensen 1966; Magri 1994; Montgomery et al. 2003, cited in Sivam and Karuppannan 2012). It is argued that the population density in a development area cannot be every time accepted as a healthy measurement method due to the inconstant family sizes which change from small households to large families with several children (Forsyth 2003 cited in Sivam and Karuppannan 2012). According to Pont and Haupt (2007, cited in Sivam and Karuppannan 2012), dwelling unit (DU) per hectare is accepted as the most common method to determine density The equation can be represented as follows;

D (Density) = DU (Dwelling Unit) / A (Designated Land Area)
Percentage (%) of residential density = the number of dwelling units per acre

DU is seen as a more practical way which makes more sense on the calculation of above equation. According to a research[22] study;

- The parameters of the ***net residential dwelling density*** (i.e., total dwelling unit per designated residential area) is ***low*** if dwelling per hectare is lower than 15 (DPH<15); ***acceptable*** if DPH is between 15 and 30 (DPH = 15-30); ***preferred*** if DPH is between 30 and 50 (DPH = 30-50); and ***excellent*** if DPH is between 50 and 70 (DPH = 50-70).
- The parametres of the ***gross dwelling density*** (i.e., neighbourhood density including residential & supporting uses that refer to total dwelling unit per neighbourhood area) is ***low*** if DPH is less than 50 (DPH<50); ***acceptable*** if DPH is between 10 and 15 (DPH = 10-15); ***preferred*** if DPH is between 16 and 30 (DPH = 16-30); ***excellent*** if DPH is between 31 and 50 (DPH = 31-50) (Teriman, Yigitcanlar, & Mayere, 2011).

Net residential density may be higher than the gross density in mixed-use area (Towers, 2005). This is not useful for public transportation efficiency and access to community services (Towers, 2005). On the other hand, density can also be evaluated as ***building density***, i.e., the ratio of floor area to ground-coverage area. According to Sivam and Karuppannan (2012), *"floor area ratio (FAR) is a more precise way of measuring commercial or mixed-use density"*. In addition, the balance between green area and built-up area is another significant evaluation for sustainable neighbourhood.

Although density and design concepts have both very important roles in developing built environment, density cannot be accepted as the only independent factor which has the ability to create good or bad urban fabric but more it is needed to be accepted as a measurement (Alexander 1993; Forsyth 2003 cited in Sivam and Karuppannan 2012). The strong relationship between density and design is that while one represents a measurement, the other represents a tool. This indicates the critical role of both concepts in the creation of sustainable built environment in various cultural contexts (Sivam and Karuppannan 2012).

[22] Research is conducted for Australia's South East Queensland which is currently Australia's fastest-growing metropolitan region (Teriman, Yigitcanlar, & Mayere, 2011).

3.3.4. Recreational Areas, Public and Green Spaces for Everyone

'Recreational areas, public and green spaces for everyone' is another significant issue for sustainable communities. Recreational and green area is an important part of socialization of residents. These areas provide physical development, physical health, mental well-being and social interaction. As the green areas develop and support various passive and active recreational activities for all groups of community, 'green infrastructure' can be accepted as an important indicator which provides a 'breathing space' for local communities in neighbourhood. In addition, green space network, which develops appropriate recreation activities, serves for both pedestrians and bicyclists by enhancing urban ecology. Therefore, it is crucially important to provide necessary maintenance regularly in order to sustain the quality and quantity of green areas in a residential neighbourhood and unit. Moreover, it is also crucial to sustain the residence satisfaction about the quality and quantity of those areas which is an important factor in terms of creating a sustainable neighbourhood. According to a study conducted by Chicago public housing, existence of trees and green areas within the residential site provides more social interaction among neighbours and a better physical environment; and residents feel more pleased and peaceful (SCI, 2012).

There are some important deficiencies related to the planning and design of park and recreational areas such as confusing layout, unfeasibility, planting problems, lack of signs, poor circulation and accessibility, vandalism, poor maintenance, poor lighting and visibility. Therefore, some principles are determined for recreational area development. First of all, 'ecology' is the main concept for the recreational and green area planning. In addition to the concept of 'ecology', the following terms are crucial for planning and design: availability, quantity, accessibility, quality, suitability, user-friendliness, integrity, and connectivity (Figure 3.19).

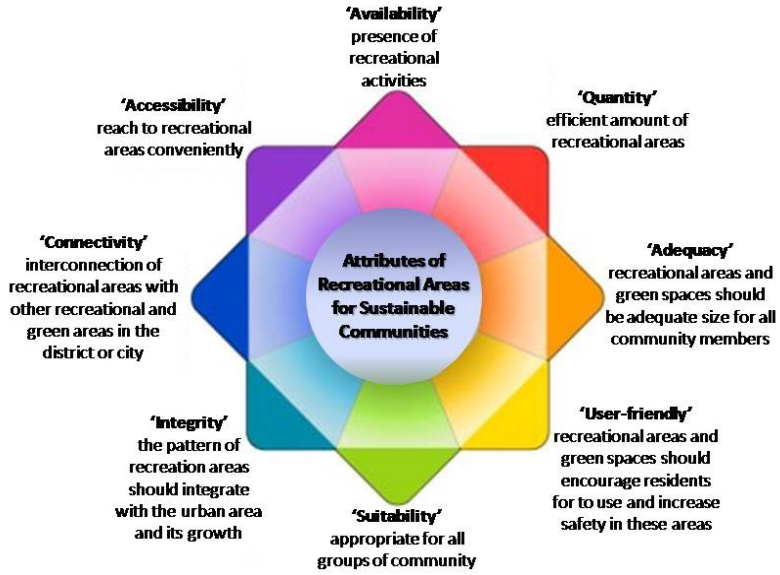


Figure 3.19: The Principles for Recreational Area Development[23]

[23]Base of coloured figure is originated from *http://selfdesign.org*

In order to develop a standardization for urban green areas in Turkey, a legal arrangement was brought to the agenda for the first time through the development law (Law Number 6785) in 1972 (Doygun and Alpagu 2007). According to this Law (Article no. 25), 7 m^2 per person was seen as a sufficient standard of green area for a Turkish city (Doygun and Alpagu 2007). In 1999, another legal arrangement was put into effect under the regulation of 3030 which was projecting and increasing active green area amount to 10 m^2 /pp within the municipal and adjacent areas, and to 14 m^2 /pp within the other areas, while excluding the greater city municipalities (Doygun and Alpagu 2007).

Different studies have indicated various green area amounts and ratios for different cities of Turkey. Whereas active green area amount in Antalya is 3,2m^2 per person (Karagüzel et al. 2000 cited in Doygun and Alpagu, 2007), the ratio is 1,9 m^2 in İstanbul (Aksoy 2001 cited in Doygun and Alpagu, 2007), 3,2 m^2 in Isparta (Gül and Küçük 2001 cited in Doygun and Alpagu, 2007), and 5,44 m^2 in Kayseri (Öztürk 2004 cited in Doygun and Alpagu, 2007). On the other hand, the mean value for green area ratio for the year 1996 in 32 European cities indicated a 26 m^2 per person (Doygun and Alpagu 2007). For instance, green area amount is 154 m^2 in Frankfurt, 153 m^2 in Stuttgart, 112 m^2 in Hannover, 107 m^2 in Stokholm, 50 m^2 in Washington, 49 m^2 in Bristol, 37 m^2 in Budapest (Etli, 2002; Emür & Onsekiz, 2007).

Table 3.6: Standards for Recreational Areas (Sancar, Sinan, & Turan, 2007)

SCALE	FACILITY	SERVICE AREA	UNIT AREA
Metropol	Metropolitan Area	Whole metropolitan area	~60 ha
City	Urban Park	Whole city	4 m^2/person
	Urban Forest	Whole city	Min. 40 ha
	Urban District Park	~3-5 km	
	Thematic Parks		
	Zoo	Whole city	4 m^2/person (min. 40 ha)
	Botanical Garden	Whole city	4 m^2/person (min 20 ha)
District	District Park	1.5-2.5 km	1.5 m^2/person (min 20 ha)
	Sports Area/ Recreational Area	1-1.5 km	7-10 m^2/person
	Hobby Garden		
Neighbourhood	Neighbourhood Park	0.8-1 km	1-4 m^2/person (half of them is sport area)
Neighbourhood Unit	Neighbourhood Unit Park	250-500 m.	~1.5 m^2/person (min. 5000 m^2)
Housing	Small Recreation Area	Max. 100 m.	50-100 m^2
	Playground Area	Max. 300 m.	0.75 m^2/person (max. 2500 m^2 min. 500 m^2)
	Small Playground Area	Max. 100 m.	0.2-0.5 m^2/person (50-100 m^2)

According to the Urban Audit prepared by European Commission, the ideal walking time period to the green areas is determined as 15 minutes. In Doygun and Alpagu (2007)'s study, the development of buffer zone measures were depending on the mean values that were obtained from Altunkasa (2004)'s study. 15 minutes for 600 meters is used as the buffer

zone measure in the study. Those values given below were calculated with the help of the mean measures projected in both Turkey and some other countries:

- Proximity to Children's playground at 10 minutes (400 meters),
- Proximity to Neighbourhood parks at 20 minutes (800 meters),
- Mean Value: 15 minutes for 600 meters.

According to Barton, Grant and Guise (2010, 137), the parameters given below are related to the green areas for well-planned neighbourhood:

- Local park and green space (600 meters)
- Access to the green network (600 metres)
- Major natural green space (2000 meters)

The active green area amount is calculated according to the ratio of projected and existent green area surface measures in square meter to population projection of development plan and actual population value (Doygun and Alpagu 2007). Following that calculation, the numbers and sizes of the active green areas can be determined in order to evaluate the fragmental forms and consistency with the ideal sizes of green area blocks. After that evaluation, it is possible to create buffer zones on each green area block which symbolizes the ideal pedestrain proximity to that block. In this way, the radius (or impact) areas of active green areas can be determined (Doygun and Alpagu 2007).

Apart from green spaces**,** well-designed 'recreational areas' which provide many opportunities and cultural, leisure, sport and other activities become important. They should:

- be suitable and have adequate size and number;
- meet the needs and expectations of all groups of community (children, young and old people, disabled people, families as resident and group etc.);
- be planned with residential areas to maximize accessibility for all groups of people in local community;
- be developed as a part of open space networks which provide passive recreational opportunities and strong connectivity and linkage among all usages such as residential, commercial, educational facilities and others within neighbourhoods.

Recreation can be categorised under two groups; one is 'active recreation' such as football, basketball, volleyball, tennis, golf, skiing; and the other one is 'passive recreation' such as walking, jogging, bicycling, observing and photographing, bird watching, fishing, picnicking, camping.

Recreational areas, which encourage social interaction and healthy lifestyle, should be located in walking distance (Kural, 2009). According to Barton, Grant and Guise (2010, 137), some parameters related to recreational areas for well-planned neighbourhood are:

- Toddlers play area (100 meters)
- Playground (300 meters)
- Playing fields (600 meters)

3.4. Housing

Sustainable communities should offer decent, sufficient, diverse, accessible and affordable housing opportunities for all community members within a balanced housing market. Decent housing, which is a basic human need, should provide good quality and try to meet the needs of residents. Sustainable housing is essential to enhance the quality of life, and to build healthy and sustainable communities. According to Maliene and Malys (2009), sustainable housing should meet the needs of resident. There are some important components related to sustainable housing such as availability in market, affordability, sufficient number of housing, great variety of green and quality housing, design, size and comfort, natural and social environment, secure and friendly neighbourhood, accessibility to schools, and health and other services (Maliene & Malys, 2009) (Figure 3.20). In the current research, three components are defined to assess sustainable communities such as 'mixed housing', 'the layout, quality and conditions of housing' and 'affordable housing'.

Figure 3.20: Indicators of Sustainable Housing (Adapted from Maliene & Malys, 2009)

3.4.1. Mixed-use of Different Housing Types

'Mixed housing' refers to using different housing types in the same site. Mixed housing types (e.g. detached housing, semi-detached housing, terraced housing, apartments; low-rise, mid-rise, high-rise apartment) with different characteristics (number of bedroom, size etc.) in housings are preferred for sustainable neighbourhood design. In community, there can be various income and household groups. Using different housing types offers suitable house types for residents who belong to different income and household groups. Moreover, it provides diversity in land use, and different accommodation opportunities for residents.

According to Alexander et al. (1977), multi-storey or high-rise buildings have different effects on human life, most of which are negative psychological impacts on social life (cited in Gökçe, 2007). Particularly, high-rise apartment buildings have serious impacts on social and physical interaction of residents within their neighbourhood (Gökçe, 2007). An individual does not feel like walking or spending time on a street, rather s/he feels lost within

an undefined corridor which is formed by high rise buildings (Gökçe, 2007). This corridor breaks down the interaction between human and environment. Disconnectedness between human and environment means that it is difficult to perceive the details around, and it is hard to develop a connection between housing and street from human scale viewpoint (Gökçe, 2007). As a result, this interruption damages the interaction between housing - environment - user and identity (Gökçe, 2007). Undefined or ill-structured interaction causes the failure to improve the relationship between individual, housing and housing environment (Gökçe, 2007). On the other hand, low-rise buildings provide more alternatives, all of which support both the social and physical interaction within the built environment (Gökçe, 2007). Particularly, low-rise housing groups offer more efficient and interactive open space alternatives, and enhance the social interaction within the neighbourhood (Gökçe, 2007).

3.4.2. The Layout, Quality and Conditions of Housing

'The layout, quality and conditions of housing' are other issues to be considered. If housing conditions and quality meet the needs and desire of residents, than community members are pleased to live in a neighbourhood. Housing layout, quality and conditions are crucial to reach sustainability in the long term (Long & Hutchins, 2003) Apart from the interior layout of the houses, the design of outer spaces of buildings becomes important for residents' satisfaction and social interaction (Long & Hutchins, 2003). For example, well-designed back courts and the front gardens in order to provide maximum use by residents support efficient interaction.

Satisfaction level within the neighbourhood can be assessed through the period of residence, percentage (%) of house satisfaction, percentage (%) of desire to move to a different house, conditions of buildings, percentage (%) of house improvement, and percentage (%) of desire for house improvement. Access to garden and green areas along with their design quality in the housing environment are other issues for assessing the residents' satisfaction.

Bailey and Manzi (2008) assert that mixed tenure communities are successful in facilitating social interaction between residents. Moreover, this potential of mixed tenure communities takes the protection of residents' privacy into account (Bailey & Manzi, 2008). The role of housing stock is one of the main elements. Sun (2005) agrees with that idea that existing housing stock influences the quality or liveability in the built environment through the conditions of and amenities provided by the buildings (Sun, 2005). Long and Hutchins (2003) support a very similar idea stating that many reports related to household dissatisfaction generally reveal the insufficient design, layout or quality about buildings. Secure car parking, room arrangement and availability of gardens are given as specific examples related to dissatisfaction criteria or complaints about households (Long & Hutchins, 2003)

Creating a place cannot be achieved only through design and the implementation of built environment. There are more things to foster local identity and to create a good urban design (Kural, 2009). According to Kural (2009), a scheme which is developed through an approach of well-designed integration to the environment needs to be considered. As Bramley et al.(2006) assert, localities' integration into a place or community is essential to provide a sense of place, sense of neighbourhood and sense of belonging (cited in Kural, 2009). Bramley et al.(2006: p.185) define the possible and effective ways to provide a sense of

place and belonging in a built environment through the integration of localities as follows (cited in Kural, 2009, p.107);

- *"Involving the existing community,*
- *Re-use of existing buildings and structures,*
- *Re-use of existing building materials or elements,*
- *Use of the existing land form"*

3.4.2. Affordable Housing (Housing for All)

Affordability term within the housing concept signifies economic accessibility to the existing housing stock. Therefore, affordability and (home) ownership terms are strongly interrelated, which means that more affordable housing stock influences and increases the homeownership rates among a community. If this strong correlation is accepted as a contribution to settling the sustainability approach among the neighbourhood and community design, the relationship between affordability and homeownership, and sense of belonging and place needs to be explored as a crucial factor (Figure 3.21). Residents who own a real estate and live in a neighbourhood feel themselves responsible for their house and surrounding areas. This responsibility triggers the development of awareness which enhances the sustainability of the neighbourhood. On the other hand, people also need to afford some other expenses whether they are homeowners or tenants in the region. Affordability of house rent and utilities can be given as examples to those expenses. If the tenants have enough financial sources to afford all those expenses, they can also develop awareness related to their home and surrounding. Therefore, affordability of a house along with the other utilities and expenses directly influences the level of sense of belonging and place, all of which improve the sustainability understanding.

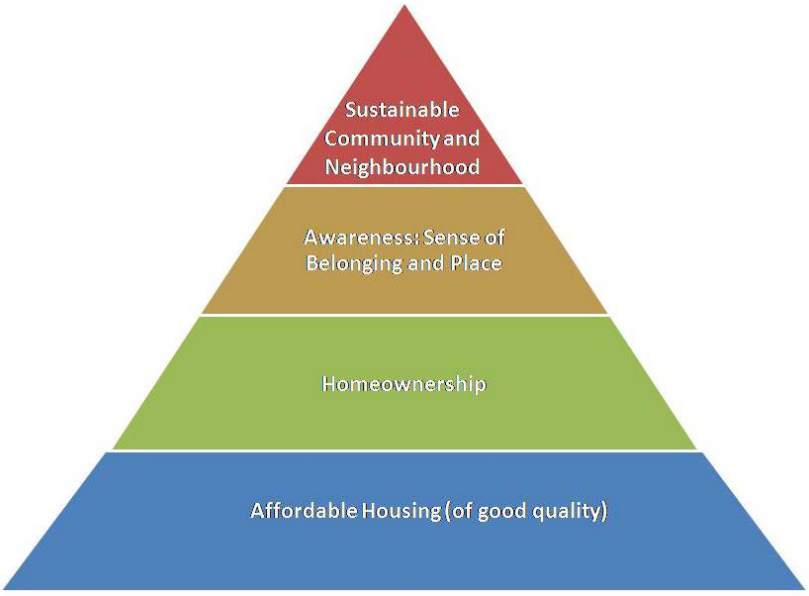


Figure 3.21: The Pyramid of Affordable Housing Approach which Settles the Sustainable Community Understanding

Housing stock in a neighbourhood and the level of the residents' satisfaction from that stock are linked to the affordability criteria. According to Sun (2005, p.16), "affordability measures the average cost of accessing a house related to available income, while

availability intends to provide the capacity of existing housing stock to meet demographic need". The social and economic diversity of a population or residents in a neighbourhood enhances the quality of built environment and sustainability of the living environment. Here, satisfaction and sustainable built environment generally refer to affordable and diverse housing stock which is accepted as critical to develop and enhance socially and economically diverse society (Kellett, Fryer, & Budke, 2009). This diverse housing stock which is owned or used by residents includes 'mix of housing types, sizes, tenures and density' (Kellett, Fryer, & Budke, 2009). As a result, the diversity of housing stock indicates more sustainable neighbourhood which can be defined as diverse, safe and socially active places to live (Kellett, Fryer, & Budke, 2009).

The debate on the availability of affordable housing is another issue to be taken into account. The supply methods and approaches of affordable housing stock are important to develop an equal approach for all people. If this equity and balance cannot be constituted, the diversity of housing stock in terms of affordability fails and results in polarization. Power (2004) draws attention to this danger and states that if the affordable housing supply cannot be ensured in a balanced way, this may cause conflict and greater polarisation. Power (2004) also asserts that utilization of existing stock is crucial to enhance the affordable housing stock. However, the existing stock cannot be used efficiently every time, and these inefficient approaches result in waste of housing and even land supplies (Power, 2004). According to Power (2004), although mixed use of housing is an important approach to sustain the communities and reduce the imbalances as well as inequalities, there is a need to develop high quality design and management of housing supply. Power (2004) criticizes that although private sector is the dominant and leading sector to provide housing, they are generally late to utilize the existing stock efficiently and to develop high quality standards for affordable housing supplies. Therefore, mixed communities cannot be developed successfully, and they cannot be satisfied with both existing and new living environment.

Generally, housing policies have been built on reserving new lands including wealthy agricultural areas for housing needs in metropolitan cities in Turkey. Suburban development mainly depends on these policies. However, existing housing stock and lands are abandoned and left with their own fates. This approach results in the deterioration of existing building stock and loss of their attractiveness. Inefficient uses of existing stock also affect the affordable and well-designed housing supplies. Power (2004) draws attention to the importance of efficient use of existing housing and lands in order to contribute to the sustainable and affordable housing stock in the existing areas and buildings. If adequate importance is given to the effective utilization of existing lands and built environment through planning, the creation and preservation of sustainable communities can be achieved (Power, 2004). Utilization of existing stocks also helps to preserve the agricultural areas and natural environment around the cities. As a result, balance to use existing land and new lands needs to be secured through policies, planning, and design.

Table 3.7 displays five approaches related to housing indicators. The first one is the COMLE Model (Community Oriented Model of the Lived Environment), which assesses the quality of life benchmarks in the local level (Wigle, 1998).This model was produced by CMHC (Canada Mortgage and Housing Corporation) in 1992 and revised in 1996 (Sun, 2005). The model includes economic vitality of housing, social well-being (affordability, liveability, quality and accessibility), environment integrity and density. Secondly, Peter Morton

conducted a research study in 1999 in his master thesis, named 'Quality of Life in Saskatoon 1991 and 1996: A Geographical Perspective' in the Department of Geography, University of Saskatchewan in Canada. He offered two components 'availability and incidence of housing' and 'types, quality and liveability of housing' (Sun, 2005). Thirdly, Federation of Canadian Municipalities prepared a report, titled 'FCM Quality of Life Report' in 2001, and developed some indicators related to affordability, availability and quality of housing (Sun, 2005). The fourth model is a specific location 'City of Saskatoon' in Canada. The city committee prepared a report named 'Housing Indicators Study and Implementation'. In this example, there are three main themes defined as safety, stability and adequacy (Sun, 2005). The last indicator approach related to community sustainability was developed by a research group from the University of Wisconsin in the US in January 1998 (Liebl, et al., 1998). Housing is one section of this research which focuses on the accessibility of housing, adequate and affordable housing (Liebl, et al., 1998).

Table 3.7: Dimensions and Indicators of Housing
(Adapted from Liebl, et al., 1998; Sun, 2005, pp. 16-18)

Chosen in the Prototype Studies	DIMENSIONS	INDICATORS
Community Oriented Model of the Lived Environment 'The COMLE Model' (CMHC, 1996)	# Economic Vitality; - Housing # Social Well-Being; - Affordability - Liveability - Quality - Accessibility # Environment Integrity # Density	**Employment:** ▪ Housing estates built per annum ▪ Value of building permits-average value per capita per annum **Affordability:** ▪ % tenants who spend 30% or more household income on gross rent ▪ % owner occupants who spend 30% or more of household income on principal, interest, taxes, and utilities ▪ Average price of serviced residential lots ($ and % of average price of house) **Suitability:** ▪ Average # of persons per bedroom, or below the more refined National Occupancy Standard **Adequacy:** ▪ % dwellings in need of major repair **Accessibility:** ▪ Waiting time for those in need - access to subsidized housing ▪ % total stock made up of social housing estates ▪ Vacancy rates, especially if available by price range of stock ▪ Supply of serviced residential land coming on stream to meet future demand **Homeless:** ▪ Any available estimates of homeless persons (taking into account weaknesses in data) ▪ Changes in occupancy rates of shelter beds, using a moving 12 month average for example **Advocacy:** ▪ % Households participating in residents or ratepayers associations **Density/Design:** ▪ Population density - # of persons per sq. km in residential areas ▪ Gradient density - difference in density between inner and outer suburban areas ▪ Average lot size

Table 3.7: Dimensions and Indicators of Housing (continued)

Peter Morton (1999)	# Availability and Incidence of Housing # Types, Quality and Liveability of Housing	▪ % rental housing ▪ % owned housing ▪ % single-detached housing ▪ % semi-detached housing ▪ % row housing ▪ % apartment, detached duplex ▪ % apartment building with greater than five stories ▪ % apartment building less than five stories ▪ Average value of dwelling ▪ % housing requiring regular maintenance ▪ % housing requiring minor repairs ▪ % housing requiring major repairs ▪ Average number of rooms per dwelling
Federation of Canadian Municipalities (FCM,2001)	# Affordability # Availability # Quality	▪ Average rent of a 2-bedroom apartment as a percentage of median non-family person income ▪ Average rent of a 2-bedroom apartment as a percentage of median family income ▪ Vacancy rate (%) ▪ Housing starts ▪ Average price of single family dwelling ▪ % Households whose gross rent >= 30% of income ▪ % Substandard units in total occupied private dwellings ▪ Real estate sales per capita
The City of Saskatoon, Canada (2001)	# Safety; Housing in compliance # Stability; Availability of social housing # Stability; Availability of rental housing # Stability; Economic segregation # Adequacy; Overcrowding # Adequacy; Age of housing	**Safety-Housing in Compliance:** Total housing stock within Saskatoon in compliance with current regulations over total housing stock **Stability-Availability of Social Housing:** Number of subsidized housing estates/ person or number of singles and families on waiting lists for social housing/ subsidized housing. **Stability-Availability of Rental Housing:** CMHC vacancy rates **Stability-Economic Segregation:** Change in average household income by neighbourhood compared to change in income for City or change in household population by neighbourhood compared to City as ranked by average income **Adequacy-Overcrowding:** Median floor area (sq.)/ average number of persons per room **Adequacy-Age of Housing:** Age of housing **Affordability-Ownership:** Median house price over median income **Affordability-Rental:** Median priced 2 bedroom apartment rent over median tenant income **Affordability-Low-Income:** Percentage of social assistance recipients paying rent in excess of shelter allowances
Liebl, et al., (1998)	# The indicators illustrate the accessibility of housing for a diverse population in the community. Adequate and affordable housing is indicators of social and economic stability	▪ Yearly % increase in number of dwelling units ▪ Population affording median home sale price ▪ Median rent as % of per capita income ▪ Occupancy rate of housing estates ▪ Home ownership rate ▪ Rate of real estate development in community ▪ Is development rate outstripping the community's ability to manage growth ▪ Population affording median rental units ▪ Housing set aside for low-to-moderate income ▪ Community support for low-income houses ▪ Distribution of affordable housing throughout

Table 3.7: Dimensions and Indicators of Housing (continued)

		community ▪ Is the affordable housing concentrated in a certain area ▪ Homeless people per capita ▪ People using homeless shelters in a year/homeless in the community ▪ Need for shelters ▪ Homeless shelters in community ▪ Access to shelters ▪ Waiting time for subsidized housing ▪ Access to affordable housing ▪ Number of rehabilitated affordable housing estates ▪ Dwellings in need of major repair ▪ Longevity of housing resources

3.5. Transport and Connectivity

The component of 'transport and connectivity' is evaluated under three headings: 1) accessibility; street networks and patterns along with other accessibility elements; 2) walkability and automobile dependency; 3) quality of streets and availability of parking facilities. All these headings are important to build sustainable communities and liveable neighbourhoods.

3.5.1. Accessibility; Street Networks and Patterns Along with Other Accessibility Elements

Accessibility term has been used particularly in recent decades in urban development concept due to growing demands and increasing problems within the urban areas. Those problems range from transportation issues to suitable usage of home spaces and equipments which are all directly related to accessibility term. The demand to live in an accessible environment has been developed and has spread due to the aging populations, growing awareness on built environmental conditions, developing technology and health sector, and diversifying user needs. Thus, accessible environment development has become a crucial factor in developing sustainable living spaces.

Long and Hutchins (2003) also draw attention to the accessibility understanding which has changed in recent decades due to different advancements and needs. According to Long and Hutchins (2003), particularly the organization of housing and other facilities including employment and services have been re-designed and re-planned in order to meet the rapidly growing populations' needs. The foremost issue related to this shift in organizational structure of the facilities and residential areas is the residents' access to transport who want to reach the essential facilities and services dispersed in different regions, but particularly in city centre (Long & Hutchins, 2003). Long and Hutchins (2003) assert that there have been fundamental changes in terms of services provided and delivered to people due to rapidly developing and changing information and communication technologies. These changes have shaken many physical, social, economic and even cultural foundations which have been developed for many years. As a result, residents' expectations, needs and access to employment, services and facilities have moved to another phase which can be evaluated through sustainable community criteria.

People prefer to live, work and spend time in buildings and open spaces which provide every need that match with their age, physical conditions, socio-cultural characteristics, and economic conditions. Therefore, accessibility term needs to be adapted in different scales in urban area according to diversified needs. These scales range from housing estate scale to neighbourhood scale, and all of them need to be taken into account in a holistic way. A resident has different needs which start from his or her home spaces such as bathroom, kitchen, and bedroom, and from the access to his or her house such as stairs, ramps, parking area, open space or garden. Moreover, the accessibility needs in neighbourhood scale indicate the kind of vehicles or transport alternatives to arrive at any facilities such as local shops, schools, health facilities, or parks. Proximity to different facilities in and around the neighbourhood, transportation alternatives, ecological issues which are directly affected by transportation preferences, safety during transportation and other issues need a holistic planning and design approach in order to sustain accessible and healthy living environment.

Barton (2000, p: 93-95) states that access to different facilities including employment, education, retail, health, and leisure has been a growing concern of healthy urban development, particularly in neighbourhood scale. This concern has been emerging due to the growing populations and the attempts to meet those populations' needs. The growing urban areas in parallel to population growth have brought about the enlargement of many facilities such as retails and employment. As a result, the local facilities have become insufficient. For this reason, many local people have to travel to the other sites of the urban area. In addition, the inner city areas have great traffic problems such as traffic congestion and insufficient parking lots. Many people prefer to move to suburban areas in order to live in a healthier environment. However, many of the retails and public services left in the city centre or urban areas. Therefore, people again have to travel to the city centre everyday, which costs high, and leads to waste of time and environmental pollution due to motor vehicle transportation. These problems indicate the accessibility issue as well. The streets and roads people use for transport, the convenience and safety of transport alternatives and vehicles, and road safety are all directly related to the accessibility concerns.

Beside these major problems, there are many other issues and concerns about sustaining the accessibility concept successfully in urban and suburban areas. One of those problems is walkability or walking willingness of residents in their home and work environment. This issue is argued in the following section in more detail.

One of the important accessibility criteria is the landscape design of the living environment. It is important to take scales, materials, and colour specifications of landscape elements into account in order to provide accessibility. Particularly the colour, odour, texture, and aesthetic characteristics of the plants are important contributions to achieve accessibility. The powerful and effective landscape elements which provide accessibility are listed as follows:

- *"Pedestrian ways and firm grounds; it is necessary to remove barriers, arrange pavement levels, provide equipments to sustain safe use in order to provide accessibility.*
- *Ramps and steps; In order to achieve a successful access, it is needed to arrange and design ramp slopes and step heights safely, and to provide warning signs where it is needed.*

- *Sitting places; it is needed to develop comfortable and accessible sitting areas.*
- *Parking lots; the closest places to the entrance and exit areas, or to the vista points should be allocated for elderly and disabled people.*
- *Stops; the locations should be easy to find and perceive, and easy to be seen from a certain proximity.*
- *Sports facilities; these areas have important contribution to the social interaction; therefore it is needed to develop accessibility within these areas.*
- *Terraces; using of plant in these areas is important to provide accessibility and social interaction.*
- *Pools; wide and calm water surface can develop an attraction point through unifying the landscape elements"* (Kalınkara, 2001, cited in Gökçe, 2007, p.53)

If accessibility is provided through landscape design, the number of people using that area increases. In other words, if the trees used in an area increases, the number of people accessing to that space increases (Kalınkara, 2001 cited in Gökçe, 2007)

Accessibility of services, particularly key facilities including health services, schools, local shopping places, local parks and recreation areas are one of the important issues related to accessibility and sustainability of communities and neighbourhoods (Long and Hutchins, 2003). Long and Hutchins (2003) point to the strong correlation between sustainability and accessibility through the access level of key facilities, services and employment. According to this view, they categorize access period in two time ranges; the facilities and services which are accessible within a 10 minute-walk distance and a 30 minute-bus or train ride (Long and Hutchins, 2003). These are listed as follows:

- *"a range of employment opportunities*
- *a range of outlets supplying affordable groceries;*
- *affordable child care places;*
- *a primary school (within walking distance in urban areas);*
- *a secondary school;*
- *play & leisure facilities for all ages (within walking distance in urban areas);*
- *a post office and banking facility;*
- *a primary health care facility (either a community health clinic, or some kind or a*
- *GP's surgery);*
- *a one-stop shop for advice;*
- *a re-cycling collection service;*
- *a place of worship"*. (Long & Hutchins, 2003)

Access to open areas and public spaces which are also important as being the playing grounds and social interaction areas for different age groups, children and adolescent is another important issue. Mostly in urban areas, limited open spaces cause deficient playing areas for children; therefore, many streets have become playing spaces for them. Norman et al. (2006, cited in Dannenberg, Frumkin, & Jackson, 2011) point out that some of the streets with low connectivity generally have very low traffic and even they can be free of traffic in particular times of the day. This situation is used by youths and these streets become play grounds for them (Norman et al., 2006, cited in Dannenberg, Frumkin, & Jackson, 2011). Moreover, girls are found more active in such kind of streets which are turned into play areas (Norman et al., 2006 cited in Dannenberg, Frumkin, & Jackson, 2011). Another similar approach is found that boys spend five to twenty two minutes more outside the homes who live in a cul-de-sac in comparison to the boys who live in a high connectivity street (Carver,

Timperio, and Crawford, 2008, cited in Dannenberg, Frumkin, & Jackson, 2011) Another interesting finding obtained in different research studies indicate that walkability index (Kligerman et al., 2007 cited in Dannenberg, Frumkin, & Jackson, 2011) or some of its components (Norman et al. 2006) have revealed similar approaches related to physical activities of adults (Dannenberg, Frumkin, & Jackson, 2011).

Accessibility approach also contributes to the sense of place development in neighbourhoods. Streets which are planned and designed according to details which contribute to the attractiveness and development of lively mixed-use places enhance the sense of place among the residents and visitors as well. The attractiveness of the place can be defined according to the variety of different functions particularly located in the ground floors of buildings. These functions which are open to the street and which invite people through their attractive design and functions (such as shops, cafes etc.) have the potential to enrich social interaction and mixed-use character of the environment (Government of Ireland, 2009). Accessibility to these facilities and strong connections between them contribute to the sustainability of the neighbourhood, which means that streets do not have only the movement function but more they have to be areas of social and cultural interaction in order to support the neighbourhood and community sustainability (Government of Ireland, 2009).

Building design is also an important component of accessibility concept. Today's architectural design approach focuses on the accessibility standards in and around the buildings in order to develop and settle the "design for all" approach. This approach mainly concentrates on the architectural design standards for all people including aging groups, and vulnerable and disabled people. Design approach needs to be thought as a holistic process which follows the planning scale. Therefore, planning and designing streets within a neighbourhood should be connected with the quality standards to access buildings as well.

3.5.2. Walkability and Automobile Dependence

Another issue related to the accessibility concept is the walkability and automobile dependency. The demand on living in a healthy city for both existing populations and future generations can be achieved only if motor vehicle depended transportation is reduced and other alternatives such as public transport, cycling and walking are enhanced and supported. People mostly have become immobile due to technological advancements and changing job conditions, all of which indicate desk-based working. The lifestyles and daily habits of people have transformed into more slow and frozen or motionless lifestyles. People, particularly the ones living in urban areas are threatened by health risk pertaining from immobile lifestyles. Even the simplest moving attempts such as a short walk to the bus or other transport vehicles every working day could improve health conditions of people and relax them which help to lower stress levels (Commonwealth of Australia, 2010).

> *"Decreased motor vehicle use and increased use of public transport, cycling and walking are vital to creating a healthy, liveable city, now and for future generations. A sedentary lifestyle is a health risk. A brief walk to the bus or train each day can improve your health and lower stress levels" (Commonwealth of Australia, 2010)*

3.5.3. Quality of Streets and Availability of Parking Facilities

Safe streets and roads are needed for comfortable and convenient walking for both pedestrians and bicyclists. In addition, appropriate pavements, lighting and street signage are other important elements related to quality of streets and roads. The quality of streets and roads are other indicators for sustainable community. The assessment for this indicator can be made through the quality of paved streets, street lighting and safety, street signage and proper drainage system.

When streets are designed, pedestrian movements and their accessibility to all community services should be considered. Streets design should encourage residents' moving by walking. Moreover, they should provide an opportunity to use bicycles. Residents promote public transportation. Therefore, the frequency of public transportation, accessibility of public transportation stations, and spending time via bus/metro are important indicators to encourage residents to use public transportations. Well-designed streets provide the accessibility in neighbourhood, improve social interaction in community, provide safe places to encourage walking, and enhance the quality of neighbourhood (Commonwealth of Australia, 2010).

According to Government of Ireland (2009), there are some important components related to street design. These are;

- *"Links to the overall road network in the district or town, including bus services, based on an analysis of the need for such linkages;*
- *Access to bus-based and rail-based public transport (where relevant);*
- *Direct walking and cycling routes to local facilities such as shops, schools, public transport, and open spaces, together with lighting and landscaping of such routes;*
- *Access for people with disabilities;*
- *Maximum permeability for pedestrians and cyclists*
- *Circulation routes for public service (buses, waste collection) and delivery vehicles within the area;*
- *Residential streets with limited through motor traffic;*
- *Consideration of provision for low design speeds (such as 30kph) and facilities for pedestrians and cyclists;*
- *The location and amount of parking for cars and cycles; and*
- *The planting of appropriate street trees (bearing in mind the location of underground services)"* (Government of Ireland, 2009)

Parking facilities are other important sustainable community indicators. The number and location of parking areas are important issue for residents to increase quality of life. The number and location of on-street parking area within a neighbourhood and those of off-street parking area within a housing estate are issues to be searched for.

2.4.4. Community Services

2.4.4.1. Availability, Accessibility, Adequacy of Community Services

Level of pleasure and benefit of local residents from local services such as commercial, educational, health and cultural-recreational facilities are crucial indicators to assess

sustainable neighbourhood. **Commercial services** in neighbourhood, including markets, shops, malls, banks, restaurants, café, and pastry are required to meet the needs of local residents. Accessibility and quantity of these services are important for all groups of community members. **Education services** in neighbourhood consist of pre-school education, primary education, and social activity centres. Quality and quantity of local educational facilities in neighbourhood improve the level of utilization of these facilities by community members. In addition, community education, including lifelong learning, job and skills training, events and activities, is another important element for creating sustainable communities. **Health services** (such as health centres) are significant in a neighbourhood for emergency situations and routine controls. Accessibility to these centres, waiting times for health services and the quality of these services can be used to assess the sufficiency and quality of such services. **Cultural and recreational services** in neighbourhood should provide multiple activities for local residents to increase and maintain personal health and community well-being.

To develop sustainable communities, residents should meet their needs easily in their living area. Each community member could have an access to high quality public services, local shops and leisure facilities. Built environment should provide accessibility to local services. "The idea of 'walking distance communities' where each neighbourhood would contain a school, shops, post office, chemist, church, pub, community centre and sports facilities". (Woodcraft, Hackett, & Caistor-Arendar, 2011). Moreover, built environment should provide some opportunities to meet with other residents in some common places which are created to improve sense of community (Woodcraft, Hackett, & Caistor-Arendar, 2011).

There should be a wide range of health services in a town with 20.000-30.000 people. While small size health services should be located in walking distance (max 800 metres- 10-minute walk), all residents can access to a wide range of health service via a public transportation conveniently (Barton et al, 2005 cited in Kural, 2009). Local shops are important for residents to meet their needs. In addition, they provide revitalization of economic and social life of community. Therefore, they should be located in walking distance and also they offer residents wide range of choices.

Accessibility of vulnerable groups to neighbourhood facilities (public transport stops and stations, health and community facilities, recreational areas, etc) is one of the targets of sustainable community development. The design of streets and open public spaces (e.g., continuous and proper width of sidewalks with stairs or ramps for vulnerable groups) is crucial for sustainable design.

3.7. Community Governance

Community governance is evaluated under the headings of 'community awareness, community participation and volunteering'. Those key concepts are significant to develop and enhance community sustainability and social well-being.

3.7.1. Public Awareness, Community Participation and Volunteering

Resident and user awareness, participation, and volunteering are important key concepts related to sustainable communities. It can be categorized under two groups; political and civic participation, and cultural participation and creativity (Salvaris & Wiseman,

2004)(Figure 3.22). Political and civic participation consist of "public trust and confidence in public institutions, public trust in political parties and government, number of representative, and population aware of key legal and human rights" (Salvaris & Wiseman, 2004). Cultural participation and creativity include "public and private sector expenditure on research and development, public and private sector expenditure on cultural institutions and activities, levels of participation in cultural activities, usage of public arts and cultural facilities" (Salvaris & Wiseman, 2004).

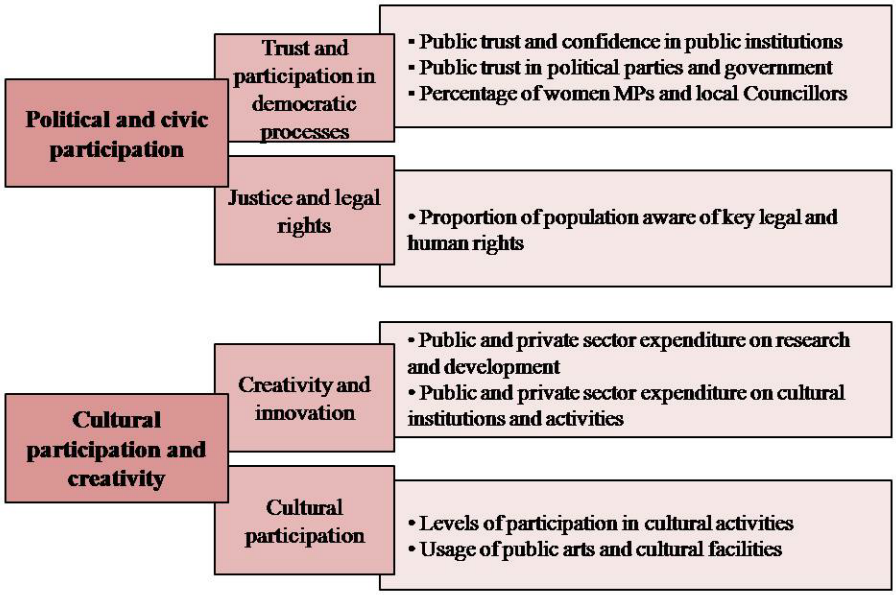


Figure 3.22: Categorized of Community Participation
(Adaptation from Salvaris & Wiseman, 2004)

Participation is a process which consists of transparency, trust, reciprocity, and openness (Crofton & Pollard, 2001). The report prepared by Canada Mortgage and Housing Corporation (CMHC) offers some principles about participation to build sustainable communities; these are i) having a say, ii) influence, iii) multiple interest, iv) proactive, v) early and often, vi) support, vii) feedback (Crofton & Pollard, 2001). These seven principles provide more meaningful and useful participation and involvement process for the community. Community governance is another enlightening component to connect individual to community for sustainable community. It enhances the awareness of individual about community, encourages resident participation in community activities, and helps to solve community problems.

CHAPTER 4

THE RESEARCH METHOD

4.1. Introduction

This chapter explains the research method used in this study. This research basically assesses the 'sustainable community' concept within the context of suburban residential district in Ankara, Turkey. Immense research exists in the literature relating to sustainable communities in the United Kingdom, the United States, Canada, Australia, and in some other countries of the world. In addition, the local and national urban policies and community - based plans and projects with the aim of building sustainable communities provide us with a new paradigm for urban planning process. In Turkey, however, there are a limited number of studies and projects about sustainable community development. Therefore, the primary motivation of this research is the desire to fill the gap in knowledge about the sustainable communities and its assessments in the urban planning literature in Turkey. The aim of this study is to provide fundamental, useful and practical information for local urban planning and design policies in Turkey.

Some researches only focus on the environmental dimension of the 'sustainable community' concept. However, the concept basically consists of social, environmental and economic domains. In fact, the elements of sustainable development overlap with these three fundamental domains. 'Sustainable communities' are the places where residents are pleased to live, work and enjoy, and where existing and future residents' needs and aspirations are met. In this research, sustainable community is a representation of a socio-spatial environment. 'Sustainable communities' are well-planned social and built environments which do the following.

- offer equal opportunities for accessibility to all services,
- provide clean, safe and secure environment,
- increase quality of life and social well-being,
- build a sense of place, sense of community and sense of belonging,
- increase social interaction among the residents and neighbourhood satisfaction,
- offer recreational and green areas, as well as well-designed transport infrastructure,
- offer different and diverse affordable housing types for all residents,
- flourish local economy and diversity district centre,
- offer some opportunities increasing physical activities and community health,
- display sensitivity to the environment,
- increase residents' awareness, participation, cooperation and involvement.

This chapter consists of three parts explaining the research method, the procedure followed in this study, and the case area. The first part details the research perspective, research design, research objectives, research questions, hypothesis, data collection and the data analysis. The second part describes the case study areas and the process of conducting the case study in the selected sites. The third part explains the plan for data collection, including data collection design, instruments and procedures besides questionnaires.

4.2. Research Approach

This research sprang from an intention to emphasize the importance of 'sustainable community' for urban planning studies. A literature review on sustainable community development in Turkey has shown that no study exists widely examining this issue regarding project planning and implementation. Thus, this research aims to fill this gap in the literature. It seeks to be exemplary by putting forth a framework for sustainable community assessment of local planning implementations. 'Community' and its sustainability are the crucial notions for planners. In spatial evaluation, 'neighbourhood' and 'housing estate' are the significant scales (as a micro-scale) to analyze the community sustainability in the local level. Therefore, this research has opted to examine sustainable communities in residential district with the regard to the scales of neighbourhood and the housing estate.

It is possible to study 'sustainable community' concept in relation to planning projects on various urban areas with different problems, such as suburban residential areas, inner-city areas, regeneration areas, rural areas, slum areas, historical areas, disaster areas, vulnerable areas, mass housing areas or gated-communities. This study opts to assess the concept in suburban residential neighbourhoods. The unit of analysis of the research is the three housing estates in suburban neighbourhood. The research gathers both qualitative and quantitative data[24] by using questionnaires, document analysis, field observations and photographing as the major sources of data.

Two main objectives of this research are to define sustainable community indicators and to use them to assess different housing estates in suburban residential neighbourhood. As it is not possible to analyze all housing estates in the selected suburban neighbourhood, this research carried out the analysis focusing on three different types of housing estates by means of multi-stage estate sampling method. (Ankara as a city; Çayyolu as an urban quarter/suburban area; Ümitköy as a residential district, and three housing estates in Ümitköy)

The main questions put forth by this research are:
How should the built environment be designed to create a sustainable community?
How does the built environment affect the development of a sustainable community?

1st sub-question:
What makes a community sustainable? or What is required to build a sustainable community?

2nd sub-question:
How can sustainable community in suburban residential areas be assessed?

3rd sub-question:
What are the differences or similarities between different types of housing estates with different design and architectural characteristics within the same residential district in terms of sustainable community indicators?

[24]According to Witkin and Altschuld (1995), there are seven fundamental issues in a survey planning: i) target population, ii) sampling, iii) method of distribution, iv) questionnaires design, v) item content, vi) item formats and scales (open-ended, multiple choices, category scales, rankings, paired comparisons, most and less important are the key words of the issues), and vii) data analysis.

The research stresses how to manage the relationship between ‘people’ and ‘space’, or the relationship between ‘community’ and ‘built environment’. The major hypothesis of this research is that *the design characteristics of a neighbourhood and the characteristics and organization of community itself are mutually influential in developing a sustainable community.* This theses argues that "in order to develop community sustainability in a neighbourhood and housing estate scale, physical characteristics of the built environment is not enough solely" (*hypothesis-I*). The other argument of the thesis is that "it is only possible to develop, enhance and sustain healthy communities through combining social and spatial planning and design of liveable neighbourhood and residential areas (*hypothesis-II*). It is also argued that "production of space in the suburban area of Ankara mainly depends on physical characteristics, whereas this approach excludes the other needs of community, indicators of community wellbeing and social design" (*hypothesis-III*).

4.3. The Case Study

This section briefly overviews the history of Çayyolu to understand and evaluate the development and importance of such a popular suburban area. Then, it focuses on the Ümitköy district located within Çayyolu, where the case study areas are located. Finally, the spatial attributes of the district, mixed land-use, building type, characteristic and form of sub-district, are discussed.

4.3.1. The Location and Historical Development of Çayyolu

Jansen and Yücel-Uybadin plans related to urban development of Ankara until the 1950s envisioned an urban growth in natural bowl-type topography through the North-South direction. However, the urban centre could not meet the rapidly growing urban population and the need for housing. The limited and expensive urban land did not meet the increasing housing and infrastructure needs. Therefore, housing cooperatives were the first response of the governmental organizations to the growing housing needs. It is possible to see the first attempts of housing cooperatives before the 1950s. For example, the Ankara Cost-Effective Housings Cooperative Company (*Ankara Ucuz Evler Kooperatif Şirketi*) was resorted to by the government to cater for the housing needs of residents, particularly for low and middle income groups, and public employees in Ankara. This company was developed in 1942 and worked for at least 30 years implementing housing projects (Enactment No: 18920, Official Gazette, 1942). The aim of the cooperative was to

- construct a dwelling for each cooperative member on the area purchased in Ankara,
- organize the purchase payment for each dwelling which is determined by the related general assembly, and make the members pay these costs in monthly instalments,
- have the maintenance responsibility until the members finish the payment and own the houses,
- organize the delivery of the necessary public services in the newly developing neighbourhood (Official Gazette, 1942, p. 3944).

Although there were important attempts to develop the new land and residential areas, the planning approaches were quite ineffective. By 1965, Master Plan Bureaus were developed in order to prepare the master plans of urban areas, particularly of İstanbul, Ankara and İzmir. These organizations prepared for the first time holistic plans of urban areas.

In 1969, the Ankara Metropolitan Bureau of Development was established under the Ministry of Development and Housing with the decision of the Council of Ministers (Ankara Metropolitan Municipality 2011). The Ankara Metropolitan Bureau of Development made an extensive research about Ankara between 1970 and 1975, and developed a main plan for the metropolitan area (Ankara Metropolitan Municipality 2011). In 1982, this plan knows as '1990 Ankara Development Plan' became effective with the scale of 1/50 000 (Aras, 2008).

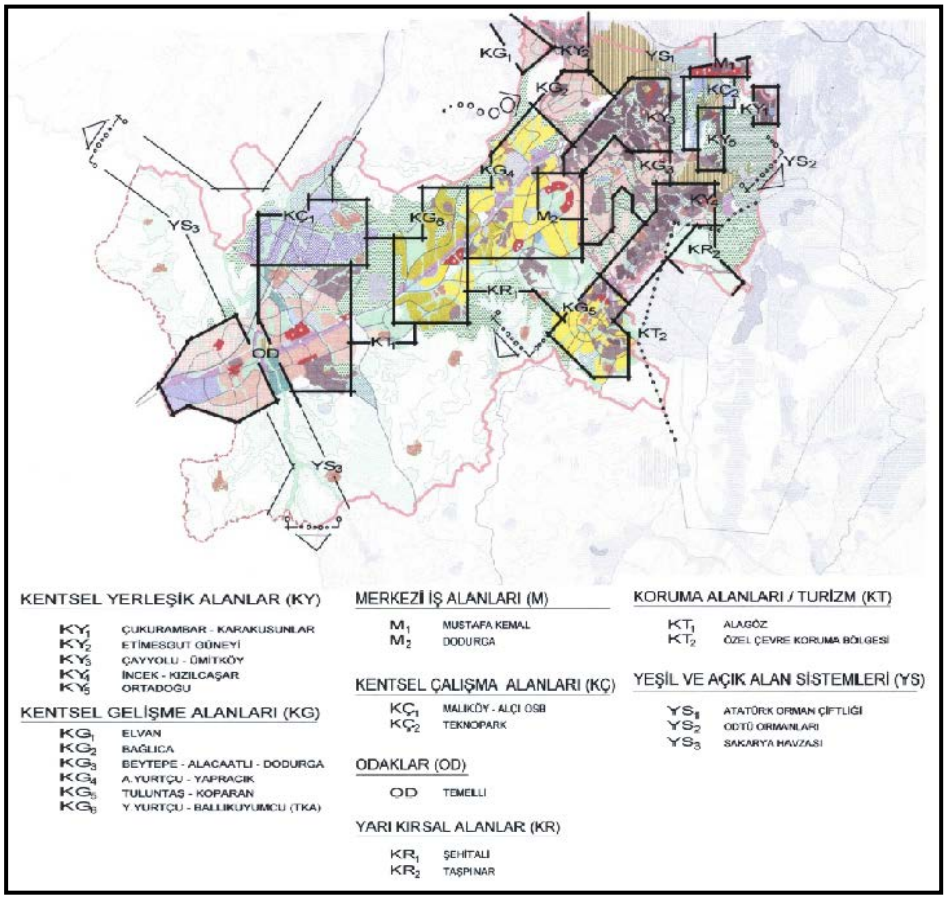


Figure 4.1: Southwest Corridor Development Plan
(Ankara Metropolitan Municipality, 2006, p. 587)

The insufficiency of North-South urban growth direction and the increasing impacts of liberal policies particularly by the 1980s have developed other urban growth corridor such as East-West Corridor. Ümitköy settlement is also a production of this understanding and development of Southwest corridor or Ankara-Eskişehir Corridor. The 1990 Ankara Development Plan mainly envisaged the development of the western and southern corridors. One motive behind this idea was to create new housing areas on the outskirts of the city to reduce the high level of air pollution in the per-urban areas (Ankara Metropolitan Municipality, 2011). Another reason was that there were no squatter neighbourhoods in the south-western corridor. Today, many university campuses (METU, Bilkent University, Hacettepe University, Başkent University, and Çankaya University), settlement areas (Bilkent, Beysukent, Beytepe, Ümitköy, Koru Site, Konutkent, and Yaşamkent), hospitals, public institutions, shopping malls are located in the western corridor of Ankara, named as the Eskişehir Road or Dumlupınar Bulvarı.

Ümitköy and Çayyolu are located on the south-western corridor of Ankara, about 20-25 km far away from the city centre (Kızılay) (Korkmaz-Tirkeş, 2007). The district has been developed as a suburban settlement area with the aim of establishing a mass housing settlement after the 1980s. Ümitköy, Koru Site, Konutkent-1, Konutkent-2, and Yaşamkent are located in the Çayyolu district, and the southern part of Eskişehir Road. Günay (2005, p.66 as cited in Korkmaz-Tirkeş, 2007) emphasized that the 1990 Development Plan drew a general framework about the development of Çayyolu District, and the first planning decisions were made in the plan. According to the 2000 population census, the population of Çayyolu is 52,873, and the population capacity of the district is determined as 110.000 (Ankara Metropolitan Municipality, 2006).

Çayyolu is not only a housing area, but also it has commercial centres, health and educational services, open and green areas. There are many different housing types in Çayyolu. First of all, the Ümitköy district started to develope after the 1980s by the way of cooperatives (Mutluköy Site, Ümitköy Site, Mak-iş Site, Eserköy Site, Beril Site, Kafkas Site). Then, some building contractor firms, such as Mesa Insaat and Emlak Bankasi, built new residential areas in Çayyolu (Mesa Koru Site, Emlak Bankası Konutkent 1.Etap, Emlak Bankası Konutkent 2.Etap). Çayyolu became one of the most-preferred districts by middle and upper class residents especially after the 1990s.

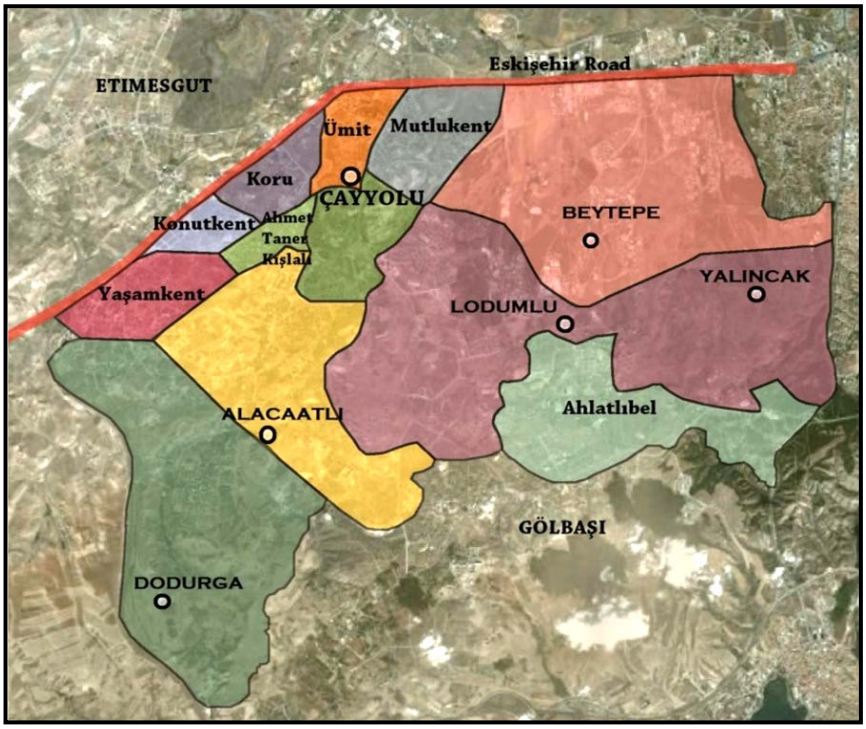


Figure 4.2: The Sub-districts of Çayyolu and Surrounding Regions

	Ümitköy	Koru Site	Konutkent 1	Konutkent 2	Yaşamkent
Housing Typology	▪ Housing site with five-storey ▪ Housing site with multiple-storey ▪ Attached Duplex and Triplex Housing ▪ Individual Duplex and Triplex Housing ▪ Apartments in Individual Plots	▪ Housing site with five-storey ▪ Housing site with multiple-storey ▪ Attached Duplex and Triplex Housing ▪ Individual Duplex and Triplex Housing	▪ Housing site with five-storey ▪ Housing site with multiple-storey ▪ Attached Duplex and Triplex Housing ▪ Individual Duplex and Triplex Housing	▪ Housing site with five-storey ▪ Housing site with multiple-storey ▪ Attached Duplex and Triplex Housing ▪ Individual Duplex and Triplex Housing ▪ Gated Communities	▪ Gated communities; ▪ Housing with Multiple-storey ▪ Attached Duplex and Triplex Housing ▪ Individual Duplex and Triplex Housing
Dominate Building Construction Firms	- Cooperatives - Private Constructer (Build-and-sell system)	- MESA - Cooperatives	- Emlak Bankası - Cooperatives	- Emlak Bankası - Cooperatives	- Different Building Constructors
Building Date	After 1980s	After 1990s	After 1990s	After 1990s	After 1990s, some isolated and detached housings were build, mainly after 2000s building developments has been increased.
Commercial Services	Galeria, Gordion, markets, commercial street, cafés, restaurants, pharmacy, coiffeur	Mesa Plaza shopping centre, markets, café, restaurant, pharmacy, coiffeur	Markets, café, stationery, bookstore, pharmacy, coiffeur	Arcadium, markets, restaurants, cafés, bookstore, stationery, pharmacy, coiffeur	Markets, restaurant, café, coiffeur
Educational Services	Private and public educational facilities	Private and public educational facilities	Private and public educational facilities	Private and public educational facilities	-----
Health Services	Private and public health facilities	Public health facilities	-----	Private and public health facilities	-----
Green Areas and Recreational Areas	Common green and recreational areas Private green areas belongs to housing estate Private housing garden	Common green and recreational areas Private green areas belongs to housing estate Private housing garden	Common green and recreational areas Private green areas belongs to housing estate Private housing garden	Common green and recreational areas Private green areas belongs to housing estate Private housing garden	Private green and recreational areas belongs to gated communities

Table 4.1: Characteristics of Sub-districts in Çayyolu

4.3.2. The Reason to Carry Out the Research in Ümitköy,Çayyolu

Sustainable communities as the main concern of this research can be examined in many places of the metropolitan area of Ankara. This study focuses on the sustainable community within the suburban area, and aims to evaluate the suburban area problems from the socio-spatial sustainability components view-point. The focus of the research on the suburban areas pertains the housing policy of the country, which accepts the suburban areas as the main solution to the urban area housing problems. However, deficient development pattern(s) and the accumulation of diverse problems within the neighbourhoods of the suburban areas have revealed problematic growth and existence of the suburban settlements. The study concentrates on the Çayyolu suburban area, which is located on the Southwest Corridor of the Ankara. Generally middle and upper-middle income groups prefer to live in this area. Most of the neighbourhoods in the region have been developing and growing very rapidly particularly in the last two decades.

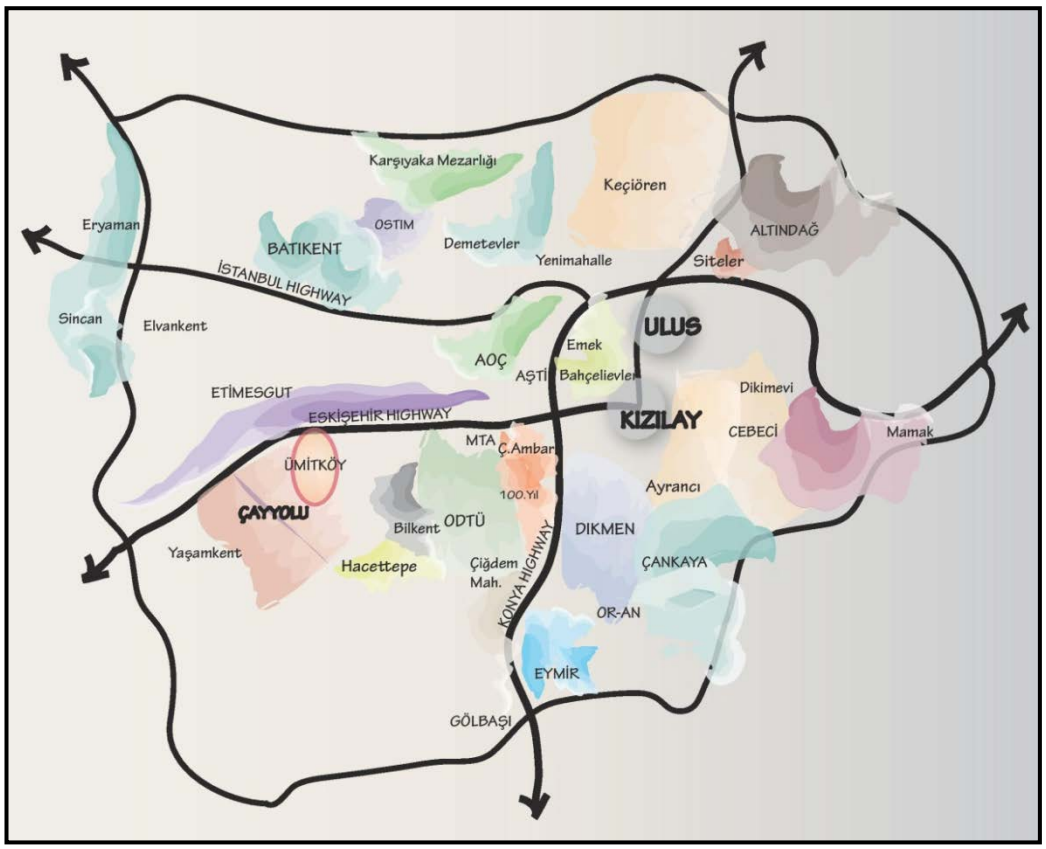


Figure 4.3: The Location of Ümitköy in Ankara

This study intends to assess the attributes of sustainable communities through the selected components and indicators in housing estates which have different architectural and other spatial organisational characteristics within the suburban residential neighbourhoods. Çayyolu has been particularly selected being a major suburban development on the western corridor of Ankara particularly by 1980s. The region has five sub-districts: Ümitköy, Korusitesi, Konutkent 1, Konutkent 2, and Yaşamkent. The Ümitköy sub-district, which is selected for the case study,is one of the oldest suburban settlements within the region. Although its development history goes back to at least 30 years ago, there are very new housing developments in and around the district as well. Therefore, it is a suitable case in

which the notion of sustainable community at different scales such as neighbourhood and housing estate can be examined. It is also suitable for the case study because the first urban development of Çayyolu started herein the beginning of 1980s. The first suburban development decisions related to western corridor were implemented in Ümitköy. It should also be noted that the district has been a residential area for over 30 years. To answer the question of whether the local communities are sustainable or not, it is important to select a neighbourhood which has been there for a while. In other words, the region has been experiencing residential areas for a long time and many problems in those areas can be determined better than the in other areas. The development and settlement patterns extend over the 30 years period of residential development history of the region. Therefore, it clearly depicts the path showing the development practices, experiences, transformations, and problems which are both in general to the suburban policies and in particular to the region. Another important factor directing the research to this region is that many middle income groups in urban area of the city prefer to live in this region.

In addition, Ümitköy has diverse urban services and has mixed land used. On the 8th Avenue, a kind of 'activity spine', which stretches from north to south, is located. This is the major commercial street with various shops, restaurants, cafes, supermarkets and a shopping mall (Galeria), as well as educational services, health services, and recreational areas. Ümitköy accommodates different housing types such as single detached housing, semi-detached housing, duplex, triplex, low-rise apartment, mid-rise apartment, and high-rise apartment. Therefore, the characteristics of Ümitköy provide a diverse case area which is likely to provide valuable data for the research.

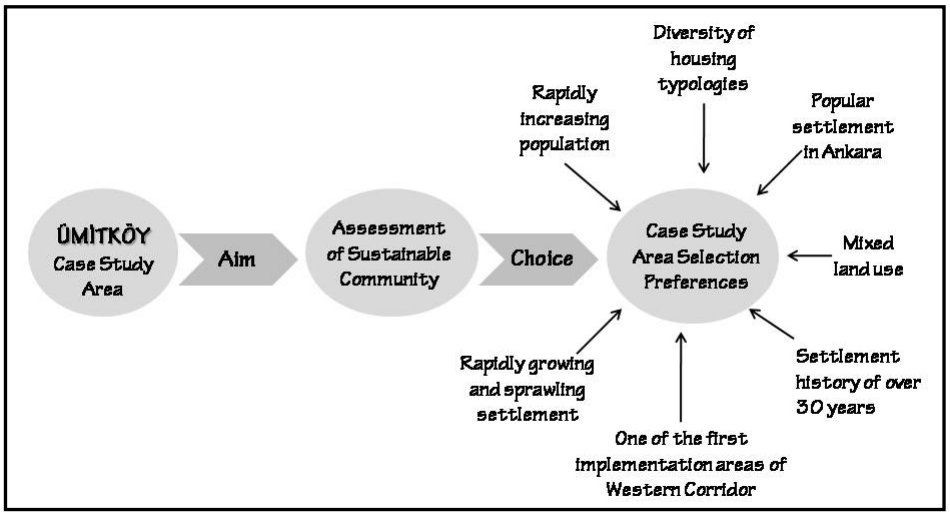


Figure 4.4: The Reasons to Choice of Ümitköy

4.3.3. The Contextual Settings of Selected Housing Estates in Ümitköy

Norman Blaikie (2000, p. 213) mentioned in his book 'Designing Social Research' that the case study has been used in many researches of different disciplines such as social anthropology, sociology (e.g. community studies), planning (e.g. researches on neighbourhoods), political science (e.g. research on policy and public administration), and management (e.g. organizational studies) (Blaikie, 2000). This research is both exploratory and descriptive, and it is based on multiple-case study approach. The case study areas were selected by multi-stage estate sampling techniques. That is, sampling is described in different

levels: suburban residential neighbourhood, housing estates in selected suburban area, and households in housing estates. In the study, while sampling unit[25] is accepted as household, the unit of analysis[26] is determined as housing estate which represents a community.

The purpose of the research is to define the components and attributes of sustainable communities in suburban residential neighbourhoods. In addition, the research aims to assess sustainable communities in selected suburban area via indicator-based evaluation method. The research was carried out in one of the Ankara's suburbs called Ümitköy. Indicator-based evaluation method to assess the sustainable communities is used in three different types of housing estates and their neighbourhood area (Figure 4.5). These are as follows:

- Case 1 '*Mutluköy Site'*; *attached houses with private garden and five-storey attached apartments with common garden; also the site has a common garden*
- Case 2 *'Çamlıca Bulvar Site' and 'Kalemköy Site'; multi-storey apartments with a common garden*
- Case 3 *'Meksika Avenue';street type apartments in each own resident plots with private gardens*

These different types of housing estates give us different perspectives into the relationship between built environments and built sustainable communities. The research explores the similarities and dissimilarities between different housing estates in term of building sustainable community.

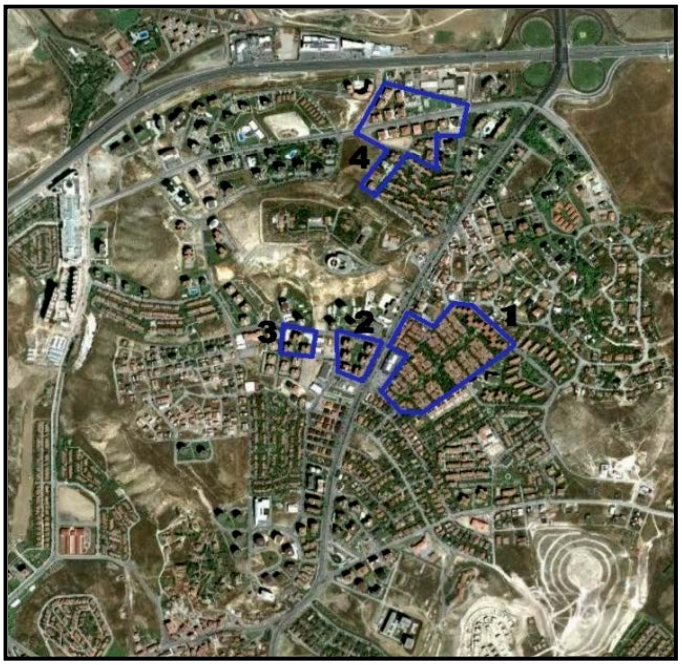


Figure 4.5: The Case Areas in Ümitköy, Çayyolu (1-Mutluköy Site; 2-Çamlıca Bulvar Site; 3-Kalemköy Site; 4- Meksika Avenue and its surroundings) (Google Earth, 2013)

25 '**Sampling unit'** is an element or set of elements which are determined in stages of sampling.
26**'Unit of analysis'** is an entity which analyze in research. It can be residents, groups, and geographical units etc.

- **Housing Estate, Case 1: *'Mutluköy Site'***

Mutluköy Site is located near the Galeria Shopping Mall in the central district area of Ümitköy (Figure 4.6). In the 1980s, the member of parliaments and workers of assembly came together and established a housing cooperation to build these houses. Mutluköy Site is within the borders of Çankaya Municipality. The site is one of the oldest housing estates in Ümitköy. This site consists of 310 houses and 15 attached apartments with 159 accommodations. Each attached house has a private garden. Apartment building is five-storey with a common garden. Also, the site has a common green area, walking path, parking area and some daily life urban services such as a cornershop, a tailor, a pharmacy, and a hairdresser. It was observed that almost 60 attached houses in the site are used for the commercial purposes. In this area, 100 questionnaires were carried out to assess the sustainable community.

Figure 4.6: Satellite Image of Mutluköy Site(Google Earth, 2013)

- **Housing Estate, Case 2: *'Çamlıca Bulvar Site' and 'Kalemköy Site'***

Çamlıca Bulvar Site is made up of 6 multi-storey apartment buildings with a common garden, car parking areas, and a play ground (Figure 4.7). The housing estate which is located on the 8th Avenue, opposite to Galeria Shopping Mall was built in 1994. There are 240 flats, 6 blocks with 10 storeys. Each flat has three rooms and is almost 140 square meters. It is used both for residential and commercial purposes. According to the survey carried out in October 2011, 190 flats were used as housing, and 50 flats were used commercially in the site.

Kalemköy Site is located near Çamlıca Bulvar Site. It consists of multi-storey apartments with common gardens (Figure 4.7). It is only used for residential purposes. This housing estate, which was built in 1993, covers 8248 square meters. There are 3 blocks with 10 storeys. Each block has 120 flats and also its own building government and maintenance. Each flat has four rooms and almost 150 square metres. The site has a common garden and a car-parking area. The major difference between these two sites is that one is mixed used. While there is both commercial and residential usage in Çamlıca Bulvar Site, there is only

residential usage in Kalemköy Site. In both areas, 46 questionnaires were carried out to assess sustainable community.

Figure 4.7: Satellite Image ofÇamlıca Bulvar Site and Kalemköy Site (Google Earth, 2013)

- **Housing Estate, Case 3: *'Meksika Avenue'***

This housing estate selected to be examined includes 20 apartments with 5-6 storeys which are located on Meksika Avenue (Figure 4.8). As each apartment block was built by a building contractor, they are located on their own resident plots with private gardens. Most apartments were constructed through a peculiar system called 'build-and-sell system', which means that the contractor sells the flats within the building as he constructs it. Thus, this housing estate is different from other selected case study sites with its construction method which also reflects the architectural and spatial organisation of the area. In this area, 48 questionnaires were carried out to assess sustainable community.

Figure 4.8: Satellite Image of Meksika Avenue (Google Earth, 2013)

4.4. Data to be Collected

4.4.1. Data Sources

This research utilizes both quantitative and qualitative data collection techniques. The first data source is direct observation. Observation is a data collection method because the researcher can make analysis in the natural settings of case areas, and can observe the residents living in the case areas without any intervention. Since the research focuses on community, housing estates and its environment, observation method is suitable for this study. In different times, the case study areas were visited and the socio-spatial patterns of each study areas were evaluated. In addition, photographing is used to record the observations.

Questionnaire is the second source of evidence in the research (Table 4.2). Questionnaires were administered to households of selected housing estates in Ümitköy (paper-pencil-questionnaires). The questionnaire was composed 70 questions which examine the attributes of the community (such as socio-demographic, socio-economic, socio-cultural characteristics), neighbourhood-user relationship, housing estate-user relationship, neighbouring relationship, sense of community, sense of place, sense of belonging, qualities of built environment, educational, commercial and health services. Questionnaires are used in three different case areas, and focus on only residential housing estates, not commercial units.

Table 4.2: Analysis of Questionnaires

	Mutluköy Site	Çamlıca Bulvar Site & Kalemköy Site	Meksika Avenue
A Number of Responses to the Questionnaires	100	46	48
A Number of Residential Unit in Area	400	310	400
A Number of Commercial Unit in Area	69	50	-
Total Number of Residential & Commercial Units	469	360	400
Percentage of Responses to the Questionnaires	%25	%15	%12

Some interviews were spontaneously implemented with some residents of the district. Those interviews are especially very useful for criticizing the situation about a research problem, defining sustainable community concept, evaluating case study areas and whole district.

4.4.2. Data Analysis

How can a sustainable community be assessed in residential neighbourhoods?
According to researches related to sustainable communities, whether a community is suitable or not is evaluated by 'indicators and components'. Community indicators are measurements which provide information about past and current situation and conditions of neighbourhood, and assist "planners and community leaders in making decisions that affect future outcomes" (Phillips, 2003, p.1). In this research, sustainable communities are assessed in terms of socio-spatial dimensions.

The main purpose of the research is to develop a conceptual framework for sustainable community components and indicators in suburban residential neighbourhoods. To assess whether there exists sustainable communities in different residential settings, Ümitköy was selected as a case study area. Indicator-based case study method to assess the sustainable communities is used in four different housing estates and their neighbourhood areas. One of them is detached houses and five-storey buildings; the other one is multi-storey apartments with common gardens (mix-use of housing and commercial facilities); third one is multi-storey apartments with common gardens (only housing facilities), and the last one is resident plots with private gardens (build and sell system street type apartments). As one can see, selected housing estate can be categorized as three different types which offer different architectural and spatial design qualities. Therefore, in the evaluation and assessment of these areas, the second and third case study will be combined because they are the same types with the same spatial characteristics.

This research explores socio-spatial interaction in housing estates by using direct observation and questionnaire. Questionnaires focus on assessing some indicators related to sustainable communities. First of all, the community profile is analyzed through some fundamental questions. The attributes of community or community profile consist of three sub-titles: socio-demographic structure of community, socio-economic structure of community, and socio-cultural structure of community (Table 4.3). The physical attributes of housing estate are investigated by questionnaires. In addition, some selected domains related to sustainable communities such as affordable housing, sense of place, sense of community, sense of belonging, equity, safe and security, accessibility and connectivity, recreational facilities and green areas, services (educational, commercial, and health), and governance are also explored questionnaires.

Table 4.3: Titles and Sub-titles of Analysis of Community Profile

COMMUNITY PROFILE	
Socio-demographics structure of community	# Age # Place of birth # Male-female ratio # Marital status # Number of children # Family size
Socio-economic structure of community	# Occupation # Total family income # Income pattern of community members # Percentage (%) of homeownership # Percentage (%) of vehicle ownership
Socio-cultural structure of community	# Education pattern in community # Length of time the community has been in existence # Location of previous house

This research uses indicator-based assessment method for the two main domains related to sustainable communities. One of them includes indicators related to ‘Spatial Design & Built Environment’; the other one consists of indicators related to ‘Social Design and Social Infrastructure’. Regarding ‘Spatial Design and Built Environment’, the main indicators are mixed-use of different housing types, mixed use, density/figure and ground, recreational areas and green spaces, accessibility and connectivity, parking facilities, and physical conditions and maintenance of housing estates(Table 4.4).Regarding ‘Social Design and Social Infrastructure’, the indicators are sense of place, sense of community and belonging, social interaction and neighbourliness, sense of safety and security, community health, affordable housing, automobile dependency/walking behaviour of residents, community services, and community awareness, participation and volunteering(Table 4.11).

Similarly, the study grouped the survey questions developed for community sustainability assessment in suburban areas into two: 'Spatial Design and Built Environment' and 'Social Design and Social Infrastructure’. The former includes various questions which are also categorized according to some sub-titles in order to arrange and evaluate indicators through the participant responses obtained from the case study areas. Table 4.4 summarizes the components (titles) and related indicators along with the research method(s).

These indicators help to evaluate the sustainable community development within the neighbourhood and housing estate scales for the determined case areas. The research tools which are used to analyze and evaluate the survey results are varied according to the character of the component and indicators. Therefore, different research tools such as site observations, photographing, site maps, land-use maps, and a questionnaire are used. Although there are seven titles or components, some of those components are used to develop and assess the questionnaire. These components, shown in the Table 4.4, cover the sub-titles of recreational areas and green spaces, accessibility and connectivity (including local catchment area, street design and quality, public transportation), parking facilities, and physical conditions and maintenance of housing estates.

Table 4.4: Indicators related to Spatial Design & Built Environment

INDICATORS	SUB-INDICATORS RELATED TO 'SPATIAL DESIGN & BUILT ENVIRONMENT'	Data Collection Methods and Sources
Mix-use of Different Housing Typologies	▪ Mixed-used and diversity; housing types and characteristics in housing estate ▪ Age, size, scale, and storey heights of buildings	Site observations Photographing Site map Site survey
Mixed Use	▪ Rate of residential and non-residential (housing with commercial using) using in housing estate	Site observations Photographing Site survey
Density/ Figure and Ground	▪ Ratio of built-up area in housing estate ▪ Ratio of un-built area in housing estate ▪ Figure/Ground ratio	Land-use map Site observations Photographing Google Earth maps
Recreational Areas and Green Spaces	▪ Average distance to nearest green area and park ▪ Number of residents satisfied with parks and green areas ▪ Quality and efficiency of recreational areas in housing estate ▪ Level of usage of recreational areas by local community residents ▪ Level of accessibility to garden and green areas ▪ Exiting of recreational areas for vulnerable groups (including disable and elderly people)	Land-use map Site survey Site map Site observations Photographing Google Earth maps Questionnaires
Accessibility and Connectivity	***Local Catchment Area*** ▪ Accessibility and Local Catchment Area (zone of good pedestrian accessibility to local services by walking) ▪ Level of accessibility to recreational areas, green areas and parks for all groups of community members (including the elderly, handicapped and economically disadvantaged residents) ▪ Access to health and community facilities ***Street Design and Quality*** ▪ Well-connect street networks ▪ Existing and using bicycle paths in residential district ▪ Quality of street and roads (paved streets, street lighting and safety, street signage, proper drainage system) ▪ Design of street and stairs with ramp/gradient for vulnerable groups ▪ Pedestrian friendly walkways and sidewalks ▪ Continuous and proper width of sidewalks for disable and elderly people ***Public Transportation*** ▪ Public transport usage of residents ▪ Availability of public transport ▪ Access to transportation stations	Land-use map Catchment area maps Questionnaires Site observations Photographing Google Earth maps
Parking Facilities	▪ Parking facilities; number and location of off-street parking area in housing estate ▪ Parking facilities; number and location of off-street parking area in neighbourhood	Land-use map Questionnaires Site observations Photographing
Physical Conditions and Maintenance of Housing Estate	▪ Condition of buildings ▪ Maintenance services in buildings and housing estate ▪ Percentage (%) of house improvement in before ▪ Percentage (%) of desire for house improvement	Questionnaires Site observations Photographing

Specific questions are developed in order to implement the questionnaire in the case areas. These questions are also categorized according to the components given in the Table 4.4.

Table 4.5 groups the questions related to 'recreational areas and green infrastructure' component.

Table 4.5: Questions related to 'Recreational Areas and Green Infrastructure'

Recreational Areas &Green Infrastructure
▪ Are there adequate and efficient green area and parks in your neighbourhood? ▪ Are residents satisfied with parks and green areas? ▪ Are the garden and green areas in housing estate easily accessible? ▪ Are the parks and green areas located in your neighbourhood sufficient enough to meet your recreational activities? ▪ Are the recreational areas in housing estate adequate and efficient? ▪ Are the recreational areas used by local community residents efficiently? ▪ Are there suitable recreational areas for disable and elderly people?

This component mainly focuses on the availability and satisfaction level of green areas including parks and other recreational areas in the neighbourhoods. Green texture along with the hardscape and the softcape elements are important indicators to evaluate the sustainability of a community. As a matter of fact, some major indicators which are used to analyze this component are determined as follows: i) average distance to nearest green area and park; ii) number of residents satisfied with parks and green areas; iii) quality and efficiency of recreational areas in housing estate; iv) level of usage of recreational areas by local community residents; v) level of accessibility to garden and green areas; vi) existing recreational areas for vulnerable groups (including disable and elderly people). These indicators try to analyze the relations between resident and built environment, resident and green area development, resident and neighbourhood, and resident and district from physical and socio-spatial view-point. In order to obtain the relevant information which helps to analyze the indicators, the following research tools are used: land-use map, site map, and Google Earth maps, site observations, photographing and questionnaire.

Table 4.6 groups the questions related to accessibility and connectivity in general, but in particular local catchment area.

Table 4.6: Questions related to 'Local Catchment Area'

Accessibility and Connectivity: ***'Local Catchment Area'***
▪ Are the recreational areas, green areas and parks for all groups of community members (including the elderly, handicapped and economically disadvantaged residents) easily accessible? ▪ Are the health and community facilities are accessible for vulnerable groups of community?

This set of questions mainly focuses on the analysis of accessibility to the green areas and different community services in general. The main indicators determined for this component are Accessibility and Local Catchment Area (zone of good pedestrian accessibility to local services by walking); level of accessibility to recreational areas, green areas and parks for all groups of community members (including the elderly, handicapped and economically disadvantaged residents); access to health and community facilities. Sustainability approach within a community needs to meet a great extent of accessibility understanding. Therefore, particularly green areas and community services including health care facilities and public services needto be designed according to accessibility standards. These indicators help to

evaluate the general planning and design understanding in order to achieve the accessibility concept for all people. Similar methods which are used in the former component are also used for this component (Table 4.4).

Table 4.7 develops the questions in order to analyze the street design and quality under the component of accessibility and connectivity.

Table 4.7: Questions related to 'Street Design and Quality'

Accessibility and Connectivity: ***'Street Design and Quality'***
▪ Are there any suitable paths that enable for you to arrive in comfort from main street to your housing estate?   ▪ Are the pedestrian crossing, traffic lights, and street signage adequate and efficient?   ▪ Are there safe and efficient bicycle paths, walking paths, pedestrian friendly walkways and sidewalks in your neighbourhood?   ▪ According to you, are the streets designed in accordance with the needs of vulnerable people (including disable people, elderly people, children and babies) such as ramps?   ▪ Are there continuous and proper width of sidewalks for disable and elderly people?

The questions given in the Table 4.8 mainly concentrate on the design and quality of both two and three dimensional elements used in streets, and try to assess the quality of those elements. These analysis and evaluations are particularly conducted from the view point of pedestrians. The resultant indicators were existence of well-connect street networks, bicycle paths in residential district; quality streets and roads (paved streets, street lighting and safety, street signage, proper drainage system), well-designed streets and stairs with ramp/gradient for vulnerable groups, pedestrian friendly walkways and sidewalks, continuous and proper width of sidewalks for disable and elderly people. It is clearly seen that focus groups of the both questions and indicators are the residents who use the streets and roads, and other routes by bicycles and/or as pedestrians. These questions and indicators help to understand the level of street usage awareness by residents, and the planning and design approach of local governments in order to assess the community and neighbourhood sustainability. Land-use map, catchment area maps, and questionnaires with residents, site observations, photographing, and Google Earth maps are the very typical methods to obtain and evaluate the necessary information. Table 4.8 shows the questions developed for assessing public transportation within the district.

Table 4.8: Questions related to 'Public Transportation'

Accessibility and Connectivity;   ***'Public Transportation'***
▪ Are there adequate public transportation facilities in your neighbourhood?   ▪ Are the public transportation stations accessible?   ▪ Are the transportation stations are accessible for vulnerable groups of community?

The questions given in Table 4.8 concentrate on the main transportation system evaluation and also try to understand the accessibility of the system from the residents' view-point. Therefore, the indicators which try to analyze the system are determined as public transport usage of residents, availability of public transport, and access to transportation stations. The

transportation component is one of the most important criteria to achieve the community and neighbourhood sustainability. For that reason, it is necessary to analyze it particularly from the pedestrian's point of view. The methods mentioned before such as using different maps and conducting site surveys are also valid for this component.

Table 4.9 gives the questions prepared for assessing the parking facilities within the district.

Table 4.9: Questions related to 'Parking Facilities'

Parking Facilities
▪ Are there adequate parking facilities in your housing estate? ▪ Are there adequate parking facilities in your neighbourhood?

Due to the rapidly growing and sprawling suburban area, the motor vehicle use has been increasing enormously particularly in recent years. This uncontrolled growing of motor vehicle use results in traffic problems including insufficiency of infrastructures, traffic congestion, and environmental pollution. Availability of parking areas is one of those problematic issues. This component focuses on the analysis of the existing situation related to parking facilities in the Ümitköy district. In order to analyze the component through the given questions, the following indicators are used: parking facilities - number and location of off-street parking area in housing estate, parking facilities - number and location of off-street parking area in neighbourhood. Land-use map, questionnaires, site observations, and photographing are the main and most commonly used methods to assess the component and indicators.

In Table 4.10, questions are grouped in order to assess the physical conditions and maintenance of housing estates which are chosen as the case study areas. These areas are given in the beginning of this chapter.

Table 4.10: Questions related to 'Physical Conditions and Maintenance of Housing Estate'

Physical Conditions and Maintenance of Housing Estate
▪ What do you think about conditions of your house/apartment frontage, garden and its surrounding? ▪ When did you make maintenance on your house or apartment? ▪ Did you maintain within your home according to your needs? ▪ Which services are made in your housing estate properly? (garden maintenance, security services, repair and maintenance of landscape equipment elements in the site)

Liveability and satisfaction level from the living environment among the other factors, are assessed through the building quality and improvement need within the occupation period. The questions developed to analyze this component focus on the indicators of condition of buildings; maintenance services in buildings and housing estate; percentage (%) of house improvement in before; percentage (%) of desire for house improvement. Questionnaires, direct observations, photographing are the most frequently referenced methods for the evaluation of this component and the related indicators.

The second title, 'Social Design and Social Infrastructure', includes various questions developed in order to arrange and evaluate indicators through the participant responses

obtained from the case study areas. Those questions are similarly categorized according to some sub-titles determined before. Table 4.11 summarizes the components (titles) and related indicators along with the research method(s) which evaluates them.

Table 4.11: Indicators related to 'Social Design & Social Infrastructure'

INDICATORS	SUB-INDICATORS RELATED TO 'SOCIAL DESIGN & SOCIAL INFRASTRUCTURE'	Data Collection Methods and Source
Sense of Place, Sense of Community and Belonging	▪ The period of living in the same housing estate ▪ The reason of preference of living this neighbourhood/housing estate ▪ Sense of optimism about the future of the housing estate, neighbourhood or residential district ▪ Percentage (%) of desire to move a different house ▪ Percentage (%) of house satisfaction ▪ Percentage (%) of pleasure and satisfaction from living in neighbourhood	Questionnaires
Social Interaction and Neighbourliness	▪ Level of social interaction and meeting in friends and neighbours (social network) in housing estate ▪ Common places for housing estate gatherings ▪ Level of social interaction and meeting in friends and relatives (social network) in residential district ▪ Common places for neighbourhood gatherings	Questionnaires
Sense of Safe and Security	▪ The number of residents who think that deliberate damages such as vandalism and graffiti to public and private properties ▪ The number of people who feel safe in their housing estate ▪ Perceptions and fear of residents from violence and crime ▪ Burglaries and theft rate in housing estate ▪ The number of people who feel safe walking alone at night ▪ Safety of education facilities	Questionnaires Site observations Photographing
Affordable Housing	▪ Affordable housing rent ▪ Affordable housing contribution and utilities	Questionnaires Market Research
Automobile dependency/Walking behaviour of residents	▪ Level of automobile dependence	Questionnaires
Community Health	▪ Participation in sporting activities ▪ Distance/Location of recreational areas and parks	Questionnaires
Community Services	▪ Equal Access (all residents and users benefit from services in neighbourhoods) ▪ Pleasure with services in neighbourhood ▪ Quantity and quality of commercial facilities ▪ Quantity and quality of local education facilities ▪ Quantity and quality of pre-school education in neighbourhood ▪ Accessibility of health centres ▪ Rating of quality of health and community services ▪ Existing of social activity facilities and centres for children (painting, music, sport)	Questionnaires Land-use map Site observations Photographing
Community awareness, participation and volunteering	▪ Pleasure of local residents from municipal services ▪ Desire to participate in local organization to prettify neighbourhood ▪ Awareness of residents to problems about their environment ▪ Percent of population participating in voluntary community service organizations ▪ Equity in governance; equal participation opportunities to local organization, site meetings ▪ Percentage (%) of people in housing estate who have awareness about community problems	Questionnaires

These components and related indicators are developed through the literature survey. The methods which are used to analyze and evaluate the survey results are varied according to the character of the component and indicators. Therefore, different methods such as site observations, photographing, site maps, and a questionnaire are used. All of the analysis for these components and indicators are mainly based on the information obtained from the site observations and questionnaire. There are eight components which are given in Table 4.11. These components cover the sub-titles of sense of place, sense of community and belonging; social interaction and neighbourliness; sense of safe and security; affordable housing; automobile dependency/walking behaviour of residents; community health; community services; community awareness, participation and volunteering.

As it is mentioned in the spatial design and built environment section, specific questions are developed in order to implement the questionnaire to the case areas. These questions are also categorized according to the components given in Table 4.11. Similarly, Table 4.12 groups the questions related to 'sense of place, sense of community, sense of belonging' component.

Table 4.12: Questions related to 'Sense of Place, Sense of Community, Sense of Belonging'

Sense of Place, Sense of Community, Sense of Belonging
▪ Why did you move to this housing estate/ neighbourhood?
▪ Do you consider moving to another place?
▪ Why do you consider moving to another place?
▪ Are you happy to live in this housing estate/ neighbourhood?
▪ How long have you been living in this housing estate?

Residents living in a neighbourhood have certain awareness of their buildings, housing estates, and neighbourhood. This awareness is affected by many variables such as physical environment, social relations, socio-economic conditions, and community services. Therefore, residents prefer some places than the other areas to live due to those variables and characteristics of the built environment. If they are satisfied with the living area, they are encouraged to develop and enhance awareness. This enhancement results in developing a sense of place, sense of community and sense of belonging. These questions focus on assessing the indicators of the period of living in the same housing estate; the reason of preference of living in this neighbourhood/housing estate; sense of optimism about the future of the housing estate, neighbourhood or residential district; percentage (%) of desire to move to a different house; percentage (%) of house satisfaction. Questionnaire is the basic data sources to analyze the component.

Table 4.13 presents the set of questions related to 'social interaction and neighbourliness' component.

Table 4.13: Questions related to 'Social Interaction and Neighbourliness'

Social Interaction and Neighbourliness
▪ Have you got any relatives, friends and acquaintance living in this housing estate/ neighbourhood?
▪ How many times do you see each other with your relatives, friends and acquaintance?
▪ Where do you meet with your relatives, friends and acquaintance?
▪ Do you know your neighbours?
▪ Do you and your neighbours see each other regularly?
▪ Where do you meet with your neighbours?

This set of questions mainly concentrates on the social interaction levels of the residents living in the case areas through assessing the relations between acquaintance, friends, and relatives. The main objective of developing such an assessment depends on the view that the more socially interactive a community is, the more sustainable neighbourhood is. The component seeks to analyze the indicators determined as level of social interaction and meeting in friends and neighbours (social network) in housing estate; common places for housing estate gatherings; percentage (%) of people in housing estate who have awareness about community problems; percentage (%) of pleasure and satisfaction from living in neighbourhood; level of social interaction and meeting in friends and relatives (social network) in residential district; common places for neighbourhood gatherings. Similar to the former component, necessary data and information which help to analyze these indicators are obtained from the questionnaires given to residents.

In Table 4.14, questions are developed in order to evaluate the 'sense of safety and security' component.

Table 4.14: Questions related to 'Sense of Safety and Security'

Sense of Safety and Security
▪ Do you feel safe in your housing estate? ▪ What are the major security problems in your hosing estate? ▪ What are the major security problems in education facilities in your neighbourhood? ▪ Are there any security problems in education facilities in your neighbourhood? ▪ Do you feel in safety when arriving to your house at evenings or nights? ▪ Do you feel in safety when walking (as a pedestrian) in your neighbourhood?

Questions related to the sense of safety and security are concerned with revealing the indicators of the number of residents who think that deliberate damages such as vandalism and graffiti to public and private properties; the number of people who feel safe in their housing estate; perceptions and fear of residents from violence and crime; burglaries and theft rate in housing estate; the number of people who feel safe walking alone at night; safety of education facilities. Safety and security issues are not important only on the healthy development of resident - housing relation but also they are important to sustain resident - community services relation in order to develop sustainable neighbourhood and community. Site observations, photographing, and questionnaire are used to obtain necessary data and information.

Table 4.15 groups the questions related to 'affordable housing' component.

Table 4.15: Questions related to 'Affordable Housing'

Affordable Housing
▪ Can you afford your rent? ▪ Can you afford your utilities and payments of your apartments?

Questions related to the affordability are concerned with revealing the indicators of affordable housing rent; affordable housing contribution and utilities. The rapidly growing

urban areas and the consequent population growth, and the unstable economic system which causes imbalance between socio-economic groups threaten the affordability of housing, particularly in urban centres for many people. The scarcity of land in city centres also triggers the growth and urban sprawl. However, the suburban areas which are presented as the solution for housing needs have to be evaluated in terms of affordability. If the suburban residential areas are not affordable, the crisis within the urban areas likewise moves to suburban. It is important to understand and evaluate the affordability of residential areas in suburban development approach in Turkey. These questions try to reveal the existing situation related to the affordability concept for the case areas in Ümitköy suburban district. The questionnaire is used to determine the affordability issue. Moreover, market search related to the residential area affordability is conducted in order to complete the data.

As can be seen in Table 4.16, participants are asked to evaluate the 'automobile dependency/walking behaviour of the Residents' in terms of sustainability component.

Table 4.16: Questions related to 'Automobile Dependency/Walking Behaviour of the Residents'

Automobile Dependency/Walking Behaviour of the Residents
▪ Which transportation type do you prefer in near environment or neighbourhood? (private car, public transportation, motorcycle, bicycle, taxi, walking)

A single question is developed to measure and analyze the indicator related to this component. The indicator for this component is determined as level of automobile dependency. Among the other impacts, unplanned urban growth has very serious and direct impact on the automobile dependency. Insufficient mass transportation systems and infrastructures developed for cycling and pedestrians inevitably change the transport needs of residents, particularly living in suburban areas. Increasing automobile dependency is effective on the failure of sustainability approach. This analysis tries to reveal the existing conditions and behaviour of residents living in suburban area of Ümitköy in order to understand and evaluate the automobile dependency.

Table 4.17 develops the questions which focus on 'community health' component.

Table 4.17: Questions related to 'Community Health'

Community Health
▪ Do you do sports or any exercise? ▪ Where do you do sports? (in your home, in fitness centre, in housing estate, in synthetic pitch, in school) ▪ Can community residents access recreational areas and parks for sport activities within 400 meters distance to their housing estate?

Developing a healthy community is one of the important goals of developing a sustainable community. Attending to sport activities does not enhance only the health of residents but it also contributes to social interaction within the neighbourhood and housing estate. The questions try to assess the residents' satisfaction and interaction levels through the indicators of participation in sporting activities; distance/location of recreational areas and parks. Questionnaire with the residents is the basic tools for obtaining data.

In the Table 4.18, questions are grouped to analyze 'community services' component.

Table 4.18: Questions related to 'Community Services'

Community Services
▪ Are there adequate and accessible community services (markets, schools, health centres, sport centres, banks, restaurants, cafes etc.) in your neighbourhood? (all residents and users benefit from services in neighbourhoods) ▪ Are there adequate day care centres or kindergarten in your neighbourhood? ▪ Are there adequate schools (primary, secondary, and high schools) in your neighbourhood? ▪ Are the education facilities in good repair? ▪ Does your child attend a school located in your neighbourhood? ▪ Does your child attend a private course located in your neighbourhood? ▪ Are there any social activity facilities and centres for children (painting, music, sport) in your neighbourhood? ▪ Do you believe if the businesses located in your neighbourhood create or offer any opportunities for employment? ▪ Do you use markets in your neighbourhood? ▪ Do the markets in your neighbourhood meet your needs? ▪ Do you prefer other markets in other neighbourhoods for shopping? ▪ Do you do shopping at the street market? ▪ Do you use health centres in your neighbourhood? ▪ Do these health centres in your neighbourhood meet your needs?

The wide range of community services also indicates the more interactive life within the neighbourhood. Residents have various needs, and if they have the opportunity to meet those needs within their neighbourhood or close areas, this opportunity enhances the attractiveness and value of the area. The increasing value results in more sustainable environment development. However, the quality and good-planning are the other factors which affect the use of these community services by the residents. The variety of community services does not only contribute to the social interaction but it also enhances the local economy and employment. All of these factors and variables are assessed through the indicators which are determined for this component. These indicators are equal access (all residents and users benefit from services in neighbourhoods); pleasure with services in neighbourhood; quantity and quality of commercial facilities; quantity and quality of local education facilities; quantity and quality of pre-school education in neighbourhood; accessibility of health centres; rating of quality of health and community services; existing of social activity facilities and centres for children (painting, music, sport). Land use map, site observations and photographing are used to improve and complement questionnaire which is the basic and major data obtaining methods implemented for this survey.

Table 4.19 gives the questions prepared for analyzing 'community awareness, participation and volunteering' component.

Table 4.19: Questions related to 'Community Awareness, Participation and Volunteering'

Community Awareness, Participation and Volunteering
▪ Do you attend the site meetings? ▪ According to you, is it provided sufficiently to attend the decisions taken within the site meetings? ▪ Do you use the local governmental and/or muhtar's office for your formal needs? ▪ If there are problems related to the areas in your neighbourhood (including streets, parks and roads), do you inform your local governmental and/or muhtar's office? Are you glad with municipal services? ▪ Do you wish to participate in local organizations or voluntary community services to prettify neighbourhood? ▪ Can community residents participate to decisions related to their housing estate equally?

Direct participation of locals in the decisions related to their environment and neighbourhoods is one of the foremost principles of developing sustainable community and neighbourhood. The relation of residents with both local and central governments, participation in the local activities, volunteering within the NGOs and other local organizations are some of the important attempts which determine the awareness level of the residents related to their living environment. Even participation in the housing estate or apartment management meetings is an important activity to share and develop their own ides of the resident. These questions given in Table 4.19 concentrate on those and similar issues through the indicators of pleasure of local residents from municipal services; desire to participate in local organization to prettify neighbourhood; awareness of residents to problems about their environment; percent of population participating in voluntary community service organizations; equity in governance; equal participation opportunities to local organization, site meetings. Questionnaires administered to the residents who live in the selected case areas is the main data collection methods.

CHAPTER 5

THE EVALUATION IN MESO-SCALE: THE ASSESSMENT OF ÜMİTKÖY

5.1. Introduction

This chapter presents the evaluation of Ümitköy as a meso-scale in terms of land use pattern, character and form of sub-districts, building types, and accessibility and street pattern. This chapter is important for the assessment of micro-scale because it helps see a big picture of the district. In addition, the meso-scale analysis defines the opportunities and weaknesses of suburban district in terms of sustainable community components.

5.2. Evaluation and Assessment of Ümitköy

The illustration below, constructed based on the findings of the questionnaires, represents the location or district of the respondents' previous houses (Figure 5.1). As can be seen here, an important number of respondents (26 residents) lived in Çankaya before moving to Ümitköy. This is followed by a total of 42 respondents who lived in Ayrancı and Bahçelievler districts before. Last, 15 respondents lived in Keçiören, and 10 respondents lived in Cebeci before. The figure also shows that 7 respondents lived in a different site in Ümitköy previously, and they preferred to move to new sites but within the same region. Similarly, 7 respondents lived in other sub-districts in Cayyolu before moving to their current houses in Ümitköy. This figure reveals that a great number of people who were living in other regions or districts of Ankara (such as Çankaya, Ayrancı, Bahçelievler, Keçiören, Cebeci, Dikmen) preferred to move to Ümitköy. Furthermore, the figure demonstrates that there is a very limited or insignificant movement from other suburbs of Ankara to Ümitköy and Çayyolu regions. The reasons why residents of other suburbs do not move to Ümitköy are also worth analyzing.

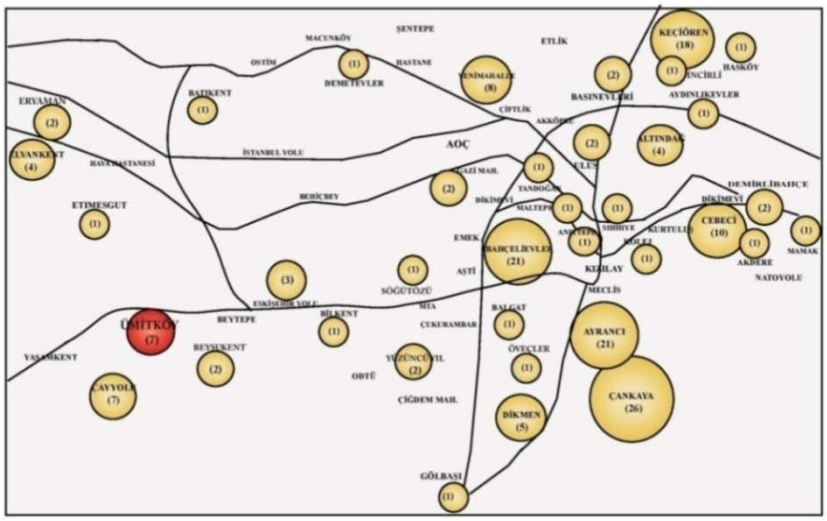


Figure 5.1: The Location or District of Previous Houses of Respondents

5.2.1. Land Use Pattern in Ümitköy

Observations of land use pattern in both two (on map) and three dimensional (from the street) scales reveal that Ümitköy is pre-dominantly residential. However, the main arterial road is the 2.3 km long 8th Avenue on which most of the commercial and other functional structures are located. This road is mainly reserved for the retail and some other functions (e.g. health services, education, cafes-restaurants). The road also connects the Çayyolu area and Eskişehir Road, which is the main artery of the western corridor. Therefore, the traffic is very heavy on this road and getting heavier due to the fast urban growth in both Ümitköy and Çayyolu. Although the 8th Avenue is accepted as the main artery, it is very difficult to pinpoint the heart of the district on or around this road. The lack of a commercial sub-centre for such a populated, lively and energetic area misses the control of spatial development, and this deficiency results in a weak urban development process along with many problematic issues.

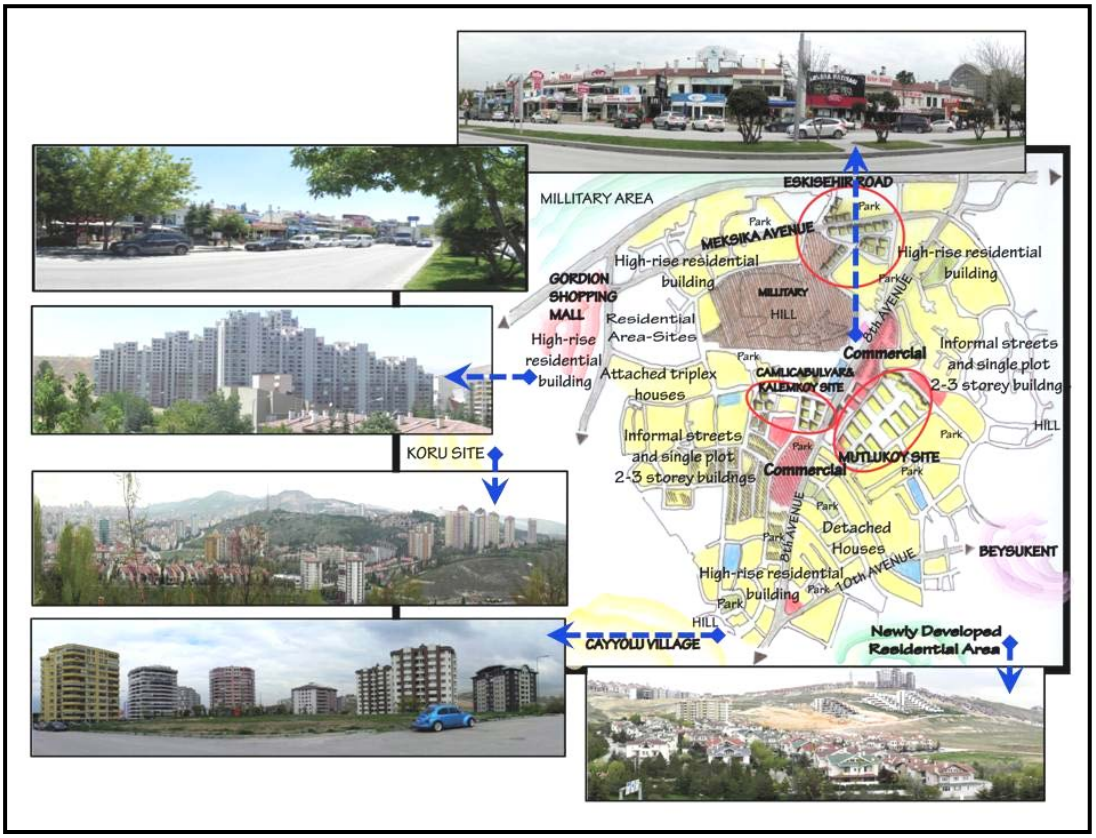


Figure 5.2: Analyze Map of Ümitköy

Figure 5.2 displays a survey map of Ümitköy. According to the map, the residential buildings are dominant in other facilities. The 8th Avenue and the buildings on this avenue are generally reserved for commercial use; however, many buildings were planned and built as residential units. The rapidly growing needs for commercial and other urban services in the area have led to the transformation of many residential units into commercial and other functions. This kind of unplanned and deficient development and transformation has caused dissatisfaction among many users, but particularly among the homeowners living in the district. The rapid and sometimes unexpected transition from residential buildings to commercial buildings within the residential areas has been subject to various complaints by

the residents. These complaints mostly bring up such issues as safety and security, noise due to insulation deficiencies, and environmental pollution due to heavy traffic.

In the end of 8th Avenue on the south direction, a shopping mall, Galeria, is located. This shopping mall is an old (the oldest one in Çayyolu) one, which has been up and running for years in the district. Although it is located in a central area within the Ümitköy district, new shopping malls are built in close proximity to Galeria, such as Arcadium (in Konutkent neighbourhood) and Gordion (on the western side of the district, close to the Eskişehir Road). These two shopping malls have negatively affected the commercial activities of Galeria. The availability and location of cafes-restaurants, market places, shopping units, post office and banks on the 8th Avenue is an important advantage for the residents who live in the walking distance.

One of the important arteries in the Ümitköy district is Meksika Avenue. The residential areas located on this avenue constitute the densest pattern. However, there are a sport centre, private kindergartens, and some commercial and service uses at three different parts of the avenue. One is on the east end of the avenue within Ümitkent Site. There are two corner shops, and a restaurant. The other one is within Defne Site. There are two corner shops, two hairdressers (one for men, one for women), a pharmacy and a tailor. The last one is in the west end of the avenue. The building provides rental rooms for university students as well as a chain supermarket, a pharmacy and a car garage specialised on a particular car brand (Renault). The direction of the avenue is on the east-west direction, and on the western end of the avenue, a large shopping mall (Gordion) is located. Another important artery is the 10th Avenue which connects the district to the Hacettepe and Bilkent districts both of which are located on the eastern side of Ümitköy. This route is also hosting a health centre, private education schools (i.e. schools enrolling students by university entry exam scores), and commercial buildings-offices beside the residential buildings.

It is possible to mark that most of the retail facilities and services are located on these arteries mentioned above. There are also many education facilities including an Anatolian high school, private and public primary schools, a technical high school, kindergartens, and private courses most of which prepare high school students for the university examination. Moreover, there are private health centres, a community health centre, a gynaecological diseases health centre, which is a branch of a general gynaecological diseases hospital - ZTB (Zekayi Tahir Burak) Hospital located in Ankara.

There is a military zone within the Ümitköy district. This zone is reserved as a military radar station long before the development of Ümitköy district. The rapidly growing western corridor almost has swallowed this area, and the radar station is surrounded by mostly residential buildings. Due to the uncontrolled urban sprawl not only in Ümitköy but also in other suburbs, many military zones and areas have been forced to move to other empty zones.

The green areas, open spaces and parks are generally located within the residential sites' private or semi-private areas. The green areas are densely in the residential settlements and can be observed from both two and three dimensional scales. The sufficiency of community parks planned and built parallel to the growing patterns and the needs of the district is an element of doubt. The scarcity of parks and other recreational areas weakens the open space

and recreational use of the district and neighbourhoods. This scarce and insufficient development approach of green texture also results in the failure of green area continuity, connectivity and integrity within the district. One of the important deficiencies related to green texture is the unavailability of a green corridor within the neighbourhoods. However, this kind of corridors maintain a barrier between streets and residential areas in order to develop sound and pollution insulation, and provides planners with the opportunity to develop safe pedestrian and cycling routes in and around the residential sites.

Figure 5.3: The Land-use Map of Ümitköy (Based Map is from Google Earth, 2013)

5.2.2. Character and Form of Sub-districts in Ümitköy

This section assesses Ümitköy in 15 sub-districts according to spatial characteristics and form (Figure 5.4). This separation is developed through the site observations, site and building pictures, and map information. Following the determination and separation of the sub-districts, figure-ground relation maps were prepared for each case. These maps are necessary to understand the solid-void relationship, which refers to buildings (in different forms and volumes) and ground relationship.

Solid-void relationship is simply represented through figure-ground approach in understanding and evaluating urban fabric (The Creative Path, 2011). Accordingly, ‘solid’ refers to vertical elements and volumes such as buildings and other structures which also indicate a three-dimensional built environment (The Creative Path, 2011). ‘Void’ refers to horizontal city elements such as roads, open-space, and parking lots all of which generally represent the two-dimensional elements (The Creative Path, 2011). In order to understand, clarify and study the urban fabric of a city, figure-ground diagram is the foremost efficient tool which illustrates the relationship between mass and void (The Creative Path, 2011). Ratio scale measured to understand mass and void elements (such as building mass and open

space) also indicates the connectivity level of urban fabric. High ratio of building mass to open space indicates a high connectivity which also proves the clearly articulated urban spaces and the elements connecting those spaces, whereas low ratio of building mass indicates the disconnectedness of buildings from the urban fabric (The Creative Path, 2011).

Figure 5.4: The Sub-districts of Ümitköy (Based Map is from Google Earth, 2013)

The first three illustrations (Figure 5.5 and Table 5.1), which show the figure-ground relation, also indicate the case study sites determined for this study. Mutluköy Site, which is the first illustration in Figure 5.5, is composed of attached housing clusters and five storey apartment blocks. The site has a common and wide green area connected with housing clusters. These housing clusters are developed around cul-de-sacs and those areas are used as parking lots. The second site illustrates Meksika Avenue, on which five-storey buildings are located. Each apartment block has a small garden of its own. Most of the buildings have closed parking areas. In this site, there are some green areas which do not have much recreational facility potentials. The third site is composed of three different sites; Kalemköy Site, Çamlıca Bulvar Site, and Çamlıca Vadi Site. Two of them (Çamlıca Bulvar and Kalemköy Sites) are selected as the case areas, and they are ten-storey buildings. The other site (Çamlıca Vadi) has six-storey apartment buildings. All sites have green area and parking lots.

Table 5.1: Figure (built) and Ground (un-built) Area for Case Areas

	Figure	Ground	Total Area	F/G Ratio
Mutluköy Site	~ 26.500 m^2	~ 66.630 m^2	~ 93.130 m^2	39.77 %
Çamlıca Bulvar& Kalemköy Site	~ 5.220 m^2	~ 17.280 m^2	~ 22.500 m^2	30.20 %
Meksika Avenue	~ 10.030 m^2	~ 27.570 m^2	~ 37.600 m^2	36.38 %

Figure 5.5: Character and Form of Case Areas in Ümitköy

Figure 5.6 gives information about the forms of four different areas in Ümitköy. Number 4 and number 5 are accepted as an unplanned development area of Ümitköy. They developed in single plots and most buildings, which are located in those areas, are two or three storey buildings. Each house has a private garden in different sizes. There is no planned street network, which reflects a disorganized view. In other words, both sites have informal street layout. Some of buildings are used by commercial facilities and private courses. Number 6 displays a more different character than the previous ones. The topography shows differences in this area. Some of the buildings are located on a hill, whereas some others are located on a sloping topography. Most of the buildings in this area are high-rise residential buildings, and they are generally built after the year 2000. Number 7 presents triplex attached houses in this site (Kafkas Site). Each house has very small front and backyard gardens. Although the site has streets which connect the houses to the main roads, those streets passing by the houses are not private ones, rather they are public streets.

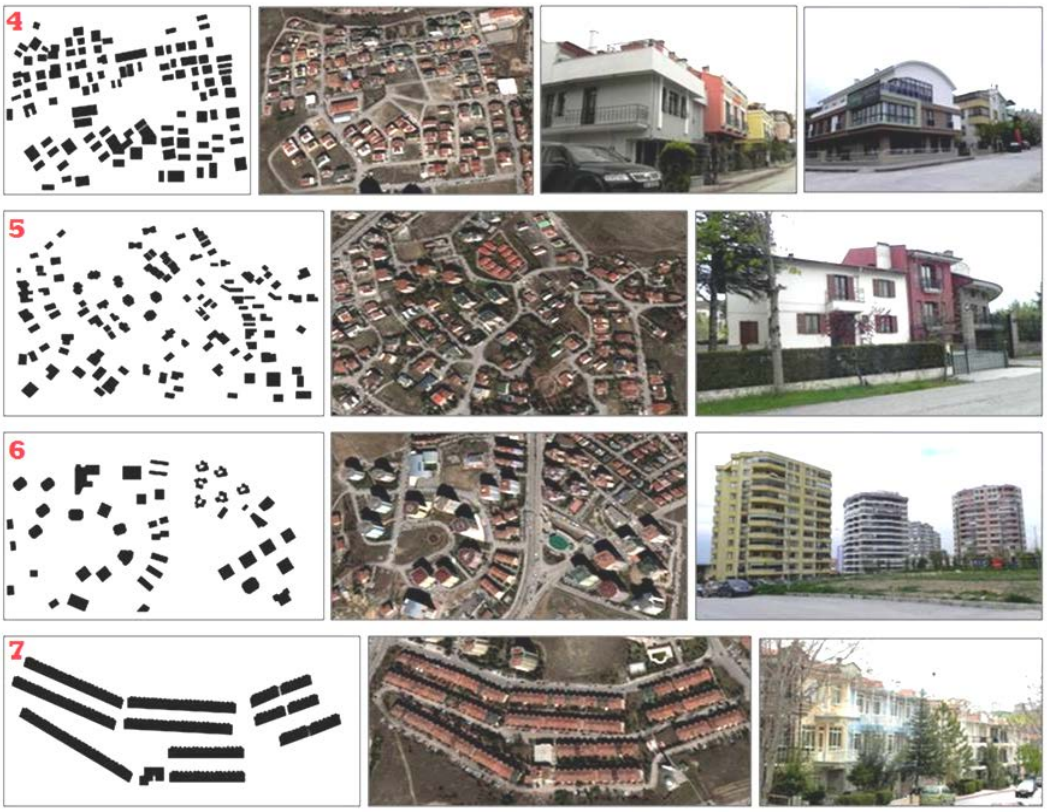


Figure 5.6: Character and Form of Sub-districts in Ümitköy, Group 1

The illustration given in number 8 in Figure 5.7 has totally a different character than most of the sites in the district. All the duplex houses which are designed and built in this site as detached buildings (Osman Ağa Konakları) are all commercial facilities. Although this area is a wide commercial area composed of many buildings which are used as banks, shopping buildings, cafes or restaurants, there is not a sufficient parking lot for the users (for both visitors and workers). The streets are used as parking areas. Number 9 is related to the analysis of Ümit Site, which is one of the oldest residential areas in the district. The buildings are all five-storey buildings built for middle income groups. There are green areas diffused into the building blocks with parking lots. The 10th illustration is composed of attached duplex houses. They have private parking lots and gardens which are separated from the public spaces (Ihlamur Site and Mak-iş Site).

Figure 5.7: Character and Form of Sub-districts in Ümitköy, Group 2

In Figure 5.8, number 11 illustrates apartment blocks most of which are five-storey buildings. Although these sites have their shared green areas, there is also one public park very close to the sites. Different from these sites, there are two newly constructed high-rise luxurious apartment buildings. These new buildings give an impression of a gated community along with a security entrance and a private garden and car parking. The 12th illustration is composed of detached houses in which generally upper-middle and upper classes are living. They have their own private gardens. All the houses are directly opening to the public streets. The 13th area illustrates the high-rise buildings located on Meksika Avenue. Some of the buildings are relatively older than the others. The new ones are accepted as luxurious housings and generally form gated community type approaches, whereas older ones are more open to the public with their environment. These buildings are located very close to Gordion Shopping Mall. There is not any community park or recreation area planned or built around these buildings. There is a private sport centre and a private dormitory close to this site as well. The development pattern reflects an informal form which can be clearly understood from the map location.

Figure 5.8: Character and Form of Sub-districts in Ümitköy, Group 3

Number 14 has two different building forms; five-storey and high-rise apartment blocks (Figure 5.9). This area is located along the 10th Avenue which is connected to Beysukent district. The Mak-iş Blocks which are composed of five-storey apartment buildings are one of the old sites in the district. The other two high-rise buildings (Yeşil Vadi Konutları) are newly constructed buildings. Number 15 presents the Beril Site, which is one of the oldest settlements in Ümitköy. This site is composed of two-storey attached houses. Each house has a private garden, and also there is a shared green area within the site.

Figure 5.9: Character and Form of Sub-districts in Ümitköy, Group 4

Figure 5.10: Figure-Group Map of Ümitköy

Figure 5.10 presents figure and ground map of Ümitköy. According to the figure, there is scale differentiation in the area. While the cover areas of high-rise buildings are big, 1-5 storey buildings are smaller. Moreover, the size of open spaces among the buildings is affected by the number of storeys. As it is seen on the map, open spaces is wide among high-rise buildings.

5.2.3. Building Types in Ümitköy

Ümitköy district has diverse residential building types. The map (Figure 5.11) illustrates the different building types in Ümitköy which are categorized according to storey heights. This categorization includes three building types; 2-3 storey, 4-6 storey, and 7-10 storey. As it is clearly seen from the map below, 2-3 storey buildings are denser than the other building types on the layout.

High-rise buildings are mostly observed on and around Meksika Avenue, and they are close to the Gordion Shopping Mall. This texture on the layout displays a kind of localization in this region. Other high-rise buildings also accumulate on the both ends of the 8th Avenue. While one end connects to the Eskisehir Road, the other end is the intersection area of the Çayyolu village and the 10th Avenue. Apart from those areas, there are some high-rise buildings located approximately on the central area of Ümitköy district on the layout.

The housings which are categorized under 4-6 storey can be seen in different parts of the district. However, buildings which are constructed on the single residential plots and which do not belong to any sites are located on the eastern end of the Meksika Avenue close to the connection area with Eskişehir Road.

The buildings categorized as 2-3 storey are mainly composed of attached or detached type single family houses. As seen during the site observations, most of the attached houses and even row houses were older than the detached ones which were mainly constructed on single residential plots.

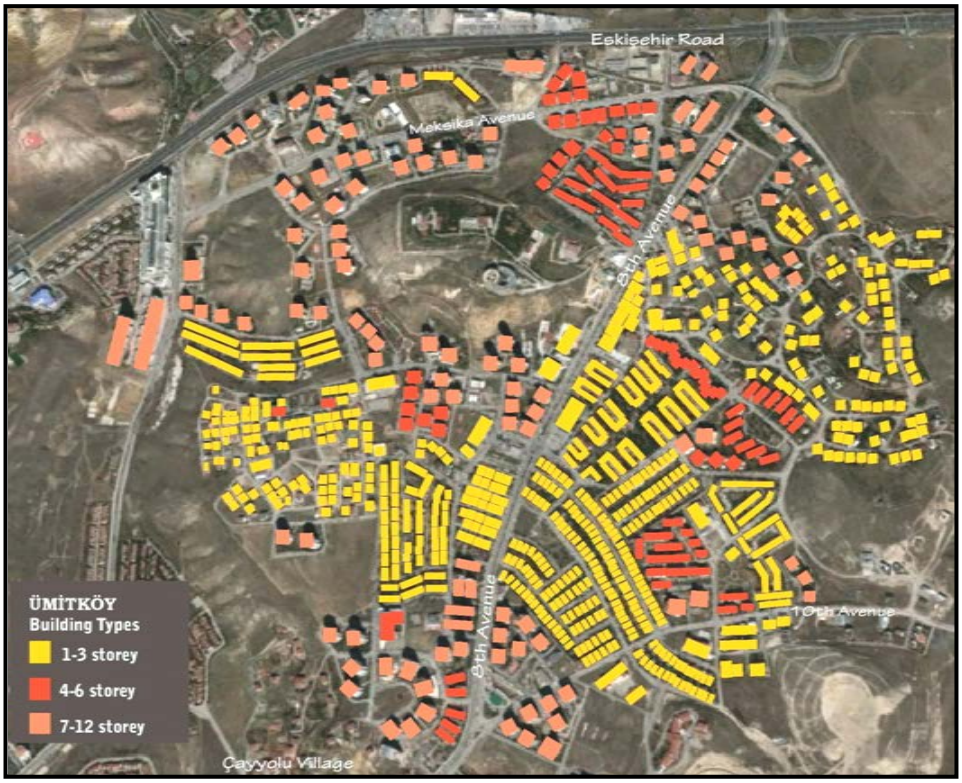


Figure 5.11: The Building Types in Ümitköy (Based Map is from Google Earth, 2013)

Actually, sustainable communities offer mixed-housing type. This case area consists of different housing types. However, as it is seen on the above map, the dominant building type is 1-3 storeys in the area. Those 1-3 storey buildings reflect former development characteristics of the area. Today, the new building construction on the area is usually high-rise. This type of development affects the perspective of the district, and the scale started to shift from human-scale to a bigger one.

5.2.4. Accessibility and Walkability in Ümitköy

In Ümitköy, there is differentiation of streets (Figure 5.12). One of the reasons is the topographic structure of Ümitköy, while another reason is private land ownership. Basically, Ümitköy is developed by cooperatives. Besides cooperatives, there are private land ownerships in some parts of the area. The areas developed by cooperatives have formal street designs. For example, one of the selected case areas (Mutluköy Site) has been planned in cul-de-sacs street design (like Radburn) (shown with 'E'). Although this type of layout is seen as formal and regular, the disadvantage is the decrease in accessibility. On the other hand, this provides semi-public spaces for housing estates. These spaces offer safe playing areas for children. Also, streets can be used as car parking areas. Another advantage is the increase in social interaction among neighbours because all doors of houses face those cul-de-sac streets.

On the other hand, some parts of area are developed in informal street design (mixed of loops and cul-de-sacs) (shown with ‘A’, ‘B’ and ‘D’). These parts are affected by the topographic structures such as hills and slopes. The problem is accessibility because both topographic difficulties and informal streets led to decrease in walkability for residents. Even if the distance between facilities is short, residents cannot walk. In other words, this type of layout does not encourage walkable lifestyle.

Other parts of the district have distorted grid layout (shown with ‘C’ and ‘F’). Grid plan is accepted as the most accessible layout. Based on site observations, it may be argued that these areas increase accessibility and encourage walking even if there are some distortions on the layout. Moreover, there are some other reasons increasing walkability. One of them is scale of the building; there are 2-5 storey buildings in those areas. The second reason is the greenery of the areas. These two reasons (both human-scale and softscape elements) are significant for walkability.

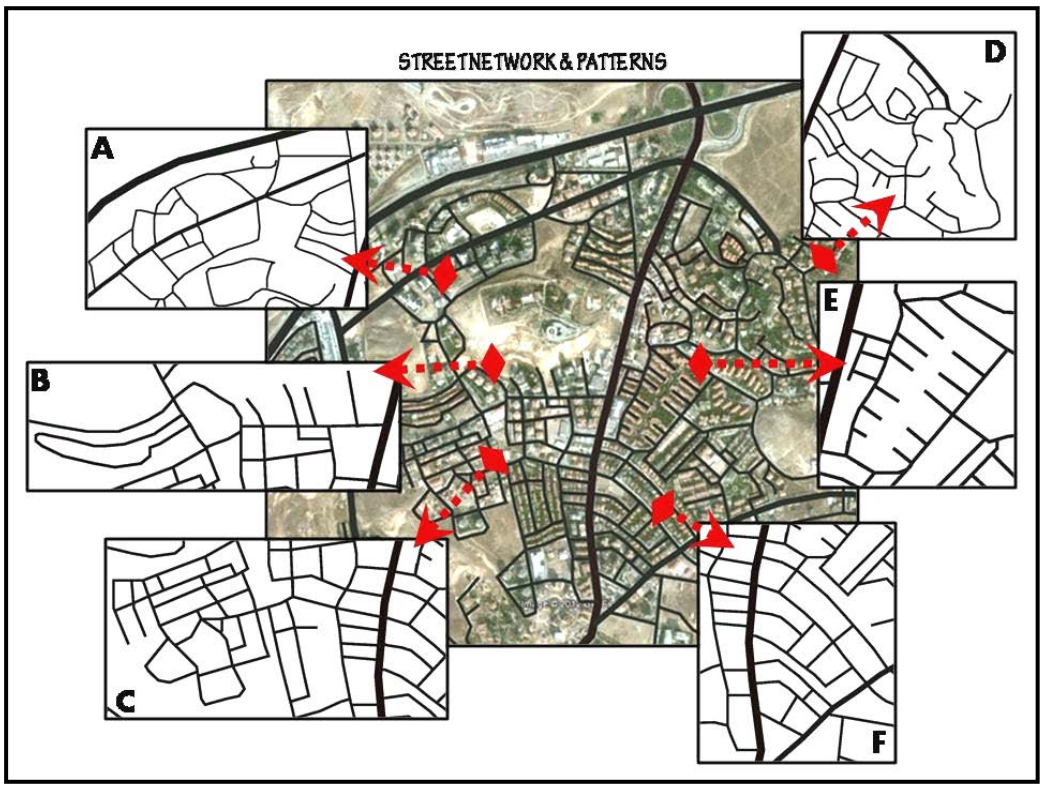


Figure 5.12: Street Network and Pattern of Ümitköy District

In Ümitköy, as mentioned above, there are both formal and informal street layouts. Site observation provides some significant feedback related to accessibility and walkability. All the area was discovered by walking, and advantages and disadvantages of different street layouts were evaluated. According to these observations, it is confirmed that both human scale developments and greenery have an impact on walking behaviour. Also, mixed-use development of the neighbourhood is important. If facilities are located at a walkable distance, residents can prefer walking. Moreover, street quality of the neighbourhood is significant. If there are pavements, ramps, lightings, and signs, and if they are placed optimally, residents feel safe to walk. Lastly, grid street layout increases accessibility.

CHAPTER 6

THE EVALUATION IN MICRO-SCALE: THE ASSESSMENT OF HOUSING ESTATES ACCORDING TO SPATIAL DESIGN COMPONENTS OF SUSTAINABLE COMMUNITIES

6.1. Introduction

This study focuses on three different types of residential estates as case studies. The case study areas are examined to assess a sustainable community through determined indicators. First of all, the case study areas are introduced, and secondly indicators are assessed according to questionnaire results and site observations. In the housing estate scale, sustainable community indicators are evaluated under two groups of indicators. The first group of indicators is related to 'Spatial Design and Built Environment'; the other group of indicators is related to 'Social Design and Social Infrastructure'. This chapter, spatial group of design components of sustainability such as mix-use of different housing types, mixed-use, density/figure and ground, recreational areas and green spaces, accessibility, parking facilities, and physical conditions and maintenance of housing estate are analyzed by comparing selected case areas. Chapter 7, however, analyzes the social design and social infrastructure.

6.2. Community Profiles in Selected Housing Estates[27]

This part of the chapter describes the community profiles of housing estate types. Information about the demographic structure of community in each housing estate was obtained via questionnaire. Demographic questions were categorized under three sections: a) socio-demographic, b) socio-economic, and c) socio-cultural structure of community. Socio-demographic structure of the community consists of some attributes such as age, male-female ratio, place of birth, marital status, number of children, family size. Socio-economic structure includes occupation, total family income, homeownership, and vehicle ownership. Socio-cultural structure consists of education pattern in a community, length of time the community has been in existence, and location of the previous house. Lastly, community profiles in selected sites are compared and evaluated.

6.2.1. Housing Estate, Case 1: *'Mutluköy Site'*

According to the questionnaires, 37% of the residents is between the ages 51-65; 33% of them is 65 age and above; 21% is between31 and50; 9% is between 18 and30 in Mutluköy Site. 49% of the respondents are male and 51% of the respondents are female. While 72% of

[27]Selected Housing Estates in Ümitköy:
Case 1; *'Mutluköy Site'*; attached houses with private garden and five-storey attached apartments with common garden
Case 2; *'Çamlıca Bulvar Site' and 'Kalemköy Site'*; multi-storey apartments with common garden
Case 3; *'Meksika Avenue'*; street type apartments in each own resident plots with private garden

the respondents are married, 26% of respondents are single. The number of children is another attribute. In the site, families which responded to the questionnaires generally have two children (41%),while 27% of them have one child, 18% no child, 8% three, and 4% four and more children. On the other hand, children of most families are living in different houses. Therefore, the family size mostly consists of two people (generally couples) (38%); ot5her families were of three people (29%), four people (14%), five people (2%); and one person (9%).

In Mutluköy Site, 53% of respondents are retired; 12% are housewives, and 9% are students. In the site, the respondents have different occupations such as officers, engineers, architects, teachers, doctors, academics, soldiers, and workers. As regards the total family income, the residents in Mutluköy Site are classified into middle-class and upper-middle-class. According to the total family income data, 30% of the respondents' income is between 1500 and 3000 TL; 22% of the respondents' income is between 3000 and 4500 TL, and 28% of respondents' income is 4500 TL and above. The percentage (%) of homeownership and percentage (%) of vehicle ownership are important socio-economic indicators. While 85% of the respondents are a householder, 11% of respondents are a tenant. On the other hand, 80% of respondents own cars.

Table 6.1: Community Profile in Mutluköy Site

INDICATORS		Number of Respondent	% within Community
Age	18-30	9	9%
	31-50	21	21%
	51-65	37	37%
	Above 65	33	33%
Male-Female Ratio	Male	49	49%
	Female	51	51%
Marital Status	Single	26	26%
	Married	72	72%
	No answer	2	2%
Education	Primary & Secondary Education	7	7%
	High School	21	21%
	University	50	50%
	Master	11	11%
	PhD	6	6%
	No answer	5	5%
Number of Children	No child	18	18%
	1 child	27	27%
	2 children	41	41%
	3 children	8	8%
	4 children and above	2	2%
	No answer	4	4%
Family Size	1 person (Single)	9	9%
	2 people (One Parent and Child) or (couple)	38	38%
	3 people (Mother-Father-Child)	29	29%
	4 people and above (Mother-Father-Children) or (Mother-Father-Children-Grandparent)	16	16%
	No answer	8	8%
Working Status	Retired	53	53%
	Housewife	12	12%
	Student	9	9%
	Unemployed	3	3%
	Working full-time	29	29%
Total Family Income	Below 1500 TL	16	16%
	1500-3000 TL	30	30%
	3000-4500 TL	22	22%
	Above 4500 TL	28	28%
	No answer	4	4%
Homeownership	Yes	85	85%
	No	11	11%
	No answer	4	4%
Vehicle ownership	Yes	80	80%
	No	18	18%
	No answer	2	2%

Residents were living in different places in Ankara before moving to Mutluköy Site. Most of the residents were living in Çankaya, Ayrancı, Bahçelievler, Keçiören, Cebeci, Anıttepe, Maltepe, 100.Yıl, Bilkent, Dikmen, Demetevler, and other districts of Çayyolu**.** It evident that there s a high education level in Mutluköy Site; 50% of respondents graduated from university. While 11% of the respondents have a master degree, 6% of them have a PhD degree.

Figure 6.1: Sketch Drawing of Mutluköy Site (Produced from Model Picture)

6.2.2. Housing Estate, Case 2: *'Çamlıca Bulvar Site' & 'Kalemköy Site'*

In Çamlıca Bulvar and Kalemköy Site, 37% of the respondents are between 51 and 65. While21.7% of the respondents is older than 65, 34,8% is between 31 and 50. Only 4,3% of the respondents are within the age group of 18-30. In the site, the gender of respondents is quite balanced. While 47,8% is female, 52,2% is male. While most of the respondents were born in Ankara, other respondents were born inb different cities in Turkey such as Balıkesir, Bolu, Çorum, Erzincan, Hatay, Isparta, Kayseri, Kocaeli, Malatya, Samsun, Sivas, Tekirdağ, Tokat, Bayburt, İstanbul, Yozgat, Muğla, Giresun, and Elazığ. While 82,6% of respondents are married, only 15,2% of them are single. 6,5% of the respondents have three children; 54,3% of them have two children; 23,9% of them have a single child. In the site, while 39,1% of the respondents are living at home as three family members, 30,4% of the respondents are living as two people. According to questionnaires, these two family types consist of mother, father and one child or two children.

As regards employment, 47,8% of the respondents are not working because most of them are retired, others are housewives. 42% of the respondents are working. Their occupations are varied, e.g. financial advisor, architect, engineer, teacher, doctor, soldier, officer and worker. In the site, monthly total family income of most families is 3000-4500TL (32,6%). 28,3% of respondents have 4500TL and above; similarly 28,3 % of the respondents earn 1500-3000TL. While 80,4% of the respondents have a vehicle, 19,6% of them do not have a vehicle. While 71% of the respondents are living in their own house, 28,3% of them are tenants.

In Çamlıca Bulvar Site, 63% of the respondents graduated from a university. 19,6% of them have a high school education. 6.5% of the respondents have a PhD degree and another 6.5% have a master's degree. 4,4% of the respondents have a primary education. Most of residents lived in Ayrancı and Bahçelievler before moving here; the other residents lived in different districts in Ankara before moving to this site. Some of them were located in Çankaya and Yenimahalle.

Table 6.2: Community Profile in Çamlıca Bulvar and Kalemköy Sites

INDICATORS		Number of Respondent	% within Community
Age	Below 18	1	2,2%
	18-30	2	4,3%
	31-50	16	34,8%
	51-65	17	37%
	Above 65	10	21,7%
Male-Female Ratio	Male	24	47,8%
	Female	22	52,2%
Marital Status	Single	7	15,2%
	Married	38	82,6%
Education	Primary and Secondary Education	2	4,4%
	High School	9	19,6%
	University	29	63%
	Master	3	6,5%
	PhD	3	6,5%
Number of Children	0 child	7	15,2%
	1 child	11	23,9%
	2 children	25	54,3%
	3 children	3	6,5%
Family Size	1 person (Single)	4	8,7%
	2 people (One Parent and Child) or (Couple)	14	30,4%
	3 people (Mother-Father-Child)	18	39,1%
	4 people and above (Mother- Father-Children) or (Mother-Father-Child-Grandparent)	8	17,4%
	No answer	2	4,3%
Working Status	Retired	22	47,8%
	Housewife	4	8,6%
	Student	2	4%
	Working full-time	19	41,3%
	No answer	1	2%
Total Family Income	Below 1500 TL	3	6,5%
	1500-3000 TL	13	28,3%
	3000-4500 TL	15	32,6%
	Above 4500 TL	13	28,3%
	No answer	2	4,3%
Homeownership	Yes No	33 13	71% 28,3%
Vehicle ownership	Yes No	37 9	80,4% 19,6%

6.2.3. Housing Estate, Case 3: *'Meksika Avenue'*

Most of the respondents in Meksika Avenue are in the 51-65 age group (39,6%). 29,2% of them are in the 31-50 age group; 16,7% are in the 18-30 age group; 8,3% are above 65. While 62,5% of the respondents is male, 35,4% of the respondents is female. 42% of the respondents are born in Ankara, 10% are born in Yozgat, 6% are born in Kayseri, and 4% are born in Diyarbakir. While 81,3% are married, 16,7% are single. According to questionnaires, 33,3% of the respondents have three children; 29,2% of them have a child; 20,8% have four children; 14,6% have two children. 35,4% of the respondents have been

living as two people in their house, and 35,4% of the respondents have been living as three people in their house.

54% of the respondents are employed fulltime (financial advisor, officer, engineer, architect, tradesman, worker, doctor, teacher, academics, and soldier). About the non-working residents, 36% of the respondents are retired; 6% of respondents are students; 2% is housewife; 2% is unemployed. The Residents in Meksika Avenue are classified as middle-class in terms of monthly total family income as n the other case areas. Most respondents' total family income is above 4500 TL (22,9%). 20,8% of the respondents' income is 3000-4500 TL; 20,8% of the respondents' income is 1500-3000 TL. On the other hand, 31,3% of the respondents' income is below 1500 TL. 81,3% of them have a car. While 79,2% of them are homeowners, 14,6% are renters.

In this district, 54% of respondents have a master degree. 31% of the respondents graduated from university. 9% of the respondents have a PhD degree. 13% of them lived in Bahçelievler; 10% lived in Çankaya; 6% lived in Ümitköy; 4% lived in Dikmen; 4% lived in Yenimahalle before moving here.

Table 6.3: Community Profile in Meksika Avenue

INDICATORS		Number of Respondent	% within Community
Age	Below 18	3	6,3%
	18-30	8	16,7%
	31-50	14	29,2%
	51-65	19	39,6%
	Above 65	4	8,3%
Male-Female Ratio	Male	30	62,5%
	Female	17	35,4%
	No answer	1	2,1%
Marital Status	Single	8	16,7%
	Married	39	81,3%
Education	Primary and Secondary Education	2	4%
	High School	1	2%
	University	15	31%
	Master	26	54%
	PhD	4	9%
Number of Children	1 child	14	29,2%
	2 children	7	14,6%
	3 children	16	33,3%
	4 children	10	20,8%
	No answer	1	2,1%
Family Size	1 person (Single)	---	---
	2 people (One Parent and Child) or (Couple)	17	35,4%
	3 people (Mother-Father-Child)	17	35,4%
	4 people and above (Mother- Father-Children) or (Mother-Father-Children-Grandparent)	12	25%
	No answer	2	4,2%
Working Status	Retired	16	33.3%
	Housewife	1	2,1%
	Student	4	8,3%
	Unemployed	1	2,1%
	Working full-time	27	56,3%
Total Family Income	Below 1500 TL	15	31,3%
	1500-3000 TL	10	20,8%
	3000-4500 TL	10	20,8%
	Above 4500 TL	11	22,9%
	No answer	2	4,2%
Homeownership	Yes No No answer	38 7 3	79,2% 14,6% 6,3%
Vehicle ownership	Yes No	39 9	81,3% 18,8%

6.2.4. Comparison of Community Profiles in Three Housing Estates

The previous three sections introduce the community profile in the four different sites in three different types. This part includes a comparable analysis of the community profiles. 'Çamlıca Bulvar Site' and 'Kalemköy Site' are combined during the assessment process because both sites have very similar housing types. However, The Çamlıca Bulvar Site settlement is composed of mix-used functions (offices and residential units are located in the same buildings). Kalemköy Site is composed of only residential units.

Table 6.4 gives a general age profile related to case areas. In Mutluköy site, the respondent age profile mostly concentrates on 51 and above. On the other hand, respondents from Çamlıca Bulvar and Kalemköy Site mainly are between the age group of 31 and 65. In Meksika Avenue, the results show a similar profile with the Çamlıca Bulvar and Kalemköy Site. Age profile is a valuable and basic demographic data. Indeed, this data can be used efficiently in order identify and develop recreational needs and its diversity within the local area.

Table 6.4: Age Profiles in Housing Estates

	Mutlukōy Site		Çamlıca Bulvar & Kalemkōy Site		Meksika Avenue	
Age	Frequency	Percent	Frequency	Percent	Frequency	Percent
Below 18	0	0	1	2,2	3	6,3
18 - 30	9	9,0	2	4,3	8	16,7
31 - 50	21	21,0	16	34,8	14	29,2
51 - 65	37	37,0	17	37,0	19	39,6
Above 65	33	33,0	10	21,7	4	8,3
Total	100	100,0	46	100,0	48	100,0

Table 6.5 represents overall the gender profiles of the sites. As can be seen here, respondent gender profiles are quite homogeneous in Mutluköy, Çamlıca Bulvar and Kalemköy Sites. In Meksika Avenue, the number of male respondents is higher than the female respondents.

Table 6.5: Gender Profile in Housing Estates

	Mutlukōy Site		Çamlıca Bulvar & Kalemkōy Site		Meksika Avenue	
Gender	Frequency	Percent	Frequency	Percent	Frequency	Percent
Female	51	51,0	22	47,8	17	36,2
Male	49	49,0	24	52,2	30	63,8
Total	100	100,0	46	100,0	47	100,0

Education profiles of the cases (given in Table 6.6) demonstrate that a great number of respondents are high schools and university graduates. Especially, university graduates are predominant in number. In addition, the percentage of people who have a master degrees is remarkable. The education profile is one of the efficient ways in order to analyze and evaluate the level of social interaction and awareness capabilities related to residents' housing estate and neighbourhood.

Table 6.6: Education Profile in Housing Estates

	Mutlukōy Site		Çamlıca Bulvar & Kalemkōy Site		Meksika Avenue	
Level of education	Frequency	Percent	Frequency	Percent	Frequency	Percent
Literacy	0	0	0	0	1	2,1
Primary School	1	1,0	1	2,2	1	2,1
Secondary School	6	6,3	1	2,2	1	2,1
Elementary School	0	0	—	—	1	2,1
High School	21	22,1	9	19,6	15	31,3
University	50	52,6	29	63,0	25	52,1
Master Degree	11	11,6	3	6,5	4	8,3
PhD	6	6,3	3	6,5	0	0
Total	95	100,0	46	100,0	48	100,0

While in Mutluköy Site and Meksika Avenue most of the families have two children, in Çamlıca Bulvar and Kalemköy Site most of the families have three children (Table 6.7). An interesting finding is that all of the respondents have at least one child in Çamlıca Bulvar and Kalemköy Site.

Table 6.7: Number of Children in Households

	Mutlukōy Site		Çamlıca Bulvar & Kalemkōy Site		Meksika Avenue	
Number of children	Frequency	Percent	Frequency	Percent	Frequency	Percent
0	18	18,8	0	0	14	30,0
1	27	28,0	7	15,2	7	14,9
2	41	42,7	11	23,9	16	34,0
3	8	8,3	25	54,3	10	21,3
4 or above	2	2,1	3	6,5	0	0,0
Total	96	100,0	46	100,0	47	100,0

According to Table 6.8, the research reveals that a majority of the respondents in all cases define the household as two or three people. Two people sharing the same house generally refers to a couple or one parent and a child. On the other hand, three people refer to a nucleus family consisting of parents and their child. This data is important to evaluate and understand the open space and other activity capabilities of the sites, and the need for those activities related to age profile. For instance, the number of children living in a site directly relates to the development of playing grounds and other recreational activities (Table 6.7 and 6.8).

Table 6.8: People Living in House

	Mutlukōy Site		Çamlıca Bulvar & Kalemkōy Site		Meksika Avenue	
How many people in the house?	Frequency	Percent	Frequency	Percent	Frequency	Percent
1	9	9,8	4	9,1	0	0
2	38	41,3	14	31,8	17	37,0
3	29	31,5	18	40,9	17	37,0
4	14	15,2	8	18,2	8	17,4
5	2	2,2	0	0,0	3	6,5
6	0	0,0	0	0,0	1	2,2
Total	92	100,0	44	100,0	46	100,0

The working status is important because it hints the time spent by residents at home and in its environment, neighbourhood (Table 6.9 and Table 6.10). If the residents do not work, the chance of using facilities in the neighbourhood can increase.

Table 6.9: Working Status in Housing Estates

	Mutlukōy Site		Çamlıca Bulvar & Kalemkōy Site		Meksika Avenue	
Working status	Frequency	Percent	Frequency	Percent	Frequency	Percent
Working	29	33,7	19	47,5	27	62,8
Not Working	57	66,3	21	52,5	16	37,2
Total	86	100,0	40	100,0	43	100,0

Table 6.10: If not Working

	Case 1		Case 2		Case 3	
If not working	Frequency	Percent	Frequency	Percent	Frequency	Percent
Retired	69	69	20	76,9	17	77
Housewife	15	15	4	15,3	1	4,5
Student	12	12	2	7,7	3	13,6
Unemployment	4	4	0	0	1	4,5
Total	100	100,0	26	100,0	22	100,0

The following table (Table 6.11) indicates the income profile of the respondents. The findings of the questionnaire show that a great majority of people living in these areas belong to middle income groups.

Table 6.11: Income Profile in Housing Estates

	Mutlukōy Site		Çamlıca Bulvar & Kalemkōy Site		Meksika Avenue	
Total family income	Frequency	Percent	Frequency	Percent	Frequency	Percent
Minimum wage	2	2,0	1	2,3	6	13,0
650-1500TL	14	14,6	2	4,5	9	19,6
1500-3000TL	30	31,3	13	29,5	10	21,7
3000-4500TL	22	22,9	15	34,1	10	20,8
Above 4500TL	28	29,2	13	29,5	11	23,9
Total	96	100,0	44	100,0	46	100,0

The great majority of the respondents overall in the sample report to own a a vehicle (mostly cars) (Table 6.12). The frequency of other vehicle alternatives including motorcycles and bicycles is lower than car (Table 6.13). Based on the questionnaire, although there are residents who do not have cars in Mutluköy, Çamlıca Bulvar and Kalemköy Sites, there is not anybody who does not have one in Meksika Avenue. A considerably low number of residents (almost 19%) in Mutluköy state that they do not have a car. The correlation of owning a vehicle, particularly with age profile is also worth taking into account. The responses have revealed that only one resident has a bicycle.

Table 6.12: Vehicle Ownership in Housing Estates

	Mutlukōy Site		Çamlıca Bulvar & Kalemkōy Site		Meksika Avenue	
Vehicle ownership	Frequency	Percent	Frequency	Percent	Frequency	Percent
I have	80	81,6	37	80,4	48	100,0
I have not	18	18,4	9	19,6	0	0,0
Total	98	100,0	46	100,0	48	100,0

Table 6.13: Vehicle Type

	Mutlukōy Site		Çamlıca Bulvar & Kalemkōy Site		Meksika Avenue	
Vehicle type	Frequency	Percent	Frequency	Percent	Frequency	Percent
Car	80	100,0	34	91,9	39	81,3
Motorcycle	0	0,0	2	5,4	9	18,8
Bicycle	0	0,0	1	2,7	0	0,0
Total	80	100,0	37	100,0	48	100,0

Homeownership is a key indicator to evaluate sustainable communities. Increasing the resident's homeownership reinforces the sense of belonging, sense of community and sense of place. In addition, it raises residents' awareness of the housing estate and neighbourhood. Moreover, residents maintain their houses, and become enthusiastic about improving the conditions of houses and its surroundings. As a result, all of these are effective on building a sustainable community. Although homeownership rates are high in all cases, in the second case area (Çamlıca Bulvar and Kalemköy Sites) the rate of renters is considerably higher than the other case areas (Table 6.14).

Table 6.14: Homeownership in Housing Estates

	Mutlukōy Site		Çamlıca Bulvar & Kalemkōy Site		Meksika Avenue	
Homeownership	Frequency	Percent	Frequency	Percent	Frequency	Percent
Houseowner	85	89,0	33	71,7	38	84,4
Renter	11	11,0	13	28,3	7	15,6
Total	96	100,0	46	100,0	45	100,0

6.3. Assessment and Comparison of Sustainable Community Indicators related to 'Spatial Design & Built Environment'

6.3.1. Mixed Housing Types

Building types is a significant assessment element of sustainable communities. In housing estate scale, different housing types provide diverse housing opportunities to residents who belong to different income and household groups. Moreover, the diversity of building types offer strong design characteristics for the environment. This section explores the three different housing estates in terms of housing types to assess sustainable communities because sustainable communities offer mixed-housing types in both scales (housing estate and neighbourhood). Figure 6.2 shows selected housing estates on the map.

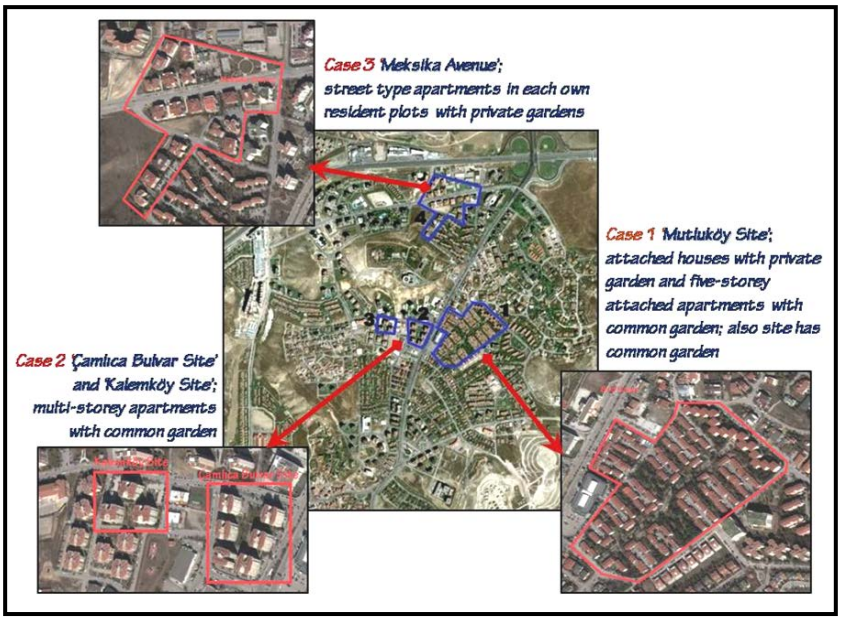


Figure 6.2: Selected Housing Estates

Mutluköy Site is one of the oldest housing estates in Ümitköy. The Site is located near the Galeria Shopping Mall in the central district area of Ümitköy. In 1980s, member of parliaments and workers of assembly came together to develop a cooperative to build these houses. This site consists of 310 attached houses and 15 apartment buildings with 159 flats (Table 6.15). Each attached house has a private garden (Figure 6.3). Apartment buildings are five-storey with a common garden (Figure 6.4). They are all concrete frame buildings.

Table 6.15: Housing Types in Mutluköy Site

Housing Typology	Storey Number	Net Area	Gross Area
Type A; House with garden	2	100 m²	130 m²
Type B; House with garden	2	140 m²	162 m²
Type C; Apartment House	5	100 m²	125 m²

Figure 6.3: Attached Houses in Mutluköy Site

Figure 6.4: Apartment buildings in Mutluköy Site

Çamlıca Bulvar Site is composed of multi-storey apartment blocks with shared garden (Figure 6.5). It is located on the 8th Avenue, opposite site to Galeria Shopping Mall. It was built in 1994 as a concrete frame building. There are 240 flats located in 6 blocks with 10 storeys. Each flat has three rooms with almost 140 square meters area.

Figure 6.5: Buildings in Çamlıca Bulvar Site

Kalemköy Site is located near Çamlıca Bulvar Site. It has multi-storey apartments with a common garden; t housing facilities are in the site (Figure 6.6). The site was built in 1993 and has 8248 square meters total area. There are 3 blocks with 10 storeys. Each block has its own building government and maintenance. Each flat has four rooms and almost 150 square meters.

Figure 6.6: Buildings in Kalemköy Site

Meksika Avenue has 20 apartment blocks which are located on their own resident plots with private gardens (Figure 6.7). Most of the apartments are produced through 'build and sell system' street type apartments. Just one of them is built by a cooperative. This apartment has a different architectural design approach which locates 24 duplex flats within the apartment block. Generally, the apartments are five-storey in the Meksika Avenue. Some of the buildings were constructed as 15-flats apartment blocks, whereas some others have 20 flats.

Figure 6.7: Apartment Buildings in Meksika Avenue

The Mutlukoy site that has different building types including five-story buildings and attached duplex houses. This diversity provides different housing types for different households and income groups. This approach is asserted as a basic principle of sustainable community which enhances the integration of diverse populations. One of the other sites

(Çamlıca Bulvar and Kalemköy Site) is accommodating people in apartment blocks which are composed of multi-storey buildings, and provide limited housing type for residents. This site refers to a vertical development whereas Mutlukoy encompasses both horizontal and vertical mixed-use development. Although Meksika Avenue has a more human-scale sense than Çamlıca Bulvar and Kalemköy Site in terms of building height, the type variety is not rich to meetthe needs of different user groups.

6.3.2. Mixed Use Building

Mutluköy Site has a common garden, walking path, parking area, and some community services such as market, tailor, pharmacy, and hairdresser. According to site observations conducted on January 2012, it is determined that almost 60 attached houses are used as commercial facilities within the site (Figure 6.8). In Mutluköy, the site management provides some services related to security, landscaping and maintenance.

In Çamlıca Bulvar Site, open space area maintenance including common garden, parking area and playground for children is made by site management. In addition, some repair works such as banks, playground structures,and pavements are generally made by staff. The site has both housing and commercial facilities. Based on the observations conducted on October 2012, 190 flats are used as housing, and 50 flats are used as commercial/offices in the site. On the other hand, in Kalemköy Site, the site management allows only residential usage; therefore, there is no commercial usage within the buildings. All respondents are satisfied with this situation.

Figure 6.8: Red Marked Buildings Are Used as Commercial Facilities According to Site Observations in January 2012

In Meksika Avenue, all the apartment blocks are composed of residential units, and there are not any commercial facilities located within the buildings. Although both Kalemköy Site and Meksika Avenue are not mixed use areas, an important difference between them is that Kalemköy Site is very close to many commercial facilities which match most of the needs of residents, but Meksika Avenue is not located close to many commercial services as much as other case areas. Residents living in Meksika Avenue have to use vehicles to access to those services.

6.3.3. Recreational Areas and Green Spaces

Recreational areas and green spaces are very significant for social interaction and well-being. In Mutluköy Site, there are efficient green areas (Figure 6.9); however, respondents emphasized that the site was a more liveable place in past times in terms of some recreational activities. According to obtained information from personal interviews, there were a tennis court, table tennis area, and decorative pool in the site. Some of the respondents implied that the active using of green areas in the site has started lowering. The reason for this decrease is linked with the changing demographic condition of Mutluköy; most of residents are over the age of 50, and there are few children in contrast to the past living in the site today. Moreover, there were some playgrounds for children in the site according to site observations in April 2011; however, in November 2011, it was seen that these areas are used for a different purposes.

Figure 6.9: Green Areas in Mutluköy Site

In Çamlıca Bulvar and Kalemköy Site, green areas are generally accepted as efficient (Figure 6.10 and Figure 6.11); the respondents emphasized that they are generally satisfied with the open spaces and green areas, as well as playgrounds. There is garden furniture to sit and spend time in the green areas. In addition children use playground area in the site actively.

Figure 6.10: Green and Recreational Area in Çamlıca Bulvar Site

In Meksika Avenue, as it is mentioned before, the green areas related to single buildings are private gardens which are specific to each building. Therefore, the total area of open space and garden related to each building is very limited in comparison to the other sites. Thus, it is very difficult to say that there is enough open space for different needs of residents around the buildings. However, there is a public park close to this area which the residents can use. Findings of the questionnaire display that residents generally satisfy from the green or park spaces. However, this satisfaction level cannot be compared with the other sites.

Figure 6.11: Green Area in Kalemköy Site

There are some determiners to evaluate the recreational and green areas in the neighbourhood. These are accessibility to park, residents' willingness to use the parks, frequency of park usage, the period of park usage, time spent in park. The figures below display accessibility to parks located near environment of sites and preferences of the residents (Figure 6.12, Figure 6.13, Figure 6.14). Three parks are located in the surrounding of each site. Figure 6.12 gives information about Case 1 (Mutluköy Site). According to observations, P1 (Tevfik İleri Park) is located along the main avenue (8th Avenue), and the large park consists of sitting places and a decorative pool. In park hardscape is larger than softscape. Besides the park, there isa gas station, and on the other side of the park, there are commercial buildings, called Osmanağa Konakları, with two storeys. P2 is a small neighbourhood park which is enclosed by residential buildings, and consists of playgrounds and sitting places. P3 has the same characteristics as the P2; however, it is much wider.

Mutluköy Site is covering a wide area. Therefore, grouping is more accurate to assess to accessibility. Site is grouped as six areas. Area A includes five storey apartment buildings. Other groups include attached housing clusters. While the most accessible park is P2 for areas A, B, C, the most accessible park is P1 for area D, E, F.Located nearby Mutluköy site, the third park, P3, seem to appeal to residents from Hekimköy Site, which is located nearby

Mutluköy Site, due to the location of the park. Moreover, the site has its own green area and walking path, and residents use this green area actively.

Mutluköy Site	Park 1 (P1)	Park 2 (P2)	Park 3 (P3)
A	550-800 m	300-550 m	750-1000 m
B	450-650 m	150-350 m	500-700 m
C	250-450 m	200-400 m	250-450 m
D	150-350 m	450-700 m	300-550 m
E	300-450 m	650-750 m	550-650 m
F	450-600 m	600-750 m	550-750 m

Figure 6.12: Accessibility to Park and Preference of Resident in Mutluköy Site

There are three park areas in Figure 6.13, and two of them are much closer to sites. One of them is Sarı Zeybek Park, shown on the map as P2. This park is a well-designed green area, consisting of sitting place, playground area for children, and sports activity areas such as a tennis court, a basketball area, and a walking path. Softscape elements cover most of the park area. The park (P2) is the most preferable green area for residents in both sites due to its diverse recreational activities and its proximity to residential sites. Moreover, both sites have a green area in their site areas. In addition, there is a playground area for children in Çamlıca Bulvar Site and this area is actively used. P3 (Tevfik İleri Park)[28] is close to Çamlıca Bulvar Site. Residents can choose whichever park they want based on their needs. However, P2 and P3 have different characteristics. While P2 has more activity in terms of recreation in addition to relaxation and rest, P3 can generally be used for resting for a short time.

[28] '*Tevfik İleri Park'* is defined as **P1** in Figure 6.12 and **P3** in Figure 6.13.

Sites	Park 1 (P1)	Park 2 (P2)	Park 3 (P3)
Kalemköy Site	350 m	100 m	300 m
Çamlıca Bulvar Site	550 m	300 m	150 m

Figure 6.13: Accessibility to Parks and Preference of Residents in Çamlıca Bulvar and Kalemköy Sites

Figure 6.14 represents accessibility and preferences of residents living on Meksika Avenue. In this area, there are three parks; however, these parks only offer playground areas for children and sitting places. There is no recreational activity area for community members at different ages. In the area, there are 20 apartment buildings, and each building is located in its own residential plot. Therefore, there is no activity area belonging to apartments for recreation. For this reason, residents have to use common parks in the neighbourhood which have some activity areas for all members of community. Each building is numbered on the map for assessment. The figure displays the proximity of parks to each building, and the nearest park is marked on the table.

Apt. Blocks	Park 1 (P1)	Park 2 (P2)	Park (P3)
1	150 m	350 m	550 m
2	100 m	150 m	500 m
3	70 m	300 m	450 m
4	20 m	250 m	400 m
5	100 m	250 m	300 m
6	100 m	150 m	280 m
7	230 m	200 m	300 m
8	300 m	230 m	50 m
9	400 m	350 m	30 m
10	450 m	380 m	30 m
11	340 m	420 m	40 m
12	300 m	450 m	80 m
13	250 m	420 m	100 m
14	200 m	410 m	150 m
15	290 m	500 m	70 m
16	250 m	450 m	100 m
17	200 m	420 m	150 m
18	300 m	500 m	250 m
19	350 m	550 m	180 m
20	370 m	530 m	120 m

Figure 6.14: Accessibility to Parks and Preference of Residents on Meksika Avenue

Although many people state that existing green areas and parks are adequate and efficient, a considerable number of people stress that existing green areas are not enough for public use and recreational activities (Tables 6.16 and 6.17). Mutluköy Site has its own green texture along with a walking path enhanced with softscape elements. On the other hand, although Çamlıca Bulvar and Kalemköy Sites have also gardens within their site borders, they are also very close to a green area which supports recreational activities. However, the gardens of Çamlıca Bulvar and Kalemköy Sites are much smaller in size than the green area of Mutluköy Site. Meksika Avenue residents generally prefer to use the parks around, but these parks are relatively insufficient in terms of meeting the need for diverse recreational activities. Participants living in each site may have commented on the adequacy of green areas based on their experiences with their environment. The parks located around Meksika Avenue give the impression that they were built in an unplanned manner.

Table 6.16: Adequacy and Efficiency of Recreational and Green Area

			Gender		Age				
			Female	Male	Below 18	18 - 30	31 - 50	51 - 65	Above 65
Mutluköy Site	Are there adequate and efficient green area and parks in your neighbourhood?	Yes	28	30	0	7	13	21	17
		No	16	10	0	1	4	13	8
		Partly	5	8	0	1	3	3	6
Çamlıca Bulvar& Kalemköy Site	Are there adequate and efficient green area and parks in your neighbourhood?	Yes	17	8	0	1	11	8	5
		No	1	7	0	0	3	2	3
		Partly	4	8	1	1	2	7	1
Meksika Avenue	Are there adequate and efficient green area and parks in your neighbourhood?	Yes	6	19	0	4	6	13	2
		No	5	6	2	1	4	4	0
		Partly	5	5	0	3	4	2	1

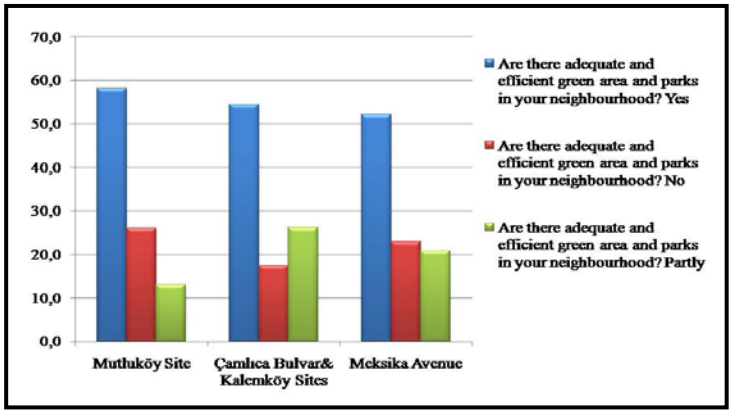


Figure 6.15: Adequacy and Efficiency of Recreational and Green Areas

Table 6.17: Evaluation of Sufficiency of Recreational and Green Areas

			Gender		Age				
			Female	Male	Below 18	18 - 30	31 - 50	51 - 65	Above 65
Mutlukōy Site	Are the parks and green areas located in your neighbourhood sufficient enough to meet your recreational activities?	Yes	20	22	0	5	11	15	11
		No	15	18	0	3	6	14	10
		Partly	9	7	0	1	3	5	7
Çamlıca Bulvar& Kalemkōy Site	Are the parks and green areas located in your neighbourhood sufficient enought to meet your recreational activities?	Yes	13	7	0	0	7	8	5
		No	3	9	0	0	4	4	4
		Partly	6	8	1	2	5	5	1
Meksika Avenue	Are the parks and green areas located in your neighbourhood sufficient enought to meet your recreational activities?	Yes	3	17	0	4	5	10	1
		No	6	10	2	3	6	4	1
		Partly	6	3	0	1	3	4	1

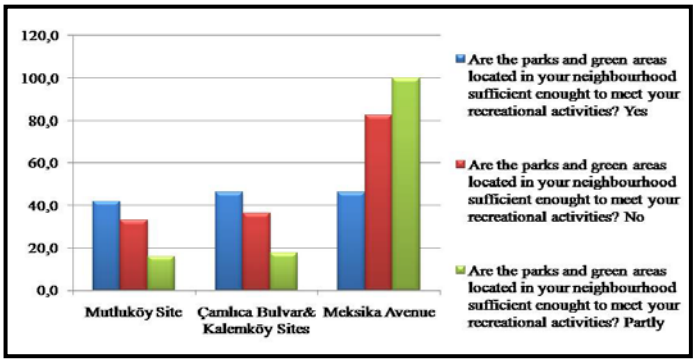


Figure 6.16: Evaluation of Sufficiency of Recreational and Green Areas

In general, according to the analysis of site observations, availability of green areas and parks in different scales are seen in the district. However, both the location of recreation areas and their functionality are insufficient to meet the local communities' needs. Due to the insufficiencies, the green areas do not encourage different age groups to use the areas efficiently in terms of physical activities and particularly social interaction.

6.3.4. Accessibility and Connectivity

Transport infrastructure provides accessibility to work, residential areas, community services and neighbourhood facilities by walking, cycling and public transport. Urban form, street network and patterns are important elements to reach optimum accessibility in neighbourhood for all members of community. Street networks and patterns provide connection with different parts of neighbourhood such as residential, commercial, and recreational areas, and health and educational services. It is a very crucial design element for sustainable communities because well-designed street patterns support accessibility, and they are beneficial for local services and community interaction. Public transportation routes, bicycle paths, pedestrian friendly walkways and sidewalks and well-connected street networks are prominent indicators. The planning and design policies related to public and private transportation are important, because sustainable communities approach tries to encourage public transport and minimize private vehicles. Private car ownership, level of automobile dependence, public transport usage of neighbourhood residents, number and location of bus stops within a neighbourhood or close to residential units, number and frequency of public transportation vehicles, and public transport accessibility are the major

indicators of the public and private transportation policies and services within a residential neighbourhood.

This section summarizes the accessibility and connectivity assessment for the case study areas. This assessment is developed through site observations, analysis of the maps, and questionnaire. Local catchment area, street quality, street design, traffic jam, public transportation sufficiency, and accessibility to public transport stations are the main components that were examined and evaluated.

'Local Catchment Area' is an important planning zone of good pedestrian accessibility to local services by walking. Local Catchment Area is named as Walkable Catchment (Pedshed). The threshold walking time for a LCA is 5-10 minutes and 400-800 meters. This becomes an important sustainability measurement for the accessibility of residents who will walk to some public or community amenities and services. On the other hand, the accessibility of residents to city centre or other important public facilities outside the neighbourhood by public transport or private car also becomes important to create sustainable communities.

Mutluköy Site is located physically in the centre of Ümitköy district. There are a few facilities such as a market, a tailor and a coiffeur which are placed in the entrance floors of the five-storey blocks within the site. Moreover, some of the attached houses, particularly the ones located in north-western side which is close to the 8th Avenue have been accommodating different commercial facilities such as cafes, physician's office, and private courses. The main shopping mall, Galeria, is near the site. Participants complain about the location of health centre in terms of proximity to the site (not in a walking distance). Mutluköy has a planned and built green and recreational area for residents within the site. In the immediate surroundings (almost within a 200-meter radius), there is no public recreational and green area. Many community services are located close to the site. The nearest public park is placed within a 300-meter radius. Some of the facilities such as banks, cafe-restaurants, and shops are also located within a 200-meter radius (Figure 6.17). Educational facilities and health services are placed within a 400-meter radius.

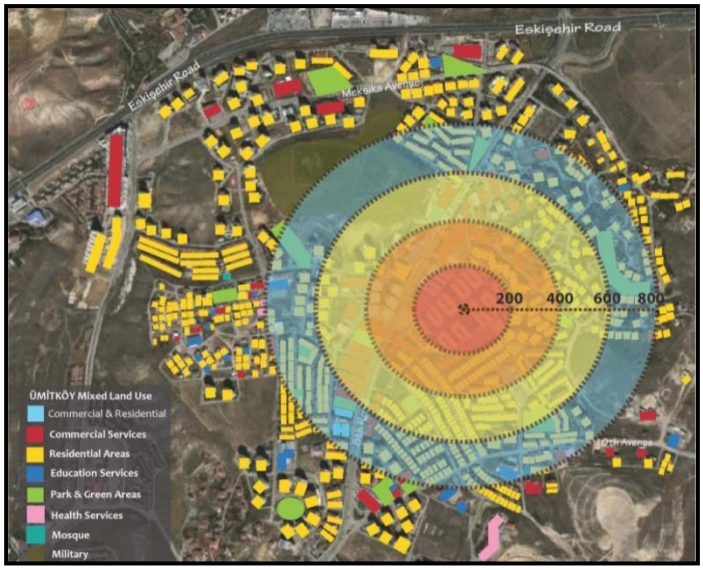


Figure 6.17: Walkable Catchment (Pedshed) Analysis for Mutluköy Site

Çamlıca Bulvar Site is a mixed use housing estate which accommodates both the residential units and commercial facilities. Therefore, residents living in this site have the opportunity to access to different services due to its mixed use type and proximity to the commercial sites in the neighbourhood. Although it is a residential housing estate, Kalemköy Site has a high accessibility potential due to its close location to the main road (8th Avenue) and the various services located around the site. There is a park within a 200-meter radius for both sites. In addition, there is a market (Carrefour) within this radius. Within the 400 meters radius, there are banks, private courses, a healthcare centre, shops, and education facilities (Figure 6.18).

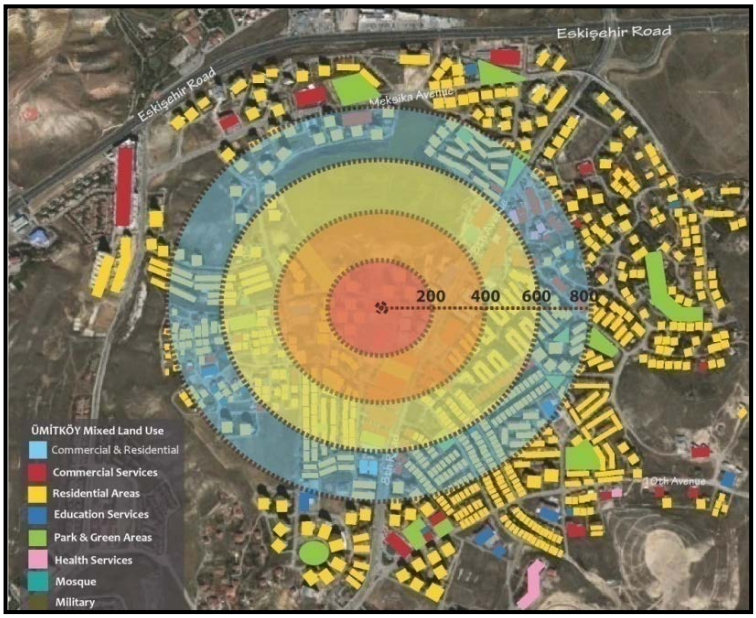


Figure 6.18: Walkable Catchment (Pedshed) Analysis for Çamlıca Bulvar and Kalemköy Sites

In Meksika Avenue analysis, it is seen that there are public parks within a 200-meter radius. In addition, there is a pharmacy, two corner shops, two hairdressers and a tailor. Within the next scale (400-meter radius), there is a sport centre and a shopping facility. Some commercial facilities located along the 8th Avenue are within a 600-meter radius. This site is weaker than the other sites in terms of accessibility to the community services because of the topography. Although some services are located in close distance, the hill/slope can led to some difficulties to access to these services. For example, there is a park near the apartment buildings (almost 200 metres away). However, to reach this park, you should go up the hill, which discourages walkability (Figure 6.19).

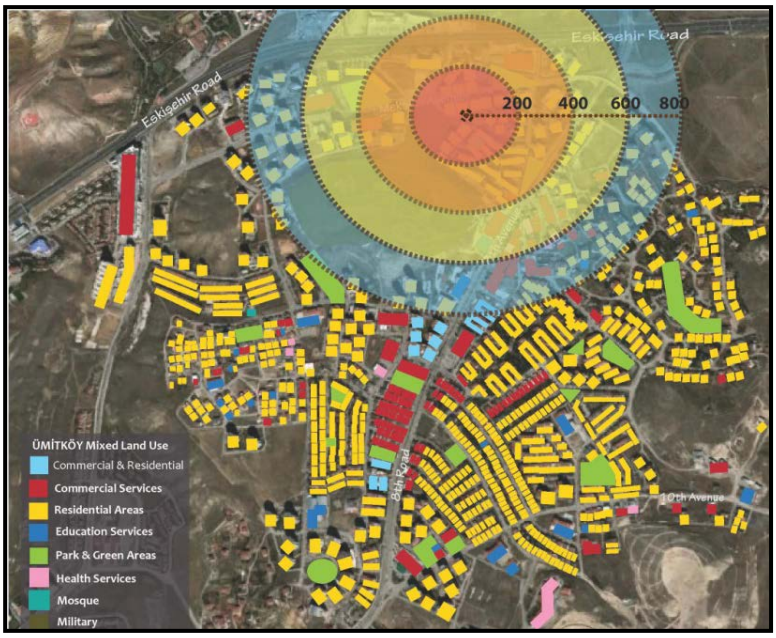


Figure 6.19: Walkable Catchment (Pedshed) Analysis for Meksika Avenue

Other important requirements are the street design and quality which enhance accessibility and connectivity. Accessibility is an important issue in housing estate scales for all residents especially for vulnerable groups in community. Many street elements such as ramps, stairs, pavements, traffic lights, and street signage determine the connectivity of housing estates and neighbourhoods safely and conveniently. According to the results of the questionnaire, 19% of respondents implied that there are good environmental opportunities in Mutluköy Site and that it is convenient for vulnerable people; for example, there are stairs with ramps in the site (Figure 6.20). However, residents living in apartment blocks in Mutluköy Site complain about not having elevators in the apartments although those buildings are five-storey ones.

Figure 6.20: Some Examples from Site Related to Design of Street and Stairs with Ramp/Gradient for Vulnerable Groups in Mutluköy Site

Street design is crucial for vulnerable groups in community. Ümitköy and selected housing estates were analyzed in terms of street quality, and the results are underwhelming. Survey results show that residents are likeminded; in Mutluköy Site 19%, in Çamlıca Bulvar& Kalemköy Sites 20%, in Meksika Avenue 6% of respondents think that there are no suitable streets for vulnarable groups in the neighbourhood (Table 6. 18 and Figure 6.21).

Table 6.18: Street Design for Vulnerable Groups

			Gender		Age				
			Female	Male	Below 18	18 - 30	31 - 50	51 - 65	Above 65
Mutlukōy Site	According to you, are the streets designed in accordance with the needs of vulnerable people?	Yes	10	9	0	4	3	5	7
		No	31	33	0	5	13	27	19
		Partly	8	5	0	0	4	5	4
Çamlıca Bulvar& Kalemkōy Site	According to you, are the streets designed in accordance with the needs of vulnerable people?	Yes	5	4	0	0	3	2	4
		No	13	15	1	1	7	13	6
		Partly	4	4	0	1	5	2	0
Meksika Avenue	According to you, are the streets designed in accordance with the needs of vulnerable people?	Yes	2	1	0	0	0	3	0
		No	14	26	2	8	13	14	3
		Partly	0	3	0	0	1	2	0

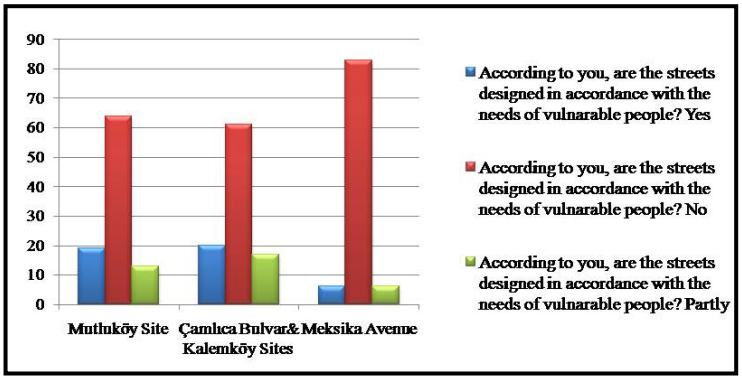


Figure 6.21: Perceptions of Respondents related to Street Design for Vulnerable Groups

In all case areas, there are suitable paths and streets to access to the housing estate easily (Table 6.19 and Figure 6.22). However, a few of respondents implied that they have some difficulties to access to their home in Mutluköy Site. Table 6.19 and Figure 6.22 display street quality in neighbourhood, and most of participants are satisfied with street quality which consists of pedestrian crossing, traffic lights, and street signage. On the other hand, some residents think that there are no suitable paths and elements for vulnerable people in community (Table 6.20). Sustainable communities offer suitable paths that enable residents to arrive in resident's house from the main street easily. According to the results of the questionnaire, in Mutluköy Site 85% of the respondents and in Meksika Avenue 84% of the respondents think that there are suitable paths. In Çamlıca Bulvar and Kalemköy Sites, 96% of the respondents mention the suitability of the paths (Table 6.20 and Figure 6.23).

Table 6.19: Accessibility, Vehicle Ownership, Gender and Age Relation

			Vehicle ownership		Gender		Age				
			I have	I have not	Female	Male	Below 18	18 - 30	31 - 50	51 - 65	Above 65
Mutlukōy Site	Are there any suitable paths that enable for you arrive in comfort from main street to your housing estate?	Yes	69	15	43	42	0	7	15	36	27
		No	6	3	6	4	0	2	3	1	4
		Partly	4	0	1	3	0	0	3	0	1
Çamlıca Bulvar& Kalemkōy Site	Are there any suitable paths that enable for you arrive in comfort from main street to your housing estate?	Yes	37	7	21	23	1	2	15	17	9
		No	0	2	1	1	0	0	1	0	1
		Partly	0	0	0	0	0	0	0	0	0
Meksika Avenue	Are there any suitable paths that enable for you arrive in comfort from main street to your housing estate?	Yes	33	7	14	26	0	8	11	18	3
		No	4	1	2	3	2	0	3	0	0
		Partly	1	0	0	1	0	0	0	1	0

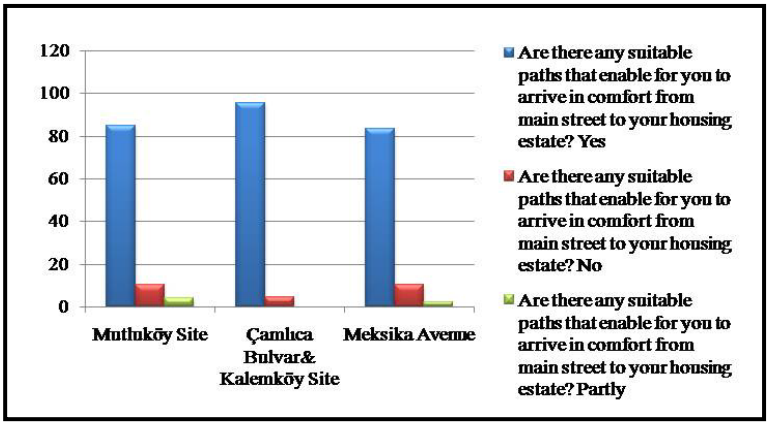


Figure 6.22: Perceive of Respondents related to Suitable Paths

Another significant component of sustainable communities is street quality. Street quality consists of pedestrian crossing, traffic lights and street signage. All these issues should be adequate and efficient to provide liveable neighbourhoods and so that residents can feel safe in their neighbourhoods. According to the results of the questionnaire, in Mutluköy Site 55% of the respondents confirm that there is adequate and efficient pedestrian crossing, traffic lights and street signage. In Çamlıca Bulvar and Kalemköy Sites, 59% of the respondents are glad with street quality. In Meksika Avenue, 42% of the respondents think that street quality is adequate and efficient. Those results show that there is deficiency in terms of street quality (Table 6.20 and Figure 6.23).

Table 6.20: Street Quality in Neighbourhood

			Gender		Age				
			Female	Male	Below 18	18 - 30	31 - 50	51 - 65	Above 65
Mutlukōy Site	Are the pedestrian crossing, traffic lights, and street signage adequate and efficient?	Yes	29	26	0	7	7	21	20
		No	9	9	0	1	7	6	4
		Partly	7	13	0	1	6	8	5
Çamlıca Bulvar& Kalemkōy Site	Are the pedestrian crossing, traffic lights, and street signage adequate and efficient?	Yes	16	11	0	1	10	10	6
		No	3	9	1	0	4	4	3
		Partly	3	4	0	1	2	3	1
Meksika Avenue	Are the pedestrian crossing, traffic lights, and street signage adequate and efficient?	Yes	5	15	1	3	4	11	1
		No	10	10	1	4	7	6	2
		Partly	1	4	0	1	3	1	0

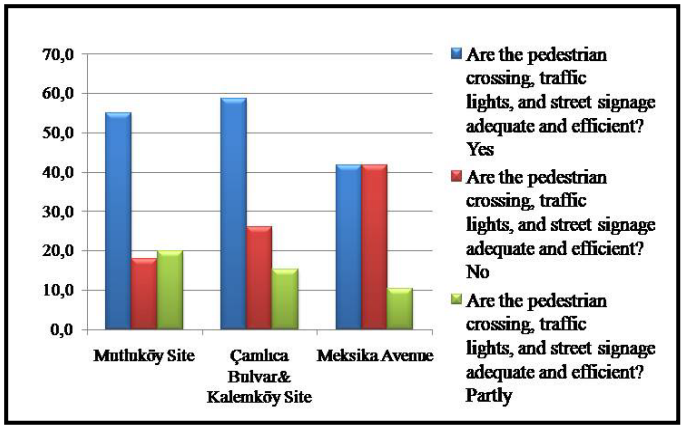


Figure 6.23: Adequacy of Street Quality According to Respondents

Most of the residents generally state that there is always a traffic jam on 8th Avenue especially during the day time depending on the working time of education facilities and offices (Table 6.21 and Figure 6.24). Moreover, the residents believe that this congestion is due to the rapidly increasing number of cars in Ümitköy district particularly in recent years. In fact, the insufficiency of existing traffic system shows a similar character with the general traffic system of Çayyolu and Ankara because planning of these systems do not take rapidly growing and sprawling urban areas into account. This problematic situation also affects the connection of the district to the urban centre particularly in rush hours (between 8 am and 10 am, and 5pm and 8 pm). Many residents complain about wasting a lot of time when travelling from city centre to Ümitköy or vice versa.

Table 6.21: Traffic Jam near the Education Facilities

			Gender		Age				
			Female	Male	Below 18	18 - 30	31 - 50	51 - 65	Above 65
Mutlukōy Site	Is there a traffic jam due to school services near the school and day-care centre exits?	Yes	15	16	0	3	9	16	3
		No	12	14	0	2	4	5	15
		Sometimes	7	7	0	2	7	2	3
Çamlıca Bulvar& Kalemköy Site	Is there a traffic jam due to school services near the school and day-care centre exits?	Yes	7	8	1	0	5	6	3
		No	3	7	0	1	6	2	1
		Sometimes	9	5	0	1	2	5	6
Meksika Avenue	Is there a traffic jam due to school services near the school and day-care centre exits?	Yes	9	11	2	4	6	8	0
		No	4	11	0	2	5	7	1
		Sometimes	2	3	0	1	3	1	0

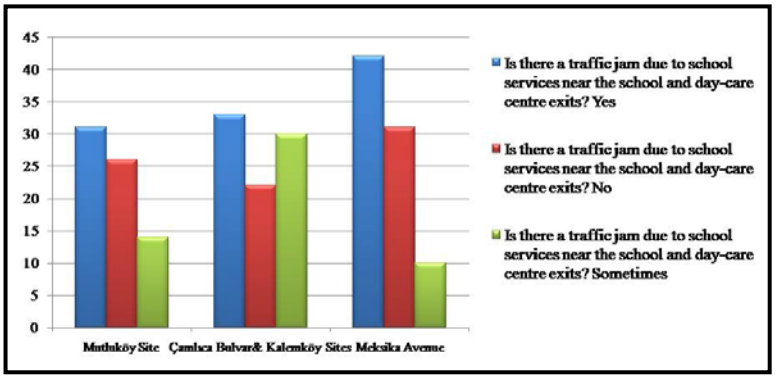


Figure 6.24: Perception of Respondents about Traffic Jam

According to the results of the questionnaire, interviews and site observations, the most important problem detected in the district is insufficient public transportation vehicles (Table 6.22 and Figure 6.25). When examining the site, the accessibility of bus stations is acceptable and suitable for the residents in case areas (Table 6.23 and Figure 6.25). However, the quantity, quality and frequency of the public transports are not efficient to develop sustainable communities, and also most of the residents complain about this problem. Moreover, residents emphasized that it is difficult and time consuming to go to the city centre, and the underground (metro) is necessary for convenient transportation.

Table 6.22: Adequacy of Public Transportation Facilities

			Gender		Age				
			Female	Male	Below 18	18 - 30	31 - 50	51 - 65	Above 65
Mutluköy Site	Are there adequate public transportation facilites in your neighbourhood?	Yes	12	11	0	3	3	8	9
		No	28	24	0	5	10	23	14
		Partly	6	11	0	1	7	5	4
Çamlıca Bulvar& Kalemköy Site	Are there adequate public transportation facilites in your neighbourhood?	Yes	6	4	1	0	2	3	4
		No	14	13	0	2	8	11	6
		Partly	2	5	0	0	4	3	0
Meksika Avenue	Are there adequate public transportation facilites in your neighbourhood?	Yes	4	8	0	2	5	5	0
		No	9	16	2	3	7	10	3
		Partly	3	6	0	3	2	4	0

Table 6.23: Accessibility to Public Transport Stations

			Gender		Age				
			Female	Male	Below 18	18 - 30	31 - 50	51 - 65	Above 65
Mutluköy Site	Are there public transportation stations accessible?	Yes	34	32	0	7	10	27	22
		No	5	9	0	2	5	5	2
		Partly	6	6	0	0	5	3	4
Çamlıca Bulvar& Kalemköy Site	Are there public transportation stations accessible?	Yes	20	16	1	2	13	14	6
		No	1	5	0	0	1	2	3
		Partly	1	1	0	0	0	1	1
Meksika Avenue	Are there public transportation stations accessible?	Yes	10	20	0	7	8	14	1
		No	4	5	2	1	3	3	0
		Partly	1	3	0	0	3	1	0

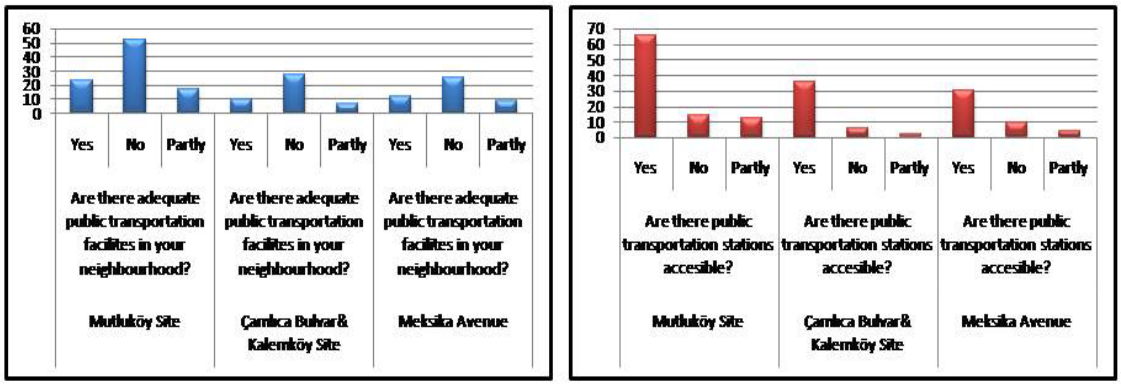


Figure 6.25: Comparison of Adequacy and Accessibility of Public Transportation

6.3.5. Parking Facilities

Due to the rapidly growing urban areas, there is increasing car ownership, which triggers demands for parking facilities. Insufficient infrastructure systems along with the limited access to the parking areas within the urban centres are given among the primary reasons for moving to suburban areas. Although availability of parking facilities is an important reason to choose suburban areas, this survey tries to assess the existing conditions of parking facilities and the user satisfaction, as well as demand related to parking access in suburban area, Ümitköy district.

In Mutluköy Site, there are parking areas in front of the attached houses on the cul-de-sac which are planned and built specific for the site (Figure 6.26). However, the number of the parking areas is not enough for some reasons. First of all, some of the residents own more than one car, and the capacity of the parking lots is not enough. One of the most frequent complaints is that there are always strangers who want to use the parking lots. These strangers are the ones who come for the commercial facilities located within the site. In addition, due to the fact that the site is placed near the central district in Ümitköy, some other strangers also want to use these parking areas. Therefore, the site management has already taken some precautions and the entrance of strangers' vehicles to the parking lots is restricted by using parking lot gate. The site observations and interviews have revealed that most of the residents living in apartment blocks have more problems than the residents living in the attached houses. They have very limited parking areas and mostly they have to use the streets for parking. While 42% of respondents think that there are not enough parking areas, 31% of respondents are satisfied with the parking area availability within housing estate (Table 6.24). According to Table 6.25, an important number of participants stress that the neighbourhood is not satisfying in terms of parking lots. Participants also complain about traffic jam due to the immense usage of the streets and parking spaces in the area particularly in rush hours.

Figure 6.26: Parking Facilities in Mutluköy Site

Çamlıca Bulvar Site has its own parking lots within the housing estate area. The multi-storey apartment buildings accommodate many residents and visitors coming for both the residents and the commercial units located within the apartments. In Çamlıca Bulvar Site, a considerable number of residents state that there is efficient number of parking areas within the housing estate (54%) (Figure 6.27 and Table 6.24). On the other hand, 25% of respondents claim that the site has insufficient parking capacity, and they are not happy with this. 21% of respondents stress that they sometimes face with some problems related to the parking area. As it is mentioned before, this site has an extensive use particularly in day time due to considerable number of commercial units serving within the blocks. Therefore, in the peak use time, the parking lots can be inadequate particularly for residents.

Figure 6.27: Parking Area in Çamlıca Bulvar Site

Kalemköy Site is composed of residential units as stated earlier. Although there is no congestion due to heavy usage of the parking areas in comparison to the other sites, an important number of people are still not happy with the parking lots' capacities. In Kalemköy Site, 59% of respondents state that there are inadequate parking areas within the site (Figure 6.28 and Table 6.24).

Figure 6.28: Parking Area in Kalemköy Site

The apartment blocks in Meksika Avenue have their own parking areas. People who participated in the survey in this area generally do not have major problems related to parking lots. Most of the buildings have closed-parking areas within their buildings. This is an important distinctive characteristic for this area. In the other sites, the housing estates do not have their own parking lot, but generally they use the parking lots within the site areas. Participants from this site assert that the neighbourhood is generally sufficient for parking accessibility and capacity (Table 6.24 and Table 6.25). This result is also interesting because in the other sites (Mutluköy, Çamlıca Bulvar and Kalemköy Sites), the number of

respondents who have concerns about the availability and sufficiency of parking lots in neighbourhood is higher than the number of participants who are satisfied with that.

Table 6.24: Comparison Table of Parking Facilities in Housing Estates

			Vehicle ownership		Gender		Age				
			I have	I have not	Female	Male	Below 18	18 - 30	31 - 50	51 - 65	Above 65
Mutluköy Site	Are there adequate parking facilities in your housing estate?	Yes	32	8	19	22	0	5	9	11	16
		No	36	7	25	18	0	3	9	19	12
		Partly	8	2	4	7	0	1	2	5	3
Çamlıca Bulvar& Kalemköy Site	Are there adequate parking facilities in your housing estate?	Yes	13	5	12	6	0	0	2	10	6
		No	16	3	7	12	1	0	11	5	2
		Partly	7	1	3	5	0	2	2	2	2
Meksika Avenue	Are there adequate parking facilities in your housing estate?	Yes	18	8	11	15	0	6	8	9	3
		No	17	1	5	13	2	2	5	8	1
		Partly	3	0	1	2	0	0	1	2	0

Table 6.25: Comparison Table of Parking Facilities in Neighbourhood

			Vehicle ownership		Gender		Age				
			I have	I have not	Female	Male	Below 18	18 - 30	31 - 50	51 - 65	Above 65
Mutluköy Site	Are there adequate parking facilities in your neighbourhood?	Yes	26	5	16	15	0	3	7	9	12
		No	35	6	21	21	0	2	9	19	12
		Partly	13	4	6	11	0	3	4	6	4
Çamlıca Bulvar& Kalemköy Site	Are there adequate parking facilities in your neighbourhood?	Yes	14	5	10	9	0	2	4	8	5
		No	10	3	7	6	1	0	7	3	2
		Partly	12	1	4	9	0	0	5	5	3
Meksika Avenue	Are there adequate parking facilities in your neighbourhood?	Yes	23	6	10	19	0	6	7	13	3
		No	13	2	6	9	2	1	6	5	1
		Partly	2	1	1	2	0	1	1	1	0

6.3.6. Physical Conditions and Maintenance of Housing Estate

Physical conditions and maintenance of housing estate are important factors which affect the quality of not only buildings but also the built environment. If the houses or apartment blocks are seen in good condition, they become more attractive and also enhance the awareness level of residents in protecting the built environment. Controlling and making regular renovations, repairs, maintenances and amendments if necessary all support the sustainability of the living environment. The literature survey reveals that particularly in old urban inner city areas, one of the reasons that people do not prefer to live in a certain area is directly linked to the deterioration of the built environment. Historical sites also have been experiencing similar problems, and sustaining those sites become more difficult. Therefore, suburban settlements should also be assessed in terms of regular maintenances and renovations. The questions related to this issue were directed to Ümitköy residents who participated in the survey in selected case study areas.

Figure 6.29 evaluates the correlation between homeownership and maintenance approach within the houses. According to the responses, house owners, to a large extent, have experienced maintenance in their houses. In Mutluköy Site, the number of tenants who have such experiences is fewer than the ones who have not. However, the number of tenants living

in these sites constitutes a very small amount of the participants. Therefore, it is difficult to make a conclusive remark about the correlation between homeownership and maintenance.

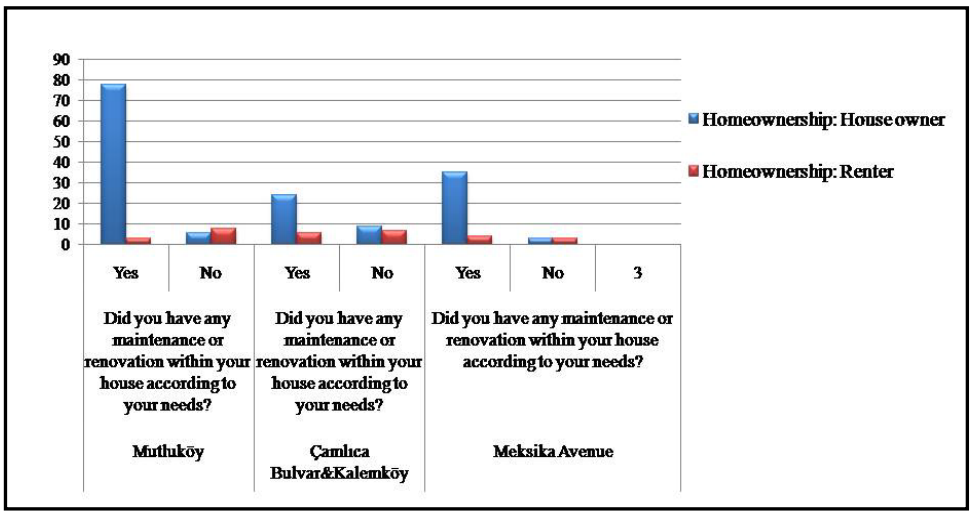


Figure 6.29: Maintenance and Homeownership Relation for Housing Estates

In Mutluköy, most of the residents have made renovations in their houses. It is inevitable that the houses in Mutluköy need repairs due to the age of the buildings (mostly constructed in 1980s). Both attached houses and apartment blocks had some renovations for the interior and exterior spaces. A large majority of the participants (84%) state that they have dealt with some repairs and renovations for their houses. Most of the residents think that existing situation related to the physical conditions of their houses and site is good enough (Table 6.26). On the other hand, many residents stress that they have repair and renovation experiences in their houses particularly between the years 2009 and 2010. In Mutluköy, due to the size of the green areas, the most visible repair and renovation activities are conducted for garden care. On the other hand, the respondents mention some other maintenance issues most of which are related to green areas (Table 6.27).

In Çamlıca Bulvar Site, most of the respondents believe that their buildings and housing estate are in good physical condition. Some alterations were made in 2011. According to responses to the survey, a considerable number of people (75%) experienced different sizes of repairs and renovations in 2011. In addition, 8% of the respondents stress that they made some repairs and renovations particularly for the interior spaces in 2008. On the other hand, about 17% of respondents have never made any alterations for their houses. Repair and renovation activities are mostly conducted for the interior spaces of the housings according to 71% of respondents. 82% of respondents considered that Kalemköy Site is also in good physical conditions in general. Most of improvements were made in 2011 (according to the 32% of respondents). According to results of the questionnaire, 55% of respondents implied that they have never experienced repair for the interior of their houses. While 59% of respondents made some renovations and improvement for the interior spaces within their houses, only 41% of respondents state that they have made no improvements for their houses. Most of the residents are happy with the general physical conditions of the both sites (Table 6.26). Garden maintenance is the most common service that the participants pointed out for these sites (Table 6.27).

The buildings which are located on Meksika Avenue and which are the parts of this survey are mostly new buildings constructed in the last decade. Many respondents state that they have never done any repair or renovation for their houses (44%). Whereas 23% of the participants experienced repair in the year 2011, 15% of the respondents assert that they made some repair in the year 2010. Almost all the respondents point out that there were no huge repairs in their houses and apartments prior to these years. The majority of people are pleased with the physical conditions of their buildings (almost 73%), and garden maintenance is the most common maintenance carried out in the exterior spaces including real estate gardens (Table 6.26 and Table 6.27).

Table 6.26: Conditions of Housing Estates

		What do you think about conditions of your house/apartment frontage, garden and its surrounding?					
		Mutlukōy Site		Çamlıca Bulvar& Kalemkōy Site		Meksika Avenue	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
Valid	Yes	89	89,0	38	82,6	35	72,9
	No	5	5,0	8	17,4	11	22,9
	Total	94	94,0	46	100,0	46	95,8
Missing	System	6	6,0	0	0	2	4,2
Total		100	100,0	46	100	48	100,0

Table 6.27: Maintenance Services in Housing Estates

		Mutlukōy Site	Çamlıca Bulvar& Kalemkōy Site	Meksika Avenue
Which services are made in your housing estate properly?	Garden maintenance	83	41	35
	Security services	73	3	5
	Other	12	8	6
	Repair and maintenance of landscape equipments elements in site	35	0	0

CHAPTER 7

THE EVALUATION IN MICRO-SCALE: THE ASSESSMENT OF HOUSING ESTATES ACCORDING TO 'SOCIAL DESIGN' COMPONENTS OF SUSTAINABLE COMMUNITIES

7.1. Introduction

The chapter evaluates sustainable community in selected case areas according to questionnaire results and site observations. In this chapter, social design components of sustainability are assessed by comparing selected housing estates. Based on literature review, social design and social infrastructure components of sustainable communities (in micro-scale) are analyzed under the concepts of 'sense of place', 'sense of community and belonging', 'social interaction and neighbourliness', 'sense of safety and security', 'equity in community', 'affordable housing', 'automobile dependency/walking behaviour of residents', 'community services', and 'community awareness, participation and volunteering' through the case study.

7.2. The Assessment and Comparison of Sustainable Community Indicators related to 'Social Design & Social Infrastructure'

7.2.1. Sense of Place and Sense of Community and Belonging

Based on the concepts of sense of place and sense of community and belonging, the case studies mainly seek to develop responses to the living period of residents within housing estates, satisfaction of living in the settlement, future plans related to tendencies of moving to another place or continuing to live in the same place, and the reason for living in that neighbourhood/housing estate.

Mutluköy Site is one of the oldest housing estates in Ümitköy. The site was built at the beginning of the 1980s. A considerable number of respondents (43%) have been living in this area for over 20 years. On the other hand, 35% of respondents have been living there for a period of 11 to 20 years. Whereas 12% of respondents have been living in Mutluköy for a period of 6 to 10 years, only 8% of respondents have been living there for a period of 1 to 5 years (Table 7.1).

Çamlıca Bulvar and Kalemköy Site are relatively new when they are compared with Mutluköy Site. Both sites were built at the beginning of the 1990s. While the 40% of the respondents state that they have been living in the site for 11 to 20 years period, 38% of the respondents have been living there for 6 to 10 years. In addition, 16% of the respondents state that they have been living in the site for about 1 to 5 years. Only 7% of the participants state that they have been in this site for less than a year (Table 7.1).

Meksika Avenue and the buildings located on this avenue have started to develop since the 1990s. While 31% of participants from Meksika Avenue state that they have been living there for 11 to 20 years, 29% of them have been living in this area for 6 to 10 years. 27% of the participants, on the other hand, have been living in the site for 1 to 5 years. Only 11% of the participants state that they have been there for less than a year (Table 7.1).

Table 7.1 illustrates the living period of participants within the case study areas, and also it differentiates the homeownership. The numbers represent the participant numbers but not the percentages.

Table 7.1: Living Period of the Respondents in the Housing Estates

		How many years you have been living in this housing estate?				
		Less than a year	Between 1 and 5 years	Between 6 and 10 years	Between 11 and 20 years	Over 20 years
Mutlukōy Site	House owner	0	4	9	31	41
	Renter	1	4	3	3	0
Çamlıca Bulvar & Kalemkōy Site	House owner	1	2	14	15	0
	Renter	2	5	3	3	0
Meksika Avenue	House owner	3	10	12	12	1
	Renter	1	2	2	2	0

According to the results of the questionnaires, most of the residents in Mutluköy Site are glad to live in this place (Table 7.2). Only two respondents stated that they are not happy to live there and they are thinking of moving to another place (Figure 7.1). One of the residents particularly complains about the commercial usage of some houses within the site. This resident is a doctor and she is living with her husband and two children. They are house owners and they have been living in Mutluköy for 11-20 years. They prefer to live in a more peaceful place; they think that commercial facilities in the site disturb the calmness and safety of the housing estate. In Mutluköy, some of the house owners have preferred to rent their houses for commercial purposes. A large number of residents are complaining about this situation due to the high level of noise and parking problems within the site. One of the residents states that he cannot develop healthy communication with his neighbours due to their unfriendly approaches. This resident has been living in Mutluköy for 4 or 5 years. He states that he lives with his three friends in the same house and they are all university students. They have rented the house. They think that there is not any picnic area, and green and recreational areas are insufficient within the neighbourhood. In Mutluköy Site, a high percentage of respondents (90%) do not prefer to move to a different district, while 8% of them plan to move to a different area because of the major problems related to the neighbourhood, particularly accessibility concerns along with the insufficient public transport systems (Figure 7.1).

Only one participant who lives in Çamlıca Bulvar Site wants to move to a different neighbourhood because of transportation problems (Figure 7.1). Two residents state that they sometimes feel unhappy to live in this area, and they also complain about the transportation problems in the neighbourhood. The other responses have revealed that most of the residents are glad to live in this neighbourhood (Table 7.2). On the other hand, in Kalemköy Site, none of the residents want to leave this neighbourhood (Figure 7.1). Most of the respondents are

pleased to live in Kalemköy Site (Table 7.2). Only two residents who are also tenants indicate that they sometimes feel unhappy to live there. One of them moved from Beysukent after getting married. They have been living in Kalemköy Site for 11-20 years. The other resident moved from Yenimahalle because this site is closer to his workplace. They have been living in Kalemköy Site for 1-5 years.

92% of respondents living on Meksika Avenue state that they do not have any plans about moving to another house (Figure 7.1). Only two people consider moving to a different house. One of them wants to live in a house which is close to his/her job; the other one prefers to live in a better house. 90% of the respondents are very happy to live in this district (Table 7.2).

Table 7.2: Happiness Rate to Live in These Housing Estates or Neighbourhood

		Are you happy to live in this housing estate or neighbourhood?					
		Mutlukōy Site		Çamlıca Bulvar& Kalemkōy Site		Meksika Avenue	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
Valid	Yes	87	87,0	42	91,3	43	89,6
	No	2	2,0	4	8,7	5	10,4
	Sometimes	10	10,0	0	0,0	0	0,0
	Total	99	99,0	46	100	48	100
Missing	System	1	1,0	0	0	0	0
Total		100	100,0	46	100	48	100

		Do you think moving to another place?					
		Yes	No	Yes	No	Yes	No
How many years you have been living in this housing estate?	Less than a year	0	1	0	3	0	5
	Between 1 and 5 years	1	7	0	7	0	12
	Between 6 and 10 years	1	10	1	16	1	13
	Between 11 and 20 years	2	33	0	18	1	13
	Over 20 years	4	39	0	0	0	1
		Mutlukōy Site		Çamlıca Bulvar & Kalemkōy Site		Meksika Avenue	

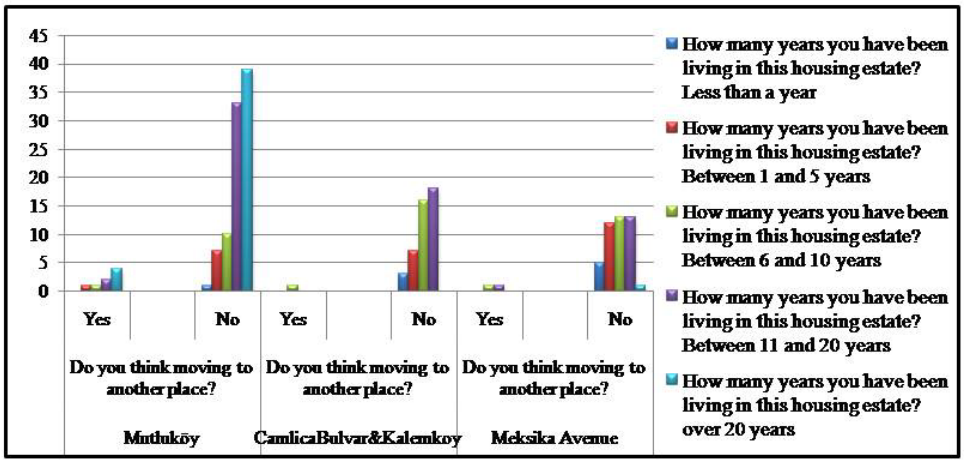


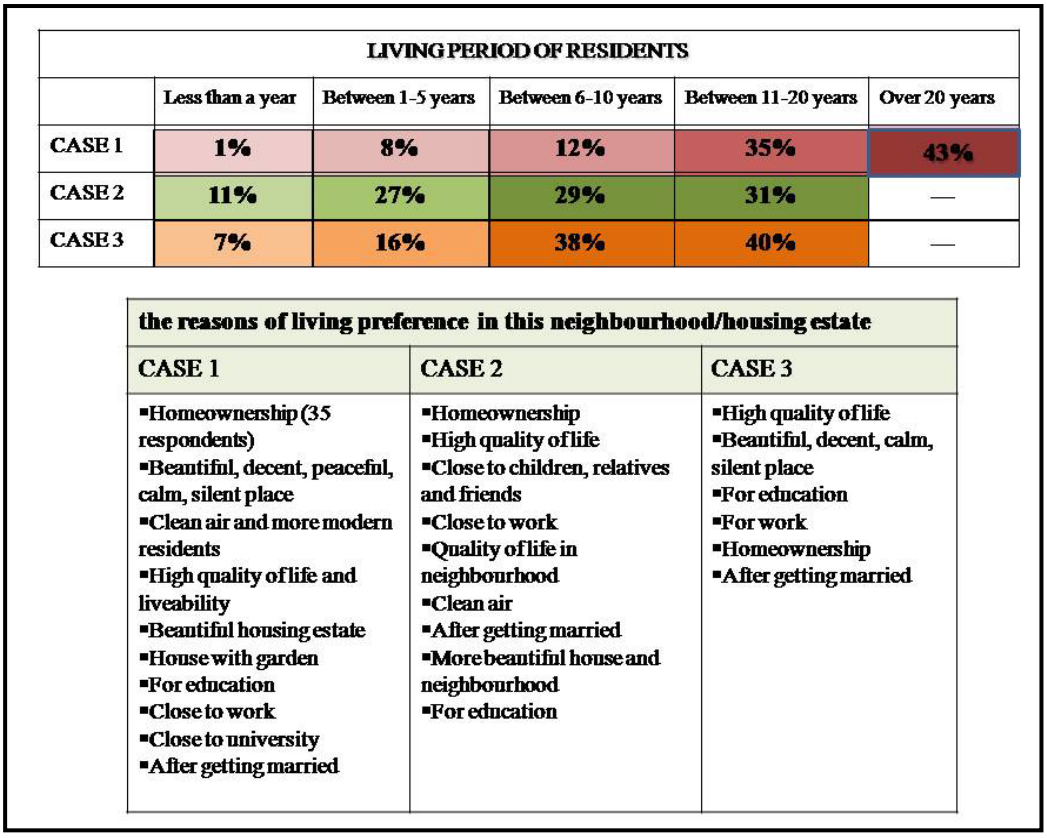
Figure 7.1: The Demand to Live in the Same Place or Move to Another Place

One of the questions within the survey focuses on the reason for living in the neighbourhood. These reasons encompass a wide range of factors such as quality of life and liveability of the neighbourhood (Figure 7.2).

According to the participants living in Mutluköy Site (Case 1), the reasons for living in this neighbourhood/housing estate are mainly stated as follows; Homeownership (35 respondents), beautiful, decent, peaceful, calm, silent place, clean air and more modern residents, high quality of life and liveability, beautiful housing estate, house with garden, education, nearness to workplace, nearness to university, and marriage.

Çamlıca Bulvar and Kalemköy Sites (Case 2) respondents mentioned the following reasons for moving to this area; Homeownership, high quality of life, being close to children, relatives and friends, nearness to workplace, quality of life in neighbourhood, clean air, marriage, more beautiful house and neighbourhood, and education.

Respondents on Meksika Avenue (Case 3) indicate the following reasons for moving to this part of the city; High quality of life; beautiful, decent, calm, silent place; education; work; homeownership; and marriage.



LIVING PERIOD OF RESIDENTS					
	Less than a year	Between 1-5 years	Between 6-10 years	Between 11-20 years	Over 20 years
CASE 1	1%	8%	12%	35%	43%
CASE 2	11%	27%	29%	31%	—
CASE 3	7%	16%	38%	40%	—

the reasons of living preference in this neighbourhood/housing estate		
CASE 1	CASE 2	CASE 3
▪Homeownership (35 respondents) ▪Beautiful, decent, peaceful, calm, silent place ▪Clean air and more modern residents ▪High quality of life and liveability ▪Beautiful housing estate ▪House with garden ▪For education ▪Close to work ▪Close to university ▪After getting married	▪Homeownership ▪High quality of life ▪Close to children, relatives and friends ▪Close to work ▪Quality of life in neighbourhood ▪Clean air ▪After getting married ▪More beautiful house and neighbourhood ▪For education	▪High quality of life ▪Beautiful, decent, calm, silent place ▪For education ▪For work ▪Homeownership ▪After getting married

Figure 7.2: The Reason to Move to Ümitköy

7.2.2. Social Interaction and Neighbourliness

In this section, social interaction, social network and neighbourliness concepts are evaluated and analyzed. For this reason, resident neighbourhood relationship, resident acquaintance relationship, social interaction places/areas, and finally the frequency of meeting with each other are determined as important factors to assess the level of social interaction for sustainable communities.

‘Social integration’ concept is supposed to be assessed in two different scales which are crucial for the study. The survey questions developed for understanding social integration are categorized and analyzed under two groups. The first set of questions focus on the neighbourhood scale in order to obtain information about whether the residents have acquaintances, friends, and relatives around, and how often they meet with each other, and where they mostly prefer to meet. The second set of questions focus on the housing estate scale in order to obtain information about neighbourliness relations through the questions such as how well they know their neighbours, how often and where they meet with their neighbours.

In Mutluköy Site, 70% of respondents know their neighbours, and 59% of respondents see each other. These can be accepted as a high amount in terms of social network in housing estate according to the survey results. Only 4% of respondents do not know their neighbours, and 9% of respondents do not visit their neighbours. While most of respondents meet with their neighbours at home (45%), 25% of respondents meet with them in private green area within the site. This rate (25%) is a significant rate as it reveals how often respondents use green area within the site. 16% of respondents see each other in the shopping mall, while only 4% use parks in neighbourhood.

In the site, 85% of respondents have some friends, relatives and acquaintances living in the same neighbourhood (Figure 7.3). 31% of respondents see each other every day or at least four times a week. While 25% of respondents see each other two or three times a week, 26% of them see each other only once a week. Only 4% of residents informed that they have limited connection with their friends and relatives living in this neighbourhood. Most respondents visit their friends and relatives at home (47%); 21% meet at cafes and restaurants; 14% meet in shopping malls to see each other; 12% meet in private green area within Mutluköy Site. Only 4% of residents meet in the parks located in the neighbourhood to meet with friends and relatives. The striking result is that most of the participants meet their relatives and friends four times a week at their homes, which signals that there is a strong social interaction in the site.

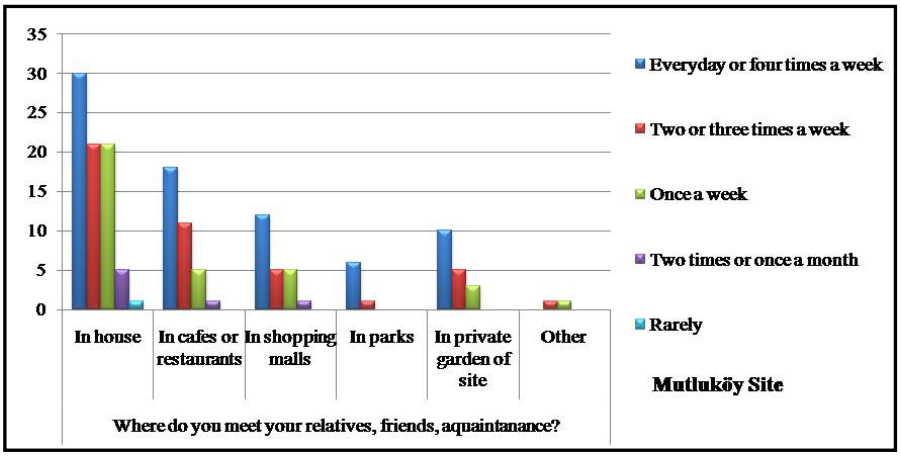


Figure 7.3: Correlation between Meeting Frequency and Meeting Places for Mutluköy Site

In Çamlıca Bulvar and Kalemköy Sites, 84% of respondents have some friends and relatives living in this neighbourhood. According to the results of the questionnaire, 52% of respondents meet with their friends and relatives at home; 22% of respondents meet with

them in cafes or restaurants; 11% of respondents meet in shopping malls. Only 4% of respondents use parks in neighbourhood and private garden of site to meet their friends. Moreover, most of the participants state that they meet their relatives and friends once or twice a month (28%). Almost 22% of the participants meet their relatives and friends two or three times a week. The number of respondents who meet everyday and who meet once a week is the same according to the survey results. Figure 7.4.illustrates the correlation of meeting frequency and meeting place for Çamlıca Bulvar and Kalemköy Sites. According to the table, most of the respondents meet with relatives, friends and acquaintance at home two or three times a week. Some of the respondents who meet at home visit their acquaintance everyday or four times a week. The second most preferred places to meet acquaintance are cafes and restaurants.

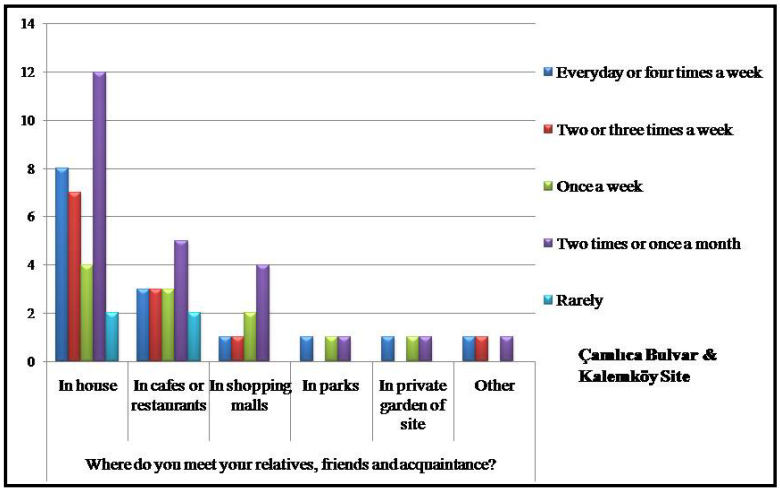


Figure 7.4: Correlation of Meeting Frequency and Meeting Places for Çamlıca Bulvar and Kalemköy Sites

77% of the respondents living on Meksika Avenue have some friends and relatives living in this neighbourhood. According to the results of the questionnaire, 57% of the respondents meet with their friends and relatives at home; 19% of the respondents meet with them in cafes or restaurants; 16% of the respondents meet in shopping malls. Only 6% of the respondents meet with their friends in the parks in the neighbourhood or the private garden of the site. According to the survey results on meeting frequency, participants generally meet once or twice a month (29%). While some participants (25%) meet two or three times a week, some of them (13%) meet once a week. Only 10% of the respondents meet their relatives and friends everyday or four times a week. 17% of the participants did not answer this question (Figure 7.5).

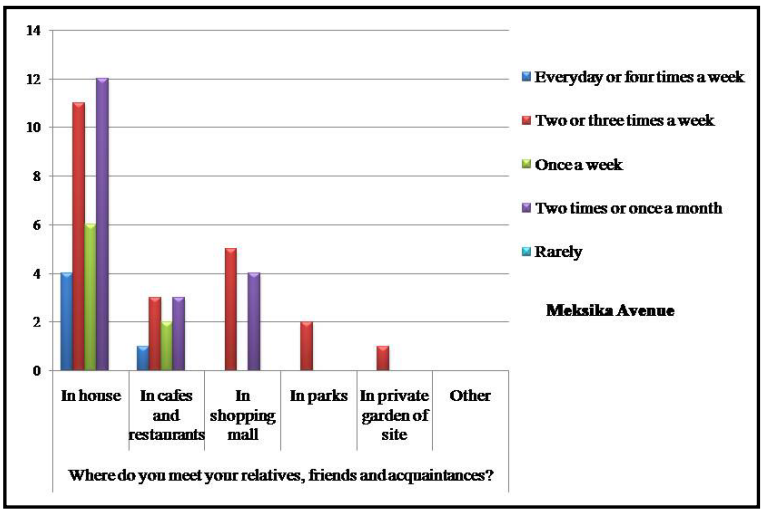


Figure 7.5: Correlation of Meeting Frequency and Meeting Places for Meksika Avenue

Overall, Figure 7.3, Figure 7.4, and Figure 7.5 display that most of the residents in all case areas prefer to meet at home. Secondly, they prefer cafes and restaurants in Mutluköy and Çamlıca Bulvar and Kalemköy Sites. Their third preference is to meet in shopping malls. On the other hand, the second preference of the residents on Meksika Avenue is shopping malls, while their third preference is cafes and restaurants. Whereas residents in Mutluköy Site use private gardens within the site as a meeting place, residents in other case areas rarely prefer to use garden and parks as a meeting place. These results show that residents generally do not use open areas such as public parks and site gardens to enhance social interaction with other community members. They generally prefer private areas (their homes) than public areas to meet their relatives and friends.

Another difference among all cases is related to the meeting frequency. Based on the survey results, it is clear that Mutluköy Site has the highest meeting frequency among the case study sites. This frequency decreases on Meksika Avenue. Moreover, it could be argued that meeting frequency is directly related to the frequency of social interaction. In other words, the higher the meeting frequency is, the more people are socially interactive. As a result, whereas Mutluköy Site highly encourages social interaction within the site, physical environment on Meksika Avenue encourages it to a lesser extent.

Most of the residents in Mutluköy Site know their neighbours (70%) and meet their neighbours (59%). 26% of the residents stated that they sometimes see each other. Participants prefer houses as a meeting place (45%). Their second preference to meet neighbours is the site garden (25%). Figure 7.6 represents correlation between living period and neighbourliness for Mutluköy Site. There is a strong relationship between the living period and building a social interaction with neighbours in this site. When living period increases, it can be asserted that the social network and social interaction with neighbours rise (Figure 7.6).

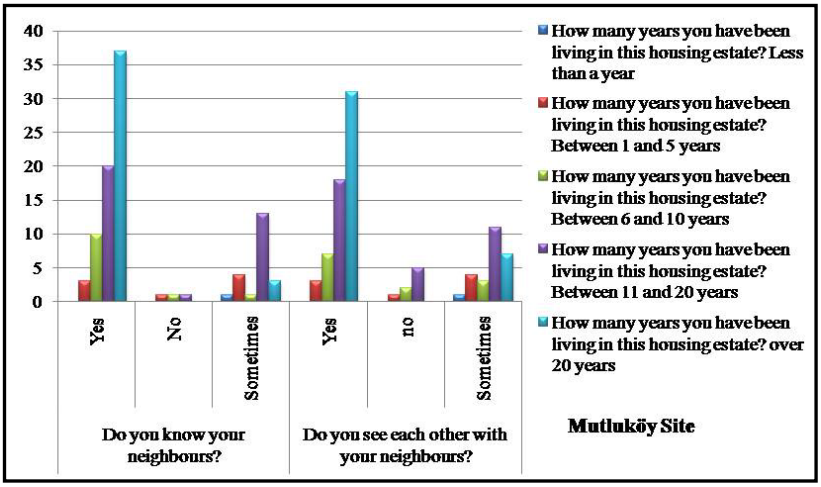


Figure 7.6: Correlation between Living Period and Neighbourliness for Mutluköy Site

In Çamlıca Bulvar and Kalemköy Sites, while most of the respondents (61%) partly know their neighbours, 28% of them know their neighbours. 21% of them see each other. The data shows that there is a limited social network in these housing estates. If residents want to meet their neighbours, they generally prefer meeting at home (50%). While 26% of the respondents meet with neighbours in the shared garden within the housing estate, 11% prefer meeting in parks in the neighbourhood (Figure 7.7).

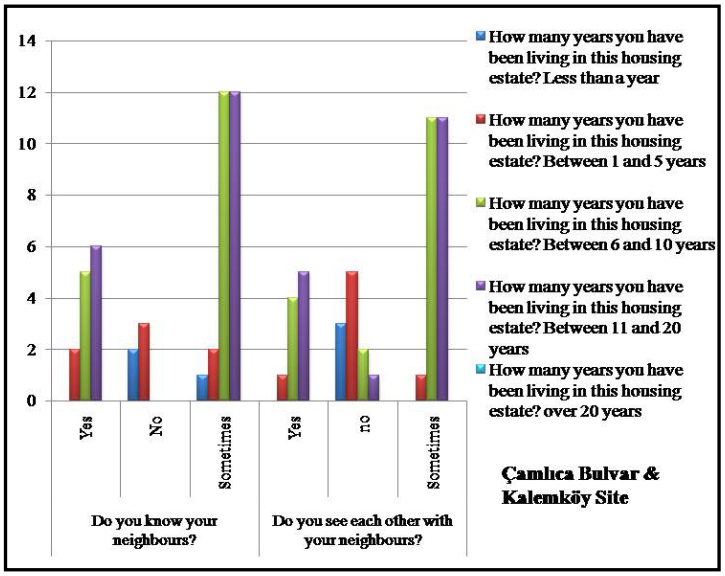


Figure 7.7: Correlation between Living Period and Neighbourliness for Çamlıca Bulvar and Kalemköy Sites

On Meksika Avenue, while 60% of the respondents know their neighbours, 11% of them do not know their neighbours. They meet with their neighbours particularly at home (60%). On the other hand, some of the residents (21%) state that they do not visit their neighbours, while 44% of the respondents visit them. 24% of the residents use private gardens in the housing estate, whereas 6% of them meet in the parks in the neighbourhood, and similarly 6% of them meet in shopping malls (Figure 7.8).

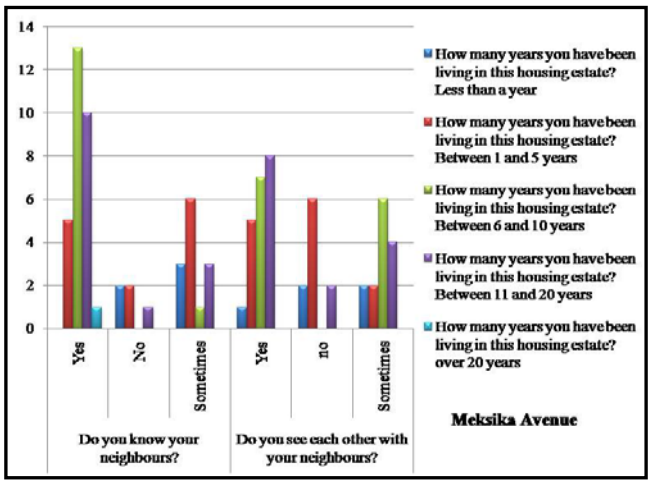


Figure 7.8: Correlation between Living Period and Neighbourliness for Meksika Avenue

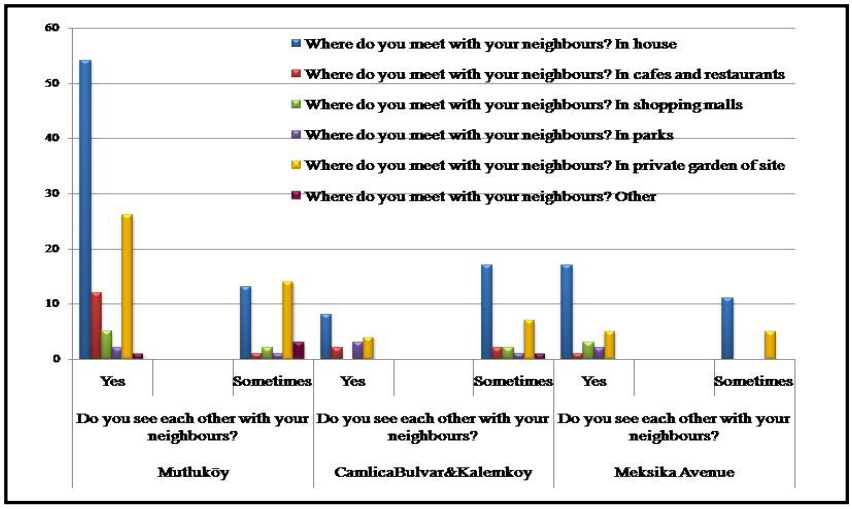


Figure 7.9: Comparison of Meeting Places in the Cases Areas

Based on the results of the study, there are some important outcomes to be mentioned related to the social design and social infrastructure in the case areas. The results reveal that the first case study area, Mutluköy Site, is a place which has high social integration and powerful neighbourliness relations. Respondents generally prefer private spaces such as houses and house gardens, but also use the green area of the site as a public outdoor space for social interaction. One of the main results from this assessment is the support and contribution of spatial organization to the social communication and neighbourliness relations. Another result reveals that as the duration of living in a certain area increases, social interaction and neighbourliness relations become stronger.

In the second case study area which is composed of multi-storey buildings, the two sets of questions indicate different results. First of all, meeting rate with friends, relatives and acquaintances is higher than familiarization and meeting rates of neighbourliness. Thus, it can be mentioned that relationships among neighbours are not so strong. Another finding is that there are shared gardens within the site borders but there are not so many residents who use these spaces as social interaction areas. Respondents living in these sites prefer houses as private spaces, and cafes, restaurants and shopping malls as public spaces for social

interaction. The duration of living in the same site does not have much effect on relationships among neighbours. For instance, residents living in the same site for 6 to 10 years and the residents living in the same site for 10 to 20 years show very similar results in terms of neighbour relations.

Meksika Avenue as the third case is composed of 5 to 6 storey apartment buildings located in single residential plots. The responses to the two groups of questions reveal different results as in the second case. However, this time the different results indicate a reverse position in comparison to the second case. To be more precise, although the respondents have a high rate of friends, relatives and acquaintances living in the same district, they meet with them less compared to their neighbours. In other words, survey results indicate that respondents prefer to familiarize and meet with their neighbours much more than their friends, relatives and acquaintances. Participants from this site, similar to the other sites, prefer their houses as meeting places. The second most preferred places to meet are shopping malls, cafes and restaurants.

7.2.3. Sense of Safety and Security

In this section, there are five main concerns of the survey which are evaluated through the questionnaire and site observations. These are feeling safe in the housing estate/neighbourhood, major security problems in the housing estate, major security problems in education facilities, feeling safe in the evening or at night, and feeling safe when walking. All of these are crucial for building good pedestrian environment.

According to the results of the questionnaire, most of the residents in Mutluköy Site feel quite safe and secure. There is private security staff employed by the site management. However, Mutluköy Site is not a gated community; all visitors/strangers are not controlled by the security staff. Burglary and theft are the major problems related to security. Especially, some of the residents are worried about strangers who generally visit the commercial facilities located among the houses in Mutluköy Site. In Çamlıca Bulvar and Kalemköy Sites, most of the participants feel themselves safe within the neighbourhood and house estate. Similar to Mutluköy Site, the residents in these sites are also mainly concerned about burglary and theft. The majority of the respondents living on Meksika Avenue also feel safe in their housing estate. However, they are worried about burglary and theft as well. The results display similarities in terms of sense of safety in three case areas (Table 7.3).

Table 7.3: Feeling Safe and Major Security Problems in the Case Areas

			What are the major security problems in your housing estate?		
			Theft and burglaries	Car accident	Other
Mutluköy Site	Did you feel safe in your housing estate?	Yes	51	7	14
		No	2	0	0
		Sometimes	5	0	0
Çamlıca Bulvar& Kalemköy Site	Did you feel safe in your housing estate?	Yes	19	10	7
		No	1	1	1
		Sometimes	7	0	0
Meksika Avenue	Did you feel safe in your housing estate?	Yes	30	8	3
		No	1	0	0
		Sometimes	7	1	0

Apart from the evaluation which is conducted to assess the general safety feeling among the residents living in the case areas (given in Table 7.3), residents were asked to comment on arriving at their houses at a specific time period (any time in the evening or at night) to assess the sense of safety. This evaluation is categorized according to gender and age groups. The results show great similarities between age and gender groups in that participants feel safe when they arrive in their houses in the evenings or at nights at any time (Table 7.4). Most of the residents living in Mutluköy Site and Çamlıca Bulvarand Kalemköy Sites feel safe in the evening or at night (Figure 7.10). On the other hand, 73% of the residents living on Meksika Avenue feel safe when they arrive in their houses in the evenings or at nights at any time (Figure 7.10).

Table 7.4: Feeling Safe in the Evening or at Night for all Case Areas

		Gender									
		Female					Male				
		Age					Age				
		Below 18	18 - 30	31 - 50	51 - 65	Above 65	Below 18	18 - 30	31 - 50	51 - 65	Above 65
Mutlukōy Site	Y	0	4	8	22	12	0	5	10	14	16
	N	0	0	1	1	1	0	0	1	0	2
	S	0	0	1	0	1	0	0	0	0	1
Çamlıca Bulvar & Kalemkōy Site	Y	0	2	8	6	4	1	0	7	10	6
	N	0	0	0	1	0	0	0	0	0	0
	S	0	0	1	0	0	0	0	0	0	0
Meksika Avenue	Y	0	3	6	4	1	0	3	5	11	2
	N	1	1	0	0	0	1	0	1	0	0
	S	0	0	0	0	0	0	1	2	3	0

Do you feel safe when arriving to your house at evenings or nights at any time?
Y:Yes N:No S:Sometimes

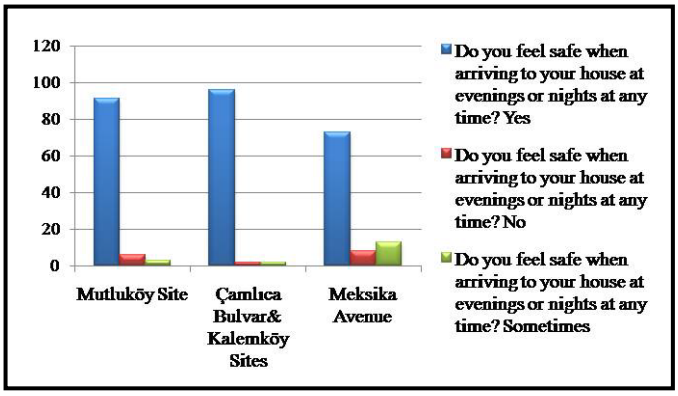


Figure 7.10: Perceptions of Respondents about Safety in the Evening

Table 7.5 analyzes the sense of safety when walking in neighbourhood. The analysis is evaluated in terms of gender and age groups as in Table 7.4. Most of the participants state that they feel safe when walking in their neighbourhood. On the other hand, Meksika Avenue participants are relatively more concerned about safe walking in their neighbourhood compared to the other sites. Figure 7.11 displays the perceptions of respondents related to safe walking in the neighbourhood. According to the results of the questionnaire, while residents living in Mutluköy Site and Meksika Avenue feel safe on the moderate level (69% in Mutluköy Site and 56% on Meksika Avenue), most of the residents in Çamlıca Bulvar and Kalemköy Sites feel safe when walking in the neighbourhood.

Residents living in Mutluköy Site and on Meksika Avenue confirm that there is deficiency in street lighting, and that they are afraid of stray dogs.

Table 7.5: Feeling Safe When Walking in the Neighbourhood

		Gender									
		Female					Male				
		Age					Age				
		Below 18	18 - 30	31 - 50	51 - 65	Above 65	Below 18	18 - 30	31 - 50	51 - 65	Above 65
Mutluköy Site	Y	0	3	5	18	10	0	4	5	12	12
	N	0	1	1	3	2	0	0	3	1	2
	S	0	0	3	2	1	0	1	3	1	3
Çamlıca Bulvar&	Y	0	2	8	6	3	1	0	6	7	4
Kalemköy Site	N	0	0	0	0	0	0	0	0	2	1
	S	0	0	1	1	1	0	0	0	0	1
Meksika Avenue	Y	0	1	3	2	1	0	3	5	11	1
	N	1	1	3	0	0	1	0	1	1	1
	S	0	2	0	1	0	0	1	1	3	0

Do you feel in safe when walking in your neighbourhood?
Y:Yes N:No S:Sometimes

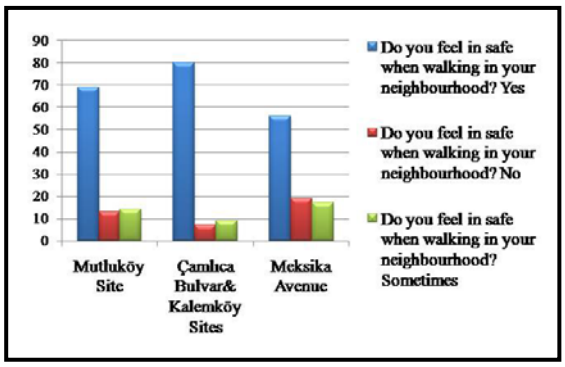


Figure 7.11: Perceptions of Respondents about Safe Walking

In Table 7.6, major security problems experienced in education facilities and their environment are categorized under four main titles; kidnapping, buying harmful foods, car accident, and others. The results reveal that the major concern of parents for their children in schools is buying harmful food in all the case areas.

Table 7.6: Security Problems in Education Facilities and their Surroundings

			What are major security problems in education facilities in your neighbourhood?			
			Kidnapping	Buying harmful foods	Car accidents	Other
Mutluköy Site	Are there any security problems in education facilities in your neighbourhood?	Yes	0	6	4	2
		No	5	13	5	2
		Partly	0	12	5	2
Çamlıca Bulvar& Kalemköy Site	Are there any security problems in education facilities in your neighbourhood?	Yes	1	8	1	0
		No	0	6	3	1
		Partly	1	11	5	1
Meksika Avenue	Are there any security problems in education facilities in your neighbourhood?	Yes	0	6	1	1
		No	2	8	1	0
		Partly	1	8	2	3

7.2.4. Community Health

The survey questions assessing the community health generally focus on if the participants do any sports and if yes, where they do physical exercises. In Mutluköy Site, people generally prefer to do exercise within the site area. The site area of the settlement provides a great opportunity of having sport for the residents. The second common area which participants prefer for sporting and exercise are the houses and fitness centres. According to the results of the questionnaire, residents mostly prefer light exercises and walking (Figure 7.12).

		Mutlukōy Site	Çamlıca Bulvar& Kalemkōy Site	Meksika Avenue
Do you do sports or any exercise?	Yes	55	12	20
	No	17	11	7
	Sometimes	27	22	16
Where do you do sports?	In house	22	8	19
	In fitness centre	20	6	9
	In private garden of site	58	8	4
	In synthetic pitch	1	22	7
	In school	3	0	1
	Other	5	3	2

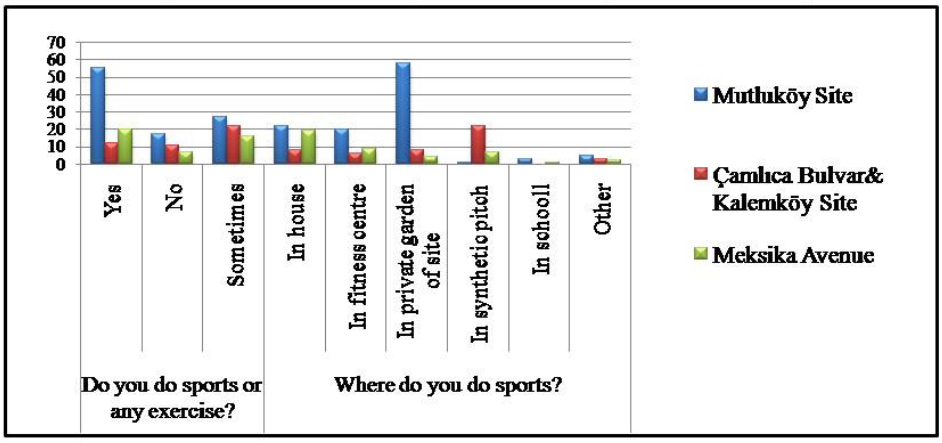


Figure 7.12: Sporting and Exercising Behaviour of the Respondents

In Çamlıca Bulvar and Kalemköy Sites, the survey shows that most of the participants do not have routine or regular sporting activity. Almost half of the respondents do sports or exercise occasionally. Interestingly, although there is a park and recreation area very close to the site, residents prefer the synthetic pitch as the sports facility. On Meksika Avenue, people mostly prefer exercising at home, while fitness centres and synthetic pitch areas are the other preferred facilities by the respondents.

7.2.5. Affordable Housing

Ümitköy district has a high profit earning profile for home and landowners. Although this area was planned as an alternative residential area for the housing needs of community living in urban Ankara in the 1980s, in the following period, the market economy and the investors have seen the region as a high profit margin area. This led to the design and building of expensive housings. Even the buildings that housing cooperatives built were so expensive that it was difficult to own a house within the region. Mainly cooperatives have built housings in the area. Although there are buildings built through build-and-sell model which

is used by single contractors or construction firms, a great percentage of the buildings, particularly apartment blocks, were built by cooperatives.

The housing prices are now high in comparison to many regions of Ankara including other suburban areas. Some of the residents bought their houses for reasonable prices when those houses were built by cooperatives (such as in Mutluköy Site, Çamlıca Bulvar Site and Kalemköy Site). However, today's prices are not as affordable as the ones in the past due to the increasing market prices and the high profit margin of the region. According to a general market examination conducted in the case areas, some information is obtained related to housing prices including selling and renting prices. In Mutluköy Site, whereas houses' selling prices are about 400.000 - 450.000 TL, the rental prices are about 1.800 - 2.500 TL. Apartment flat prices in Mutluköy Site range between 240.00 and 280.000 TL for selling, and between 800 and 900 TL for renting. In Çamlıca Bulvar and Kalemköy Sites, rental prices are about 1.300 - 1.500 TL, whereas selling prices are about 350.000 - 400.000 TL. Meksika Avenue indicates relatively higher price ranges changing between 300.000 and 500.000 in comparison to the other sites. The main reasons for the diversity in prices are the different housing sizes, types and newness.

Affordability concept is evaluated in two categories; affording the rent and affording the utilities of housing estates. However, the number of tenants in case areas is lower in comparison to house owners. Tenants state that they can generally afford the rent. Very few of the renters stress that they have sometimes difficulties to pay the rents. Figure 7.13 displays the correlation between homeownership and affording utilities. According to the questionnaire results, most of the participants can afford their utility expenses.

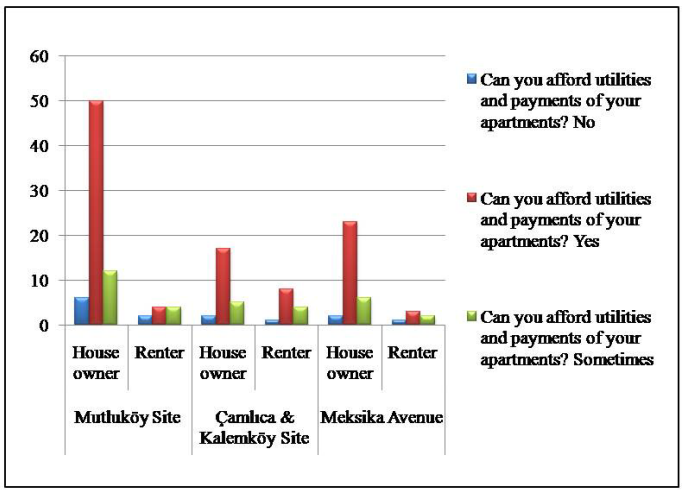


Figure 7.13: Affordability of Utilities and Payments of Housing Estates in Case Areas

7.2.6. Automobile Dependency and Walking Behaviour of Residents

Automobile dependency and walking behaviour of residents are evaluated through not only questionnaire but also site observations. The factors which support and enhance the walking behaviour of residents are determined according to some specific components such as mixed use, well-connected street networks, safe pedestrian and bicycle routes, attractive and accessible physical environments, and encouraging parks, streets and other streetscape elements.

Vehicle ownership and transport preferences relationship is examined through the questionnaire, and Figure 7.14 illustrates this examination. The results summarized in Figure 7.14 reveal that there is a high amount of car ownership, and private car is the most preferred transport choice among the others. The level of walkability in Mutluköy Site, and Çamlıca Bulvar and Kalemköy Sites is higher than the Meksika Avenue. The locations of first two sites are close to Ümitköy district center in terms of retails and shopping places. Although Meksika Avenue is not too far to the district centre, it is not accessible to the community facilities in terms of walking distance. In addition to the location disadvantage of the buildings located along Meksika Avenue, this area is surrounded by main traffic roads (Eskişehir Road, 8th Avenue and Meksika Avenue), which decrease the walking attractiveness and safety of the pedestrian routes.

Cycling is the least preferred transport system, which also indicates the high level of automobile-dependent transportation in all sites. The main reason behind the limited cycling preferences is the insufficient safe cycling routes to encourage residents. This approach can be generalized for the whole Ümitköy district. Figure 7.14 illustrates the high level of public transport use by many residents living in all sites. Most of the participants in all sites complain about the insufficient public transport system and vehicles.

		Which transportation type do you prefer in near environment or neighbourhood?					
		Private Car	Public transportation	Taxi	Motorcycle	Bicycle	Walking
Mutluköy Site	I have a vehicle	45	25	2	1	2	38
	I have not a vehicle	2	10	4	0	0	9
Çamlıca & Kalemköy Site	I have a vehicle	24	13	3	0	0	17
	I have not a vehicle	3	4	3	0	0	3
Meksika Avenue	I have a vehicle	23	14	1	1	1	6
	I have not a vehicle	2	6	2	0	0	4

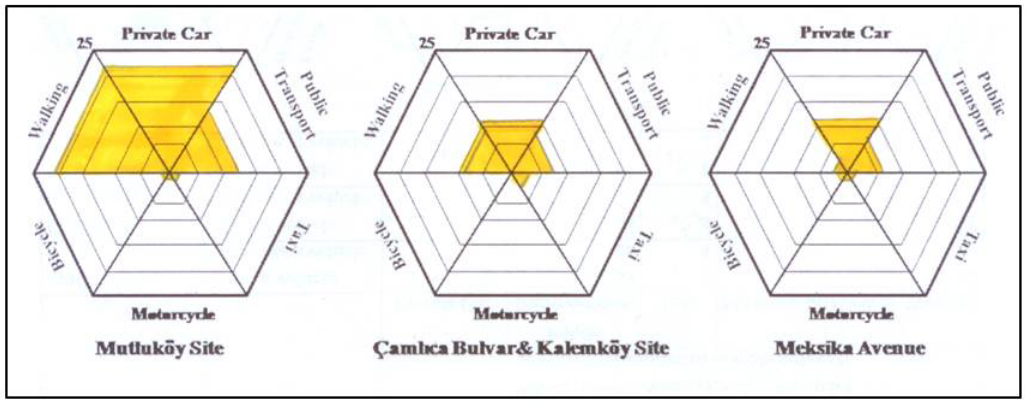


Figure 7.14: Correlation between Vehicle Ownership and Transport Preferences

7.2.7. Community Services

This section summarizes the responses of participants related to such community services as education, health, commercial and cultural facilities. The measurement of the community services (including schools, stores, banks, post offices, health centres, cafes-restaurants, cultural centres, parks and recreation areas) can be analyzed through the terms of availability, accessibility, and adequacy. One of the important points that should be mentioned is that the community services need to be located within the residential areas in

order to develop liveable and sustainable neighbourhoods. Table 7.7 signifies the general opinions of the respondents related to the adequacy and accessibility of community services in the neighbourhood. According to these responses, the majority of the participants in all sites in the study are satisfied with these services.

Table 7.7: Adequacy andAccessibility of Community Services in Neighbourhood

		Are there adequate and accessible community services in your neighbourhood?					
		Mutlukōy Site		Çamlıca Bulvar& Kalemkōy Site		Meksika Avenue	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
Valid	Yes	80	80,0	40	87,0	38	79,2
	No	8	8,0	6	13,0	4	8,3
	Sometimes	11	11,0	0	0,0	5	10,4
	Total	99	99,0	46	100	47	97,9
Missing	System	1	1,0	0	0,0	1	2,1
Total		100	100,0	46	100,0	48	100,0

Education facilities are analyzed in three categories, namely school preferences of families in the neighbourhood, private course preferences of families in the neighbourhood, and physical conditions of schools. In Mutluköy Site, families who have children at school age generally prefer the education facilities located outside the neighbourhood borders. Interestingly, in Çamlıca Bulvar and Kalemköy Sites, participants' tendency related to school preference displays an equal rate. On Meksika Avenue, the results show a great similarity with the Mutluköy results (Figure 7.15). The responses to the second question related to private course preferences have also a great similarity with the former in terms of preference rates (Figure 7.15).

		Mutlukōy Site	Çamlıca Bulvar& Kalemkōy Site	Meksika Avenue
Is your child continuing to a school located in your neighbourhood?	Yes	20	16	10
	No	32	16	16
Is your child continuing to a private course located in your neighbourhood?	Yes	11	14	5
	No	34	15	21

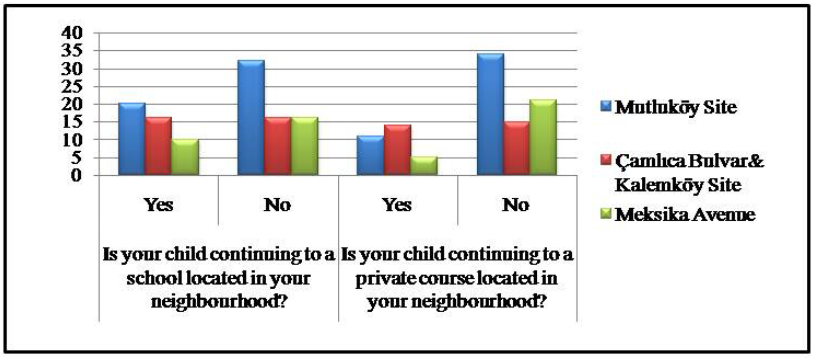


Figure 7.15: Use of Education Facilities in the Neighbourhood

The results also reveal that residents find the physical conditions of schools satisfactory. However, some of the respondents state that school conditions are partially good (Figure 7.16).

		Are the education facilities in good repair?					
		Mutlukōy Site		Çamlıca Bulvar& Kalemkōy Site		Meksika Avenue	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
Valid	Yes	34	34,0	21	45,7	20	41,7
	No	15	15,0	7	15,2	11	22,9
	Partly	26	26,0	11	23,9	11	22,9
	Total	75	75,0	39	84,8	42	87,5
Missing	System	25	25,0	7	15,2	6	12,5
Total		100	100,0	46	100,0	48	100,0

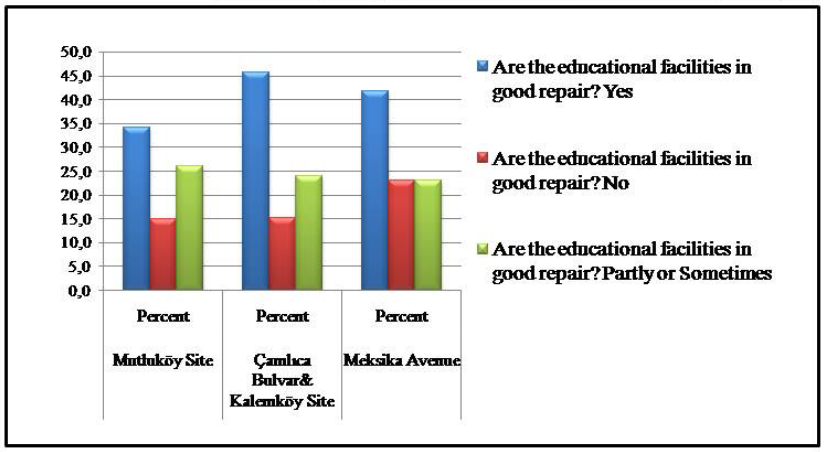


Figure 7.16: Physical Condition of Education Facilities in the Neighbourhood

Responses to the questions which are summarized in Tables 7.8, Table 7.9, and Table 7.10 particularly focus on the evaluation of the health services in the neighbourhood which include all three sites. It is worth mentioning that there is not a general hospital which can serve the people living in Ümitköy district and Çayyolu. There are small private health centres, and there are a few community health centres located in the neighbourhood and district. Health services are correlated with the age and gender in order to see and compare the health facility utilization.

In Mutluköy Site, most of the respondents state that they generally use the local health centres (Table 7.8). Although many participants mention that they are satisfied with the conditions of the existing health centres (48 participants); a considerable number of respondents assert that they are partly satisfied (37 participants). In Mutluköy Site, on average, people are above 50, which indicates an aging community. Interviews conducted in this site have revealed that the community health centre is not accessible as it is not located in a walking distance. Most of the respondents also affirm that there is an urgent need of a general hospital in the district.

Table 7.8: Evaluation of Health Services in Mutluköy Site

Mutlukōy Site		Age					Gender	
		Below 18	18 - 30	31 - 50	51 - 65	Above 65	Female	Male
Do you use health centres in your neighbourhood?	Yes	0	5	14	31	22	37	35
	No	0	2	3	2	5	5	7
	Sometimes	0	2	4	3	3	6	6
Do these health centres in your neighbourhood meet your needs?	Yes	0	5	8	18	17	26	22
	No	0	1	2	6	2	6	5
	Partly	0	3	11	13	10	16	21

Participants living in Çamlıca Bulvar and Kalemköy Sites generally use the local health centres. The results related to the conditions of the existing health facilities and meeting the needs of the population demonstrate that the number of residents satisfied and that of residents partly satisfied are close to each other (Table 7.9). Many respondents point out that a general hospital is a necessity for the rapidly growing district.

Table 7.9: Evaluation of Health Services in Çamlıca Bulvar and Kalemköy Sites

Çamlıca Bulvar& Kalemköy Site		Age					Gender	
		Below 18	18 - 30	31 - 50	51 - 65	Above 65	Female	Male
Do you use health centres in your neighbourhood?	Yes	1	1	12	12	9	20	15
	No	0	0	2	0	1	1	2
	Sometimes	0	1	2	5	0	1	7
Do these health centres in your neighbourhood meet your needs?	Yes	1	1	7	6	6	12	9
	No	0	0	1	3	1	1	4
	Partly	0	1	6	8	3	8	10

Respondents who are benefitting from the health centres on Meksika Avenue state that they are using (36 residents) and satisfied with the services (26 residents). On the other hand, there are some participants who are partly satisfied with the conditions of the existing centres (12 respondents).

Table 7.10: Evaluation of Health Services on Meksika Avenue

Meksika Aveme		Age					Gender	
		Below 18	18 - 30	31 - 50	51 - 65	Above 65	Female	Male
Do you use health centres in your neighbourhood?	Yes	2	6	8	16	4	11	25
	No	0	1	3	0	0	1	3
	Sometimes	0	1	3	2	0	4	2
Do these health centres in your neighbourhood meet your needs?	Yes	1	4	7	11	3	8	18
	No	0	3	1	2	1	4	3
	Partly	1	1	5	5	0	3	9

Commercial services are other significant and basic facilities to meet the needs of community members. It is important that some of the commercial services should be located in walking distance to housing estates in order to enhance sustainable communities in local settlement. To assess these services, participants were asked four main questions. The table below illustrates the responses to these questions for each case area (Table 7.11, Table 7.12, and Table 7.13).

As seen in Table 7.11, most of respondents use markets in the neighbourhood, and most of them think that these markets meet their daily needs. However, in the interviews some residents emphasize that the prices in markets are higher than the other areas. This situation leads to the affordability problem for some residents. On the other hand, most of them do not go to the street market. Street market (semt pazarı) is not located in walking distance; it is placed near Konutkent district of Çayyolu, so it is not accessible.

Table 7.11: Evaluation of Commercial Services in Mutluköy Site

Mutlukōy Site		Age					Gender	
		Below 18	18 - 30	31 - 50	51 - 65	Above 65	Female	Male
Do you use markets in your neighbourhood?	Yes	0	7	15	32	28	42	40
	No	0	0	1	3	0	2	2
	Sometimes	0	2	5	2	3	6	6
Do the markets in your neighbourhood meet your needs?	Yes	0	4	18	30	28	43	37
	No	0	2	0	1	1	2	2
	Partly	0	3	3	5	2	5	8
Do you prefer other markets in other neigbourhoods for shopping?	Yes	0	1	2	5	11	10	9
	No	0	5	15	17	10	20	27
	Sometimes	0	3	4	13	8	18	10
Do you go to street markets?	Yes	0	2	10	11	9	14	18
	No	0	5	5	18	20	25	23
	Sometimes	0	2	6	6	2	10	6

Similarly, in Çamlıca Bulvar and Kalemköy Sites, most participants use markets in their neighbourhood, and they do not prefer other markets located outside their own neighbourhood. According to results of the questionnaire, most of residents are glad with local markets since they meet their needs. In this case area, almost half of the residents use the street market.

Table 7.12: Evaluation of Commercial Services in Çamlıca Bulvar and Kalemköy Sites

Çamlıca Bulvar& Kalemköy Site		Age					Gender	
		Below 18	18 - 30	31 - 50	51 - 65	Above 65	Female	Male
Do you use markets in your neighbourhood?	Yes	0	2	14	15	9	19	21
	No	0	0	0	0	0	0	0
	Sometimes	1	0	2	2	1	3	3
Do the markets in your neighbourhood meet your needs?	Yes	0	1	13	14	10	18	20
	No	0	0	1	0	0	0	1
	Partly	1	1	2	1	0	3	2
Do you prefer other markets in other neigbourhoods for shopping?	Yes	0	0	2	2	1	1	4
	No	1	1	9	12	9	17	15
	Sometimes	0	1	5	3	0	4	5
Do you go to street markets?	Yes	0	1	7	7	1	10	6
	No	0	1	6	6	4	7	10
	Sometimes	1	0	3	4	5	5	8

Table 7.13 displays the evaluation of commercial facilities for residents living on Meksika Avenue. In this case area, similar results are obtained. Residents generally prefer to use the local markets in their neighbourhood, and most of the markets are sufficient for meeting the needs of the residents. In addition, participants prefer to use street market as in the second case area.

Table 7.13: Evaluation of Commercial Services on Meksika Avenue

Meksika Avenue		Age					Gender	
		Below 18	18 - 30	31 - 50	51 - 65	Above 65	Female	Male
Do you use markets in your neighbourhood?	Yes	3	8	8	14	2	11	23
	No	0	0	1	2	0	1	2
	Sometimes	0	0	5	3	0	4	4
Do the markets in your neighbourhood meet your needs?	Yes	0	6	8	16	3	11	22
	No	0	1	2	1	1	1	4
	Partly	3	1	4	1	0	5	3
Do you prefer other markets in other neigbourhoods for shopping?	Yes	0	0	5	3	1	4	5
	No	0	6	6	9	1	6	16
	Sometimes	3	2	3	7	1	6	9
Do you go to street markets?	Yes	1	2	4	8	2	4	12
	No	0	2	4	7	1	7	7
	Partly	2	4	6	4	1	6	11

7.2.8. Community Awareness, Participation and Volunteering

Community governance is another component to connect individuals to community for a sustainable community. It enhances the awareness of individuals about community, encourages resident participation in community activities, and helps to solve community problems.

In Mutluköy Site, 41% of respondents are interested in community problems and inform the related institutions such as mukhtar and municipality about these problems. On the other hand, 29% of respondents implied that they are not aware of community problems. 58% of the residents share their opinion about their housing estate. 47% of the respondents state that they participate in the site meetings (Table 7.14).

Table 7.14: Evaluation of Community Governance in Mutluköy Site

Mutluköy Site		Gender									
		Female					Male				
		Age					Age				
		Below 18	18 - 30	31 - 50	51 - 65	Above 65	Below 18	18 - 30	31 - 50	51 - 65	Above 65
Do you attend site meetings?	Yes	0	1	2	11	7	0	1	4	10	11
	No	0	2	3	8	5	0	2	3	3	3
	Sometimes	0	0	4	4	1	0	2	4	1	3
According to you, is it provided sufficiently to attend the decisions taken within the site meetings?	Yes	0	2	5	14	11	0	1	5	11	9
	No	0	2	0	3	0	0	3	4	1	4
	Sometimes	0	0	4	2	1	0	1	2	2	3
Do you use the local government and/or muhtar's office of which your neighbourhood is belonged to for your formal needs?	Yes	0	3	7	18	10	0	2	8	9	13
	No	0	1	1	1	0	0	1	2	1	5
	Sometimes	0	0	0	3	3	0	2	1	4	0
If there are problems related to the areas in your neighbourhood, do you inform your local governmental and/or muhtar's office?	Yes	0	2	4	11	7	0	3	2	6	6
	No	0	2	2	2	5	0	2	5	5	6
	Sometimes	0	0	3	8	1	0	0	4	3	5

34% of the residents in Çamlıca Bulvar and Kalemköy Site implied that they are not interested in community problems in their neighbourhood, and they do not inform the related institutions such as mukhtar and municipality about problems. This indicator informs us about the level of awareness in the residential unit. According to results of the questionnaire, almost 19% of the respondents are interested in community problems, and they state that they inform the related centres about those problems. Most of the residents abstain from informing the local municipal centre or mukhtar's office. On the other hand, most of the residents (almost 65%) emphasized that they participate in site meetings (Table 7.15).

Table 7.15: Evaluation of Community Governance in Çamlıca Bulvar and Kalemköy Sites

Çamlıca Bulvar & Kalemköy Site		Gender									
		Female					Male				
		Age					Age				
		Below 18	18 - 30	31 - 50	51 - 65	Above 65	Below 18	18 - 30	31 - 50	51 - 65	Above 65
Do you attend site meetings?	Yes	0	1	6	4	3	0	0	4	8	4
	No	0	0	3	2	1	1	0	2	1	2
	Sometimes	0	1	0	1	0	0	0	1	1	0
According to you, is it provided sufficiently to attend the decisions taken within the site meetings?	Yes	0	2	6	5	3	0	0	2	7	4
	No	0	0	1	1	0	1	0	3	0	2
	Sometimes	0	0	2	1	1	0	0	1	3	0
Do you use the local government and/or muhtar's office of which your neighbourhood is belonged to for your formal needs?	Yes	0	2	8	7	3	0	0	5	8	4
	No	0	0	0	0	1	0	0	0	0	2
	Sometimes	0	0	1	0	0	1	0	2	2	0
If there are problems related to the areas in your neighbourhood, do you inform your local governmental and/or muhtar's office?	Yes	0	0	2	2	1	1	0	0	1	2
	No	0	1	2	1	2	0	0	3	4	3
	Sometimes	0	1	4	4	1	0	0	4	4	1

On Meksika Avenue, while 54% of the residents state that they feel responsible for their community problems, and they inform the related institutions about problems, 25% of the respondents are not interested in problems. On the other hand, 64% of the respondents participate in site meetings.

Table 7.16: Evaluation of Community Governance on Meksika Avenue

Meksika Avenue		Gender									
		Female					Male				
		Age					Age				
		Below 18	18 - 30	31 - 50	51 - 65	Above 65	Below 18	18 - 30	31 - 50	51 - 65	Above 65
Do you attend site meetings?	Yes	1	1	5	3	2	1	1	3	12	2
	No	0	1	1	1	0	0	2	0	3	0
	Sometimes	0	2	0	0	0	0	1	5	0	0
According to you, is it provided sufficiently to attend the decisions taken within the site meetings?	Yes	1	2	5	2	1	1	2	3	13	2
	No	0	1	0	1	1	0	1	0	1	0
	Sometimes	0	1	1	0	0	0	1	5	0	0
Do you use the local government and/or muhtar's office of which your neighbourhood is belonged to for your formal needs?	Yes	1	3	5	3	0	1	4	6	14	2
	No	0	0	0	0	0	0	0	0	0	0
	Sometimes	0	1	1	1	1	0	0	2	1	0
If there are problems related to the areas in your neighbourhood, do you inform your local governmental and/or muhtar's office?	Yes	1	0	3	3	0	1	1	3	12	2
	No	0	3	2	0	0	0	3	3	1	0
	Sometimes	0	1	1	1	1	0	0	2	2	0

CHAPTER 8

EVALUATION AND CONCLUSION

7.1. Summary and Evaluation of the Research

In the age of cities, the urban development concept has become more important than ever in order to sustain a liveable, healthy, and safe environment for future generations. This study mainly aims to evaluate the sustainable community development process and approach, which enhances the social, physical, emotional and psychological well-being of residents within the micro-scale including neighbourhood and housing estate scales in the suburban area of Ankara.

The research basically focuses on two questions, which orient the study:

- How should the built environment be designed to create a sustainable community?
- How does the built environment affect the development of a sustainable community?

To elaborate the method and process of the research, the following sub-questions are formulated:
1st sub-question: What makes a community sustainable? (or) What is required to build a sustainable community?
2nd sub-question: How to assess a sustainable community in the suburban residential areas?
3rd sub-question: What are the differences or similarities between different types of housing estates with different design and architectural characteristics within the same neighbourhood in terms of sustainable community indicators?

It is hypothesized that the architectural and design characteristics of a neighbourhood and housing estate, and the characteristics and organisation of a community itself are mutually influential in developing a sustainable community. Indeed, land use practice which is necessary to develop a physical environment/spatial design is directly linked to the success or failure of sustainability in community planning.

Leaving from the above assumption, this research argues that "in order to develop a community sustainability in a neighbourhood and housing estate scale, physical characteristics of the built environment solely are not enough" (*hypothesis-I*). The other argument of the research is that "it is only possible to develop, enhance and sustain healthy communities through combining social and spatial planning and design of liveable neighbourhood and residential areas (*hypothesis-II*). It is also argued that "the creation of space in the suburban area of Ankara mainly depends on physical characteristics, whereas this approach excludes the other needs of the community, the indicators of community well-being and social design" (*hypothesis-III*).

The methodology of the research is to develop a general framework of sustainable community concept for the suburban neighbourhood, and draw attention to the concept in order to enhance the awareness of planners through a literature survey with a critical evaluation, and an analytical survey.

Following the introduction and definition of the problem area, the research continues with the definition of concepts including neighbourhood and community. Defining the sustainability concept from a historical perspective, defining the sustainable community concept, and the approaches related to these concepts under the illumination of the US and UK policies follow the neighbourhood and community definitions.

Following the definition of the main concepts, components and indicators of the sustainable community are discussed through the literature. The conceptual framework of the study is developed, and these concepts are used as the basis for the analytical survey, which includes a questionnaire. The survey conducted for this research mainly developed from the arguments of conceptual framework.

The method of the survey is constructed on the literature survey and evaluation. Obtaining data and information related to the main hypothesis and evaluation of this data is developed through a survey design. This survey is presented and defined. Then, the case areas which are chosen for the application of survey are presented. The reasons for their selection and the important physical, social and economic characteristics of the case areas are summarized. Ümitköy, the focus district of the present study, is described. The questionnaire design is explained, and the analyzing method to assess the sustainable community concept is clarified.

The research mainly deals with the spatial and social dimensions of the sustainable community. First of all, the community profiles of the selected case areas are assessed within the housing estates both separately and comparatively. Next, the study includes the assessments of spatial indicators and requirements in order to evaluate the case areas. The housing estates are assessed through the spatial design characteristics. Similarly, the social design components are evaluated and discussed for the case study areas.

According to the literature review related to sustainable communities and site observation and questionnaires filled out by the residents, some figures are drawn related to sustainable community components and indicators. Those figures summarized the assessment of sustainability in both meso-scale and micro-scale.

Figure 8.1 analyzes the Ümitköy district in general through the sustainable community components. This chart is developed from the survey results which are obtained through the site observations, and the questionnaire. This figure illustrates a kind of score chart which includes different components that are determined for the survey. The assessment method of the chart depends on a five-scale measurement; *very poor, poor, fair, good,* and *very good*. According to this scaling, 18 components which are determined through the literature survey and critical evaluation of the literature are measured and included in the chart.

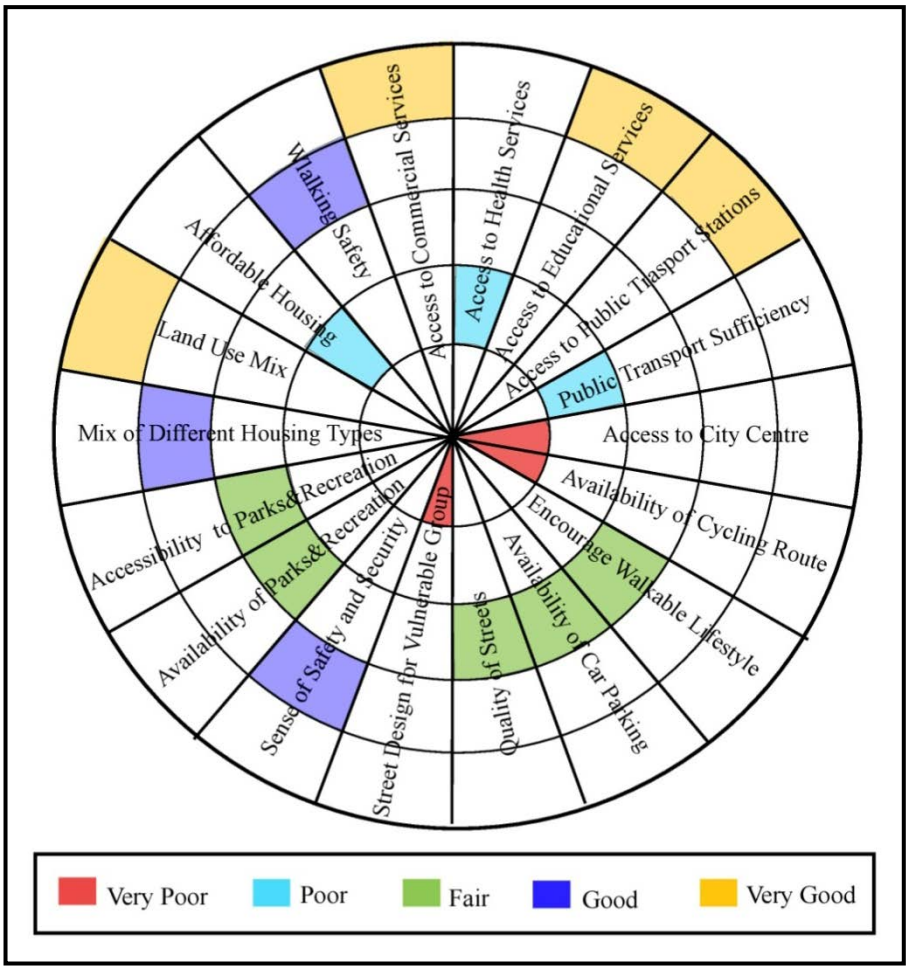


Figure 8.1: Scoring Chart for Assessing Sustainable Community Components in Ümitköy

Consistently with the scaling, the red colour illustrates the most problematic areas whereas the yellow colour illustrates the least problematic issues. In particular, access to the city centre (almost 20-25 km away from city centre), availability of cycling route (there is no cycling route), and street design for the vulnerable group are the most complained and outstanding issues. Three of these problematic issues, in fact, is directly concerned with the transportation planning from the sustainability view-point. In addition, the cyan colour, which refers to 'poor' characteristic, indicates that public transport is one of the problematic areas, which is also directly related with the transportation planning concept (due to the lack of public transportation vehicles). Other poor issues are affordable housing (due to being a popular district and high profit margin area) and access to health services (due to the lack of a public hospital). Encouragement of walkability, availability of car parking, quality of streets, availability of parks and recreation, and accessibility to parks and recreation are the main concepts which received a rating of *fair* (green colour). This signals that some areas of the districts still provide the good quality in terms of those issues. Sense of safety and security, mix of different housing type, and walking safety were scored highly (dark blue). Land use mix, access to commercial services, access to educational services, and access to public transportation stations, which are scored under yellow colour, are seen as the least problematic areas.

Figure 8.2 summarizes the community's perception of problems from the housing estate view-point. Although these problem categories were not given to the survey participants

explicitly, they brought up all of them. The table includes all the problem categories regardless of how infrequently they were mentioned. The participants defined the problems in two different scales; the first is housing estate scale, and the other is neighbourhood scale. The common problematic issue in all case areas is the insufficiency of transportation system including street design and quality, transport alternatives and vehicles, and parking areas. Low accessibility to travel to the city centre was widely complained. The respondents stated that the travel process causes a waste of time. The major reasons for this problem are the unavailability of metro or other systems, insufficiency of buses and low frequency of the bus system, uncomfortable travelling conditions, and deficiency of motor ways which are jammed during rush hours, and extraordinary cases such as traffic accidents. All of these responses reveal that suburban transportation system is very vulnerable and needs to be re-organized according to the rapidly changing physical and environmental needs.

		Mutlukoy Site	Camlica Bulvar Site	Kalemkoy Site	Meksika Avenue
Problems related to Housing Estate	Inadequate parking areas for cars	√	√	√	
	Lack of elevator in apartment buildings	√			
	Increase of commercial usage of houses in site	√	√		
	Site management problems		√	√	
	Lack of security		√	√	
	Lack of neighbourliness in site		√	√	
Problems related to Neighbourhood	Inadequate public transportation (bus and metro)	√	√	√	√
	District far from city centre and there are limited transportations facilities	√	√	√	√
	Inadequate of municipal services	√	√	√	
	Accessibility problem to primary health care service due to far distance	√	√		
	Lack of the public general hospital in neighbourhood	√	√		
	Expensive market prices according to other district	√	√	√	
	Inadequate green areas and recreational areas	√			
	Lack of walking and bicycle routes	√			
	There is no cultural centre/community centre	√			
	There is no public space	√			
	Unserviceable and lack of green areas and recreational areas		√		√
	Lack of street trees		√		
	Lack of street lightening			√	√
	Lack of street pavements			√	
	Lack of recreational areas for young people and children				√
	Lack of recycling system in the neighbourhood				√
	Mukhtar is careless about community problems				√
	Meksika Avenue is 'uphill road' and dangerous for pedestrians				√

Figure 8.2: Community Problems in Housing Estate and Neighbourhood
(Both Micro-scale and Meso-scale)

Parking facilities and lots are other issues which were reported to be problematic, particularly in the neighbourhood scales. The commercial facilities and services including markets and shops are found unaffordable and very expensive in Ümitköy. Therefore, many respondents complain about high prices in Ümitköy. Mainly in recent years, the housing

prices have been increasing drastically in Ümitköy, which causes serious complaints. The mixed use building approach, a consequence of the growing needs within the neighbourhood, results in dissatisfaction. The respondents mostly complained about the mixed use building conditions in the housing estates (Figure 8.2).

Figure 8.3 displays mixed and diversity assessment of Ümitköy. According to the figure, in the meso-scale there are three important indicators related to sustainable communities: 1) mixed land use, 2) mixed housing type, 3) mixed income. Those three indicators are assessed by using four rating scales: very poor (red), poor (green), fair (purple), and good (yellow). As a result, while Ümitköy is a sustainable district in terms of mixed land use, the housing type diversity in the district is in the moderate level. However, the district does not have a diverse income population according to sustainable community benchmarks (there are dominantly middle and upper-middle class in the district) because sustainable communities offer mixed income population ranging from low to high income in the same district.

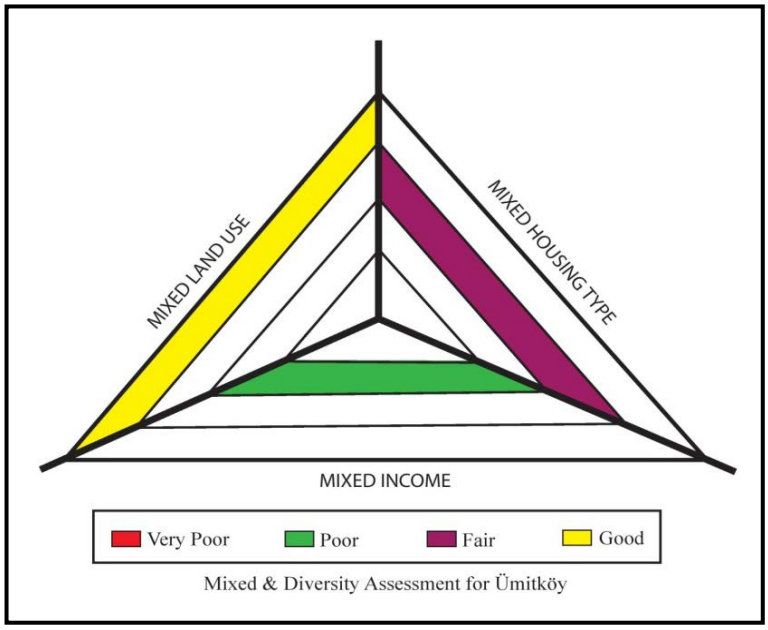


Figure 8.3: Mixed & Diversity Assessment of Ümitköy

Figure 8.4 presents the mixed the diversity assessment for selected housing estates in Ümitköy (as a micro-scale). Four indicators were specified for the assessment in micro-scale in terms of mixed and diversity. These indicators are mixed-use (commercial and residential), mixed housing type, mixed income, and mixed types of household. Diversity of all those components provides more sustainable communities. According to the figures, whereas Mutluköy Site combines both commercial and residential facilities, there is low diversity of income groups. The questionnaires show that there are mixed types of households in the site. Moreover, the site has three different housing types for different groups of households. Similarly, in Çamlıca Bulvar & Kalemköy Sites, there are both commercial and residential facilities, and there are diverse population in terms of household groups. However, the problematic components are mixed housing type in the site, and mixed income population. In the area there is a single type house, dominantly occupied by middle class residents. In Meksika Avenue, there is no commercial facility; however, some facilities such as market, tailor, pharmacy, and hairdresser are located within 400 metres away (within the walking distance). On the other hand, there are 20 apartment buildings, each with

different types of houses, in the selected area on Meksika Avenue. However, the high-priced houses generally correspond to the needs of upper-middle class population.

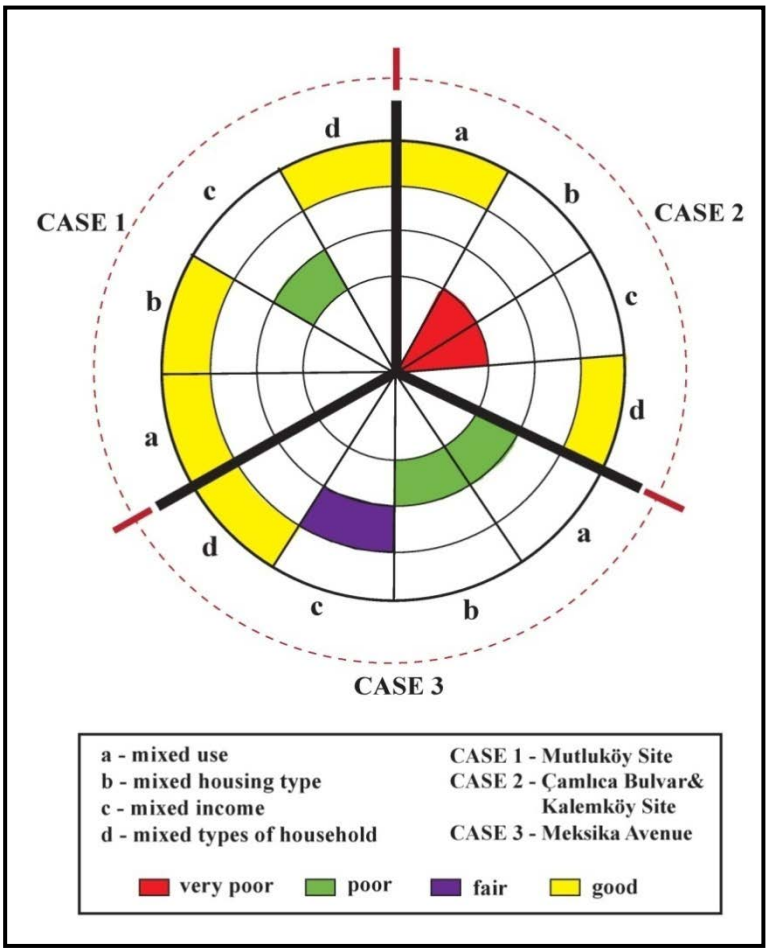


Figure 8.4: Mixed & Diversity of Housing Estates

Happiness and satisfaction in housing estate and neighbourhood are significant indicators for building and enhancing sustainable communities. Figure 8.5 indicates the assessment about happiness and satisfaction in terms of the view from residents living in the selected housing estates. Two indicators were evaluated; one of them is satisfaction of living in this settlement, and other one is tendency to move to another place. The results revealed that residents in all case areas are highly glad and satisfied to live in their sites and neighbourhood. Thereby, most of the residents are not likely to move to another place. It can be asserted that community is sustainable in terms of happiness and satisfaction.

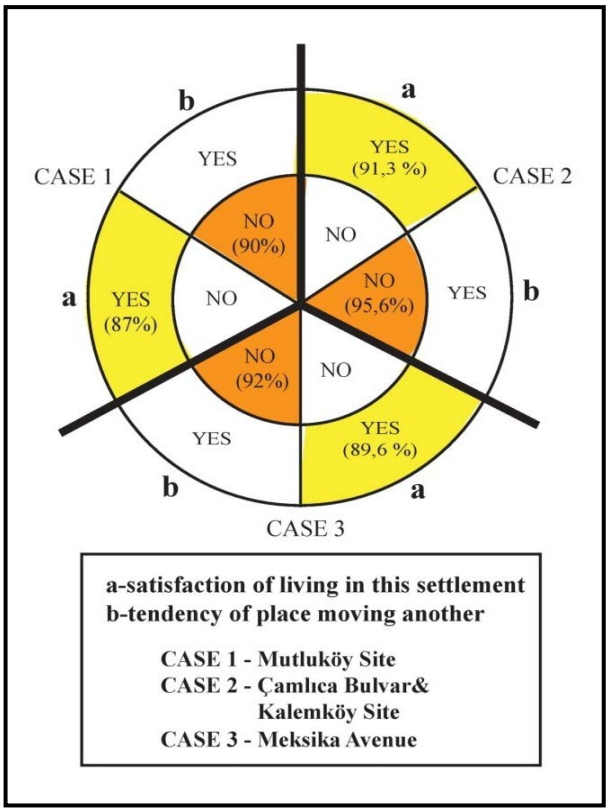


Figure 8.5: Happiness and Satisfaction in Housing Estate

Social interaction and neighbourliness are important components for social dimension of sustainable community. This component is assessed in two different scales, both are crucial for the study. The survey questions developed to probe social integration are categorized and analyzed under two groups as well. The first set of questions focus on the neighbourhood scale in order to obtain information about whether the residents have acquaintances, friends, and relatives, and how often they meet with each other, and where they mostly meet each other (Figure 8.6). The second set of questions focus on the housing estate scale in order to obtain information about understanding neighbourliness relations through the questions such as how well they know their neighbours, and how often and where they meet with their neighbours (Figure 8.7).

Meeting places and frequency of meeting are the fundamental indicators for social interaction and neighbourliness in the research. Meeting place is important because it reflects the preferences of social interaction places. Frequency of meeting is also important because it shows the level of social interaction and neighbourliness. A high level of social interaction provides building sustainable communities. In all the selected housing estates, most of the residents prefer to meet friends, relatives, and neighbours, and socialize at their private space (their homes) (Figure 8.6 and Figure 8.7). In a sustainable neighbourhood, residents use green and public areas to meet with their acquaintances because those areas are attractive places, and they fulfil their needs. However, there is a weakness in all selected cases in terms of indicator of social interaction places to build sustainable communities. On the other hand, Mutluköy Site (Case 1) is unique among the other cases in terms of the frequency of meeting. Most residents prefer to meet their friends and relatives everyday or four times a week. It indicates that there is strong social interaction in Mutluköy Site.

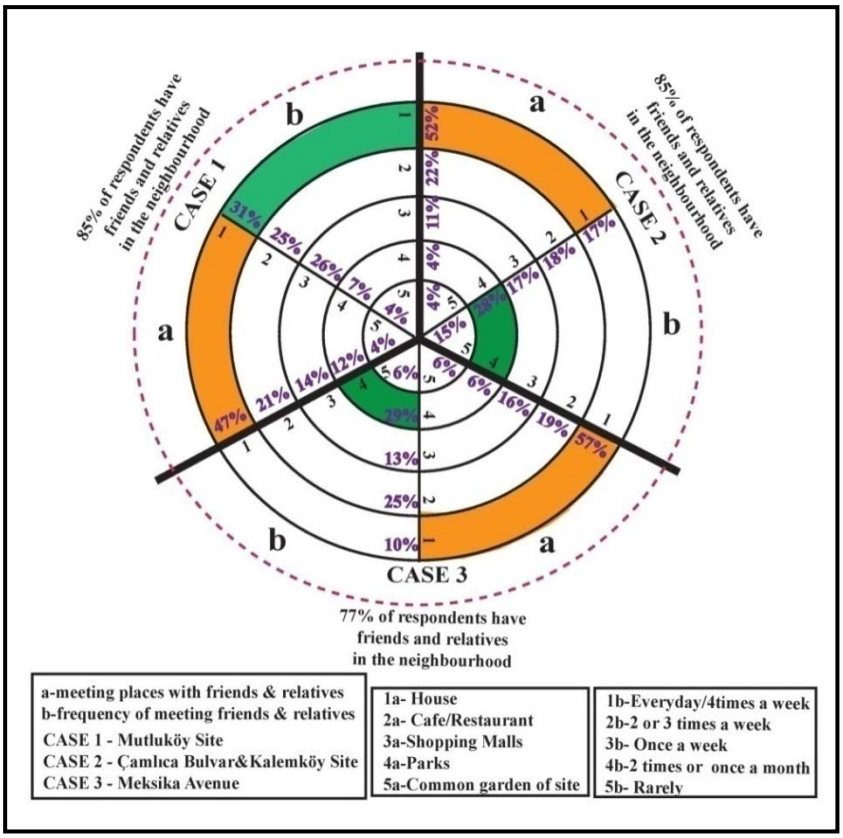


Figure 8.6: Social Interaction in Housing Estates

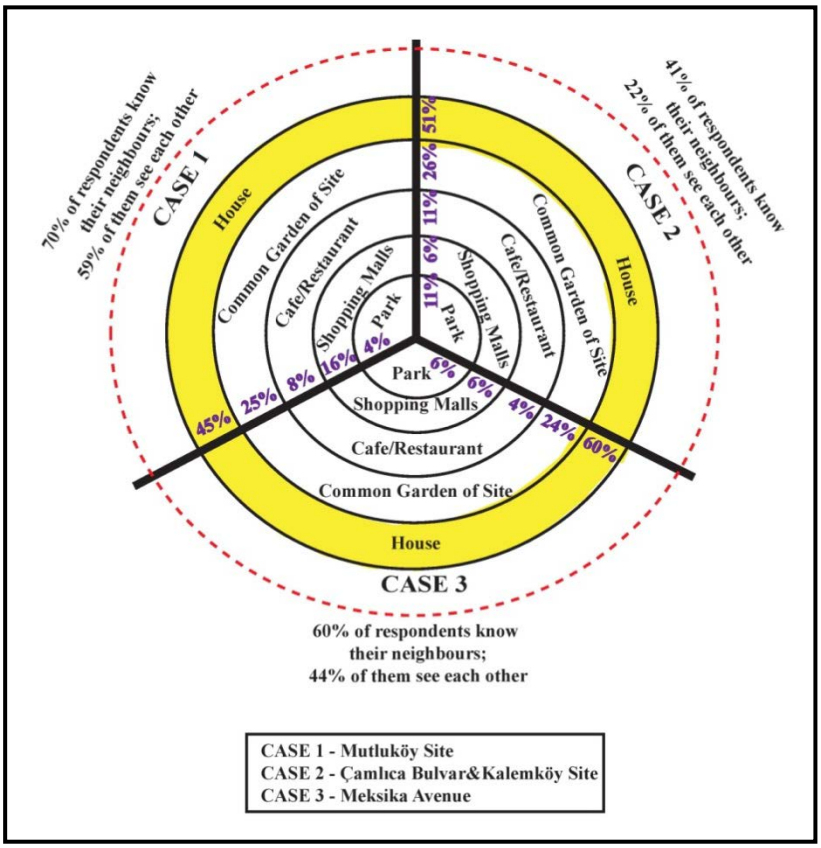


Figure 8.7: Neighbourliness in Housing Estate

Social interaction and the relation with neighbours are affected by the design characteristics. In case 1, Mutluköy Site is designed in the vertical hierarchical (private, semi private, semi public and public) structure. These hierarchic separations provide diverse and attractive social interaction places. On the other hand, in case 2, Çamlıca Bulvar and Kalemköy Sites are developed horizontally. This type of building decreases the social interaction among neighbours. However, both cases have their green areas; greenery is crucial to create pleasant meeting places. In case 3, Meksika Avenue, each apartment (5-6 storey) has very small gardens; therefore, there is not enough sufficient meeting places in the semi-public areas to build social interaction.

Sense of safety is another component to assess sustainable communities (Figure 8.8). Three indicators were analyzed for assessment; 1) feeling safe in the settlement, 2) feeling safe at the evening or night,3) feeling safe when walking. According to the first indicator, residents in selected cases generally feel safe in their settlement. However, residents living in site feel safer than those living in apartments with a single plot (Meksika Avenue). The second and third indicators show that residents living in housing estates in close distance to the centre of neighbourhood, and close to the main road feel safer than others. Street lighting is yet another significant element for safer neighbourhoods.

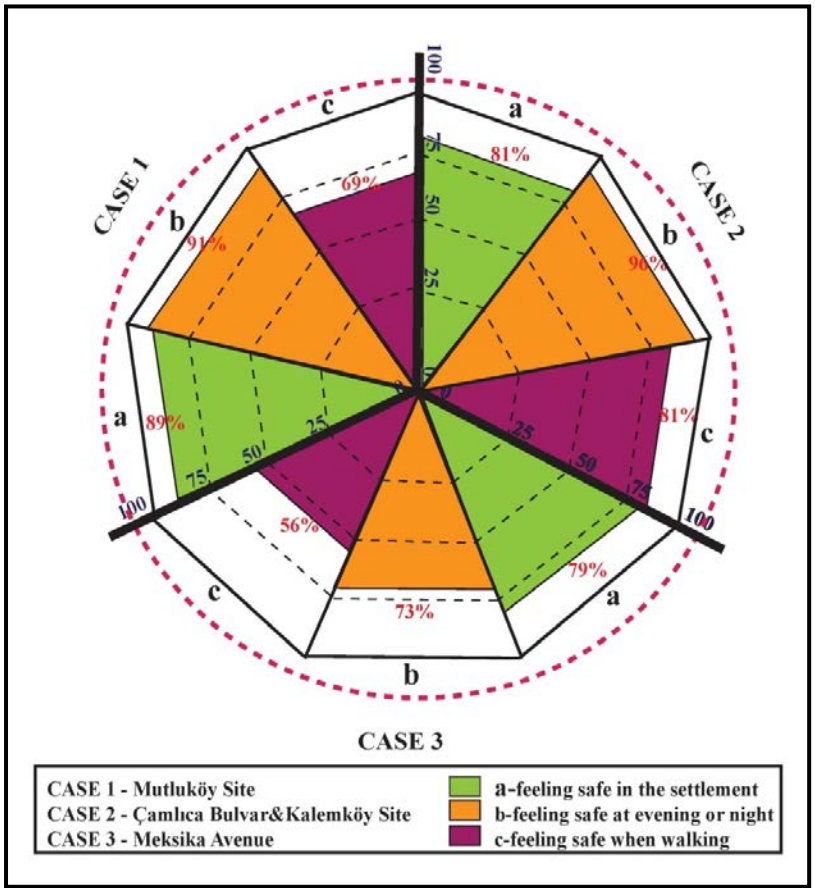


Figure 8.8: Perceive of Respondents Related to Sense of Safety

Figure 8.9 displays the assessment of 12 important indicators related to community services. According to the results of both the questionnaires and observations, a figure is drawn for the assessment of sustainable communities. According to this, the residents sometimes use the street market; health centres are inadequate in the district; the district offers employment

opportunities to some extent (orange colour). As shown in the figure, the related to community services are insufficient. The residents claim that the market prices are not affordable in the neighbourhood; most residents do not prefer using education facilities in the neighbourhood; the education facilities are not well-conditioned; educational services are not adequate; and social activity facilities are not efficient (green colour). On the other hand, the residents mention that most facilities are accessible; the number and quality of markets are efficient; exiting health services exist in their district (yet they complain about the lack of a public hospital) (yellow colour).

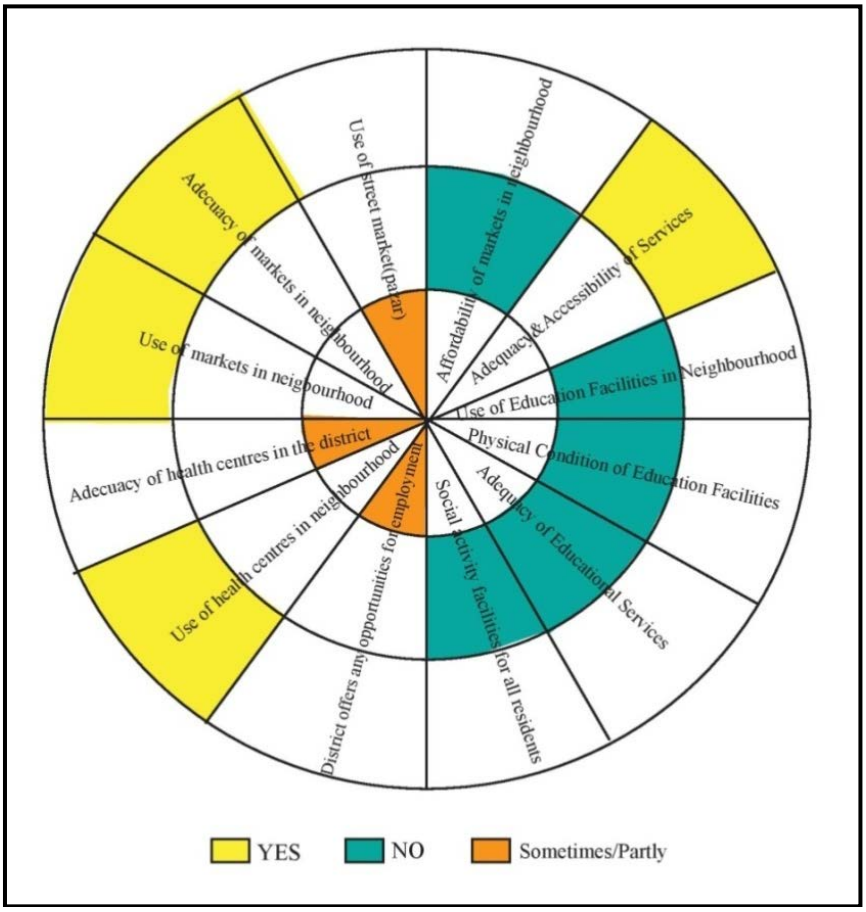


Figure 8.9: Assessment of Community Services

Community awareness and participation are evaluated by the following criteria. 1) attending site meetings, 2) involving in decision making in the site meetings, 3) using local governmental offices, 4) showing awareness of community problems (Figure 8.10). First of all, attending the site meeting is an indicator of the participation, and in all case areas, the level of attending site meetings is not high. Similarly, a considerable number of residents do not prefer to engage in making decisions in site meetings. Moreover, most of the residents do not deal with the problems related to community and neighbourhood. Those indicators show that the level of awareness and participation is not high enough to enhance sustainable communities.

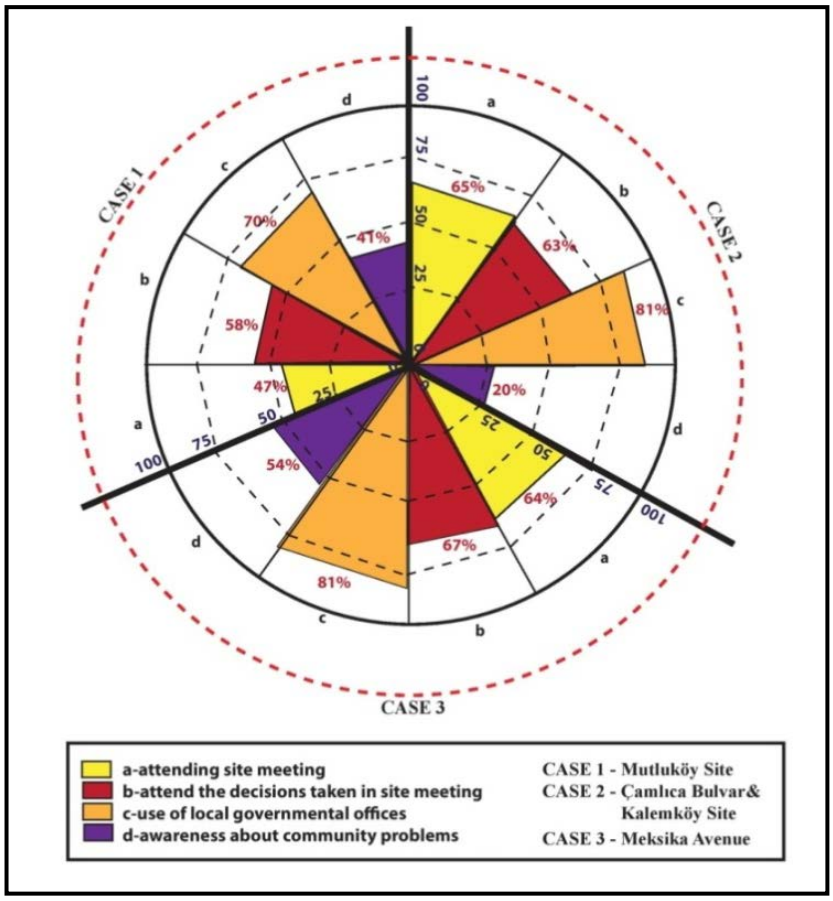


Figure 8.10: Community Awareness and Participation in Housing Estate

8.2. Concluding Remarks

The planning and design of physical environment can enhance the sustainable community providing higher quality of life, and a liveable environment. The spatial design of housing estates and neighbourhood revive a strong sense of community. Therefore, both social and spatial design components should be evaluated together with the planning of neighbourhood. In addition, there are two important scales to assess sustainable communities. Therefore, research focused on the understanding of community in two different urban scales 'neighbourhood' as a meso-scale and 'housing estate' as a micro-scale. Community sustainability is built and strengthened by analyzing a smaller picture, not only macro-scale.

The government should deal with those two scales and develop neighbourhood plans. Each neighbourhood has their own social and spatial characteristics. These plans are developed by evaluating some important components to build sustainable communities. Those components are mix housing types, mixed use, recreational areas, green infrastructure, accessibility and connectivity, street network and pattern, public transportation system, design for vulnerable group of community as a spatial design components of sustainable communities. In addition to spatial design component, plans offer some suggestions related to social design components such as enhancing the sense of community and belonging, providing sense of safety and affordable housing, increasing walkability, accessibility and adequacy of community services, increasing community awareness and participation.

First of all, the government should establish partnership with the local community to better understand the need of local residents related to their neighbourhoods. The neighbourhood plan is produced with the interaction among the residents, professional disciplines (such as planners, landscape architects, architect, sociology etc.), and related agencies of government. Neighbourhoods should be designed including a mix use (consists of residential, commercial, educational, health facilities), with the integration of recreational and green areas within walking distance of each other. Neighbourhood should have defined centre and sub-centres. Moreover, there should be diverse and different housing types in the neighbourhood which cater for different households. Recreational and green areas should be designed in the neighbourhood by considering some principles such as availability, quantity, accessibility, quality, suitability, user-friendly, integrity, and connectivity. Greenscape and streetscape promote social interaction, and which in turn promotes sense of community, sense of belonging, and sense of place. Sense of safety develops a strong sense of ownership. Physical design plays an important role in preventing crime and fostering feelings of safety (such as grenscape, streetscape, lighting, and placement of buildings). Public transportation is another important component to build sustainable community. Therefore, well-design public transportation systems should connect the facilities in neighbourhood besides the connection to other neighbourhoods, districts and city centres. Moreover, walking and bicycling provide more sustainable neighbourhood. All the issues mentioned above are fundamental necessities for building sustainable communities and liveable neighbourhoods.

In Turkey, as observed in the Ankara case, urban areas have been sprawling to the urban peripheries and surrounded by suburbs. The newly formed suburbs are bordered by other suburbs which were formed earlier and affect the values of the older one in negative ways. In this respect, the most questioned thing is the economic profit of the area and the physical environment. Therefore, the rapidly expanding urban periphery mainly follows a single-view point approach, which depends on the physical development and economic profit relation.

This ill-structured approach seems to be an obstacle to the development of a sustainable community within the neighbourhood scale for suburban areas. As a matter of fact, the case study brings out serious inconsistencies between the spatial planning and design, and the social planning. First of all, it can be concluded that there is not a developed planning conception which can enhance the social interaction of community living in the area, and support the open space utilization within the neighbourhood. For this reason, there is hardly dynamism or mobilization within the community from sustainable community criteria. The dynamism and transformation which can be observed directly through the area generally point out the mobilization of economic profit and rental income values. Among the selected case areas, the most sustainable one, Mutluköy Site, is even carrying the clues of this kind of dynamism as well. In this site, the transformation of housing functions into commercial functions or shifting commercial functions may be as associated with a certain degree of mobilization for both the community and the physical environment within the area. However, it is doubtful to admit this dynamism in order to assess the quality and sustainability of the physical and social structure in the area.

Many residents who moved to Ümitköy from different regions, but particularly from the Çankaya region, many years ago also had been living in suburbs before. The former or older housings of the residents located in those regions were once upon a time suburbs because they were developed as the alternative for the old city centre, which is mentioned in the first

chapter of this study. The new city, which was determined in the north-south corridor, used to encompass the Çankaya district as well. Therefore, Çankaya and some other districts were the periphery of the city in those years. However, those districts could not meet the residents' changing needs, and people preferred to move to new suburbs located in the new periphery of the city. Although Ümitköy is a newly developing suburban area in comparison to the Çankaya district, the similar problems encountered in the old periphery (of Çankaya) have began to be experienced by the residents in the Ümitköy district as well. The mobilization of the residents who moved from the old city centre to the newly developing suburbs refers to a dynamism and transformation, but it is really difficult to mention about the desire level to this kind of mobilization from the residents' point of view. In other words, the planning and design processes are structured on the physical economic profit, which does not diversify the other settlement and living environment alternatives for the residents. It is also necessary for the locals who live in the district in terms of having better or different alternatives for developing their life quality in the same district or in the other one in terms of sustaining positive mobilization and transformation due to changing demands and needs. As a result, these limited alternatives or lack of alternative approaches fail to meet the changing social, physical and cultural structures of the communities. Therefore, it is difficult to develop and implement sustainability criteria in the region.

In short, the dynamism and mobilization experiencing within the area do not indicate a healthy and positive activity under the sustainability approach but more an illusion of mobilization for the residents and the community. Moreover, it is possible to assert that this dynamic illusion, in fact, points out a constant and coercive stability that stems from the ineffective and insufficient planning and design policy and approaches. This illusion is fed by the planning and design decisions which ignore the socio-cultural, socio-economic and socio-spatial needs of the community.

Another important data obtained from the research is that open space and greenery area functions and utilization is very limited. Although the transportation to the existing open spaces, parks and public spaces are stressed as the least problematic issues for the residents in the region, the quality and the services of those areas are considerably and insufficient. This insufficiency results in discontent among the users, but particularly local community and residents. In terms of the sustainability criteria, the capacity of those areas to enhance the social interaction barely meets the necessary conditions. The scarce development process of the open spaces points out the ill-structured attempts for a holistic planning approach. Obviously, a physical development and economic profit oriented planning destroys the sustainability of the spatial development, as well as destroying the development of sustainable community.

There are too many things to be mentioned in Ümitköy case areas. It is necessary to expose the criteria through the planning process in a healthy and effective way in order to develop a sustainable community. Before the implementation process, it is also crucial to satisfy all the stakeholders and develop a public agreement in the locality in order to take a healthy step. It is believed that this research has important contributions to further studies which intend to develop planning and design processes for Ümitköy and other suburbs in terms of developing sustainable community criteria. It is hoped that the data developed and analyzed through the research will guide the further studies through solutions to the problems in suburbs from the spatial and social planning integration view point.

8.3. Proposals for Further Studies

The data and analysis obtained from the Ümitköy case has the potential to trigger many other discussions. Thus, in the further studies, it will make sense to analyze the impact of physical environment on the level of enhancement of community's dynamism and transformation. It is also valuable to evaluate the community's needs and desire in their living environment, and compare these needs with the demands in the former residential areas of the residents. Such a study is important to understand the changing needs and the adaptation process of the resident during and after moving from one place to another in order to meet the desires and expectancies from a new living environment. The quality of a physical environment through the planning and design processes is also important to evaluate the shift in both spatial and social environment in order to meet the dynamism due to changing demands and social, economic and environmental conditions. Therefore, further studies can concentrate on the planning and design attempts of decision makers within the macro scales in order to positively contribute to the dynamism from a sustainable community view-point.

In the following researches, it is beneficial to evaluate and revise the sustainability indicators which are in concordance with the changing and shifting conditions of locals and residents in the neighbourhood scale. Although these criteria are internationally recognized, it is critical to adapt them according to local differences and characteristics. The validity and importance of terms and concepts developed through the research period are better understood after the evaluation and analysis of the research results, and the recent development experienced in the country. For that reason, it is beneficial to develop similar studies in different areas and communities in Turkey, which will contribute to the newly developing literature and implementation attempts related to community sustainability through spatial and social design integration in Turkey's suburbs. It is also necessary to concentrate on the problems of the transport system and open space function and service problems in suburbs in Turkey win further studies. These issues are fundamental problematic concepts frequently associated with the rapidly sprawling and uncontrolled growth of suburban areas and physical environment in Turkish city peripheries. Further studies have to develop model approaches which save the open space planning and design to be seen as only patches on the implementation projects and plans, and it is necessary to stop the ill-structured and spontaneous development of open spaces as the parts of residential areas within the neighbourhoods. The further researches can develop sound solutions for the recreational and green area planning.

Spatial planning and design in suburban areas mainly developed around the physical values of the building in limited criteria, and oriented people to the very limited alternatives of living environment in terms of housing projects. Housing preferences of the residents are limited by the decision makers and other stakeholders, which do not match the existing and future needs of the users. At this point, the potential of physical environment to transform itself according to shifting demands of the residents and other users are disregarded. Therefore, further studies also need to concentrate on developing interdisciplinary studies in spatial planning in order to meet and enhance the transformation and adaptation potential of physical environment. These interdisciplinary approaches are necessary to understand the dynamism of the spatial and social planning decisions and implementation, and planning discipline has to take into account the dynamic processes more in suburban area development processes.

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Appendix A

Table A.1: Questionnaire Form

Questionnaire Form

1. What is your age? ☐ below 18 ☐ 18-30 ☐ 31-50 ☐ 51-65 ☐ above 65

2. Gender of respondent: ☐ Female ☐ Male

3. Birth Place: .....

4. Level of Education: ☐ Illiteracy ☐ Literacy ☐ Primary School
☐ Secondary School ☐Elementary Education ☐High School
☐ University ☐ Master Degree ☐PhD

5. Marital Status ☐ Single ☐ Married

6. Number of Children ☐0 ☐ 1 ☐2 ☐ 3 ☐ 4 and above

7. How many people are living in your house? Who are? .....

8. Working Status: ☐Working ☐Not working

9. If you are not working: ☐ Retired ☐ Housewife ☐Student ☐Unemployment

10. Occupation: ☐ Officer ☐ Worker ☐Teacher ☐Doctor ☐Craftsman
☐ Architecture-Engineer ☐Academician ☐Other.....

11. Total Family Income : ☐Minimum wage ☐650- 1500 TL ☐1500-3000 TL
☐ 3000-4500 TL ☐above 4500

12. Vehicle Ownership: ☐I have ☐I have not

13. If you have a vehicle, which? ☐Car ☐ Motorcycle ☐ Bicycle

14. Homeownership: ☐ House owner ☐Renter

	YES	NO	SOMETIMES
15. If you are renter, can you afford your rent?			
16. Can you afford your utilities and payments of your apartments?			

17. Location or district of previous house.....

18. Why did you move to this housing estate/ neighbourhood? .....

19. How many years have you been living in this housing estate?
☐ less than a year ☐ between 1 and 5 years ☐ between 6 and 10 years
☐ between 11 and 20 years ☐ over 20 years

20. Do you think of moving to another place? ☐Yes ☐No

21. Why do you think of moving to another place? .....

22. Are you happy to live in this housing estate/ neighbourhood?
☐ Yes ☐No ☐Sometimes

Table A.1: Questionnaire Form (continued)

23. Have you got any relatives, friends and acquaintance living in this housing estate/ neighbourhood?
☐ Yes ☐ No

24. How many times do you see each other with your relatives, friends and acquaintance?
☐ Everyday or four times a week ☐ Two or three times a week
☐ Once a week ☐ Two times or once a month ☐ Rarely

25. Where do you meet with your relatives, friends and acquaintance?
☐ in house ☐ in cafes and restaurants ☐ in shopping malls
☐ in parks ☐ in private garden of site ☐ Other.....

	YES	NO	PARTLY/SOMETIMES
26. Do you know your neighbours?			
27. Do you see each other with your neighbours?			

28. Where do you meet with your neighbours?
☐ in house ☐ in cafes and restaurants ☐ in shopping malls
☐ in parks ☐ in private garden of site ☐ Other.....

29. Do you think your house/apartment frontage, garden and its surrounding are in good conditions?
☐ Yes ☐ No

30. When did you make maintenance on your house or apartment?.....

31. Did you have any maintenance or renovation within your house according to your needs?
☐ Yes ☐ No

32. Do you feel safe in your housing estate? ☐ Yes ☐ No ☐ Sometimes

33. What are the major security problems in your hosing estate?
☐ Theft and Burglaries ☐ Car accident ☐ Other.....

34. Which services are made in your housing estate properly?
☐ Garden maintenance ☐ Security services ☐ Other.....
☐ Repair and maintenance of landscape equipment elements in the site

35. Which transportation type do you prefer in near environment or neighbourhood?
☐ Private car ☐ Public transportation ☐ Taxi
☐ Motorcycle ☐ Bicycle ☐ Walking

36. What are the major security problems in education facilities in your neighbourhood?
☐ Kidnapinng ☐ Buying harmful foods
☐ Car accident ☐ Other.....

37. Do you do sports or any exercise?
☐ Yes ☐ No ☐ Sometimes

38. Where do you do sports?
☐ in house ☐ in fitness centre ☐ in private garden of site
☐ in synthetic pitch ☐ in school ☐ Other.....

39. Are there adequate and accessible community services (markets, schools, health centres, sport centres, banks, restaurants, cafes etc.) in your neighbourhood?
☐ Yes ☐ No ☐ Partly/Sometimes

Table A.1: Questionnaire Form (continued)

 # Please sign the most suitable choice in below table for you

	YES	NO	Partly or Sometimes
SAFE AND SECURITY			
40. Are there any security problems in education facilities in your neighbourhood?			
41. Do you feel in safe when arriving to your house at evenings or nights at any time?			
42. Do you feel in safe when walking (as a pedestrian) in your neighbourhood?			
ACCESSIBILITY AND CONNECTIVITY			
43. Are there adequate parking facilities in your housing estate?			
44. Are there any suitable paths that enable for you to arrive in comfort from main street to your housing estate?			
45. Are there adequate parking facilities in your neighbourhood?			
46. Are there adequate public transportation facilities in your neighbourhood?			
47. Are the public transportation stations accessible?			
48. Are the pedestrian crossing, traffic lights, and street signage adequate and efficient?			
49. According to you, are the streets designed in accordance with the needs of vulnerable people (including disable people, elderly people, children and babies) such as ramps?			
50. Are there safe and efficient bicycle paths, walking paths, pedestrian friendly walkways and sidewalks in your neighbourhood?			
51. Is there a traffic jam due to school services near the school and day-care centre exits?			
RECREATIONAL FACILITIES AND GREEN AREAS			
52. Are there adequate and efficient green area and parks in your neighbourhood?			
53. Are the parks and green areas located in your neighbourhood sufficient enough to meet your recreational activities?			
EDUCATIONAL FACILITIES			
54. Are there adequate day care centres or kindergarten in your neighbourhood?			
55. Are there adequate schools (primary, secondary, and high schools) in your neighbourhood?			
56. Are the education facilities in good repair?			
57. Is your child continuing to a school located in your neighbourhood?			
58. Is your child continuing to a private course located in your neighbourhood?			
59. Are there any social activity facilities and centres for children (painting, music, sport) in your neighbourhood?			
COMMERCIAL FACILITIES			
60. Do you believe if the businesses located in your neighbourhood create or offer any opportunities for employment?			
61. Do you use markets in your neighbourhood?			
62. Do the markets in your neighbourhood meet your needs?			
63. Do you prefer other markets in other neighbourhoods for shopping?			
64. Do you go street market?			
HEALTH FACILITIES			
65. Do you use health centres in your neighbourhood?			
66. Do these health centres in your neighbourhood meet your needs?			
GOVERNANCE			
67. Do you attend to the site meetings?			
68. According to you, is it provided sufficiently to attend the decisions taken within the site meetings?			
69. Do you use the local governmental and/or muhtar's office of which your neighbourhood is belonged to for your formal needs?			
70. If there are problems related to the areas in your neighbourhood (including streets, parks and roads), do you inform your local governmental and/or muhtar's office?			

Appendix B

QUESTIONNAIRE RESULTS OF MUTLUKÖY SITE

Table B.1: Age Profile

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18 - 30	9	9,0	9,0	9,0
	31 - 50	21	21,0	21,0	30,0
	51 - 65	37	37,0	37,0	67,0
	Above 65	33	33,0	33,0	100,0
	Total	100	100,0	100,0	

Table B.2: Gender Profile

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	51	51,0	51,0	51,0
	Male	49	49,0	49,0	100,0
	Total	100	100,0	100,0	

Table B.3: Level of education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Primary School	1	1,0	1,1	1,1
	Secondary School	6	6,0	6,3	7,4
	High School	21	21,0	22,1	29,5
	University	50	50,0	52,6	82,1
	Master Degree	11	11,0	11,6	93,7
	PhD	6	6,0	6,3	100,0
	Total	95	95,0	100,0	
Missing	System	5	5,0		
Total		100	100,0		

Table B.4: Marital status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	26	26,0	26,3	26,3
	Married	72	72,0	72,7	99,0
Missing		1	1,0	1,0	100,0
		99	99,0	100,0	
Total	Total System	100	100		

Table B.5: Number of children

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	18	18,0	18,8	18,8
	1	27	27,0	28,1	46,9
	2	41	41,0	42,7	89,6
	3	8	8,0	8,3	97,9
	4 or above	2	2,0	2,1	100,0
	Total	96	96,0	100,0	
Missing	System	4	4,0		
Total		100	100,0		

Table B.6: How many people in house

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	9	9,0	9,8	9,8
	2	38	38,0	41,3	51,1
	3	29	29,0	31,5	82,6
	4	14	14,0	15,2	97,8
	5	2	2,0	2,2	100,0
	Total	92	92,0	100,0	
Missing	System	8	8,0		
Total		100	100,0		

Table B.7: Working status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Working	29	29,0	33,7	33,7
	Not Working	57	57,0	66,3	100,0
	Total	86	86,0	100,0	
Missing	System	14	14,0		
Total		100	100,0		

Table B.8: If not working

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Retired	53	53,0	68,8	68,8
	Housewife	12	12,0	15,6	84,4
	Student	9	9,0	11,7	96,1
	Unemployment	3	3,0	3,9	100,0
	Total	77	77,0	100,0	
Missing	System	23	23,0		
Total		100	100,0		

Table B.9: Occupation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Officer	19	19,0	23,2	23,2
	Worker	4	4,0	4,9	28,0
	Teacher	10	10,0	12,2	40,2
	Doctor	2	2,0	2,4	42,7
	Craftsman	3	3,0	3,7	46,3
	Architecture - Engineer	12	12,0	14,6	61,0
	Academician	4	4,0	4,9	65,9
	Other	28	28,0	34,1	100,0
	Total	82	82,0	100,0	
Missing	System	18	18,0		
Total		100	100,0		

Table B.10: Total family income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Minimum wage	2	2,0	2,1	2,1
	650-1500TL	14	14,0	14,6	16,7
	1500-3000TL	30	30,0	31,3	47,9
	3000-4500TL	22	22,0	22,9	70,8
	Above 4500TL	28	28,0	29,2	100,0
	Total	96	96,0	100,0	
Missing	System	4	4,0		
Total		100	100,0		

Table B.11: Vehicle ownership

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I have	80	80,0	81,6	81,6
	I have not	18	18,0	18,4	100,0
	Total	98	98,0	100,0	
Missing	System	2	2,0		
Total		100	100,0		

Table B.12: Vehicle type

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Car	80	80,0	100,0	100,0
Missing	System	20	20,0		
Total		100	100,0		

Table B.13: Homeownership

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	House owner	85	85,0	88,5	88,5
	Renter	11	11,0	11,5	100,0
	Total	96	96,0	100,0	
Missing	System	4	4,0		
Total		100	100,0		

Table B.14: Can you afford your rent?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	6	6,0	54,5	54,5
	No	3	3,0	27,3	81,8
	Sometimes	2	2,0	18,2	100,0
	Total	11	11,0	100,0	
Missing	System	89	89,0		
Total		100	100,0		

Table B.15: Can you afford utilities and payments of your apartments?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	9	9,0	11,0	11,0
	No	57	57,0	69,5	80,5
	Sometimes	16	16,0	19,5	100,0
	Total	82	82,0	100,0	
Missing	System	18	18,0		
Total		100	100,0		

Table B.16: How many years you have been living in this housing estate?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than a year	1	1,0	1,0	1,0
	Between 1 and 5 years	8	8,0	8,1	9,1
	Between 6 and 10 years	12	12,0	12,1	21,2
	Between 11 and 20 years	35	35,0	35,4	56,6
	over 20 years	43	43,0	43,4	100,0
	Total	99	99,0	100,0	
Missing	System	1	1,0		
Total		100	100,0		

Table B. 17: Do you think moving to another place?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	8	8,0	8,2	8,2
	No	90	90,0	91,8	100,0
	Total	98	98,0	100,0	
Missing	System	2	2,0		
Total		100	100,0		

Table B. 18: Are you happy to live in this housing estate or neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	87	87,0	87,9	87,9
	No	2	2,0	2,0	89,9
	Sometimes	10	10,0	10,1	100,0
	Total	99	99,0	100,0	
Missing	System	1	1,0		
Total		100	100,0		

Table B.19: Have you got any relatives, friends acquaintance living in this housing estate/neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	85	85,0	86,7	86,7
	No	12	12,0	12,2	99,0
	3	1	1,0	1,0	100,0
	Total	98	98,0	100,0	
Missing	System	2	2,0		
Total		100	100,0		

Table B.20: How many times you see each other with your relatives, friends, acquaintance?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Everyday or four times a week	31	31,0	33,3	33,3
	Two or three times a week	25	25,0	26,9	60,2
	Once a week	26	26,0	28,0	88,2
	Two times or once a month	7	7,0	7,5	95,7
	Rarely	4	4,0	4,3	100,0
	Total	93	93,0	100,0	
Missing	System	7	7,0		
Total		100	100,0		

Table B.21: Where do you meet your relatives, friends and acquaintance?

		Count
Where do you meet your relatives, friends?	In house	86
	In cafes or restaurants	38
	In shopping malls	25
	In parks	8
	In private garden of site	21
	Other	3

Table B.22: Do you know your neighbours?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	70	70,0	72,9	72,9
	No	4	4,0	4,2	77,1
	Sometimes	22	22,0	22,9	100,0
	Total	96	96,0	100,0	
Missing	System	4	4,0		
Total		100	100,0		

Table B.23: Do you see each other with your neighbours?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	59	59,0	62,8	62,8
	No	9	9,0	9,6	72,3
	Sometimes	26	26,0	27,7	100,0
	Total	94	94,0	100,0	
Missing	System	6	6,0		
Total		100	100,0		

Table B.24: Where do you meet with your neighbours?

		Count
Where do you meet with your neighbours?	In house	71
	In cafes and restaurants	14
	In shopping malls	10
	In parks	6
	In private garden of site	44
	Other	4

Table B.25: What do you think about conditions of your house/apartment frontage, garden and its surrounding?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	89	89,0	94,7	94,7
	No	5	5,0	5,3	100,0
	Total	94	94,0	100,0	
Missing	System	6	6,0		
Total		100	100,0		

Table B.26: When did you make maintenance on your house or apartment?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	28	28,0	35,0	35,0
	5	2	2,0	2,5	37,5
	6	6	6,0	7,5	45,0
	8	6	6,0	7,5	52,5
	9	21	21,0	26,3	78,8
	11	17	17,0	21,3	100,0
	Total	80	80,0	100,0	
Missing	System	20	20,0		
Total		100	100,0		

Table B.27: Did you maintain within your home according to your needs?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	84	84,0	85,7	85,7
	No	14	14,0	14,3	100,0
	Total	98	98,0	100,0	
Missing	System	2	2,0		
Total		100	100,0		

Table B.28: Did you feel safe in your housing estate?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	89	89,0	90,8	90,8
	No	3	3,0	3,1	93,9
	Sometimes	6	6,0	6,1	100,0
	Total	98	98,0	100,0	
Missing	System	2	2,0		
Total		100	100,0		

Table B.29: What are the major security problems in your housing estate?

		Count
What are the major security problems in your housing estate?	Theft and burglaries	58
	Car accident	7
	Other	15

Table B.30: Which services are made in your housing estate properly?

		Count
Which services are made in your housing estate properly?	Garden maintanence	83
	Security services	73
	Other	12
	Repair and maintenance of landscape equipments elements in site	35

Table D.31: Which transportation type do you prefer in your near environment or neighbourhood?

		Count
Which transportation type do you prefer in your near environment or neighbourhood?	Private Car	47
	Public transportation	35
	Taxi	6
	Motorcycle	1
	Bicycle	2
	Walking	47

Table B.32: What are major security problems in education facilities in your neighbourhood?

		Count
What are major secuity problems in education facilities in your neighbourhood?	Kidnapping	6
	Buying harmful foods	51
	Car accidents	22
	Other	8

Table B.33: Where do you do sports?

		Count
Where do you do sports?	In house	22
	In fitness centre	20
	In private garden of site	58
	In synthetic pitch	1
	In schooll	3
	Other	5

Table B.34: Are there adequate and accessible community services in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	80	80,0	80,8	80,8
	No	8	8,0	8,1	88,9
	Sometimes	11	11,0	11,1	100,0
	Total	99	99,0	100,0	
Missing	System	1	1,0		
Total		100	100,0		

Table B.35: Do you believe if the business located in your neighbourhood create or offer any opportunities for employment?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	21	21,0	23,6	23,6
	No	34	34,0	38,2	61,8
	Partly or Sometimes	34	34,0	38,2	100,0
	Total	89	89,0	100,0	
Missing	System	11	11,0		
Total		100	100,0		

Table B.36: Do you use markets in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	82	82,0	83,7	83,7
	No	4	4,0	4,1	87,8
	Partly or Sometimes	12	12,0	12,2	100,0
	Total	98	98,0	100,0	
Missing	System	2	2,0		
Total		100	100,0		

Table B.37: Do the markets in your neighbourhood meet your needs?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	80	80,0	82,5	82,5
	No	4	4,0	4,1	86,6
	Partly or Sometimes	13	13,0	13,4	100,0
	Total	97	97,0	100,0	
Missing	System	3	3,0		
Total		100	100,0		

Table B.38: Do you prefer other markets in other neigbourhoods for shopping?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	19	19,0	20,0	20,0
	No	47	47,0	49,5	69,5
	Partly or Sometimes	28	28,0	29,5	98,9
	13	1	1,0	1,1	100,0
	Total	95	95,0	100,0	
Missing	System	5	5,0		
Total		100	100,0		

Table B.39: Do you go to street markets?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	32	32,0	33,3	33,3
	No	48	48,0	50,0	83,3
	Partly or Sometimes	16	16,0	16,7	100,0
	Total	96	96,0	100,0	
Missing	System	4	4,0		
Total		100	100,0		

Table B.40: Are there adequate day care centres or kindergarten in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	70	70,0	83,3	83,3
	No	8	8,0	9,5	92,9
	Partly or Sometimes	6	6,0	7,1	100,0
	Total	84	84,0	100,0	
Missing	System	16	16,0		
Total		100	100,0		

Table B.41: Are there adequate schools in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	55	55,0	64,0	64,0
	No	17	17,0	19,8	83,7
	Partly or Sometimes	14	14,0	16,3	100,0
	Total	86	86,0	100,0	
Missing	System	14	14,0		
Total		100	100,0		

Table B.42: Are there education facilites in good repair?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	34	34,0	45,3	45,3
	No	15	15,0	20,0	65,3
	Partly or Sometimes	26	26,0	34,7	100,0
	Total	75	75,0	100,0	
Missing	System	25	25,0		
Total		100	100,0		

Table B.43: Is your child continuing to a school located in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	20	20,0	38,5	38,5
	No	32	32,0	61,5	100,0
	Total	52	52,0	100,0	
Missing	System	48	48,0		
Total		100	100,0		

Table B.44: Is your child continuing to a private course located in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	11	11,0	23,9	23,9
	No	34	34,0	73,9	97,8
	Partly or Sometimes	1	1,0	2,2	100,0
	Total	46	46,0	100,0	
Missing	System	54	54,0		
Total		100	100,0		

Table B.45: Are there any social activity facilities and centres for children in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	35	35,0	62,5	62,5
	No	12	12,0	21,4	83,9
	Partly or Sometimes	9	9,0	16,1	100,0
	Total	56	56,0	100,0	
Missing	System	44	44,0		
Total		100	100,0		

Table B. 46: Are there any security problems in education facilities in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	17	17,0	27,9	27,9
	No	26	26,0	42,6	70,5
	Partly or Sometimes	18	18,0	29,5	100,0
	Total	61	61,0	100,0	
Missing	System	39	39,0		
Total		100	100,0		

Table B.47: Do you use health centres in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	72	72,0	75,0	75,0
	No	12	12,0	12,5	87,5
	Partly or Sometimes	12	12,0	12,5	100,0
	Total	96	96,0	100,0	
Missing	System	4	4,0		
Total		100	100,0		

Table B. 48: Do these health centres in your neighbourhood meet your needs?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	48	48,0	50,0	50,0
	No	11	11,0	11,5	61,5
	Partly or Sometimes	37	37,0	38,5	100,0
	Total	96	96,0	100,0	
Missing	System	4	4,0		
Total		100	100,0		

Table B.49: Do you do sports or any exercise?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	55	55,0	55,6	55,6
	No	17	17,0	17,2	72,7
	Sometimes	27	27,0	27,3	100,0
	Total	99	99,0	100,0	
Missing	System	1	1,0		
Total		100	100,0		

Table B.50: Are there adequate parking facilities in your housing estate?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	41	41,0	43,2	43,2
	No	43	43,0	45,3	88,4
	Partly or Sometimes	11	11,0	11,6	100,0
	Total	95	95,0	100,0	
Missing	System	5	5,0		
Total		100	100,0		

Table B.51: Are there any suitable paths that enable for you yo arrive in comfort from main street to your housing estate?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	85	85,0	85,9	85,9
	No	10	10,0	10,1	96,0
	Partly or Sometimes	4	4,0	4,0	100,0
	Total	99	99,0	100,0	
Missing	System	1	1,0		
Total		100	100,0		

Table B.52: Do you feel safe when arriving to your house at evenings or nights at any time?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	91	91,0	91,0	91,0
	No	6	6,0	6,0	97,0
	Partly or Sometimes	3	3,0	3,0	100,0
	Total	100	100,0	100,0	

Table B.53: Are there adequate parking facilities in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	31	31,0	34,4	34,4
	No	42	42,0	46,7	81,1
	Partly or Sometimes	17	17,0	18,9	100,0
	Total	90	90,0	100,0	
Missing	System	10	10,0		
Total		100	100,0		

Table B.54: Are there adequate public transportation facilites in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	23	23,0	25,0	25,0
	No	52	52,0	56,5	81,5
	Partly or Sometimes	17	17,0	18,5	100,0
	Total	92	92,0	100,0	
Missing	System	8	8,0		
Total		100	100,0		

Table B.55: Are there public transportation stations accesible?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	66	66,0	71,7	71,7
	No	14	14,0	15,2	87,0
	Partly or Sometimes	12	12,0	13,0	100,0
	Total	92	92,0	100,0	
Missing	System	8	8,0		
Total		100	100,0		

Table B.56: Are the pedestrian crossing, traffic lights, and street signage adequate and efficient?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	55	55,0	59,1	59,1
	No	18	18,0	19,4	78,5
	Partly or Sometimes	20	20,0	21,5	100,0
	Total	93	93,0	100,0	
Missing	System	7	7,0		
Total		100	100,0		

Table B.57: According to you, are the streets designed in accordance with the needs of vulnarable people?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	19	19,0	19,8	19,8
	No	64	64,0	66,7	86,5
	Partly or Sometimes	13	13,0	13,5	100,0
	Total	96	96,0	100,0	
Missing	System	4	4,0		
Total		100	100,0		

Table B.58: Do you feel in safe when walking in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	69	69,0	71,9	71,9
	No	13	13,0	13,5	85,4
	Partly or Sometimes	14	14,0	14,6	100,0
	Total	96	96,0	100,0	
Missing	System	4	4,0		
Total		100	100,0		

Table B.59: Is there a traffic jam due to school services near the school and day-care centre exits?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	31	31,0	43,7	43,7
	No	26	26,0	36,6	80,3
	Partly or Sometimes	14	14,0	19,7	100,0
	Total	71	71,0	100,0	
Total		100	100,0		

Table B.60: Are there safe and efficient bicycle paths, walking paths, pedestrian friendly walkways and sidewalks in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	30	30,0	33,3	33,3
	No	47	47,0	52,2	85,6
	Partly or Sometimes	13	13,0	14,4	100,0
	Total	90	90,0	100,0	
Missing	System	10	10,0		
Total		100	100,0		

Table B.61: Are there adequate and efficient green area and parks in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	58	58,0	59,8	59,8
	No	26	26,0	26,8	86,6
	Partly or Sometimes	13	13,0	13,4	100,0
	Total	97	97,0	100,0	
Missing	System	3	3,0		
Total		100	100,0		

Table 5.62: Are the parks and green areas located in your neighbourhood sufficient enought to meet your recreational activities?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	42	42,0	46,2	46,2
	No	33	33,0	36,3	82,4
	Partly or Sometimes	16	16,0	17,6	100,0
	Total	91	91,0	100,0	
Missing	System	9	9,0		
Total		100	100,0		

Table B.63: Do you attend site meetings?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	47	47,0	49,5	49,5
	No	29	29,0	30,5	80,0
	Partly or Sometimes	19	19,0	20,0	100,0
	Total	95	95,0	100,0	
Missing	System	5	5,0		
Total		100	100,0		

Table B.64: According to you, is it provided sufficiently to attend the decisions taken within the site meetings?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	58	58,0	64,4	64,4
	No	17	17,0	18,9	83,3
	Partly or Sometimes	15	15,0	16,7	100,0
	Total	90	90,0	100,0	
Missing	System	10	10,0		
Total		100	100,0		

Table B.65: Do you use the local government and/or muhtar's office of which your neighbourhood is belonged to for your formal needs?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	70	70,0	73,7	73,7
	No	12	12,0	12,6	86,3
	Partly or Sometimes	13	13,0	13,7	100,0
	Total	95	95,0	100,0	
Missing	System	5	5,0		
Total		100	100,0		

Table B.66: If there are problems related to the areas in your neighbourhood, do you inform your local governmental and/or muhtar's office?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	41	41,0	43,6	43,6
	No	29	29,0	30,9	74,5
	Partly or Sometimes	24	24,0	25,5	100,0
	Total	94	94,0	100,0	
Missing	System	6	6,0		
Total		100	100,0		

Appendix C

QUESTIONNAIRE RESULTS OF ÇAMLICA BULVAR SITE & KALEMKÖY SITE

Table C.1: Age Profile

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below 18	1	2,2	2,2	2,2
	18 - 30	2	4,3	4,3	6,5
	31 - 50	16	34,8	34,8	41,3
	51 - 65	17	37,0	37,0	78,3
	Above 65	10	21,7	21,7	100,0
	Total	46	100,0	100,0	

Table C.2: Gender Profile

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	22	47,8	47,8	47,8
	Male	24	52,2	52,2	100,0
	Total	46	100,0	100,0	

Table C.3: Level of education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Primary School	1	2,2	2,2	2,2
	Secondary School	1	2,2	2,2	4,3
	High School	9	19,6	19,6	23,9
	University	29	63,0	63,0	87,0
	Master Degree	3	6,5	6,5	93,5
	PhD	3	6,5	6,5	100,0
	Total	46	100,0	100,0	

Table C.4: Marital status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	7	15,2	15,6	15,6
	Married	38	82,6	84,4	100,0
	Total	45	97,8	100,0	
Missing	System	1	2,2		
Total		46	100,0		

Table C.5: Number of children

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	7	15,2	15,2	15,2
	1	11	23,9	23,9	39,1
	2	25	54,3	54,3	93,5
	3	3	6,5	6,5	100,0
	Total	46	100,0	100,0	

Table C.6: How many people in house

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	8,7	9,1	9,1
	2	14	30,4	31,8	40,9
	3	18	39,1	40,9	81,8
	4	8	17,4	18,2	100,0
	Total	44	95,7	100,0	
Missing	System	2	4,3		
Total		46	100,0		

Table C.7: Working status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Working	19	41,3	47,5	47,5
	Not Working	21	45,7	52,5	100,0
	Total	40	87,0	100,0	
Missing	System	6	13,0		
Total		46	100,0		

Table C.8: If not working

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Retired	22	47,8	78,6	78,6
	Housewife	4	8,7	14,3	92,9
	Student	2	4,3	7,1	100,0
	Total	28	60,9	100,0	
Missing	System	18	39,1		
Total		46	100,0		

Table C.9: Occupation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Officer	7	15,2	18,4	18,4
	Worker	2	4,3	5,3	23,7
	Teacher	6	13,0	15,8	39,5
	Doctor	1	2,2	2,6	42,1
	Craftsman	1	2,2	2,6	44,7
	Architecture - Engineer	8	17,4	21,1	65,8
	Academician	1	2,2	2,6	68,4
	Other	3	6,5	7,9	76,3
	9	9	19,6	23,7	100,0
	Total	38	82,6	100,0	
Missing	System	8	17,4		
Total		46	100,0		

Table C.10: Total family income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Minimum wage	1	2,2	2,3	2,3
	650-1500TL	2	4,3	4,5	6,8
	1500-3000TL	13	28,3	29,5	36,4
	3000-4500TL	15	32,6	34,1	70,5
	Above 4500TL	13	28,3	29,5	100,0
	Total	44	95,7	100,0	
Missing	System	2	4,3		
Total		46	100,0		

Table C.11: Vehicle ownership

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I have	37	80,4	80,4	80,4
	I have not	9	19,6	19,6	100,0
	Total	46	100,0	100,0	

Table C.12: Vehicle type

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Car	34	73,9	91,9	91,9
	Motorcycle	2	4,3	5,4	97,3
	Bicycle	1	2,2	2,7	100,0
	Total	37	80,4	100,0	
Missing	System	9	19,6		
Total		46	100,0		

Table C.13: Homeownership

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	House owner	33	71,7	71,7	71,7
	Renter	13	28,3	28,3	100,0
	Total	46	100,0	100,0	

Table C.14: Can you afford your rent?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	12	26,1	80,0	80,0
	No	1	2,2	6,7	86,7
	Sometimes	1	2,2	6,7	93,3
	8	1	2,2	6,7	100,0
	Total	15	32,6	100,0	
Missing	System	31	67,4		
Total		46	100,0		

Table C.15: Can you afford utilities and payments of your apartments?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	3	6,5	7,9	7,9
	No	25	54,3	65,8	73,7
	Sometimes	9	19,6	23,7	97,4
	8	1	2,2	2,6	100,0
	Total	38	82,6	100,0	
Missing	System	8	17,4		
Total		46	100,0		

Table C.16: How many years you have been living in this housing estate?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than a year	3	6,5	6,7	6,7
	Between 1 and 5 years	7	15,2	15,6	22,2
	Between 6 and 10 years	17	37,0	37,8	60,0
	Between 11 and 20 years	18	39,1	40,0	100,0
	Total	45	97,8	100,0	
Missing	System	1	2,2		
Total		46	100,0		

Table C.17: Do you think moving to another place?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	1	2,2	2,2	2,2
	No	45	97,8	97,8	100,0
	Total	46	100,0	100,0	

Table C.18: Are you happy to live in this housing estate or neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	42	91,3	91,3	91,3
	Sometimes	4	8,7	8,7	100,0
	Total	46	100,0	100,0	

Table C.19: Have you got any relatives, friends living in this housing estate/neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	39	84,8	84,8	84,8
	No	7	15,2	15,2	100,0
	Total	46	100,0	100,0	

Table C.20: How many times you see each other with your relatives, friends, acquaintance?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Everyday or four times a week	8	17,4	18,2	18,2
	Two or three times a week	8	17,4	18,2	36,4
	Once a week	8	17,4	18,2	54,5
	Two times or once a month	13	28,3	29,5	84,1
	Rarely	7	15,2	15,9	100,0
	Total	44	95,7	100,0	
Missing	System	2	4,3		
Total		46	100,0		

Table C.21: Where do you meet your relatives, friends and acquaintance?

		Count
Where do you meet your relatives, friends and acquaintance?	In house	38
	In cafes or restaurants	16
	In shopping malls	8
	In parks	3
	In private garden of site	3
	Other	5

Table C.22: Do you know your neighbours?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	13	28,3	28,3	28,3
	No	5	10,9	10,9	39,1
	Sometimes	28	60,9	60,9	100,0
	Total	46	100,0	100,0	

Table C.23: Do you see each other with your neighbours?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	10	21,7	22,2	22,2
	No	11	23,9	24,4	46,7
	Sometimes	24	52,2	53,3	100,0
	Total	45	97,8	100,0	
Missing	System	1	2,2		
Total		46	100,0		

Table C.24: Where do you meet your neighbours?

		Count
Where do you meet your neighbours?	In house	25
	In cafes and restaurants	4
	In shopping malls	2
	In parks	5
	In private garden of site	13
	Other	1

Table C.25: What do you think about conditions of your house/apartment frontage, garden and its surrounding?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	38	82,6	82,6	82,6
	No	8	17,4	17,4	100,0
	Total	46	100,0	100,0	

Table C.26: When did you make maintenance on your house or apartment?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	2,2	3,3	3,3
	6	1	2,2	3,3	6,7
	7	1	2,2	3,3	10,0
	8	2	4,3	6,7	16,7
	11	25	54,3	83,3	100,0
	Total	30	65,2	100,0	
Missing	System	16	34,8		
Total		46	100,0		

Table C.27: Did you maintain within your home according to your needs?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	30	65,2	65,2	65,2
	No	16	34,8	34,8	100,0
	Total	46	100,0	100,0	

Table C.28: Did you feel safe in your housing estate?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	37	80,4	82,2	82,2
	No	1	2,2	2,2	84,4
	Sometimes	7	15,2	15,6	100,0
	Total	45	97,8	100,0	
Missing	System	1	2,2		
Total		46	100,0		

Table C.29: What are the major security problems in your housing estate?

		Count
What are the major security problems in your housing estate?	Theft and burglaries	28
	Car accident	11
	Other	9

Table C.30: Which services are made in your housing estate properly?

		Count
Which services are made in your housing estate properly?	Garden maintenance	41
	Security services	3
	Other	8

Table C.31: Which transportation type do you prefer in near environment/ neighbourhood?

		Count
Which transportation type do you prefer in near environment or neighbourhood?	Private car	27
	Public transformation	17
	Taxi	6
	Motorcycle	0
	Bicycle	0
	Walking	20

Table C.32: What are the major security problems in education facilities in your neighbourhood?

		Count
What are the major security problems in education facilities in your neighbourhood?	Kidnapping	2
	Buying harmful foods	31
	Car accident	10
	Other	2

Table C.33: Where do you do sports?

		Count
Where do you do sports?	In house	8
	In fitness centre	6
	In private garden of site	8
	In synhetic pitch	22
	In school	0
	Other	3

Table C. 34: Are there adequate and accessible community services in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	40	87,0	87,0	87,0
	Sometimes	6	13,0	13,0	100,0
	Total	46	100,0	100,0	

Table C.35: Do you believe if the business located in your neighbourhood create or offer any opportunities for employment?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	8	17,4	20,0	20,0
	No	13	28,3	32,5	52,5
	Partly or Sometimes	19	41,3	47,5	100,0
	Total	40	87,0	100,0	
Missing	System	6	13,0		
Total		46	100,0		

Table C. 36: Do you use markets in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	40	87,0	87,0	87,0
	Partly or Sometimes	6	13,0	13,0	100,0
	Total	46	100,0	100,0	

Table C.37: Do the markets in your neighbourhood meet your needs?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	38	82,6	86,4	86,4
	No	1	2,2	2,3	88,6
	Partly or Sometimes	5	10,9	11,4	100,0
	Total	44	95,7	100,0	
Missing	System	2	4,3		
Total		46	100,0		

Table C.38: Do you prefer other markets in other neigbourhoods for shopping?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	5	10,9	10,9	10,9
	No	32	69,6	69,6	80,4
	Partly or Sometimes	9	19,6	19,6	100,0
	Total	46	100,0	100,0	

Table C.39: Do you go to street markets?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	16	34,8	34,8	34,8
	No	17	37,0	37,0	71,7
	Partly or Sometimes	13	28,3	28,3	100,0
	Total	46	100,0	100,0	

Table C.40: Are there adequate day care centres or kindergarten in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	29	63,0	78,4	78,4
	No	4	8,7	10,8	89,2
	Partly or Sometimes	4	8,7	10,8	100,0
	Total	37	80,4	100,0	
Missing	System	9	19,6		
Total		46	100,0		

Table C.41: Are there adequate schools in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	26	56,5	65,0	65,0
	No	8	17,4	20,0	85,0
	Partly or Sometimes	6	13,0	15,0	100,0
	Total	40	87,0	100,0	
Missing	System	6	13,0		
Total		46	100,0		

Table C.42: Are there education facilites in good repair?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	21	45,7	53,8	53,8
	No	7	15,2	17,9	71,8
	Partly or Sometimes	11	23,9	28,2	100,0
	Total	39	84,8	100,0	
Missing	System	7	15,2		
Total		46	100,0		

Table C.43: Is your child continuing to a school located in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	16	34,8	50,0	50,0
	No	16	34,8	50,0	100,0
	Total	32	69,6	100,0	
Missing	System	14	30,4		
Total		46	100,0		

Table C.44: Is your child continuing to a private course located in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	14	30,4	48,3	48,3
	No	15	32,6	51,7	100,0
	Total	29	63,0	100,0	
Missing	System	17	37,0		
Total		46	100,0		

Table C.45: Are there any social activity facilities and centres for children in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	27	58,7	73,0	73,0
	No	6	13,0	16,2	89,2
	Partly or Sometimes	4	8,7	10,8	100,0
	Total	37	80,4	100,0	
Missing	System	9	19,6		
Total		46	100,0		

Table C.46: Are there any security problems in education facilities in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	10	21,7	28,6	28,6
	No	12	26,1	34,3	62,9
	Partly or Sometimes	13	28,3	37,1	100,0
	Total	35	76,1	100,0	
Missing	System	11	23,9		
Total		46	100,0		

Table C.47: Do you use health centres in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	35	76,1	76,1	76,1
	No	3	6,5	6,5	82,6
	Partly or Sometimes	8	17,4	17,4	100,0
	Total	46	100,0	100,0	

Table C.48: Do these health centres in your neighbourhood meet your needs?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	21	45,7	47,7	47,7
	No	5	10,9	11,4	59,1
	Partly or Sometimes	18	39,1	40,9	100,0
	Total	44	95,7	100,0	
Missing	System	2	4,3		
Total		46	100,0		

Table C.49: Do you do sports or any exercise?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	12	26,1	26,7	26,7
	No	11	23,9	24,4	51,1
	Sometimes	22	47,8	48,9	100,0
	Total	45	97,8	100,0	
Missing	System	1	2,2		
Total		46	100,0		

Table C.50: Are there adequate parking facilities in your housing estate?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	18	39,1	40,0	40,0
	No	19	41,3	42,2	82,2
	Partly or Sometimes	8	17,4	17,8	100,0
	Total	45	97,8	100,0	
Missing	System	1	2,2		
Total		46	100,0		

Table C.51: Are there any suitable paths that enable for you yo arrive in comfort from main street to your housing estate?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	44	95,7	95,7	95,7
	No	2	4,3	4,3	100,0
	Total	46	100,0	100,0	

Table C.52: Do you feel safe when arriving to your house at evenings or nights at any time?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	44	95,7	95,7	95,7
	No	1	2,2	2,2	97,8
	Partly or Sometimes	1	2,2	2,2	100,0
	Total	46	100,0	100,0	

Table C.53: Are there adequate parking facilities in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	19	41,3	42,2	42,2
	No	13	28,3	28,9	71,1
	Partly or Sometimes	13	28,3	28,9	100,0
	Total	45	97,8	100,0	
Missing	System	1	2,2		
Total		46	100,0		

Table C.54: Are there adequate public transportation facilites in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	10	21,7	22,7	22,7
	No	27	58,7	61,4	84,1
	Partly or Sometimes	7	15,2	15,9	100,0
	Total	44	95,7	100,0	
Missing	System	2	4,3		
Total		46	100,0		

Table C.55: Are there public transportation stations accesible?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	36	78,3	81,8	81,8
	No	6	13,0	13,6	95,5
	Partly or Sometimes	2	4,3	4,5	100,0
	Total	44	95,7	100,0	
Missing	System	2	4,3		
Total		46	100,0		

Table C.56: Are the pedestrian crossing, traffic lights, and street signage adequate and efficient?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	27	58,7	58,7	58,7
	No	12	26,1	26,1	84,8
	Partly or Sometimes	7	15,2	15,2	100,0
	Total	46	100,0	100,0	

Table C.57: According to you, are the streets designed in accordance with the needs of vulnarable people?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	9	19,6	20,0	20,0
	No	28	60,9	62,2	82,2
	Partly or Sometimes	8	17,4	17,8	100,0
	Total	45	97,8	100,0	
Missing	System	1	2,2		
Total		46	100,0		

Table C.58: Do you feel in safe when walking in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	37	80,4	84,1	84,1
	No	3	6,5	6,8	90,9
	Partly or Sometimes	4	8,7	9,1	100,0
	Total	44	95,7	100,0	
Missing	System	2	4,3		
Total		46	100,0		

Table C.59: Is there a traffic jam due to school services near the school and day-care centre exits?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	15	32,6	38,5	38,5
	No	10	21,7	25,6	64,1
	Partly or Sometimes	14	30,4	35,9	100,0
	Total	39	84,8	100,0	
Missing	System	7	15,2		
Total		46	100,0		

Table C.60: Are there safe and efficient bicycle paths, walking paths, pedestrian friendly walkways and sidewalks in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	14	30,4	30,4	30,4
	No	26	56,5	56,5	87,0
	Partly or Sometimes	6	13,0	13,0	100,0
	Total	46	100,0	100,0	

Table C.61: Are there adequate and efficient green area and parks in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	25	54,3	55,6	55,6
	No	8	17,4	17,8	73,3
	Partly or Sometimes	12	26,1	26,7	100,0
	Total	45	97,8	100,0	
Missing	System	1	2,2		
Total		46	100,0		

Table C.62: Are the parks and green areas located in your neighbourhood sufficient enought to meet your recreational activities?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	20	43,5	43,5	43,5
	No	12	26,1	26,1	69,6
	Partly or Sometimes	14	30,4	30,4	100,0
	Total	46	100,0	100,0	

Table C.63: Do you attend site meetings?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	30	65,2	65,2	65,2
	No	12	26,1	26,1	91,3
	Partly or Sometimes	4	8,7	8,7	100,0
	Total	46	100,0	100,0	

Table C.64: According to you, is it provided sufficiently to attend the decisions taken within the site meetings?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	29	63,0	64,4	64,4
	No	8	17,4	17,8	82,2
	Partly or Sometimes	8	17,4	17,8	100,0
	Total	45	97,8	100,0	
Missing	System	1	2,2		
Total		46	100,0		

Table C.65: Do you use the local government and/or muhtar's office of which your neighbourhood is belonged to for your formal needs?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	37	80,4	80,4	80,4
	No	3	6,5	6,5	87,0
	Partly or Sometimes	6	13,0	13,0	100,0
	Total	46	100,0	100,0	

Table C.66: If there are problems related to the areas in your neighbourhood, do you inform your local governmental and/or muhtar's office?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	9	19,6	20,5	20,5
	No	16	34,8	36,4	56,8
	Partly or Sometimes	19	41,3	43,2	100,0
	Total	44	95,7	100,0	
Missing	System	2	4,3		
Total		46	100,0		

Appendix D

QUESTIONNAIRE RESULTS OF MEKSIKA AVENUE

Table D.1: Age Profile

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below 18	3	6,3	6,3	6,3
	18 - 30	8	16,7	16,7	22,9
	31 - 50	14	29,2	29,2	52,1
	51 - 65	19	39,6	39,6	91,7
	Above 65	4	8,3	8,3	100,0
	Total	48	100,0	100,0	

Table D.2: Gender Profile

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	17	35,4	35,4	35,4
	Male	30	62,5	62,5	97,9
	58	1	2,1	2,1	100,0
	Total	48	100,0	100,0	

Table D.3: Level of education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Literacy	1	2,1	2,1	2,1
	Primary School	1	2,1	2,1	4,2
	Secondary School	1	2,1	2,1	6,3
	Elementary Education	1	2,1	2,1	8,3
	High School	15	31,3	31,3	39,6
	University	25	52,1	52,1	91,7
	Master Degree	4	8,3	8,3	100,0
	Total	48	100,0	100,0	

Table D.4: Marital status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	8	16,7	16,7	16,7
	Married	39	81,3	81,3	97,9
	3	1	2,1	2,1	100,0
	Total	48	100,0	100,0	

Table D.5: Number of children

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	14	29,2	29,8	29,8
	1	7	14,6	14,9	44,7
	2	16	33,3	34,0	78,7
	3	10	20,8	21,3	100,0
	Total	47	97,9	100,0	
Missing	System	1	2,1		
Total		48	100,0		

Table D.6: How many people in house

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	17	35,4	37,0	37,0
	3	17	35,4	37,0	73,9
	4	8	16,7	17,4	91,3
	5	3	6,3	6,5	97,8
	6	1	2,1	2,2	100,0
	Total	46	95,8	100,0	
Missing	System	2	4,2		
Total		48	100,0		

Table D.7: Working status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Working	27	56,3	62,8	62,8
	Not Working	16	33,3	37,2	100,0
	Total	43	89,6	100,0	
Missing	System	5	10,4		
Total		48	100,0		

Table D.8: If not working

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Retired	16	33,3	69,6	69,6
	Housewife	1	2,1	4,3	73,9
	Student	4	8,3	17,4	91,3
	Unemployment	1	2,1	4,3	95,7
	5	1	2,1	4,3	100,0
	Total	23	47,9	100,0	
Missing	System	25	52,1		
Total		48	100,0		

Table D.9: Occupation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Officer	7	14,6	16,3	16,3
	Worker	3	6,3	7,0	23,3
	Teacher	3	6,3	7,0	30,2
	Doctor	2	4,2	4,7	34,9
	Craftsman	5	10,4	11,6	46,5
	Architecture - Engineer	8	16,7	18,6	65,1
	Academician	1	2,1	2,3	67,4
	Other	1	2,1	2,3	69,8
	9	13	27,1	30,2	100,0
	Total	43	89,6	100,0	
Missing	System	5	10,4		
Total		48	100,0		

Table D.10: Total family income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Minimum wage	6	12,5	13,0	13,0
	650-1500TL	9	18,8	19,6	32,6
	1500-3000TL	10	20,8	21,7	54,3
	3000-4500TL	10	20,8	21,7	76,1
	Above 4500TL	11	22,9	23,9	100,0
	Total	46	95,8	100,0	
Missing	System	2	4,2		
Total		48	100,0		

Table D.11: Vehicle ownership

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I have	39	81,3	81,3	81,3
	I have not	9	18,8	18,8	100,0
	Total	48	100,0	100,0	

Table D.12: Vehicle type

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Car	39	81,3	100,0	100,0
Missing	System	9	18,8		
Total		48	100,0		

Table D.13: Homeownership

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	House owner	38	79,2	84,4	84,4
	Renter	7	14,6	15,6	100,0
	Total	45	93,8	100,0	
Missing	System	3	6,3		
Total		48	100,0		

Table D.14: Can you afford your rent?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	4	8,3	50,0	50,0
	No	2	4,2	25,0	75,0
	Sometimes	2	4,2	25,0	100,0
	Total	8	16,7	100,0	
Missing	System	40	83,3		
Total		48	100,0		

Table D.15: Can you afford utilities and payments of your apartments?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	4	8,3	10,0	10,0
	No	27	56,3	67,5	77,5
	Sometimes	9	18,8	22,5	100,0
	Total	40	83,3	100,0	
Missing	System	8	16,7		
Total		48	100,0		

Table D.16: How many years you have been living in this housing estate?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than a year	5	10,4	10,6	10,6
	Between 1 and 5 years	13	27,1	27,7	38,3
	Between 6 and 10 years	14	29,2	29,8	68,1
	Between 11 and 20 years	14	29,2	29,8	97,9
	over 20 years	1	2,1	2,1	100,0
	Total	47	97,9	100,0	
Missing	System	1	2,1		
Total		48	100,0		

Table D.17: Do you think moving to another place?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	2	4,2	4,3	4,3
	No	44	91,7	95,7	100,0
	Total	46	95,8	100,0	
Missing	System	2	4,2		
Total		48	100,0		

Table D.18: Are you happy to live in this housing estate or neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	43	89,6	89,6	89,6
	Sometimes	5	10,4	10,4	100,0
	Total	48	100,0	100,0	

Table D.19: Have you got any relatives, friends acquaintance living in this housing estate/neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	36	75,0	76,6	76,6
	No	11	22,9	23,4	100,0
	Total	47	97,9	100,0	
Missing	System	1	2,1		
Total		48	100,0		

Table D.20: How many times you see each other with your relatives, friends, acquaintance?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Everyday or four times a week	5	10,4	12,5	12,5
	Two or three times a week	12	25,0	30,0	42,5
	Once a week	6	12,5	15,0	57,5
	Two times or once a month	14	29,2	35,0	92,5
	Rarely	3	6,3	7,5	100,0
	Total	40	83,3	100,0	
Missing	System	8	16,7		
Total		48	100,0		

Table D.21: Where do you meet your relatives, friends and acquaintances?

		Count
Where do you meet your relatives, friends and acquaintances?	In house	38
	In cafes and restaurants	13
	In shopping mall	11
	In parks	2
	In private garden of site	2
	Other	1

Table D.22: Do you know your neighbours?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	29	60,4	61,7	61,7
	No	5	10,4	10,6	72,3
	Sometimes	13	27,1	27,7	100,0
	Total	47	97,9	100,0	
Missing	System	1	2,1		
Total		48	100,0		

Table D.23: Do you see each other with your neighbours?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	21	43,8	46,7	46,7
	No	10	20,8	22,2	68,9
	Sometimes	14	29,2	31,1	100,0
	Total	45	93,8	100,0	
Missing	System	3	6,3		
Total		48	100,0		

Table D.24: Where do you meet with your neighbours?

		Count
Where do you meet with your neighbours?	In house	31
	In cafes and restaurants	1
	In shopping mall	3
	In parks	3
	In private garden of site	12
	Other	1

Table D.25: What do you think about conditions of your house/apartment frontage, garden and its surrounding?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	35	72,9	76,1	76,1
	No	11	22,9	23,9	100,0
	Total	46	95,8	100,0	
Missing	System	2	4,2		
Total		48	100,0		

Table D.26: When did you make maintenance on your house or apartment?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	7	14,6	25,0	25,0
	1	6	12,5	21,4	46,4
	4	1	2,1	3,6	50,0
	8	2	4,2	7,1	57,1
	9	1	2,1	3,6	60,7
	11	11	22,9	39,3	100,0
	Total	28	58,3	100,0	
Missing	System	20	41,7		
Total		48	100,0		

Table D.27: Did you maintain within your home according to your needs?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	41	85,4	85,4	85,4
	No	6	12,5	12,5	97,9
	3	1	2,1	2,1	100,0
	Total	48	100,0	100,0	

Table D.28: Did you feel safe in your housing estate?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	39	81,3	83,0	83,0
	No	1	2,1	2,1	85,1
	Sometimes	7	14,6	14,9	100,0
	Total	47	97,9	100,0	
Missing	System	1	2,1		
Total		48	100,0		

Table D.29: What are the major security problems in your housing estate?

		Count
What are the major security problems in your housing estate?	Theft and burglaries	39
	Car accident	9
	Other	3

Table D.30: Which services are made in your housing estate properly?

		Count
Which services are made in your housing estate properly?	Garden maintanence	35
	Security services	5
	Other	6

Table D.31: Which transportation type do you prefer in your near environment or neighbourhood?

		Count
Which transportation type do you prefer in your near environment or neighbourhood?	Private Car	25
	Public transportation	20
	Taxi	3
	Motorcycle	1
	Bicycle	1
	Walking	10

Table D.32: What are the major security problems in education facilities in your neighbourhood?

		Count
What are the major security problems in education facilities in your neighbourhood?	Kidnapping	5
	Buying harmful foods	29
	Car accidents	7
	Other	4

Table D.33: Where do you do sports?

		Count
Where do you do sports?	In house	19
	In fitness centre	9
	In private garden of site	4
	In synthetic pitch	7
	In schooll	1
	Other	2

Table D.34: Are there adequate and accessible community services in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	38	79,2	80,9	80,9
	No	4	8,3	8,5	89,4
	Sometimes	5	10,4	10,6	100,0
	Total	47	97,9	100,0	
Missing	System	1	2,1		
Total		48	100,0		

Table D.35: Do you believe if the business located in your neighbourhood create or offer any opportunities for employment?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	10	20,8	22,7	22,7
	No	18	37,5	40,9	63,6
	Partly or Sometimes	16	33,3	36,4	100,0
	Total	44	91,7	100,0	
Missing	System	4	8,3		
Total		48	100,0		

Table D.36: Do you use markets in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	35	72,9	76,1	76,1
	No	3	6,3	6,5	82,6
	Partly or Sometimes	8	16,7	17,4	100,0
	Total	46	95,8	100,0	
Missing	System	2	4,2		
Total		48	100,0		

Table D.37: Do the markets in your neighbourhood meet your needs?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	33	68,8	70,2	70,2
	No	5	10,4	10,6	80,9
	Partly or Sometimes	9	18,8	19,1	100,0
	Total	47	97,9	100,0	
Missing	System	1	2,1		
Total		48	100,0		

Table D.38: Do you prefer other markets in other neigbourhoods for shopping?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	9	18,8	19,1	19,1
	No	22	45,8	46,8	66,0
	Partly or Sometimes	16	33,3	34,0	100,0
	Total	47	97,9	100,0	
Missing	System	1	2,1		
Total		48	100,0		

Table D.39: Do you go to street markets?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	17	35,4	35,4	35,4
	No	14	29,2	29,2	64,6
	Partly or Sometimes	17	35,4	35,4	100,0
	Total	48	100,0	100,0	

Table D.40: Are there adequate day care centres or kindergarten in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	29	60,4	72,5	72,5
	No	9	18,8	22,5	95,0
	Partly or Sometimes	2	4,2	5,0	100,0
	Total	40	83,3	100,0	
Missing	System	8	16,7		
Total		48	100,0		

Table D.41: Are there adequate schools in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	20	41,7	47,6	47,6
	No	18	37,5	42,9	90,5
	Partly or Sometimes	4	8,3	9,5	100,0
	Total	42	87,5	100,0	
Missing	System	6	12,5		
Total		48	100,0		

Table D.42: Are there education facilites in good repair?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	20	41,7	47,6	47,6
	No	11	22,9	26,2	73,8
	Partly or Sometimes	11	22,9	26,2	100,0
	Total	42	87,5	100,0	
Missing	System	6	12,5		
Total		48	100,0		

Table D.43: Is your child continuing to a school located in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	10	20,8	38,5	38,5
	No	16	33,3	61,5	100,0
	Total	26	54,2	100,0	
Missing	System	22	45,8		
Total		48	100,0		

Table D.44: Is your child continuing to a private course located in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	5	10,4	19,2	19,2
	No	21	43,8	80,8	100,0
	Total	26	54,2	100,0	
Missing	System	22	45,8		
Total		48	100,0		

Table D.45: Are there any social activity facilities and centres for children in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	21	43,8	63,6	63,6
	No	10	20,8	30,3	93,9
	Partly or Sometimes	2	4,2	6,1	100,0
	Total	33	68,8	100,0	
Missing	System	15	31,3		
Total		48	100,0		

Table D.46: Are there any security problems in education facilities in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	9	18,8	27,3	27,3
	No	14	29,2	42,4	69,7
	Partly or Sometimes	10	20,8	30,3	100,0
	Total	33	68,8	100,0	
Missing	System	15	31,3		
Total		48	100,0		

Table D.47: Do you use health centres in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	36	75,0	78,3	78,3
	No	4	8,3	8,7	87,0
	Partly or Sometimes	6	12,5	13,0	100,0
	Total	46	95,8	100,0	
Missing	System	2	4,2		
Total		48	100,0		

Table D.48: Do these health centres in your neighbourhood meet your needs?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	26	54,2	57,8	57,8
	No	7	14,6	15,6	73,3
	Partly or Sometimes	12	25,0	26,7	100,0
	Total	45	93,8	100,0	
Missing	System	3	6,3		
Total		48	100,0		

Table D.49: Do you do sports or any exercise?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	20	41,7	46,5	46,5
	No	7	14,6	16,3	62,8
	Sometimes	16	33,3	37,2	100,0
	Total	43	89,6	100,0	
Missing	System	5	10,4		
Total		48	100,0		

Table D.50: Are there adequate parking facilities in your housing estate?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	26	54,2	55,3	55,3
	No	18	37,5	38,3	93,6
	Partly or Sometimes	3	6,3	6,4	100,0
	Total	47	97,9	100,0	
Missing	System	1	2,1		
Total		48	100,0		

Table D.51: Are there any suitable paths that enable for you yo arrive in comfort from main street to your housing estate?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	40	83,3	87,0	87,0
	No	5	10,4	10,9	97,8
	Partly or Sometimes	1	2,1	2,2	100,0
	Total	46	95,8	100,0	
Missing	System	2	4,2		
Total		48	100,0		

Table D.52: Do you feel safe when arriving to your house at evenings or nights at any time?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	35	72,9	77,8	77,8
	No	4	8,3	8,9	86,7
	Partly or Sometimes	6	12,5	13,3	100,0
	Total	45	93,8	100,0	
Missing	System	3	6,3		
Total		48	100,0		

Table D.53: Are there adequate parking facilities in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	29	60,4	61,7	61,7
	No	15	31,3	31,9	93,6
	Partly or Sometimes	3	6,3	6,4	100,0
	Total	47	97,9	100,0	
Missing	System	1	2,1		
Total		48	100,0		

Table D.54: Are there adequate public transportation facilites in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	12	25,0	26,1	26,1
	No	25	52,1	54,3	80,4
	Partly or Sometimes	9	18,8	19,6	100,0
	Total	46	95,8	100,0	
Missing	System	2	4,2		
Total		48	100,0		

Table D.55: Are there public transportation stations accesible?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	30	62,5	69,8	69,8
	No	9	18,8	20,9	90,7
	Partly or Sometimes	4	8,3	9,3	100,0
	Total	43	89,6	100,0	
Missing	System	5	10,4		
Total		48	100,0		

Table D.56: Are the pedestrian crossing, traffic lights, and street signage adequate and efficient?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	20	41,7	44,4	44,4
	No	20	41,7	44,4	88,9
	Partly or Sometimes	5	10,4	11,1	100,0
	Total	45	93,8	100,0	
Missing	System	3	6,3		
Total		48	100,0		

Table D.57: According to you, are the streets designed in accordance with the needs of vulnarable people?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	3	6,3	6,5	6,5
	No	40	83,3	87,0	93,5
	Partly or Sometimes	3	6,3	6,5	100,0
	Total	46	95,8	100,0	
Missing	System	2	4,2		
Total		48	100,0		

Table D.58: Do you feel in safe when walking in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	27	56,3	61,4	61,4
	No	9	18,8	20,5	81,8
	Partly or Sometimes	8	16,7	18,2	100,0
	Total	44	91,7	100,0	
Missing	System	4	8,3		
Total		48	100,0		

Table D.59: Is there a traffic jam due to school services near the school and day-care centre exits?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	20	41,7	50,0	50,0
	No	15	31,3	37,5	87,5
	Partly or Sometimes	5	10,4	12,5	100,0
	Total	40	83,3	100,0	
Missing	System	8	16,7		
Total		48	100,0		

Table D.60: Are there safe and efficient bicycle paths, walking paths, pedestrian friendly walkways and sidewalks in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	12	25,0	26,7	26,7
	No	26	54,2	57,8	84,4
	Partly or Sometimes	7	14,6	15,6	100,0
	Total	45	93,8	100,0	
Missing	System	3	6,3		
Total		48	100,0		

Table D.61: Are there adequate and efficient green area and parks in your neighbourhood?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	25	52,1	54,3	54,3
	No	11	22,9	23,9	78,3
	Partly or Sometimes	10	20,8	21,7	100,0
	Total	46	95,8	100,0	
Missing	System	2	4,2		
Total		48	100,0		

Table D.62: Are the parks and green areas located in your neighbourhood sufficient enought to meet your recreational activities?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	20	41,7	44,4	44,4
	No	16	33,3	35,6	80,0
	Partly or Sometimes	9	18,8	20,0	100,0
	Total	45	93,8	100,0	
Missing	System	3	6,3		
Total		48	100,0		

Table D.63: Do you attend site meetings?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	31	64,6	66,0	66,0
	No	8	16,7	17,0	83,0
	Partly or Sometimes	8	16,7	17,0	100,0
	Total	47	97,9	100,0	
Missing	System	1	2,1		
Total		48	100,0		

Table D.64: According to you, is it provided sufficiently to attend the decisions taken within the site meetings?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	32	66,7	71,1	71,1
	No	5	10,4	11,1	82,2
	Partly or Sometimes	8	16,7	17,8	100,0
	Total	45	93,8	100,0	
Missing	System	3	6,3		
Total		48	100,0		

Table D.65: Do you use the local government and/or muhtar's office of which your neighbourhood is belonged to for your formal needs?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	39	81,3	84,8	84,8
	Partly or Sometimes	7	14,6	15,2	100,0
	Total	46	95,8	100,0	
Missing	System	2	4,2		
Total		48	100,0		

Table D.66: If there are problems related to the areas in your neighbourhood, do you inform your local governmental and/or muhtar's office?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1	2,1	2,1	2,1
	Yes	26	54,2	55,3	57,4
	No	12	25,0	25,5	83,0
	Partly or Sometimes	8	16,7	17,0	100,0
	Total	47	97,9	100,0	
Missing	System	1	2,1		
Total		48	100,0		

Appendix E

COMPARISON OF CASE AREAS ACCORDING TO QUESTIONNAIRE RESULTS

Table E.1: Questionnaire Results related to Accessibility and Connectivity

Indicators related to Accessibility and Connectivity	MUTLUKÖY SITE	ÇAMLICA BULVAR SITE	KALEMKÖY SITE	MEKSIKA AVENUE
Parking facilities; number and location of off-street parking area in housing estate	41% yes 44% no 10% partly	54% yes 21% no 21% partly	23% yes 59% no 14% partly	61% yes 31% no 6% partly
Existence of suitable paths that enable for residents to arrive in comfort from main street to their housing estate	85% yes 10% no 4% partly	96% yes 4% no	95% yes 5% no	83% yes 11% no 2% partly
Using bicycle paths in residential district	1% of respondents	There is no bicycle usage	There is no bicycle usage	There is no bicycle usage
Level of automobile dependence	34% of respondents	37% of respondents	41% of respondents	42% of respondents
Existence of efficient public transportation facilities	23% yes 52% no 17% partly	83% yes 9% no 8% partly	27% yes 46% no 18% partly	25% yes 52% no 19% partly
Public transport usage of residents	25% of respondents	32% of respondents	16% of respondents	33% of respondents
Public transportation station accessibility	66% yes 14% no 12% partly	17% yes 71% no 12% partly	73% yes 18% no	77% yes 10% partly
Quality of Street and Roads (street lighting and safety, street signage)	55% yes 18% no 20% partly	54% yes 25% no 21% partly	64% yes 27% no 9% partly	42% yes 42% no 10% partly

Table E.2: Physical Attributes of Housing Estates

Indicators of Physical Attributes of Housing Estates	MUTLUKÖY SITE	ÇAMLICA BULVAR SITE	KALEMKÖY SITE	MEKSIKA AVENUE
Percentage (%) of residential and non-residential (housing with commercial using) using in housing estate	60 detached houses are used for the commercial purposes	190 flats were used as housing, and 60 flats were used as commercial	No commercial used	No commercial used
Mixed-used and diversity; housing types and characteristics in housing estate	310 detached houses and 15 apartment buildings with 159 accommodations	240 same type flats, 6 blocks	120 same type flats, 3 blocks	20 apartments with different type, almost 400 flats in totally
Age, size, scale, and storey heights of buildings	Built in the 1980s # Detached houses; 160-200 m^2, 4+1, 2 or 3 or 4 storey # Apartment houses; 115 m^2, 3+1, 5 storey	Built in 1994 10 storeys apartments 135 m^2, 3+1	Built in 1993 10 storey apartments 140 m2, 3+1	5-6 storeys apartments Every apartment has different sizes and characteristics
Condition of buildings	84% of respondents made some changes in their houses; 14% never changes	75% of respondents made some changes in their houses; 17% never changes In 2012, isolation construction	59% of respondent made some changes in their houses; 41% never changes In 2012, isolation construction	87% of respondents made some changes in their houses; 13% of respondents never changes
Maintenance in buildings and housing estate	Security, landscaping, maintenance	Landscaping	Landscaping	Private garden maintenance

Table E.3: Questionnaire Results related to Recreational and Green Areas

Indicators of Green Infrastructure & Recreational Areas	MUTLUKÖY SITE	ÇAMLICA BULVAR SITE	KALEMKÖY SITE	MEKSIKA AVENUE
Existence of efficient recreational and green areas in neighbourhood	58% yes 26% no 13% partly	58% yes 21% no 21% partly	50% yes 14% no 32% partly	52% yes 23% no 21% partly
Percentage (%) of residents satisfied with parks and green areas in neighbourhood	32% yes 25% no 36% partly	42% yes 33% no 25% partly	46% yes 18% no 36% partly	42% yes 33% no 19% partly
Level of accessibility to garden and green areas in housing estate	Easily accessible	Easily accessible	Easily accessible	Easily accessible
Quality and efficiency of recreational areas in housing estate	Playground area Physical-fitness exercises tools Private and common garden	Playground area Common garden	Common garden	Private garden for every apartment
Level of usage of recreational areas in housing estate by local community residents	Active usage	Active usage for playground	Not active usage; sometimes children plays in green area	Not active usage Only aesthetical

Table E.4: Questionnaire Results related to Happiness to Live in This Housing Estate

Indicators related to Building-User Relationship	MUTLUKÖY SITE	ÇAMLICA BULVAR SITE	KALEMKÖY SITE	MEKSIKA AVENUE
Percentage (%) of desire to move a different house	8% of respondents (transportation problems)	Only one residents want to move (transportation problems)	No one	Two residents (working issue and better house)
Residents who are unhappy to live here	Two residents are unhappy (commercial usage and unfriendly behaviour)	Two residents are unhappy (transportation problems)	Two residents are unhappy	Two residents are unhappy
Percentage (%) of house improvement in before	84% of respondents	71% of respondents	59% of respondents	87% of respondents

Table E.5: Questionnaire Results related to Community Health

Indicators related to Community Health	MUTLUKÖY SITE	ÇAMLICA BULVAR SITE	KALEMKÖY SITE	MEKSIKA AVENUE
Participation in sporting activities	55% yes 16% no 28% sometimes	25% yes 25% no 46% sometimes	27% yes 23% no 50% sometimes	42% yes 15% no 33% sometimes
Preference of walking in residential district	31% prefer walking in residential district	21% prefer walking in residential district	37% prefer walking in residential district	18% prefer walking in residential district
Location of housing estate (recreational areas and parks should be located within 400 meters distance to their housing estate)	There are recreational and parking facilities	There are recreational and parking facilities	There are recreational and parking facilities	There are recreational and parking facilities

Table E.6: Questionnaire Results related to Sense of Place, Sense of Community and Sense of Belonging

Indicators related to Sense of Place, Sense of Community, Sense of Belonging	MUTLUKÖY SITE	ÇAMLICA BULVAR SITE	KALEMKÖY SITE	MEKSIKA AVENUE
The period of living in the same housing estate	43% over 20 years 35% 11-20 years	50% 6-10 years 42% 11-20 years	36% over 20 years 32% 6-10 years 23% 11-20 years	31% 11-20 years 29% 6-10 years 27% 1-5 years
Level of social interaction and meeting in friends and neighbours (social network) in housing estate	70% know their neighbours 59% see each other	33% know their neighbours and see each other; 63% know partly; 58% of them sometimes visit their neighbours	23% know their neighbours; 9% see each other	60% know their neighbours 44% see each other
Common places for housing estate gatherings	45% meet at home 25% meet at garden of site 16% meet at shopping mall 4% meet at parks in neighbourhood	48% meet at home 26% meet at garden of site 9% meet at parks in neighbourhood 6% meet at shopping mall	If they meet with neighbours;53% prefer at home, 27% private garden in site; 13% parks in neighbourhood	60% meet at home 24% meet at garden of site 6% meet at parks in neighbourhood 4% meet at cafe and restaurants
Percentage (%) of people in housing estate who have awareness about community problems	41% of respondents interest in community problems	25% of respondents interest in community problems	14% of respondents interest in community problems	54% of respondents interest in community problems
Percentage (%) of pleasure and satisfaction from living in neighbourhood	87% are pleased to live in site	92% are pleased to live in site	91% are pleased to live in site	90% are pleased to live in site

Table E.7: Questionnaire Results related to Sense of Safety and Security

Indicators related to Safe and Security	MUTLUKÖY SITE	ÇAMLICA BULVAR SITE	KALEMKÖY SITE	MEKSIKA AVENUE
Percentage (%) of people who feel safe in their housing estate	89% feel safe 3% do not feel safe 2% partly	75% feel safe 21% do not feel safe	5% feel safe 9% do not feel safe	79% feel safe 2% do not feel safe 17% partly
Perceptions and fear of residents from violence and crime (burglaries, theft, car accident)	61% complain about theft	48% complain about theft 24% complain about car accidents	64% complain about theft 18% complain about car accidents	78% complain about theft 18% complain about car accidents
Percentage (%) of people who feel safe walking alone at night	91% yes 6% no 3% partly	All respondents feel safe walking alone at night	91% yes 4% no 5% partly	73% yes 8% no 13% partly
Perception of residents to safety of education facilities	45% buying harmful foods 19% car accidents 5% kidnapping	61% buying harmful foods 27% car accidents 8% kidnapping	79% buying harmful foods 16% car accidents	67% buying harmful foods 15% car accidents 9% kidnapping

Table E.8: Questionnaire Results related to Affordability

Indicators of Affordable Housing		MUTLUKÖY SITE	ÇAMLICA BULVAR SITE	KALEMKÖY SITE	MEKSIKA AVENUE
Affordable housing rent	*Can afford*	55% of respondents can afford their rents.		78% of respondents can afford their rent.	86% no answer 8% of respondents can afford their rents.
	Cannot afford	27% of respondents cannot afford their rents.	21% of respondents cannot afford their rents.		2% of respondents cannot afford their rents.
	Sometimes	18% of them is sometimes in difficulties to afford their rents.			4% of them is sometimes in difficulties to afford their rents.
Affordable housing contribution and utilities	*Can afford*	57% of respondents can afford housing contribution and utilities.	30% of respondent emphasized that they are not in trouble paying them on time.	50% of respondents can afford their housing contribution and utilities.	57% of respondents can pay their housing contribution and utilities.
	Cannot afford	9% of respondents cannot afford them.	20% of respondents have some difficulties in paying their housing contribution and utilities.	5% of respondents have some difficulties in paying them.	8% of respondents cannot afford their housing contribution and utilities.
	Sometimes	Remaining of the respondents informed that they are sometimes in difficulty to afford them.		27% of respondents sometimes suffer from paying housing contribution and utilities.	

Table E.9: Questionnaire Results related to Equity

Indicators related to Equity	MUTLUKÖY SITE	ÇAMLICA BULVAR SITE	KALEMKÖY SITE	MEKSIKA AVENUE
Equal Access (all residents and users benefit from services in neighbourhoods)	80% yes 8% no 11% partly	87% yes 13% partly	86% yes 14% partly	81% yes 9% no 8% partly
Equity in Governance; equal participation opportunities to local organization, site meetings	58% yes 17% no 15% partly	75% yes 12% no 13% partly	50% yes 23% no 23% partly	67% yes 10% no 17% partly

Table E.10: Questionnaire Results related to Community Governance

Indicators related to Governance	MUTLUKÖY SITE	ÇAMLICA BULVAR SITE	KALEMKÖY SITE	MEKSIKA AVENUE
Pleasure of local residents from municipal services	70% yes 12% no 13% sometimes	79% yes 8% no 13% sometimes	82% yes 4% no 14% sometimes	81% yes 15% sometimes
Desire to participate in site meeting	47% yes 29% no 19% sometimes	71% yes 21% no 8% sometimes	59% yes 32% no 9% sometimes	64% yes 17% no 17% sometimes
Awareness of residents to problems about their environment	41% yes 29% no 24% sometimes	25% yes 42% no 29% sometimes	14% yes 27% no 55% sometimes	54% yes 25% no 17% sometimes

Table E.11: Questionnaire Results related to Community Services

Indicators related to Community Services	MUTLUKÖY SITE	ÇAMLICA BULVAR SITE	KALEMKÖY SITE	MEKSIKA AVENUE
Pleasure with services in neighbourhood	80% yes 8% no 11% partly	87% yes 13% partly	86% yes 14% partly	81% yes 9% no 8% partly
Quantity and quality of commercial facilities	80% yes 4% no 13% partly	92% yes 4% partly	73% yes 5% no 18% partly	71% yes 10% no 17% partly
Quantity and quality of local education facilities	55% yes 17% no 14% partly	62% yes 21% no 13% partly	50% yes 13% no 14% partly	44% yes 35% no 8% partly
Quantity and quality of pre-school education in neighbourhood	70% yes 8% no 6% partly	71% yes 8% no 18% partly	55% yes 9% no 9% partly	60% yes 23% no 17% partly
Preference of health centres in neighbourhood	72% yes 12% no 12% partly	79% yes 4% no 17% partly	73% yes 9% no 18% partly	75% yes 8% no 13% partly
Rating of quality of health and community services	48% yes 11% no 37% partly	50% yes 13% no 33% partly	41% yes 9% no 45% partly	54% yes 15% no 25% partly
Existing of social activity facilities and centres for children (painting, music, sport)	35% yes 11% no 9% partly	75% yes 8% no 4% partly	41% yes 18% no 14% partly	42% yes 23% no 4% partly

CURRICULUM VITAE

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EDUCATION

Degree	Institution	Year of Graduation
B.Sci.	Ankara University Landscape Architecture	2003
High School	Çankaya High School (Çankaya Yabancı Dil Ağırlıklı Lisesi)	1999

LONG TERM RESEARCH ACTIVITY

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WORK EXPERIENCE

Year	Place	Enrollment
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2001	Çankaya Municipality	Trainee

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PUBLICATIONS

"The Reflection of Modernism on the City: The Transformation of Ankara Hacettepe District", 14th International Planning History Society Conference, "Urban Transformation: Controversies, Contrasts and Challenges", Melda Açmaz Özden, 12-15 July 2010, Istanbul, Turkey

YTK/IFHP Urban Planning and Design Summer School, Local Identity and Globalisation, Book Chapter; The Urban Design Project and Project Report: *"Stressfree District"* by Melda Açmaz, Tamara Pazane, Nebojsa Jakica, The Aarhus School of Architecture, Publications in the Centre for Urban and Regional Studies, August 2007, Helsinki & Turku & Jyväskylä, Finland

"Wetlands as a Natural Water Resource: The Case of Sultansazlığı in Turkey", Melda Açmaz, Landscape and Landscape Architecture, Symposium and annual meeting in the Nordic Association of Architectural Research and the Aarhus School of Architecture, 19-21 April 2007, Aarhus, Denmark

"The View from Modernism to Post-Modernism and Strategic Spatial Planning as a New Planning Approach", Melda Açmaz, International Conference of New Concepts and Approaches for Urban and Regional Policy and Planning, 2-3 April 2007, Leuven, Belgium

"Transformation of House-Type in the Ancient Priene City", Neslihan Kulözü & Melda Açmaz, 1st International CIB Endorsed METU Postgraduate Conference, March 2006, Middle East Technical University, Ankara, Turkey

"The Role of the Landscape Architecture in Urban Design for Sustainable Environments", Melda Açmaz, International 15th Urban Design and Implementations Symposium, Change in Urban Design, Urban Design in Change, 26-28 May 2004, Mimar Sinan Fine Arts University, Istanbul, Turkey

"Urban Design and Landscape Architecture: Case of Coastal Band of Güllük", Melda Açmaz, International 14th Urban Design and Implementations Symposium, Urban Regeneration and Urban Design, 28-30 May 2003, Mimar Sinan University, Istanbul, Turkey

HOBBIES

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