USING GIS TO MAP CHANGING EXURBAN LAND VALUES IN ISTANBUL: A CASE STUDY OF KARAAĞAÇ-HADIMKÖY ENCLAVE

A thesis submitted to the

Institute of Social Sciences

in partial fulfillment of the requirements

for the degree of

Master of Arts

in

Geography

by

Akif Karatepe

Fatih University

July 2001

Fatih Üniversitesi

Tarih: 05 / 07 / 2001

Sosyal Bilimler Enstitüsü Müdürlüğü'ne

TUTANAK

...Akif....KARATEPE.....'a ait

Using GIS to Map Changing Exurban Land Values in.....
Istanbul: A case Study of Karaagac - Hadimkoy Enclave"
lı çalışma .....120..... dk.'lık süre içinde savunulmuş ve jüri tarafından

Ografya..... Anabilim Dalında *YÜKSEK LİSANS TEZİ* olarak oy

rliğiyle / ~~oy çokluğuyla~~ kabul edilmiştir / ~~edilmemiştir.~~

~~..... yarıyıl ek süre verilmiştir~~.

Başkan Doç.Dr.J.Jamil BRONSON

F. Nicholas Novakowski

Üye Yard.Doç.Dr.Nicholas NOVAKOWSKI

Üye Yard.Doç.Dr.Naci ENGİN

AUTHOR DECLARATIONS

1. The material included in this thesis has not been submitted wholly or in part for any academic award or qualification other than that for which it is now submitted.

2. The program of advanced study of which this thesis is part has consisted of:

i) The Changing Exurban Land Values in Istanbul.

ii) Land Values and Land Use.

iii) The Changing Land Values and Land Use in Çakmaklı-Akçaburgaz Places from 1990 to 2001.

iv) GIS (Geographic Information Systems).

Akif Karatepe

July, 2001

ABSTRACT

AKİF KARATEPE **July 2001**

USING GIS TO MAP CHANGING EXURBAN LAND VALUES IN ISTANBUL: A CASE STUDY OF KARAAĞAÇ-HADIMKÖY ENCLAVE.

ABSTRACT

Land is one of the key constituents of life on earth, along with water, carbon, oxygen, and sunlight. Lacking any of these would make it unnecessary and in fact impossible for life to exist as we know it. Land is our most basic resource and the source of all wealth.

Land use can involve settlement, industrial, agricultural, commercial and recreational land uses, among other things. In other words, all human activities--physical, social, socio-economic and cultural- occur on land. In contrast, human behavior has determined land use and land values. For a land site, economic production factors should provide the atmosphere for the most efficient use to be made.

Istanbul metropolitan area has faced sprawl in its eastern and western sectors. With sprawl affecting all urbanization processes in Istanbul, land values have been increasing in the newly developing sites. For this reason, this research is focused primarily on land values of the eastern parts of the Büyükçekmekce Lake, especially the Çakmaklı enclave and its surrounding areas as a one of the exurban areas of Istanbul.

In this research, land is deal with as a parcel of real estate. Values of land parcels in the study area changed rapidly during 1990-2001 due to a variety of factors. At the same time, land use patterns have also changed rapidly in the study area. At the end of 1980, almost all of the land in the study area was covered by agricultural activities. From 1990 to 2001, land use patterns started shifting from agricultural to industrial, commercial and residential activities.

During the work, I had benefited from intensive use of GIS (Geographical Information Systems) and using its many fields of life and all around the world (Telecommunication, Transportation, Industry, Trade, Defense, Energy,

Agriculture, Land Use etc.). So that benefited from one of a GIS program Arc View 3,2 and its essential extensions.

As in the case of all investigations, transferring of data into computer environment and comment on this, make the all works easy. By this way the reaching to data that transferred into digital format will be easy and used whenever it is needed. GIS that is a computer program helps to transfer every data related to earth, to comment on and visualization. It must be considered that GIS assistance structure in both physical and human studies. Hence any investigations about physical and human related in the region, the association of GIS is regardless important.

As a result, one of Istanbul's outside new developing residential area Çakmakli-Karaagaç-Hadimköy axis has investigated in 10 year in terms of social and economical ways. The land prices of areas in the region and also its change in use was mapped by using GIS.

Key Words:

Exurbanization
Land value
Land use
Real Estate,
Çakmaklı, Akçaburgaz, Hadımköy Road
Istanbul, Newly Developing Sides.
Metroplitian Area, ArcView GIS
GIS(Geographic Information Systems)

KISA ÖZET

AKİF KARATEPE **Temmuz 2001**

COĞRAFİ BİLGİ SİSTEMLERİ'Nİ KULLANARAK İSTANBUL ŞEHİR DIŞI YENİ YERLEŞİM ALANLARINDAKİ ARAZİ DEĞERLERİ DEĞİŞİMİNİN İNCELENMESİ: KARAAĞAÇ-ÇAKMAKLI BÖLGESİ ÖRNEK ÇALIŞMASI.

Toprak yeryüzünde su, karbon, oksijen ve güneş ışığı ile birlikte, yaşam için en önemli bileşenlerden biridir. Bu unsurların herhangi birinin eksikligi ile hayatın devam ettirilebilmesi mümkün değildir. Bunlar içerisinde belkide en önemlisi olan toprak bizim temel kaynağımız, bolluk ve bereketin simgesidir.

Toprak diğer önemli unsurlardan farklı olarak yerleşme, sanayi, tarım, ticaret ve dinlenme amaçlı bir çok şekilde kullanılabilir. Diğer bir ifade ile, bütün insan faaliyetleri- fiziksel, sosyo-ekonomik, kültürel- bir kara parçası üzerinde meydana gelmektedir.

1980'li yıllardan sonra, nüfus artışı ve sanayinin dezentralizsayon sürecine girmesiyle birlikte İstanbul metropolitan alanı, doğu ve batı istikametimde genişlemeye başlamıştır. Şehirleşme ile başlayan bu genişleme süreciyle, şehir dışında yeni yerleşeme alanları oluşmaya başlamıştır. Bu duruma bağlı olarak metropolitan alan dışındaki arazi fiyatları büyük miktarda artmıştır. Bu nedenle çalışmamızda, İstanbul'un şehir dışında yeni gelişen alanlarından biri olan ve özellikle de Büyükçekme Gölü'nün doğu kısmında yer alan Çakmaklı ve çevresindeki arazi kullanımı ve arazi fiyatlarının değişimi ele alınmıştır.

Bu çalışmada toprak, özellikle taşınmaz bir değer, yani gayrimenkul olarak ele alınmıştır. Çalışma alanımızda bulunan arazi ve arsalar özellikle 1990 –2001 yılları arasında hızlı bir değişiklik göstermiştir. Bu nedenle araştırmamız bu 10 yıllık periyodu içermektedir. Bu süre zarfında bölge arazilerinde, tarımsal faaliyetlerden, sanayi, ticaret ve yerleşim faaliyetlerine doğru bir değişmenin görülmektedir.

Her türlü araştırmada olduğu gibi elde edilen bilgilerin bilgisayar ortamına aktarılıp yorumunun yapılması, çalışmalar için son derece önemlidir. Bu şekilde dijital ortama aktarılan bilgilere ulaşım daha kolay olacak ve gerektiğinde diğer araştırmalar içinde kullanılabilecektir. Bir bilgisayar programı olan CBS (Coğrafi Bilgi Sistemleri), yeryüzüne ait her türlü bilginin bilgisayar ortamına aktarılıp görselleştirilmesini ve yorumunun yapılmasına yardımcı olmaktadır. Günümüzde CBS fiziki çalışmalarda olduğu gibi beşeri araştırmalarda da yoğun olarak kullanılır.

Çalışma esnasında, son zamanlarda dünyanın bir çok ülkesinde, hayatın çeşitli dallarında (Telekominikasyon, Ulaşım, Endüstri, Ticaret, Savunma, Enerji, Tarım, Arazi Kullanımı v.b.) yoğun olarak kullanılan CBS' den faydalanılmıştır. Bölgede 1990-2001 yılları arasında meydana gelen büyük değişiklik bilgisayar programı olan CBS ile ortaya konulmuştur. Bu nedenle bir CBS programı olan ArcView 3.2 ve onun gerekli olan uzantılarından istifade edilmiştir. Diğer bir ifade ile, çalışma sahasında 10 yıl içerisinde yaşanan değişiklikler, bölgeye ait verilerin bilgisayar ortamına aktarılarak, yorumlanmıştır.

Sonuç olarak, İstanbul'un şehir dışında yeni gelişen mekansal bir alanı olan Çakmaklı-Karaağaç-Hadımköy Ekseni sosyal ve ekonomik açıdan incelenmiş ve bölgenin arazi kullanımı ve arazi değerleri CBS kullanılarak haritalanmıştır

Anahtar Kelimeler

Şehirdışı Yerleşme
Arazi Değeri
Arazi Kullanımı
Gayri Menkul
Çakmaklı, Akçaburgaz, Hadımköy Yolu
İstanbul, Yeni Gelişen Eksenler
Metropolitan Alan, ArcView GIS
CBS (Coğrafi Bilgi Sistemleri)

LIST OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF MAPS

ACKNOWLEDGEMENTS

There are many people to whom I am very grateful and indebted to for their physical and spiritual help and support during my study. First of all, I am so very grateful to my supervisor, Dr. J. Jamil. Brownson my gratitude and thanks for his recommendations, encouragement and support with respect to this study.

My sincerest appreciation goes to my committee members, Dr. Nicholas Novakowski, who is one of the lectures during the master courses. I will never forget his on-going efforts to help me with my writing, reading skills, and Dr. Naci Engin who provided me with many contemporary scientific studies.

I would also like to present my thanks to Dr. Bülent Aras (who is the President of Institute of Social Sciences) and Dr. Alparslan Açıkgenç (who is the Dean of Faculty of Science and Arts) for their unfailing support. As well, Mr. Ahmet İpekçi who head of the Star mapping company, was very friendly during my study. I also would like to thank to Mr. Ramazan Çam who is partnership of the Kent Real Estate Agency in the study area.

Finally, I must thank to Dr. Hasan Akgün who mayor of Büyükçekmece and his staff whose help to my study. I also would like to thank to friendly graduate students of Geography Department of the Fatih University.

CHAPTER I

INTRODUCTION

1.1. BACKGROUND TO THE RESEARCH

Recently, the Istanbul metropolitan area has faced sprawl in its eastern and western sectors. Due to the expansion of the Istanbul Metropolitan area, many exurban areas face considerable development pressure outside of the city center. What are the reasons for sprawl in Istanbul? Why do people and industrial constructions move to these areas? These processes impact the study area like other exurban places of the Istanbul. However, some problems appear in these areas. That's why investigating the exurbanization of Istanbul will be beneficial in terms of social and socio-economical analysis.

In the newly developing areas, lands and building lands are becoming more important day-by-day because of their impact on local environments. This study will consider a newly developing area of Istanbul. With sprawl affecting all urbanization processes in Istanbul, land values have been increasing in the newly developing sites. For this reason, this research is focused primarily on land values of the eastern parts of the Büyükçekmekce Lake, especially the Çakmaklı enclave and its surrounding areas as a one of the exurban areas of Istanbul.

1.2. ESTABLISHMENT OF THE OVERALL FIELD OF RESEARCH

It is a comfortable feeling to know that you stand on your own ground. Land is about the only thing that can't fly away (Trollope, 1867).

Land is one of the key constituents of life on earth, along with water, carbon, oxygen, and sunlight. Lacking any of these would make it unnecessary and in fact impossible for life to exist, as we know it. Daniel Hillel (1994, 20) observes that since three-quarters of our planet is covered by oceans, it should be called "water" rather than "Earth". True, but those who did the naming happened to stand on "terra firma". Water, of course especially in nonsaline form, is indispensable to the use of land and therefore to terrestrial life. But, without land capable of benefiting from the application of water, either through natural precipitation or artificially, life on the planet would be all wet, so to speak. Land unlike water, cannot be summarized by a convenient chemical formula such as H_2O. In fact, it is not easily summarized at all. It is many things simultaneously. First, land is the physical stuff under our feet (terra firma). Second, land may be reduced to a "parcel" of real estate, comprising an area of the earth's surface that defines a volume extending both upward and downward. Within this space or volume, human activities may be conducted, either out in the open or within structures enclosing interior space against the weather and intruders. Third, this leads to another concept of land, namely as an object of capital value capable of

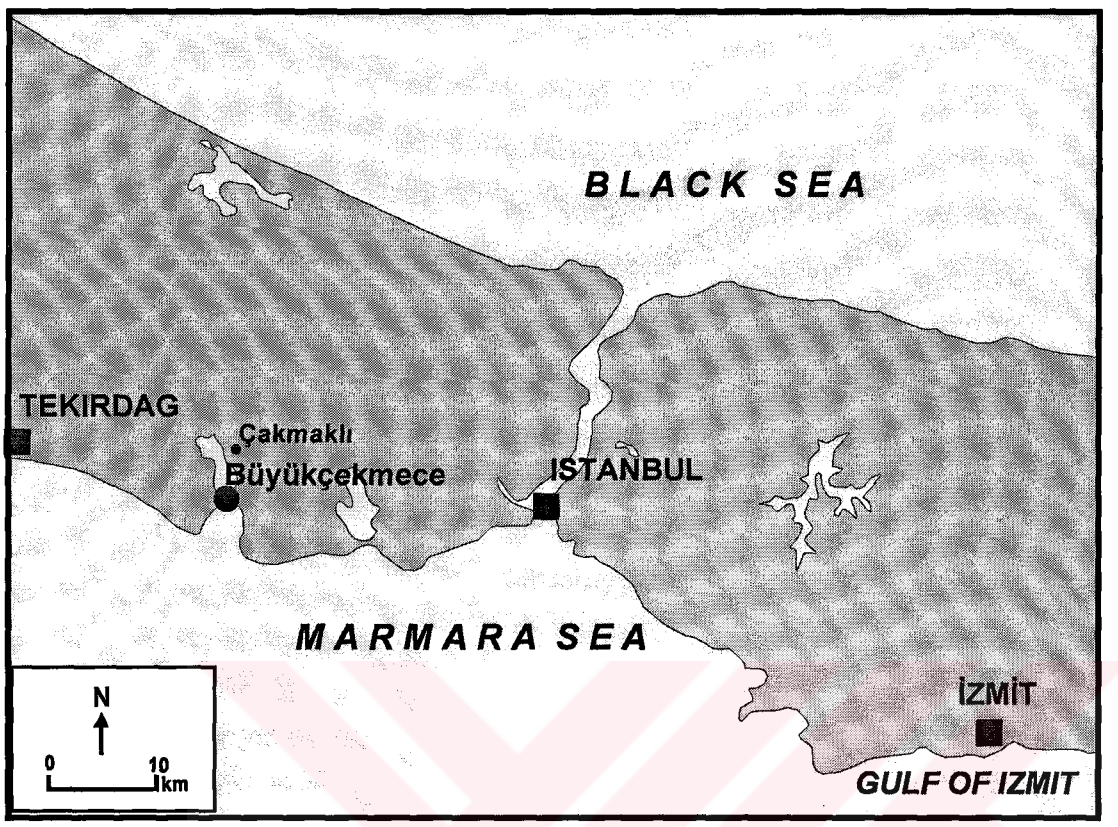
being "owned" and used by its owner to maximize economic return. Fourth, land may also have noneconomic value, as a "sense of place" defined by collective or individual experiences and values[1].

Finally, land entertains an economic sense, and is defined as the entire material universe outside of people themselves and the products of people. It includes all natural resources, materials, airwaves, as well as the ground. All air, soil, minerals and water are included in this definition of land. Everything that is freely supplied by nature, and not made by man, is categorized as land (Arden, 1999).

All information above about land demonstrates that land is a vital component for human activities on the earth. In fact, nobody lives without it. As demonstrated earlier, there are plenty of methods for using land. In this research, land is basically going to be considered in all its aspects. In particular, the economic sense of land will be considered as its real property. On the other hand, why is a place the way it is and like or unlike other places? This lead to additional questions, for example, which benefits or costs arise from specific practice ways of using land? Why are specific places' prices higher than other places? Why have people preferred some specific lands within places? These factors all depend on the notion of preference and that the value of some land is greater than others.

---

[1] Platt, R.H., Land use and Society, Geograpy, Law, and Public Policy, Island Press, 1996 Washington, DC. USA. p.4.



Map 1. Location of Büyükçekmece and Çakmaklı

These situations point out that land is a unique part of human experience. In other words, land takes an important role within the variety of human actions. Where human actions are dominant, there is the highest and best use of land. That's why land values increase with human enterprise.

Land use can involve settlement, industrial, agricultural, commercial and recreational land uses, among other things. In other words, all human activities--physical, social, socio-economic and cultural- occur on land. In contrast, human behavior has determined land use and land values. For a land site, economic production factors should provide the atmosphere for the most efficient use to be made.

In this research, land is deal with as a parcel of real estate. Values of land parcels in the study area changed rapidly during 1990-2001 due to a variety of factors. At the same time, land use patterns have also changed rapidly in the study area. At the end of 1980, almost all of the land in the study area was covered by agricultural activities. From 1990 to 2001, land use patterns started shifting from agricultural to industrial, commercial and residential activities.

With changing land uses and land values, some problems are evident in the study area. For example, during this period (1990-2001), with the urbanization of these areas, the following problems have arisen: infrastructure problems, transportation, telecommunication, energy (electricity), freshwater provision, and sewage system problems. In particular, electrical energy, transportation, and communication problems can be related to industrial development. Although these problems are current not only for the study area, they are also relevant for newly developing areas of the Istanbul Metropolitan area as a whole. For this reason, this research is oriented to addressing underlying limitations of infrastructure as well as evolving patterns in land use and property value.

1.3. SUMMARY OF PREVIOUS RESEARCH AND INDICATIONS OF THE RESEARCH GAPS.

With the urban reforms of the 19th Century, the Industrial City concept emerged. The modern Industial City came of age in Western Europe and

North America during the 19th century. The population and geographic extent of many urban places mushroomed at unprecedented rates. The advent and concentration of manufacturing activities in certain locations led to an astonishing increase in the level of urbanization in Europe and the United States during the 19th Century. Weber precisely documents the growth of cities during that century in her classic study.

Three aspects of urban growth during the 19th century that emerge from Weber's study are the absolute and proportional increase of urban population, the emergence of large numbers of new urban areas, and the phenomenal expansion of very large cities such as London, New York, and Paris. These are interrelated facets of the prevailing movement of people to urban places from the countryside from other countries[2]. These cities became metropolitan.

In the industrilizated areas since last 70-80 years, new metropolitan processes appeared generating a new urban morphology based on new technologies like the elevator, the subway and the automobile. These processes affected the methods of production and administrative action. Control and production methods became different. Depending on new methods, new larger places were necessary for the new metropolitan areas. After that, metropolitan areas grew beyond city centers. Therefore, the

[2] Ibid., p.4.

industrial sector started moving to suburbs, exurban areas and to new residential areas called "Satellite Cities"[3].

Urbanization processes of Istanbul show some of the same features, although with a time lag. After 1980, urban sprawl began in Istanbul. These processes exposed some new urban areas towards the eastern and western sides of Istanbul like the Beylikdüzü -Haramidere– Çakmaklı-Hadımköy side. However, different industrial sectors and new residential areas such as Büyükşehir, Bizimkent, Kardeşkent, and the Jetkent gated community, the Alkent subdivision and gated community are seen on that side. In other words, with the changing land use and land values effects, new settlements, industrial, commercial and institutional establishments are covering to lands of the study area. In Turkey, there is insufficient research about land values. Existing research generally takes a physical approach. Nowadays, some land use and land value studies are done by local municipalities.

A new and emerging trend is the use by local municipalities of GIS in order to inventory and monitor property values. This inventory and monitoring process helps municipalities to maintain a current database of their tax base. In fact, property tax rates in Turkey are low by Western standards. Property tax revenues represent an important way to improve the fiscal budgets of area municipalities.

---

[3] Kıray, M., İstanbul that changimg city during 75 years. Economic and cultural, history proficient of the Turkey. p.100.

In this research, proposed topics to be investigated include the following:

1-Address Information Systems for the Çakmaklı-Karaağaç location in Büyükçekmece:

This study is done by the Star Mapping Company. This company provides some useful maps on GIS via EGHAS software. At the same time, the Star Company attempts to improve land classification by providing address information at the street level.

2-City Information Systems with GIS technologies case study: Bahçelievler Municipality Cadastral Information:

The City Information System and the Cadastral Information System were created by ISLEM GIS for Bahçelievler Municipality. Bahçelievler, and Istanbul municipality, contain over 25.000 land parcels. The system includes customized information management applications based on Map Objects to serve the needs of the Municipality and the Cadastral agency. Using ArcSDE, each agency has read-only access to the data created in other agencies, ensuring that staff is working with the most current information possible.

Municipal applications are used to regulate permitting processes for development and to monitor compliance with zoning codes. This is an excellent way to store data, and also allows accuracy and timesaving automation of critical functions that were done by hand in the past. Customized applications for the cadastral agency include many functions for subdividing or joining parcels; finding exact coordinates of control points for

surveying; and creating map printouts for field use. They can also find coordinates and surveying information based on features in the municipality data, such as telephone poles and hydrants[4].

1.4. STATEMENT OF THE PURPOSE OF THE RESEARCH AND ITS DEFINITIONS

After 1980, with decentralization processes of Istanbul's industry underway, new urban places were located in the eastern and western parts of the city center (e.g., in the Beylikdüzü-Haramidere-Çakmaklı-Hadımköy direction) and induced many requests in terms of industrial, commercial and residential requirements. Recognizing these situations, land values changed rapidly. Also, for this reason, these areas especially (Çakmaklı-Açaburgaz) faced many problems, which were itemized earlier. In order to better understand the changing exurban land values, investigating the Study area from a socio-economic and geographical analysis using GIS will be advantageous.

In this research, goals to be addressed include the following:

- To describe and explain why land values changed rapidly from 1990 to 2001. Which factors affected increasing land and building land values in

[4] Ekiz Kızılırmak, Rahşan and Zaim Aydın, GIS for the new millenium 2000 ESRI EMA User Conference. ISLEM GIS&Bahçelievler Municipality, Information Systems Departmant. October 2000, Istanbul/Turkey.

terms of industrial, commercial and residential sites? How can the industrial structure of the study area be described? What are land price trends?

- How was land used historically and how is land used presently in the study area? Why is it being changed day-by-day? What are the land use trends demonstrated? Furthermore, what are the relationships between land use and land values?

- With all of the changes being experienced in the study area, local areas are facing many problems. What are the problems?

- Why have some cohorts (particularly the wealthy) and some selected institutions migrated to the area? Have land value changes in the exurban areas of the Istanbul been well explained using the descriptive power of GIS? GIS will be useful for both land use design, sustainable development and future research.

1.5. CONCLUSIONS

With these numerous issues, land use and land values of exurban areas of Istanbul will be explored. Using the study area of Çakmaklı, an investigation of exurbanization processes and their problems can be better understood within its metropolitan context. In this respect, the noted research questions will assist in putting forward the causes and finding appropriate solutions for land use and land values and their evolution over time.

To answer these research questions, the case study method will be employed and will include the following research techniques:

- Library research.
- Key-informant interviews of officials at the municipalities and at the Istanbul Chamber of Commerce, plus at real estate agencies (Remax), mapping and building companies.
- Key-informant interviews of the relevant people related to the study area. (e.g., the last chief of Çakmaklı). And,
- Aerial photographs, digital Topography and cadastral map analysis.

CHAPTER II

LITERATURE REVIEW

This chapter includes general information related to urbanization, exurbanization, enclaves, land use, land values, and estimating land values using GIS. This entire context undergoes an intensive interaction with each other. However, lands use patterns are influenced by urbanization processes. In a place, land uses and land values change depending on urbanization pressure. An enclave is located in a place. It is also an urban area, which is also effected by land use and land values changing.

GIS (Geographic Information Systems) has been widely spread into many disciplines utilizing spatially referenced data. Urbanization and its extensions become one of the fastest growing fields in GIS. In particular, land use applications have been covered by a wide range on GIS applications.

2.1. WHAT IS URBAN GEOGRAPHY?

Urban geography is based on the concept of the urban environment as being a human-made landscape: a modern landscape of built environments is created, maintained and changed as a result of continuous interaction between physical structures and social relations. The organization and

technical development of production are seen as basic conditions for the development of the most intense form of the modern landscape: the city[5].

Urban geography is concerned with the spatial patterns and processes associated with urban areas. More specifically, it involves answering the following kinds of questions. What is the spatial distribution of land values within cities? What is the spatial distribution of population density within cities? To what extent are cities segregated according to race or ethnicity? How are some cities or places perceived by individual residents? Why is there more migration between some cities than others? How might we describe the industrial structure of a city? What regularities can be identified with respect to community patterns within cities? All of these questions and many more are addressed by urban geography[6].

2.1.1. URBANIZATION

Urbanization has been defined as "becoming more urban" and these processes involve four interlinked characteristics that can be identified. Urbanization is closely linked to modernization or development of a country as it progresses along the path of development[7].

Urbanization involves the study of the material and spatial changes of cities in relation to general social processes. Urbanization embraces the

---

[5] http://www.geogr.ku.dk/research/basicdis
[6] Cadwaller, M., 1996, Urban Geography: an analytical approach. Prentice Hall, Upper Saddle River, New Jersey, p.p. USA.
[7] Carr, M., New Patterns: Process and Change in Human Geography. .Nelson published, United Kingtom, 1997. p.52.

physical-geographic dimensions of modernization. As a research field, it is characterized by the integration of the material, economic, social and historical relations and processes of cities. Major efforts have been concentrated on the study of modern urbanization, and primarily the transition processes of suburbanization, exurbanization and reurbanization[8]. Studies under this theme have been both theoretical and empirical, and will now be based on case studies of one of the exurban enclaves of Istanbul metropolitan area known as the Çakmaklı-Karaağaç area.

2.1.2. URBAN STRUCTURE

Urban structure focuses on intra-urban relations and processes, primarily from an economic perspective.

This includes:

A) Analysis of the city using a physical built environment approach in order to describe and explain intra-urban functional dynamics, in which urban land use, land values, urban renewal, transportation and the development of infrastructure are essential aspects.

B) Social geographic studies on social problems such as segregation and social inequalities, with a particular link to housing markets, public regulation and planning.

[8] http://www.geogr.ku.dk/research/basicdis

2.1.3. EXURBANIZATION

Exurbanization is process involving moving or migration from city centers or urban settlements to rural areas. In other words, exurbanization, or the migration of urban residents to rural environments, has increased greatly over the past two decades, often motivated by perceptions of an improved quality of life in rural locations. Research in the rural social sciences is helping to elucidate the effects of this phenomenon and provide guidance for future research. (Andrew and Luloff, 1999).

2.2. PARTS OF THE GEOGRAPHIC CITY

1- Metropolitan Area: This region includes the *Geographic City* and the surrounding low-density areas that are economically dependent on the Geographic City (i.e., *Exurban Areas*).

2- Geographic City: This region consists of the *Central City* and the surrounding *Suburbs* (including the *Suburban Activity Centers*).

3- Central City: The large political city that forms the core of the geographic city.

Central Business District (**CBD**): This region is center of the central city, the geographic city, and the metropolitan area. It is the focus of the mass transportation system and typically the focus of the freeway system of the geographic city. *Downtown* is the popular term used to describe the CBD.

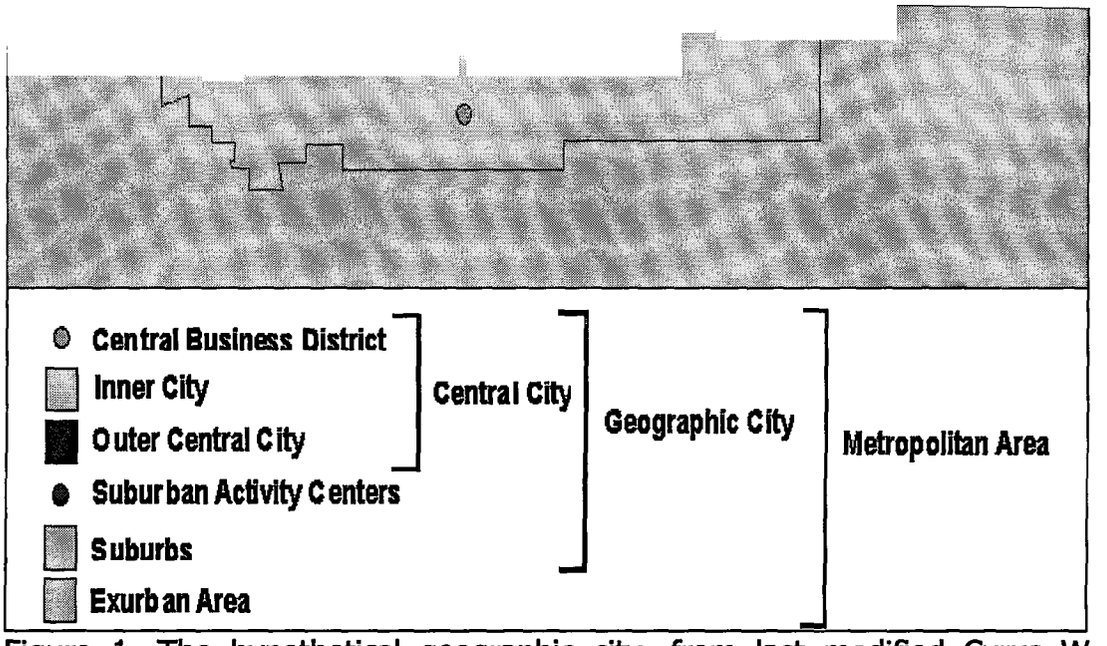


Figure 1. The hypothetical geographic city, from last modified Cyrus W. Young 3 March 1997

The center is the best-known and most distinctive area of most cities. It is usually one of the oldest districts in a city, and often the original site of the settlement. The CBD is compact - less than 1 percent of the urban land area- but contains a large percentage of the shops, offices, and public institutions (Rubenstein, 1999)

Inner City: Typically, this region surrounds all or part of the CBD. It consists of the older parts of the central city and it has a lower - income population living in older, poorer quality housing.

Outer Central City: This region of the central city has a higher - income population than the inner city and it typically has newer, better quality housing.

Suburbs: The newer areas of the geographic city that were typically developed after 1945. They include single-family homes on larger lots as well as some newer apartment complexes. There is a diversity of economic activities in these areas. There are retail and service activities as well as manufacturers.

Suburban Activity Centers: These centers have large concentrations of economic activity. Typically, they have a large suburban shopping centers and a large concentration of suburban office buildings. The term e*dge cities* is sometimes used to describe these areas.

Exurban Areas: These areas have very low densities. They are located outside the Geographic City. They are sometimes described as being on the periphery of the Geographic City. The people living in the exurban areas are economically dependent on the geographic city. They typically work and shop in the geographic city.

2.3. ENCLAVE

An enclave is a small piece of territory lying within a state but which does not fall within typical jurisdiction. It is not uncommon for areas in which a minority of one state is actually isolated within the territory of a neighboring state to be referred to as enclaves[9].

On the other hand, an enclave is also a small concentration of an ethnic group surrounded by other groups or social levels. It is similar to the concept of ghetto but more typically enclave refers to any residential area which is largely occupied by one ethnic or social and cultural minority group[10]. The emergence of an enclave can represent a degree of segregation and gentrification. Presently, in the study area segregation and gentrification are demonstrated.

2.4. LAND USE AND LAND VALUE

Land use as a term, the use of land by human activities, not necessarily always for financial profit or gain. A basic distinction may be drawn between rural (agriculture, forestry, recreation) and urban (industry, commerce, residential, etc.) land use.

Land value is basically, a term used to describe to cost of land. It is an uneven "surface" created by the fact land values and rents vary from place

[9] Johnston. R.J., and Gregory D., and Pratt G., Watts M., 2000. The Dictionary of Human Geography. Massachusets: Blackwell Publishers. p. 206.
[10] Small, J. and Witherick, M. A Modern Dictionary of Geography. Third Edition. Arnold Published.1995, New york, USA. p.79.

to place in response to spatial variations in the level of demand and in the quality of land.

In other words, spatial variations in rents or land values within built-up area, created by the bidding process in what is normally assumed to be a free-market situation. It is prompted by spatial variations in the level of demand, and the locational qualities of individual sites. The urban land value surface is thought to exert a very powerful influence over the spatial structure of towns and cities, especially the arrangement of land uses and different social groups[11].

2.4.1. THE PATTERN OF LAND VALUE[12]

Alonso's proposition that land values decrease with increasing distance from the city center has been empirically tested for Seattle, Washington, by Seyfried (1963). Seyfried considered a variety of functional relationships, but of greatest interest are the result associated with a simple linear function and a power function. The linear function, in this particular context, can be expressed like this;

$$Lv=a-bD$$

LV= Land Value D= Distance. a and b are Constant representing the value of the intercept and the slope of line, respectively.

[11] Ibid., p.254.
[12] Cadwaller, M., Op.cit., p. 62

The power function, on the other hand, is expressed as follows;

$Lv=aD^{-b}$ where the notation is the same as in equation. This power function provides a closer representation of Alonso's prediction, as it describes land values as decreasing at a decreasing rate.

2.4.2. THE PATTERN OF LAND USE[13]

Alonso's second proposition, that land uses will be sorted into concentric zones radiating out from city centers, has been investigated by the economist Edwin Mills (1972:40). Mills analyzed the density gradients associated with different types of land use patterns for a sample of 18 U.S.Metropolitian Areas. This sample was not chosen randomly, but rather with four factors in mind. First, the cities had to be approximately circular or semi circular shape, thus excluding those cities with highly irregular political boundaries. Second, a wide range of population sizes was included. Third, the cities were chosen from different regions of the country, fourth, a variety of historical growth rates were included.

In summary, Alonso's hypothesis concerning the spatial arrangement of land use and land value within cities seems to enjoy substantial empirical support (Coulson, 1991). The patterns could never be exactly as hypothesized, as no city completely conforms to the various simplifying

---

[13] Ibid., p. 65

assumptions upon which the theoretical analysis is based. Despite this empirical support, however, Alonso's overall approach to understanding urban structure has been subjected to increasing criticism. In large part these criticism can be applied no neoclassical economics in general, of which Alonso's model is a representative example (Ball, 1985).

2.5. ESTIMATING LAND VALUES

The value of land can be estimated with an acceptable accuracy, at a cost that is very small compared to the revenue to be obtained. A proper system of assessment and taxation of land can provide for the proper economic use of the land. A land site should be available to the user who can make the highest and best use of the site and maximize the site benefits for all people. A land tax can provide a major source of public revenue, which the local governing body could use for the benefit of all people. A land tax can prevent the dispossession of our children, the future producers in the society. Justice requires that land values, which are created by society and nature, be made available for public improvements. This is the responsibility of good government (Arden, Gwartney Ted, Delawere July, 1990).

2.5.1. CHARACTERISTICS OF LAND

Land, in an economic sense, is defined as the entire material universe outside of people themselves and the products of people. It includes all natural resources, materials, airwaves, as well as the ground. All air, soil,

minerals and water are included in the definition of land. Everything that is freely supplied by nature, and not made by man, is categorized as land.

Land holds a unique and pivotal position in social, political, environmental and economic theory. Land supports all life and stands at the center of human culture and institutions. All people, at all times, must make use of land. Land has no cost of production. It is nature's gift to mankind, which enables life to continue and prosper.

Land's uniqueness stems from its fixed supply and immobility. Land cannot be manufactured or reproduced. Land is required directly or indirectly in the production of all goods and services. Land is our most basic resource and the source of all wealth.

Land rent is the price paid annually for the exclusive right (a monopoly) to use a certain location, piece of land or other natural resource. People receive wages for work, capital receives interest for investment, and land receives rent for the exclusive use of a location. Equity and efficiency require that the local general public, who created land value, should be paid for the exclusive use of a land site. That Payment is in the form of a land tax.

When considering worldwide economics, most people think that land rent contributes only a small insignificant portion of value. But as societies progress, land has become the predominant force in determining the progress or poverty of all people within a community. Land in major or cities is so costly that people are forced to move further away and travel great

distances in order to get to work and social attractions. In the more developed countries of the world, land rent represents more than 40% of gross annual production.

Since land is fixed in supply, as people demand more land the rent will increase proportionally. Demand is the sole determinant of land rent. Changes in land rent and land taxes have no impact on the supply of land, because the land supply is fixed and cannot be significantly expanded. Labor and capital are variable in supply. A higher price for commodities causes more labor and capital to make itself available. Labor and capital are rewarded for their work. A high price is an incentive to work harder and longer, while a low price is not an incentive to work harder and longer.

The rent of land, however, serves no such incentive function, because the supply of land is fixed. The same amount is available no matter how high or low the price. Buildings are not a part of land rent. Land rent results from the desire made by everyone who lives within a community to use land. Economic rent is the only source of revenue that could be taken for community purposes without having any negative effect on the productive potential of the economy. Economists consider rent to be a surplus payment that is unnecessary to ensure that land is available. When a community captures land rent for public purposes, both efficiency and equity are realized.

The economic market rental value of land should be sufficient to finance public services and to obviate the need for raising revenue from taxes, such

as income or wage taxes; sales, commodity or value-added taxes; and taxes on buildings, machinery and industry. Public revenue should not be supplied by taxes on people and enterprise until after all of the available revenue has been first collected from the natural and community created value of land. Only if land rent were insufficient would it be necessary to collect any taxes.

The collection of land rent, by the public for supplying public needs, returns the advantage an individual receives from the exclusive use of a land site to the balance of the community, who along with nature, contributed to its value and allow its exclusive use.

2.5.2. PRINCIPLES OF LAND ASSESSMENTS [14]

An appraisal is essentially an expert opinion of the market value of a site; the assessor must present one that is supportable and comprehensible. The assessor must develop and use specific terminology suitable and pertinent to land appraisal.

Land is the entire non-reproducible, physical universe, including all natural resources. A land site includes everything within the earth, under its boundaries and over it, extending infinitely into space. In addition to a location for a house or building, a land site would include the minerals, water, trees, view, sunshine and air space. The shape of the site can be described as

[14] Arden, Gwartney, Ted. Estimating Land Values, Delawere ,July 1999

an inverted cone with its apex at the center of the earth and extending upward through the surface into space.

In appraisal, a *land site* is a parcel of land that is finished and ready for use under the standards prevailing in its area. It might have the necessary public utilities in place, like gas, electricity, water, telephone and sewer, with streets, sidewalks drainage and grading completed.

The assessor bases his estimate of land market value upon basic economic principles that serve as the foundation of the valuation process. There are many economic principles which people and assessors must understand and use when implementing judgment to estimate land market values. It is necessary to discuss a few of the more important principles.

The principle of *substitution* maintains that the value of a property tends to be set by the price that a person would have to pay to acquire an equally desirable substitute property, assuming that no expensive delay is encountered in making the substitution. A person would pay no more for a site than would have to be paid for an equally desirable site.

The principle of *supply and demand* holds that the value of a site will increase if the demand increases and the supply remains the same. The value of the site would decrease if the demand decreased. Land is unique, since the supply is fixed; its value varies directly with demand.

The principle of *anticipation* contends that land value can go up or down in anticipation of a future event occurring, or a future benefit or detriment.

The principle of *conformity* contends that land will achieve its maximum value when it is used in a way that conforms to the existing economic and social standards within a neighborhood.

2.5.3. PROCEDURES OF LAND ASSESMENT[15]

An assessment (or an appraisal) is essentially an opinion of value made by an experienced knowledgeable person. Specialists are known as assessors who base their estimate of land market value, upon basic economic principles which serve as the foundation of the valuation process. Anyone can learn how to do this and learn to do it better.

The assessment or appraisal process is an organized procedural analysis of data. This procedure involves six specific phases, each of which contains numerous procedures.

2.5.3.1. Defining the Assignment

The goal is to estimate the market value of all land sites within a given district. This will include manufacturing enterprises, apartments, commercial enterprises, single family home sites, government land, farms and all other land and natural resources of various descriptions.

The assessor should be able to support his estimate of land market, both in discussion and in writing. The assessor must define and use specific terminology suitable and pertinent to land appraisal. Economic Land Rent was

[15] Arden, Gwartney, Ted. Estimating Land Values, Delawere ,July 1999

defined as the value paid or imputed for the exclusive right to use a land site location or natural resources for a period of time, generally one year.

2.5.3.2. Determining the Data required and Its Source

A land market assessment system is based upon data related to land attributes. These data generally include maps; aerial photographs; descriptions of physical characteristics like size, shape, view and topography; permitted uses; economic usefulness; present uses; available utilities; proximity to town centers or employment; and site improvements like streets, curbs, gutters, sidewalks and street lights. Governments have much of this data available in the different agencies.

How are values or acquisition fees currently being determined and paid by land occupiers? Are records being maintained for the values or fees that are currently being paid by land occupiers? If land market values have been estimated in the past, attempts should be made to build upon the existing systems while making constant improvements to data collection.

2.5.3.3. Collecting and Recording the Data

Most governments do not have all of this information available in a single data base capable of analysis. Assessors must determine; 1) what land data and valuation systems currently exist, 2) how effectively they operate, 3) how to build upon and improve these systems and 4) how to implement procedures for collecting additional data to improve the estimates of land values.

If no effective land revenue systems are in place they can be created in a manner similar to the following. Assessors should ascertain what land data presently exists and how it could be assembled for use in a land valuation system. They should collect and maintain the data needed from any existing records even though it is not currently stored in a single source. They should determine what additional data would be valuable and from what sources it can be obtained. They should develop procedures for collecting any additional data required to determine land market values and the data should be collected for the differences in characteristics for each site.

The assessor may train a small team to find and record the additional desired data. The data should be displayed in a useful manner such as on a land market value map or a computer printout. In an area with no systems or data in place, simple relationships could be drawn for permitted use (zone), distance to amenities (location), physical characteristics (size, topography, view, and so on) and other significant factors. Data could be collected and analyzed on a neighborhood and type of potential use basis.

Conversations with residents and businessmen could help to define the parameters which people in the local community use to determine favorable land location. An interview might reveal that the distance to transportation, such as a river, roadway or public transportation, weighs greatly in people's minds. Or, other factors may predominate, such as homogeneity of a neighborhood or distance to shopping and schools. Planners, government

officials, real estate agents, appraisers and others involved in real estate may also provide useful data.

Even if no land sales or market evidence exists, the specific factors that influence land market value are well understood by most people in any area, even in primitive cultures. The assessor's job is one of skillfully determining the relative priorities identified by local people.

A sample of typical and varied land sites within a city could be selected to demonstrate a land valuation system. Based upon a study, land market values could be assigned by a competent assessor. The assessor could use a few people trained to collect and analyze existing data, then analyze the sample survey data and set standards for the base market values in the area. The difference in market value of the attributes that enhance or detract from a typical site could be added or subtracted to the base market value for the other sites in the study. These features should be recorded on the land market map, which would show the primary sites with markets declining as desirability decreases or increasing as desirability increases.

2.5.3.4. Verifying the Data

Since the appraisal process is an opinion of market value that is not based upon the personal experience of the assessor, the data collected should be verified with two different sources. Market data should be verified with a person directly involved in the transaction. For example, one party could be the selling agent representing the responsible for the sale. Another party

could be the site user who agrees to the sale amount. Additional sources might be government land agents or officials who have first hand knowledge of the sale. Concerned citizens can also bring inaccuracies to light if the data is made available to the public.

2.5.3.5. Analyzing and Interpreting the Data

The balance of this report will be concentrated on various methods of analyzing and interpreting land market data. Several methods will be suggested to secure the goal of estimating the market value of all land sites.

2.5.3.6. Estimating the Market Values

Once the analysis has been concluded, it will be possible for the assessor to make a rational estimate of the market value of every land site. This estimate will serve as the basis for the value that will be paid by a site user for the exclusive use of a location (site). The assessor would assign preliminary land value estimates based upon the comparative estimated usefulness and desirability of the sites. Initially, they could accomplish this task in a general manner, with the understanding that refinements would be made to reflect new information and public opinion.

2.5.3.7. Public Examination and Analysis of the Land Market Values

The preliminary land value assessment, estimated for each site, could then be displayed on a land market map. Public examination and analysis of

the land market values for land sites would help to clarify any errors in assessments. People who occupy land acquire skills in noticing slight differences in land characteristics. They can explain to the assessor why and how differences should be reflected in the conclusions about land values.

Once an adequate sample survey has been completed and had favorable public review, the result can be used throughout the total area. These sample data results could be used to estimate the comparative markets of each land site.

To ensure the optimal and equitable use of land sites, land assessments should reflect the attitudes of the individuals who can make the highest and best use of the site, who would be willing to pay more than individuals with inferior uses in mind. Those neither requiring nor willing to pay the land taxes for a superior site would use another site that met their needs, desire and budget, thus making it available for others whom can pay for the better site.

2.5.3.8. Periodic Updating of Assessments

Land market values tend to increase each year at a rate usually greater than inflation. Building values tend to decline each year, because of a wearing out of the physical structure or its functional desirability. If assessments are not maintained on a regular basis (annually) land will become greatly under-assessed and buildings will be over-assessed in only a few years.

In Turkey Land values assessments have been updating for each four years. Depend on this process, land values must be appraise until 31 August 2001 for the future four (2002-2005) years. It will mention about this updating process in Chapter 5 comprehensively.

2.6. MULTIVARIATE LAND VALUE MODEL FOR THE STUDY AREA

Multivariate land value model is important that explain which factors are affected to land values for a given place. Yeates and Garner (1971) have provided one of the best illustrative examples of a multivariate land value model for the city of Chicago (USA). The research problem was to account for the spatial variation in land values within Chicago for the years 1910 and 1960, with two time periods being chosen to assess any significant change over time.

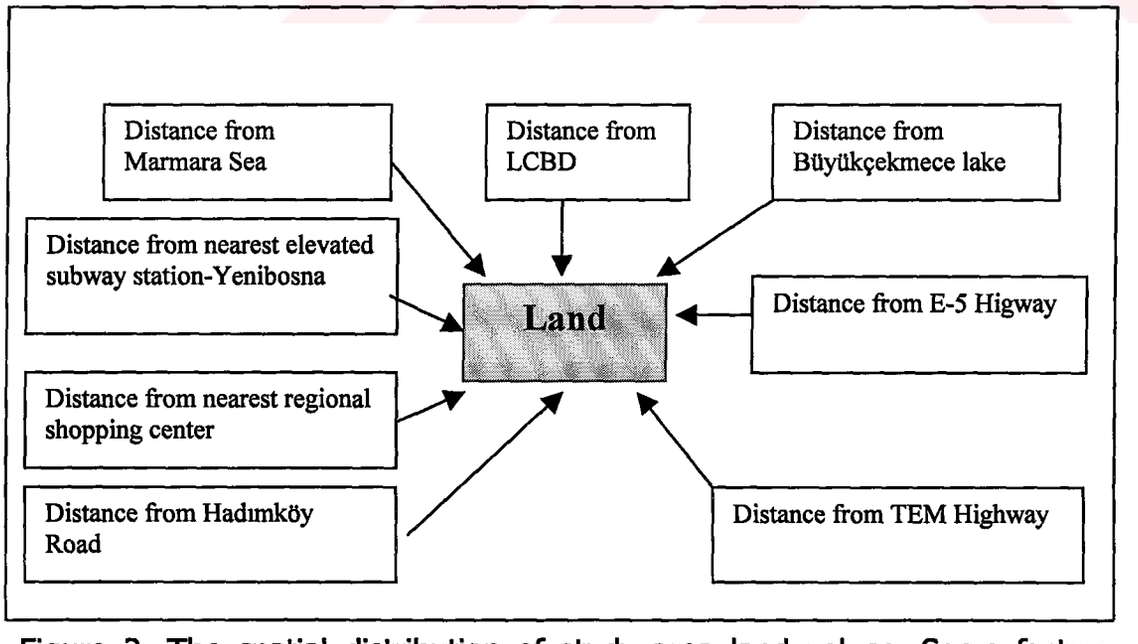


Figure 2. The spatial distribution of study area land values. Some factors affecting to land values.

This multivariate land value model for the study areas shows that, land values seem to decrease with increasing from the local central business district and especially increasing from Hadımköy Road. Land values account for 1990 to 2001.

2.7. LAND USE AND LAND VALUES USING GIS

Geographic Information Science (GIS) has become an important tool in the analysis of land use, land values changing and urbanization. With GIS we can show easily, where the population density high or low. However, the use of GIS as a vehicle for land values changes mapping is little more than a decade old. In addition to the availability of faster, more powerful computers and the increased user-friendliness of GIS software programs, the ability to move information easily from one computer to another via an internal network server or the Internet has contributed to the effective use of GIS in land values changing analysis. GIS provides some useful maps for land use and land values changing, population density and land values changing that we can compare.

There are many jurisdictions that have both prior market value estimates and some site data available on a computer. They may be capable of using this data as a basis for updating market estimates.

Many government agencies have already collected limited data about land on a computer system. By analyzing market trends, new land market

estimates could be made with a single updating factor for each permitted land use within a neighborhood.

An entire country would be capable of annual reassessments, updated by computer data entries. A simple model used for computer calculation of land value or market values for 1,000,000 land sites could be based upon a careful analysis of the market value of a sample of 12,000 sites. A local valuation committee of land experts could define the land use classes, neighborhood areas and market values for each standard site in the area. A Geographic Information System can be use to display land values, characteristics and statistical data.

The advantages to using a computer assisted market update include the abilities to:

1. Facilitate frequent update of markets ensuring equitable treatment of all renters.

1. Eliminate arithmetic errors in land value calculations.

2. Improve the assessor's productivity in land value assessment.

4. Employ standardized assessment techniques that have proven to be effective.

Gis technology is especially useful in providing us with a more complete picture of the relationships between all the elements of the various natural and cultural systems on which we depend.[16]

Land records as the basis upon which geographic information is related to physical locations on the earth. In a geographic information system, this is accomplished by the use of three types of referencing systems.

1- Cartographic references: Maps that define spatial relationships among cartographic features.

2- Coordinate systems: Coordinate that defines the positions of features on the surface of the earth so that they can be accurately represented on maps.

3- Location identifiers: Codes that are used to link attributes of physical entities to their cartographic features.

While local governments have a variety of choices to make among these three types of reference systems, at least one choice from each of the three types must be present in a GIS in order for location-related attribute data to have spatial meaning to local government officials. This is because maps are needed to identify where one feature is in relation to another map feature; a continuous coordinate systems is needed to relate separate maps to each

[16] Huxhold, W.E., An Int. to urban Geographic Information Systems. Oxford Uni. Press. London, 1991, p. Xİ.

other; and location identifiers are needed to relate data about physical entities to the objects that represent them on maps.

Cadastral maps are important land record information. In local government, cadastral records form the basis upon which property is conveyed, assessed for taxation, and managed for delivering public services. Cadastral records consist of maps, documents, manual and computerized files, and other legal and official instruments that contain information about the cadastre-legal information about property.

The primary purpose of assessing property is to provide for fair and equitable taxation of the land for producing the revenue needed to run local government. Fair and equitable taxation requires that properties having similar characteristics (size, location, type of building, age, income-producing potential, etc.) also have similar taxes levied against them. As in land –title recordation, property assessments are the responsibility of local government in the United States. Depending upon the state and the region within the state, property assessments are performed either by the country, the township, or the municipality. These units of government perform the following functions in assessing property:

- Locating and describing properties.
- Appraising or estimating the values of properties.
- Keeping records that link owners to their properties.

- Designating the official value of properties for taxation.

The records most tax assessors maintain and use in performing these functions include tax maps, property record cards containing detailed notes, characteristics, and sketches describing each property, and computerized property characteristics databases.

The tax maps used by local governments to assist them in their land-title recordation and property responsibilities are "cadastral maps" which are created and maintained through the legal authority and responsibility of local government. When a local government implements a geographic information system, it may choose to use these maps to build its cadastral base map[17].

2.8. CONCLUSIONS.

As a result, Urbanization is defined a changing Land use. In other words, urbanization studies to spatial distribution economic, social and historical events. All events occur on a land. Actions that occur on the land influenced to land use and land values.

Nowadays urbanization, sub urbanization and, exurbanization processes have been widely in countries. For this reason, land use land values have been changing day by day. First factor of changing land values is demand. If the demand is high, price will increase, in contrast, if demand is low, price will decrease. Estimating land values is more complex because of theirs

[17] Ibid., p.p. 185,186,187

multivariable amounts. That's why prices of land update in specific times in countries.

GIS is important tool on land use and land values changing. Now, many governments and local governments have already used to collect data about a land site on GIS.

With the urbanization in metropolitan cities in the world, metropolitan areas have expanded to the outside of city center. At these places, land use has changed. According to this change, amount of land influenced immediately as increase or decrease.

CHAPTER III

THEORY AND METHODOLOGY

In this chapter, firstly the research questions that are attempted to answer are stated and what they referred and which actions will be settled to answer them are explained. Secondly purposes of the study are given based on the research questions. Than the precise research boundaries, scope explained, and the study area are kept limited to be able to work on detail.

Following that section, the sources of data will be addressed. Also in this section, the procedures used to collect data will mention. Than practical research design is coming which methods used to analysis of data. After that the particular computer program such as GIS software (Arc View and its extension, Surfer), used to analyze the data will be detailly demonstrated with justification for their use. Finally the case study approach is mentioned. To be able to be as a case study, any to be unique, and this section, what is the importance and why Çakmaklı, Akçaburgaz areas have been chosen are answered.

3.1. RESEARCH QUESTIONS AND PURPOSE

One of the newly developing areas of the outside of Istanbul CBD (Central Business Center) is Çakmaklı-Karaağaç area. More specifically Çakmaklı-Akçaburgaz enclaves need to investigate in order to explain which factor(s) affected the recently developing areas. In this part, following

researches questions will assist the causes and their sentences for the future development and researches.

1- To describe and explain why land values changed rapidly from 1990 to 2001. Which factors affected increasing of land and building land values in terms of industrial, commercial and, residential sites? How can the industrial structure of the study area be described? How are the land prices's raising trends? What are land price trends?

All questions above refer to chapter 5 on the land values changing in Çakmaklı-Akçaburgaz enclaves from 1990 to 2001.

2- How has the history of the land used been formed and how is land used presently in the study? Why is it being changed day-by-day? What are the land use trends demonstrated? Furthermore, what are the relationships between land use and land- value- change?

These questions refer to chapter 6 land use classification in Çakmaklı-Akçaburgaz areas within 1990 and 2001 years.

3- With all the changes experienced on this side, the study area faces many problems. What are the problems?

This question refers to also chapter 4 and 6. Which kind of problems occurred with the changes in these areas? These problems have influenced to all activities in study area.

4- Why have some cohorts (particularly the wealthy) and some selected institutions migrated to this area? Have Land value changes in the exurban areas of the Istanbul can be especially well explained using the descriptive power of GIS.

These questions refer to chapter 4 and 2. To explain to urbanization processes in that side will helpful to future research. With the using the GIS has provided to some useful maps with their databases.

3.2. RESEARCH BOUNDARIES AND SCOPE

In this title, the following questions will be investigated:

1- Where will be studied area exactly located? The study area is located western parts of Büyükçekmece Lake. It also occupies between E-5 (E-80) and TEM and lies along to San-Bir Avenue.

2- Why will especially this area be studied? These recently developing sides, especially Çakmaklı-Akçaburgaz area is vital because of its geographical location; depending on this situation, land values and land use of this area has been changing.

3- What is the scope of the research? This study is limited from land values and land use changing in this area. With these changes and exurbanization some problems occur. Other remarkable matters are Urbanization and urban structure of the study area.

3.3. SOURCES OF DATA

In this research, so many data were taken from different kind of data sources. Data sources are following:

1- The Metropolitan Municipality of Istanbul: Aerial Photography and Digital Topography Maps.

2- Büyükçekmece Municipality: Property affairs and improve, planning Department of Büyükçekmece Municipality.

3- Star Mapping and Planning Company in Beylikdüzü.

4- Kent Real Estate Agency and Building Company.

5- Re/Max Real Estate Agency.

6- Agricultural Credit Cooperative of Büyükçekmece and Agricultural Directorate of the Büyükçekmece.

7- Some person who related to study area, for example, chief of the Çakmaklı place.

8- Some related web sites and seeking web sites such as, Yahoo.com, Hotbot.com, Altavista.com, Findarticles.com, İslemgis.com.tr, etc.

9- San-Bir Company in the Çakmaklı place.

10- Istanbul Chamber of Commerce and Istanbul Chamber of Industrial.

11- University libraries, such as Fatih University, Istanbul and Istanbul Technical Universiy.

12- Other data sources. (Referenced books, Magazines, and articles).

3.4. PROCEDURES USED TO COLLECT DATA

In this study, following methods were used to collect data: Firstly, to determine a general and specific area for research. After determine a study area, data collect procedures were begun. For this matter, some aerial photographs were taken from Metropolitan Municipality.

During the study, I had been visited to Büyükçekmece Municipality several times, for some information tax values of properties. Also in that municipality, I have interviewed to related people, such as head of planning department etc. Furthermore, I interviewed to some private establishments in the study area. All these institutions have been mentioned under the previous title. At the same time, uncountable times, I visited to study area.

3.5. METHODS AND COMPUTER PROGRAMS USED TO ANALYZE THE DATA.

In this research, GIS (Geographical Information Systems) was used to analyze of data. As noticed in chapter 1 and 2 (Literature review), GIS is important tool on Land use and land values researches. Because GIS represent a substantial analysis computer program the data. GIS is very efficient. Hardware and software equipment is getting good and very easy to work it. One person can do the work of several people working on the separate layers. Nowadays, many municipal governments have already tried to collect limited data land on computer systems like GIS.

Because of all reasons above, in particularly, Arc View 3.2 and their extensions that are called Image Analysis, Cad Reader, Geo Processing Wizard, were used. In this research, also Surfer Program was used for the analysis of data

3.6. CONCLUSIONS

As a result, different kinds of methodology have been used to both collect data and analyse data in this study. All these techniques will be help why Çakmaklı-Akçaburgaz area is unique for the study. On the other hand, with the used methods, importance of that area will be displayed comprehensively. Depending on these situations, this is a qualitative research and the case study method is used. In this point, the noted research methods will assist putting forward the causes and finding appropriate solutions for land use and land values and then evolution over time.

To answer these research questions this case study method will be employed and will include the following research techniques:

- Key informant interview of official at the municipalities and, plus at real estate agencies (Kent), mapping and building companies.
- Aerial photograph, digital Topography and cadastral map analysis.

- Site visits.

While these techniques are applying, the main computer tool to analyze the data Arc View GIS 3.2 and its extensions will be used.

CHAPTER IV

GROWTH AND CHANGING OF THE ISTANBUL

The cities are the product of the regions that has a connection together and understanding the transformation of the center of the cities provides to analyse the relation between nearby or distant places. One of the important things to change the cities is the changing the control of them and so that becoming stratification social (Sevin, 1998).

The construction of Istanbul or in other words, the date of the first formation of to settlements in Istanbul there has been many enormous changes. It takes long time to grow for the nucleus of the city as "historical peninsula". And now the city reach to nowadays limits. In this historical process, Istanbul obtains metropolitan characteristics with new occupation centers and new business areas.

4.1 THE HISTORICAL AND GEOGRAPHICAL POSITION OF ISTANBUL

If you investigate the historical past of Istanbul you can see that the city is 2700 years old. This condition provides a very important geographical position for Istanbul. Because, Istanbul which is a unique city in the world that has areas in both continent. With these characteristics, Istanbul became a line between west and east in a cultural sense, too.

Istanbul, Greek, Rome, Christian Byzantium, Turkish-Muslim and modern Turkish Republic: that follows together with five cultures and civilizations, that come together to destroy each other; that remembered as " queen of the cities" give evidence to life of many different nations like Greek, Armenian, Jewish, European, Turkish, Arabian, etc. And also the city that Charles the V called as " to create for the capital of nature and world" for Kanuni Sultan Süleyman is Istanbul[18].

The geographical environment influences all center of population. The mountains, oceans, waters, winds, climates, and environments are the most important factors for the foundations of the cities. But in Istanbul, these factors are merely became a fate for creation. It is says as " Egypt is the product of Nile "; likewise, the product of the position in environment is Istanbul.

For 2700 years "historical peninsula" is stable at the same place. Golden Horn is in the southern Bosphorus, and historical peninsula is in the middle of Marmara Island. The definition of Istanbul is the exciting topography. Topography and the relation with sea is the most important factor to create its' main structure[19].

In a short way we can say that in the period of 2700 years, the most important factor for Istanbul to be a preferential city is its' geography.

[18] İstanbul Ticaret Odası, İstanbul; Kıtlararın, Denizlerin, Yolların ,Tacirlerin, buluştuğu kent. Türkiye Ekonomik ve Toplumsal Traih Vakfı. İstanbul, Eylül 1997. p. 12
[19] Ibid., p. 16.

4.2. THE SETTLEMENT AND THE PROCESS OF RESIDENTIAL DEVELOPMENT

The first evidence of settlement in the area of Istanbul is known as 300 years ago. In Istanbul and in its' environment, there are many primitive instruments' and civilizations' evidence discovered. The archaeological investigations prove that many people lived 300 thousand years ago in Yarımburgaz Cave of Küçükçekmece Lake. It is understood that this caves were used as a shelter or temple. After that, the people that passed to farming culture are used these areas about 7500 years ago. Outside of this area, there are many shelters are found in Marmara, Avcılar, Haramidere, Dudullu, Anatolian edge of Bosphorus about 100 thousand, 50 thousand, 15 thousand years ago[20].

As it is seen, Istanbul has a settlement that reaches to thousand of years. The settle of people still continues with a big speed.

The historical study is not enough for the settlement process of Istanbul. So it is more useful to learn more about turning point of settlement process.

Especially for research subject, after the year 1950, to examine the settlement process, it would clearly be observed that the main reason of manufacturing is to plan. We can say that the years between 1950 and 1980

[20]Ibid., p. 20

is the end of planning period. In this period migration is the incident that effected Istanbul. Migration brings untidy settlement and squatters' house.

After the year 1980, we can separate two period that is 1980-1990 and 1990-todays. From the year 1980 there is chart with 1:25.000 scale prepared. In this chart there are some arrangements about working plans. These are:

- The farming and forest regions and river basin regions that produce the life fountains were to be protected.

- The north regions are prohibited for metropolitan settlement so, the development places are linearly spread to east and west (Hacısalihoğlu, 2000).

Although these prohibitions, we can see the illegal settlement on the north and drinking water basin. After the year 1990, the map with scale 1:50.000 was prepared. The purpose of this map is again to observe the spread of settlement to east and west region.

Globalization is more effective upon urban development of Istanbul after the years 1980 and 1990. By the globalization, residential structure has the following changes:

- The changing in the center of city and functional areas.

- New residential development in the urban constructions.

- Development in the resident

Istanbul is still developing horizontally and vertically with the addition of present residence without any deviation by the cause of these three reason (Sevin, 1998)

4.3. THE RESIDENCE OF INDUSTRIAL REGIONS OUTSIDE OF ISTANBUL

Especially in the years between 1980 and 1990, the city has a dense population explosion by the affect of globalization. In 1980 the part of the population in the city is 10.6 % percent. This number reaches to 12.9 % percent in the year 1990[21]. The effect of internal migration is not changes after 1990 and also Istanbul became a central city in Turkey. This property became traditional. And reach to present time with lots of different areas. But this incident is become different after the year 1990. In this way, the most important thing for Istanbul is the changing in to become a dominant city in the industrial area. Due to heaviness in the industrial sector, increasing in the employee sector is the most important event to proof this changing.

The industrial sector has effected the period in 1930-1990 in the direction to portray a social and economical characteristic for the city with creating a

[21] Hacısalihoğlu, Y., Küreselleşme Mekansal Etkileri ve İstanbul. Akademik Düzey Yayınları, İstanbul, Ekim 2000. p.162

residential form. This general residential is dissolving so that this new economical appearance is changing day by day due to the past.

After the year 1980, the new economical construction and communication technologies have caused an effect all over the world. The two tendencies are "to be centralized and to diffused outside the central" the macro form of the cities (Sevin, 1998) This period there are 9 urban centers in Istanbul. These centers are; Aksaray, Eminönü, Karaköy, İstiklal Street, Osmanbey, Mecidiyeköy, Beşiktaş in the Europe and Kadıköy, Üsküdar in the Asia[22].

The production energy of Istanbul tends to nearby centers in the changing process of economical constructions. There are some reasons like creating organization industrial areas and to encourage investments provide the industrial sector to outside the city although the prices of residence are increased day by day. Another reason of this event is some big and small industrial centers are supporting other industrial areas.

Outside this urban area, Istanbul intensifies both west and east direction. This condition causes a new industrial area outside the urban regions.

4.4. THE NEW FORMATION OF RESIDENTIAL AREAS IN ISTANBUL

The work centers in big metropolitan cities are growing with choosing the place of capital or the distribution of working groups, and diffused to lower

[22] Tümetrekin, E., "İstanbul Şehrinin Coğrafi Anatomisi" Kent Gündem, TMMOB Şehir Plancıları Odası Yayını, No.1.Ocak 1997. p. 43

centers of the city with parallel to macro forms. This lower center of cities has a structure of hierarchy with parallel to arrival. After the year 1980, there have been new transformations being effected by the developing technologies. It is possible to see the new way of residential changing in organizations and macro forms of the cities. For example, in metropolitan cities, there are some chains of lower centers in a focusing point. And also grow in an international globalization between these lower centers (Sevin, 1998)

The communication and new constructions in world economy are the factor of developing urban residence outside the center of city like the other metropolitan cities. And also the population explosion is another factor to create need for new settlement areas; growing service areas are another factor. The encouragement of technological possibility is the factor of migration to outside the city for industrial areas.

This development of urban cities is the effect of residential constructions in changing between the relations of industrial and activity of servants. Technological developments in communication and relation areas are more useful and convenient, that this is decomposing the relation between production and management. This is the example of the effect of globalization on new commercial and formation in new residential areas. Because of the residential creation, the changing of these functional areas

are create residential areas. In other words, these areas are reflection of buying and selling shopping, working areas.

We can separate these places into two groups as central working areas and except these central working areas. To separate like this, we can divide residential areas into 6 groups in the center of Istanbul (Hacısalihoğlu, 2000)

1-) Zincirlikuyu - Maslak

2-) Altunizade -Bağlarbaşı

3-) Kozyatağı - Ataşehir

4-) Kavacık

5-) Güneşli - İkitelli

6-) Beylikdüzü - Haramidere

Zincirlikuyu - Maslak and Altunizade - Bağlarbaşı regions are nearby with the traditional central work areas. The other urban centers are old working areas. In other way of saying Kozyatağı – Ataşehir, Güneşli – İkitelli, Beylikdüzü – Haramidere and Kavacık regions are the regions that have been created outside the center of city.

These regions are in 6 different industrial areas. After the year 1980, developing residential areas identify each other by their shape, texture and architecture. "Big shopping selling centers", "housing estates" are the effects of this similarity.

These new residential creations demonstrate some differences because of their creational shapes, environment, traditional centers and geographical positions. But these differences have a meaning only with their own functions. On the other hand creational reasons have same qualities. If we give the characteristics of these regions, it will be easier to understand the differences and similarities between them.

1-) Zincirlikuyu – Maslak:

This is the region that is intense servant centers and general management of big companies. 30% percent of commercial banks in Istanbul is in this region. If we expand the area to Esentepe, this percent became 60%. At the same time the general management of IMKB, stock exchange companies, factoring companies, leasing companies, investment banks and big advertisement companies are in this region.

The most evidential characteristic of this region is skyscrapers. For this reason this region is called as "Manhattan" in New York.

2-) Altunizade – Bağlarbaşı:

The most important reason of developing this region is E-5 main road and Boğaziçi Bridge. This region is nearby these constructions. This region obtains it's own appearance because the companies and big buying selling shopping are in this region.

3-) Kozyatağı – Ataşehir:

This region is between two main roads E-5 and TEM. Also the biggest buying, selling, shopping centers are in this region like Carre Four and Metro.

4-) Kavacık:

This is a developing region after constructing Fatih Bridge and TEM main road. In the past this small residential region is developed with big companies and plazas.

5-) Güneşli – İkitelli

The big part of this region is developed by the migration of mass media companies from the historical peninsula. This region has attraction after construction of TEM main road and Atatürk airport. There is not any skyscraper because of the airplanes.

The most important difference of this region from other regions is to have activities in to specialize in servant activity. This feature is obtains by "mass media companies" to this region. Most of the centers of visual and literary media companies are in this region.

Another special characteristic of this region is to have the first foreign capital selling, buying shopping Metro Grossmarket. This region is developed in illegal constructions. But in the present it is started to construct housing estates.

6-) Beylikdüzü – Haramidere:

Beylikdüzü – Haramidere – Hadımköy region if outside residential area from the city that is depend on industrial and commercial companies. So this region is far away from the city. The most important characteristic of the city is intensive housing states (200 thousand housing estates). After the permission of constructing in 1987, there is a big migration to this region.

The results of constructing, this region has a big population. This event prepared a background for commercial constructions. The most important factor for developing fast for this region is TEM and E-5 main roads.

The position of the region and constructing fast skyscrapers are the main reason for this region to develop.

In this region we can say that there is a planning constructions. Because the constructors of the residences are in a systematic way and there is a communication between the companies. In other words, the managers and workers of these companies are living in these constructions.

Beylikdüzü – Haramidere region is quickly developing because of the reasons that we say in the last paragraph. Also this region will be a big center of the companies in the future.

In the region nearby the TEM main road, industrial and commercial companies, new housing estates, are constructing in this region. This region can be think of a continuance of Haramidere – Beylikdüzü region or can be

think of another region. As a matter of fact this region will investigate as another region.

4.5. THE ÇAKMAKLI – KARAAĞAÇ – HADIMKÖY REGION

Çakmaklı – Karaağaç – Hadımköy region have especially widely developed after the year of 1980. The industrial and commercial companies that constructed near the main road and the tendency of rich people to construct residence in that region is the main reason of developing. The other reason of developing is being near the main roads.

This region has directly relation with Haramidere – Beylikdüzü region. Because of this region has connection with Haramidere – Beylikdüzü region by the E-5 main road. The small companies that have activity in the center of Istanbul are migrating to this region. After the year 1985 the number of the companies that constructed in this region has quickly increased. In 1994 the number of these companies are only 80, and in 1997, it rose to 216, but now the number of companies reaches to 316.

The companies that have an activity o this region are firstly bought the empty building lands and then they have constructed their own buildings. As it has been investigated, 84% percent of the companies have their own constructions and 11% percent of the companies are the renters (Cengiz, H. 1995). This also has increased the demand for the empty building lands in the regions that is recently developing.

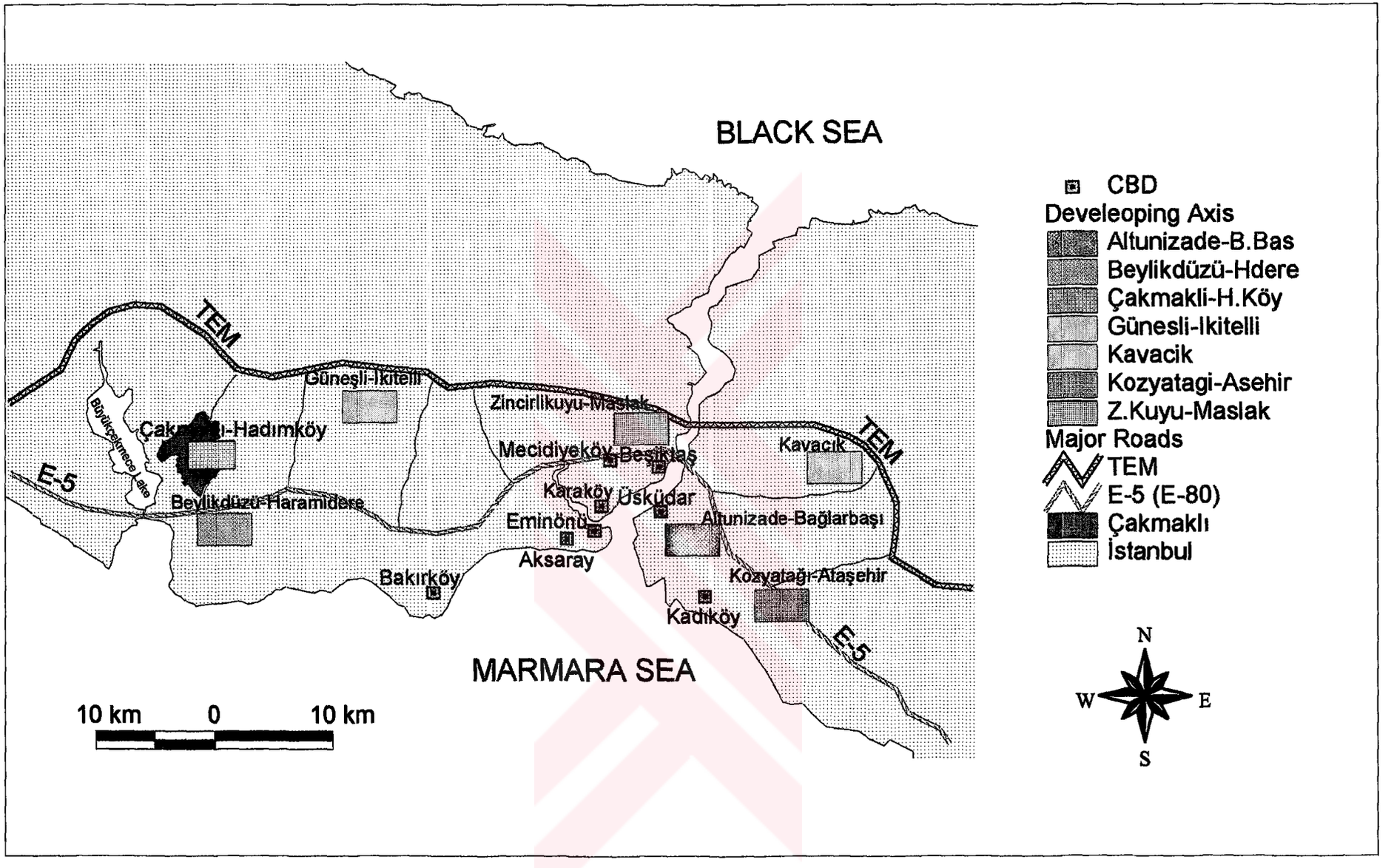
After the year 1985 there is a construction of different types of companies. So, the relations to these empty grounds are increasing.

Figure 3. A view from Beylikdüzü-Haramidere axis.

4.5.1. RESIDENTIAL AND SETTLEMENT STRUCTURE OF ÇAKMAKLI- KARAAĞAÇ - HADIMKÖY REGION

The settlement event in the region is to based on past. Until last years these residential areas are in a rural characteristics. Although the rural residential are continues in a urban meaning residential migration is more bigger than rural. The residential migration of the region is acting in a plan. But sometimes it can be act on an untidy way like Akçaburgaz region.

The main residential areas are: Kıraç, Çakmaklı, Akçaburgaz, and the north region of TEM main road, Karaağaç Village. Hadımköy is in the horthern part of the region.



Map 2. Newly Developing Areas in Istanbul Modified by Hacısalihoğlu 2000

If you investigate the main structure of this region, you can find lots of different social, cultural and economical configuration that are together in an abstraction way. On one side of the region the rural residential are acting, on the other side housing estates are constructed.

Figure 4. A view of study area.

The new developing housing estates are constructed as the minimum contact with outside. As a matter of fact, all the villas have a confidence security. These villas have lots of security structure and isolated from the problems of the region.

The number of the villas that have prestige in the region is addressed to rich people can slip off from the problems of the region; and, the population of that kind of people is widely increasing in Istanbul. Near the areas that can be called as prestige areas there are untidy constructions called as suburbs which appear with the problems of the region. It is seen clearly in

Akçaburgaz. The opposite of this, there are perfect villas in the opposite side of the road called as Alkent-2000 villas.

Figure 5. Alkent 2000 villa site.

4.6. CONCLUSIONS

Until today from in the past Istanbul has a residential activity all the time. This activity continues to nowadays because of the geographical advantage of the city. In the present it is still continuing.

Istanbul City is begins to defuse outside parts of the city like other big world cities because of the new economical constructions and globalization in telecommunications. In this process, Istanbul has lots of areas outside the city.

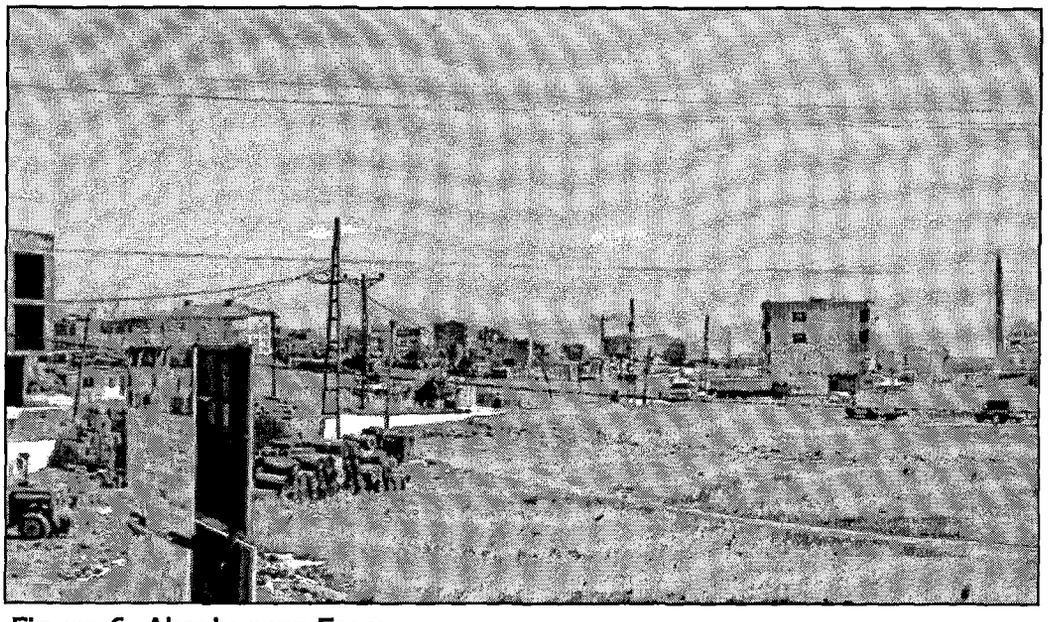


Figure 6. Akçaburgaz Farm.

One of these regions that is the main purpose of this study is Çakmaklı – Karaağaç – Hadımköy region. This region is inside of the residential process, and it is still going on in a fast way.

Especially Çakmaklı and Akçaburgaz regions on the both sides of Hadımköy Road are in a residential development. The result of development is increases the requests for this region. This event is causes to increase the price of this region.

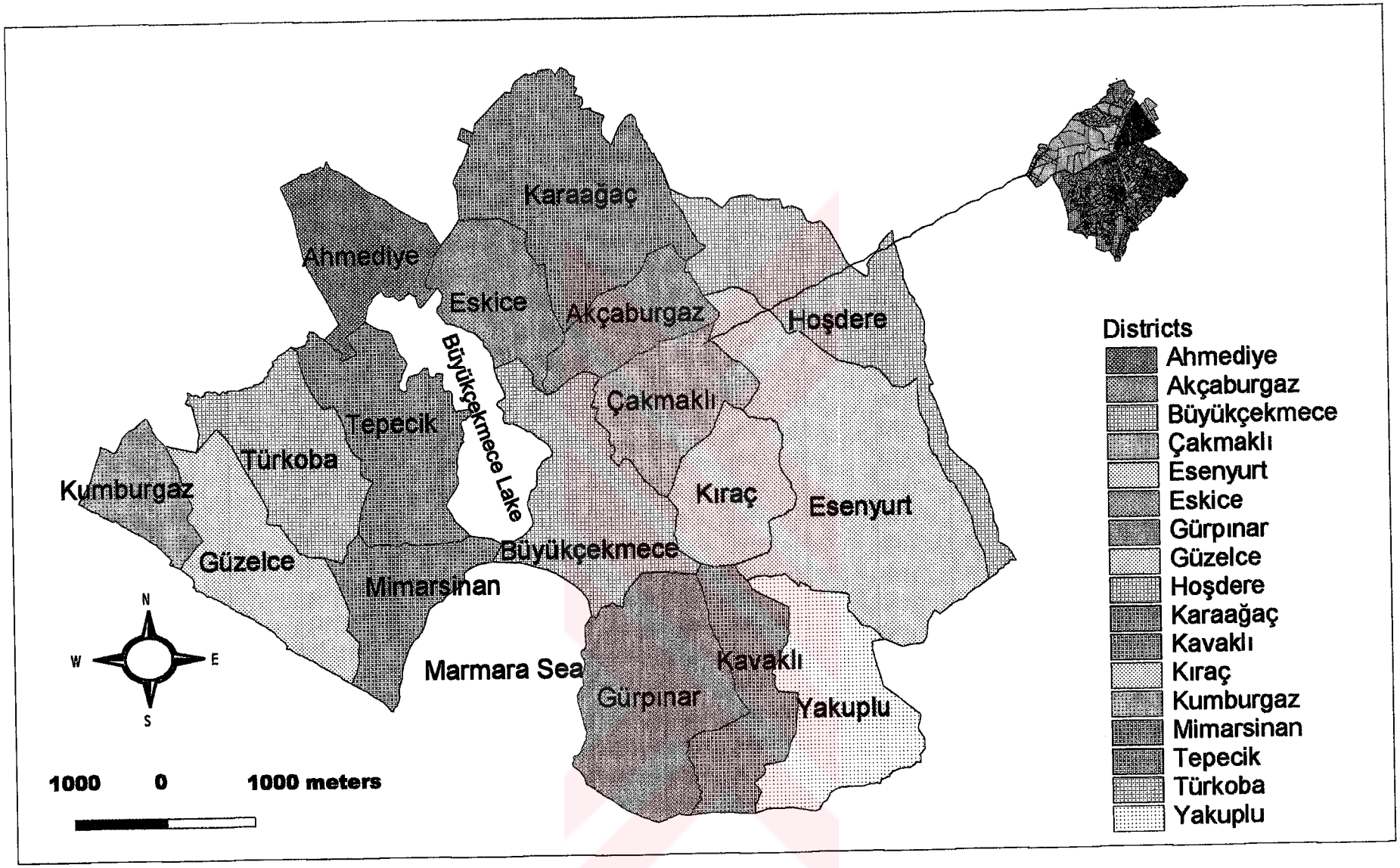
CHAPTER V

CHANGE OF THE VALUES OF LANDS AND PLOTS OF LANDS IN THE REGION OF ÇAKMAKLI-KARAAĞAÇ BETWEEN THE YEARS OF 1990-2001

The first inhabitation in the region of Çakmaklı - Akçaburgaz – Karaağaç dates back to old times. It is old that Çakmaklı village owns a history of 500 years[23]. Though settlement activities in the working area are too old, the region gained importance especially after 1980s. The prime reason is the increasing industrial organizations in the region, and the natural and ongoing expansion of the Istanbul City as a huge, extensive human crowd-burst to adjacent cities.

Industrial activities in Çakmaklı region started in 1985 especially after 1989[24]. Before industrial activities, stock farming, sheep and goat breeding, poultry were held[25]. By industrial activities after 1989, the region became flourished in communication, commerce, and industry. Especially, at the boundary of Çakmaklı village, the eastern side of Hadımköy Road and the region of Kıraç and Esenyurt have become approved industrial zones in Istanbul after 1980. By building of TEM highway in 1990, Hadımköy Road

[23] Ergine, N, last chief of the Çakmaklı village, The head of theAgricultural council of the Büyükçekmece and farmers, April 2001.
[24] Yılmaz M, San-Bir Asst. Director General, San-Bir Industrialists Service Operators and Trading Inc. Sanbir Avenue, Altunkent Business Center, Büyülçekmece, April 2001.
[26] Ergine N, last chief of the Çakmaklı village, The head of theAgricultural council of the Büyükçekmece and farmers, April 2001.



Map 3. Districts of Büyükçekmece

having a history of 80 years was widened, brought into two lanes, and became a connection between TEM (Trans European Motorways) and E-5 (E-80).

The increase of industrial organizations in 1990, TEM Motorway, enlargement of Hadımköy Road, Alkent villa sites have all caused the price of lands in the region to increase.

5.1. CLASSIFICATION OF LAND AND PLOT OF LAND VALUES

As in other real estates, the most important factor affecting the prices of lands&plots of land is "Demand". The location, commercial structure, infrastructure, inhabitation, transport, communication, topography determine the demand value.

Generally, two different values are used in determination of unit prices of lands. The one is the values of the government to collect tax; the other is daily market (Transaction) value.

5.1.1. TAX VALUES

Tax values for lands are announced by a commission formed up once four years upon request of general directorate of Finance Ministry. This four-year period is named "Real Estate Tax Period". Appraisal commissions are formed up for lands and plots of lands separately. The appraisal commission for the

plots of lands consists of the below members in accordance with the 72nd article of the Tax Procedural Law[26].

1. Mayor or deputy
2. An authorized clerk from municipality
3. Director of land Registration, or assignee
4. A member elected by the chamber of commerce
5. Headmen of the district

The appraisal commission for lands consists of below members in accordance with the third clause of the 72nd article of Tax Procedural Law[27].

1. Governor
2. Regional tax director
3. Provincial director of agricultural ministry
4. A member elected from the provincial chamber of commerce
5. A member assigned from the provincial chamber of commerce

For the general declaration for the 9th period of the year 2000, by the general directorate of finance ministry for revenues, with a communiqué sent to the provincial tax directorates, and later to be sent to counties, an evaluation should be done for the next four years (2002-2005) until 31

[26] Real Estate Law, Internal Instructions, Tukish Finance Ministiry, General Directorate of Revenues, Ankara, March 2001.
[27] Real Estate Law, Internal Instructions, Tukish Finance Ministiry, General Directorate of Revenues, Ankara, March 2001.

August 2001. Evaluation for plots of land and large lands will be held separately.

Table 1. Tax values of lands in the study area from 1990 to 2001

Property affairs of the Büyükçekmece Municipality 2001 March

1 sq meter (TL)	Barren	Flat	Marshy
1990-1993	5.000	1.000	2.000
1994-1997	6.000	12.000	24.000
1998-2001	50.000	100.000	200.000

In evaluation of plots of lands, the land need be divided. In accordance with the clause of the decision of the council of ministers regarding "Divided land to be counted as plat of land", "out of the municipal areas, in order to establish housing, tourist or industrial plants, in whatever way, divided and registered in title deed" and in accordance with clause of the same decision, " out of municipal areas, near rivers, lakes, or main roads, or at important industrial or tourist locations, upon recommendation of ministry of development and housing, within the areas specified in the decision of the council of ministers", the lands or plots of land reserved as inhabitation by the development plan will be counted as plots of lands[28].

[28] Real Estate Law, Internal Instructions, Tukish Finance Ministiry, General Directorate of Revenues, Ankara, March 2001.

The evaluation for lands will be realized in regards of quality of land (barren, watery etc). In determination of the kind of the land, the below factors will be considered[29].

a) Barren land: Barren land is evidently high, sloppy, and unavailable for irrigation. Annual rainfall is insufficient, and rainfall is irregular. Vegetation of cultural plants is available. Un available land for irrigation is counted as barren.

b) Flat land: lands which are nearly flat and able to collect rain water and river water and have the "good", "insufficient", and "bad" drainage qualities. Plateau is the land where rainfalls or rivers meet. Such irregular land is generally plain, unusable and under bad drainage conditions.

c) Marshy land: Watery land is the land fed by water. Any land that can be watered from "flat" and "barren" lands is called marshy.

5.1.2. MARKET (TRANSACTION) VALUES

Upon request of the government, beside the tax values specified by appraisal commissions, in evaluation of prices for land or plots of lands, there are "market values" varying as to their particulars in the area. Market values, as mentioned before, mainly demand, show difference by effects of location, commercial structure, infrastructure, transportation, topography etc. This change of price may be same or different for each plot of land in any region.

[29] Real Estate Law, Internal Instructions, Tukish Finance Ministiry, General Directorate of Revenues, Ankara, March 2001.

In other words, there may be plots of lands or lands having thoroughly same or different particulars in the same regions.

Local real estate bureaus or companies determine the final market values of the lands according to varying market values.

5.2. EVALUATION OF THE LANDS IN ÇAKMAKLI-KARAAĞAÇ WITH REGARDS TO TAX REVENUES.

When we examine the change between 1990 and 2001 in regards of real estate tax (Table 1), it is seen that there has been a huge increase in all kinds of lands. Watery lands and plateaus show extreme changes that increased 100 times.

5.3. EVALUATION OF PLOTS OF LANDS IN ÇAKMAKLI-KARAAĞAÇ IN REGARDS TO TAX REVENUES.

When we look at the change in tax revenues, the periods of declaration (1990-2001) will be better for evaluation separately.

5.3.1. THE PERIOD OF 1990-1993

By beginning of industrial activities at Çakmaklı Village, the industrial plots of lands showed a trend of increase. The plots of lands near Hadımköy Road are in same value with industrial plots of lands (Table 2). Other plots of lands in the region reflected different prices according to their locations and importance.

Table 2: Tax Values of Building Lands in Çakmaklı from1990 to 1993 from Property affairs of the Büyükçekmece Municipality 2001 March.

No	NAME	Price(TL) 1 square meter
1	Village center	4.000
2	Adjacent of Hadımköy road	10.000
3	Underside of village	2.000
4	Akçaburgaz farm 1	4.000
5	Akçaburgaz farm 2	10.000
6	Industrial area	10.000
7	Conservation area of lake	1.000
8	Demet Seveni Place	10.000
9	Alyaniregi Place	4.000
10	Taşeli Place	4.000
11	Meryem Kadın Place	1.000
12	Kurak road place	1.000
13	Bağlar road place	4.000
14	Kumsal yayla	10.000

5.3.2. THE PERIOD OF 1994-1997

The plots of lands at Hadımköy and environs, Akçaburgaz farm, are the lands with highest price (Table3). The environs of Hadımköy Road is industrial and commercial, so the prices are the highest. The prices of plots of lands at Akçaburgaz are also high. The reason is the Alkent 2000 houses built in this region. The plots of lands increased rapidly in the same period.

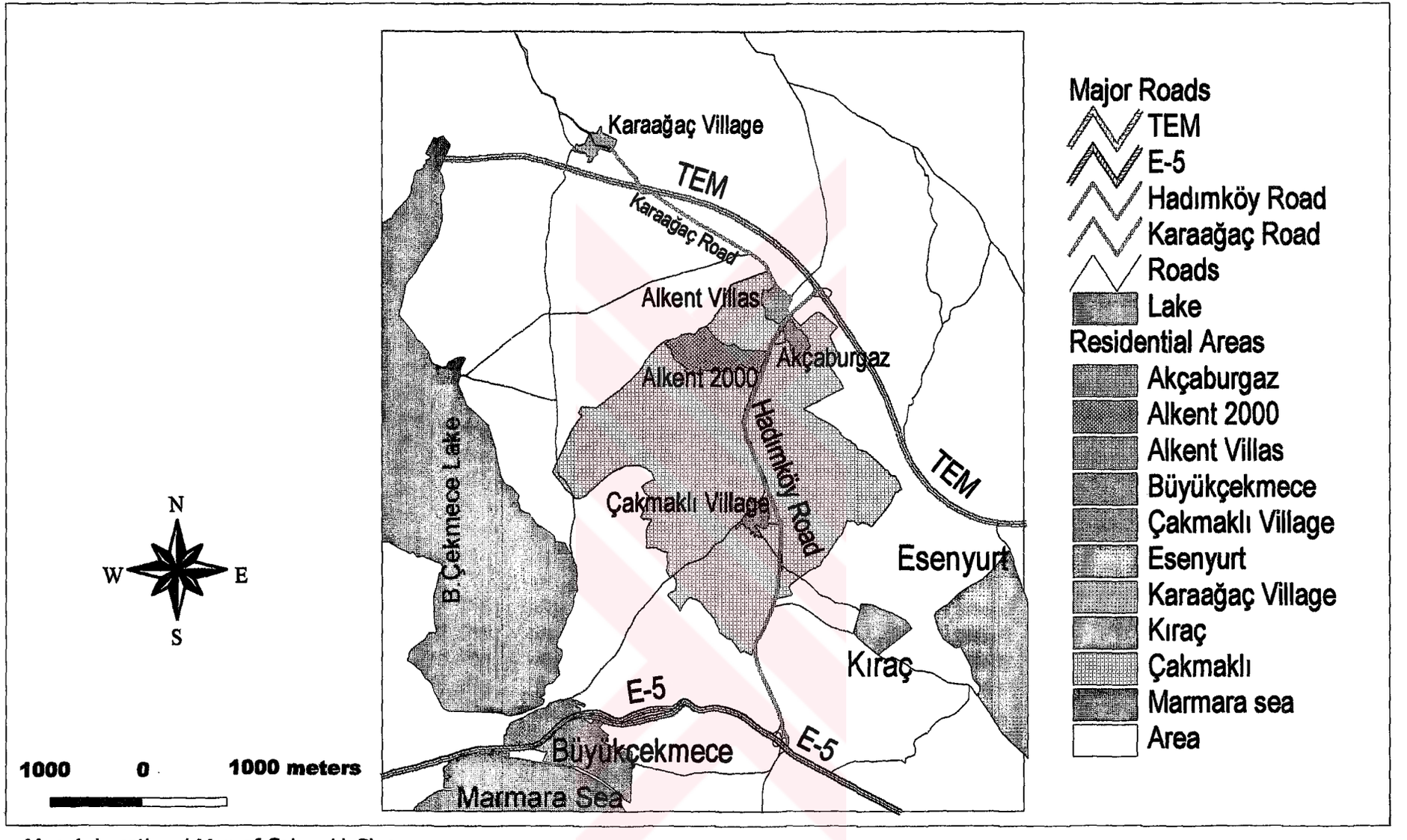
Table 3: Tax Values of Building Lands in Çakmaklı from 1994 to 1997 from Property affairs of the Büyükçekmece Municipality 2001 March

No	NAME	Price (TL) 1 square meter
1	Akçaburgaz	350.000
2	Akçaburgaz farm	250.000
3	Dwelling area of Akçaburgaz	100.000
4	Akyel Eyriği place	200.000
5	Bağlar place	100.000
6	Bağlar place	200.000
7	Çekmece Road	50.000
8	Conservation area of lake	5.000
9	Adjacent of Hadımköy road	350.000
10	İdarece tahr.	200.000
11	Underside of village	50.000
12	Village center	100.000
13	Kumsal yayla	100.000
14	Meryem Kadın Place	5.000
15	Interior Industrial area	250.000
16	Taşağılı place	250.000

5.3.3. THE PERIOD OF 1998-2001

In this term we match a different situation. In Region Lake protection area was considered and evaluated at four different categories. Whereas in before this terms it was evaluating in a title. Because in this term because of the dense demand to the region, lake protection areas were started to open to the settlement dependent upon certain conditions. Even so in this term

Locational Map of Çakmaklı Place



Map 4. Locational Map of Çakmaklı Place

industry lands are at very huge values that is close to Hadımköy road. Also industry lands that are in internal region were gained value dependent upon far from the road (Table 4).

Table 4. Tax Values of Building Lands in Çakmaklı from 1990 to 2001

Property affairs of the Büyükçekmece Municipality 2001 March

No	NAME	Price(TL) 1 square meter
1	Definitely conservation area	100.000
2	Nearby conservation area	150.000
3	Middle conservation area	200.000
4	Far conservation area	400.000
5	Village center	300.000
6	Alkent – 2000	7.000.000
7	Bağlar place	4.000.000
8	Industrial area	8.000.000
9	Interior Industrial area	4.000.000
10	Dwelling area of Akçaburgaz	1.000.000
11	Industrial area of Akçaburgaz	4.000.000
12	Meryem Kadın place	100.000

The other huge land value is around the Alkent 2000. Because in this term as if Alkent 2000 was gone into the action. Even so the other lands that are in this region were got different values, according to location and importance of their places.

5.4. EVALUATION OF THE LANDS AND PLOTS OF LANDS ACCORDING TO MARKET PRICES IN THIS REGION

The values of lands and plots of lands, which are in Çakmaklı – Akçaburgaz region show a fast increase in between 1990-2001. The main reason of that after 1983 city planning issue is given to the Municipalities taken from Prosperity and Settling ministry and then they defined the area as Industrial area[30].

The eastern part of Hadımköy road that crosses the region is assigned as "Industrial area". There are places of settlement though they are illegal ones[31]. In the western part of the road shopping malls and trade centers along the road are placed. There are settlement areas in this part as well.

Table 5. Rate of exchange of $, from The Central Bank of Turkey

Years*	Exchange Rates		Exc.Rt.On Banknotes	
	Buying	Selling	Buying	Selling
1990	2.654	2.660	2.652	2.667
1991	4.330	4.339	4.325	4.357
1992	6.895	6.909	6.888	6.929
1993	10.862	10.884	10.851	10.916
1994	31.060	31.123	31.029	31.216
1995	43.803	44.023	43.672	44.155
1996	81.533	81.943	81.286	82.189
1997	147.970	148.680	147.790	149.050
1998	265.800	267.080	265.480	267.750
1999	420.235	422.262	419.941	422.895
2000	621.018	624.013	620.583	624.949
January/2001	666.774	669.988	666.307	670.994
June/2001	1,251,537	1.257.573	1.250.661	1.259.994

* Given values belong on July for each year.

[30] Kent Emlak İnşaat Organizasyon Ltd. Şti. Çakmaklı Hadımköy asfaltı, Büyükçekmece, İstanbul, mart 2001.
[31] Star Harita İmar Planlama ve Ticaret LTD.Şti. Beylikdüzü, İstanbul, Mart 2001.

Table 6. Transaction Land and building land values in Çakmaklı between 1990-2001

	*Land Values ($), 1 square meter.											
No	**Name**	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**
1	Adjacent of the Hadımköy road that is for industry	10	10	20	30/40	50/70	100	150/200	300	300	300	300	300/400
2	Interior industrial area (depend of distance from Hadımköy road)	5	5	5/10	5/15	20/30	20/60	30/100	60/175	60/175	60/175	30/150	30/150
3	Industrial & Commercial (Adjacent of the Road)	5	5	10	15/20	25/35	50	75/100	150	150	150	150	150/200
4	Conservation area of lake	2	2	2	2	2	2						
5	Absolute Protection Zone												
6	Short Range Protection Zone							2	2	3	5/6	5/6	3
7	Medium Range Protection Zone							3	3	5/6	8/10	8/10	5/6
8	Long Range Protection Zone							3/4	3/4	5/6	10/20	10/20	5/6
9	Residentional	2	2	2	2	2	2						

*For convert to TL, see table 5, Rate of exchange of $ from The Central Bank of Turkey.
Source: Kent Real Estate&Building Company

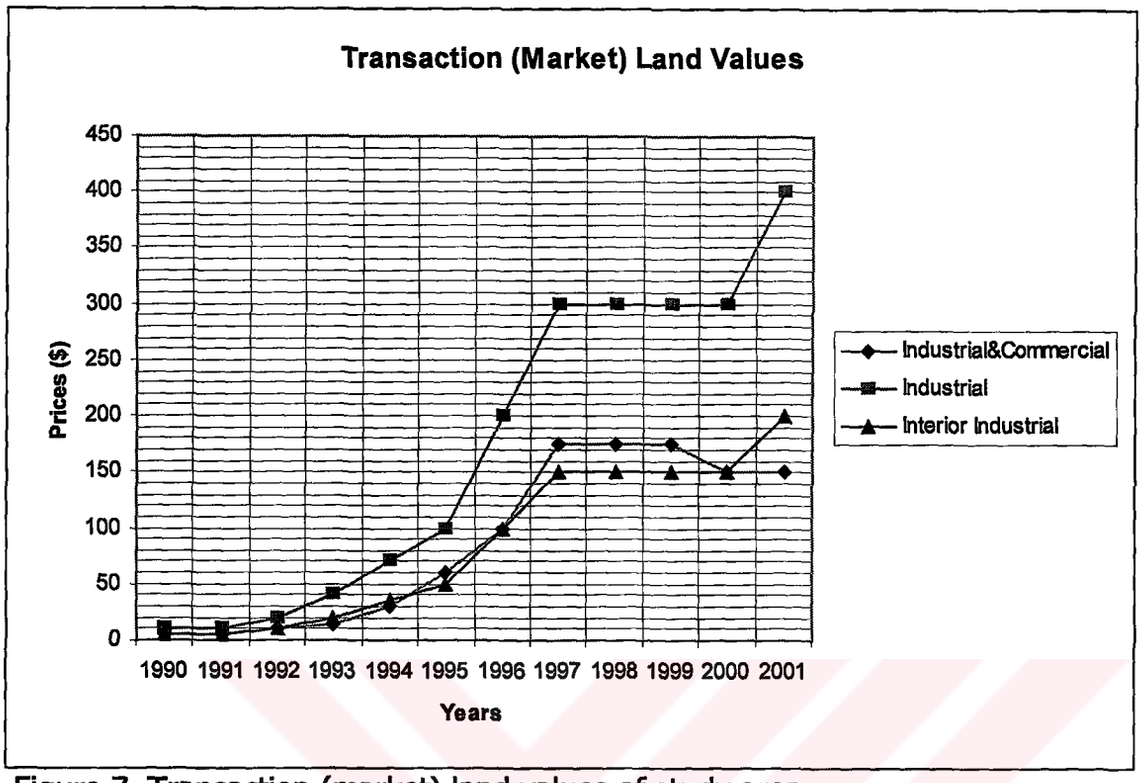


Figure 7. Transaction (market) land values of study area.

Figure 8. Industrial areas.

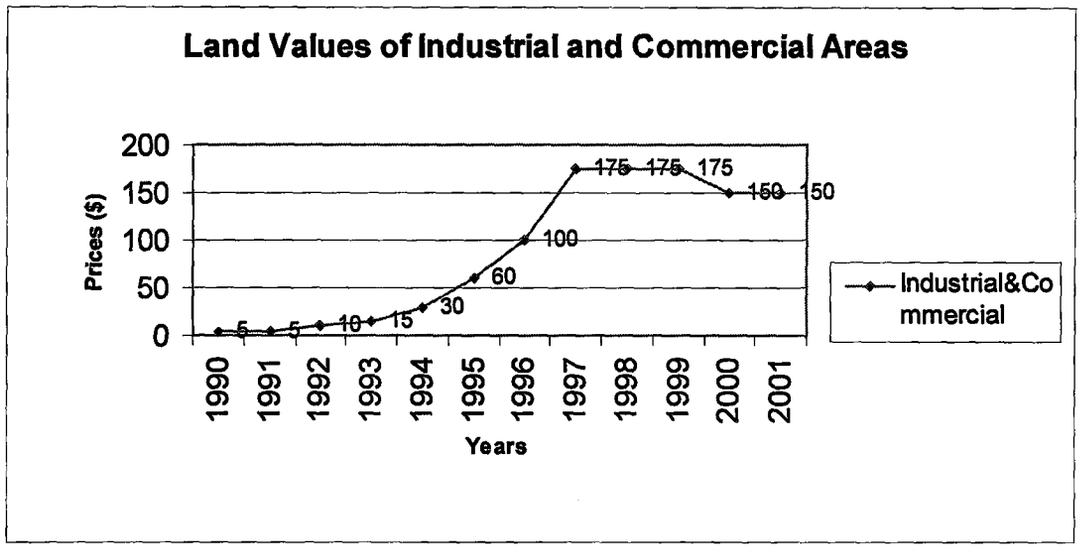


Figure 9. Land values of Industrial and commercial.

These are Cakmaklı village center and Alkent residence with Alkent 2000 villa complex at Akçaburgaz region. Back of region which is the west of the way inside basin frontier. It can be possible to collect land and estate's price in 9 different tittles from perspective of market conditions. These are showed in table 6 according to the using purposes, importance and rate of change according to the years.

Perspective of market conditions, the value of industry land increased more such as discussion of the price of land and estate from perspective of tax income. Especially the industry lands which are the east of Hadımköy way showed large rising if the table is observed which shows the land prices according to the years. Year 1997 got the top point (Table 6) that the most selling have been done in the perspective of increase price for the industry and trade lands which are in Hadımköy way, as a reason of getting more area.

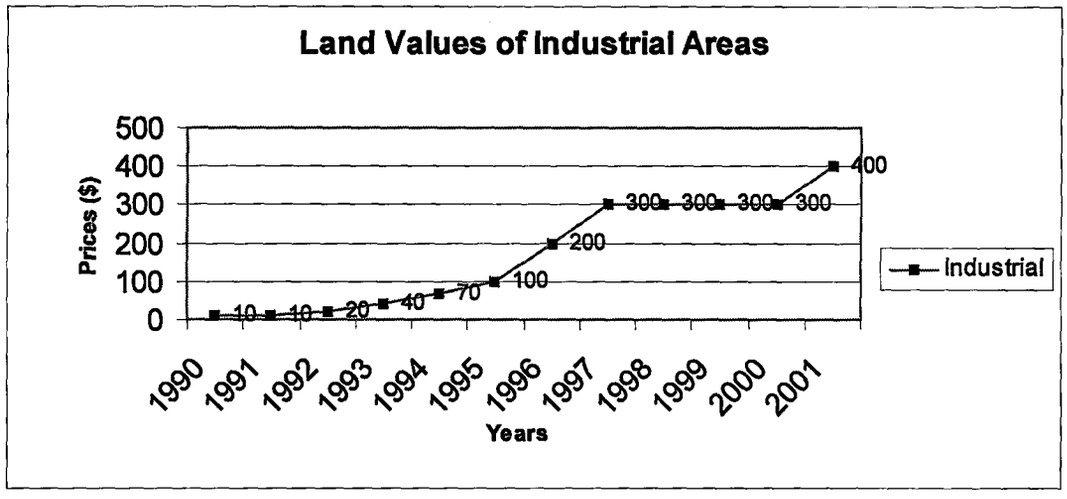


Figure 10. Land Values of industrial areas.

Depending on living economic crisis in 1997 August, in 1998 decreasing demand didn't occur a large increasing on prices. According to the explanation of Ramazan Çam who is shareholder of Kent Real Estate & Building Firm. "In 1997 November, although I sold 13 lands, after November until 1998 June I could sell only 11 lands". This shows the situation confirm it. Year of 1999 perspective of land prices got a bad year depends on continue stationary[32].

The period that begins that date until now, the stationary went on land prices and there has been no change because of the economic crisis, which occurred in our country.

[32] Çam, R., Kent Emlak İnşaat Organizasyon Ltd. Şti. Çakmaklı Hadımköy asfaltı, Büyükçekmece, İstanbul, mart 2001.

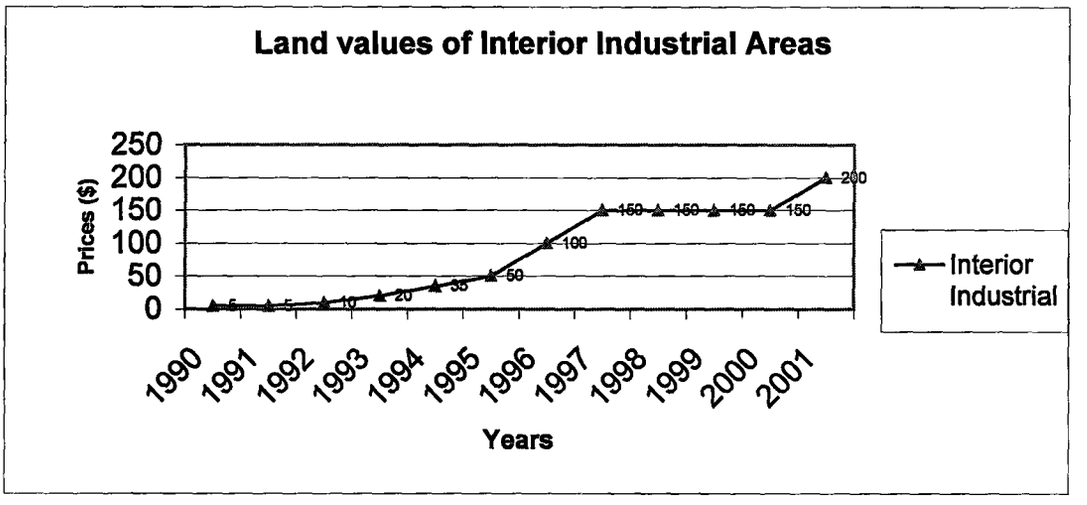


Figure 11. Land values of interior industrial areas.

The other areas in this zone are not opened for building because of beings in lake protection area. These areas has been controlled and monitored by the Istanbul Water and Sewerage Administration of Greater Istanbul Municipality. The Istanbul Water and Sewerage Administration (ISKI) has divided the lake protection areas into several regulatory zones in 1984, which provide guidelines for the allowed activities within buffer zones around the lake and its surface water inflows. These guidelines are aimed at maintaining and protecting water quality within the basin. According to the law that was written by ISKI; The absolute protection for Büyükçekmece lake is 0-300m, short range protection is 300-1000m, medium range protection 1000-2000m, long range protection is; First degree 2000-5000m and second degree 5000m. The sitting areas which are in the near, middle and far protection areas (such as Alkent 2000, Fatih univ., Hisar houses,etc.)ü

The building rules in the protection areas;

Absolute Protection Zone (0-300):

In this protection zone building construction, husbandry, storage, industrial activity mining, agricultural activities, animal garbage storage activities are prohibited. Only an arrangement of walkways and zone are allowed.

Short Range Protection Zone (300-1000m)

With administrate changes in ISKI in 1999, it is permitted to construct residential building according to the following criteria: Building Coverage Ratio should not exceed 0.03 (building construction was previously prohibited) with 6.50 m height limits. The minimum parcel area is 10000 m^2. Daily sport and recreational activities will be permitted. Similarly with the changes in 1999 limited agricultural activities without using fertilizer will be permitted (it was prohibited). Animal husbandry, storage, industrial activity, mining, garbage storage activities and cemeteries are prohibited.

Medium Range Protection Zone (1000-2000m)

Building construction with residential purposes is permitted provided that a Building Coverage Ratio 0.08 (it was 0.05) with a 6.50 m height limits be kept. The parcel area relevant to the above installations cannot be smaller than 5000 m^2. If the area has already divided to parcels then the minimum parcel area will be accepted as 2000 m^2. Cafes and restaurants are permitted

(Building Coverage Ratio 0.25 with the 6.50 m height). Picnic and recreational areas can be arranged. Waste water treatment for the recreational centers shall be provided. Agricultural activities without using fertilizer are acceptable.

Figure 12. A Textile Construction from study area.

Long Range Protection Zones

1. Long Range Protection Zone I (2000-5000 m)

Building construction with residential purposes is permitted provided the Building Coverage Ratio 0.10 with 6.50 m height limits be kept. The parcel area relevant to the above installations will not be smaller than 2000 m^2 (it was 5000 m^2) in 1999. In areas existing within the boundary of any municipality the Building Coverage Ratio will be 0.30 and the minimum parcel area will be 300 m^2. Again cafe's and restaurants are permitted (Building Coverage Ratio 0.25 with the height 6.50m). Picnic and sportive areas can be

arranged. Waste water treatment for the recreational centers shall be provided. Agricultural activities without using fertilizer will be acceptable. Animal husbandry, cereal storage will also be permitted.

2. Long Range Protection Zone II (5000 m-border)

With the changes in 1999, building construction with residential purposes is permitted provided that Building Coverage Ratio 0.12 (it was 0.10) with 6.50 m height limits be kept. The parcel area relevant to the above installations will not be smaller than 1 500 m^2 (it was 5000 m^2). In the areas existing within the boundary of any municipality than the Building Coverage Ratio will be 0.50 and the minimum parcel area of 300 m^2. Again cafe's and restaurants are permitted (Building Coverage Ratio 0.25 with the 6.50 m height). Picnic and sportive areas can be arrange waste water treatment for the recreational centers shall be provided. Agricultural activities without using fertilizer will be acceptable. Animal husbandry, cereal storage will also be permitted (ISKI, 1999)

The buildings that are built in the area after September 4, 1988 giving harm to the area, to prevent those harmful effects the owner's of the buildings have to pay certain amount of money. That amount has to be paid annually until the buildings, which are not complying with the regulations. If the building is built after March 27, 1994 they had to pay double.

5.5. THE REASONS FOR THE RISE OF THE PRICE OF LOCAL LAND PARCELS.

We have told that demand is the most important factor in the rise of the prices. If the rise of the prices in the area is examined one can see the reason: To be able to understand it better we need to examine the demand for the area. Çakmaklı area is the most favorable one[33]. That is why the prices are so high in the area. The reason for the demand of the area can be handled in terms of trade, industry and settlement areas in two groups.

5.5.1. FROM COMMERCIAL AND INDUSTRIAL POINT OF VIEW

a) After 1985, in the process of the decentralization, the area is defined as trade area together with Kıraç and Esenyurt.

b) The most advantage of the region about industry is its being the only one which is not in Basin Region in Istanbul. Because "lake protection area", which starts from Büyükçekmece lake to Çorlu, involves it. Every industry factory has some waste, because of this it is preferred for it is being out of the drinking water to Basin[34].

c) TEM (Trans European motorways) as this way go into action, the Hadımköy way is enlarged and there become a bound between E5 and TEM. And it is a big advantage on transportation for industry factories.

[33] İpekçi, A., Star Harita İmar Planlama ve Ticaret LTD.Şti. Beylikdüzü, İstanbul, Mart 2001
[34] Çam, R., Kent Emlak İnşaat Organizasyon Ltd. Şti. Çakmaklı Hadımköy asfaltı, Büyükçekmece, İstanbul, mart 2001.

d) Hadımköy Road Factor

e) It's being close to Ambarlı harbor custom-house

f) It's being close to Kapıkule (Edirne) customs-house

g) It's being close to Halkalı Railway customs-house

h) It's being close to Çorlu industry region

5.5.2. SETTLEMENT AREAS

a) The result of there is lack of settlement places in Istanbul, there is a natural developing outside of the Istanbul.

b) It's being a peaceful place for the wealthy people who want to run away from the city's noisy atmosphere.

c) Hezarfen airport factor for the wealthy people who live in this region.

d) It's being close to Çorlu industry region. It is a preferring reason for people, who lives in Alkent and have works in Çorlu, for transportation[35].

e) TEM Motorway factor. By this way it is very easy for the wealthy people who lives in villages to go city centers and Çorlu industry region.

f) Hadımköy way factor.

5.5.3. THE EFFECT OF HADIMKÖY ROAD

Having a history of 80 years, the road of Hadımköy has been built by collective work of the people living in the region[36]. The road connected Çakmaklı, Istanbul, Karaağaç and Hadımköy until 1990s. When the TEM

[35] İpekçi, A., Star Harita İmar Planlama ve Ticaret LTD.Şti. Beylikdüzü, İstanbul, Mart 2001
[36] Ergine, N., last chief of the Çakmaklı village, The head of theAgricultural council of the Büyükçekmece and farmers, April 2001.

Motorway was opened, the road was widened to two lanes. Now, it connects E-5 and TEM. Because of industrial operations on each of the road in the area, the name of road was changed to "San-Bir Avenue". San-bir Avenue is 7 km and connects the E 5, Beylikdüzü-Gürpınar crossroad, and TEM Hadımköy Toll-ways[37].

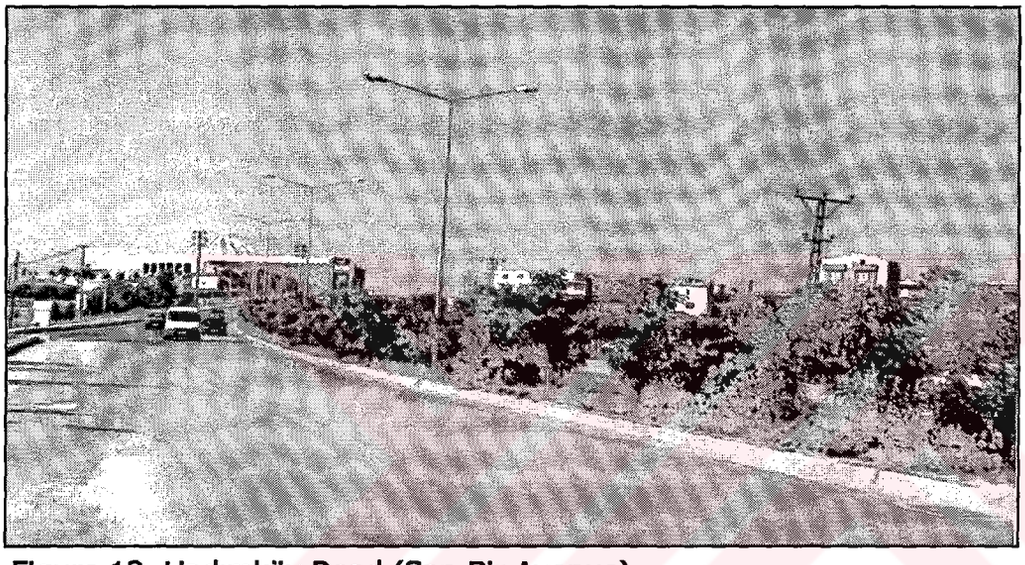
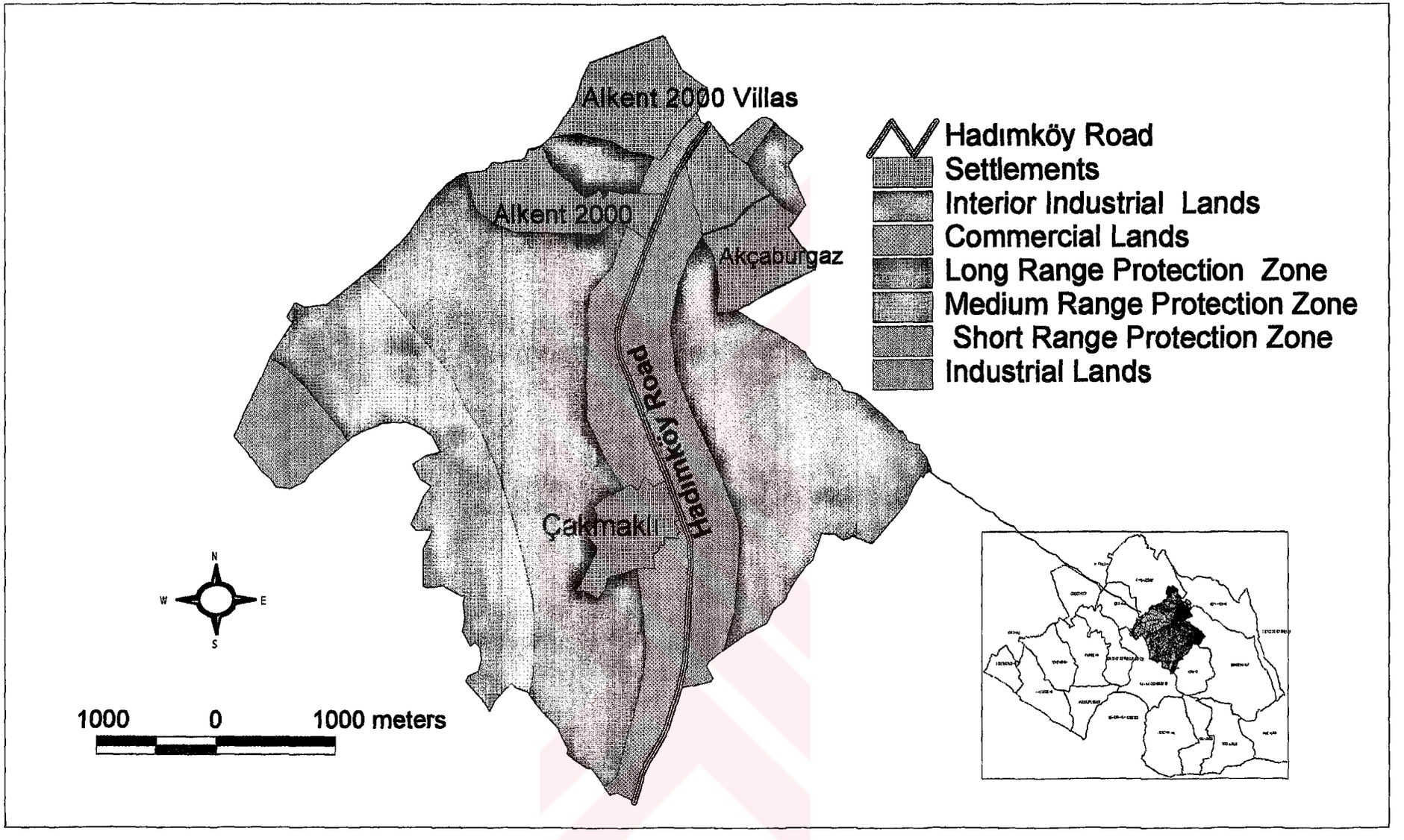


Figure 13. Hadımköy Road (San-Bir Avenue)

By start of TEM Motorway, the importance of the region of Hadımköy increased. The road facilitates the access to inside of outside of Istanbul. Therefore, the prices of plots of lands on both sides of the road are very astronomic (Table 5). The road of Hadımköy has created such population, all commercial activities, transportation, housing, education etc.

The road of Hadımköy, with its new name, San-Bir Avenue is now very intense in traffic flow and became insufficient.

[37] Brochure of Industrialists of San-Bir, Ajans Cedid, Büyükçekmece, 1997. p.10



Map 5. Land Values Map of Çakmaklı-Akçaburgaz

Figure 14. Hadımköy Road and TEM's ticket offices (San-Bir Avenue)

5.6. CLASSIFICATION OF THE PLOTS OF LANDS IN THE REGION

We can classify the plots of lands in 4 main groups as to their purposes of usage

5.6.1. INSDUSTRIAL PLOTS OF LANDS

Industrial plots of lands take part in eastern side of the Hadımköy Road. This area is covered by industrial organizations except residential areas. There are some banks, official and commercial organizations, gas stations, real estate companies etc. at side-front of the road.

5.6.2. COMMERCIAL PLOTS OF LANDS

At the western side of the Hadımköy Road, the plots of lands just on the road were reserved as commercial areas. Çakmaklı Village center is located in this area. In the center of Çakmalı Village, there are Jetkent-2 Houses that

their constructions are finished. In northern of the road, there are Alkent and Alkent-200 villas at Akçaburgaz. Though the structure for commercial area has not yet become so intense, the constructions of new business centers are on the way.

Figure 15. Commercial Areas

5.6.3. RESIDENTIAL PLOTS OF LANDS

Very different residential structures strike the eye. The inhabitants of the region are still living an urban life. On the other side in villa site, the people are living urban life. The collective construction of buildings in the region is continuing.

Residential areas are not centered at one point. They are scattered within industrial and commercial areas. Residential areas are at Çakmaklı Village center, Akçaburgaz Housing areas, Alkent, Alkent 200 Villas, Hisar Villa

houses under construction. The villa sites built modern conditions and the residential area of the poor people living just beside villa sites strike the eye. This contradiction formed a social and economic superposition.

As well as the construction of Alkent Houses, the concepts of building construction of villas became fashion in the region. Villas and private construction of houses are being built some rules of ISKI municipality. There are some educational organizations among villa sites. These schools are Fatih University neighboring Alkent 2000 Villas, German High Schools Foundation Educational organizations, Culture-2000 Primary School, and International American Community School.

5.6.4. AGRICULTURAL PLOTS OF LANDS

Before Industrial activities in the region, nearly the whole area was agricultural land[38]. Today, agricultural areas most take place within basins. There are still agricultural sites among industrial, commercial and residential areas. Even, agricultural production is seen just at the right and left sides of Hadımköy Road.

5.7. CONCLUSIONS

In result, the plots of lands and land in the region greatly changed positively during 1990-2001. Those reserved for industrial and commercial organizations, especially those are front to the Hadımköy road the plots of

[38] Ergine, N., last chief of the Çakmaklı village, The head of theAgricultural council of the Büyükçekmece and farmers, April 2001.

land showed a huge increase. The industrial plots of lands among these gained much value. The year 1997 is the top point that plots of lands have been in great demand. In further years, due to the economic crisis, the prices of plots of lands and lands did not show an increase; even fell down in some periods. Now the recession continues.

The prices of industrial and commercial plots of lands take the lead in price increases. Especially industrial plots of lands are more important.

In short, as the region is one of the axes newly developing in metropolitan area of Istanbul, it became an attractive center. For this reason, many mass housing sites, Hypermarkets, airport (Hezarfen), Fair center (TUYAP), villa sites, primary schools, university, public and private organizations are under construction.

Figure 16. Fatih University in study area.

Though land usage in the region was earlier planned, it is observed that industrial, commercial, residential, public or private organizations and agricultural fields are all one within other. Planning process in the region is continuing.

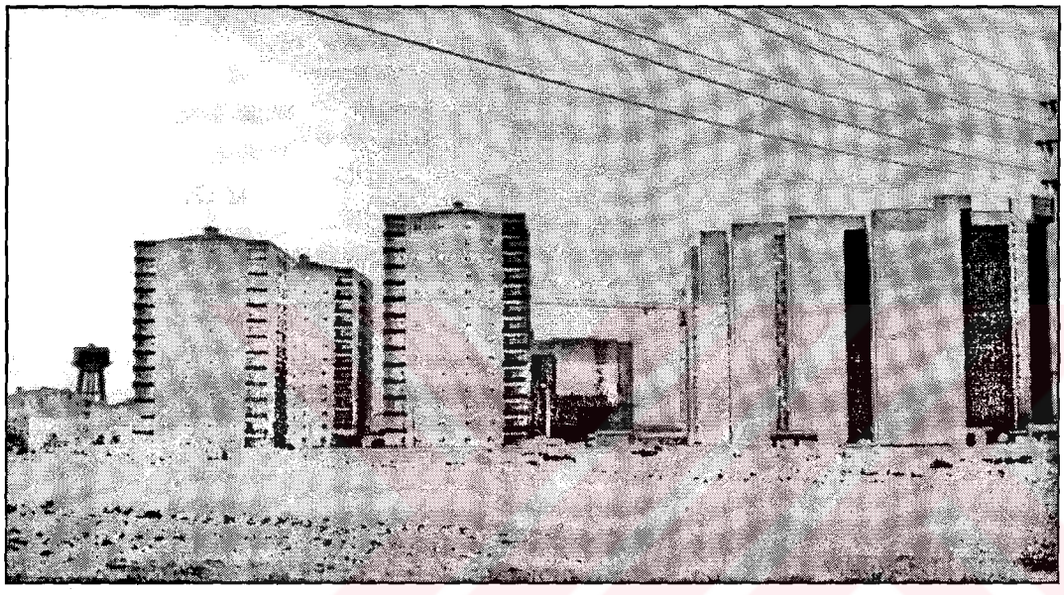


Figure 17. Residential and Commercial Areas

CHAPTER VI

LAND USE CLASSIFICATION OF THE ÇAKMAKLI-AKÇABURGAZ AREA FROM 1990 TO 2001

It is very important to classify the land use of a district for indicating the social and economic activities in that region. For it clearly shows the changes and development of a district through time. For this reason, classification of land use in a district will contribute a great deal to the observation of changes that take place in this region as well as to development of it in a more planned way.

The daily activities that are done on lands reflect the ways in which they are put into use. These activities, however, change in time under the impact of certain factors. As mentioned in previous chapters, new structures and technological developments that take place on a world scale, as well as the specific geographical location of a particular district are the main factors influencing these changes.

Within the framework of the above-mentioned factors, there have been occurring, starting from the year 1985, significant changes in Çakmaklı-Akçaburgaz-Hadımköy axis, depending on the spatial changes in the metropolitan Istanbul area. This transformation was greatly accelerated especially after 1990, when TEM highway was activated and a connecting axis was established between it and E-5.

The situation of land use in the area of study can be examined, in terms of the development of the industrial-commercial and settlement areas, in three periods: 1990, 1995, and the present (2000-2001).

6.1. LAND USE IN 1990

The district seems to continue having a rural character, which stems from its being an agricultural area before 1990. For this reason, majority of the lands (80%) is used for agricultural activities. It is also observed that at this date, certain amount of land (10%) is used for industrial activities as a result of the industrialization that had started in 1985. As of 1990, an increase has started being observed in the industrial lands. In addition, the number of settlement areas has not been so high in the district during this period.

Table 7. Land Use 1990

Land use 1990[39]	Rate (%)
Agricultural	80
Industrial	10
Residential	10

[39] Agricultural&Credit Cooperative of the Büyükçekmece,&Agricultural Directorate of the Büyükçekmece

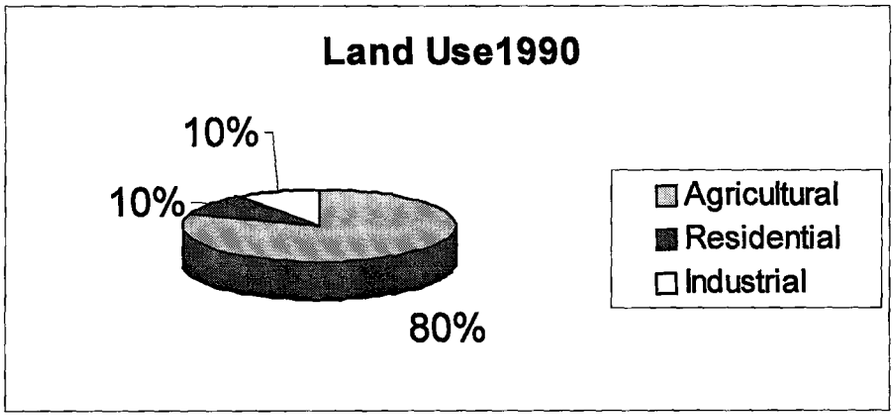


Figure 18. Land Use 1990

The agricultural production has mostly been in grain products. They are produced basically for livelihood.

Table 8. Agricultural Land Use 1990

Agricultural Landuse1990[40]	Rate(%)
Grain (Wheat)	30
Grain (Barley)	25
Sunflowers	30
Melon, Watermelon	15

The grain is produced generally for domestic market, and sold either to the Office of Land Products (TMO), or to merchants. Particular products like melon and watermelon are produced for Istanbul market.[41]

[40] Agricultural&Credit Cooperative of the Büyükçekmece, Agricultural Directorate of the Büyükçekmece

[41] Ergine, N., Ex-chief, Çakmaklı Village; Chair, Büyükçekmece Agricultural Associations; and Farmer. Büyükçekmece, April, 2001.

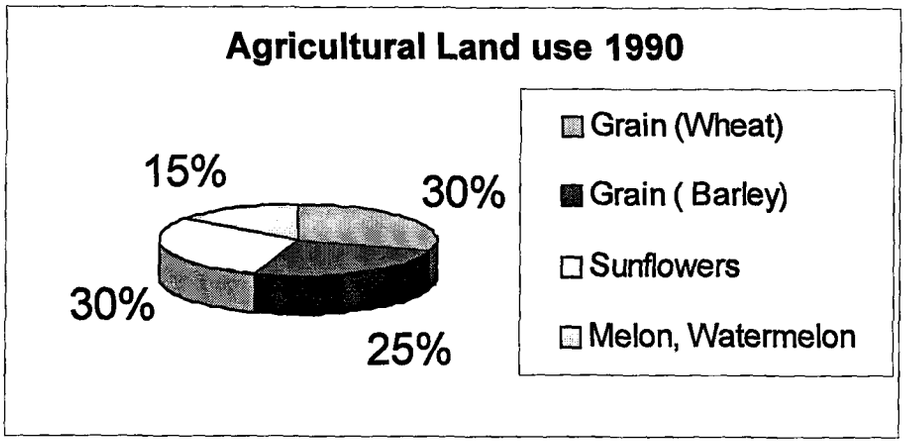


Figure 19. Agricultural Land Use 1990

In short, it is observed in 1990 that a rural settlement, and a land use that involves primarily agricultural activities as well as a slight development in industrial activities.

6.2. LAND USE IN 1995

In 1995 agricultural activities decreased to a large extent, and instead industrial activities intensified in the district. Particularly 1995 and 1996 were the most significant periods for industrial enterprises. The main reason for this is the activation of SAN-BİR Boulevard (the ex-Hadımköy Road) as a connecting axis between E-5 and TEM Highway.[42] In this period, the number of industrial organizations started so rapidly increasing that while there were 80 organizations in 1994, they increased up to 235 in 1997 (Table 13).

[42] Yılmaz, M., Vice-Manager, San-Bir, San-Bir Sanayiciler Hizmet İşletmeleri ve Ticaret A. Ş. SAN-BİR Bulvarı, Altunkent İş Merkezi, Büyükçekmece. April, 2001.

Table 9. Land Use 1995

Landuse 1995[43]	Rate (%)
Agricultural	35
Industrial	45
Residential	20

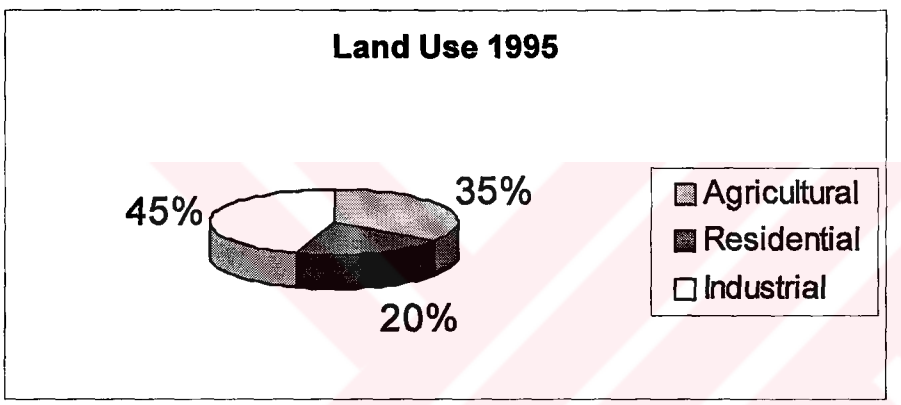


Figure 20. Land Use 1995

Accordingly, there occurred a great decrease in the lands used for agricultural production in this period. There also occurred a slight shift in the varieties of products in agricultural areas. New varieties including such animal food as oats and maize started being raised. This agricultural production is for domestic market, as in the previous periods.

As for the settlement areas, an increase 10 percent relative to the previous period is observed in this period. This situation indicates that the district began to be preferred also for settlement areas. For, before 1995, the

district started to be discovered by the wealthy people living in Istanbul. In this period, new villa sites and mass housing activities started flourishing. It was also in the same period that Alknet-2000 housing project was activated.

Table 10. Agricultural Land Use 1995

Agricultural Landuse 1995[44]	Rate (%)
Grain (Wheat)	30
Grain (Barley)	30
Sunflowers	20
Melon, Watermelon	5
Oats, Animal foods	15

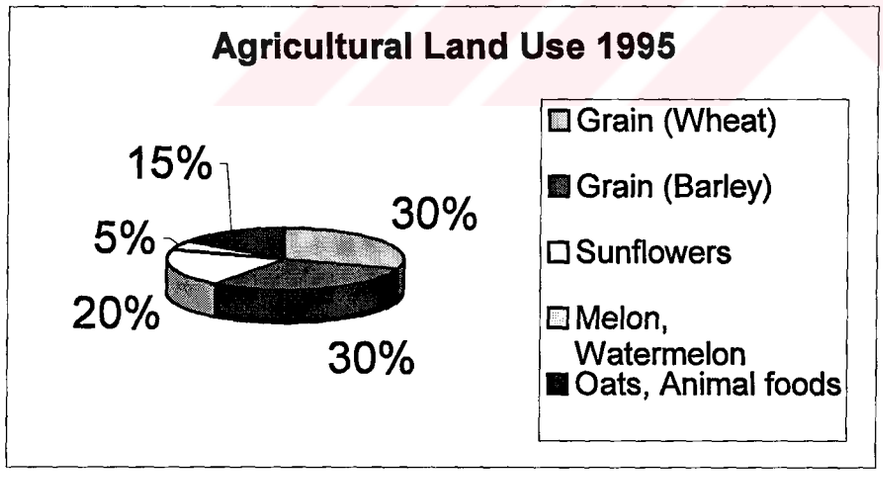


Figure 21. Agricultural Land Use 1995

[43] Agricultural&Credit Cooperative of the Büyükçekmece, Agricultural Directorate of the Büyükçekmece
[44] Agricultural&Credit Cooperative of the Büyükçekmece, Agricultural Directorate of the Büyükçekmece

Briefly put, 1995 is a period in which industrialization continued very intensely. There occurred increases in settlement areas parallel to the increase in industrial activities. In contrast to these, a decrease is observed in agricultural lands.

6. 3. LAND USE IN 2001

Intensification in the industrial field, which is observed in 1995, continued in this period. Yet this increase is not so high compared to the one in the previous period. The increase in this period is observed especially between 1996 and 2000. In 2001, however, the increase in industrial areas and accordingly, industrial activities has come almost to the zero point. The reason for this is the economic crisis that Turkey lives these days.[45]

Table 11. Land Use 2001

Landuse 2001[46]	Rate (%)
Agricultural	20
Industrial	55
Residential	25

[45] Yılmaz, M., Vice-Manager, San-Bir, San-Bir Sanayiciler Hizmet İşletmeleri ve Ticaret A. Ş. SAN-BİR Bulvarı, Altunkent İş Merkezi, Büyükçekmece. April, 2001.
[46] Agricultural&Credit Cooperative of the Büyükçekmece, Agricultural Directorate of the Büyükçekmece

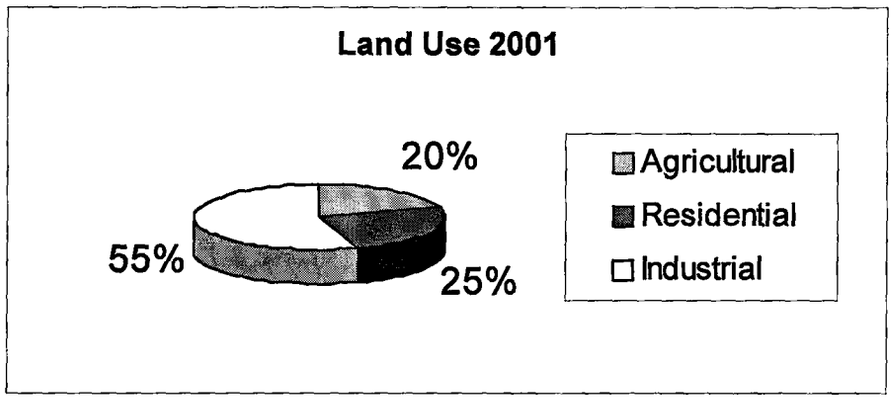


Figure 22. Land Use 2001

In 2001, there occurred a slight increase in the number of industrial organizations when compared to 1997. As mentioned above, this increase in the number of industrial organizations is a reflection of the one between 1995 and 1997. The total number of industrial organizations that are active in different sectors in the district is 316, including Kıraç (Table 14).

Table 12. Agricultural Land Use 2001

Agricultural Landuse 2001[47]	Rate (%)
Grain (Wheat)	30
Grain (Barley)	30
Sunflowers	25
Oats, Animal foods	15

[47] Agricultural&Credit Cooperative of the Büyükçekmece, Agricultural Directorate of the Büyükçekmece

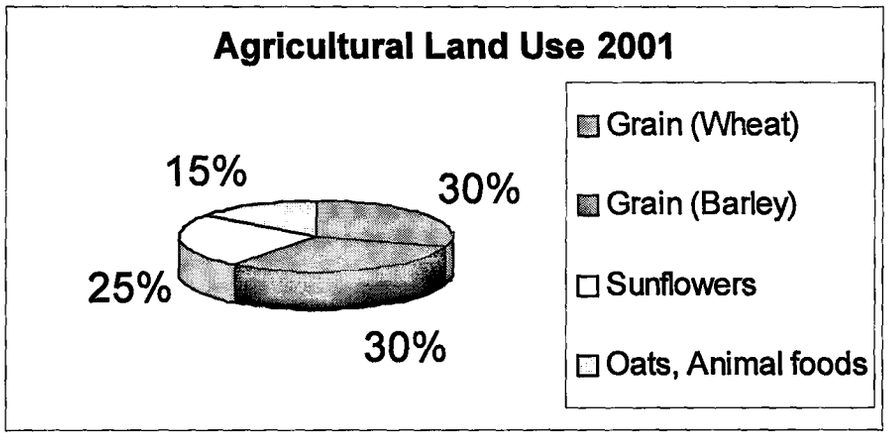


Figure 23. Agricultural Land Use 2001

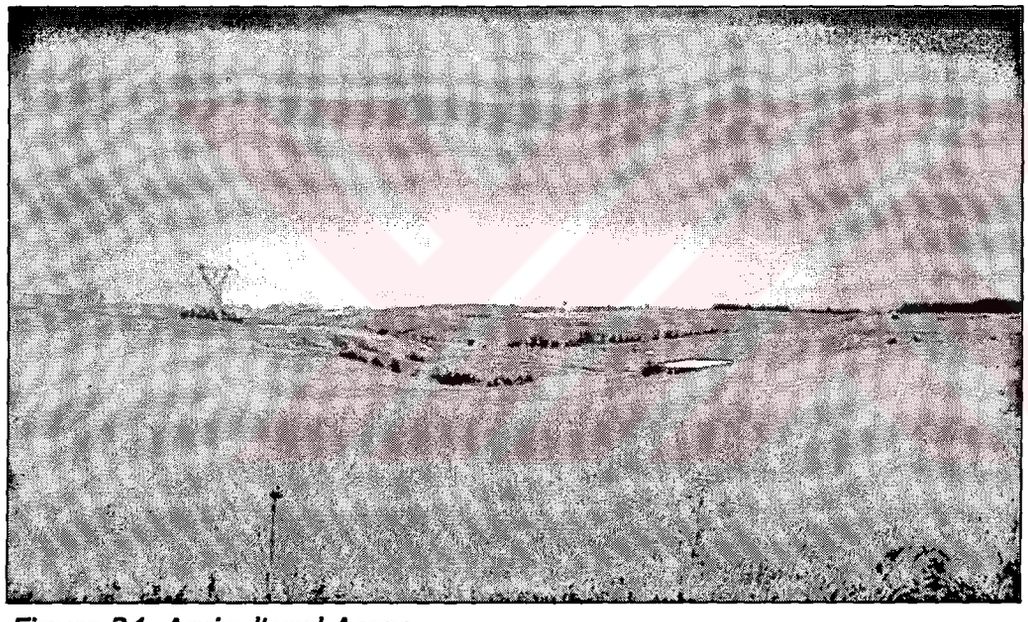


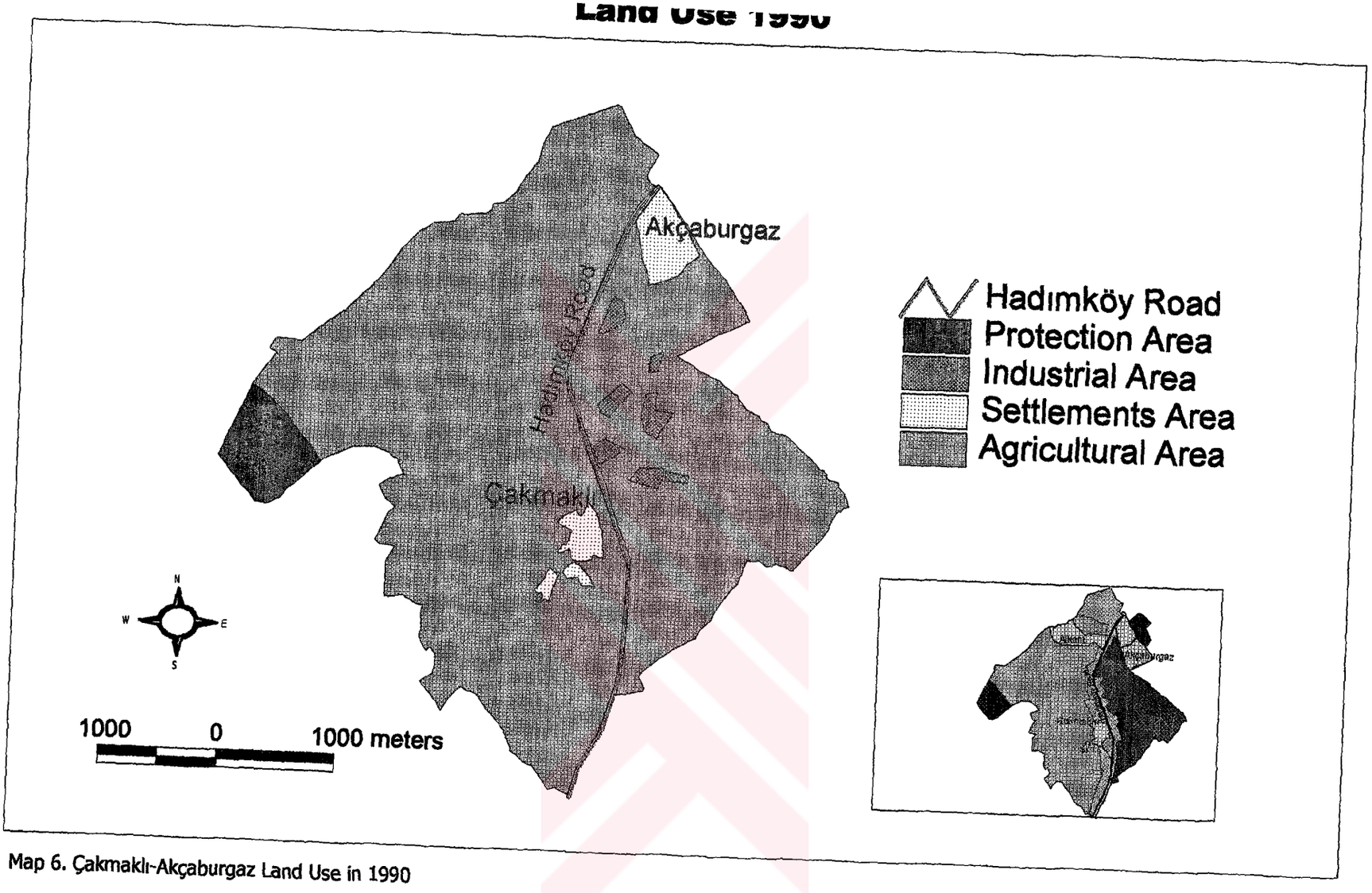
Figure 24. Agricultural Areas

The agricultural lands tend again to decrease at this date compared to the previous period. A change in the varieties of agricultural products is not so much observed.

Figure 25. Constructed Westa shopping mall

The increase in settlement areas continues to grow. Especially Alkent 2000 villas have brought a fresh air to the district in terms of settlement, and the district has come to be preferred. For this reason, new villa towns like Hisar Houses have started to be established in the district. Parallel to these settlement areas, new commercial and shopping malls like Westa are to be established these days (Figure 25).

In short, in the 2000-2001 period, stagnation has been experienced in industrial activities and the use of industrial areas depending on the economic difficulties. In contrast, there observed an increase in settlement areas with the establishment of new villa towns. As for the agricultural lands, although there has been a decreasing trend in agricultural activities, they continue surviving. As noticed before, nowadays there may be observed agricultural production in the areas reserved for industry.



Map 6. Çakmaklı-Akçaburgaz Land Use in 1990

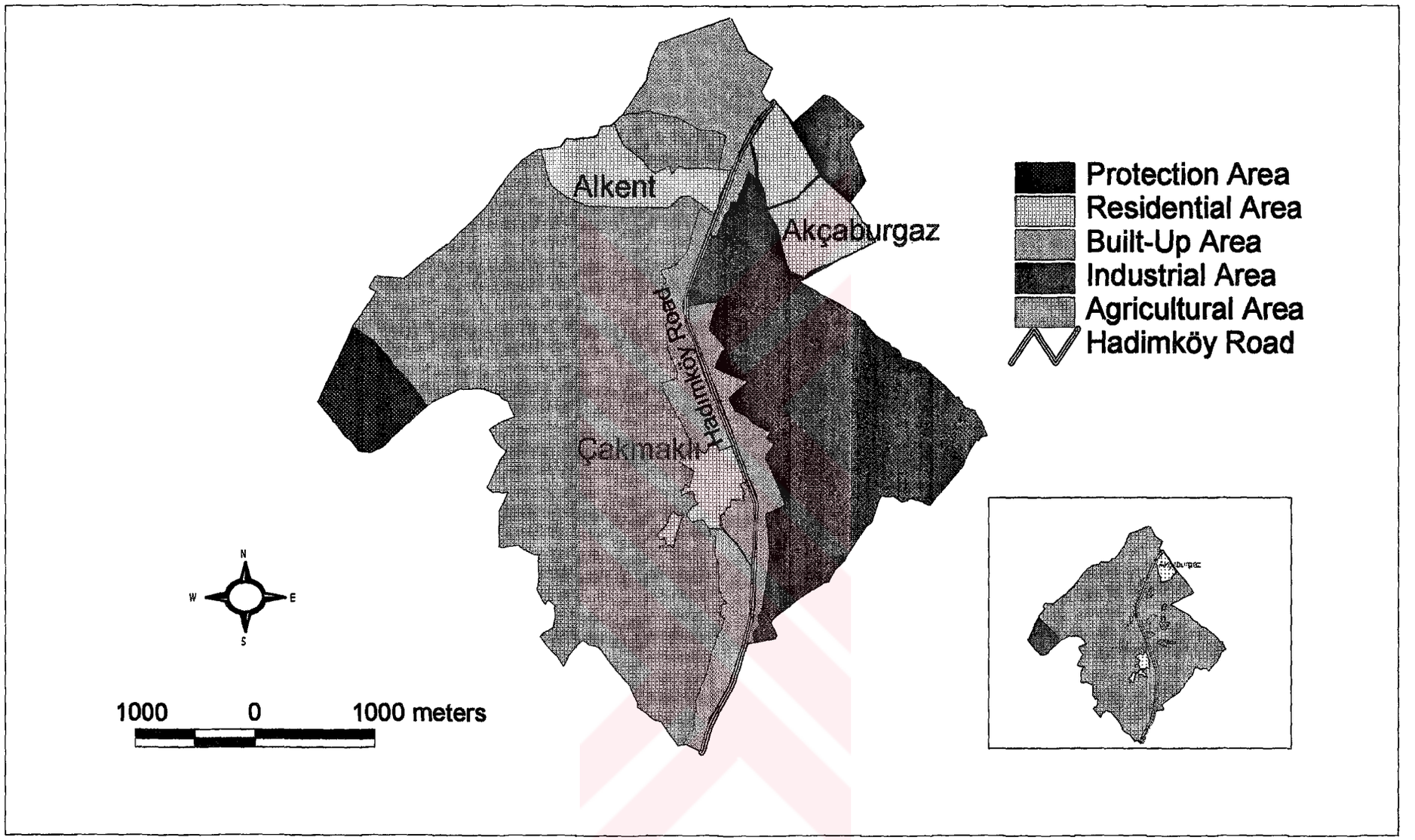
As can be seen, land use in the district has been to a large extent changed in the period between 1990-2001. The most significant factor shaping the district has been the industrial activities, which started in 1985 and became intensified after 1995. There occurred a sharp decrease in the use of agricultural land with the start of industrialization, and nowadays they are replaced by settlement areas together with industrial and commercial organizations concentrated in various sectors.

When we look at land use in the field of study, we see that the place and significance of industrial lands, and accordingly, the industrial activities, is highest in land use. In other words, one clearly observes the dominant role of the industry in the district. To prove this, we can give the example of the changing of the name of the road that connects TEM and E-5, which has long been called Hadımköy Road, as "San-Bir Avenue". It is the name of SAN-BİR A.Ş. that was established for solving the problems of the industrialists investing in the district.

For this reason, it would be useful to analyze the development of the industry in the district, its current situation and problems under a separate heading.

6.4. INDUSTRIAL ACTIVITIES

We mentioned above that the industrial activities have been intensified in the district especially after 1990. Even it is included in the industrial area by the plan prepared by Istanbul Large City Municipality, with approval in



Map 7. Çakmaklı-Akçaburgaz Land Use in 1995

19.7.1980, and on a 1:50.000 scale. Yet, as mentioned above, the industrial activities have been intensified after 1990.

6.5. THE DEVELOPMENT OF INDUSTRY

The number of industrial organizations in the district was 80 in 1994. This number increased up to 235 in 1997. As of April, 2001, there are 316 firms concentrating on different sectors in the district.[48] When we analyze the change in the number of organizations, we see that there is a close connection and parallelism between the increase in the prices of lands and the increase in the number of industrial organizations in the district. There observed a huge increase in the number of industrial organizations between 1994 and 1997. In the same period, the increase in land prices also became considerably high, and reached at its peak in 1997.

Figure 26. TEM from study area.

[48] Yılmaz, M., Vice-Manager, San-Bir, San-Bir Sanayiciler Hizmet İşletmeleri ve Ticaret A. Ş. SAN-BİR Bulvarı, Altunkent İş Merkezi, Büyükçekmece. April, 2001.

With the decrease in the demand for industrial lands depending on the economic difficulties after 1997, the number of industrial organizations, too, has been influenced by this. For the industrial firms who want to invest in the district tend to buy the lands for the establishments they plan to launch.[49] This influenced the number of lands sold, and thus the increase in the number of industrial organizations, in a negative way depending on the economic difficulties. As of April 2001, the increase in the number of industrial organizations in the district is almost non-existent.[50]

6.6. THE SECTOR DISTRIBUTION OF INDUSTRIAL ORGANIZATIONS

There are many industrial and commercial organizations that have concentrated on various sectors in the district since 1985.

6.6.1. INDUSTRIAL ORGANIZATIONS

The industrial organizations are usually of small- or medium-scale. There are also some large-scale organizations that achieved to be one of the first 500 and second 500 firms in 2000 according to ISO's lists. The examples include Baydemirler Tekstil, Ceylan Tekstil, Öztiryakiler A. Ş., Nuh Beton, Gelal Çorap A. Ş., Ülker A. Ş., and Gezer Ltd. Şti.[51]

---

[49] Çam , R, Civil Engineer, Kent Emlak İnşaat Organizasyon Ltd. Şti. Çakmaklı-Hadımköy Asfaltı, Büyükçekmece, İstanbul, Mart, 2001.
[50] Gürocak, Y., Manager, San-Bir, San-Bir Sanayiciler Hizmet İşletmeleri ve Ticaret A. Ş. SAN-BİR Bulvarı, Altunkent İş Merkezi, Büyükçekmece. April, 2001.
[51] "Türkiye'nin ilk büyük 500 ve ikinci büyük 500 şirketi" İSO Aylık Dergi, August, İstanbul: 2000.

When we look at the sector distribution of the industrial organizations in the district between 1997 and 2001, we see that textile sector has the largest share among all other sectors (Table 13-14). It is followed by construction, construction materials, food and machine, and automotive side products. It would be useful to analyze these two years separately in order to see the increase and change in sectors more clearly.

6.6.1.1. EVALUAION OF THE YEAR 1997

The number of firms in the district in 1997 was 235. Of these, 216 were industrial organizations, and the rest were commercial firms. Within the former group, textile sector was the first one with 53 firms. It is followed by the sectors of construction, construction materials, food, moulding, and machine, plastic and automotive side products.

The share of the textile sector among all industrial organizations is 24,54%. This indicates that one fourth of all industrial organizations in the district was in textile sector in 1997.

6.6.1.2. EVALUATION OF THE YEAR 2001

The total number of industrial organizations in the district is 316 in 2001. There has occurred almost a 100% increase in the number of industrial organizations from 1997 onwards. The textile sector is again the leading one among all in their sector distribution. The share of the textile firms have increased up to 29,11% in the period between 1997 and 2001. It is followed by the sectors of machine, automotive side products, construction, and food.

Table 13. Sector Distribution 1997[52]

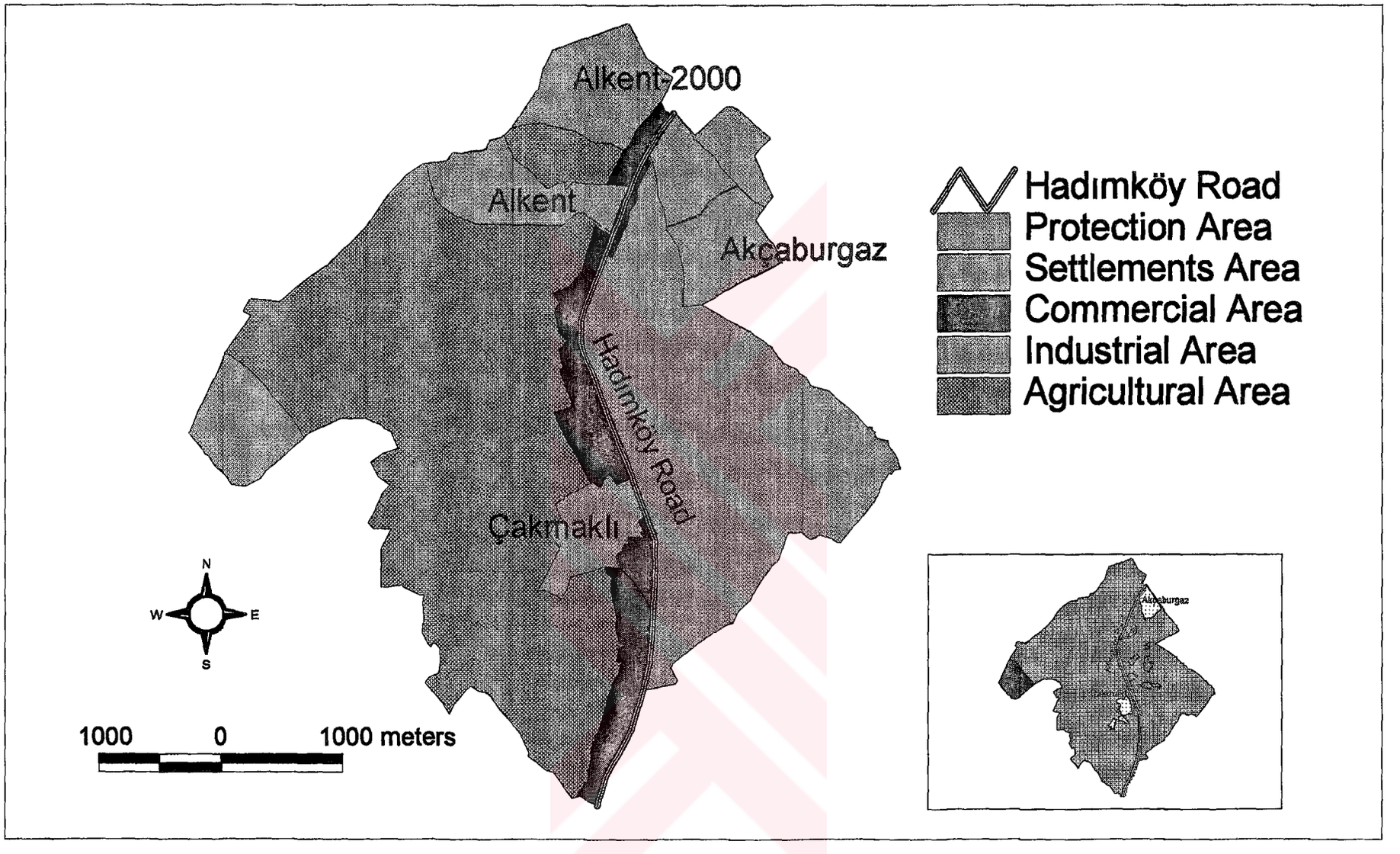
No	Sector	Number	Proportion (%)
1	Textile, Clothing, Thread	53	24,54
2	Molding, Machine, Automotive side product	20	9,26
3	Construction, Construction Materials	20	9,26
4	Food	18	8,33
5	Shoe, Slipper	12	5,56
6	Aluminum, Aluminum Material	4	1,85
7	Package, Packaging Industry Paper	2	0,93
8	Paint, Varnish, Linseed Oil	6	2,78
9	Office furniture	3	1,39
10	Iron Products	2	0,93
11	Leather Products	5	2,31
12	Electricity, Electrical Products	17	7,87
13	Home devices, Kitchen devices	6	2,78
14	Chemical Material, Detergent	5	2,31
15	Cosmetics	2	0,93
16	Gutter Cardboard, Printing, Press	8	3,7
17	Forrest Products	2	0,93
18	Plastic Products	7	3,24
19	Medical Apparatuses and Material	3	1,39
20	Other	21	9,72
	Total	216	100

[52] San-Bir Sanayiciler Hizmet İşletmeleri ve Ticaret A. Ş., San-Bir Brochure, Ajans Cedid, Mataş, Büyükçekmece, 1997, pp. 21,22,23,24.

Table 14. Sector Distribution 2001[53]

No	Sector	Number	Proportion (%)
1	Textile, Clothing, Thread	92	29,11
2	Molding, Machine, Automotive side product	29	9,18
3	Construction, Construction Materials	29	9,18
4	Food	26	8,23
5	Shoe, Slipper	12	3,80
6	Aluminum, Aluminum Material	5	1,58
7	Package, Packaging Industry Paper	2	0,63
8	Paint, Varnish, Linseed Oil	11	3,48
9	Office furniture	3	0,95
10	Iron Products	2	0,63
11	Leather Products	5	1,58
12	Electricity, Electrical Products	22	6,96
13	Home devices, Kitchen devices	9	2,85
14	Chemical Material, Detergent	8	2,53
15	Cosmetics	2	0,63
16	Gutter Cardboard, Printing, Press	12	3,80
17	Forrest Products	3	0,95
18	Plastic Products	13	4,11
19	Medical Apparatuses and Material	3	0,95
20	Other	28	8,86
	Total	316	100

[53] Yılmaz, M., Vice-Manager, San-Bir, San-Bir Sanayiciler Hizmet İşletmeleri ve Ticaret A. Ş. San-Bir Bulvarı, Altunkent İş Merkezi, Büyükçekmece. April, 2001.



Map 8. Çakmaklı-Akçaburgaz Land Use in 2001

It should be noted here that the increase in the number of industrial organizations in 1997-2001 period is not as high as in 1994-1997 (this number was 80 in 1994). The main reason for this is the economic difficulties that have emerged since 1998 in Turkey. The increase observed in 1997-2001 period already took place at the beginning of this period, when these difficulties were not so influential.

In consequence, there is a significant parallelism between the increase in the number of industrial, commercial and settlement areas on the one hand, and the change in the prices of land and estates in the district, on the other. The period in which industrial and commercial organizations increased most intensely (1994-1997) is also when the increase in the prices of lands is at maximum level. In other words, whenever the district had a high level of demand in every respect (industry, commerce, and settlement), the change in land prices became in a positive direction. Accordingly, whenever the demand decreased, the change in land prices was either negatively affected or remained fixed.

6.6.2. COMMERCIAL ORGANIZATIONS

There are many commercial organizations concentrating on different sectors, besides industrial organizations.

6.6.2.1. EVALUATION OF THE YEAR 1997

The rate of commercial organizations in this period is very low according to industrial organizations. The total number of commercial organizations in the district is 7 in this period.

The most wide organization among all commercial other organizations in the district was real estate firms in 1997. In this period, there were 4 real estate firms in the district. This indicates that there was a high demand for the lands and estates in the district in this period. Real estate firms are followed by those of transportation.

6.2.2.2. EVALUATION OF THE YEAR 2001

The number of commercial organizations is very low compared to industrial organizations in 2001. Yet, we observe a huge increase relative to 1997. In this period, the number of commercial organizations in the district was 32. The highest share among these belongs to the transportation companies, with 9 firms, which is followed by real estate companies, with 7 firms. In addition, 4 oil stations have become active in this period, especially along the Hadımköy Road.

Moreover, some banks have activated their branches in the district. For the time being, the number of these branches is 4. In addition to all these commercial organizations, there are a lot of small-scale commercial organizations (like grocery and shops) in the district. Today, many new commercial organizations are continuing to be built in the district.

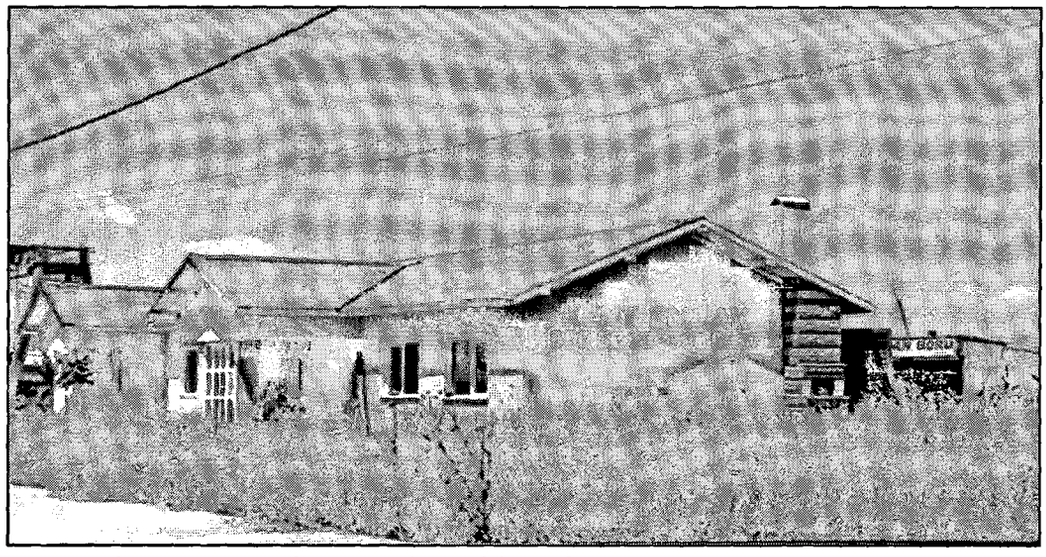


Figure 27. Kent Real Estate & Building Company.

6.7. THE PROBLEMS OF INDUSTRIAL AND COMMERCIAL ORGANIZATIONS.

The industrial and commercial organizations, which have rapidly increased from 1985 onwards, have also faced, parallel to this rapid increase, with various problems from that time on. In other words, the rapid change lived in the district has brought a lot of problems to it.

These problems faced by the firms in the district, which emerge due to the sharp increase in the number of industrial and commercial organizations, can be counted as follows:[54]

1- Energy

2- Transportation

[54] Yılmaz, M., Vice-Manager, San-Bir, San-Bir Sanayiciler Hizmet İşletmeleri ve Ticaret A. Ş. San-Bir Bulvarı, Altunkent İş Merkezi, Büyükçekmece. April, 2001.

3- Communication

4- Infrastructure

The most important problem with the organization in the district is that of energy. As is well known, industrial production depends completely on energy. The need for energy has extremely increased depending on the increase in industrial activities in the district. In addition to this shortage of energy, the frequent electrical interruptions disturb the firms. They try to find their own solutions to this problem by using generators in case of an electrical interruption. This situation in turn brings an extra cost for these firms. However, San-Bir A.Ş. tries, though insufficiently, to overcome the problem by establishing distribution centers.

Another important problem is transportation, in spite of the existence of two-way San-Bir Boulevard in the district. For the traffic is very much intense on this road, which has no junction point, nor a signalization system, as a result of its employment also as a connection line between TEM and E-5. There occur many accidents on the boulevard, especially in winter, due to the intensity of traffic and lack of signalization system.

When one gets from Hadımköy Road inside the industrial areas, one sees almost no asphalted road. Thus, the web of transportation proves a very bad situation inside the industrial areas. However, leveling and asphalting activities are going on these days in these areas.

Another important problem is communication. It is maintained by a small telephone central in Çakmaklı Village, and this is so insufficient. But currently an area is reserved for a new telecom building. It is estimated that building of a new central will remove the communication problem.

Another problem in the district is the lack of infrastructure. There is no canalization system, nor clean water for use. The industrial organizations try to overcome this problem by digging artesian wells. The problem of canalization is removed by digging foseptical holes; and that of churn by conveying it with vidanjors provided periodically.

As can be seen, the district faces with a lot of problems in spite (or because) of its rapid industrialization and development. These problems belong not only the industrial organizations but also to the district as a whole. All organizations, industrial, commercial, settlement areas, educational organizations and so on, try to overcome these problems by themselves and locally.

At this point, a question may arise: why do these organizations prefer to come to the district despite all these problems mentioned above? This can be explained by referring to the low level of land prices in previous periods, that is, before industrial, commercial and other organizations came to the district. The feasibility of land prices was an important factor influencing their establishment in this district.

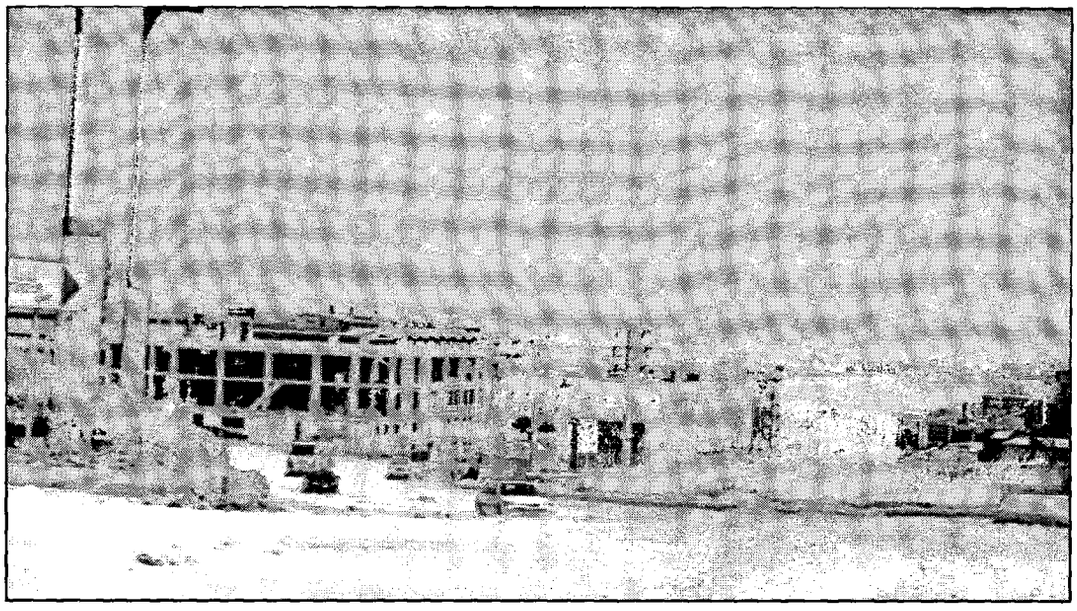


Figure 28. New constructed road in the industrial areas.

The problems of the district do not only belong to the industrial and commercial organizations, but they are common to all settlement, public and private organizations that are located in the district. The industrial, commercial and educational organizations try to find solutions to these problems within the framework of their own capacities. In settlement areas, on the other hand, the villa sites that are called "areas of prestige" survive being isolated from all these problems. Other places called "areas of wreckage", like Açaburgaz housings, Çakmaklı Village, and Karaağaç Village, are full of these problems in the district.

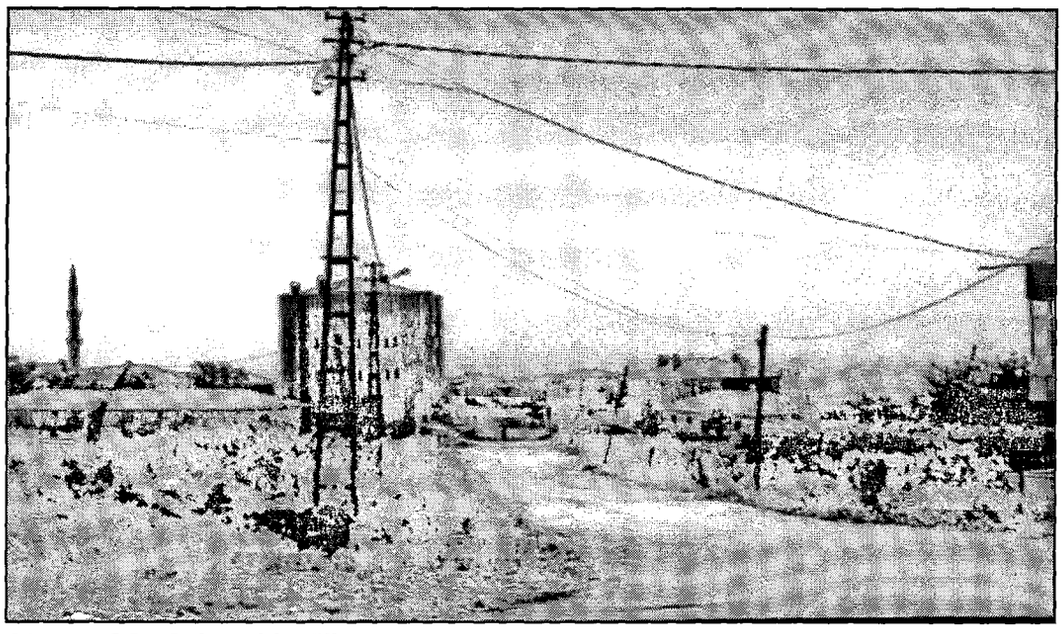


Figure 29. Çakmaklı Village.

6.8. CONCLUSIONS

As a result, land use classification is important in order to explain which activities dominant in a place. It shows to all activities in a place. In study area, land use has changed from 1990 to 2001. In particular, land use shifted from agricultural to industrial, commercial and residential activities. With the changes of land use in study area, lots of firm moved to study area. Virtue of this situation, most of land began to cover industrial factories, companies and new settlement areas. While the land use changes in study areas, in fact some problems appear. The essential problems are transportation, communication and infrastructure.

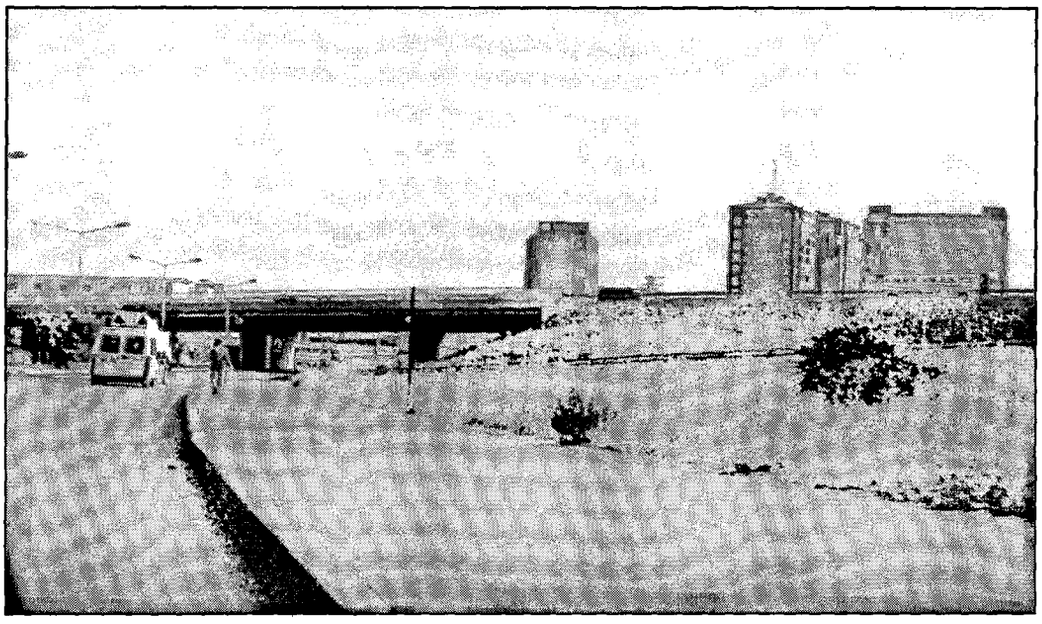


Figure 30. E-5 (E-80) from study area.

All problems continue in study area an also land use changing still. In other words, study area is not completed to changing processes.

CHAPTER VII

CONCLUSIONS AND IMPLICATIONS

7.1. CONCLUSIONS

Worldwide existing of new economic building, urbanization fact related to new technological developments are keep going as in the case of most other metropolitan cities of the world in a very speed period of time. This situation has produced a necessity of many residential areas. In this process, Istanbul metropolitan area has widened especially in east-west and hardly enough in north axises. In related to this widening, many new residential areas had come into existence. So the study domain create one of these residential areas.

In this work; one of Istanbul's outside new developing residential area Çakmakli-Karaagaç-Hadimköy axis, and in 10 year period rapid residential variations caused factors considered while examining of the region.

Especially in the study domain, rapid challenge process in 10 years period has changed mainly the land use of the region. Existing variations in the land use of the region has influenced the area prices of the region strikely.

As a result of this interaction, in the axis, focal point of the study domain Çakmakli-Akçaburgaz region's land prices has rised very. Land prices has showed a rapid rise since 1990 as a result of demanding of the area after 1985. Altough some interruptions occured in certain periods, related with

economical crisises, generally land prices shows a rising trend. At working domain, especially two sides of San-Bir Avenue (Hadimköy Road) contains industrial and trade areas, and their prices has increased more. So land and building plot's prices rising trend is in the direction of divergence for industry and trade.

There are also chief challenges in land use. Before 1985, the land that had nearly only used for agricultural purposes, since that time replaced by industrial-trade foundations, new residential areas and various private and public establishments. This challenge has been continuing today.

One of the main reasons why Çakmakli-Akçaburgaz area has developed in such that rapidly is; existence of it between the E-5 and TEM axises. So that the difference in land prices determined by proximity to San-Bir Boulevard and evaluated by most and least prices.

Although working domain had determined after 1980 for the plan of Istanbul and tried to be organized systematically, unless doing a prior study, the region has started in a rapid developing process. Hence, however trying to make a regular structuring, disordernesses are dominant. In rapid development process, in the region there are various social and economical categories came into existence. As one side contains faultless constructed special residential areas, the other take part of the irregular residential areas

that live one within the another region's problems. Besides collective dwelling way of housing has been increasing widely in the region.

In the region this rapid change after 1985 had brought many problems into existence naturally. These problems can be ordered as; principle energy, transportation, communication and infrastructure. The works have been going on for solving of the problems. Nowadays, different working establishments in working domain can create solutions for these common problems by their own possibilities. But for not to effect these problems the other establishments in the region (especially industrial zones), the problems should deal with and should be solved. This is very important for the keeping up of planned development in the region and make it continuing.

During the work, benefited from intensive use of GIS (Geographical Information Systems) especially first coming up in 1960's and using it in many fields of life and all around the world (Telecommunication, Transportation, Industry, Trade, Defence, Energy, Agriculture, Land Use etc.). The big difference in the region between 1900-2001 period was exposed with GIS. So that benefited from one of a GIS program Arc View 3,2 and its essential extensions. In other words, the variation in working domain is exhibited for commitments by the transferring of datas that belongs to the region.

7.2. IMPLICATIONS FOR FURTHER RESEARCH

In this work, one of Istanbul's outside growing areas's of Çakmakli-Akçaburgaz Region is examined in social and economical ways. The land prices of areas in the region and also its change in use was mapped by using GIS.

It was seen that the concerning researches related to the region are mostly comprises knowledges about physical characteristics. In the point of view the work shows human characteristic, it can be said that this the only investigation about the region. Hence I think that this human characteristics based investigation will be a source for all human based future investigations.

As in the case of all investigations, transferring of data into computer environment and comment on this, make the all works easy. By this way the reaching to datas that transferred into digital format will be easy and used whenever it is needed. GIS which is a computer program helps to transfer every data related to earth, to comment on and visualization. It must be considered that GIS assistance structure in both physical and human studies. Hence any investigations about physical and human related in the region, the association of GIS is regardless important.

In this work rise of land prices committed on computer environment and land prices and also land use's situation is determined according to years and

the challenge process is exposed. By this way a background constructed for the future investigations

In the sustainable development of the region, transferring data about region into computer format will be very aid full undoubtedly. Studies like this work although it does not comprises all the aspects of region, carried by Star Mapping Company exists in the study domain. Transferring of every geographical data that belongs to the region will increase the taxes of municipality that are taken from land and building plots and this will supply a big amount of financing to local administration.

Briefly, in Çakmaklı-Akçaburgaz human study domain limitation, main land prices and land uses based and turned to account in terms of social and economical sides by the years of 1999-2000. In other words the new residential challenge and structuring was investigated by the variations in prices.

GLOSSARY

CBD (Central Business District): The nucleus of an urban area, containing the main concentration of commercial land uses (shops, offices and warehouses). This is associated – as both cause and effect- with both the most accessible point in modern capitalist cities and its peak land value.

Decentralization: The operation of Centri-Fugal Forces causing outward movement from established centers, as for in the Core-Periphery Model, the Trickling Down of growth core to periphery and Counter-Urbanization. Another topical example is provided by the removal of population and employment from the inner areas of cities and their relocation either in the Suburbs or in smaller urban centers. Such movement might be seen as a voluntary response to the negative externalities of large cities (especially of their older areas) and the positive externalities that are perceived as obtaining in the new locations. Decentralization from inner city has also been an objective of urban planning of much of the postwar period, i.e. as part and parcel Overspill programs.

Enclave: A small piece of territory located within a state, but which does not fall within the jurisdiction of that state. A small concentration of an ethnic group surrounded by others. A number are in Europe and are evidence of the continent's confused political history. The microstates of San Marino and Vatican City in Italy are classical examples.

While until recently, inward flow dominated in western countries there was also some counter movement out of the cities.

Gentrification: The reinvestment of CAPITAL at the urban center, which is designed to produce space for more affluent class of people than currently occupies that space. The term coined by Ruth Glass in 1964, has mostly been used to describe the residential aspects of this process but this is changing, as gentrification itself evolves.

Gentrification is quintessentially about urban reinvestment. In addition to residence rehabilitation and redevelopment, it now embraces commercial redevelopment and loft conversions (for residence or office) as part of a wider restructuring of urban geographical space. Gentrification proper combines this reinvestment with social change insofar as more affluent people –the urban 'gentry'- move in to previously devalued neighborhoods. Gentrification often involves direct or indirect displacements of poor people.

A process occurring in certain INNER-CITY areas whereby old, substandard housing is bought modernized and occupied by middle-class and wealthy families.

Segregation: Associated with the ecological ideas of the CHICAGO SCHOLL of urban sociology, the concept of segregation refers both processes of social differentiation (usually at the urban scale) and to the patterns that result from such processes.

In an ecological sense, the spatial of different groups of people and different functions into distinct areas; e.g. the emergence of district social areas and different LAND- USE regions within BUILT-UP AREA of a TOWN or CITY. Segregation results partly from the repelling force that operates between different activities (and social groups) and partly from the mutual that exist between similar activities (and people).

BIBLIOGRAPHY

Agricultural&Credit Cooperative of the Büyükçekmece (2001)., "Personel Communication" Istanbul.

Agricultural Directorate of the Büyükçekmece (2001)., "Personel Communication" Istanbul.

ANDREW, F.Egan, LULOFF, A.E., (1998) JOF Volume 3. Maine, USA.

ARDEN, G. Ted (1999) "Estimating Land Values". Delawere, USA.

BAYTİN, Ç (1995) "Dwelling in Turkey's 50 Years of Modern Urbanization Period: Sample Istanbul. Yıldız Technical Univeristy Faculty of Architecture Department of Architecture, İstanbul.

BERKÖZ, L (1986)., İstanbul'un Mekansal Yapısının Tarihsel Gelişimi. İstanbul.

Brochure of Industrialists of San-Bir (1997) Ajans Cedid, Büyükçekmece, Istanbul.

CADWALLER, M (1996)., "Urban Geography: an analytical approach". Prentice Hall, Upper Saddle River, New Jersey, USA.

CARR, M (1997)., "New Patterns: Process and Change in Human Geography". Nelson published, United Kingtom.

ÇAM, Ramazan, Civil Engineer (2001)., "Personel Communication" Kent Emlak İnşaat Organizasyon Ltd. Şti. Çakmaklı-Hadımköy Asfaltı, Büyükçekmece, Mart, İstanbul.

EKIZ, K.Rahşan and Zaim, A., (200) "GIS for New Millenium" 2000 Esri EMA User Conference. Islem GIS&Bahçelievler Municipality, Information Systems Department. October, Istanbul, TURKEY.

ERGINE, Nurettin (2001)., Last chief of the Çakmaklı village, The head of theAgricultural council of the Büyükçekmece and farmers, April, İstanbul.

GÖÇER, O (1990)., "Metropolitan Planlama". Yıldız Universitesi Yayını, İstanbul.

GÜROCAK, Yücel, Manager (2001)., "Personel Communication" San-Bir, San-Bir Sanayiciler Hizmet İşletmeleri ve Ticaret A. Ş. SAN-BİR Bulvarı, Altunkent İş Merkezi, Büyükçekmece. April, İstanbul.

HACISALIHOĞLU, Y (2000)., "Küreselleşme Mekansal Etkileri ve İstanbul" Akademik Düzey Yayınları, Ekim,İstanbu, TÜRKİYE.

HARTSHORN, A. Truman (1992)., "Interpreting the City: An Urban Geography" John Wiley & Sons, Inch, 2nd edition.

HUXHOLD, William.E (1991)., "An Int. to urban Geographic Information Systems". Oxford Uni. Press. London, ENGLAND.

İPEKÇİ, A (2001), "Personel Communication" Harita Kaddastro Mühendisi. Star Harita İmar Planlama İnşaat ve Tic. Ltd. Şti. Büyükçekmece, Mart 2001, İstanbul.

İSO (Istanbul Sanayi Odası) "Türkiye'nin ilk büyük 500 ve ikinci büyük 500 şirketi" Aylık Dergi, August 2000, Istanbul.

75 Yılda Değişen Kent ve Mimarlık (1998)., Tarih Vakfı Yayınları, İstanbul.

İstanbul Metropolitan Alan Nazım Planı Raporu (1980)., B.İ.N.P.B.B., İstanbul.

İstanbul Metropolitan Alan Alt Bölge Nazım Plan Raporu (1995)., İstanbul Büyükşehir Belediyesi, Mart, 1995, İstanbul.

İstanbul Ticaret Odası (1997)., "Kıtaların, Denizlerin, Yolların, Tacirlerin Buluştuğu Kent". Türkiye Ekonomik ve Toplumsal Tarih Vakfı, Eylül, İstanbul, TÜRKİYE.

JARED, A., COURTIGHT, S (1998)., "GIS and Urban Land Use". The Journal of The Society of Municipal Arborists, Volume 34, Number 3. May/June 1998.

JOHNSTON. R.J., and GREGORY D., and PRATT G., WATTS M., (2000) "The Dictionary of Human Geography". Blackwell Publishers, Massachusets, USA.

Kent Emlak İnşaat Organizasyon Ltd. Şti (2001)., "Personel Communication" Çakmaklı-Hadımköy Asfaltı, Büyükçekmece, Mart 2001, İstanbul.

KIRAY, M (1998)., "Economic, Cultural proficient of the Turkey". 75 Yılda Değişen Kent ve Mimarlık, Tarih Vakfı Yayınları, Istanbul.

KUBAN, D (1996)., "İstanbul Bir Kent Tarihi, Bizantion, Kostantinopolis, İstanbul". Türkiye Ekonomik ve Toplumsal Tarih Vakfı Yayını, İstanbul.

LEVY, J.M (1985)., "Urban and Metropolitan Economics". McGraw-Hill Book Company.

MAIDMENT, D (1999)., "GIS in Water Resoureces" The Universityof Texas at Austin. December 1999,Texas, Austin.

ORTAYLI, İ (1995)., "İstanbul'un Mekansal Yapısının Tarihsel Evrimine Bir Bakış". Amme İdaresi Dergisi, Türkiye ve Ortadoğu Amme İdaresi Enstitüsü, Cilt 10, Sayı 2, Ankara.

OSMAY, S (1998)., "1923'ten bugüne Kent Merkezlerinin Dönüşümü". 75 Yılda Değişen Kent ve Mimarlık, Tarih Vakfı Yayınları, Istanbul.

ÖRER, G (1993)., "İstanbul'un Kentsel Kimliği ve Değişimi". İstanbul Teknik Üniversitesi, İstanbul.

ÖZDEMİR, A.T (1995)., "İstanbul Çevre Envanteri". Marmara ve Boğazlar Belediyeler Birliği, İstanbul.

PLAT, Rutherford, H (1996)., "Land Use and Society, Geography, Law, and Public Policy". Island Press, Washington, DC, USA.

Property Affairs (2001)., The Büyükçekmece Municipality, Büyükçekmece, March 2001, İstanbul.

Real Estate Law (2001)., Internal Instructions, Tukish Finance Ministiry, General Directorate of Revenues, Ankara, March 2001.

RUBENSTEIN, M..James (1999)., "The Cultural landscape: An Introduction the Human Geography". Prentice Hall. Six edition, USA.

SMALL, J. and WITHERICK, M. A (1995)., "Modern Dictionary of Geography". Arnold Published, New york, USA.

Star Harita İmar Planlama İnşaat ve Tic. Ltd. Şti. Büyükçekmece, Mart 2001, İstanbul.

TEKELİ, İ (1998)., "İstanbul'un Geleceği İçin Kaygılanma Biçimleri". İstanbul Dergisi Sayı 26, İstanbul.

_____. (1995)., "Geleceğin İstanbulu". İstanbul Dergisi Sayı 8, İstanbul.

TÜMETREKIN, E (1997) "İstanbul Şehrinin Coğrafi Anatomisi" Kent Gündem, TMMOB Şehir Plancıları Odası Yayını, No.1.Ocak, Istanbul, TURKEY.

TÜMERTEKİN, E (1998)., "İstanbul İnsan ve Mekan" Tarih Vakfı Yayını, İstanbul.

YILMAZ, Mustafa (2001)., "Personel Communication" San-Bir Asst. Director General, San-Bir Industrialists Service Operators and Trading Inc. Sanbir Avenue, Altunkent Business Center, Büyülçekmece, April, İstanbul.