

GIS AS A TOOL FOR ANALYZING LEGAL STRUGGLES: AN ANALYSIS OF  
LAWSUITS FILED BY THE CHAMBER OF CITY PLANNERS ANKARA,  
TURKEY

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ANKARA, TURKEY**

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## **ABSTRACT**

### **GIS AS A TOOL FOR ANALYZING LEGAL STRUGGLES: AN ANALYSIS OF LAWSUITS FILED BY THE CHAMBER OF CITY PLANNERS ANKARA, TURKEY**

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Master of Science, Geodetic and Geographic Information Technologies

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Examination of past urban planning practices, reveals that they are used improperly by decision makers, often ignoring the social and environmental impacts of planning processes and the planning principles. That is why professional chambers, non-governmental organizations (NGOs) and other public organizations (like local municipalities) strive to monitor the urban and regional plans and their implementations. In order to stop the implementation of the plan decisions/actions, which are taught to have negative effects on society, environment and economy, The Chamber of City Planners like other aforementioned entities bring the plans and spatial decisions to trial. Even though these legal struggle activities and processes have a geographical basis, they are carried out only by oral decisions and correspondences without using any information system.

By addressing the gaps in research area, this thesis aims to develop a Geographic Information System (GIS) prototype specific to the legal struggle processes convenient for many NGOs, professional chambers, institutions and other organizations. To this end, first, the legal struggle processes of The Chamber of City Planners are reviewed. Then, the database design, system design and system

development processes are applied for tracking and analyzing the legal struggles within a specialized Geographical Information System (GIS). The developed GIS application includes the specific GIS tools and spatial analysis capabilities in cooperation that would satisfy both the users' and the researcher's needs. The author developed the application first for providing the rapid and simple access to the information of the lawsuits together with their spatial locations. Second, it is aimed to produce a platform for analyzing the spatial distribution of the lawsuits based on the lawsuit information. It is also aimed to discover the risk areas of the city by using the spatial relations of the lawsuit areas in their own right and their relations with the natural protected areas within the city in order to contribute further to the decision-making processes regarding the production of urban space.

Within the scope of this research; the legal struggles of the Chamber of City Planners in the province of Ankara are chosen as the case domain. Next, the lawsuits between the years of 2013 and 2018 are digitized. By using the capabilities of the developed GIS application, the results of spatial analysis and statistics are evaluated and discussed by referencing the characteristics of the spatial areas and the lawsuit information. The thesis concludes with the discussion of the findings and implications for urban planning, legal struggle and the use of Geographical Information Systems.

**Keywords:** Geographical Information Systems (GIS), Crime Against Urban Environment, Professional Chambers, Legal Struggle, Urban Planning, Ankara

## ÖZ

### **HUKUKSAL MÜCADELELERİ ANALİZ ETME ARACI OLARAK CBS: ŞEHİR PLANCILARI ODASI TARAFINDAN ANKARA, TÜRKİYE’DE AÇILAN DAVALARIN ANALİZİ**

Yalçınkaya, Özlem  
Yüksek Lisans, Jeodezi ve Coğrafi Bilgi Teknolojileri  
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Kentsel alanları biçimlendirmek için kullanılan temel yasal araçlar şehir planlama pratikleridir. Şehir planlama uygulamalarının geçmişi incelendiğinde, genellikle planlama süreçlerinin sosyal ve çevresel etkilerini göz ardı ederek karar vericiler tarafından hatalı kullanıldığı ve planlama ilkelerinin göz ardı edildiği ortaya çıkmaktadır. Bu nedenle meslek odaları, sivil toplum kuruluşları (STK) ve diğer bazı kamu kuruluşları kentsel ve bölgesel planları ve uygulamalarını takip etmektedir. TMMOB’ye (Türkiye Mühendis ve Mimar Odaları Birliği) bağlı Şehir Plancıları Odası bahsi geçen diğer kuruluşlar gibi, toplum, çevre ve ekonomi üzerinde olumsuz etkileri olduğu düşünülen plan kararlarının ve eylemlerinin uygulanmasını durdurmak için, söz konusu planları ve mekansal kararları yargı sürecine taşımaktadır. Bu hukuksal mücadele faaliyetleri ve süreçleri, coğrafi bir temele sahip olmasına rağmen herhangi bir bilgi sistemi kullanılmadan, sözlü kararlar ve yazışmalar ile gerçekleştirilmektedir.

Bu tez, araştırma alanındaki eksikleri ele alarak, birçok STK, meslek odası, kurum ve kuruluşların kullanımına uygun bir yapıda hukuksal mücadele süreçlerine özgü bir Coğrafi Bilgi Sistemi (CBS) prototipi geliştirmeyi amaçlamıştır. Bu amaç

doğrultusunda öncelikle Şehir Plancıları Odası'nın hukuksal mücadele süreçleri gözden geçirilmiştir. Ardından, hukuksal mücadeleleri izleme ve analiz etme kabiliyetlerinde özelleşmiş bir Coğrafi Bilgi Sistemi (CBS) için veritabanı tasarımı, sistem tasarımı ve sistem geliştirme süreçleri gerçekleştirilmiştir. Yazar tarafından geliştirilen CBS uygulaması, hem kullanıcıların hem de araştırmacıların ihtiyaçlarını karşılayabilecek şekilde bir arada çalışan CBS araçlarını ve mekansal analiz yeteneklerini içermektedir. Uygulama ilk olarak, davaların bilgilerine ve mekansal konumlarına hızlı ve kolay erişim temelinde geliştirilmiştir. İkinci olarak, davaların bilgileri temel alınarak mekansal analizler sağlayan bir platformun üretilmesi amaçlanmıştır. Ayrıca, kentsel alanın üretimine ilişkin karar alma sürecine daha fazla katkıda bulunabilmek için dava alanlarının kendi içindeki mekansal ilişkilerini ve şehir içindeki doğal korunan alanlarla ilişkilerini kullanarak kentin risk alanlarının keşfedilmesi amaçlanmıştır.

Araştırma alanı olarak Şehir Plancıları Odası'nın Ankara ilinde yürüttüğü hukuksal mücadele seçilmiştir. 2013 ve 2018 yılları arasında açılan davalar tez verileri olarak kullanılmak üzere sayısallaştırılmıştır. Tez kapsamında, uygulamanın yetenekleri kullanılarak oluşturulan mekansal analiz ve istatistiklerin sonuçları mekansal alanların karakteristikleri ve dava bilgileri referans alınarak değerlendirilmekte ve tartışılmaktadır. Tez, kent planlaması, hukuksal mücadele ve Coğrafi Bilgi Sistemlerinin kullanımı ile ilgili bulgu ve sonuçların tartışılması ile sona ermektedir.

Anahtar Kelimeler: Coğrafi Bilgi Sistemleri (CBS), Kente Karşı Suç, Meslek Odaları, Hukuksal Mücadele, Şehir Planlama, Ankara

To my family, friends and to all whom struggles for social and spatial justice

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## LIST OF ABBREVIATIONS

### ABBREVIATIONS

AKP	Justice and Development Party (Adalet ve Kalkınma Partisi)
AMM	Ankara Metropolitan Municipality
AOÇ	Atatürk Forest Farm (Atatürk Orman Çiftliği)
CCP	Chamber of City Planners
GIS	Geographical Information Systems
GIT	Geographic Information Technologies
IS	Information Systems
MTA	General Directorate of Mineral Research and Exploration
RAC	Regional Administrative Court
TOKİ	Housing Development Administration of Turkey (Toplu Konut İdaresi)
UCTEA	Union of Chambers of Turkish Engineers and Architects



## CHAPTER 1

### INTRODUCTION

#### 1.1. Introduction

Urban planning is a professional notion that covers the whole set of social, spatial and technical activities aimed at analyzing, projecting, planning, representing and regulating the development of an urban or a regional area. Urban planning is concerned with the development and design of the built environment, including its land use, social, cultural and natural features, and infrastructure (including transportation, communications, and distribution networks). A variety of spatial, social, technical and political issues fall within the scope of urban and regional planning, depending partly on the geographical scale of the planning area.

Urban planning profession has the primary concern of promoting the public welfare or interest, which includes considerations of efficiency, health, protection and use of the environment, as well as its effects on social and economic activities, cultural and natural features. Although its primary concern is to promote “public welfare”, this profession can also be subject to unethical and unprofessional decisions. Especially in Turkey which has an economic structure based on the construction sector, urban plans and projects are sometimes used as a tool for favoring particular sectors or communities/individuals by leaving aside public needs, scientific and ethical backgrounds. Such planning decisions have many damaging impacts on both planning profession and natural and built environment. One of the missions of professional chambers and civil initiatives is to hinder the implementation of planning efforts that do not serve the publics’ interest.

The Chamber of City Planners, as a part of UCTEA (Union of Chambers of Turkish Engineers and Architects), carry out specific practices including regulations for planning profession and supervision of public institutions on behalf of the public in the frame of the Constitution, the Law on the UCTEA and legislations based on these fundamental laws. The Chamber also carry out different work and organizations like correspondences, interviews, press releases, events etc. in order to reach the proper execution of the profession together with the healthy and regular urbanization of the built environment via city plans made in accordance with the principles of urbanism and planning profession. In addition to these kinds of studies, the Chamber of City Planners together with its branches, struggle for the cessation of wrong practices by judiciary processes for the faulty planning decisions and practices that cannot be corrected by the mentioned methods. In the framework of its professional struggle for crimes against urban environment, the Chamber of City Planners follows the legal processes against the urban plans and practices that are contrary to the public interest.

## **1.2. Motivation**

One of the main methods adopted by the Chamber of City Planners is to resort legal proceedings for the planning actions that are not in accordance with city planning principles and which are not publicly beneficial. These activities and processes based on legal struggle are carried out by oral decisions and correspondences.

The branches of the chamber monitor and archive the plans that are suspended by different institutions (municipalities, ministries) within the borders of their cities (or field of authority). Each elected board of management group of the Chamber of City Planners constitute a ‘Plan Pursue Commission’ that analyze the city and regional plans and reach a consensus about whether or not the plans are in accordance with city planning principles and are in the interest of the public. Nevertheless, this is a very a labor-intensive and complex process. One of the main problems is that even if the cases are based on city (or regional) plans, which are actually produced on geographically coordinated base-maps, there exists no digitally produced or

georeferenced data of the plans. Therefore, the commission and planners of the Chamber file and archive the textual documents (plan reports), photographs, etc. of the plans so that these documents are examined to determine whether or not to take an action (i.e. taking the plan to the court). In the examinations conducted, understanding the current region of the plan on satellite image, searching whether or not there exists an old case on or around the planning region and decisions of the upper scale plan are very important. However, it takes a long time to reach these details from the traditional (non digital) archives.

The Chamber's advocate pursue the list of cases in a spreadsheet program (excel) that lists the general information about and current situation of the cases including the information of: the defendant, plaintiff, date of the case, court information, subject and information about case result. This archive is also not adequate for the commissions' examinations because the spreadsheet is based on verbal table information of the cases and don't have digitally produced geographical data or just spatial references.

The analysis and examination of plans actually needs a know-how based on previous experiences and practice patterns on evaluation of the plans. However, the plan review commission is changing within two years (together with the board of management), so there is a difficulty of accessing, realizing and extending the accumulation of knowledge. The knowledge of past cases is therefore not accessible in new commissioners and there is no specific information system in which they can access and perform queries and analyzes specifically about the lawsuits of the Chamber. As there are difficulties on accessing data, production and distribution of information, the accumulation of knowledge (know-how) is hard to reach.

City plans subject to the cases are not geographically digitized and the archive of the chamber is based on document filing only. Although the general information and the current situation of the cases can be accessed from the spreadsheet of the lawyer, the lack of spatial analysis together with the spatial distribution of the cases in the city for

the need of assessment and decision come to the fore. It is obvious that these manual and labor-intensive processes can be done in a more efficient, collective and knowledge intensive way together with an information system.

### **1.3. General Purpose / Scope**

The legal processes carried out within the Chamber of City Planners, mainly cover approved plans of municipalities and ministries or legal/ managerial processes that are relevant to the city planning profession. In this context, the struggle based on legal proceedings includes the decisions taken for a part or the whole of the city. Almost 95% of the cases of the chamber is based on a specific city plan that is designed for a geographical area. Since the cases are geographically located, they enable interpretation of a specific behavior in a geographic context. This kind of an interpretation can only be realized properly with spatial analysis. Therefore, monitoring and analyzing through geographically based Information Systems have emerged as an important need for the Chamber of City Planners.

Geographic Information Systems (GIS) and Geographic Information Technologies (GIT) are sophisticated modern technologies to capture, store, manipulate, analyze and display spatial data. Geographic Information Systems are increasingly employed in research and development projects that incorporate spatial data with specific needs of the professional background. GIS is also perceived as a crucial technological basis for this research.

The main purpose of this thesis is to propose a conceptual Information System that can answer the process, management and analysis based needs, besides knowledge sharing and spatial decision problems of Chamber of City Planners for legal struggle processes. To reach this purpose, Geographic Information Systems, the ultimate purpose of which is to provide support for making decisions based on spatial data, is going to be utilized specifically for data storage, spatial analysis based on the necessities of the users, and also for examining spatial relationships and patterns in

data. Even if the common packed or open source/free of charge GIS softwares give ability to produce, store, analyze, visualize and share geographical data, they are not specialized for specific business process needs. As mentioned above, the whole analysis of the plans and co-decision of opening the case are labor-intensive, manual and complex processes. Therefore, with the intention of developing relevant solutions and constructing technological methods that are specific to the field, this study analyzes processes, complications and identifies the requirements of the Chamber of City Planners' litigation processes. The developed Geographical Information System presents a basis for a spatial decision support system that would offer the users a flexible and user-friendly environment to provide assistance in analysis of the plans, co-decision of opening the case, managing and monitoring the legal processes. It will enable the construction of conceptual and spatial relations that will affect the decision of starting a legal process. Besides, this study aims to create a portal for the board of managers of the Chamber and for the other actors related to the legal processes to improve the capacity of legal struggle processes, and a knowledge-sharing platform within the chamber. This application can also be a model for a sharing platform with the public with the aim of raising awareness.

The development of this system has been motivated by a real world case study of the Ankara Branch of the Chamber of City Planners. However, the ultimate scope of the study is to analyze and design a geographical information system which is applicable to whole country and to different actors including different professional chambers of UCTEA, civil initiatives, public and private institutions, etc. that conduct spatial struggles on legal grounds. This study, in the long run aims to design an infrastructure of a holistic system in which the crimes against the city, settlements or natural areas, can be analyzed as a whole together with many actors who are conducting spatial struggle on legal ground or conducting inspection for them.

#### **1.4. Research Questions**

This study started with an examination grounded on the following research question; is it possible to develop a Geographical Information Systems based tool to spatially analyze the legal struggles of professional chambers, NGOs and others for urban environment?

On the way to this question, this study reviews the process, management and analysis based necessities particularly for analyzing legal struggles, knowledge sharing difficulties and spatial decision problems within the Chamber of City Planners. Thereafter, it focuses on the Chamber of City Planner Ankara Branch's litigation struggles for the city of Ankara and question do legal struggles have some trends? More specifically, after developing a GIS tool to examine the lawsuits filed by the Chamber of City Planners Ankara Branch, it aims to investigate the spatial distribution of these cases in Ankara to answer the following sub-research questions:

- What is the trend of litigation by the districts of Ankara and lawsuit years?
- How does the spatial distribution of the cases vary among the defendants?
- How are the joint-plaintiff cases based on their actors distributed across Ankara?
- How does the spatial distribution of the wins and losses of the cases in Ankara change according to the suspension of execution decisions and case results?
- Does the distribution of lawsuit areas in Ankara intersect with the natural protected areas such as forestry areas, agricultural areas and Atatürk Forest Farm? To what extent do they intersect and how is the spatial pattern?
- Where are the specific risk/problem areas of Ankara regarding multiple and similar plans for the same area that are subject to judicial processes? How does the spatial distribution of the trend of the repetition of unlawfulness look like in Ankara?

### **1.5. Data, Methodology and Limitations**

Geographical Information Systems are interoperable and powerful set of tools for storing, retrieving, transforming, and displaying spatial data from the real world for a particular set of purposes (Burrough, 1986). For the production of an information organization to make decisions, control operations, analyze problems, and create new services, three activities are needed: input, processing, output (Laudon, 2016).

Input captures raw data from organization or external environment. Spatial based decision makers are in need of accurate data which is the utmost significant component in the field of Geographic Information Systems as well as in many other fields. However, the Chamber of City Planners didn't have a spatial data infrastructure for any geographic information system. Therefore, geographical data of this study is produced and georeferenced from the border areas of the plans which are the subject matter of the cases of the Chamber of City Planners. The plan areas are collectively produced and controlled by the workers of the chamber and myself. As a case study area, Ankara is chosen and the cases after 2013 is used. This kind of a limitation on data is needed first to focus on a specific city and specific study group (the Ankara branch of the City Planners). Secondly, focusing on the lawsuits filed in a particular period (2013-2018) was a necessity because the filing system of the Ankara Branch of the Chamber of City Planners before 2013 was not suitable to produce geographical data for this study.

Processing activity is the core of the information system, which converts the raw input (data) into a meaningful and usable form. In this context, first, spatial decision problems concerning the professional processes of the chamber within the city of Ankara are analyzed. Second, the author analyzed what kind of spatial analyses are needed to assist while making decisions about the plans. To this end, a conceptual framework is designed and a geographic information system is coded for plan tracking, case management and analysis processes.

The output of the developed GIS system aims to transfer the processed information to people who will use this information system. Geographical Information Systems are

ideal technological tools that can store and analyze geographical data for meeting the requirements of the city planning profession. Therefore, these outputs are visualized as thematic maps in order to provide a value-added for decision support processes in evaluation problems.

### **1.6. The Contributions of the Study to Research and Practice**

This study, aims to propose a conceptual and potential ground for a geographical information system implementation for the Chamber of City Planners' legal struggle processes in order to accelerate its legal struggle processes more efficient. The proposed tool aims to make the Chamber's legal struggle processes more efficient by assisting the organization in the spatial analysis of the plans, comprehending complex set of variables and relations, and managing and monitoring the business processes. Therefore, this study aims have a specific improved workforce, decision-making, information access and saving of time contributions for the practitioners (planners and lawyers) of the Chamber of City Planners by IT abilities. It will enable the construction of conceptual and spatial relations that will affect the decision of opening lawsuits.

This thesis investigates the spatial relationships of cases of the chamber that are related to Ankara city. This kind of a spatial analysis has not been studied formerly. Actually, the evaluation of these cases requires explicit consideration of different professional criteria as they have various social, economic, and environmental outcomes. Hence, the results of this study may contribute to the analysis of social, economic, legal, environmental or other types of problems.

It aimed to establish a basic spatial data and technical infrastructure for larger studies, by focusing on a specific city and solely on the cases of the Chamber of City Planners. This study aims to be a baseline for a larger study including the whole country. This study contributes not only to the Chamber of City Planners but also to different actors that similarly maintains spatial struggle on legal grounds (e.g. other UCTEA chambers, non-governmental organizations, citizens etc.). The database and system

architecture of this study has been designed to enable the development of a modular, user-friendly structure, which can be used by different actors. The aim of this study is to establish a substructure in which the actors who put up a fight within legal context, can interconnect within, contribute to or enlarge this struggle.

Especially data sharing according to the needs and purposes is an absolute necessity within an institution. Similarly, sharing geographical information based on cases with other actors and public through geographical information technologies has a specific importance for a public right. So, this study objects to create a share on platform for city planners' board of managers and other actors related to the cases. In this context, this kind of an information system creates a common platform to follow up the cases in which different actors participate as complainant (like other chambers or non-governmental organizations). Moreover, through this specific Geographical Information System, it is aimed to create a potential portal that would serve information, in order to raise awareness and mold public opinion against the urban plans and practices that are contrary to the public interest.

The Chamber of City Planners follows the legal processes against the urban plans and practices that are contrary to the public interest within the program of its professional struggle. Even if these cases result in legal gain, the construction of faulty decisions may continue and unlawful constructions may occur. The reactions against these unlawful constructions that are not based on an authorized plan arose by local and central administrators day by day in the Turkey's agenda<sup>1</sup>, but as far as it's known,

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<sup>1</sup> In 2017, President Tayyip Erdoğan, who served as the mayor of Istanbul Metropolitan Municipality for a certain period, said, "We couldn't know the importance of this city, we betrayed this city and we still betray it. I am responsible for this too." (Hürriyet Gazette, 2017) This confession brought to mind the question; who betrayed the cities?

Former Minister of Environment and Urbanization Mehmet Özhaseki also said "the biggest thieves, evils, troubles come from the reconstruction. That construction needs to be taken under control" (Hürriyet Gazette, 2017). He also explained that the problematic plan decisions are the subject of litigation processes, which create inequality in the city, shake the sense of justice or shakes the trust in the municipalities. After these interpretations, despite the fact that the lawsuits were finalized in favor of the Chamber of City Planners, sanctions could not be applied in order to pave the way for illegal constructions and many examples are given within this thesis.

there exists no distinctive action to overcome these malpractices. In this study, a spatial data infrastructure is designed where local and central administrations can perform their analysis or auditing activities in order to avoid erroneous plans, practices and methods that will undermine the sense of justice. In this context, this data, together with the results of spatial analyses, has a potential for administrators to face these malpractices head-on starting from Ankara.

### **1.7. Organization of the Thesis**

This thesis includes six interrelated chapters, starting first with the current chapter 1: Introduction. Here, the author explained her motivation to carry out this study, general purpose and scope of the thesis, research questions, methodology, limitations of the study and the intentional contributions of the thesis to research and practice.

Chapter 2: Production of Space and Crimes against Urban Environment, first briefly defines the problematic occurrence of production of space in the age of globalization and how urban planning is used as a tool for the production of spatial decisions. Moreover, it discusses crimes against urban environment as a basis to reveal the reasoning of professional and legal struggle.

Chapter 3: Geographic Information Systems, reviews the literature to provide a conceptual framework of the fundamental technical aspect of this research. An overview of Information systems and Geographical Information Systems (GIS) including spatial data model and components of GIS is explained.

In Chapter 4: Method: Data Preparation, System Development and the Design of the Main User Interface, analysis of the litigation process, the methodology of spatial data preparation and system design and development process of the application are explained. Moreover, the main features of the GIS application developed for the thesis are represented related to the system development basis.

Chapter 5: Results, critically evaluates the overall research findings based on Chamber of City Planners's lawsuits in Ankara between the years 2013-2018. It summaries the entire results of the research based on the intensity of lawsuits by the districts, litigation year, plaintiff, defendant and court decisions. Besides, it illustrates how the lawsuits intersect with the natural protected areas and whether these lawsuits repeat in particular areas of the city.

Finally in Chapter 6: Conclusion, the key findings of the research are summarized and the recommendations are evaluated for future research in the fields of GIS and planning.



## CHAPTER 2

### PRODUCTION OF SPACE AND CRIME AGAINST URBAN ENVIRONMENT

#### 2.1. The Production of Space in the Age of Globalization

Space is not merely a natural or void phenomenon that waits to be defined with some contents. It is produced within a social, economic, political, and ideological basis. Henri Lefebvre's (1991) theoretical framework "The Production of Space", defines the politics of space which provides a challenge to planning and design of the built environment by emphasizing the essentials to understand the composite elements involved in 'the production of space'. To understand the phenomena of "space", Lefebvre (1991) identifies three elements of the production of space its production dynamics and its impact on the structure and lived experience of everyday life;

- (1) Spatial practice (perceived space) is the practice of a society's space or "society secrets". As Lefebvre (1991) defines, society propounds and presupposes space within in a dialectical interaction and it produces it slowly and surely as it masters and appropriates it by every society member's empirical spatial competence.
- (2) Representations of space (conceived space) is a conceptualized space (maybe in maps, diagrams, plans, models, images etc.) that is produced by of scientists, planners, urbanists, technocratic subdividers and social engineers (Lefebvre, 1991).
- (3) Spaces of representations (lived space) as Lefebvre (1991, p. 39) defines is the "space as directly lived through its associations and images and symbols, and hence the space of 'inhabitants' and 'users'". Moreover, it is "the dominated and hence passively experienced space which the imagination seeks to change

and appropriate. It overlays physical space, making symbolic use of its objects.”

Space is produced in an interconnected and dynamic relationship between these three realms. However, under capitalist system, representations of space started to dominate the others by reflecting the needs and priorities of the capital and its economic and political power. Space is produced and shaped for economic production and for social reproduction. Space is produced to shape, manipulate, and dominate space as well as the people and activities that are allowed or who have to use it. Dominant spatial forms are produced ultimately by the imposition of the powerful who seek to control it in their own interests (Zieleniec, 2018). Urban processes and therefore the production of space are shaped within the reasoning of capital circulation and accumulation processes and its policies within states.

Each society produces its particular space in order to meet its needs and priorities to ensure societal cohesion, functional competence, and to assert and maintain ideological and political power and control. Under capitalism, space has come to be the dominant form by and through which production, consumption, reproduction and circulation are organised and structured, ultimately to meet the requirements of financial capital (see, Harvey, 1978, 2001). Space therefore is a material product and the means by and through which capitalism survives, involving physical and social relations between people and between people and things in space. In the *Circulation of Capital as a Whole and Its Contradictions* chapter of “Urbanization of Capital”, Harvey (1985) summarizes circulation of capital in three basic circuits for producing continuous profit.

- (1) In the primal circuit, the process of manufacturing and industrial production creates an inevitable competition among capitalist producers to obtain the most profit. As a result of this continuous profit making activity and competition, over-accumulation occurs within the primary circuit of capital. So, the expected continuous growth and (excessive) profit cannot be achieved.

- (2) The secondary circuit involves the built environment with a critical role for capital's consumption and production policy for expansion for profit
- (3) Tertiary circuits are investment areas that feed the first cycle including first social infrastructure investments (education, health, welfare, policy, ideology, law enforcements etc.) to reproduce the labor power "human capital" needed and to increase the consumption of commodities. Second, the science and technology investments that will directly feed production.

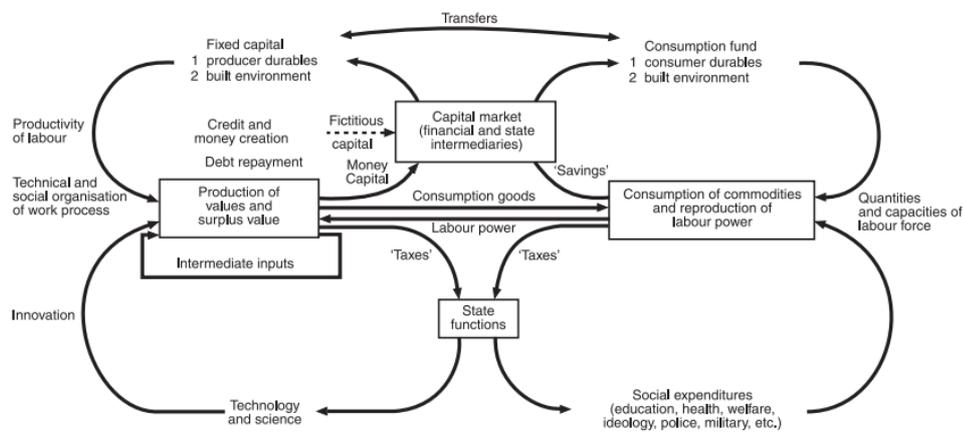


Figure 2.1. The structure of relations between the primary, secondary and tertiary circuits of capital (Source: Harvey, 1985)

Harvey (1985) demonstrates the circuit of capital in the Figure 2.1. Competition between capitalists and its internal contradictions lead to an over-accumulation crisis within the primary circuits of capital. As Harvey states, capitalism is a continuous revolutionary mode of production and speculative innovations in capitalist production processes are one of its trademark. Therefore, in case of a crisis or just a mishap that occurs at any stage of the production processes, new ways of making profit can be produced and capital can overcome this tendency through new channels. Switching capital from the first cycle to the secondary and tertiary cycles includes the shift from basic production areas (agriculture and industry) to investments in built environment or infrastructure and technology. Consequently, one of the means to overcome the crisis caused by the over-accumulation problem is to direct capital to investment in

the built environment. In order to maximize their profits, capitalist entrepreneurs invest in the built environment of cities by taking cities out of the production process. According to Harvey, capitalist urbanization, which directs its investments to more profitable built environment in order to increase its profits, is developed as a result of the capital accumulation in crises in the production process.

Neoliberal policies that are started to be proposed in the post-1980 period with the aim of getting out of the crisis that the capitalist system fell into in late 1960s, had a traumatic effect on space. These policies, which have been put forward as a product of a new understanding, have led to re-definition of the balance of power and re-definition of urban development. Together with neoliberalism and globalization, where the primary wheels of classical capitalism are rapidly surpassed, a wide range of applications (speculative innovations) are offered for the continuity of investments and profits in these three cycles which Harvey (1985) puts forward. In the course of the cycles of capital, the upper classes are increasingly seeking income and wealth through redistribution and (legal or illegal) seizure rather than pursue profitable investments in manufacturing and industry. As a result, the centralization of wealth and power in the hands of a few by dispossessing the public and private entities of their wealth or land occurs. Harvey (2003) describes this as accumulation by dispossession<sup>2</sup>. In particular, the four main practices of accumulation through dispossession operated in the second and third cycles are as follow:

- 1. Privatization and commodification of public assets.** Through this process, public areas (like public service areas, social security areas, public institutions, etc.) that seem like outside the profitability accounts are privatized. This process includes commodification of cultural and natural assets and intellectual creativity areas. So, publicly or state owned lands and companies are started to be privatized in order to make countries more attractive for big corporations' investments. However, most of the land in these regions are

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<sup>2</sup> Harvey references Marx's theory of "primitive accumulation" by upgrading it in a twenty-first-century neoliberal context.

already in use by people or defined legally in a public manner of the countries. So, the land has to be possessed before the capital that is invested in these regions can accumulate more. The core of the accumulation through appropriation is the introduction of all public assets and fields of activities, under control or disposition of the capital accumulation.

- 2. Financialization.** The reallocation of capital surpluses to investments requires the role of financial and state institutions. Through governmental deregulation policies of 1980s, the powerful wave of financialization became apparent. Then after, financial system became central for redistributive activities of capital and financialization introduced the possibilities to a transfer of dominant power from one hegemon to another (Harvey, 2004). Harvey (2003) gives samples and methods of financialization that is actually based on speculation and manipulation including stock promotions, ponzi schemes, structured asset destruction through inflation, asset-stripping through mergers and acquisitions, the levels of debt incumbency of the citizens (debt peonage), institutions and countries, dispossession of assets (raiding of pension funds and their decimation by stock and corporate collapses) by credit and stock manipulations and so on.
- 3. Management and manipulation of crises.** The inevitable crises of capitalism become subject to re-creation of capital by management and manipulation of crises it creates. This speculative and fraudulent finance management leads re-distribution of wealth towards the managers and manipulators of crises. The basis of this is structural adjustment programs (mainly offered by developed capitalist countries or institution), includes operations/policies to so called “rescue” the countries that have entered the crisis through financial debt prescriptions without a general collapse or popular rebellion. Debt crises can be used to rearrange internal relations of production in countries such a way to favour the diffusion of foreign capitals.
- 4. State re-distribution.** The neo-liberal state is a prime agent of re-distribution of wealth from upper to lower classes (Harvey, 2004). The transition to neo-

liberal development was vitally depending on the position of the state. The state, with its monopoly of severity and legal infrastucture, plays a crucial role in both supporting, re-defining and promoting the three processes defined above. By introducing its legalized instrumentalities, state has a power to create policies and assessments protecting upper class, regulating legislations in favor of the profitability of capitalists, facilitating wealth creation through built environment by planning tool etc.

In almost every country that adopts neo-liberalism, similar policies and results operate under these three circuits and accumulation by dispossession cycle. As of 1980s, similar urban practices have emerged in different countries; somehow differentiate due to geographical and geopolitical differences, the broad instrumentation of neoliberal practices that generated globalization processes. Globalization tends to bring cities to the forefront with capitalizing opportunities. These global practices as a result, lead to creation of new forms of production and consumption methods (like neo-colonial and imperial processes of appropriation of assets), suppression of rights to the commons, commodification of labourpower, raising social injustice, spatial inequality, and ecological imbalance and so on.

As a result of this widespread structure and with the rapid technological developments in the field of production, communication and transportation (the concepts of state and border boundaries have changed), the period of globalization has resulted in economic, social, political and cultural fluidity. These fluidities have even led to the discussion of the concepts of nation-state, supranational and sub-national structures such as local government and regional administrations (Keleş & Mengi, 2017). The economic system, which is based on free market understanding, has given power to international capital in the world economy; political, administrative, social, cultural and therefore spatial phenomena have started to be determined within this direction. Keleş & Mengi (2017, p.62) explain the basic elements of the globalization period as follows; weakening of the state, privatization, alienation from the social state principles, changing concept of public service, receding the concept of public interest into

background, utilization of environmental values in the market mechanism, the existence of cities as a whole within the marketing mechanism, the concept of competition of cities et al.

## **2.2. Urban Planning as a Tool for the Production of Space**

Planning as a general concept, can be defined as the process of creating an idea /vision for the future and preparing systematic action programs in order to achieve the desired goals (Ersoy, 2012). Although this definition comprise the general character of the planning of the space, urban planning includes a study that covers much broader problem and solution areas, which should be based on the public interest and evaluates the effects of the decisions based on the space and society.

Ersoy (2012) defines urban and regional planning as a strategic public service that includes the process of preparing methods and systematic action programs including arrangements based on spatial, long-term, social and economic benefits with the intention of realization of the desired targets for the city or a part of the city. Urban and regional planning by definition is an occupational field that includes decision-making processes for the establishment of arrangements related to the whole planning area based on consistent and rational, scientific and artistic foundations by providing aesthetic and public benefits (Chamber of City Planners, 2014). The decision making process includes social, economic and spatial structure of the specific area together with the critical issues like urban form and design, housing, natural assets and cultural heritage areas that need to be protected, social and technical infrastructure, site selection, landuse, return on urban land (rent), transportation, ecological balance, construction, open spaces, etc. (Günay, 2012; Ersoy, 2012; Chamber of City Planners, 2014). Urban and regional planning includes specific practice areas and focuses on places in different scales, from country and region to neighborhood and places having different population characteristics, urban to rural.

The profession of urban planning that includes a multi-dimensional decision making process has taken the definition of “public interest” as the basis. However, the

planning approach and planning practices are strongly related with the economic, political and social circumstances of the period and the practicing culture or state. This situation brings the dilemma of theories and practices of urban planning. Lefebvre (2003, p. 151) defines this dilemma as “Urban Illusion” by explaining that “the perception of urbanism differs from the way it defines itself as simultaneously art and science, technology and understanding”. Planning has started to be used as a profession that directs socio-spatial management and control functions of the state within the scope of its ideologies and spatial decisions that will lead to economic order of states. When urban planning is implemented on the basis of its principles, it was also seen as an obstacle in certain periods. For example, in the 1980s, when the roots of the new economic order “neo-liberalism” was formed, the planning profession was seen as one of the obstacles to the development of the free market economy as it is based on public interest (Ersoy, 2012). After neo-liberalism became a global economic model and economic forces are institutionalized in political arena, principles of urban planning pushed to background and urban planning as essentially a public policy had become a more strategic tool that will ensure the continuation of neoliberal politics which leads to speculative and hazardous planning practices.

### **2.2.1. Principles of Planning and Public Interest**

Via its decisions on space and implementations based on its policies, urban planning profession affect the daily life of people, future of urban development and natural and cultural assets of cities as well. Therefore, it is a profession rooted in public interest. However, there exists an increasing distinction between professional ideals and practices. Erdoğan (2018) expresses that the issue of occupational ethics mainly arises from this problem and this great distinction has enabled to define the basic principles of planning in countries both on the basis of scientific infrastructure and also cultural, economic and political positions of the geographies.

In many countries, the principles of the city planning profession had been determined. Erdoğan's (2016) study on Canada, India, USA, Cuba, United Kingdom and China

reveals that, although each country has different planning approaches, economic and political management styles, some principles such as the establishment of public interest, long-term protection of publicity and protection of professional independence are common topics in their professional ethics texts. In Turkey similarly, UCTEA Chamber of City Planners (2014) aimed to bring together the planning profession's historically and scientifically formed culture, values and moral principles based on the production of public interest and publicity. By doing so, it is aimed to define a binding text among the members of the profession. In the 28th Ordinary General Assembly of UCTEA CCP held on 12.04.2014, the study on "Ethical Rules and Principles of the Chamber of City Planners" which includes nine topics above (including articles defined in detail) was accepted as the main text in Turkey;

1. Public Service; the well-being of society and the pursuit of benefits beyond generations
2. Accurate orientation of the planning process, commitment to public benefits, protection of professional independence in the presence of decision-makers
3. Respect for society and profession
4. Responsibilities in the public interest - private property relationship; objectivity to private property rights
5. Base upon a scientific foundation, benefit from the knowledge of other disciplines, responsibility for comprehensive and holistic approach
6. Responsibility for eliminating risks and uncertainties
7. Responsibility for ensuring public participation in the planning process
8. Responsibility for the protection/conservation and development of public resources
9. Responsibility to provide accurate information about the planning services undertaken by the Chamber

Urban planning profession aims to design healthy, risk-free, safe social and physical environments, protect the natural and historical environment, and maintain a healthy relationship with the society and natural environment (UCTEA Chamber of City

Planners, 2014). By doing so, public needs has to be realistically analyzed and determined and the planning decisions have to be taken accordingly in order to maintain and increase the well-being of the whole society in a long-term and beyond generations perspective. This brings the “public interest” definition upfront. APA Institute (1992) defines public interest as a question of continuous debate but basically a concept that conscientiously held view of the policies and actions that best serve the entire community both in its general principles and in its case-by-case applications. Withint this concept, urban planning decisions should not contain the benefit of an individual or a particular group of the society. Planning is an activity on behalf of the public and is based on the concept of public benefit beyond the benefits of individuals. Although it is a profession that has to make certain decisions on the concept of “property”, the principle that can limit private property for the purpose of public benefit emphasizes the supremacy of public good upon the individual private property rights (Keleş & Mengi, 2017). Therefore, it is against professional ethics that planners engage in relationships that put forward individual or private property benefits in the public domain.

To sum up, the most important basis of the profession is public service. In other words, within the scope of planning, public utility mission should be taken into consideration with superiority in all decisions. That is to say, this general principle sets the boundaries, potentials and methods of planning. All the above mentioned topics are constituted within this scope and the topics 1, 2, 3, 4, 8 are stated in the field of profession to reveal the contents of the publicity. On the other hand, topics 5, 6, 7, 9 are defined with the aim of providing a methodological basis for revealing the public interest, defining them correctly in the planning process and practice the profession properly in a social order.

### **2.2.2. Actors in Production of Space and Planning**

Production of space process includes the analysis of the area, decision-making processes and implementation of those decisions by various actors. The main legal

tool for production of space is urban planning. Lefebvre (1996) explains three strategic actors for production of space that uses planning tool including the planning of men of good will, the planning of administrators and the planning of developers. Lefebvre (2003) also defines several kinds of urbanism based on these actors' role as the urbanism of humanists, of developers, of the state and its technocrats.

**The planning of men of good will** includes technocrats, writers, philosophers, and associates with an old classical and liberal humanism with a nostalgic base. Lefebvre (1996) defines that this group represents themselves as “doctors of society” and “creators of new social relations”. Şehir Plancısı saf meslek idealleri temelinde men of good will'dir.

Urban planner, defines alternative suggestions based on specific spatial, economic and social objectives and targets for the future by evaluating spatial, social, demographic, economic and technical data that may be effective in the change of settlements together with aesthetic, cultural, historical, natural and ecological features. The public interest basis of urban planning separates planners from decision-making actor and keeps them in a guiding position. Bademli (2005) explains that in urban planning, producing solutions is not a planning decision, and planners are not decision makers, but they are the main professionals who warn decision-makers. With this explanation, Bademli (2005) recalls that the proposals for spatial decisions defined within the scope of the plan and plan notes can become a planning decision only when adopted by the decision-makers.

**The planning of administrators**, public/state sector, tends to neglect so-called human factor. This technocratic and systematized planning, defines the city as a rational system consisting of the flow of goods and information (Lefebvre, 1996).

The actors of the state in urban space are both local and central governments. Local governments have the authority to provide spatial organization within the city or authority borders. The central government, on the other hand, defines the legal basis of spatial decisions and planning. Within the scope of its authority, the Central

Government units may also define spatial decisions or planning decision over local governments' area. For example, local governments in Turkey (metropolitan municipalities, district municipalities) realize planning activities within their scope of jurisdiction. In addition to providing the legal basis for their administrative areas some the central government units can also realize planning activities. The Ministry of Environment and Urbanization has the planning authority at all scales in areas within the jurisdiction of the central administration and in areas authorized by the Council of Ministers. In addition, the institutions of the central government such as Ministry of Culture and Tourism, Privatization Administration, Provincial Bank, Housing Development Administration of Turkey has planning authority within their specific jurisdiction. Most of the time, central and local governments intervene in the urban area with a common strategy by creating the necessary legal infrastructure.

Urban planning of administrators or states can be evaluated in three different branches. States use planning as a tool for decisions that can place society under domination in line with its political grounds. The states aims to rebuilding its power through space. Secondly, planning is used as a means of limiting and directing the movement of capital in space from a wide geography to the urban scale and as a means of establishing public interest. Thirdly, it is the branch (in which the public interest is ignored) allowing free-access for capital movements and arranging spaces to promote capital. The spherical neoliberal order proceeds from the third branch. Therefore, the concepts such as 'profitability', 'marketability', 'cost true cost pricing' and 'cost recovery' come into prominence against the public service and public benefit, and planning is applied to create the spatialities of these prominent conceptualizations. From the standpoint of neoliberalism and the expansion of globalization, the role of the state has become in a position that creates and maintains institutional frameworks in line with neoliberal practices. In this respect, the state protects the quality and reputation of money, secures private property rights, and regulates various structures and functions (education, defense, security, law) for the proper functioning of the

market. In addition, it creates new areas of dispossession such as land, water, education, health, social security and environmental pollution (Harvey, 2007).

**The planning of developers**, as Lefebvre (1996) denotes, conceive and realize for the market and maximizing the profit they can gain together with the land property. They use planning tool for their sake like using all other tools to produce, advertize and market its product. The main objective is to build a consumer society through planning. Lefebvre (1996, p. 85) especially points out that, “all the conditions come together thus for a perfect domination for a refined exploitation of people as producers, consumers of products, consumers of space”. In neoliberalism, labor and the environment are regarded as a commodity. In the transformation of the environment into a total commodity, city planning becomes an important tool.

The production of urban space is not a simple plan implementation but a realization problem (Bademli, 2012). At this point, there exist visible and invisible decision makers besides the planners who provide technical production. As Lefebvre explains, although the planner can be described ideally as the main technical actor, any technical person who loses his/her objective stance will take part in the planning of administrator or developer dilemma. Especially within neoliberal production of space, urban planners, as the “men of good will” within humanist and idealist perspective, had deviate from his/her ideal principles and become the practitioners of the state and capital. Within their changing role, planners either produce for the socio-economic and political stance of the state (the main decision-maker), or propose planning decisions with a developer perspective to get the maximum profit from the planning practice.

Within these three actor cycles, the urban planning practices are carried out far from the planning principles, which leads to the production of problematic plan decisions. At this point, Ersoy (2012) suggests the role of the city planner as an actor to replace the seeming hand of the market with human intelligence and science. In fact, this necessitates the formation of a professional and social struggle organization that is

based on the ideal definition of the planning institution but stands against the wrong practices. At this point, what is expected from planners (men of good will) is more than just working for a space production or design but to struggle for the ideals of the profession all together with the urban planners who works in academia, private sector, public institutions and other fields. As a part of this struggle, planners have to fight against the wrong practices by science and legal ways and need to adopt this struggle to the society. There are non-governmental organizations and professional chambers in this field, which are particularly active in the field for conducting organized activities for the ideals of the profession and legal struggle for wrong planning practices. To actively participate in these processes and organizations will open the field of struggle to practice the ideals of planning for “men of good will”.

### **2.3. Crime against Urban Environment**

Crime is an action or omission that creates an offense which may be accused by the state and is punishable by laws including sanctioning penalties or security measures. The crime has a spatial basis due to the fact that it is carried out in a specific place based on economic, social or psychological causes.

Different meanings come forward with the use of the city and crime concepts together. Keleş & Mengi (2017) proposes to distinguish between “urban crime” and “crime against urban environment”. Urban crime is used in the definition of organized crime such as theft, extortion, rape, murder, drug sale etc. realized in urban space. Keleş & Mengi (2017, p. 65) relate the relationship of such crimes with urban law based on its action against abolishing the right to live in a safe city. Emergence or increase of crime in an urban life may be caused from different reasons including terrorism or war, inflation, unemployment, injustice, unequal distribution of income, unjust settlement of urban economy, urban poverty caused by these reasons, inadequate social security system, lack of education and health conditions, effective role of internal migration in urbanization process (especially in metropol), unhealthy urbanization policies, inability to solve the housing problem, etc. Similarly, spatial deficiencies caused by

administrative practices lead to the emergence of areas subject to crime. Santana et al. (2013) explains that urban environment may also play a part in the decision of whether or not to commit a crime; for example, the lack of natural vigilance, poor lighting and other variables mean that a small area or a neighborhood with a socioeconomic deprivation may be transformed into a potential crime area. This type of criminology is spatially analyzing by planners and decision-makers in order to prevent situational crime through plan for defensible space, and environmental design crime prevention.

On the other hand, Keleş & Mengi (2017) define actions aimed at destroying or attacking some of the features and values of the city as “crime against urban environment”. Considering urban environment together with the economic, social, physical and cultural characteristic, the criminal actions to some or all of these characteristics should be evaluated. Within this definition of crime, not only the city as a physical space suffers from damage but also the citizens are negatively affected and suffer from those crimes. Degradation, destruction or disruption of historical and cultural fabric, natural-green areas, coasts and public spaces, disintegration of urban environment with neglect and indifference, creation of unlawful profits on urban land or personal benefits by urban planning activities (which disrupts income distribution) can be given as some examples for crime against urban environment. These damages caused by crimes against urban environment are often irreversible or unreparable.

Crimes against urban environment are generally more organized crimes that include actions based on defined laws or defining new legal modifications, speculative planning decisions, implementations or on the contrary not applying the spatial decisions related with planning decisions. These crimes may be committed by individuals, capitalists or planners but the process mainly includes all the executive, legislative and jurisdiction powers of the state.

The state with its executive role, produces and executes various decisions in urban space. However, some of them are realized with the aim of bringing speculative decisions to a legal status without considering public interest or objectivity. In

addition, incompatibility of actions with administrative decisions for instance the actions taken by ignoring approved and finalized urban plan decisions can also be evaluated as an illegal action. Within this frame, such planning activities or constructions made without complying with the decisions taken in the environmental plan or upper scale plan decisions (failure to comply with usage, height, density permits for construction or building prohibitions defined by planning activities or administrative decisions), which ignores planning hierarchy and continuity of public administration are illegal actions. Likewise, construction activities without building and occupancy permits those are carried out by the administrative units or by individuals can also not be regarded as legal. So, considering the authority of planning, defining spatial decisions or legislations are the public administrations, it is clear that the crimes committed against urban environment are mostly realized by the public administrations within its authority. Metropolitan and district municipalities are the main local planning authorities. Besides, the central administrative units including the Ministry of Environment and Urbanization, the Ministry of Culture and Tourism, the Ministry of Forestry and Water Affairs, Housing Development Administration of Turkey and the Privatization Administration in Turkey can take spatial decisions within the scope of their authorities.

Being both producer and operator of neoliberal policies, legislative units are also one of the actors that are responsible for crimes committed against urban environment. Under such policies, when legislation on urban planning are intentionally or unintentionally prepared as deficient, full of loopholes or reluctant to consider speculative acts on urban space as crime, then they pave the way for constructions within forest areas, agricultural areas, coasts and various areas that need to be protected, declaration of natural or cultural areas as "disaster risk area" for urban transformation and development or prioritization of tourism against conservation and so on. Another legislative act can be lack of establishment of or operations based on legal infrastructure for supervision of criminal acts against urban areas and even

excuse these criminal acts against urban environment through zoning amnesty laws to provide financial or political gain.

At this contradictory point, the struggle against these crimes can be provided primarily within the judicial units of the social order. Traditional rules of statute give the right to sue to the owner of the damaged property to eliminate the damage of a certain property (Keleş, 2007). When city or a part of a city is damaged, being a plaintiff on behalf of them first of all requires the resolution of the ownership phenomena. The owners of the city are those who live in that city and pay taxes to the city administration and chose the city administration through their votes. Therefore, the right to file a lawsuit belongs to the citizens or their civilian organizations. Within the legal struggle process of crime against urban environment, jurisdiction powers of the state has a critical role. In order to prevent the spatial decisions' irreversible damages on urban environment, the judicial units should urgently and fairly take decisions in order to stop the execution and punish the crimes committed against urban environment. Since almost all of the lawsuits filed against administrative/executive decisions, justice is sought in the judicial system of the state. At this point, all decisions taken under the influence of political and economic pressures without considering public benefit and without evaluating the consequences of possible destructions will be a part of the crime. Failure to stop the execution of these actions during the litigation process, in which irreversible damages can be caused to the urban environment, will also cause the judicial units to play a role in possible destruction.

Actually, it can be seen that crimes against urban environment are often intertwined and various legislative-executive-judicial powers are involved in this crime with integrity and continuity by allowing, executing, encouraging or forgiving these crimes. For example during litigation processes of a plan, construction permits can be given by the authorities and constructions can start (or even finish) even if the defendant wins the lawsuit against that planning decision. Thus, irreversible destructions can be made in the area even during litigation processes. In addition, due to the uncontrolled and rapid urban development processes, the state powers that could

not operate the planning tool on the legal ground lead to illegal constructions that were tolerated in the city. With the zoning amnesty laws which actually are revealed in certain periods in our country, various crimes against urban environment that are not in compliance with the laws and planning decisions are remitted to be considered as crime. Another example can be given for the legal and executive practices to legitimize illegal construction for the sake of administrators of the state (such as the presidential palace) or capitalists. These organized criminal actions, incitement to crime, or granting an amnesty for them lead to a total misconduct that disrupts socio-economic justice. The detection of such crimes becomes impossible as they are absolved by other legal attempts. On the other hand, this whole process affects the social perception resulting in the legitimization of crimes committed against the urban environment.

A different case including social segregation can be given for urban regeneration projects which comprises gentrification of the old urban fabric in the city centers and its vicinity, demolition of slum areas, reconstruction for middle and upper income groups and displacement of owners of the area. In order to provide the legal basis for the preparation of this transformation in Turkey, the project areas can be declared as risky areas or urban renewal area. These places has high urban income as they are located near city center and are designed as new residential or commercial areas of middle and upper class. While urban space is reproduced in this process, the groups that the capitalist system do not embrace (including socially or economically marginalized groups) are excluded from the new spatial arrangements. Thus, while shaping the city according to politics of state and capital, it creates and strengthens the rich with a new division of urban social segregation and urban rent.

#### **2.4. Concluding Remarks**

Urban planning aims to create basis of spatial production activities. The principles and ethics of the profession are expected to direct urban planners to produce space for public interest. Unfortunately, like in many neo-liberal countries, it is hard to say that spatial practices in Turkey are public interest oriented. The theoretical background

presented in this chapter aims to reveal the reasoning of professional and legal struggle, which emerges as a powerful opposing tool against those spatial practices.



## CHAPTER 3

### GEOGRAPHIC INFORMATION SYSTEMS

#### 3.1. Introduction

This chapter discusses provide an agenda of the fundamental technical theoretical infrastructure of this research first starting with an introduction of Information Systems definition. Then a comprehensive overview of Geographical Information Systems (GIS) is given together with the definitions of spatial data model which is the basis of GIS and components of GIS. Components of GIS which lead the thesis development proceses are defined within five main topic acquisition of spatial data as input, spatial data management, data manipulation, spatial data analysis and data display as output. Finally, using a GIS for decision making under uncertainty is discussed within a theoretic basis.

#### 3.2. Information Systems

Laudon & Laudon (2012, p. 15) technically define Information Systems (IS) as “a set of interrelated components that collect, retrieve, process, store, and distribute information to support decision-making and control in an organization”. Stair & Reynolds (2010) give an additional explanation by telling that Information Systems also provide a feedback mechanism to meet an objective such as finding problematic processes or improving external dialogues. Information systems contain information about significant people, places, and things within the specific problem area, organization or in the environment surrounding it.

Laudon & Laudon (2012) explains three main activities in an information system, which are required by organizations responsible from making decisions, controlling operations, analyzing problems, and creating new products or services. These activities are input, processing, and output (please see Figure 3.1). Input gathers or

captures raw data from inside its organization or from an outer environment. Processing, which involves analysis, classification, arrangement and calculation processes, converts this raw input into a meaningful form. Output is the result and product of the processes. The result of the processed information can be transferred as an output within different formations to the people or activities or another information system that will use it. The experience of output effects the input and methodologies of the processes used. As a result of this experience a feedback is defined to evaluate and refine the information system components for appropriate people or activities in the organization (Laudon & Laudon, 2012).

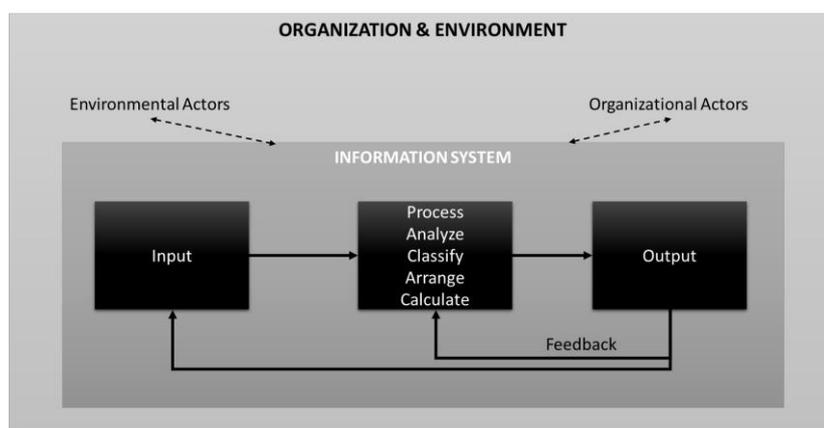
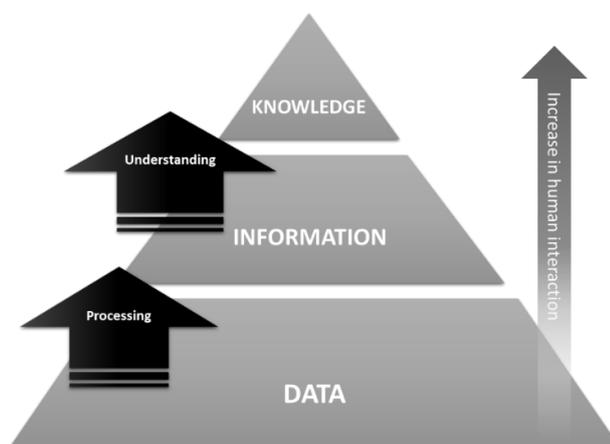


Figure 3.1. Components of Information System (adapted from Laudon & Laudon, 2012)

Data, information and knowledge are interconnected and process based definitions which is visualized in pyramid graphic Figure 3.2. Data, used as input for Information Systems, are collection of raw facts like numbers, words, images, measurements of a set of variables. Data represents proceedings occurring in organizations or in the physical environment before they have been organized and arranged into a form that people can understand and use (Longley, Goodchild, Maguire, Rhind, 2001). Information can be produced from data that have been processed to reach a meaningful and useful form for people. The process and production of information is hard and costly. After it is digitized, it is easy to reproduce and allocate information. On the other hand, Longley et al. (2012, p. 6) express that “knowledge can be considered as information to which value has been added by understanding based on a particular

context, experience and purpose”. According to these scholars, there exist two types of knowledge: codified and tacit. Codified knowledge includes a knowledge that can be written down or expressed through different methods and can be transferred relatively to other people. However, there is a kind of knowledge that cannot be codified and easily to be expressed like ideas, skills or experience but can only be revealed through practice in a specific context. These types of knowledge are defined as tacit knowledge. Longley et al. (2001), indicate that it is kind of a knowledge that is slow to acquire and much more difficult to transfer to others. Tacit knowledge cannot be transferred through codified methods; it needs regular and long term personal interaction to be transmitted.



*Figure 3.2. Data, Information, Knowledge (adapted from Laudon & Laudon, 2012)*

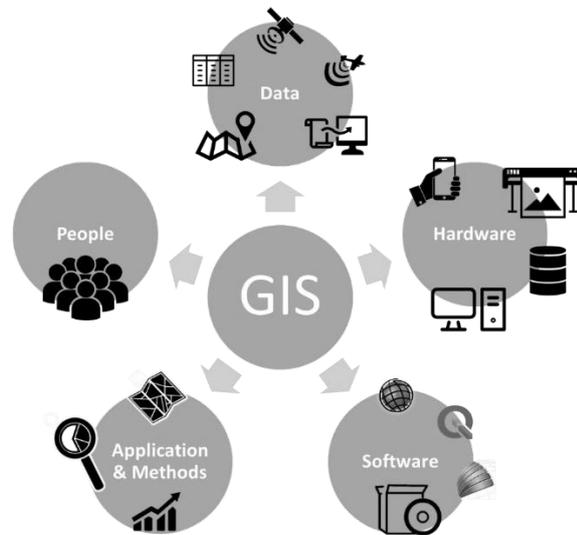
Data needs a smart processing to reach information and information needs an understanding and a user factor to reach knowledge. Data becomes knowledge only when the user practices and understands the information to achieve an objective. Transformation of data to knowledge requires human interaction. Information systems comprise the methods of processing data to information with the aim of reaching knowledge, therefore it has a power to support decision-making, coordination, and control by making users analyze problems and visualize complex subjects. When the information is produced appropriately, it can be shared publicly in

the whole organization or massively in large platforms. Thus, Information Systems offers a platform that enhances individual interaction with information.

### **3.3. Geographical Information Systems**

Geographical Information Systems (GIS) are special class of Information Systems that keep track not only of events, activities and things, but also of where these events and activities are and things happen or exist (Longley, Goodchild, Maguire, Rhind, 2001). Almost every occasion happens in a specific location in a specific period of time. Therefore, knowing the location of an event is critically important for spatial understanding and problem solving. Longley et al. (2001) explains geographic problems that involve an aspect of location, either in the information used to solve them or in the solutions themselves.

Geographical Information Systems (GIS) are designed for the collection, storage, and analysis of objects and phenomena where geographic location is an important characteristics or critical to analysis (Aronoff, 1989). The answer to the following question of “what is where?” is the basis to start solving the great majority of encountered problems on earth. The answer includes the geographic location on earth and its condition or characteristics of attributes for the problem. GIS helps to answer the question “what is where?” Besides, it helps to reveal and analyze the spatial relationships including the change/trend, the route, patterns, possible model etc. of the geo-data. In brief, GIS is about spatially located phenomena, its spatial distributions and their spatial analysis. So it is a specific tool for Lefebvre’s (1991) “representations of space”.



*Figure 3.3. System Components of GIS (developed from Harmon & Anderson, 2003; Longley, Goodchild, Maguire, Rhind, 2001)*

GIS can be abstracted as a collection of computer hardware, software, users, data and methods to make up a system, which collects, stores, manipulates and displays spatial information (see figure 3.3) (Harmon & Anderson, 2003). Hardware includes the computer and peripherals on which GIS operates like computers, tablets, smart phones, network or cloud. Software including GIS software, database software and operation system, provides the function and tool required by the users to produce, store, analyze and display geographical data which is the core of GIS. To apply GIS technology, methods, application-specific analysis or business rules like guidelines, specifications, standards, procedures, algorithms etc. and a well-designed plan is needed. People (as users or producers) are the main actors that develop, plan, apply and manage the system. Users of GIS includes a diversity of highly qualified technical specialists to cartographers, engineers, city planners, administrators and so on. An effective GIS depends on the successful integration of all aspects of the system.

Demers (2009) defines that, the focus on underlying principle of examination of spatial patterns have developed a language that reflects a way to think about space. According to Demers (2009), this spatial language allows thinking more clearly and communicating more concisely about space, examining only the essential structures

and measures that explain spatial phenomena. In order to build spatial language for geographic representations, the need of the data model as the material of the representation should be defined. Representation is related with conceptual, visual and scientific issues, whereas model is used in practical and database circles (Longley et al., 2001).

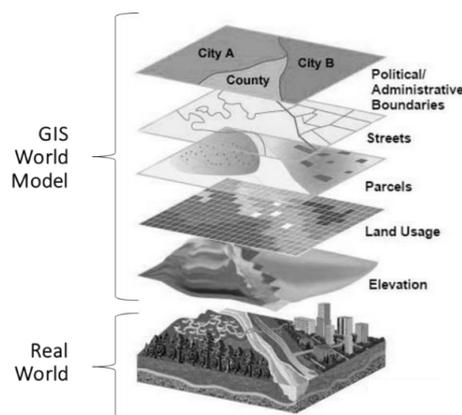


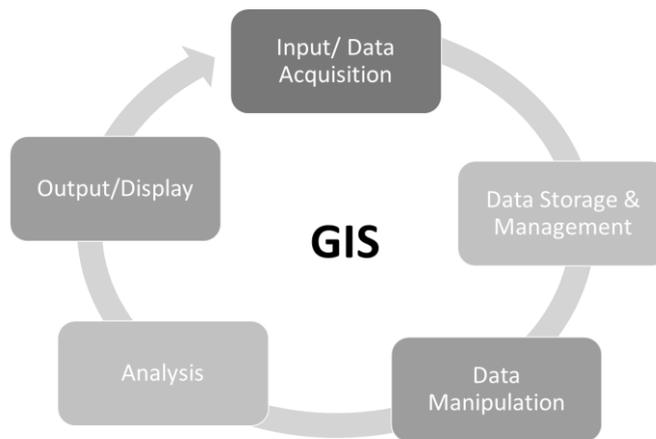
Figure 3.4. Real World vs GIS World Model (Source: San Berardino County GIS Department, 2019)

Longley et al. (2002, p. 184) state that the data model which “is the heart of any GIS, is a set of constructs for representing objects and processes in digital environment of the computer”. It is crucial to make a choice what and how things should be modeled in GIS based on the requirements of the project.

### 3.3.1. Components of Geographical Information Systems

GIS is a widely-used computerized system to take, store, manipulate, analyze, manage, and present all types of spatial and geographical data. A GIS is a computer-based system that provides the following sets of capabilities and functions to handle georeferenced data (please also see figure 3.5) (Aronoff, 1989; Murray, 2009):

1. Acquisition or producing data as an input
2. Data storage and management
3. Data manipulation
4. Analysis of data
5. Data display/output



*Figure 3.5. Capabilities and functions of GIS (adapted from Murray, 2009)*

With the use of GIS, a conceptual and computerized model of the earth can be reached through these interrelated steps.

### **3.3.1.1. Acquisition of Spatial Data as Input**

Geographical Information Systems include digital maps that has a storage function for spatial data. Data acquisition includes activities to produce input data to store in database and make it readable and editable in geographic information system for further analysis.

There are different alternatives of data acquisition including; producing/ digitizing data from analog maps, using remotely sensed data, using real time coordinate input or purchasing from existing geospatial data (Aronoff, 1989; Longley et al., 2002). The method of data acquisition can influence the structure of spatial data and error associated with it.

The process of creating the GIS data from the analog data or paper format is called digitization. Digitization process involves registering of raster image using few but well defined GCP (ground control point) or known coordinates. This process is widely known as rubber sheeting or georeferencing. After georeferencing the raster image, polygons, lines and points can be created by digitizing raster image and its attributes can be captured or related. This manual method is general based on human interaction

and the existing data can be easily registered and updated. The errors and inaccuracies may be due to the source data, introduced method during encoding, propagated during the data transfer and conversion (Aronoff, 1989). In order to correct the data, building topology, carrying out editing can be the major functions. Scanning is a more automated method for digitizing an image by producing a raster data, making additional computer processing to improve the quality of image. However, after digitalization of the maps become widespread, scanning methodology stand idle.

The other acquisition techniques do not require human attraction during collection but much more during analysis. For instance, the data of remote sensing is driven from the processes of the instrumentation, techniques and methods to observe the Earth's surface at a distance and to interpret the images or numerical values obtained in order to acquire meaningful information of particular objects on Earth (Buiten & Clevers, 1993). The data acquired from aircrafts and satellites is not in contact with the object, area, or phenomenon under investigation. In addition, real time coordinate inputs are collected from different sources like global positioning system (GPS), ground surveying, drive-by survey, smartphones or tablet apps, etc.

The spatial input has four major components: its physical dimension (geographic position and how it is represented), its attributes, its spatial relationships and time (Aronoff, 1989; Longley, et. al., 2002).

### **3.3.1.2. Spatial Data Management**

Data are actually stream of raw facts representing events occurring in physical environment before they have been organized and arranged into a form that people can understand and use. Data need to be organized, stored and managed within a database system to service applications (Laudon & Laudon, 2012).

Database, which is the data management component of the GIS, includes functions and applications needed to design, store, manipulate and retrieve data from the database (Elmasri et al, 2010). It should provide efficient storage for and quick access to spatial data and its corresponding attributes. Generally, a database management

system (DBMS), which is a system software for creating and managing databases, is used for these functions. According to Elmasri et al. (2010), DBMS is an insulation between GIS programs and data, and it has a self-describing nature. With its self-describing nature, a database management system has a catalog that stores the description of the database, which is called meta-data. This allows the DBMS software to work with different databases. These tasks can be achieved through several databases that support spatial data (such as Oracle, MySQL, DB2 and PostGreSQL or specific local database systems of GIS applications). A spatial database system offers spatial data types in its data model and query language, and supports spatial data types in its implementation, providing at least spatial indexing and spatial join methods. Spatial database systems offer the underlying database technology for geographic information systems and other applications.

The capabilities of any information system largely rely on the design of its data models. Data models present the conceptual core of an information system; they define data object types, relationships, operations, and rules to maintain database integrity. As stated previously, the two main spatial data models used for representing the real world are raster and vector data models. Before starting the acquisition of data a decision should be taken about which data model (raster or vector) better suits the purpose of the study or is there way to combine both data models if the study demands such a process. Both data models have different management functions to be considered. The methods used to implement the management functions affect how efficiently the system performs operations with the data.

### **3.3.1.3. Data Manipulation**

A Geographical Information System should consist of the data manipulation capabilities including data projection transformation, data creation or editing functions specific for raster or vector data model. The level of sophistication and ease of use of this capability is vitally important. Data manipulation tools are used while the data preparation processes including format transformations, map projection

transformations, and editing and creating functions. Besides, a basic editing function is prepared for the proposed GIS application.

Map projection transformation functionality concerns the transformation of data in geographic coordinates for an existing map projection to another map projection. Most of the GIS software requires data layers to be in the same map projection for analysis. So, if data is produced in a different projection than the other data layers, it must be transformed.

Editing and creating functions involve the addition, deletion, moving and changing of the geographic position and attributes of features. Most graphic editing occurs during the data collecting phase of any project. Data manipulation techniques differ according to data models. Merge, append, aggregate, attribute editing, line coordinate thinning, modifying raster objects/ pixels like crop, trim, merge, changing resolution etc. are editing functions, which work differently for raster and vector data models. Some editing functions like erase, intersect, union, cover or difference need first a spatial analysis like overlay. Some of the editing that is undertaken involves the cleaning up of errors, editing data abnormalities after detecting and diagnosing the errors by mainly spatial data analysis techniques.

Another editing and creating purpose can be defined within format transformation functions. Data needed for GIS comes from different sources. They will need to be transformed or manipulated to make them compatible with GIS system. Format transformations are used to get data into acceptable spatial data format, which is the pattern into which data are systematically arranged for use on a GIS system. Digital files need to be transformed into the data format used by the GIS, such as transforming from table to vector, vector to raster or raster to vector data structure.

#### **3.3.1.4. Spatial Data Analysis**

Analysis capabilities of GIS allows defining and executing spatial and attribute procedures to generate derived information. This subsystem is commonly thought as the heart of a GIS, and usually distinguishes it from other database information and

computer-aided drafting (CAD) systems. Analyses are consisted of complicated, tedious subsets of actions to basic queries depending on the need.

Spatial Data Analysis is explained as set of techniques using attribute and spatial features of geographical data to increase the spatial understanding and make predictions, hypotheses for the unknown data or future. Goodchild, Haining and Wise (1992) state that spatial analysis techniques are dependent on the locations of the objects or events being analyzed which includes the attributes of objects. Additionally, it is important to regard that input data for spatial analysis may need to undergo transformation before they can be integrated or analyzed (same scale, coordinate system, format, etc.).

The range of analysis procedures is very large and so; Aronoff (1989) explains integrated analysis of spatial and attribute data within four main groups. First group includes the basic analysis features of GIS including general retrieval or query operations, classification and measurement functions. This set of functions both spatial and attribute data are analyzed and retrieved but no changes occur on data and no new spatial elements are created.

Second group includes arithmetic and logical overlay operations. According to Aronoff (1989), while arithmetic overlay includes operations like addition, subtraction, division, and multiplication of each value in a data layer by the value in the corresponding location in a second data layer; logical overlay involves finding those area where a specified set of conditions occur or do not occur together.

Third group includes neighborhood operations, which evaluate the characteristics and relationship of the area surrounding a specific location. For example, in a certain area, analysis of what land use is next to what types of land use can be done by using this function. A new map is created by computing the value assigned to a location as a function of the independent values surrounding that location. Neighborhood functions are particularly valuable in evaluating the character of a local area. Aronoff (1989) explains three basic parameters of the neighbourhood operations: one or more target

locations, a specification of the neighbourhood around each target and a function to be performed on the elements within.

Fourth group includes connectivity functions, which examine relationships between objects in terms of adjacency and relative-effective-distance. Connectivity or Network functions accumulate values over the area being traversed. They require one or more attributes to be evaluated and running total is retained step by step. Aronoff (1989) stated that connectivity functions must include specification of the way spatial elements are interconnected (cells, lines), set of rules for movement along interconnections (rules for shortest path) and unit of measurement (e.g., time and length). Since more advanced or composite analysis techniques are required to solve complex problems, to answer the research questions, the author performed mainly basic analysis like spatial and attribute queries, and used overlay operations techniques to analyze the data obtained from a variety of sources.

#### **3.3.1.5. Data Display as Output**

After all data are collected and analyses have been accomplished, a GIS project must express the information in some manner, whether on a traditional printed map or in different digital formats as an output. Aronoff (1989) expresses that the output of GIS, is the generation of map-based graphics, tabular format or statistical graphics from GIS data for further evaluation and inspection by the users.

GIS provide tools to help decision makers visualize problems that benefit from spatial data. There are numerous ways of presenting data and information. Maps and cartograms are the most common output of a GIS. Maps<sup>3</sup> are based on showing data with spatial accuracy, cartogram types of maps distort, resize or generalize reality by

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<sup>3</sup> Maps are spatial model of the real world that is differentiated by abstraction, focus, simplification, symbolization, scale, projection, and purpose. Abstraction includes imaginary features (i.e. political boundaries) as well as physical features, past, present, and future/planned features. Focus depends on selection and classification of features in real world to include in the map. Simplification of complex features is another feature of map. Symbolization is the use of symbols or graphic to represent classified objects. Scale is the ratio of distance on a map, to the equivalent distance on the earth's surface. Projection is the technique for representing the surface of the earth on a flat plane. Purpose is the heart the map that defines its objective.

exaggerating data to convey information. Map symbolizations include characters, letters, or graphic representations point, line area representations with differentiates through text labels, fonts, color, texture pattern, line or point style, symbol, size and layout. They are used on a map to portray the various entities depicted on the map that indicate an object or characteristic in the real world. They all are important aspects of map viewing which may affect sophistication or simplicity of the display. They all are produced through special characteristics of the used software so initial analysis of the output should be considered accordingly. Besides the used data, general map annotations including titles, legends, scale bars, and north arrows are other basic forms of depicting information concerning the map.

Although maps are the main outputs of a GIS, this tool typically produces statistics and text as part of the reporting as well. These are standard information formats, such as printed text, various types of graphs, pie charts, histograms (bar charts), line charts, and tables of data.

### **3.4. Using a GIS for Decision Making Under Uncertainty**

Geographic Information Systems (GIS) are becoming a part of mainstream management, business, research and development operations around the world in organizations as diverse as cities and state government utilities, telecommunications, railroads, city planning, civil engineering, petroleum engineering, forestry, retailing, etc. in private and public sectors. GIS is integrating the daily operations of institutional utilities and the applications associated with these systems are broad from infrastructure management, to vehicle routing, to site selection, to research and analysis. Besides, GIS was started to be adopted by governments, different businesses and other kind of organizations to address a wide variety of complex natural, social and infrastructure issues to help perform sophisticated analyses and support significant decisions in these areas (Nyerges et al., 2011).

According to Aronoff (1989), making decisions requires knowledge about our complex world. As having a complete knowledge is impossible, it is critical to make

decisions by selecting relevant information to remember and record (which is actually an incomplete information). Using this selection process, a conceptual model of world is created. The term model is used to mean a set of relationships or information about the real world. Our conceptual model of something is our understanding of what it is and how it behaves. When we need to make decisions about the real world, we refer to our model (Aronoff, 1989). This information is essentially an abstraction; it is impossible to handle every last detail of information. The specific information is needed to make decisions to implement and those decisions will apply the abstract reasoning to the real world.

The process of GIS illustrated in figure 3.6, adapted from Aronoff (1989), shows the processes and tasks for GIS that begins with and ends for the real world. A specific problem for real world makes decision makers to use Geographical Information Systems. According to Longley et al. (2002), there exists three bases for classifying geographical problem. First, there is a question of scale and level of geographic detail. The geographic problem may involve the whole world but specific demographic problematic or just involve a district based land and property administration. Second, geographic problems can be distinguished based on the intent and purpose. According to Longley et al. (2002), the intent is the advancement of human understanding of the world, which is often recognized as the intent of science and practical problem solving. Within the base of the intent and purpose of the geographic problem, GIS offers selection of special tools based on science and practical problem solving methods to help define methodology. Third, geographic problems can be distinguished on the basis of their time scale. Decisions based on the time scale maybe operational, tactical, strategic or retrospective. Operational decisions are required for the smooth functioning of an organization like the instant logistic decisions through data of vehicle tracking systems. Tactical decisions are concerned with medium-term decisions, such as where to cut trees in next year's forest harvesting plan or selecting urban development areas for near future. Besides strategic decisions are required to give an organization long-term direction. Other problems that interest geophysicists,

geologists, or evolutionary biologists may occur on time scales that are much longer than a human lifetime, but are still geographic in nature, such as predictions about the future green areas or animal populations of Turkey.

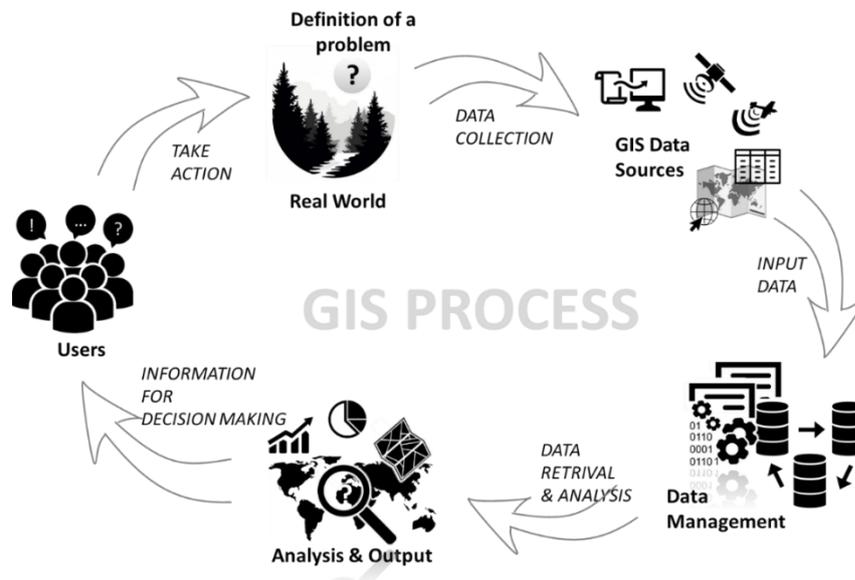


Figure 3.6. The general planning and action process of GIS which starts with and eventuate for real world phenomena (developed and adapted from Aronoff, 1989)

Before any data acquisition begins, the basic information needs has to be identified according to problem definition. Only then, the techniques that might best satisfy problems can be identified. After defining the problem, data should be collected or produced accordingly from the real world phenomena by different methods and tools. In order to reach useful information, definition of the problem and relevant data to reach the basis of problem is critically important.

The data should be an abstraction and compact for the need because every detail of data is not necessarily used for the specific problem. Data (spatial or attribute data) for GIS can be derived from a wide variety of data sources within scope of the problem. Data captured from researchers on site (for example from aerial photographs, satellite images, remote sensing data, topography maps, data of ground surveys and GPS), are called primary data. Besides, data sources can be termed secondary data if

they are obtained from other available sources like readily available reports, government and research publications, released data or geodata published from geoportals or in other environments. The use of input data requires an organization in order to make storing and retrieving items efficiently. Therefore, the collected data are generally managed within a database system. With the technical capabilities of database and more GIS software, data can be managed, retrieved and analyzed.

The analysis of data is the process of inspecting, transforming, modelling data by using logical and analytical reasoning. The spatial data analysis including measurement, classification, overlay, neighborhood, contiguity or estimation type of analysis etc. can be used individually or collectively. By using integrated spatial and attribute analysis methods in GIS, input data is used to reach the required information as an output in order to find actionable insights that can inform decision making for the users. Laudon & Laudon (2012) expressed that a good information system is the one that provides the necessary data relevantly organized so that can make the right decisions about the real world. Making right decisions and finally implementing those decisions by taking actions, can provoke solutions for real world problems. Aronoff (1989) expressed that the right decision is the one that best achieves of the objectives of the users and producers of the system. In order to reach right decision it is necessary to know the objectives and predict the results of alternative choices.

GIS skills are used widely in decision making for different problem areas including cartography, geodesy, urban planning, socio-spatial analysis, emergency management, crime analysis so on. For instance, GIS is used to analyze traffic accidents in order to identify high rate accident locations and safety deficient areas on the highways. So, traffic officials can implement precautionary measures and provisions for traffic safety also urban planners and engineers use these analysis, for planning better and safer transportation plans. Besides GIS tools are widely used for crime mapping. By using crime incidents data, the analysis of high-crime areas (by hot-spot mapping) and easier interpretation of crime clusters by types of crime being committed can be realized in order to decide the best way to respond the crimes for

police departments. Moreover, urban crimes are also subject for safer planning politics and urban design practices. The analysis of certain areas with a lack of technical safety measures may lead to an increased vulnerability to urban crimes. The Figure 3.7. shows an example of crime analysis for burglary including first density of residential burglaries in Portland between 2009 and 2013 which shows problematic focus areas. Second figure shows the percent change of residential burglaries between two five-year spans, 2004 to 2008 and 2009 to 2013 that shows the increase and decrease rates of crimes.

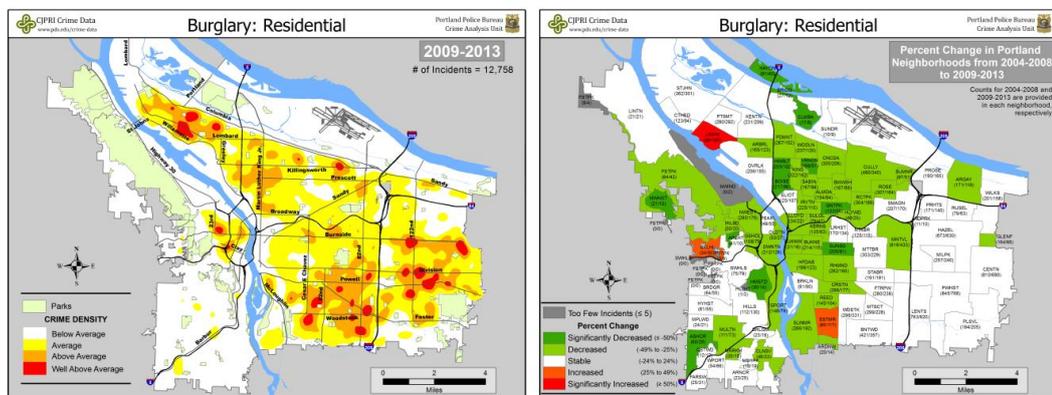


Figure 3.7. Burglary analysis of Portland (Criminal Justice Policy Research Institute, 2013)

A specific example of the usage of GIS for analysis of crimes against urban environment which is the research focus field can be given. Özalp & Erkut (2016), analyzed projects that violate the public interest in Istanbul by grouping violation types as privileged construction rights, privatization of public areas, deregulation or change of property rights and destruction of natural, historical, cultural assets. The Figure 3.8 shows the spatial distribution of urban intervention projects by project period and violation types.

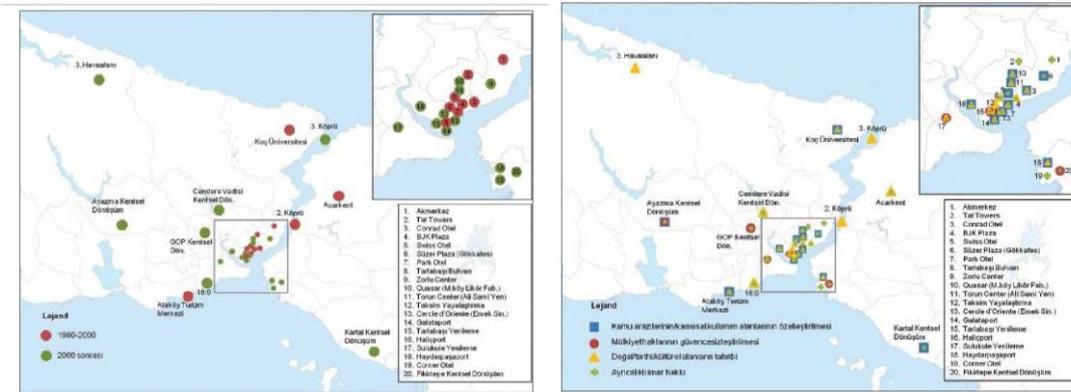


Figure 3.8. Urban interventions distribution by project period and violation types (Özalp & Erkut (2016)

### 3.5. Concluding Remarks

This section provided a brief information about Geographical Information Systems (GIS), including the spatial data model used within, the components of GIS and how to use GIS within decision-making processes. The author used the knowledge provided in this chapter especially during the development of the GIS application for Chamber of City Planners. Especially this technical background assisted the processes of the analysis, design, production and manipulation of spatial data as input, analyzing user needs and requirements for application, defining spatial analysis needed for the research and the data display as the output of the application that are defined in Chapter 4. Besides the knowledge provided in this chapter shaped the tools used in application that helped answering the legal struggle related questions (see Chapter 5).

## CHAPTER 4

### METHOD: DATA PREPARATION, SYSTEM DEVELOPMENT AND THE DESIGN OF THE MAIN USER INTERFACE

#### 4.1. Introduction

This section aims to provide the methodology of spatial data preparation and system design and development process of the application together with the analysis of the Chamber of City Planners' litigation process which is the main groundwork of the system analysis. Finally, the main features of the GIS application developed for the thesis are defined and represented related to the system development basis.

#### 4.2. Analysis of the Chamber of City Planners' Role in the Production of Space in Turkey

The Chamber of City Planners' (CCP)<sup>4</sup>, subsidiary of Union of Chambers of Turkish Engineers and Architects (UCTEA), is a professional organization with a legal entity and is the only professional chamber in its field. UCTEA is founded based on the legislations including Article 135 of the Constitution, Law No. 6235 on the Union of Chambers of Turkish Engineers and Architects and Law No. 3458 on Engineering and Architecture. Article 135 of the Constitution, defines the objectives of professional organizations by expressing them as public institutions with a public legal entity. These objectives are defined as meeting the common needs of those belonging to a certain profession, facilitating their professional activities, ensuring the development of the profession in accordance with the general interests, and protecting the

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<sup>4</sup> For the abbreviation of The Chamber of City Planners, "CCP" will be used in the continuation of the thesis.

professional discipline and morality in order to dominate the honesty and trust of the members of the profession with each other and with public.

As stated in the Constitution and Laws, the CCP is obliged to protect the rights and interests of the profession and colleagues, to supervise the city plans and plan applications in accordance with the principles of planning fundamentals, urbanism principles and public interest. Furthermore, the Chamber is responsible from carrying out the necessary work (like institution visits, preparing reports and scientific activities, etc.) to eliminate deficiencies and inaccuracies in planning processes. CCP is a ground for discussing and deciding the reactions about professional exercises providing/sustaining principles, hereby, enabling collaborative actions of urban planners.

CCP, like other professional chambers, performs various tasks such as correspondences, interviews and press releases, in relation with professional ministries, public institutions, municipalities and other institutions/ authorities to ensure healthy and regular urbanization of the country. It also prepares urban plans in accordance with the principles of profession and urbanism. In addition to these attempts, Chamber of City Planners struggle for the cessation of wrong practices by the judiciary process and carry on lawsuits for wrong plans, decisions and practices which cannot be corrected by the related methods. In this context, the CCP has been obliged to carry out its duty by following the legal processes in the framework of its struggle against the plans and practices that are contrary to the laws, planning principles and public interest and wellbeing<sup>5</sup>.

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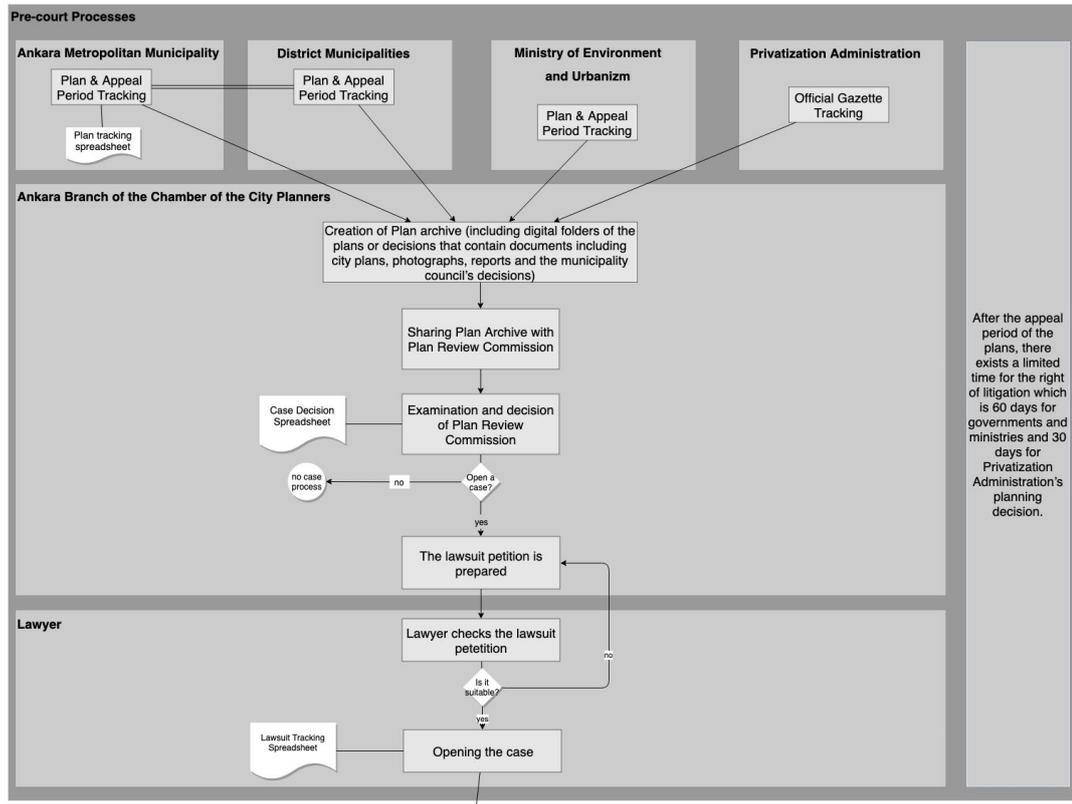
<sup>5</sup> The Council of State decisions concerning the existence of a litigation license of the professional chambers within the scope of ensuring correct and healthy development of the environment by avoiding incorrect plans or practices through legal processes, has gained stability. Especially the Council of State's Plenary Session of Administrative Law Divisions' Judgement No. E. 2010/2026, K. 2010/1474 resolved the hesitations by emphasizing;

“In our opinion, it emerges as an accurate opinion that an indirect violation of personal interests is sufficiently interpreted in terms of revocation cases filed by legal entities for the protection of the environment like in cases of a personal benefit violation brought by real person, by considering the protection of the environment is a right, a task or a mission in terms of the legal entities as well as the real person”

### 4.2.1. Analysis of Litigation Processes

The Chamber of City Planners together with its branches and representative offices, works for organizing the scope of the city planning profession and supervision of public institutions on behalf of the public, within the framework of the Constitution, laws and the legislations. One of the main methods for the practices that do not comply with the principles of urbanism and public interest, is to resort to judicial proceedings. The branches and representative offices of the Chamber of City Planners, are carried out special works including tracking plan and practices within their provinces. In this section, the litigation processes of the Chamber of City Planners' case studies are analyzed for Ankara Branch in detail since different Branches of the Chamber might be following different strategies for analyzing litigations.

Work Flow Chart of the Litigation Processes of the Chamber of the City Planners



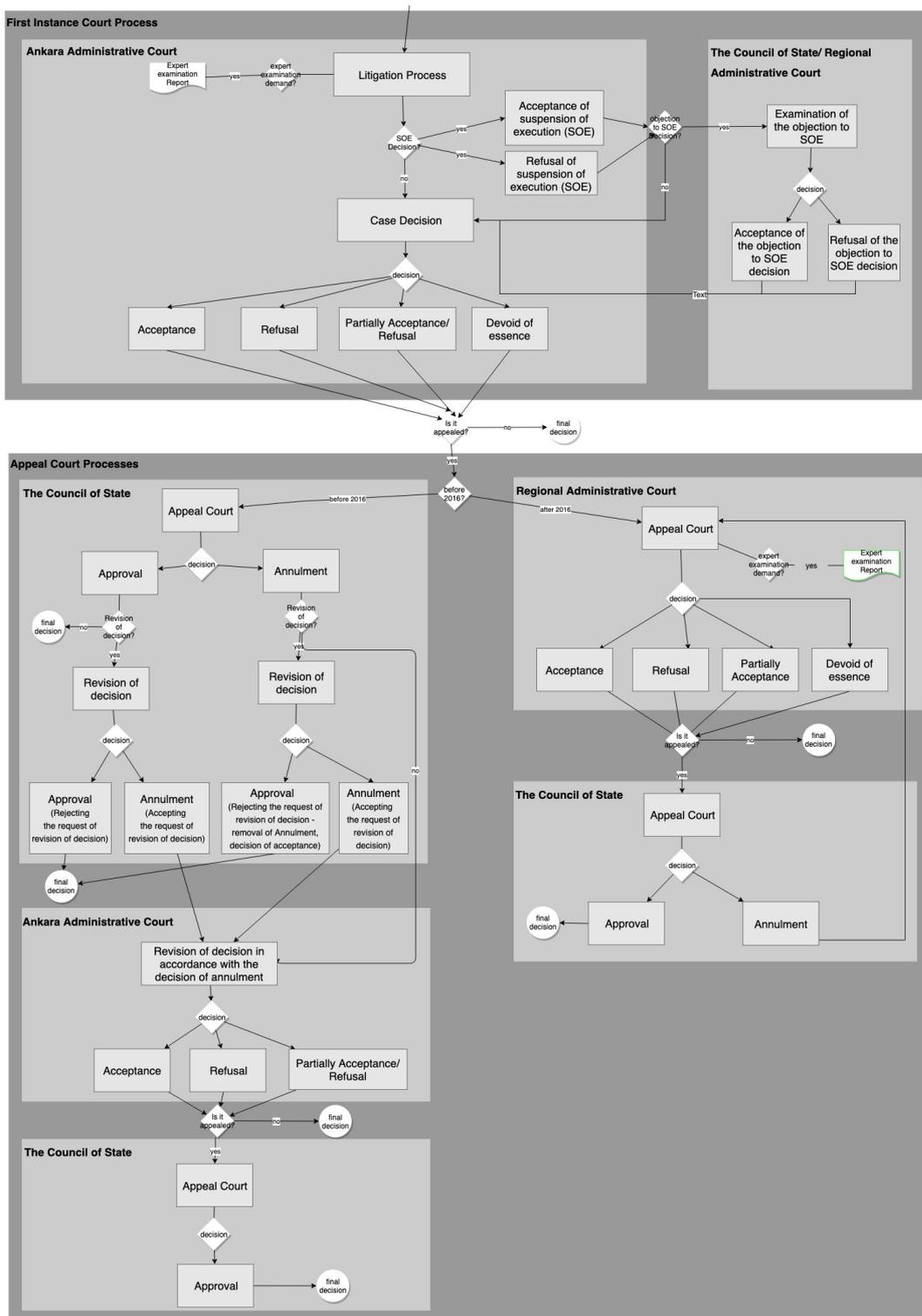


Figure 4.1. Work Flow Chart of the Litigation Processes of the Chamber of the City Planners Ankara Branch

Figure 4.1 illustrates the work flow of the litigation processes of the Chamber of the City Planners-Ankara Branch. The Branch regularly inspects and analyses announced city plans and ruling decisions of Metropolitan Municipalities, district municipalities, Privatization Administration and Ministry of Environment and Urbanization. Preliminary routine activities before deciding to start an action for a wrong planning decision are explained below.

- Ankara is a city governed by the metropolitan laws, the planning practices within the city are concentrated on the metropolitan municipality. These practices including city plans and plan decisions are shared on the municipality's website, also detailed plan information is obtained during appeal period (or notice period)<sup>6</sup> in municipality. A plan tracking spreadsheet is used to follow the planning activities of the Metropolitan Municipality of Ankara.
- 1/1000 scaled implementation plans prepared by district municipalities and related to the (1/25000 and 1/5000 scaled) metropolitan municipality's plans that are subject to lawsuits are especially tracked.
- The city plans prepared by the Ministry of Environment and Urbanization within Ankara province can be accessed online from its website or from the ministry during the appeal period.
- The decisions of the Privatization Administration are usually published in the official newspaper. Information about the decisions taken in the official newspaper are also included in the spreadsheet file.

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<sup>6</sup> Plans made by different institutions are noticed for a certain period of time on plan notice boards of the authorized institution with the aim of collecting objections for the planning decisions before implementation. For example, development plans prepared by the municipality are shown within a period of one month. Within a one-month notice period, citizens and institutions can file an appeal. The appeals are sent to Municipal council to examine the final decisions for the planning decisions within fifteen days.

Table 4.1. *Example of a plan-tracking list in spreadsheet*

Plan Liste Numarası	Askı Başlangıç Tarihi	Askı Bitiş Tarihi	Askı Sürecindeki Plan	İlçe
Plan List no	Start of Appeal Period	End of Appeal Period	City Plans on Appeal Period	District

The digital folders of the plans or decisions that contain documents including city plans, photographs, reports and the municipality council's decisions, are created to make archive for the Plan Review Commission. Plan Review Commission is a special group within the members of the board of management (of the Ankara Branch of the Chamber of City Planners) that analyze, examine and evaluates the plans based on its suitability to upper scale plans, the legislations and its effect on public interest<sup>7</sup>.

Members of the commission suggest whether to open a case to the plan and explain its reasons with individual remarks and scientific background on the interactive online spreadsheet file. As a result, the decision of whether to open a case for an annulment decision of a plan is made in consensus.

After the appeal period of the plans, there exists a limited time for the right of litigation, which is 60 days for governments and ministries, and 30 days for Privatization Administration's planning decision. Within this period of time, the responsible group prepares the lawsuit petition, the secretary of the Ankara Branch of the City Planners checks the petition as a final look. Finally, the lawyer of the chamber reexamines the petition and file a lawsuit on behalf of the Chamber of City Planners. Lawyer of the Chamber uses an online spreadsheet that can be seen in Table 4.2, for tracking the whole lawsuits of CCP including the general information, current

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<sup>7</sup> Plan Review Commission decide whether the decisions of the plan provide public interest or on the contrary, the decisions satisfy only the interests of some capital groups.

situation and decisions of the litigation processes. After filing a lawsuit a new row is added to the list and the decisions of the court is editing according to the court process.

Table 4.2. *Example of the Lawsuit Tracking List in spreadsheet*

DAVA NO	DAVACI	DAVALI	DAVA TARİHİ	MAHKEME		YIL	NO	KONU	YD SONUCU	DAVA SONUCU	SON DURUM
(Court Number)	(Plaintiff)	(Defendant)	(Court Date)	(Court)		(Year)		(Subject)	(Suspension of execution results)	(Case Result)	(Last State of the Case)
ANK_D_001	ANKARA ŞUBE	ANKARA B.B.	36669	ANKARA	9 İDARE	2005	1131	BALLIKUYUMCU KÖYÜ 1/5000 NİP	KABUL	KABUL	KESİNLEŞTİ
ANK_D_002	ANKARA ŞUBE	ANKARA B.B.	36699	ANKARA	4 İDARE	2004	1783	ÇAYYOLU KÖYÜ 1/5000 ÖLÇEKLİ NİP	KABUL	KABUL	KESİNLEŞTİ
ANK_D_003	ANKARA ŞUBE	ANKARA B.B.	37504	ANKARA	2 İDARE	2005	1893	GÖLBAŞI – GÜNEYKENT 1/5000 ÖLÇEKLİ NİP	KABUL	KABUL	KESİNLEŞTİ
ANK_D_004	ANKARA ŞUBE	ANKARA B.B. - BAYINDIRLIK VE İSKAN BKN.	38170	DANIŞTAY	6 DAİRE	2005	875	GÜNEYBATI ANKARA METROPOLİTEN İMAR PLANI	KABUL	KABUL	KESİNLEŞTİ

The filed lawsuits of the chamber are carried out in administrative courts<sup>8</sup>. The administrative court is one of the main courts responsible for handling administrative cases against the unlawful acts and procedures of the administration (Administrative Jurisdiction Procedures Law, 1982). The administrative court is the first instance court in the administrative jurisdiction. The lawsuits that will be brought against all administrative actions and procedures (except for the tax court and the ones to be resolved at the first instance of the Council of State) shall be proceed in the administrative court. The following courts proceed the administrative cases:

- Administrative court (first instance court),
- Tax court (first instance court),
- Regional administrative court (Court of Appeal),
- The Council of State (The Court of Appeal and the court of first instance for some administrative cases).

The administrative courts, as a rule, make judgments according to the written judgment procedure article 1 and 2 (Administrative Jurisdiction Procedures Law, 1982) and the administrative judgement proceedings are carried out through examination of the documents. In addition, after opening the administrative case, the

<sup>8</sup> The establishment and mission of administrative courts are regulated by Law No. 2576. Judgments and Prosecutors Board decide on the determination or change of the judicial environment of the administrative courts (Law no. 2576 m.2 / 2).

Administrative Court may bring any information and documents deemed necessary to the case from the relevant places or parties even if it is not requested (Administrative Jurisdiction Procedures Law, 1982). Since the proceedings were carried out in the administrative court, there was no way to hear witnesses or take statements. For this reason, in a lawsuit petition the Chamber of City Planners shall submit all the notifications, mapping and analysis that they deem necessary.

#### **4.2.1.1. First Instance Court**

##### **Administrative Court Process**

The Chamber of City Planners' filed cases are carried out by the local Administrative Courts, which are the first-instance courts. The court may decide to take opinion of the expert(s) by itself or the request of one of the parties if the concluding requires special or technical information other than the regulations. The proceedings are carried out in the administrative courts, but the Chamber may require a technical expert assessment for the plans. For this reason, after the collection of all the information and documentations in the Administrative Courts, expedition and expert examination would be demanded. In the process of judicial proceedings, the expert may be appointed as an expert by oneself or in a board consisting of more than one person. Experts prepare a report for the court usually within 3 months (depending on the complexity of the case, the court may give extra time to experts to complete their reports). The judge evaluates the expert report together with other evidence in the process of examining the case.

##### **Suspension of Execution Process**

Opening a case in the Council of State or administrative courts does not stop the execution of the administrative proceedings. The legal proceedings take quite a long time. This may cause the start or even the completion of the planned development despite the fact that the lawsuit has been filed against the plan. For this reason, the plaintiff may demand suspension of execution within the case if the conditions of the

administrative action are evidently unlawful and if it creates a situation that is hard to recover or unrepairable on condition that the administrative procedure is applied. The administrative courts may decide suspension of execution on the basis of the relevant grounds. The decision to suspend the execution, which is set out in Article 27 of Law No. 2577, is a precautionary decision before the final decision of the court in the case of annulment proceedings. The files that asks the stay of the execution are examined and decided initially; therefore the judgement execution call is important to determine the case result. Objection against the suspension of execution decision can be made only once. The appealed authorities must decide within seven days after the arrival of the documents. Decision on the objection is definitive judgment. The decision of the suspension of execution shall be carried out within thirty days at the latest.

The defendant or plaintiff may appeal against the decision, whether it is the acceptance or refusal of the execution. After the examination of the objection to suspension of execution, the regional Administrative Court or the Council of State (which is in charge during the process of execution) may decide to refuse or accept the suspension of execution decision.

The judge shall freely evaluate the opinion and vote of the expert together with other evidences. The local courts finally reach a verdict by evaluating all the decisions and documents as a whole including: the decision of suspension of execution, the documents such as the defendant and plaintiff's documents, viewing minutes and expert reports. Administrative court decisions; the acceptance of the request for the case, the rejection, the partial acceptance or the results are subject to without. This decision can also be appealed and the appeal process can be initiated.

#### **4.2.1.2. Appeal Process**

The court decisions against the plaintiff may have an appeal process in which professional organizations and non-governmental organizations can continue to struggle against administrative decisions. As of 20.07.2016 (the legal remedy), there has been a change in the processes and actors of the execution of the appeal courts

(such courts decide on the conflict of judicial decisions by examining the appeal processes made against the decisions of the administrative courts). Accordingly, from that date onwards, the appeal applications, which were once examined by the Council of State, began to be examined by the Regional Administrative Courts. These two appeal processes, in which the difference will be explained in detail, are carried out by the local administrative courts in the first instance.

### **Appeal Processes of the Council of State before 2016**

The Council of State carried out the defendant or the plaintiff's appeal against the decision of the local court before 20.07.2016. The courts of appeal are defined as the practice of law that separates the right from wrong. The appeal provides a possibility of a further examination of the judgment and its reasoning under which this judgment is based on, in a higher court (including Supreme Court of Appeals, Military Court of Cassation, Council of State). Administrative courts of appeal are separated according to the subject of law within the Council of State. For example, the Development Plans are examined in the 6<sup>th</sup> Chamber of the Council of State.

The Council of State examines the file, and if the decision is appropriate, it decides on approval, if not, it decides on annulment of the appeal. Both sides have the right to consult the "revision of decision" against the approval/annulment decision. The revision of decision is a usual way of remedy against the decisions of the court's appeal review in order to correct any mistake. The Council of State examines the revision of decision and reaches a verdict of rejecting or acceptance of the revision of decision that actually results as the Council of State's final decision of acceptance or annulment. For example rejecting the request of revision of decision for annulment decision actually means removal of annulment and results as courts' decision of acceptance.

If the party against the decision does not request the revision of decision then immediately or if the request of revision of decision is rejected then after this rejection

decision, a new decision is made in accordance by the local court. An appeal process may also be executed against this decision.

### **Appeal Processes of the Regional Administrative Courts after 2016**

The Regional Administrative Court (RAC) became the primary degree (general executive) court in the field of administrative jurisdiction<sup>9</sup>. It decides on the dispute by examining the appeal applications made against the decisions of the first instance courts with the change that took effect from 20.07.2016. For this reason, the RAC is also referred to appeal courts. The Regional Administrative Court examines the objection to suspension of execution and also the decision of the Administrative Court by performing this process in a similar manner with little differences comparing to the appeal processes of the Council of State. The difference between the appeal of the RAC and the previous appeal is that it carries out a more detailed examination in the appeal process. On appeal, the Council of State reviews and examines only the court files, in addition to this the RAC carry out a detailed revision including demand of a viewing and expert examination for appeal court as may be required.

Regional administrative courts are both be able to give a ruling and inspect cases therefore they do not decide approval or annulment like the Council of State. In the examination of appeals, carrying out a re-trial, making a decision by sub-court and making inspection of material facts besides the legal inspection is realized (Tuğsavrul, 2018). Therefore, if the first-instance court decision is approved in the courts of appeal, it decides to reject the appeal instead of approval. Besides, if the decision of the court of first instance is found to be wrong, the rescission the local court's decision with its decision is ensured. The appeal court finally makes a new decision, including acceptance, refusal, partially acceptance or devoid of essence by revoking the decision of the first instance court.

The decision of the Regional Appeal Courts can also be appealed. The Council of State approve or annul the decision of the RAC. If the decision is annulment, the file

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<sup>9</sup> (Law no. 2576 m.1).

is returned to the regional appeal court to make a decision in accordance with the annulment decision. It is also possible to appeal again to this decision.

#### **4.2.2. Cons and Pros of Litigation Processes**

The analysis and examination of plans actually requires a know-how based on the previous experiences and practice patterns of evaluation of the plans. However, the plan review commission has been changing every two years (together with the board of management), which make it difficult to reach, maintain and increase the accumulation of knowledge in a specific group of workers or managers. Therefore, the new commissioners do not have enough knowledge about the past lawsuits. Furthermore, there is no specific information system in which they can access and perform queries and analyzes specifically about the lawsuits of the chamber. As there are difficulties on accessing data, production and distribution of information and maintaining it within CCP, reaching an accumulation of knowledge (know-how) is hard to achieve.

#### **4.3. Methods of Spatial Data Preparation**

Data preparation is the core activity and basis of system development process. Neither the model nor the output-based activities (including analysis, development and representation of the results) can be helpful if the data is not accurate and proper in the beginning of the research. Data preparation includes the groundwork activities for the data that would later be processed and analyzed. Therefore, it is crucial to prepare data before starting the spatial analysis and decide which layer to use and realize the transformation needs.

The subject of this research is mainly based on the studies conducted with the aim of analyzing the struggle stems from administrative cases that have a spatial decision dimension in GIS infrastructure. The author focused on the Chamber of City Planners' (CCP) litigation processes. In order to analyze the spatial struggle originated from problematic spatial and administrative decisions in a city, litigation cases of the Ankara Branch of CCP were examined.

Until July 2019, the Ankara Branch of CCP opened 790 cases on behalf of public. Besides, it filed 17 criminal complaints, which were not related with plans but included crimes related with the administrative decisions for Ankara. The archive of the Ankara branch has been systematically active since 2013. Before that year, the cases were not properly filed and most of the cases were either not documented or the quality of the documentation made digitization impossible. Therefore, in this thesis, the author examined all cases of the Ankara Branch (n=509) that are related with planning profession, and were opened between the years of 2013 and 2018.

Currently, the litigation processes are monitored verbally through a spreadsheet and all the documents are filed within the system of the Chamber. However, the Chamber of City Planners does not have a spatial data infrastructure for any geographic information system. Therefore, for this research, spatial data is prepared based on the plans subject to Lawsuits. The preparation steps are indicated in figure 4.2. The images of the plans including different scales of; 1/1000, 1/5000, 1/25000, 1/100000 are first found from the archive and then georeferenced by GIS software in order to place them in their appropriate real world location. Universal Transverse Mercator European Datum 1950 (UTM ED50) and Zone 36 is selected as the map projection type for Ankara. UTM ED50 is preferred for the GIS projects in Turkey especially for the level of scales this project uses. Secondly, the plan areas are digitized manually as polygons by referencing its coordinates from the georeferenced plan images and define a unique number that represents the lawsuit id. A group of people including some of the workers and the interns of the Chamber helped the author in geo-referencing, digitization and controlling procedures. These processes took approximately 2 years to complete.

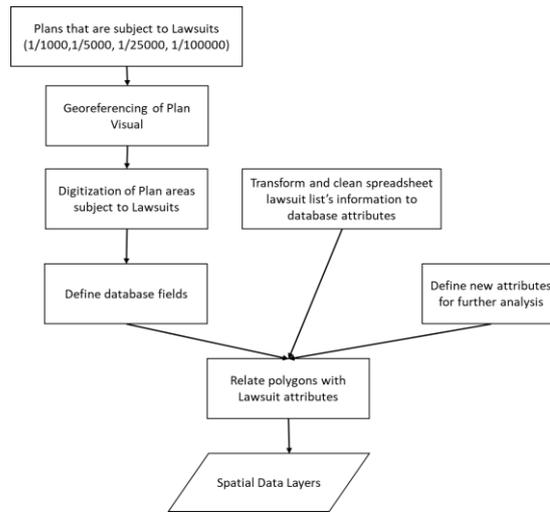


Figure 4.2. Spatial data preparation stages for Lawsuit Polygons

Chamber of City Planners tracks its Lawsuit situation from a spreadsheet that can be seen from the table 4.3. This table demonstrates the basis of the attributes of the lawsuit polygons. During the process of the system building, the court procedures and litigation tracking process were analyzed in detail. It is observed that some arrangements are needed for further analysis. The design of spatial data is so crucial that as being the basis of the system database it determines the usefulness of GIS. For this reason, first data cleaning and attribute arrangements are performed and then the spreadsheet is transformed to database table.

Table 4.3. Example of current lawsuit tracking spreadsheet

DAVA NO (Court Number)	DAVACI (Plaintiff)	DAVALI (Defendant)	DAVA TARİHİ (Court Date)	MAHKEME (Court)	YIL (Year)	NO (Number)	KONU (Subject)	YD SONUCU (Suspension of execution results)	DAVA SONUCU (Case Result)	SON DURUM (Last State of the Case)	
ANK_D_001	ANKARA ŞUBE	ANKARA B.B.	36669	ANKARA 9	İDARE	2005	1131	BALLIKUYUMCU KÖYÜ 1/5000 NİP	KABUL	KABUL	KESİNLEŞTİ
ANK_D_002	ANKARA ŞUBE	ANKARA B.B.	36699	ANKARA 4	İDARE	2004	1783	ÇAYYOLU KÖYÜ 1/5000 ÖLÇEKLİ NİP	KABUL	KABUL	KESİNLEŞTİ
ANK_D_003	ANKARA ŞUBE	ANKARA B.B.	37504	ANKARA 2	İDARE	2005	1893	GÖLBAŞI – GÜNEYKENT 1/5000 ÖLÇEKLİ NİP	KABUL	KABUL	KESİNLEŞTİ
ANK_D_004	ANKARA ŞUBE	ANKARA B.B. BAYINDIRLIK VE İSKAN BKN.	38170	DANIŞTAY 6	DAİRE	2005	875	GÜNEYBATI ANKARA METROPOLİTEN İMAR PLANI	KABUL	KABUL	KESİNLEŞTİ

After defining database fields according to the lawsuit list, the lawsuit attribute table and lawsuit polygons are joined to create Lawsuit spatial database which can be seen

in Table 4.4. Litigation processes involve the same steps for all administrative cases. In addition to the elementary information of Lawsuits, some specific fields are defined for database table according to the needs defined during system development process. Every lawsuit (such as licences decisions, city council decisions etc) is not related with a city plan but may related with an area within city, so those lawsuits' area digitized differently as an ellipsoid to be differentiated from others.

Table 4.4. *Database Table of Lawsuit Polygon*

<b>Field Name</b>	<b>Data Type</b>	<b>Definition</b>
FID	Object ID	Primary Key
Shape	Geometry	Definition of its polygonal feature
Shape_Leng	Double	Calculated Shape Length
Shape_Area	Double	Calculated Shape Area
DavaID	Long Integer	Defined Case ID produced from last 3 digits of (F599) lawyers case number like; "60"+"123"=60123
F599	Text	Lawyer case number
DAVACI	Text	Plaintiff
DAVALI	Text	Defendant
DAVA__TAR	Date	Case Court Date
MAHKEME	Text	Court
Mahkeme_No	Long Integer	Court number
Mahkeme_Ti	Text	Court Type
YIL	Long Integer	Court Year
NO	Long Integer	Court number
KONU	Text	Subject of the court
YD__SONUCU	Text	Suspension of execution results
DAVA_SONUC	Text	Case Result
SON__DURUM	Text	Last State of the Case
MUKERRERLIK	Long Integer	Number of Iterations of the plan <sup>10</sup>

<sup>10</sup> For the calculation of the number of iterations, the map basic ode in Appendix – B is used.

Moreover, during the system development processes, a need of realizing spatial analysis based on the protected areas of Ankara is defined. To this end, the data of the forest areas, cultivated areas and Atatürk Forest Farm, which is a special protection area of Ankara, have been obtained from 1/25000 Master Plan of Ankara. The spatial data including the areas of forest, agriculture and Atatürk Forest Farm was first transformed from .dwg file to shapefile format and converted into the UTM ED50 coordinate system in order to be used in spatial analysis.

Finally, the Copernicus Urban Atlas (2012) which provides pan-European comparable land use and land cover data in order to define the settlement areas of 2012, is used in order to define the settlement periphery of Ankara and discover the relation of the lawsuit areas and the settlement areas in 2012.

#### **4.4. System Design and Implementation of a GIS**

Geographical Information System like any Information System is an organized accumulation of data and procedures that help people make decisions about what to do with things that have locations (Harmon & Anderson, 2003). For successful GIS operation; a well-designed plan and operation structure based on a system building approach and organized system development process is important.

##### **4.4.1. System Building Approach**

There exists numerous and varied Geographical Information Systems. Whether the project is to be performed in local computer, within a small group, or within a larger organizational structure, there must be methodology to give a framework for finishing the job. There is a need for a structure that enables actors to perform the correct tasks in the right order to get to the result. Regarding the nature of the systems and needs of the process and actors, several system building approaches have been developed to deal with these differences. The application has been developed in the context of the thesis' research needs and user needs and it bases its system building infrastructure on project life cycle and prototype approach.

As each project has a beginning and an end, it can be said that it has a life cycle, which in turn dictates the operations and organizational structure that will bring the project to a successful conclusion (Demers, 2009). The life cycle methodology is a phased approach to building a system, dividing systems development into formal stages. The systems life cycle is used for building complex systems that require a detailed and formal requirements analysis, predefined specifications and controls over the system-building process (Demers, 2009; Laudon & Laudon, 2012).

Among the first approaches to the project life cycle is a technique called bottom-up implementation. Even though this method is flexible in terms of the number of steps and that systems builders can go back and forth among stages in the life cycle, it is highly structured and it progresses linearly. The steps that are illustrated in figure 4.3 cover the definition of user requirements, the specification of functional needs and systems analysis, detailed design, the testing of individual modules, subsystems and system testing, conversion and integration operations of the system and finally production and maintenance (Laudon& Laudon, 2012; Stair & Reynolds, 2010). In the computer engineering profession, this approach is often called the waterfall model of system design (Demers, 2009; Laudon& Laudon, 2012).

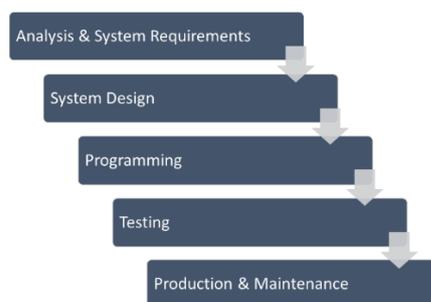


Figure 4.3. *Waterfall Model of System Life Cycle* (adapted from Laudon& Laudon, 2012; Stair & Reynolds, 2010)

The waterfall model is easy to understand and functional. However, there are several difficulties with this model regarding the usage of it as a tool for developing a GIS. Under this model, if all of the GIS user requirements can not be defined, it is hard to proceed the input phase until the rest of the requirements were received (Demers,

2009). Another problem with the model is its linear and co-dependent structure. Although system builders can go back and forth among stages, the system life cycle is predominantly a “waterfall” approach in which tasks in one stage should be completed before the next stage begins (Laudon & Laudon, 2012). As Demers (2009) states, people are better at making improvements to an imperfect system than at anticipating all possible problems before the initial implementation. Also, users may neglect important details at the beginning or discover new uses for the GIS as they see the system implemented.

Another widely used system building approach is prototyping. Prototyping approach consists of building an experimental system or parts of the system rapidly and inexpensively for end users to evaluate (Laudon & Laudon, 2012). It is a specialized development procedure that initiates developers towards making only the sample of the resolution to validate its functional essence to the users and make essential changes before creating the final solution. The prototype validated by the users can be used as a template to create the final system.

Laudon & Laudon (2012), explain the prototype as a working version of an information system or part of the system, but it is meant to be only a preliminary model. Prototyping brings an iterative approach to the systems development process. During each iteration, requirements and alternative solutions to the problem are identified and analyzed, new solutions are designed, and a portion of the system is implemented (Laudon & Laudon, 2012; Stair & Reynolds 2010). The steps required to build a system can be repeated over and over again. Users are encouraged to try the prototype and provide feedback, so by interacting with the prototype they can understand their system requirements and the new technology better.

Prototype methodology<sup>11</sup> tends to resolve a set of diversifying issues occurring with the waterfall method. Prototyping actively promotes system design changes. Laudon

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<sup>11</sup> Other than the traditional and prototype based system building approaches, various kind of systems building approaches have been developed to deal with the size, technical or organizational complexity differences of the system and manner of work necessities or preferences. For instance, Rapid

& Laudon (2012) states that prototyping replaces unplanned rework with planned iteration, with each version more accurately reflecting users' requirements.

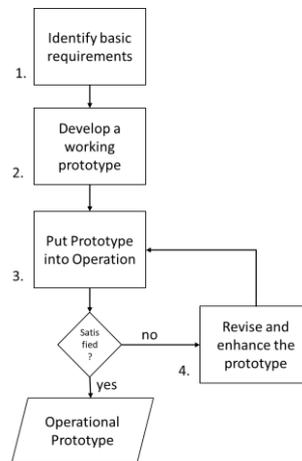


Figure 4.4. *The prototyping process (developed and adapted from Laudon & Laudon, 2012; Stair & Reynolds, 2010)*

The prototyping process explained in Laudon & Laudon (2012) begins with identifying the basic requirements (see figure 4.4). After defining requirements, a working preliminary model of a major subsystem is developed as a prototype. The user is encouraged to work with the system to determine how well the prototype meets his or her needs and to make suggestions for improving the prototype. If the user is not satisfied with the prototype and requests or suggests changes, the prototype is refined accordingly. After the prototype has been revised, the cycle returns to Step 3. Steps 3 and 4 are repeated until the user is satisfied. Each generation of prototype is a refinement of the previous generation based on user feedback. So the first preliminary model is refined to form the second and third generation models until the complete system is developed (Stair & Reynolds, 2010). When no more iterations are required,

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Application Development (RAD) approach is used in order to speed application development process, Joint Application Development (JAD) approach proposes possible solutions with synergetic working with all users and developers within the team. On the other hand, Agile Development approach focuses on rapid production of working software by breaking a large project into a series of small subprojects that are completed in short periods of time using iteration and continuous feedback (Stair & Reynolds, 2010).

the approved prototype then becomes an operational prototype that provides the final specifications for the application.

The system building approach of this thesis is based on system lifecycle process together with prototyping approach. As shown in figure 4.5, the system building approach started with the system lifecycle process for the development of the first prototype (the methodology of the system development processes is going to be explained in detail in the next section). After developing a working prototype, in this research, specific workshops and surveys were carried out with groups of professionals and community members. The operational prototype was used and tested with these groups and feedbacks were taken accordingly. Prototyping actively promotes system design changes. Therefore, system development activities were re-assessed based on the feedbacks and new demands. A revised and enhanced prototype was developed with the aim of reflecting the users' needs more accurately. Through the process, the requirements of the system were progressed by user needs, research requirements, prototyping processes, education and discussions. Finally, the evaluation of the second system developments and its prototype were realized with the same group of individuals.

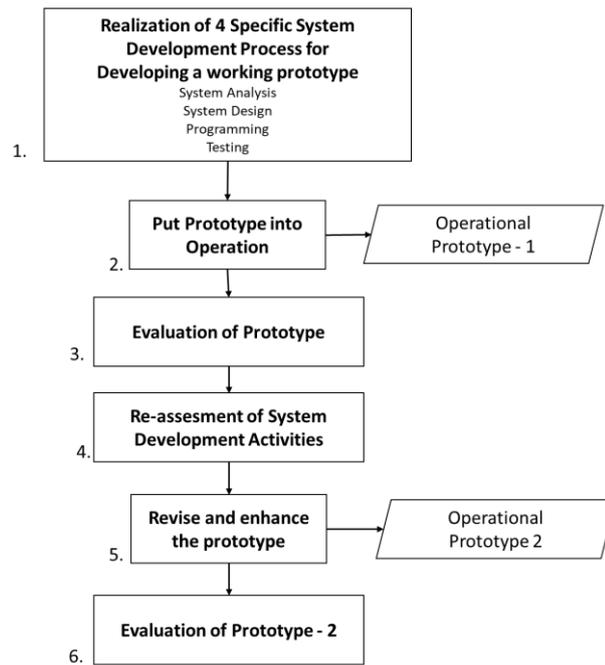


Figure 4.5. *The System Building Approach*

#### 4.4.2. System Development Process

Laudon & Laudon (2012) explain that information systems are outgrowth of a process of organizational problem solving that is built as a solution to some type of problem or set of problems the organization faces. In order to produce an information system solution for an organizational problem or opportunity, a set of methodological processes or activities are used to be developed and implemented. Laudon & Laudon (2012) define system development as a structured kind of problem solving with distinct activities that consist of systems analysis, design, programming, testing, conversion, and production and maintenance. System development process enables activities for producing an operational information system solution to an organizational problem or opportunity.

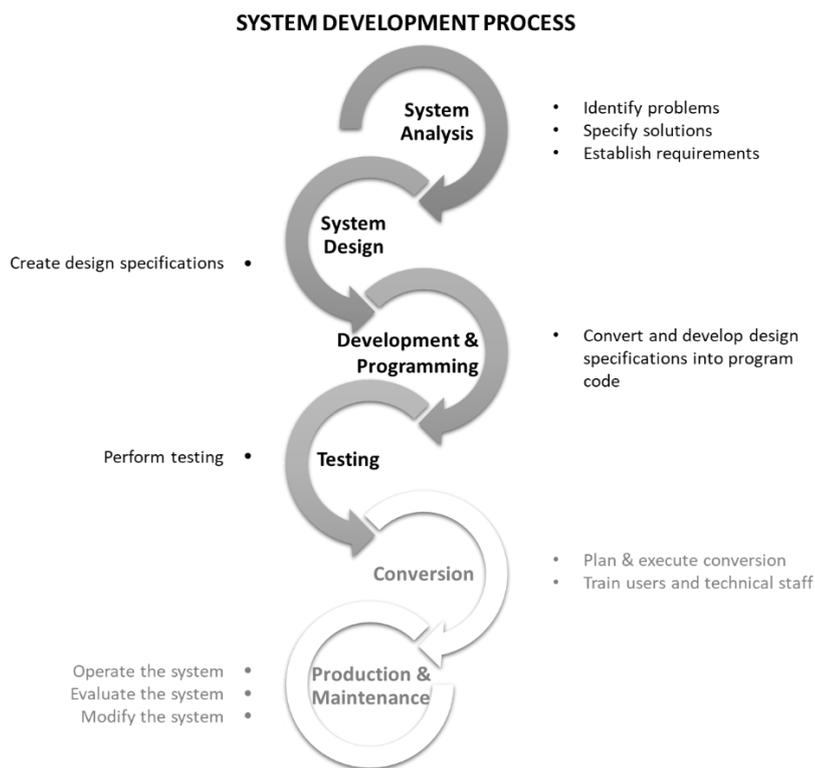


Figure 4.6. Six core activities of System Development Process (developed and adapted from Laudon & Laudon, 2012)

The system development activities illustrated in figure 4.6 usually take place in sequential order, but some of the activities may need to be repeated or some may take place simultaneously depending on the system building approach that is being employed.

In this research, system analysis, design, development and testing processes were first realized according to the basic problem definition and research requirements. Then, after the first prototype, a second analysis, design, development and testing process were realized for enhancing the system. Even if the system development processes includes the activities of conversion and maintenance, this research does not examine these processes because a real conversion and maintenance processes were not realized during this research period. In the following sections, the methodology of the system development is elaborated for four main activities.

#### **4.4.2.1. System Analysis**

System analysis is the first and key activity of system development. The purpose of this first phase is to find out the scope of the problems and determine solutions for them based on the components and capabilities of GIS. As, Laudon & Laudon (2012) define, system analysis involves information gathering to define the problem(s), identifying its causes, specifying its solution(s), and finally identifying the requirements that must be met by a solution. This phase also includes analysis whether this solution can meet their expectations.

Through the analysis process of this research, several face-to-face or e-mail based surveys and meetings (workshops) were carried out with groups including workers, (former and current) managers, plan review commission within managers and advocate of the chamber. Through these surveys and meetings, information about the current working methods for plan tracking, litigation processes, business processes and the tools were obtained. In face-to-face interviews, discussions on the deficiencies in the existing work structure and the needs items were also considered. These methods and processes were explained in detail in Chapter 2. Besides, these analyses of business steps, the data used and produced generated the basis for the database, which was defined in previous section. The data obtained from interviews, e-mail surveys and group meetings guided the researcher in the development of a GIS system that would serve the needs of the chamber and community.

Harmon & Anderson (2003) declare that specifying the current and future needs for geographic information is the core of needs assessment. During analysis phase, it is crucial to examine the current (if it exists) and needed GIS and database software, the required tools and methods. However, as mentioned before, the Chamber of City Planners does not have a geographical information system and spatial data infrastructure. Therefore, after deciding the data requirements, one of the main decisions in this research study was about whether to use a common packed or open source/free of charge software or to design and produce a specific GIS program for

the problem area. The software packages give a wide variety of tools for producing, storing, analyzing and visualizing geographical data. However, they are not specialized for specific business process needs. Within the research, it is observed that none of the workers in CCP is an expert of GIS. The workers viewed packed GIS systems as difficult to learn and use. They remark the necessity of a simple and user-friendly system which is developed for the Chamber in particular.

On behalf of an accurate need assessment of a system, it is crucial to have an overall awareness of the organization together with its problematic work process or systems.

After analyzing the existing and needed geographic data, resources and operational processes in detail, at this stage it is important to define the solution by including benefits, risks and constraints of all stages of process and solutions by defining projected costs and time. For professional chambers, needs assessment is performed for determining and addressing the needs of users, which actually lay the groundwork for system requirements. The analysis of the user needs and its evaluation include two main phases. The first phase is the need assessment process and the second is re-evaluation of needs after the development of the first prototype that is explained in System Building Approach section. After the first prototype, the defined needs during analysis period are updated and the new user needs are defined as (P2) which are all listed on Table 4.5.

Table 4.5. *Need Assessment List*

<b>Need number</b>	<b>Need Assessments</b>
N1	Lawsuits which are followed only verbally needs to be displayed on a map. In order to display on map, there is a need of digitizing plan areas that are subject to legal struggle process.
N2	No body (within workers) knows GIS as packed GIS systems are hard to learn and use, there is a need of an easy to use and basic system, specifically developed for the chamber. A desktop system would be better to use.
N3	Need to zoom-in lawsuit areas on map, select and display lawsuit information within the system.

N4	Need to display all the list of lawsuit and search from the list and see lawsuits geographical area
N5	Need to displaying different data like protected sites, green areas ot other data and adjust the display properties on map
N6	Need to draw map areas and enter lawsuit information from the system
N7	Need to analyze spatial data within the scope of lawsuit information
N7.1	Spatial distribution of plan area according to the plaintiff information
N7.2	Spatial distribution of plan area according to the defendant
N7.3	Spatial distribution of plan area according to the year of the lawsuit
N7.4	Spatial distribution of plan area according to the result of the lawsuit
N7.5	Spatial distribution of plan area according to the final situation of the lawsuit
N7.6	Spatial distribution of plan area according to the suspension of execution
N8	Need to produce graphic based statistics
N9	Need to print map display
N10	Need to select an area and list the information of intersecting lawsuit areas (P2)
N11	Need to analyze the distribution of plan areas among Ankara districts (P2)
N12	Need to analyze whether the lawsuit areas intersect with protected areas like forests or wetlands (P2)
N13	Need to observe repeating plans within specific areas (P2)
N14	Need to define current result within one field (There exists 3 different fields for tracking the result and current situation of lawsuit) (P2)

After discovering and understanding the problem, scope and needs, it is vital to define the requirements of a suitable solution. System requirements analysis carefully defines the objectives of the new or modified system and develops a detailed description of the functions that the new system must perform. According to Harmon & Anderson (2003), the information requirements of a new system involve identifying who needs what information, where, when, and how. Harmon & Anderson (2003) also state that, this process includes determining the users who will benefit from the technology and which functions they perform will benefit the most, the applications in these functions, the data needed to support these applications, and the most appropriate hardware and software to support these applications.

It is challenging to define the specific requirements that can be met by the selected system solution. The involvement of the proper individuals in the organization is essential for this process. Developing system requirements includes setting realistic expectations of users, identifying candidate solutions and selecting the best available solution. The items identified as the needs for this study, are interpreted and evaluated as requirement of system development. The involvement of the users and prototyping approach, the requirements of the system based on user needs are updated. The final requirements referenced with user and research needs, are listed in Table 4.6.

Table 4.6. *Requirements List*

<b>Reference Need Number</b>	<b>Requirement Number</b>	<b>Requirement definition</b>	<b>Requirement Type</b>
N1	R1	Digitizing plan areas and relating areas with lawsuit information.	Database + Data
N2	R2	Developing a desktop GIS specialized for Legal Struggle processes	System Features
N3	R3	Navigation tools including zoom-in, zoom-out and pan	Map Tools
N3	R4	Selection from map and displaying attribute data	Search and Display Tools
N4	R5	Display and search Lawsuit list	Search and Display Tools
N4	R6	Developing a search interface, that lists the whole lawsuit table, able to search and filter the lawsuit list, count the result and display the result on map	Search and Display Tools
N5	R7	Display layers	Map Tools
N5	R8	Adjust the display properties of layers on map	Map Tools
N6	R9	Development of drawing tool for lawsuit area and entering attribute data	Editing Tool
N7	R10	Developing spatial queries based on attribute table	GIS Analysis
N7.1	R11	Spatial query and thematic display based on the distribution according to the plaintiff information	GIS Analysis
N7.2	R12	Spatial query and thematic display based on the distribution according to the defendant	GIS Analysis
N7.3	R13	Spatial query and thematic display based on the distribution according to the year of the lawsuit	GIS Analysis

N7.4	R14	Spatial query and thematic display based on the distribution according to the result of the lawsuit	GIS Analysis
N7.5	R15	Spatial query and thematic display based on the distribution according to the final situation of the lawsuit	GIS Analysis
N7.6	R16	Spatial query and thematic display based on the distribution according to the suspension of execution	GIS Analysis
N8	R17	Developing Graphical statistical according to the needs defined in N7	Graphical Statistics
N9	R18	Using basic print tool	Map Tools
N10	R19	Spatial analysis drawing and selecting an area to list the information of intersecting lawsuit areas (P2)	GIS Analysis
N11	R20	Need for district area data (P2)	Database + Data
N11	R21	Spatial analysis of intersection and distribution of lawsuit areas among districts (P2)	GIS Analysis
N11	R22	Developing graphical statistical according to the needs defined in N13 (P2)	Graphical Statistics
N12	R23	Need for protected area data (P2)	Database + Data
N12	R24	Spatial analysis based on overlay of lawsuit areas and protected areas (P2)	GIS Analysis
N13	R25	Spatial analysis based on overlay count of lawsuit areas (P2)	GIS Analysis
N14	R26	Analysis of 3 different field in order to define the results and current situation of lawsuits (P2)	Database + Data
N14	R27	Spatial query and thematic display based on the distribution according to the current situation (P2)	GIS Analysis

With the intention of grouping the requirements, each item is defined with requirement types that are listed below;

- Database + Data; includes data preparation and database design requirements.
- System Features; defines requirements that is related with general system design
- Map Tools; include requirements for mapping and presenting abilities
- Search and Display Tools; is defined for searching and displaying spatial data requirements (includes basic spatial analysis based on spatial and attribute queries)

- Editing Tool; is specialized requirements for editing features of spatial data
- GIS Analysis; is based on the research and user based spatial analysis requirements (includes overlay analysis and basic spatial analysis and attribute queries)
- Graphical Statistics; is based on requirements for graphical representation of spatial data

The categorization, which provides functional, analysis based or data-based grouping, makes planning of the development process easier.

#### **4.4.2.2. System Design**

Following the system analysis, the second activity of system process is system design. System design includes activities for defining how the system will satisfy the objectives and requirements based on the findings in analysis phase. According to Laudon & Laudon (2012), the design of an information system is the overall plan or model for that system that includes definition of the system specifications that will deliver the functions identified during systems analysis. The system specifications should address all of the decision-making, organizational, and technological components of the system solution.

The system's various components are utilized for general design specifications of the system and the System Architecture which is represented in Figure 4.7. The Geographical Information System includes designing spatial database; choosing appropriate data models (raster or vector, which one better suits to the purpose or is a combination appropriate); choosing proper coordinate system; defining and designing input data, and type of output information (Harmon & Anderson, 2003). The database design and data preparation methodology is explained comprehensively in “4.3. Methods of Spatial Data Preparation” section. The database is composed of mainly Lawsuit Polygons with specially designed attributes and site-based spatial data, including districts of Ankara, forest and agricultural lands and Atatürk Forest Farm.

The system architecture's groundwork is based on this conceptual model of the spatial database.

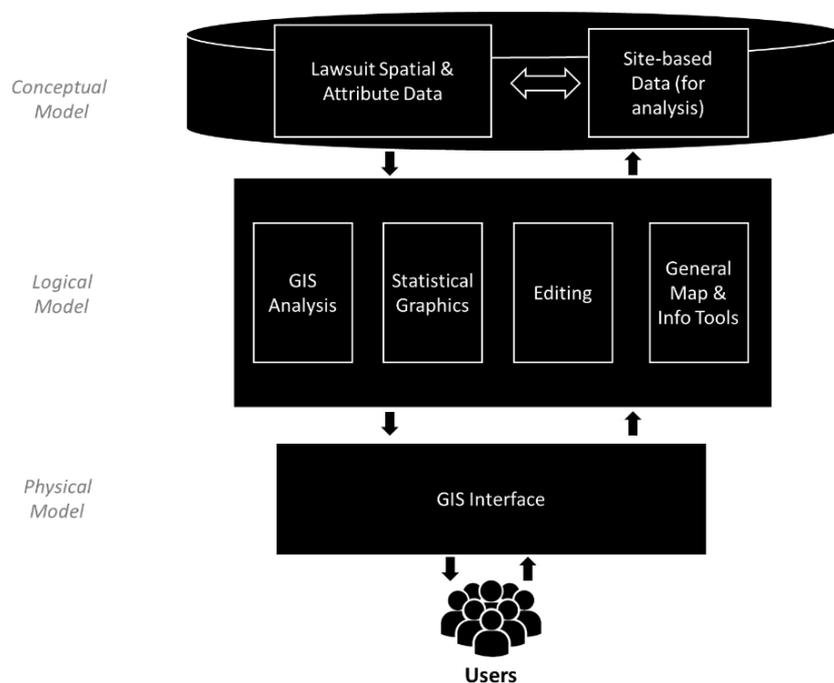


Figure 4.7. System Architecture

The logical model is designed on the basis of substructures of the identified functional requirements with the categories of GIS Analysis, Statistical Graphics, Editing functions and General Map and Information tools. To achieve the required research outputs, all the logical models are based on the operational functions of input, the planning of procedures, controls, and processing are defined during system design process. Before realizing the spatial analysis, it was crucial to prepare the data and decide the analysis methods along with the types of output that each requirement need to demonstrate.

Finally, the user interface of the system as the physical model is basically schematized referring to simplicity and user-friendliness needs of the anticipates users (especially planners work for and manage the chamber). The efficiency of the outcomes are discussed and determined together with users after the development of the prototypes

#### **4.4.2.3. Development and Programming**

Development and programming phase includes the physical design, development and initial production activities in system development process. Laudon & Laudon (2012) explain this stage as translation of system specifications that were prepared during the design stage into software program code. In programming stage, whether an existing packaged software is used or a specific GIS program is developed, the requirements and design specifications are transformed into technical design specifications, technical programming methods and coding for system construction. The use of technology, methods and procedures to build the system by using and producing data, processes, and interfaces are included in the development and programming process. This process consists of constructing, developing and programming the database system, software interfaces, methodologies and outputs. Development and programming involves the analysis of a problem or a set of problems and development of a logical sequence of instructions to solve the defined problems. Programming is a structural process of transforming software's functional requirements to specific code. It is the process of writing instructions executed by computers to solve problems or perform a task. The instructions, also known as code, are written in a programming language which the computer can understand and use to perform a task or solve a problem.

Within the scope of this thesis, a user-friendly, comprehensible and need oriented desktop software has been developed in order to create a basic system for The Chamber of City Planners' litigation processes and analysis. Based on the system requirements infrastructure and the logical infrastructure, the interfaces of the application were coded. The proposed system of the research was developed with Microsoft .NET Framework C# Visual Studio Professional 2015. Besides MapInfo Version Pro 15.0 and together with MapBasic Version 15.0 programming language are used within the Visual Studio with OLE (Object Linking and Embedding) for developing desktop application.

#### **4.4.2.4. Testing**

The main aim of the testing phase is to ensure that the requirements are met and overall system satisfaction is achieved. Testing processes includes preparation of test data, performing the test procedures, reviewing the results and correcting the system if needed. In some instances, parts of the system may have to be re-designed.

In this research study, unit tests for the smallest testable part of any software and corrections were realized for all functions of the system. After validating that each unit of the software performs as designed, the different workable parts of the system were brought together to make an integrated system. Then, the functioning of the information system as a whole was tested by system testing activities. With the help of these activities, it was aimed to determine whether discrete modules would function together as planned and whether inconsistencies exist between the way the system actually works and the way it was conceived (Laudon & Laudon, 2012).

#### **4.4.2.5. Conversion, Production and Maintenance**

The last stages of system development processes are the conversion process. This includes activities for changing the current system with the new system and also maintaining the system. After it is checked that the system fulfills the requirements and a decision for conversion is given, conversion activities (like configuration for the system, installations, deployment of the system and training) can be realized. Moving from an old system to a new one requires end users to be trained to use the new system. A detailed documentation showing how the system works from both a technical and end-user standpoint is also essential for training during conversion and after production-maintenance process for everyday use. The system designed for this research thesis does not involve a real conversion process as the users only experienced the proposed system through prototypes.

When the new system is installed and conversion is complete, the system is said to be in production. After that, the maintenance process starts (Laudon & Laudon, 2012). Within this operational phase, both users and technical specialists can review the new

system. In this way, they can determine how well it has met the objectives and decide whether any revision is needed through the users' feedback about problems in accordance with the success, failure or new potential of the system. Maintenance process includes correcting errors, meeting lacking or new requirements, or improve processing efficiency, enhancements to existing applications as well as new users or even changes in hardware and software (Laudon & Laudon, 2012; Longley et al., 2002). This proposed GIS application is aimed to adapt the business and decision-making processes of the litigation struggle of wrong administrative decisions for cities. By the use of the proposed GIS application, it is expected that the users would dominate the system, furthermore differentiate their expectations from the system with the aim of enhancing their decision-making and business processes.

#### **4.5. The GIS Application**

The developed GIS application for the research is defined through its interfaces and functional structure in this section. First, the main user interface is introduced then the functions and how they operate is defined based on Search and Display Tools, Add Data Tool, Spatial Analysis, Overlay Analysis and Graphical Statistics. The developed functions and interfaces are explained related with requirement lists that are defined in Table 4.4 Requirements List in detail.

##### **4.5.1. The Design of the Main User Interface**

The software of the thesis is developed with the aim of rapid and simple access to the information of the lawsuits, their spatial location and analysis of the spatial distribution of legal struggle in Ankara. Therefore, the user interface design is based on the main map and all other interfaces completely interact with the main map. The figure 4.7 shows the main user interface including both the tool bar and the menu strip for search and analysis functions. The design of the main interface is developed mainly based on the R1 requirement and also the all other system requirements (R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R16, R18, R19, R21, R24, R25, R26, R27) results on the the main map interface defined in Table 4.4 Requirements List.

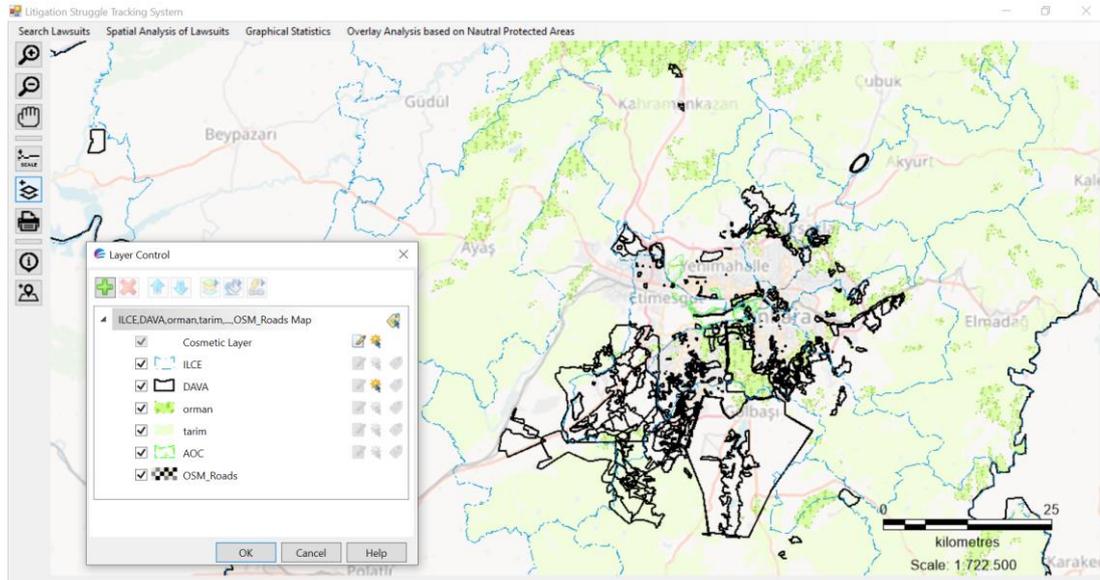


Figure 4.8. Main User Interface of the System (homepage)

The main map is zoomed to the borders of the Lawsuits filed by Chamber of City Planners in Ankara (see figure 4.8). In order to meet the navigation, presentation, search, editing and other mapping needs of the user, basic map tools are designed within a toolbar. There are three sections in the toolbar:

1. Navigation tools section includes zoom-in, zoom-out and pan tools for basic navigation purposes. The functions are developed mainly based on the requirement number R3.
2. Representation tools section includes first scale tool for displaying the scale information of the map, second layer representation and adjustment tool for modifying layer representations, third print tool for printing the screen are designed in the second section. The details of these representation tools' which are developed mainly based on the requirement number R7, R8, R18 interfaces are given in Appendix-A.
3. In the third section of the toolbar, there are information and add data tools. These tools are going to be explained in the next topics.

The menu strip of the application is designed for conducting basic queries, spatial and statistical analysis. Menu strip includes three main subjects “Search Lawsuit”, “Spatial Analysis” and “Graphical Statistics”. The details of tools and results of the analysis will be explained in Chapter 5.

The general distribution of the lawsuit areas on the map provides basic information in terms of initial data assessment. When a researcher starts using the tool, the first thing that he/she sees on the screen is the location of the lawsuits on the urban geography. Even this indication gives the user an overview for general distribution of the lawsuits across the districts of Ankara. Through the general assessment of lawsuit distribution, it is observable that while lawsuits filed against parcel-based or large-scale plan decisions are concentrated in residential areas, the lawsuits filed against larger spatial decisions are created outside the settlement boundary. The intensity of lawsuits between 2013-2018 for small-scaled plans (covering spatial decisions for large areas) is concentrated around peripheries or outside the settlement border, especially around the south and southwest territories of Ankara.

#### **4.5.2. Search and Display Tools**

Throughout the study, one of the most significant requirements of the users has been ascertained as the need of rapid access to lawsuit’s information including general information, its existing state and spatial location. Within the system, two special tools are developed for quick access to information and accurate inquiry needs. The first one is the information tool. The information tool is used to view detailed verbal information of the spatial data by selecting the borders of the lawsuit from the map as can be seen from the figure 4.9. When there is more than one lawsuit in an area, information interface will be opened according to that number of lawsuits. For instance, if there are three lawsuits on the same area, three information interface will be opened or if the lawsuit number is five, the information interface will be five accordingly. The information tool is developed mainly based on the requirement number R4.

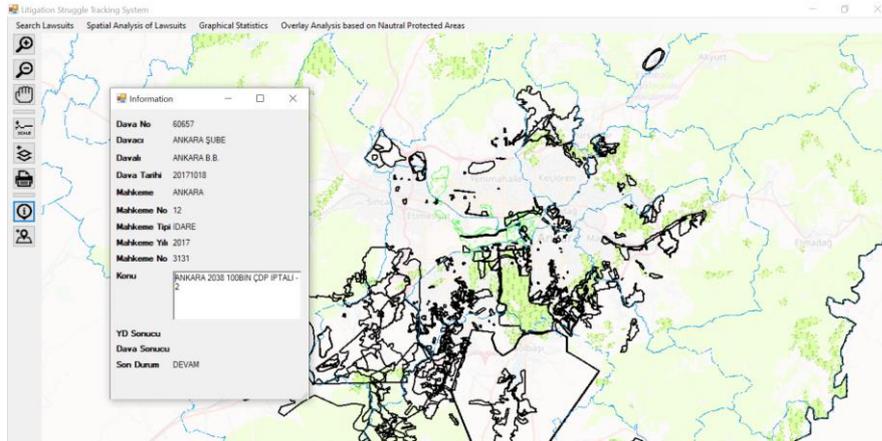


Figure 4.9. Information Tool

The second tool that is “Search Lawsuit” which is developed mainly based on the R5, R6 and R10 requirements, can be reached from the first menu strip topic. The interface of Search Lawsuit, lists the information of all lawsuits via a table. By selecting a lawsuit from the list, the map zooms to the selected area. In addition, some searching criteria are defined in order to maintain query from attribute table of the database. After defining search inputs, results of the query are listed in the table and the map zooms to the overall area of the listed lawsuits. The total number of query result also appears on the information field below the table.

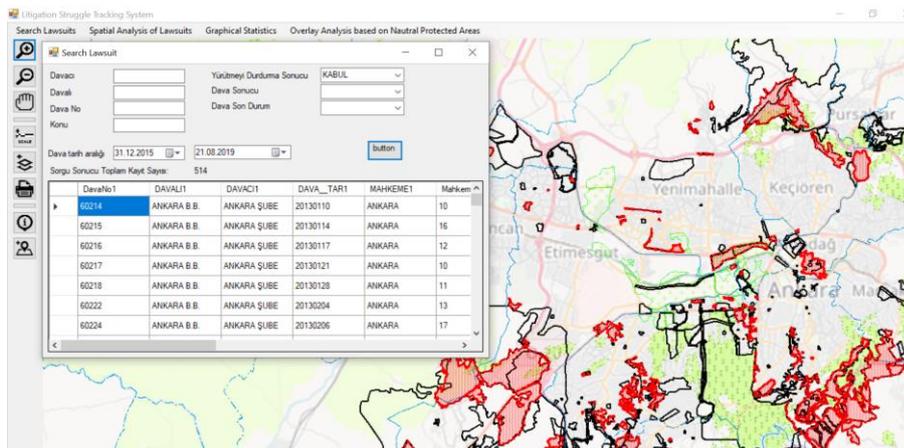


Figure 4.10. Search Lawsuit Interface

The Search Lawsuit interface as shown in figure 4.10 provides a query that works synchronously with the map and provides quick access to the answers to some basic

questions numerically in the form of a list within a table and spatially by selecting the results on the map. The answers to the questions including some of the examples can be easily reached with this tool; How many cases have been filed against the Ministry of Environment and Urbanization and in which location are these cases? Which cases are opened in 2016? Which cases have been accepted? Which of the lawsuits have been filed in corporation with the Chamber of Architects? How they are spatially distributed?

### 4.5.3. Add Data Tool

Add Data Tool is developed for specialized requirements of creating/editing features of spatial and attribute data based on the requirement number R9. Add Data button on toolbar first directs users to draw the area of lawsuit on the map. Following the completion of drawing, the attribute data entrance interface is opened as can be seen in figure 4.11. The Lawsuit information for data entrance includes the database fields. After entering and saving the data, it will also be useable in other interfaces and analysis.

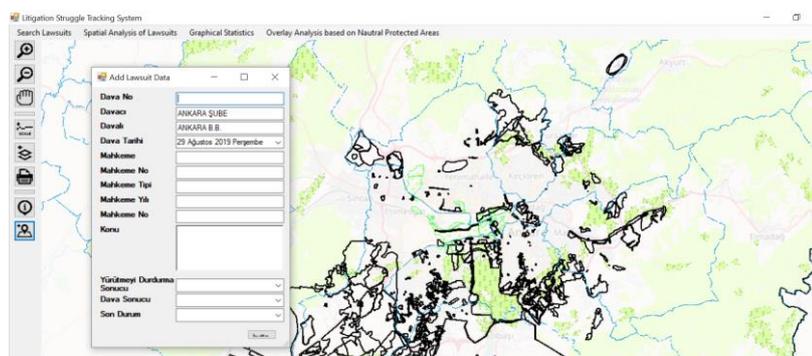


Figure 4.11. Add data tool; drawing and data entry features

### 4.5.4. Spatial Analysis

In order to analyze the spatial distribution based on the lawsuit data, the “Spatial Analysis of Lawsuits” menu was created under the following headings which are listed below and can be seen from the Figure 4.12. The reference requirement of the thematic maps are indicated in parantheses of the functions listed below.

- Spatial Distribution based on Litigation Year (R13)
- Spatial Distribution based on Districts of Ankara (R21)
- Spatial Distribution based on Plaintiff/Defendant (R11, R12)
- Spatial Distribution based on Suspension of Execution Decision (R16)
- Spatial Distribution based on Case Result (R14)
- Spatial Distribution based on Last State of the Case (R15)
- Spatial Distribution of Finalized Case Results (R14, R15)
- Repetitive Spatial Decisions (R25)

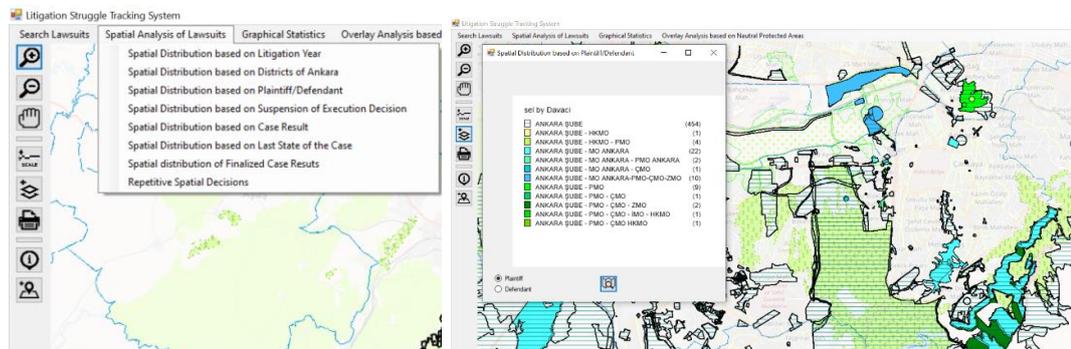


Figure 4.12. Spatial Analysis Menu and an example of thematic map

The functions under these headings result as a thematic spatial distribution representation on the map and its legend shows on a pop-up interface (please see Figure 4.12). A critical detail should be mentioned for the thematic maps used throughout the thesis. The area of the lawsuit filed for the Ankara Environmental Plan covers the complete provincial boundary of Ankara. If it is included within thematic maps the legend covers all the other lawsuits and the thematic maps becomes illegible (see figure 4.13). Therefore, the lawsuit for Environmental Plan is not included within thematic maps but its results references are all counted in graphical statistics.

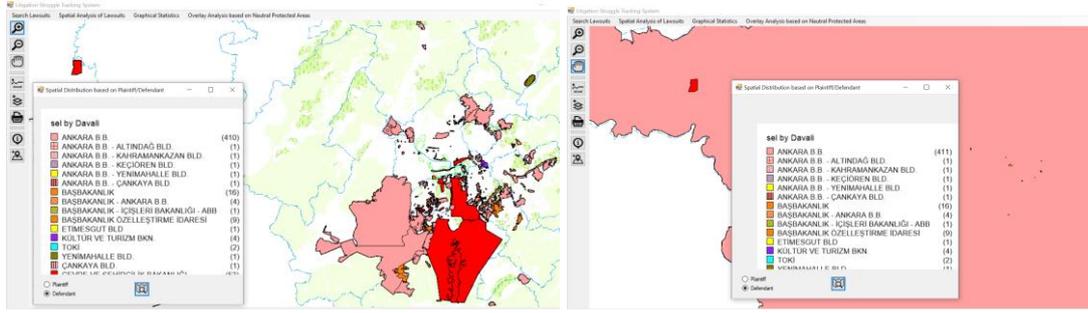


Figure 4.13. Example of a thematic map includes and not includes the Environmental Plan

#### 4.5.5. Overlay Analysis based on Natural Protected Areas

In order to analyze the lawsuit areas that intersects with natural areas of Ankara, the “Overlay Analysis based on Natural Protection Area” menu has been created under the following headings that are listed below:

- Lawsuits intersect with AOÇ Area
- Lawsuits intersect with Forestry Area
- Lawsuits intersect with Agricultural Area

The result of the analysis can be reached from the menu that can be seen from the figure 4.14. The results of overlay analysis can be seen on the map and the lawsuit list together with suspension of execution and case result statistic (see Figure 4.14). In overlay analysis, the lawsuit for Environmental Plan is also not included within thematic maps but its results references are all counted in graphical statistics.

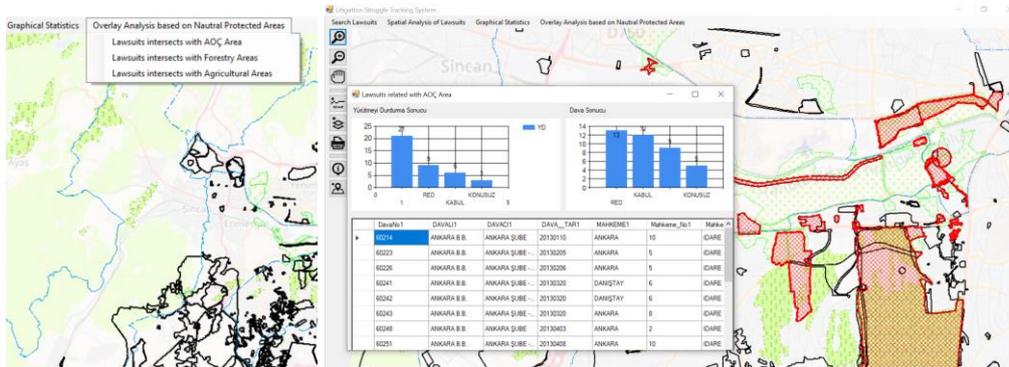


Figure 4.14. Overlay Analysis Menu and an example of thematic map and graphical and listed interface

#### 4.5.6. Graphical Statistics

Graphical representations of the Spatial Analysis topics including Litigation Year, Districts of Ankara, Plaintiff, Defendant, Suspension of Execution Decision, Case Result, Last State of the Case and Finalized Case Results Statistics are presented within the headings of “Graphical Statistics” menu (see figure 4.15). Graphical statistics are occurred as a need to make the analyses more legible and detailed.

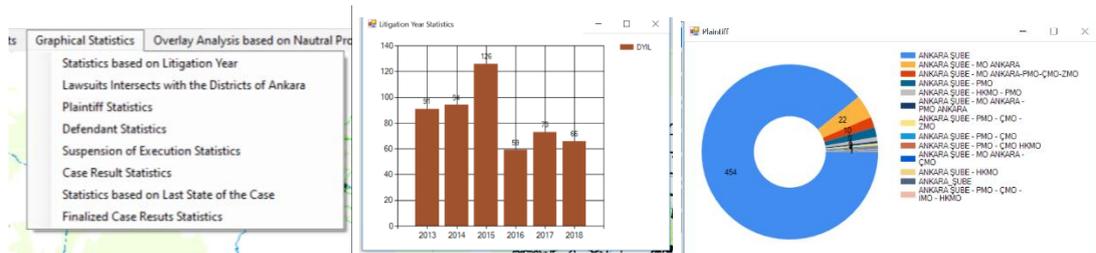


Figure 4.15. Graphical Statistics Menu and examples of graphic charts

The functions under these headings result as a graphical chart (pie, bar, etc) representation on a pop-up interface together with the calculations and legend which can be seen from the example shown in Figure 4.15.



## CHAPTER 5

### RESULTS

#### 5.1. Introduction to Litigation Struggle Analysis

UCTEA Chamber of City Planners (CCP) filed 509 lawsuits during the years 2013-2018, which are subject to case analysis in this chapter. The total summation of all the lawsuits areas is 27202 km<sup>2</sup>. If the environmental plan prepared for Ankara provincial border is exempted, all other lawsuit areas comprises 1809 km<sup>2</sup> area (including overlapping areas).

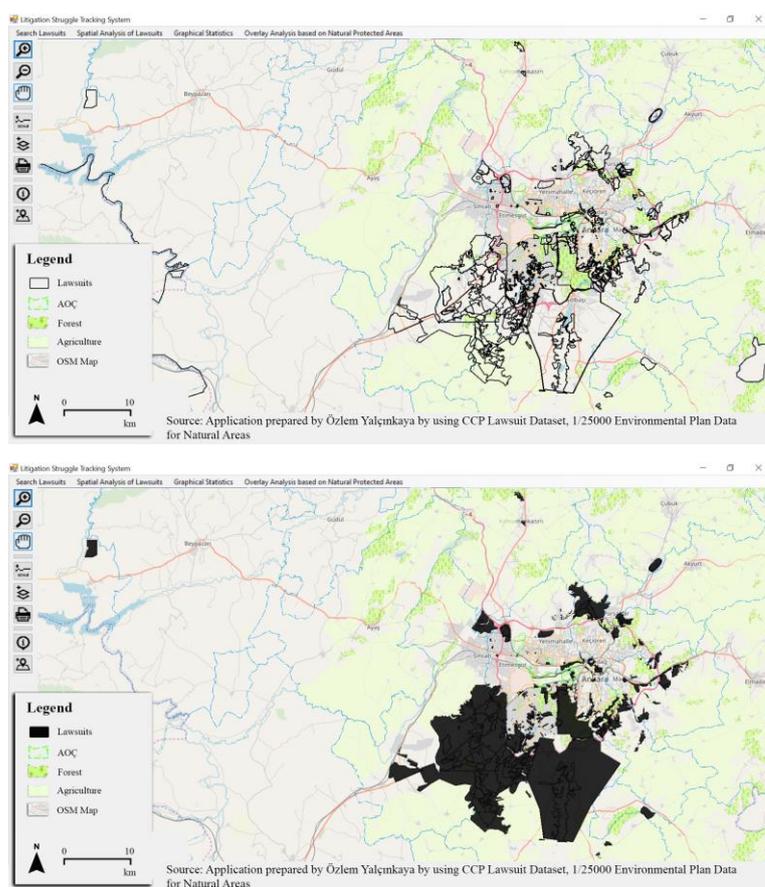
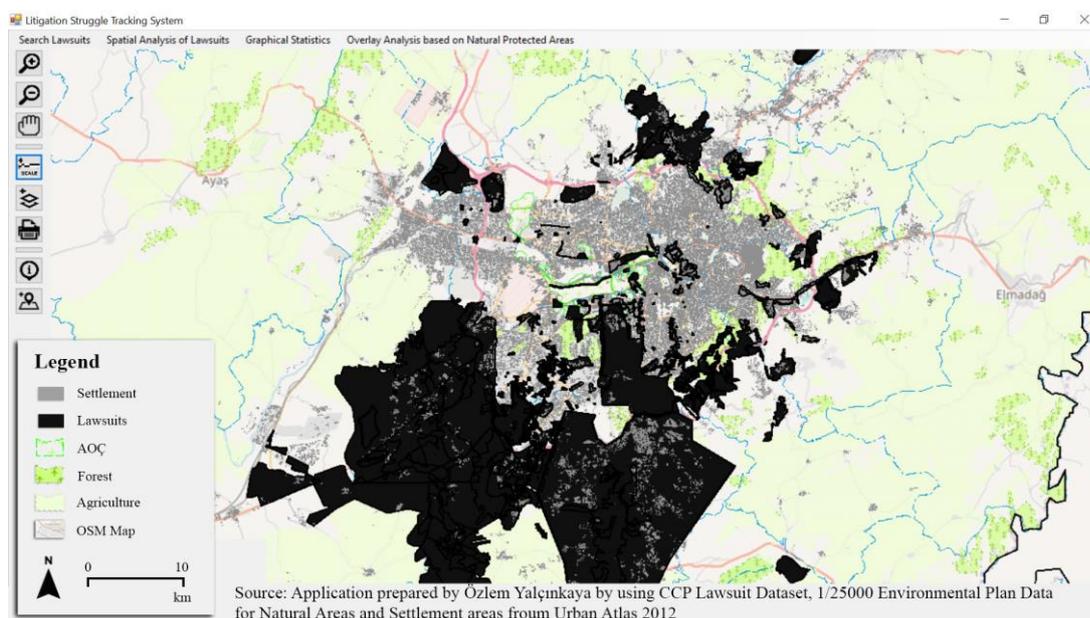


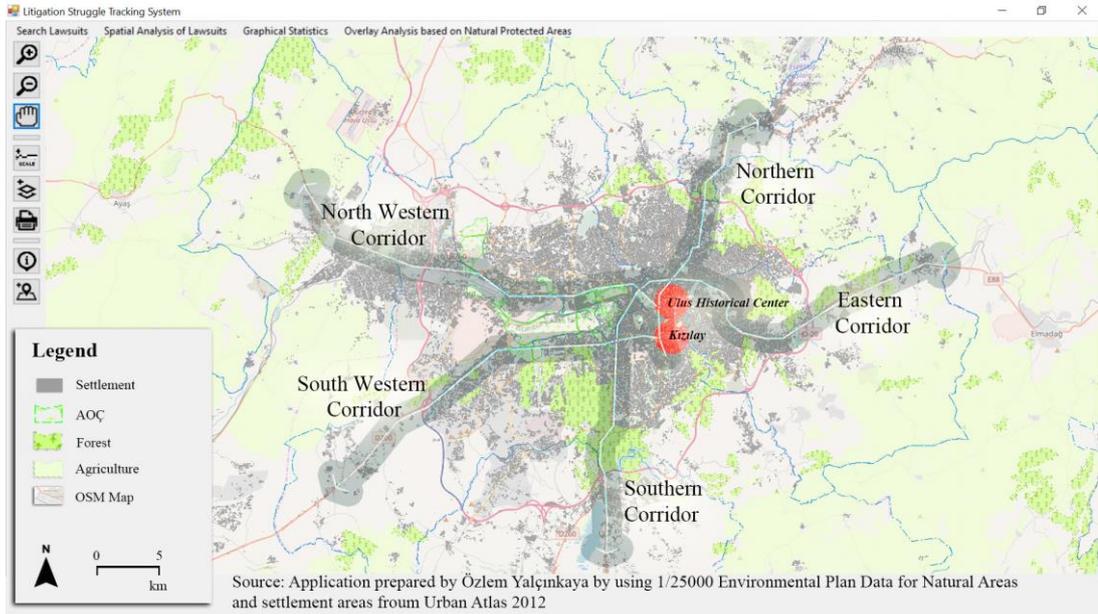
Figure 5.1. The general distribution and pattern of Lawsuits subject to analysis

Figures in 5.1 show the general distribution of the lawsuit areas and also the pattern of influence area by black (without taking environmental plan into consideration). Open Street Map road network and settlement texture is used as a basemap for almost all maps prepared for this thesis. In order to identify the settlement area independently from this data, Copernicus Urban Atlas data's settlement pattern near the city center in 2012 is used in Figure 5.2. It can be seen from the figure 5.2 that the legal struggle compromises mostly the plans prepared for new development areas around peripheries of Ankara. From this general assessment, it can be interpreted that Ankara's urban development proceeds with speculative planning decisions.



*Figure 5.2.* The lawsuit areas (black) and settlement pattern (grey) in 2012

In order to guide the assessments of the spatial analyzes in the following headings based on the development corridors specific to the city of Ankara and settlement border, Figure 5.3 is defined as an abstract map including settlement areas, city center and main development corridors with an abstract demonstration.



*Figure 5.3.* The settlement pattern in 2012, city center and main corridors in Ankara

Within the light of these general information this section, aims to provide answers to the following repeated research sub-questions in the province of Ankara between the years 2013-2018 through the abilities of the software developed on the basis of research needs and user needs;

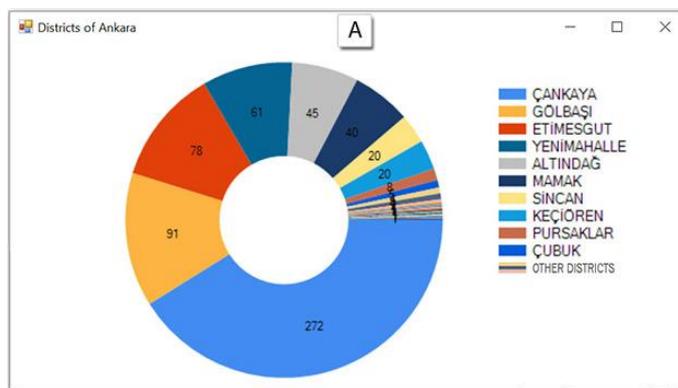
- What is the trend of litigation by the districts of Ankara and lawsuit years?
- How does the spatial distribution of the cases vary among the defendants?
- How are the joint-plaintiff cases based on their actors distributed across Ankara?
- How does the spatial distribution of the wins and losses of the cases in Ankara change according to the suspension of execution decisions and case results?
- Does the distribution of lawsuit areas in Ankara intersect with the natural protected areas such as forestry areas, agricultural areas and Atatürk Forest Farm? To what extent do they intersect and how is the spatial pattern?
- Where are the specific risk/problem areas of Ankara regarding multiple and similar plans for the same area that are subject to judicial processes? How does

the spatial distribution of the trend of the repetition of unlawfulness look like in Ankara?

Answers of these questions are given by means of thematic maps and charts. These visuals are created by the GIS tool produced by the author. Besides additional lawsuit areas and legal struggle information which cannot be reflected to the data, environmental and political actions during the period are systematically conveyed.

## 5.2. Intensity of Lawsuits by the Districts of Ankara

The intensity of the lawsuits filed in terms of districts provides information on distribution of districts where faulty planning practices and spatial decisions are concentrated. In order to reach this information; the overlay analysis of the geographic boundaries of Ankara's districts and the Lawsuit polygons is carried out. The intersection analysis calculates the total number of lawsuit polygons that intersects with the district polygons and adds the summation to the district table. Within this analysis, one lawsuit polygon may intersect with more than one district (especially for Environmental Plan of Ankara and other small-scaled plans), the total number of cases intersecting the district (662) is more than the total number of cases (509). Another point to be mentioned is that, the Ankara Environmental Plan covers the whole provincial boundary. Therefore, the lawsuit subject to this plan intersects with all districts of the city. The outcome assessment covers these two circumstances.



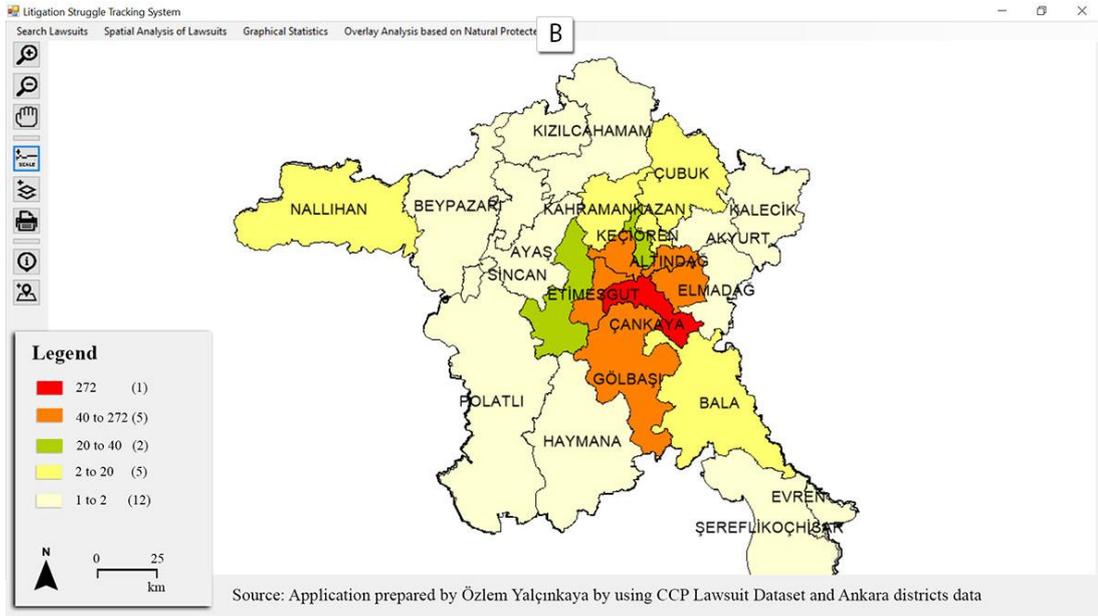


Figure 5.4. Doughnut Pie Graphic (a) and map of Lawsuits intersects with districts of Ankara (b)

Figure 5.4 shows the graph (a) and map (b) of the intensity of lawsuits by districts. It can be inferred from the figure that 12 districts (including Beypazarı, Güdül, Kızılcahamam, Çamlıdere, Kalecik, Akyurt, Elmadağ, Bala, Şereflikoçhisar, Evren, Haymana, Polatlı) intersect only with the Environmental Plan border. Therefore, if the Environmental Plan that intersects with all of the districts is not taken into account, it is seen that 13 of the 25 districts of Ankara intersects with the lawsuits filed between the years 2013 and 2018. It can be seen from the figure 5.4 (b) that the spatial distribution of case intensity on a district-by-district basis just as it is expected to be concentrated more in the city center and become infrequent towards its periphery. 272 lawsuit areas intersect with Çankaya<sup>12</sup> district. Çankaya is one of the oldest districts of Ankara, which includes not only some of the oldest but also some of the most prestigious neighborhoods of the city. This district still contains squatter settlements (especially in the outskirts of the city), in addition to the newly developing and urban

<sup>12</sup> According to the 2018 Turkey Statistical Institute's data, the total population of the Ankara district (including top 10) are as follows; Çankaya 920890, Keçiören 909787, Yenimahalle 663580, Mamak 647252, Etimesgut 570727, Sincan 518893, Altındağ 370024, Pursaklar 143055, Gölbaşı 134378, Polatlı 122287.

transformation areas. It also contains all the urban center functions, such as state offices, foreign embassies and places for commercial and cultural activities. After Çankaya, the second district where the most number of lawsuits (91) intersect is Gölbaşı. This district is located in the southern development corridor of Ankara and it contains significant natural and wetland areas. In the third rank, Etimesgut district, located in the western development corridor of the city, intersects with 78 lawsuit areas. Then, Yenimahalle district, which includes the third highest population, intersects with 45 lawsuit areas. In the fifth rank, Altındağ district, which is one of the highly redeveloping historical central districts of Ankara, intersects with 45 lawsuit areas. Like Altındağ, Mamak district, which also includes urban transformations and squatter areas, intersects with 40 lawsuit areas. This ranking is followed by Sincan (20), Keçiören (20), Pursaklar (8), Çubuk (5), Bala (4), Kazan (4) and Nallıhan (2).

### **5.3. Spatial Distribution of Lawsuits by Litigation Years**

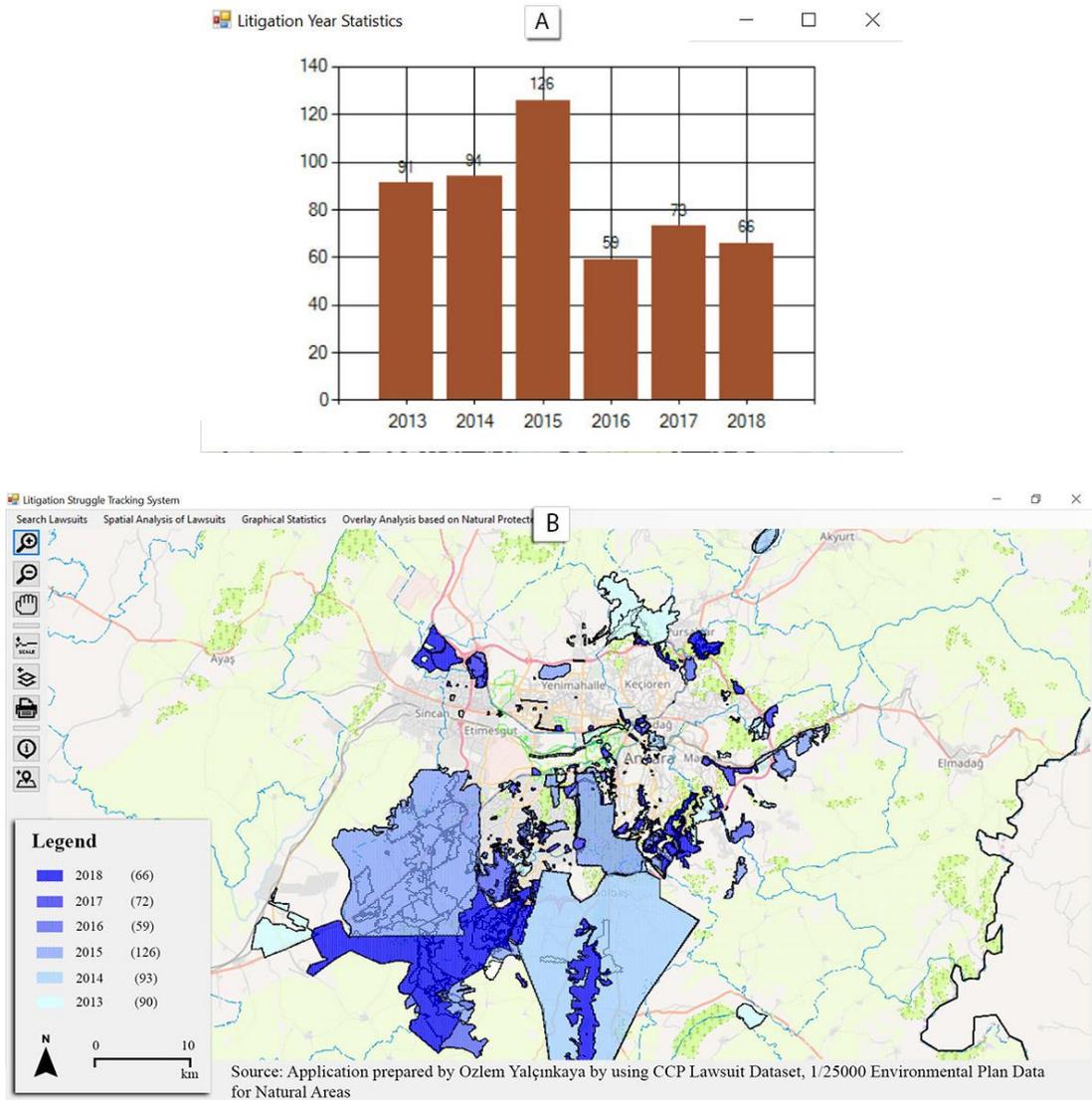
In figure 5.5, the bar-chart (a) shows the total summation of lawsuits by years<sup>13</sup> and the map<sup>14</sup> (b) shows the spatial distribution of lawsuits based on its litigation year.

When the graph is analyzed in general terms, it is seen that there is a rapid increase in lawsuit number filed between the years 2013-2015. In the 2016-2018 period, the number of lawsuits is more stable and less than the previous period. Within this six-year span, approximately 24.8 % (n=126) of the 509 lawsuits (which is the highest number of lawsuits within a year, please see figure 5.5 (a)), were filed in 2015. On the other side, the next year (in 2016) only 59 lawsuits were filed, which is less than half of the lawsuits of 2015.

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<sup>13</sup> This research takes the reference years between 2013 and 2018 as the archive of the Ankara branch has been systematically active since 2013 and research covers the completed years since 2018. The litigation date is used to reduce the year information of the lawsuits of Chamber of City Planners Ankara Branch in order to analyze the spatial distribution based on year.

<sup>14</sup> In developed application, a special search tool under the legend of the thematic map is developed for selecting the lawsuits on the map based on the year listed in list-box. The results of that tool can be seen in figures of 5.7.



*Figure 5.5.* Chart (a) and map (b) of Spatial Distribution based on Plaintiff and the pie-chart graphic

The activities and reasons for deciding to file a lawsuit can vary according to many factors. The increase and decrease in lawsuit number may depend on whether the related activities are followed by the chambers in a similar scope or not. However within this six year period, related member of board groups worked in CCP Ankara Branch. Therefore tracking, interpretation and decision-making activities are realized by the same methods. On the other hand, the production of the faulty plan decisions subject to the case depends on wider factors such as market mechanisms, municipalities and other governmental institutions' policies, the stability of governing

structure. One of the most effective factors for the stability/fluctuation variance is the central and local election periods and its results in Turkey. This is because in every election period, planning activities and spatial decisions rapidly increase as an election investment. Besides, in both central and local elections political promises are given through prospective urban projects. In figure 5.6, it can be seen that between the years 2013-2018, Turkey has passed through six election periods. These are local elections (March 30) and presidential elections (August 10) in 2014, two general elections (June 7 and November 1) in 2015, constitutional amendment (for transition from the republican system to presidential system) referendum (April 16) in 2017 and presidential election (June 24) in 2018. Within Turkey's political dynamics, the general election and local election period passes with an active urban policy decisions, planning practices and implications. Therefore, before and immediately after the elections the intensity of decision-making for the city increases. As the economic turmoil of the country that runs on the basis of the construction economy, major breakdowns in general policies or in the internal dynamics of cities and many other factors affect the periodic change of the number of lawsuits in addition to the impact of the elections.

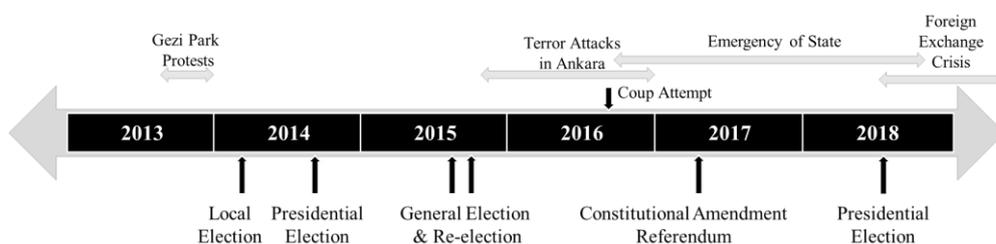


Figure 5.6. Generalization of 2013-2018 political process

The year 2013 had passed under the effects and its destructive spatial politics of the 2014 local elections, which had become the last election that resulted with a gain for İ. Melih Gökçek who was the Mayor for 23 years (1994-2017). Within the country's political arena, the neoliberal, authoritarian and conservative policies of AKP (Justice

and Development Party), which is the ruling Islamic and conservative party of Turkey since 2002, was even more intensified in daily-life and spatial policies<sup>15</sup>.

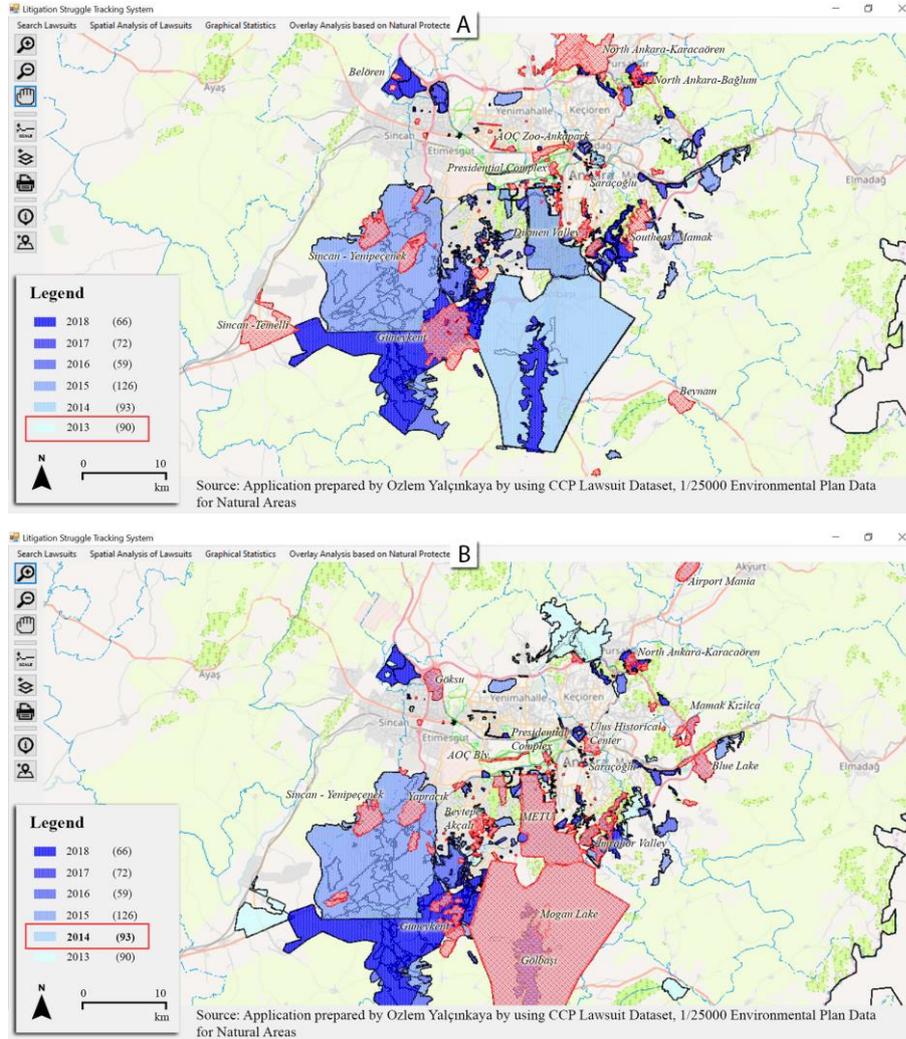


Figure 5.7. Spatial Distribution of Lawsuits in 2013(a) and 2014(b)

<sup>15</sup> As a result of this authoritarian ruling, a nation-wide rebellion known as Gezi Park Protests has occurred across the country, including in Ankara as a support to undergoing spatial struggles of professional chambers, non-governmental organizations and opposition parties. The triggering factor of the protest was the Gezi Park project of the government that includes the re-construction of Ottoman barracks that had been demolished in 1940 as a shopping mall. The peaceful protests started to stop the construction in the park where UCTEA and many non-governmental organizations struggle against the construction plan since its plans are approved by the municipality. A small green space in İstanbul came to serve a common ground where seemingly isolated grievances were articulated by society (Akbulut, 2014). These protests found the support of many individuals across Turkey and in the international area. However, this process also become a triggering event for enhancing AKP's authoritarian policies.

The analysis of the legal struggle processes of Chamber of City Planners starting from 2013 should be evaluated under the influence of these processes. In Figure 5.7 (a), it is seen that 91 lawsuit has been filed mainly against large-scaled master and implementation plans. In 2013, it can be said that the government plant the seeds of its specific projects throughout the city including Prime Ministry campus (which is going to be the new Presidential Complex), Beynam forests project, AOÇ Zoo and Ankapark projects, Saraçoğlu project, Güneykent (Southcity) and North Ankara Projects. It should be noted that even if these plans are subject to lawsuits, new and similar plans were produced as iterations in the following years in order to realize these projects. In 2014, as can be seen in figure 5.7 (b) lawsuits for South development area is more dominant including; Beytepe- akçalı, Güneykent, İmrahor Valley, Gölbaşı, METU plans. Moreover along southwest and southeast and northern peripheries there are plans subject to lawsuit. Also around city center Saraçoğlu, Ulus Historical Plans, Presidential Complex and AOÇ Boulevard plans are also subject to lawsuit in 2014.

In Figure 5.7 (b) it is also seen that small-scaled plan decisions are started to be prepared and subject to lawsuits after the election in 2014. The rapid plan decisions to realize the election promises of Mayor before and after the 2014 local elections, became the subject of the lawsuits. These decisions include, but are not limited to: Ankapark, Europe's largest theme park; Ankara Bosphorous and luxury residential areas in İmrahor Valley<sup>16</sup>; Renewal of Hacı Bayram Veli Mosque and its surroundings; New Mamak Project; the Northern Ankara Project and the project of Northern Ankara Mosque; and Islamic Complex and Convention Center (Hürriyet Gazette, 2014; Cumhuriyet Gazette, 2014).

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<sup>16</sup> İ. Melih Gökçek explained the project as; “It is impossible to bring a sea to Ankara, but Ankara is going to have a bosphorous too. In the south of the city, in the Valley of Imrahor, there will be villas, cafes and similar places lined up around the 11-kilometer giant.” (Cumhuriyet Gazette, 2014).

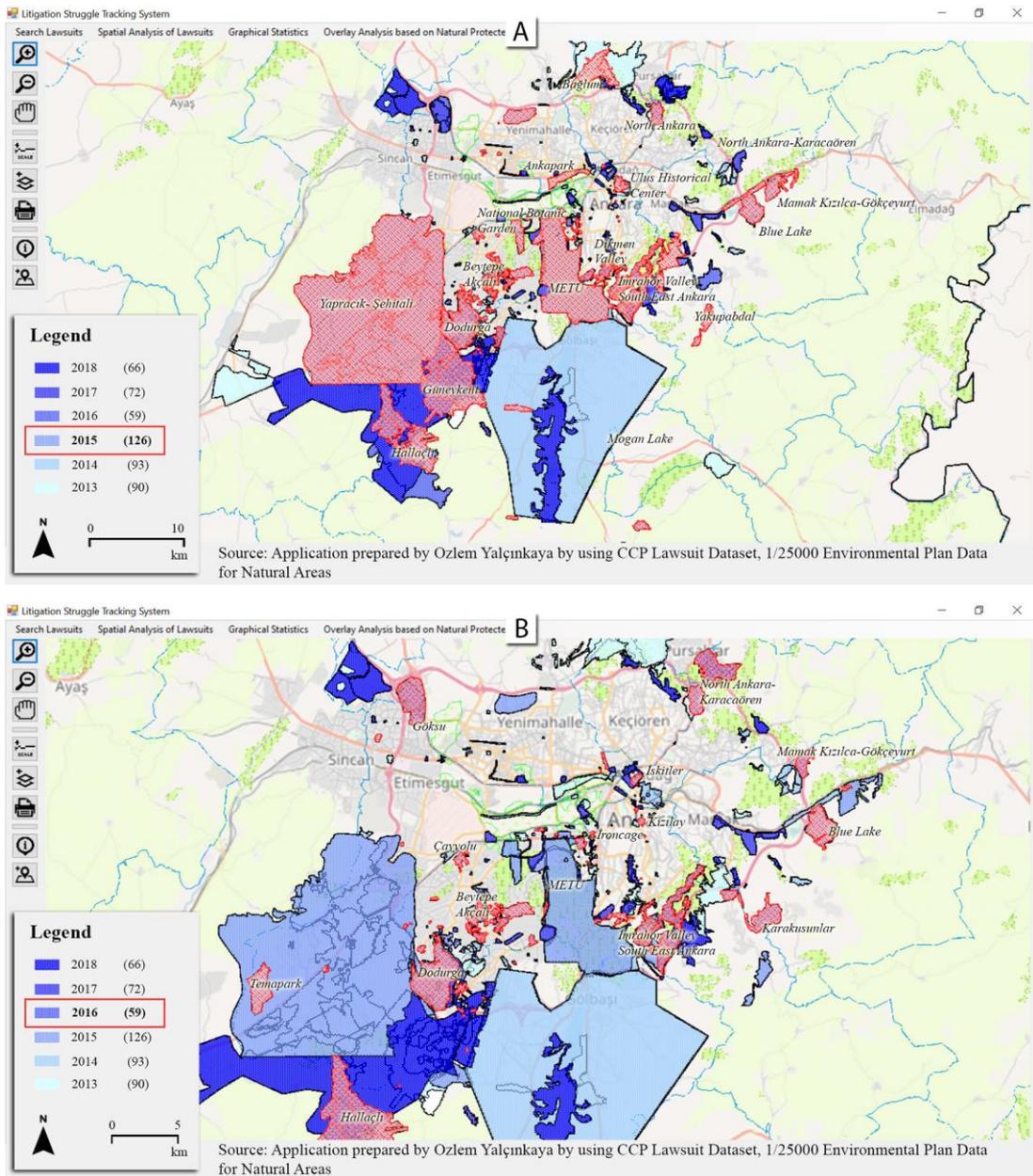


Figure 5.8. Spatial Distribution of Lawsuits in 2015(a) and 2016(b)

To understand the uneven distribution of lawsuits between the years 2015-2016, one should look at the political environment at both city scale (Ankara) and country scale (Turkey). Turkey had undergone a repetitive general election (June 7, November 1)

that base upon the inconclusive results of the June's elections<sup>17</sup> (Alberto et al, 2015). This repetition of elections had enabled rapid increase in production of urban policies that had negative effects on urban development and public welfare, over-acceleration and disengagement of decision-making mechanisms and lack of control mechanisms. The Figure 5.8 (a) shows that the 126 plan areas were subject to lawsuits in 2015, including small and large scaled plans located around the city center and its periphery. In this period, it is seen that lawsuits have been filed to spatial decisions that aims to realize the 2014 local election promises, which includes plans for new development areas, urban transformation areas and urban renewal project of Historical Center Ulus. During the year 2015, the authoritarian regime's spatial decisions became even more apparent in Ankara. For example, specific plans were established in AOÇ and METU lands,<sup>18</sup> which would result in the destruction of natural and cultural protected areas. These plans aimed to provide short-term solutions to major traffic problems caused by mega projects of Bilkent City Hospital.

Also, the Mosque and landscaping plan in historical Hergelen Square was started 2013. This plan aimed to transform the existing historical fabric in a conservative basis. The decision of the Ankara Regional Council for the Protection of Cultural Heritage No. 2 includes the demolition of the Bank of Provinces building and re-building it in a different area behind the mosque. In the following years, the historical building of Bank of Provinces<sup>19</sup> was demolished overnight by Ankara Metropolitan Municipality.

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<sup>17</sup> AKP, which could not be the sole ruling party in the first election, could not form a coalition too. The press statement of Presidency of the Republic of Turkey (2015) defines the process and second election decision as: "Despite the contacts with all political parties, the Council of Ministers could not be established and it could not be established under the current conditions". Behind this process, there lie more authoritarian actions for regime transition. In Turkey's parliament, 66 % vote was needed to change the constitution directly and 60% for bringing the constitution change to referendum. It was aimed that AKP is going to win enough seats to change the constitution by changing role of presidency (Alberto et al, 2015). It is critical to remark that the effects of terrorism, political instability and social concerns had a specific effect for acceptance of this repetition.

<sup>18</sup> In 2017, METU Presidency and Ankara Metropolitan Municipality agreed on the roads to be constructed through the METU campus to get access to the Bilkent City Hospital, which was still under construction at that time.

<sup>19</sup> The Chamber of City Planners (2017) summarized the purpose on which this destruction decision was based in the press release; "Bank of Province building was designed by Seyfi Arkan who won the first prize in the Architectural Project Competition in 1937. Bank of Provinces building was a healthy

Similarly, while the court proceedings were ongoing for METU plans, constructions in METU campus were realized in one mid-night, causing the cutting down 48-hectare forest area with the support of Ankara Metropolitan Municipality demolition team (Dalaklı, 2019). In 2019, the court justified the lawsuit filed against the plan but still did not question to bring the offenders to account for the loss of natural areas.

Within this authoritarian and unstable period, the ongoing impact of war, migration and terrorism of Turkey's borders began effecting and taking place in urban centers which predominate the country's domestic and foreign policies and activities, besides daily life of public. The first big massacre in Ankara realized on October 10, 2015. Two consecutive suicide attacks<sup>20</sup> had occurred in front of the Ankara Train Station to target the "Labor, Peace and Democracy" rally that was organized by UCTEA, unions and parties. After this massacre, two other bomb attacks realized in city center within five months<sup>21 22</sup>. On 15 July 2016, the coup attempt<sup>23 24</sup>, marked a monumental turning point in Turkey's political history and Ankara as the capital city affected from devastating bombardements on Parliament building, General Directorate of Security.

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/ robust structure that was actively used at that time. The mosque, built in Hergelen Square, meets Istanbul Street from the west and Atatürk Boulevard from the north. The only purpose in the demolition of the Bank of Provinces building is that it prevents the scene of the mosque from Atatürk Boulevard in the south-north direction. In other words, such an important structure that witnessed Ankara's early urbanism, architectural identity and institutional history of Bank of Provinces was destroyed for the sake of a mosque.”

<sup>20</sup> 102 people lost their lives, more than 500 people injured (Pişkin, 2017)

<sup>21</sup> In the attack that killed 29 people in Merasim Street on February 17; there was a bomb attack on service vehicles carrying military personnel. The other car based bomb attacks was realized in Güvenpark bus stations in which 38 people were killed and 125 people are injured (Milliyet, 2016).

<sup>22</sup> Besides, in December 2016, Russia's ambassador of Turkey was assassinated at an art exhibition in Ankara.

<sup>23</sup> This controversial failed attempt seemed like the fourth devastating military coup in its 95-year political history however 241 people were killed and 2,194 people were injured (Aljazeera, 2017).

<sup>24</sup> The Turkish government accused the coup leaders of being linked to the Fetullah Gülen, a Turkish Muslim preacher and executive lives in the United States since 1999. Gülen is the leader of a widespread and powerful religious organization that owns foundations, associations, media organizations and schools in Turkey and abroad. Gülen was once a strong ally of the Justice and Development Party's (AKP) and struggle to end the military's influence in Turkish politics in the late 2000s, his organization had its golden years (Aljazeera, 2017). After this attempt Gülen Movement is designated as a terrorist organization by the Republic of Turkey and later people who became a part of this group or just linked in part (or some people not even linked but wanted to be accused for some reason) judged or resigned from their public and private jobs.

After the coup attempt, State of Emergency was declared and Turkey was started to be managed by State of Emergency decrees for two years<sup>25</sup> in which repressive and destructive decisions were taken against workers, social groups, oppositions, NGOs and daily life. On the other hand, while the country's economy was in a downward trend, the foreign distrust on political economy came to the forefront. This process includes deterioration of international relations<sup>26</sup>, foreign capital's concerns about the course of the country and the emergence of an insecure environment within the country, intense affection of the construction sector from this process, affection of tourism from fear and anxiety dominating the country and so on. It should be noted that this terrifying and fear-dominating period was the years that strengthened the conservative base, which enabled AKP to take more courageous steps that put economic concerns at the forefront of the benefit of the society and environment.

This period has harshly affected both political decisions and activities throughout the country. It can be interpreted that the big difference in the number of cases of 2015 and 2016 is also affected on the axis of these events. After the effect of AKP's gains in election of 2014 (increasing the voting potential, holding the capitalists, showing the active stance of the activities of municipal and affiliated parties, etc.), 126 number of faulty decisions subject to lawsuits which is the highest in six years compared to other years, were made in Ankara in 2015. Under the waves of economic decline, foreign policy problems, terrorist bombings and the aborted coup attempt, the density of spatial activities of decision makers in terms of plans, constructions etc. are decreased. In Figure 5.8 (b) it is seen that the lawsuits (59) in 2016 filed are mainly the ones that have been filed before, which are generally large-scaled plans.

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<sup>25</sup> The state of emergency was extended 7 times and lasted for 2 years. With the state of emergency decrees, 125800 people were dismissed from public offices, besides thousands of institutions, NGOs, associations, newspapers, universities, foundations were closed (Star, 2018).

<sup>26</sup> The most prominent problems of these processes can be summarized as follows; emerging tensions between the Netherlands and Turkey, between USA and Turkey (mainly referencing the Fethullah Gülen who so called in charge of the coup attempt is giving in USA), tension between Russia and Turkey through the Russian plane crash and the murder of the Russian ambassador in Ankara, and many others.

As the authoritarian effects of the coup attempt for government, many mayors were judged or resigned and hundreds of thousands of workers were dismissed from their jobs in public (and also private) institutions by the state of emergency decrees. In Ankara, the mayor İ. Melih Gökçek, who ruled the city for 23 years since 2017 (and had been the candidate of AKP in every election despite the fact that dozens of unlawful actions were ignored), was resigned from his position by the government and a Mayor has changed in his position. As expected, the new mayor also continued to perform specific planning activities of I. Melih Gökçek during his mayorship.

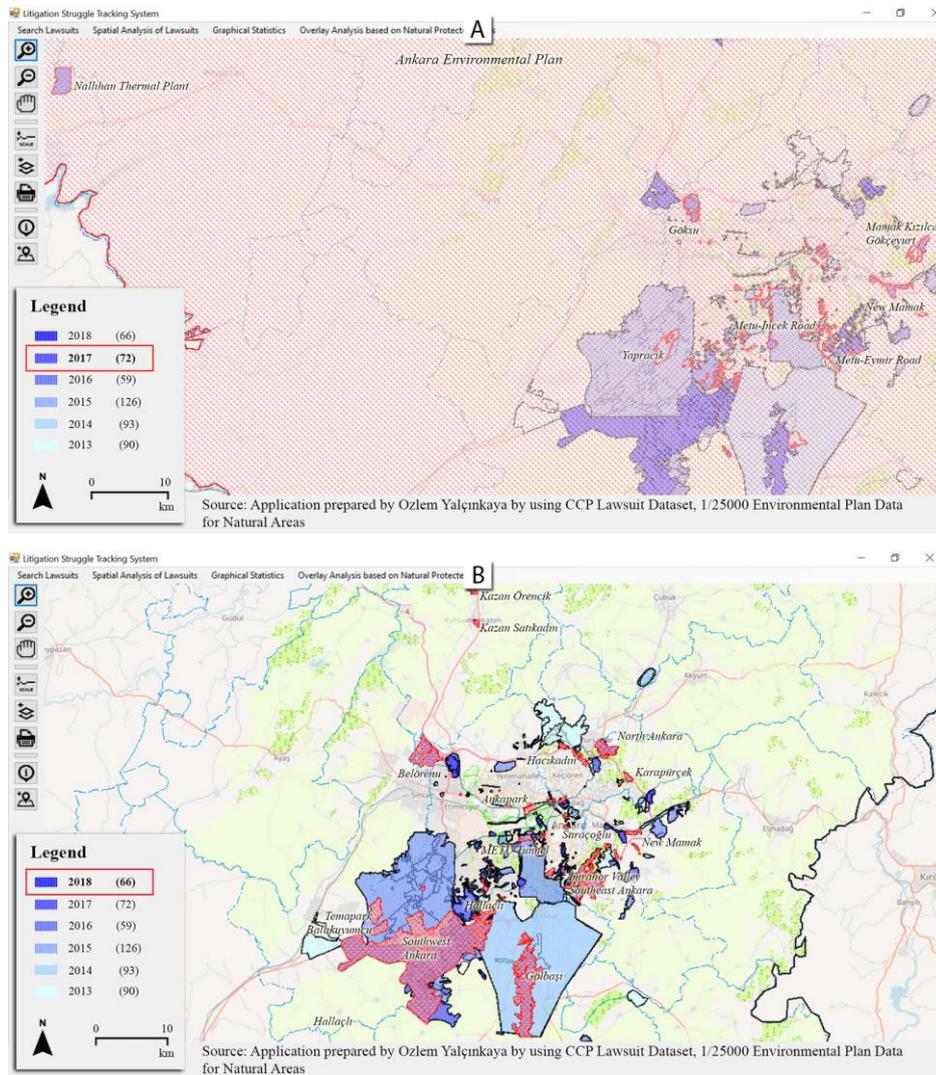


Figure 5.9. Spatial Distribution of Lawsuits in 2017(a) and 2018(b)

Another critical political breakdown within six years, Turkey has also undergone a regime transition. Since 2002, the ruling Islamic and conservative party of Turkey, had been in an active preparation for administrative and legal changes for presidential system between the years 2015-2018<sup>27</sup>. After the social anxiety effect of 2015-2016 period had been diminishing and while this transition was on the agenda of the country, a certain increase was observed in the number of lawsuits (73) as an impact of activities and services in urban areas for 2017 elections (see Figure 5.6 (a)). Figure 5.9 (a) also shows that the litigation areas in the city space in 2017; fragmented and large-scaled planning activities mainly based on central settlement areas have been filed except from the Environmental Plan of Ankara, which includes serious problems for the future development of Ankara. Besides the general planning activities and spatial decisions, it is necessary to specify the following detail for the regime transition period. In order to realize the spatial hegemony and spatial demonstrations of this critical regime transition, planning and construction practices started to construct a presidential palace which includes serious spatial and legal problems. The Palace was first started to be constructed as the Prime Ministry Service Building in the area allocated to the General Directorate of Forestry within the Atatürk Forest Farm (AOÇ). Then it was assigned to the Presidency after the election of the Presidency in 2014 in which the leader of AKP (Recep Tayyip Erdoğan) was elected. As a result of the legal struggle carried out by the professional chambers, the contradictions of the area and the structures used by the Presidency were confirmed by the court decisions referring the relevant legislation and the principles of planning and conservation. Since none of the interventions in the area had any legal basis, the professional chambers called the palace “Illegal Palace” while the official names are “Presidential Palace”, “White Palace” (Ak Saray<sup>28</sup>) or “Presidential Complex”<sup>29</sup>.

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<sup>27</sup> Although the AKP administration made statements about the presidential system in its early years, this major change organization infrastructure started in 2012 with a legal proposal.

<sup>28</sup> The word “Ak” in Turkish means ‘white’. Besides it refers the first two initials of Justice and Development party in which they used the abbreviation of the party name as “AK Party”

<sup>29</sup> Its Turkish name is ‘Cumhurbaşkanlığı Külliyesi’. ‘Külliye’ actually refers to Islamic based social complex mainly used during Ottoman Period. The Presidential Complex first planned as Prime Ministry

In 2018, even if the new regime's first official election of the president is expected to trigger a rapid rise in local and central governmental decision<sup>30</sup>, the economic state of the country has reached to the alarm level. However, this foreign exchange and debt crisis in Turkey, affected all sectors but especially the leading sector which is construction industry<sup>31</sup>. Among the filed 66 plan activities in 2018, it is seen that faulty, repetitive spatial decisions and planning activities are continued (Ankapark, Imrahor, Dikmen valley etc.) in the central areas, besides small and large scale planning activities including new development areas along southwest (Southwest Plan) and south (Gölbaşı special environmental protection area), north (Karacaören, Hacıkadın) and northwest (Belören<sup>32</sup>) are become subject to lawsuits. Moreover specifically for Ankara, the Environmental plan in 2017 was triggered some planning activities for urban sprawl areas in order to define its further construction decisions including Kazan Örencik and Satıkadın plans in northern rural areas, southwest Ankara plans and Belören plans in northwest Ankara (see figure 5.9 (b)).

Through the spatial analysis of litigation years, it is seen that iterative plans were realized in specific areas of Ankara as a manipulative actions for the plans subject to lawsuits. Besides, after large-scaled fragmented city plans, it can be seen that comprehensive small-scaled plans had been prepared to define the background planning hierarchy. The urban development areas had been prepared through fragmented plans and then followed by small scaled environmental plans. This process can be seen especially along the western and south-western peripheries of Ankara (please see figures 5.7, 5.8, 5.9).

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campus but then it becomes a construction area with other administrative and social buildings for Presidency including Convention center, Millet (Nation) Mosque, Library, 15 July Museum etc.

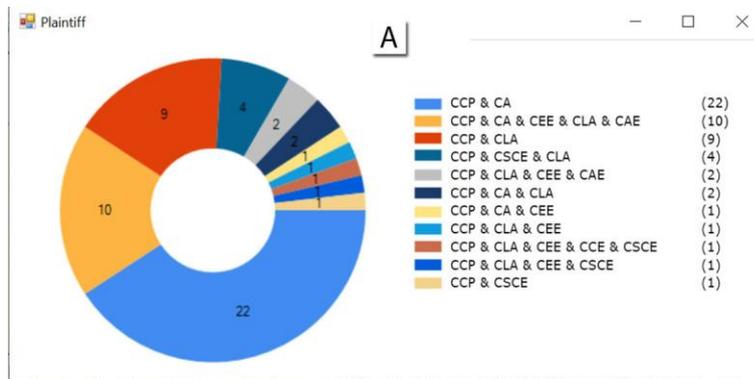
<sup>30</sup> Despite it was a presidential election, AKP Candidate Recep Tayyip Erdoğan made promises like a local government candidate including subway projects, Millet (Nation) Gardens and stadium during the rallies in Ankara.

<sup>31</sup> Towards the end of 2018, 75% of the companies that declared concordat were from construction sector (Yeniçağ, 2018). Step-by-step depreciation of the Turkish lira, foreign currency debt, high inflation, and high current account deficit in Turkey's economy is considered to be the effects of the economic crisis that still continues.

<sup>32</sup> It is important to note that aside from the the faulty planning decisions of Belören Projects, the parliamentary decisions that officially formalized bribery activities were also subject to lawsuits.

#### 5.4. Spatial Distribution of Lawsuits by Plaintiff

Plaintiff is the party that brings accusations against the defendant. All of the lawsuits analyzed within this research are filed by Ankara Branch of the Chamber of City Planners for certain. However, administrative decisions or actions including city plans that concern different professions are followed by many other professional chambers. To confront problematic administrative decisions or actions in some cases, various professional chambers cooperatively file a joint lawsuit or want to be a party of a lawsuit. These joint-plaintiff lawsuits can be evaluated as interdisciplinary problem areas as it includes wrong practices or decisions for different professions. Within this perspective, while Ankara branch alone has 454 lawsuits, 55 lawsuits (10.8 %) are filed together with other chambers. In order to analyze spatial and statistical distribution of the plaintiff, interfaces for Spatial Distribution based on Plaintiff and the pie-chart graphics are developed (please see Figure 5.10(a)). As figure 5.10 illustrates, mainly Chamber of Architects (CA), Chamber of Survey and Cadastre Engineers (CSCE), Chamber of Landscape Architects (CLA), Chamber of Agriculture Engineers (CAE) and Chamber of Civil Engineers (CCE) are included in joint cases as there are common issues within the scope of their professional assessment.



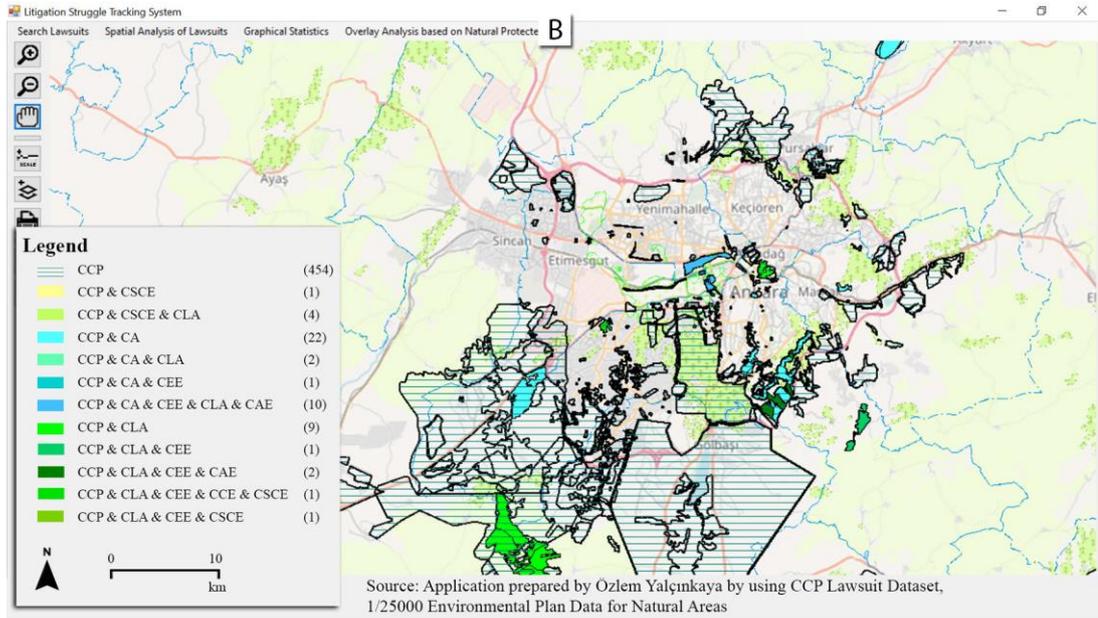


Figure 5.10. The pie-chart graphic (a) and spatial distribution (b) of Plaintiff

The lawsuits that include plans/decisions which are subject to the professional evaluation of many branches of profession can also be considered as urban decision that may cause multi-faceted problems in the urban area. It is observed that such cases concentrate around the southwest settlement border; Atatürk Forest Farm and historical city center of Ankara (see Figure 5.10 (b)).

The Lawsuits filed along Southeast settlement border of Ankara are mostly joint-plaintiff lawsuits have been filed against the development decisions that include increase in density, includes a collection of valleys, lakes as a natural corridor of Ankara. Southeast settlement border, which includes Dikmen Valley on south and Imrahor Valley on southeast are important part of a system of valleys and natural areas extending to the Salt Lake, located in the south of the city. Imrahor is a natural corridor and a natural water basin including the Eymir and Mogan lakes. Although these specific areas should be protected and developed with their natural assets and without being subject to construction, these areas are considered as potential development areas with high land values for their scenic and recreational qualities. The constructions plans, which predominate settlement areas including luxury housing

projects are presented by the government as a local election promise of “bringing the sea to Ankara” under the name of “Crazy Bosphorus Project” and “Ankara Bosphorus”. Therefore, the spatial decisions are subject to mostly joint-plaintiff lawsuits on/around the southwest natural corridor which are in great danger and potential of pillage.

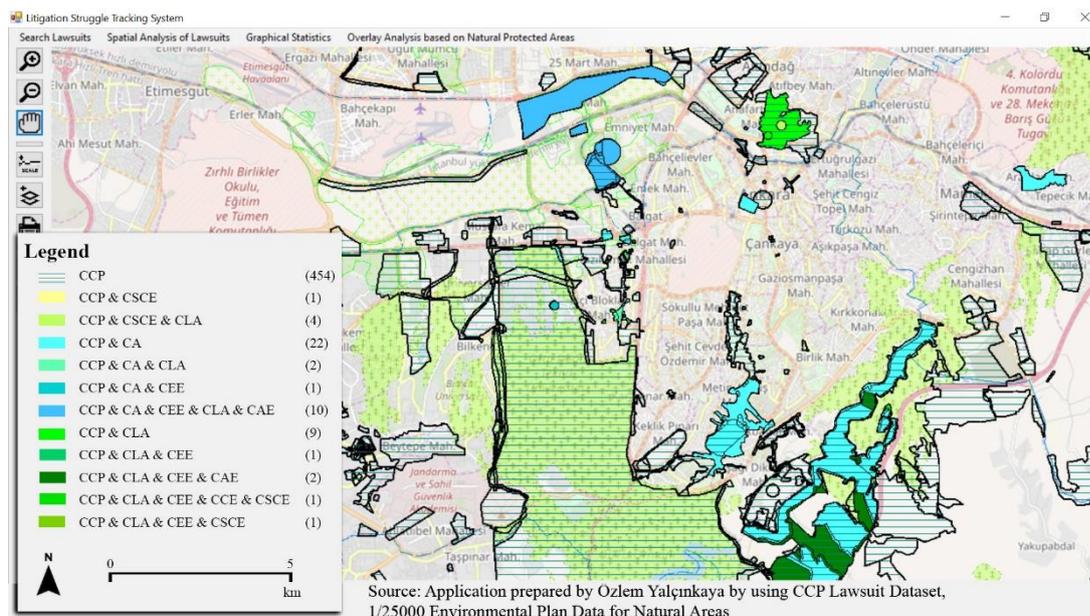


Figure 5.11. Plaintiff map zoomed to central & south-west settlement of Ankara

It can be seen from the Figure 5.11 that joint-plaintiff lawsuits are often filed against the planning or spatial decisions taken in and around the City Center. Atatürk Forest Farm<sup>33</sup> (AOÇ), which covers a wide agricultural and forestry area starting from the city center extending to the eastern axis, is one of the focus area of rent-oriented transformation and development. It is one of the most important legacies of the Early Republican period constituting a natural and cultural conservation area for Ankara. Its lands, which should be protected and developed with all its values and characteristics of its establishment, are subject to systematic on-going plans and intensive construction projects especially near the city center. As a result of various zoning plans

<sup>33</sup> AOÇ is a revolutionary early-Republican project that has been established as an agricultural research and development area. Detailed information about AOÇ is given in the 5.7.3 chapter.

during 2013-2018, a Presidential Palace campus, Ankapark which is presented as the biggest theme park in Europe but could not be operated for 4 years, high-rise residential and large scale commercial projects and huge road constructions have been built in AOC – an area that includes both forests and high class agricultural lands. Despite the struggle carried out by many professional chambers (and non-governmental organizations) and the legal gains, Atatürk Forest Farm lands continued to be fragmented piece by piece.

Ulus Historical City Center is a significant part of Ankara for its diversified public and commercial functions, historical and cultural values. One of the most important historical and sacred place in Ulus is Hacı Bayram area, which hosts various historical buildings including Hacı Bayram Mosque (1428) and Augustus Temple (survived since Roman Empire 25 - 20 B.C-). One of the most problematic spatial decisions taken for the city center is the Hacı Bayram urban renewal project. Renewal processes, involve first demolishing the existing buildings and then recreation of the urban fabric based on morphological and functional improvements (Özden, 2008). Although the protection of heritage should be the fundamental concern by conservation-based urban transformation that focuses on a historical and cultural significance of the area, this project is far from meeting such an expectation. The project defines re-construction of the historical houses and urban fabric and by demolition of existing housing and public areas. By this renewal project, it is planned to attract capital firstly by revealing new construction areas in historical areas that would keep the construction sector alive and secondly by transforming the city center image and functional usage which in turn is supposed to attract more capital that will cause a gentrification process in the city center and increase urban contradictions. Therefore, the planning decisions taken within the scope of the Hacı Bayram urban renewal project become a common problem area for many professional organizations. For this, lawsuits have been filed with joint participation.

### **5.5. Spatial Distribution of Lawsuits by Defendant**

The Lawsuits of the chambers are filed against institutions or individuals when it is determined that improper practices are realized or improper decisions are taken against public interest. The defendant (as the individual or institution that is sued or accused in a court of law) of Chambers' lawsuits are generally governmental institutions related with the chambers' professional structure in Turkey. Regarding its profession, the defendants of the lawsuits are institutions that have the authority to make city plans, take spatial or professional decisions for the Chamber of City Planners. These institutions include local governance organizations such as Metropolitan Municipalities and District Municipalities and central administration organizations such as Ministry of Environment and Urban Planning, Housing Development Administration of Turkey, Bank of Provinces, the Ministry of Culture and Tourism, and Prime Ministry Privatization Administration.

In Turkey, spatial decisions and planning processes are produced according to the characteristics of the planning area and the interests, authorities and missions of the administrative structures as well. Since Ankara is governed by Metropolitan Municipality Law, most of the spatial decisions are taken and planning practices are realized by Ankara Metropolitan Municipality (AMM). As can be seen in figure 5.12, 80.5% (n=410) of the 509 cases have been filed against only AMM, and 82.7% (n=421) of the cases have been filed against AMM together with other authorities. Some development plans that are subject to upper scale plans are prepared and approved by the district municipalities. Among the lawsuits, only 1.6% (n=8) was filed against district municipalities. 10.4% (n=53) of all lawsuits have been prosecuted against the plans of the Ministry of Environment and Urbanization. Prime Ministry's (renamed as Presidency after 2017) spatial decisions (privatization / urgent expropriation, declaring risky areas and urban transformation announcements) were also subject to lawsuits of the Chamber which covers 5.9% (n=30) of the total lawsuit processes. In addition, Housing Development Administration of Turkey (TOKİ) plans

(n=2) and the Ministry of Culture and Tourism plans (n=4) were also subject to the lawsuits of the Chamber of City Planners.

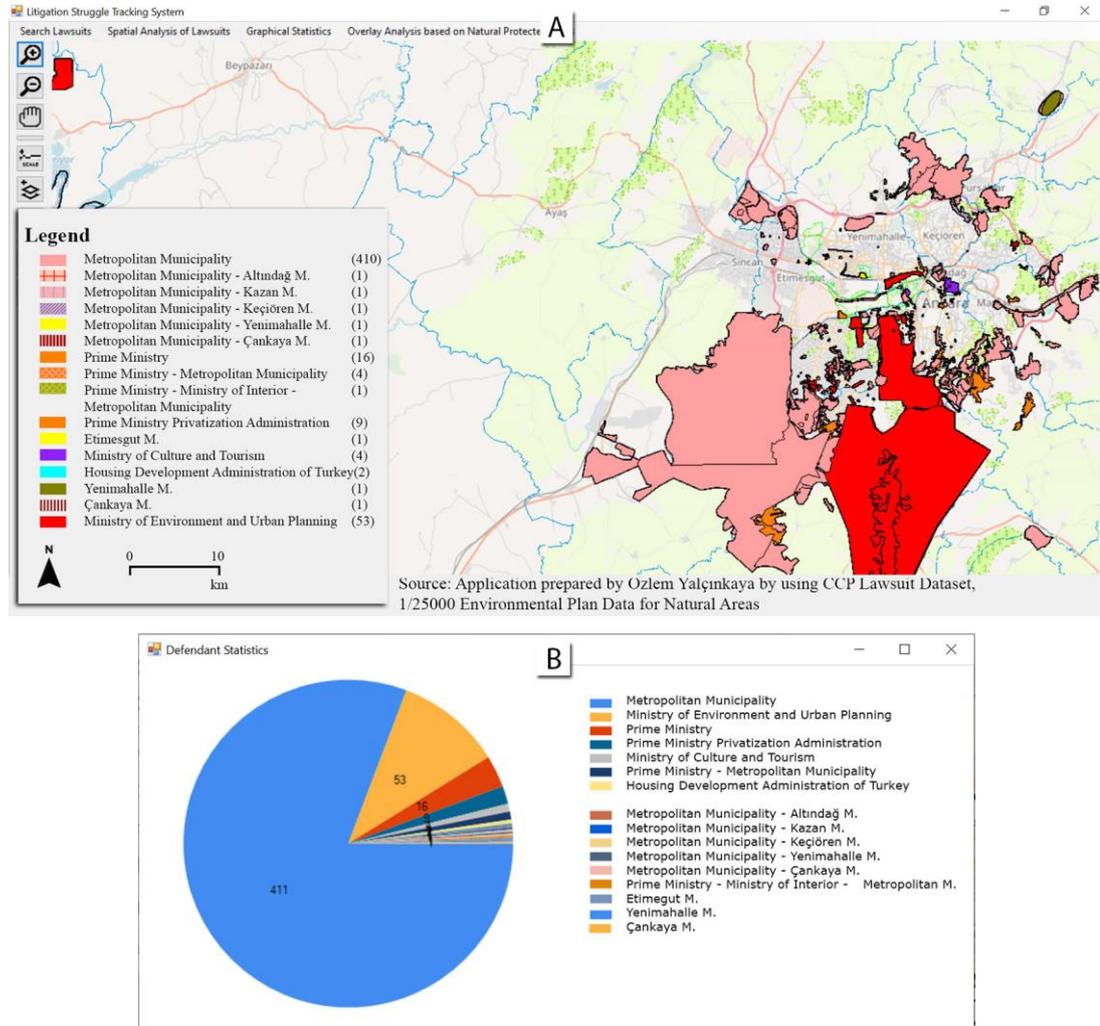


Figure 5.12. Spatial (a) and Graphical (b) Distribution of Cases by Defendant

Figure 5.12, shows that 82.7% of the Lawsuits are filed against AMM. The distribution of the defendant in the Ankara can be analyzed spatially in specific focal areas and subjects to which other defendant institutions are related. For instance, as can be seen in Figure 5.13, the small-scaled plans of Ministry of Environment and Urbanization especially in south corridor of Ankara are subject to Lawsuits. These areas including Middle East Technical University (METU) campus and Gölbaşı district are specialized with their natural features. In addition, it can be seen in Figure 5.13 that;

The Ministry of Environment and Urbanization produces plan for public institution campuses which are also subject to lawsuits including the General Directorate of Mineral Research & Exploration, ŞAP (Foot and Mouth Diseases) Institute and the National Botanic Garden mainly located on the Eskişehir Road axes. The Ministry of Environment and Urbanization also produced the first transformation plans for Atatürk Forest Farm which had been revealed as a “zoo renovation area” in 2013 and defined as “Ankapark” later.

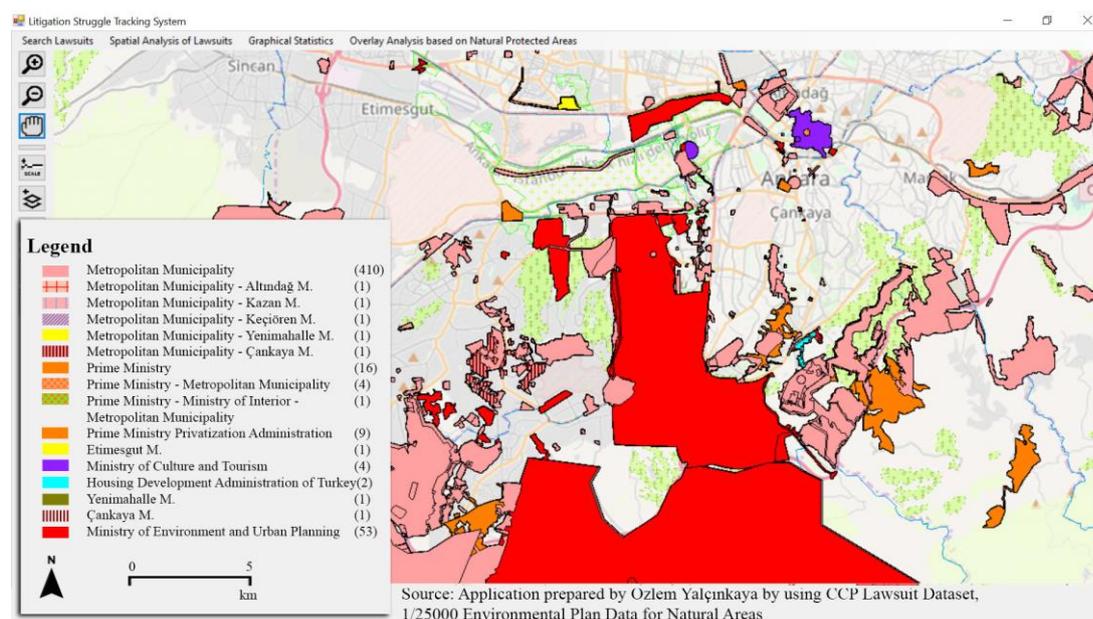


Figure 5.13. Spatial distribution of Cases by Defendant zoomed to central and south-axes of Ankara

## 5.6. Spatial Distribution of Lawsuits Regarding Court Decisions

In this section, the court decisions are analyzed based on the Lawsuits' current situation as of the end of July 2019. The spatial and statistical analyses are based on reduction of the processes of legal action, which is analyzed in the topic 4.2.1. The Analysis of Litigation Processes. The figure 5.14 shows the generalized phases of administrative court processes based on figure 4.1, which would help to interpret the court processes Municipal and decisions analysis.

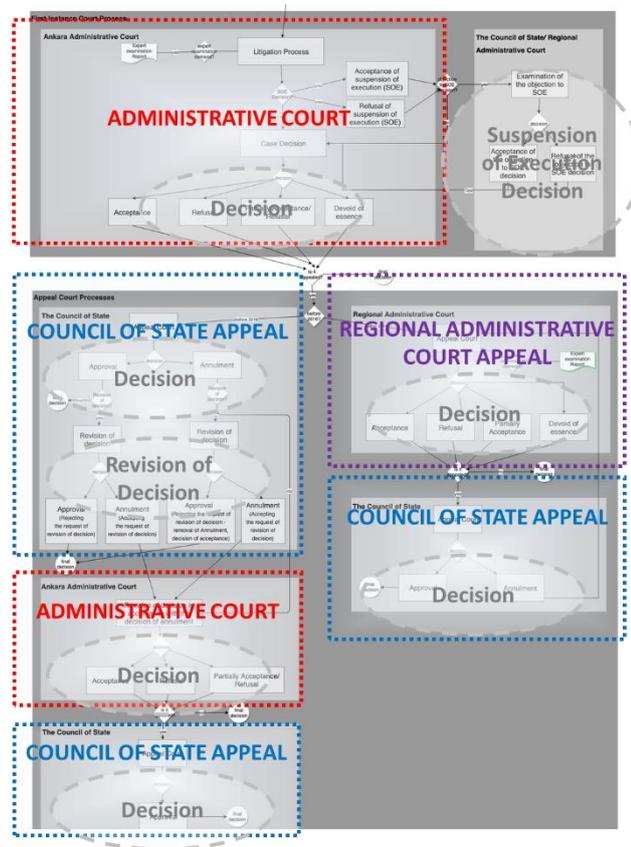


Figure 5.14. The generalization diagram of Litigation Process

The Chamber of City Planners tracks the court decisions and current situation of the lawsuits within the scope of the following three main topics in the litigation processes;

1. **Suspension of Execution Decision** is a kind of provisional injunction. It differs from other court decisions as it includes a precautionary annulment proceeding before the decision of the courts. The suspension of execution decisions can be;
  - a. Acceptance,
  - b. Refusal,
  - c. Partly Acceptance/Refusal,
  - d. Devoid of Essence; this situation occurs when an absence of dispute occurs during the court process for example if the administrative decision is cancelled
2. **Current/Last State of the Court**; defines at which stage the court is. This information also includes the decisions of Council of State appeal processes. The last states are defined as followed;

- a. Court continues: This stage shows that administrative court's decision is not given yet or regional administrative court appeal processes continues.
  - b. Council of State Appeal Processes: This is the stage that administrative court decision has given its decision and litigants appeals to Council of State for the administrative or regional administrative court's decision.
  - c. Approval or Annulment: This process shows that Council of State gives approval or annulment injunction for the lower court's decision.
  - d. Revision of Decision: This is the stage that Council of State orders the lower court to make a revision in its decision.
  - e. Regional Administrative Court's Appeal Processes: This is the medial stage that administrative court decision is made and an Regional Administrative Court's appeal process is started by litigants in order to object the order of the court
  - f. Court finalized with a decision: This situation shows that all the possible processes are realized and the litigation processes is finalized.
3. **Case Result**: whether the litigation process is finalized or continues, this information shows the last decision of the administrative or regional administrative court. The decisions can be;
- a. Acceptance,
  - b. Refusal,
  - c. Partly Acceptance/Refusal,
  - d. Devoid of Essence; this situation occurs when an absence of dispute occurs during the court process for example if the administrative decision is cancelled
  - e. Dispute of duty; the court may assess whether it is in charge of the relevant matter and makes a decision of dispute of duty.

The analysis of the case situation and decision is going to be realized within the scope and relations of the above definitions. First Suspension of Execution Decision is going to be analyzed independently. Then the case results together with the current situation of the case will be analyzed.

### **5.6.1. Spatial Distribution of Lawsuits by Suspension of Execution**

Suspension of Execution is a precautionary decision, which is evaluated while the administrative court process continues. The acceptance decision of suspension of execution can be given when the conditions of the administrative action are evidently

unlawful and when it creates a situation that is hard to recover or unreparable on condition that the administrative procedure is applied. The acceptance of suspension of execution is an important gain for a lawsuit as it stops the execution. In addition, it is significant as these files are examined and decided initially by administrative courts.

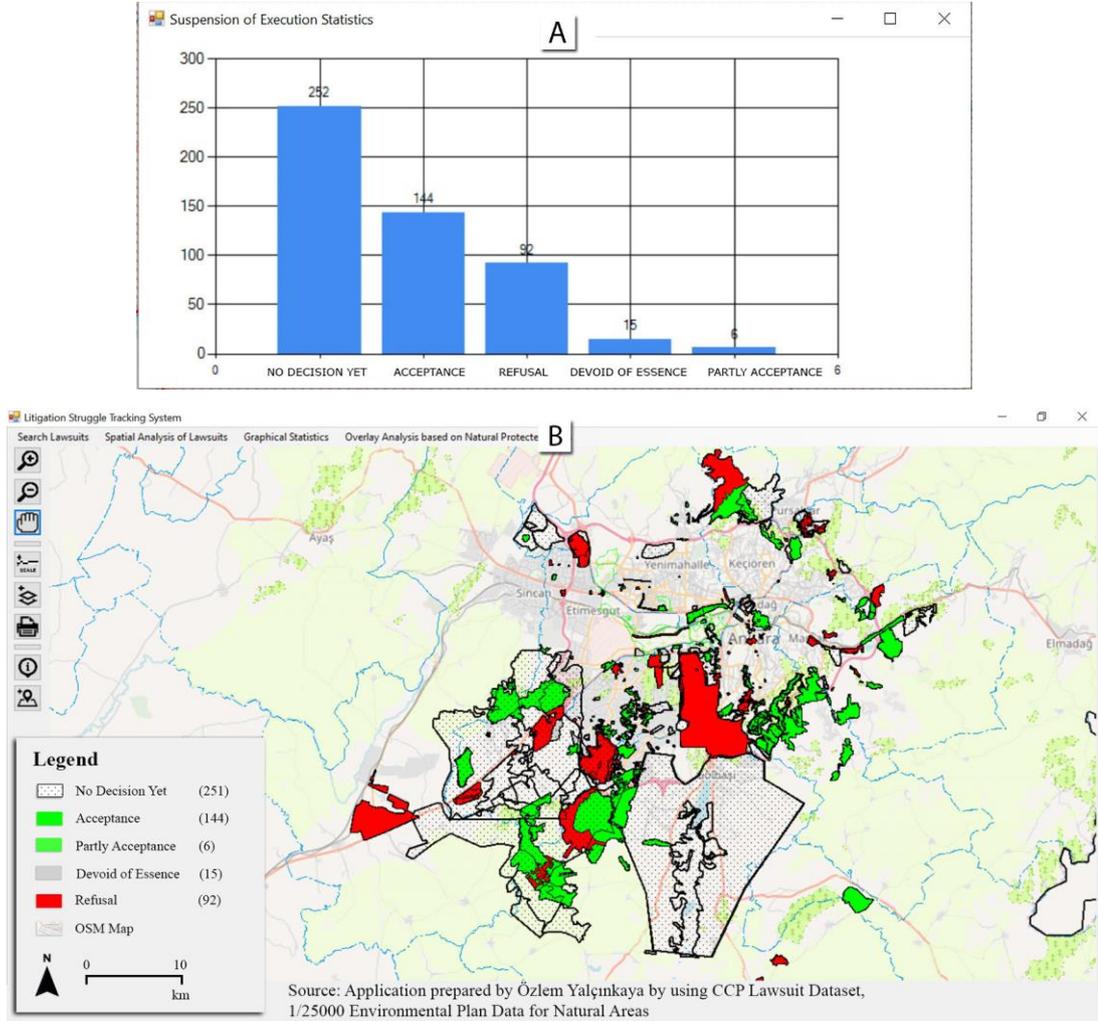


Figure 5.15. Graphical (a) and spatial (b) distribution of suspension of execution decision

For 50.7% (n=258) of the lawsuits, court adopt a motion for stay of execution for plans or spatial decision. The figure 5.15 (a) shows graphical distribution of the results of suspension of execution decisions. 58.4% (n=150) of eventuated suspension of execution requests resulted with acceptance or partly acceptance decision. 35.8% (n=92) of the decision of suspension of execution resulted with refusal decision.

As can be seen from the figure 5.15 (b), acceptance of suspension of execution decisions are given for some of the plans or spatial decisions including natural and cultural areas that should be protected like AOC, İmrahor Valley, Dikmen Valley, Hacıkadın Valley, Ulus historical Center, besides some plans for newly developing areas Akçalı, Belören, İncek, Beytepe, Sincan, Etimesgut, etc.

On the other hand, refusal of suspension of execution decisions are taken by court which would create a specific risk during the court process for areas that includes natural and cultural values because during the litigation process the project's licenses can be granted and the construction processes may begin. So, if the spatial decision starts to be constructed during the court processes, it creates a situation that is hard to recover or unrepairable even if the CCP win the lawsuit. Among the refused suspension of execution decisions that can be seen from the figure 5.15 (b), there are some plans or spatial decisions that includes natural and cultural areas including AOC, İmrahor Valley- Mühye plans, Dikmen Valley, National Botanic Garden, and cultural protected or significant areas like; Hergelen Square (Mosque project), Saraçoğlu, AOC Marmara Mansion (which was demolished in 2016), AOC Beer Factory, Ulus historical center are in critical risk. Besides development, urban transformation and transportation plans like; Mamak, Sincan, Etimesgut, İncek, North Ankara, AOC new boulevard, METU Tunnel project, etc. also creates a threat for development of Ankara which affects whole city through its effects on development decision, infrastructure and transportation.

### **5.6.2. Case Results and Current Situation of Lawsuits**

In this section, the current situation of the lawsuits and the result of the cases will be explained together in order to analyze the results of the litigation process by reference of 2019 August. The section will start with the information about administrative court decisions and then the current situation of the lawsuits in order to reach a comprehensive evaluation of litigation processes and its results.

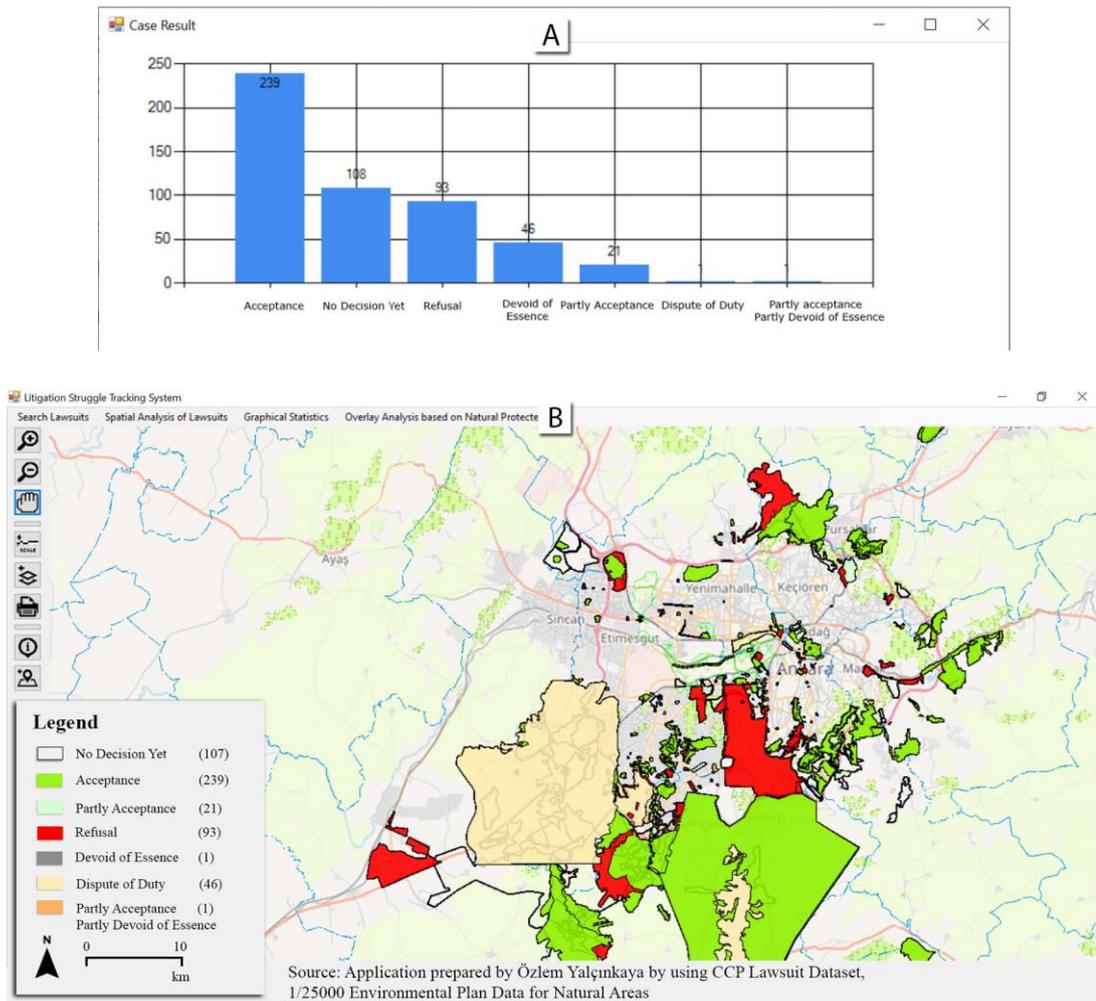


Figure 5.16. Graphical (a) and spatial (b) distribution of case results

Administrative court is the first instance court of the lawsuits that gives a decision which can be appealed by defendants or plaintiff. By referencing the lawsuits of the CCP between the years 2013-2018, only in 78.8 % (n=401) of the lawsuits a decision is given by administrative courts (see figure 5.16). On the other hand 21.2 % (n=108) of the lawsuits' trials continue. Within the 401 lawsuits that have an administrative court decision, 64.8 % (n=260) of the CCP' trials are accepted and 23.4 % (n=94) of the trials are rejected. 11.5 % (n= 46) of the lawsuits results as devoid of essence because an absence of dispute occurred during the court process like the cancellation of the plan or administrative decision. This situation occurs if the plan is cancelled by its administration or by another lawsuit's annulment when the spatial decision that is

filed by another professional chamber or another institution. Although devoid of essence may not be considered as a case win, it can be considered as an achievement of the struggle against the wrong decision that annuls it. From this perspective, 76.3 % (n=306) of the 401 plans/spatial decisions that are subject to the lawsuits of CCP are decided to be cancelled by the administrative court or its institution. One of the lawsuits is finalized with a dispute of duty decision. CCP filed a lawsuit for termination of the Saraçoğlu Projects' tender but the court assessed that judicial justice is in charge and made a decision of dispute of duty. Administrative court is the first process of litigation. After this stage, appealing of objection processes against court decisions and new court processes can start accordingly. Therefore, the case results evaluated above do not include final decisions.

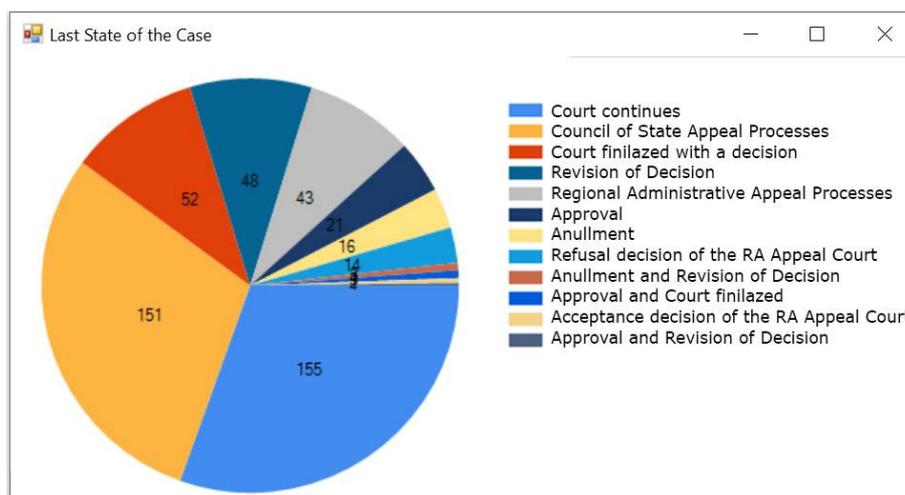


Figure 5.17. Graphical distribution of current situation of the lawsuits

In figure 5.17, it can be seen that 30.6 % (n=155) of the lawsuits' court processes continues without no decision that has been yet given by the Administrative Court or after the decision of the administrative court appeal court gives annulment and a need for the continual of court occurs. Nonetheless, for 69.4 % (n=352) of the lawsuits, a decision by the administrative courts is given and an appeal process has started (may be the decision of appeal process is taken) or the litigation process is finalized.

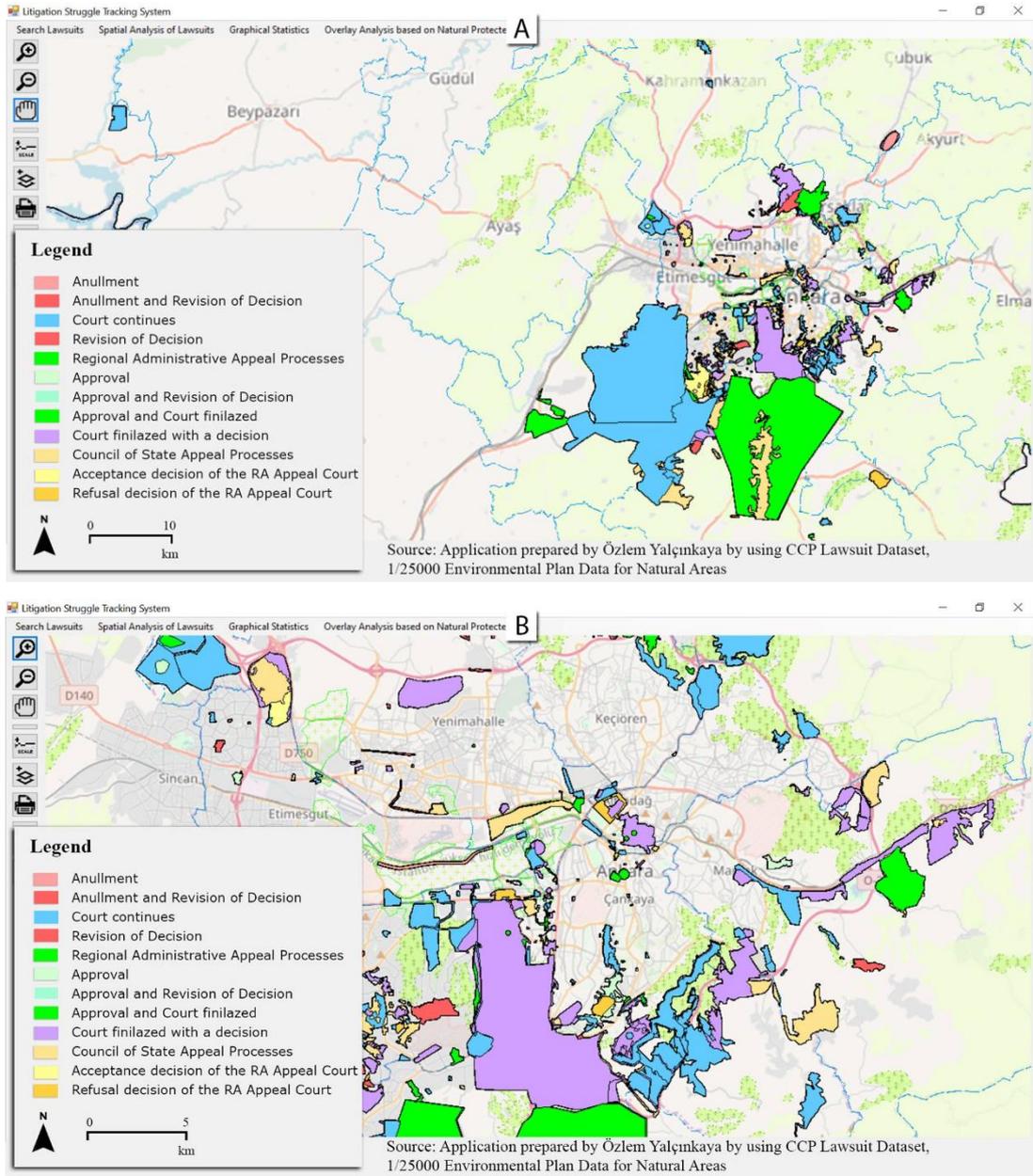
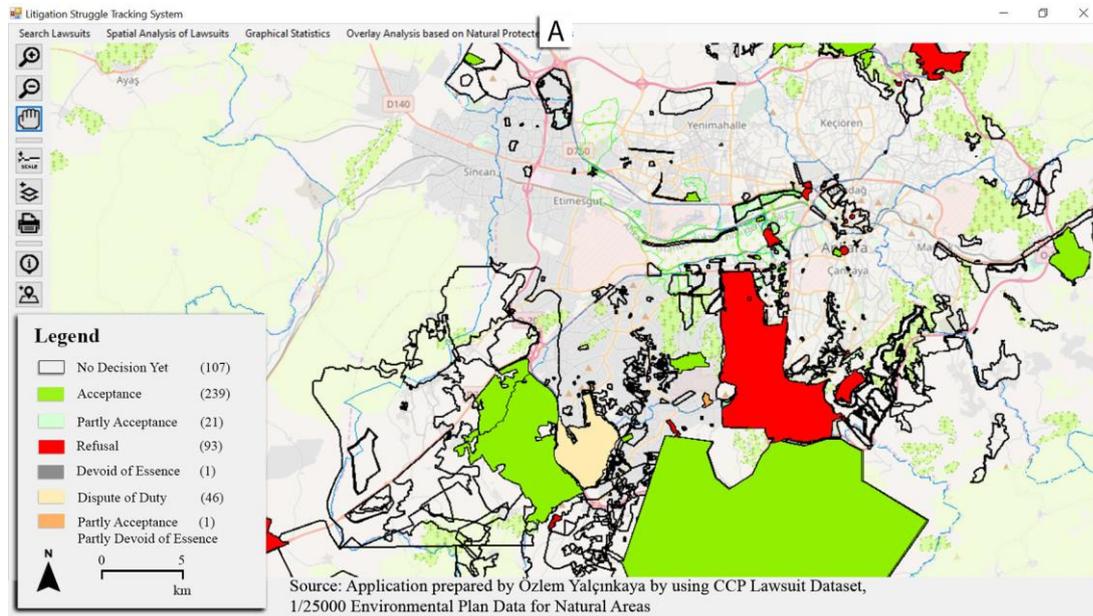


Figure 5.18. Spatial distribution of current situation of lawsuits zoomed to whole lawsuit areas (a) and Central Ankara (b)

The spatial distributions of the current state of the lawsuits are shown in the figure 5.18. The complexity of the litigation proceedings affects the legibility of the map. For an overall assessment, 58.7% (n = 299) of all cases are in appeal process (for the administrative court decision) in which appeal decision are not taken or appeal

decisions have been taken, but the case is not finalized. 47.1% (n = 240)<sup>34</sup> of the appeal proceedings are prosecuted in Council of State and 11.8% (n = 59)<sup>35</sup> of the appeal proceedings are prosecuted in Regional Administrative Courts. The appeal processes of Council of State continue in 151 lawsuits, an approval or annulment decision is taken in 37 lawsuits, revision of decision process continues in 52 lawsuits. On the other hand, the appeal processes of Regional Administrative Courts continue in 43 lawsuits, an acceptance or refusal decision is taken in 16 lawsuits. Even if appeal decisions have been taken for these lawsuits, revision of decision or objection processes may continue.



<sup>34</sup> Statistics includes the summation of lawsuits that are in the Annulment, Annulment and Revision of Decision, Court continues, Revision of Decision, Approval, Approval and Revision of Decision, Council of State Appeal Processes.

<sup>35</sup> Statistics includes the summation of lawsuits that are in the Regional Administrative Appeal Processes, Acceptance or refusal decision of the Regional Administrative Appeal Court processes

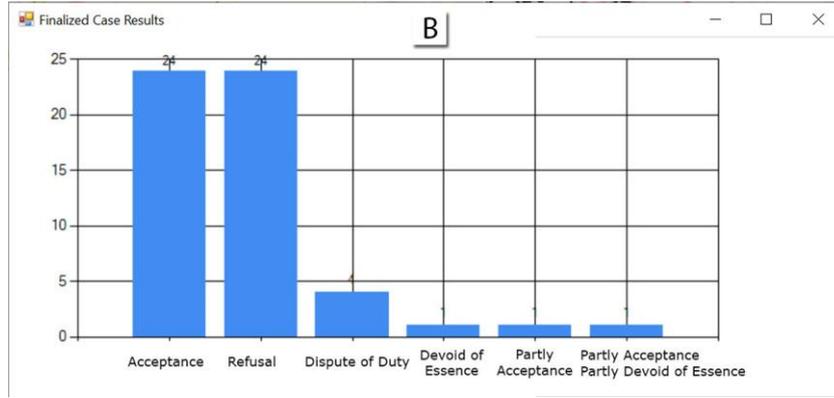


Figure 5.19. Spatial (a) and graphical (b) distribution of finalized lawsuits' case results<sup>36</sup>

Referring the July 2019 current situation, only 10.8 % (n=55) of the 509 lawsuits' decisions are finalized (see figure 5.19). Among these finalized lawsuits, 45.5 % (n=25) of the lawsuits are accepted or partly accepted and 45.5 % (n=25) of the lawsuits are refused or partly refused. 7.3 % (n=4) of the lawsuits decisions resulted as dispute of duty. 49.1 % (n=27) of the 55 plans/spatial decisions that are subject to the lawsuits of CCP are decided to be cancelled by the administrative court or its institution including the acceptance and devoid of essence decisions.

### 5.7. Lawsuit Distribution based on the Natural Protected Areas of Ankara

There are many spatial decisions that exceed the prescribed urban development boundaries and lead to the destruction of protected areas with the result of dominated neoliberal policies on urban development, together with the need of prolonging production in construction industry, which is Turkey's leading sector.

The urban sprawl, which is sustained by wrong planning decisions, increases the pressure of urban development and construction in areas that has agriculture and forest status, the valleys that are the breathing areas of the city and open-green areas that are mainly located in settlement areas or peripheries.

<sup>36</sup> The English translation of the legend is; Görevsizlik (Dispute of Duty), Kabul (Acceptance), Kısmen Kabul (Partly Acceptance), Kısmen Konusuz Kısmen Red (Partly Devoid of Essence, partly refused), Konusuz (Devoid of Essence), Red (Refusal).

For example in Ankara, specific natural reserve areas that are in the conservation status within the settlement boundary are fragmented by infrastructure projects due to the defining transportation problem caused by the intensive construction such as METU, AOÇ roads (which are stated to be opened for city hospitals). Besides these areas are seemed like a potential development areas for construction plans and subject to mega projects like Presidential Palace in AOÇ, Ankapark: Europe's largest theme park in AOÇ, Ankara Bosphorous and luxury residential areas in Imrahor Valley, Hacıkadın Valley Urban Transformation Projects etc. Moreover, rural environment mainly around peripheries (in which rent can easily be created through these low-priced lands) are also considered as potential urban development areas, even if the these land are defined as agricultural conservation area. This problematic construction policy, results as destruction of natural areas, and bring out ecological (urban sprawl, pollution, waste production, flood, etc.) and infrastructure problems (highway, sewerage, urban service provision, etc.) caused by unhealthy and faulty development of the city<sup>37</sup>.

In this part of the thesis, it is aimed to analyze the spatial decisions subject to lawsuits, which are considered as risky spatial decisions for Ankara's natural reserves, based on the protected areas including forestry areas, agricultural lands and AOÇ lands (which is a significant cultural and natural heritage area). The overlay/intersection analysis of protected areas and lawsuit areas are mapped on main interface in order to define the risk areas. Besides, the intersected lawsuits' suspension of execution and court decisions are evaluated.

It is important to remark that, the city plans which are subject to CCP lawsuits, include a whole range of spatial decisions, and the spatial decisions that are subject to the case may not be related with the protected areas. Therefore, the spatial intersection analysis

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<sup>37</sup> It should also be noted that, these urban development and natural destruction processes made by particle spatial decisions without referencing the Environmental Plan of Ankara. Besides these large spaced plans in 2017, the Environmental Plan projected for 2038 is approved. This plan which is subject to lawsuits, includes urban development decisions for rural areas and natural areas, defines the future of urban fringing and by doing so it totally changes the balance of the built environment around rural areas of the city.

would be inadequate unless planning decisions are analyzed in detail for the decisions for the protection areas and the effects of development areas for natural values. On the other hand, the city plans or spatial decision contains agricultural areas, forest areas and protected areas, but contradict with the principles of urbanism may have a potential to negatively affect natural assets. So, such lawsuits are in a different risk group and need to be evaluated separately by the spatial distribution of lawsuits and by the court decisions. In this context, it is aimed to examine the legal issues that may create risk for natural areas under the headings of Agricultural Areas, Forest Areas and Atatürk Forest Farm (AOÇ) Area.

### **5.7.1. Lawsuits that intersect with Agricultural Areas**

Agricultural areas especially around peripheries and rural areas of Ankara are decreased between the years 2013-2018<sup>38</sup> (TÜİK, 2018). One of the reason for that is ongoing planning practices that do not consider population growth and public interest but target rapid land rent production through transformation of space with urban functions. These planning practices are mainly based on the country's construction and administrative policy occurs both in local administration and central administration's decisions.

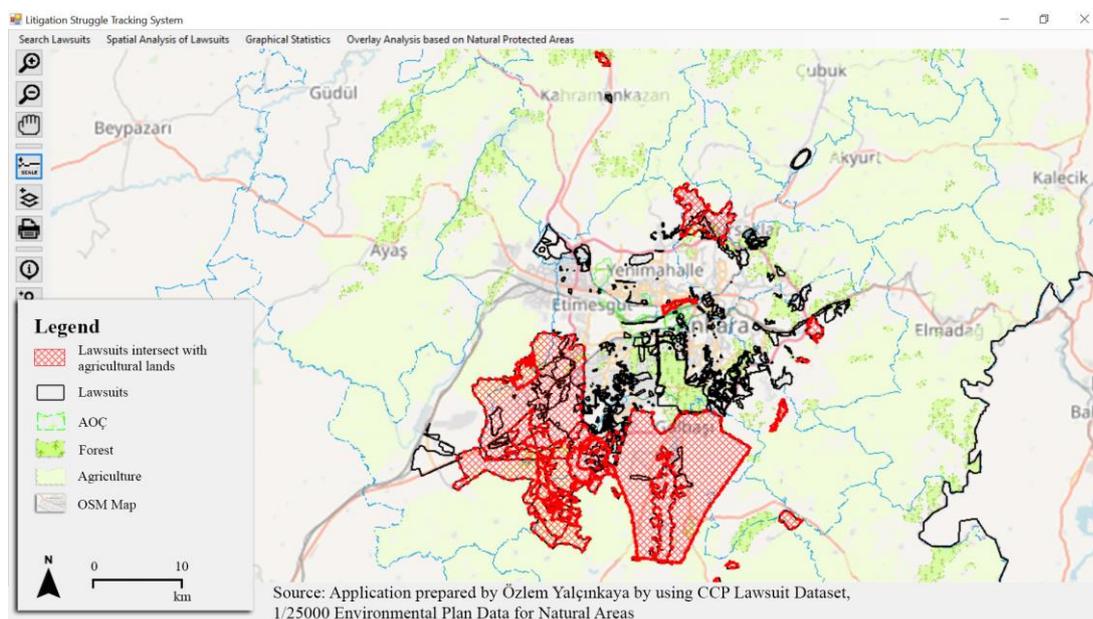
While local governments continue to make spatial decisions and planning activities, the reference of the development decisions of rural areas is based on laws such as the Whole City Law no. 6360 and the Municipal Law no. 5393. In 2012 with the Law no. 6360, the provincial border of Ankara formed the metropolitan municipality boundary, and with this decision, 672 villages (including forest villages) were transformed into neighborhoods and the total number of neighborhoods in Ankara became 1433<sup>39</sup> (Ceyhan & Tekkanat, 2018). Since the authority of these neighborhoods has been transferred to the metropolitan municipality (from special provincial administration),

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<sup>38</sup> According to TÜİK's agriculture statistics (2018), in 2013 total agricultural areas in Ankara was 1204594 ha however it decreased 14138 ha since 2018. In 2013 total agricultural areas in Ankara had become 1190455 ha (TÜİK, 2018).

<sup>39</sup> The total district number of Ankara is defined as 1444 in July 2019 (TÜİK, 2019).

many decisions have been taken to expand the built environment towards rural areas, where land prices are low, enable large rates of profit for capital segments. Another wrong practice has been the declaration of different areas as “urban transformation and development areas” whether or not built-structured or has agricultural, pastures and afforested significance<sup>40</sup>. In peripheries of Ankara including Belören, Mühye, Fevziye, Hallaçlı, Karataş, Hacılar, Ballıkuyumcu, Beytepe, İmrahor, Yakupabdal, Çayyolu, Çaldağ, Lodumlu, Hacıkadın regions many areas have been declared as urban transformation and development areas.



*Figure 5.20.* The result of the intersection analysis of lawsuits based on agricultural areas on map (a) In figure 5.20, the overlay/intersection analysis of the lawsuits with agricultural areas shows that 9.6 % (n=49) plans or spatial decisions subject to Lawsuit, intersect with agricultural areas. The spatial distribution of these areas shows that except the Ankapark Project’s plans in AOÇ Land, the lawsuit areas intersect with the agricultural land are distributed around central settlement peripheries of Ankara. As can be seen from the figure 5.20, the intensity of the lawsuits are located along west-

<sup>40</sup> The amendment made in article 73 of Municipal Law No. 5393 in 2010, has paved the way of these kind of executions.

southwest-south axes including Sincan, Etimesgut and Gölbaşı districts. One of the most hazardous project was the Güney Kent (South City) Plan in 2013, which suggested a new settlement area including a construction area for 500000 people (almost 10% of the population) in south settlement border. Besides, some lawsuits are located in north axes Keçiören district and in east axes Mamak district. In addition, far from central settlement of Ankara specific spatial decisions subject to lawsuits intersect with agricultural lands in Bala and Gölbaşı districts at south and Kahramankazan district at north.

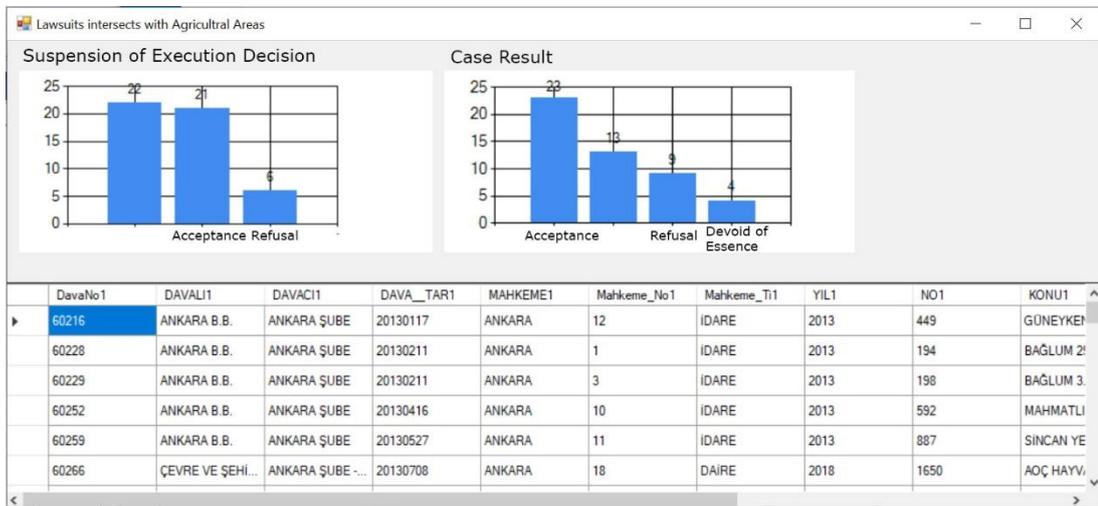


Figure 5.21. The result of the intersection analysis of lawsuits based on agricultural areas on map (a) and statistics (b) interface

When the results of the cases shown in the figure 5.21 are evaluated, within the intersected lawsuits 42.9 % (n=21) acceptance, 12.4 % (n=6) refusal is given for the suspension of execution request. The 47 % (n=23) of the court result resulted with acceptance, 18.4 % (n=9) refusal. The accepted results of the courts together with the devoid of essence state, 55.1% (n=27) of these spatial decisions are decided to be cancelled by the administrative court or its institution.

### 5.7.2. Lawsuits that intersect with Forest Areas

Forest areas, afforestation areas and woodlands within settlement boundaries and around the city are important ecological values of Ankara. While some of these forest

areas are natural forests, some are are afforested by human hand during the history of the Republic such as AOÇ and METU Forests. The continuity and growth of forest ecosystems is crucial therefore, forest areas cannot be subject to construction.

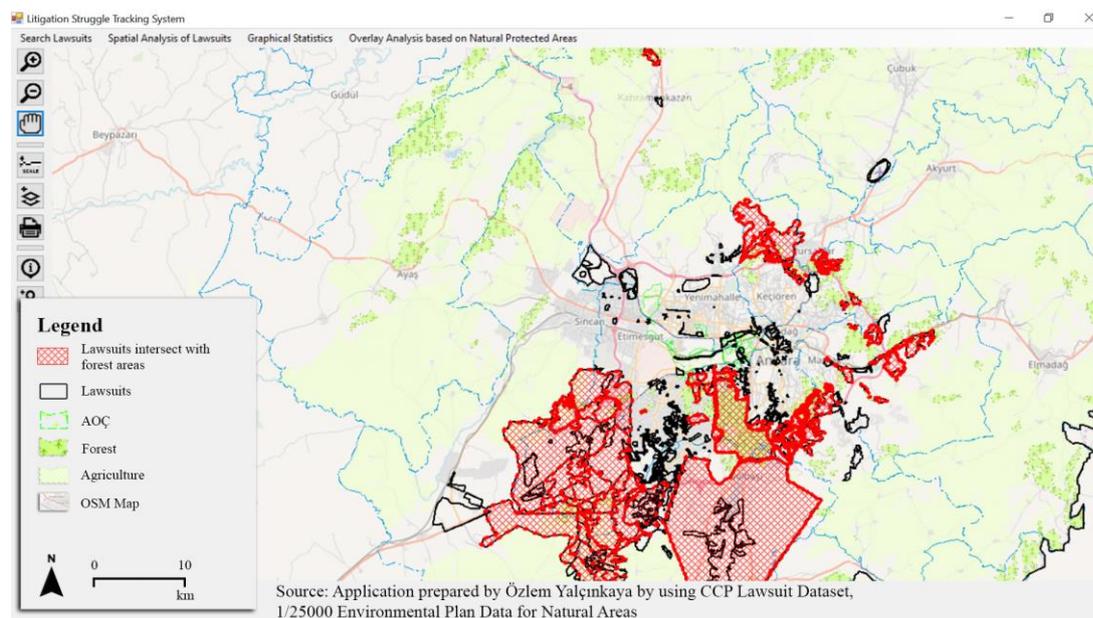


Figure 5.22. The result of the intersection analysis of lawsuits based on forest areas on map

Unfortunately, forest areas that need to be protected have suffered damage from infrastructure investments in urban center (such as AOÇ and METU transportation plans), public investments that do not benefit public interest (such as Presidential Palace, National Botanic Garden) or luxury housing projects (projects in Imrahor Valley, Blue Lake Area etc.) that benefits the characteristics of natural areas as marketing materials. The figure 5.22 shows the spatial distribution of the lawsuit areas that intersects with the forest areas. 16.5 % (n=94) of the lawsuits are in this category. The lawsuit areas intersect with the agricultural land are distributed around central settlement peripheries of Ankara and also central forestry areas including METU forests and valleys. AOÇ Lands that include agricultural and forest areas are analyzed separately in the next chapter.

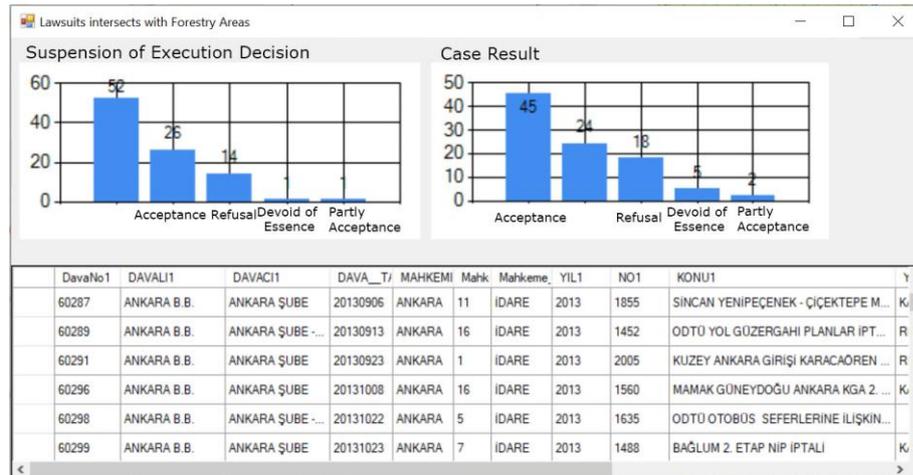


Figure 5.23. The result of the intersection analysis of lawsuits based on agricultural areas on map and statistics interface

Within the intersected lawsuits for the suspension of execution request resulted as 55.3 % (n=52) acceptance and 14.9 % (n=14) refusal. The 50 % (n=47) of the court result resulted with acceptance, 19.1 % (n=18) refusal. The accepted results of the court together with the devoid of essence state, 55.3 % (n=52) of these spatial decisions are decided to be cancelled by the administrative court or its institution. The figure 5.23 shows the graphical charts of suspension of execution.

### 5.7.3. Lawsuits that intersect with Atatürk Forest Farm Area

Atatürk Forest Farm (AOÇ) includes human made forestry areas and agricultural lands in Central Ankara. AOÇ, which was established in 1925, covers the spatial lands of a Republic's modern agriculture project where agricultural production was aimed to be developed together with industry, research and technology, with the integration of rural and urban areas. Besides, in AOÇ integrated production model is aimed through collective cooperatives.

Mustafa Kemal Atatürk, founder of Republic of Turkey, developed the farm for 13 years with a team including himself. Then in June 11, 1937, he donated AOÇ lands to the treasury of the Republic of Turkey with a legacy letter and AOÇ lands gained its public nature legally (Kimyon & Serter, 2016). The land use of AOÇ is always followed by chambers, NGOs, institutions as the area is expected to be preserved and

developed for public benefit with its scope of establishment, inherited structure and natural features. Unfortunately, despite the fact that the greening of the land was stated in the donation, the AOC lands were divided and allocated for unintentional uses (university areas, public institutions, military and residential areas) in time. Beside, as stated on Expert Report of Ankapark, AOC lands appear to be in danger of losing its function in the Jansen Plan in which the area is referred as the green ventilation corridor of Ankara (T.C. Ankara 5. İdare Mahkemesi Bilirkişi Raporu (Expert Report), 2011).

AOC lands, which had suffered many losses since its establishment, had been severely damaged between 2013-2018. During these years, several spatial decisions and planning studies, which are not suitable for the purpose of establishment and conservation structure of AOC, had been the subject to lawsuits. These lawsuits include the subject areas of: Ankapark, Presidential Palace<sup>41</sup> (construction of campus and institutional buildings), demolition of Marmara Mansion, transportation projects (solve transportation and traffic problem for city hospitals and for Presidential Palace), new development areas, commercial area-shopping mall decisions (Demirkafes-YDA Center area), beer factory in the campus (removal of site grade and new plans for area), areas evaluated by institutions (land used as National Botanic Garden, Foot and Mouth Diseases Institute Area) and many other examples of faulty planning and spatial decisions.

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<sup>41</sup> The area previously allocated to the General Directorate of Forestry, has retained its forest characteristics until the transfer to the Prime Ministry.

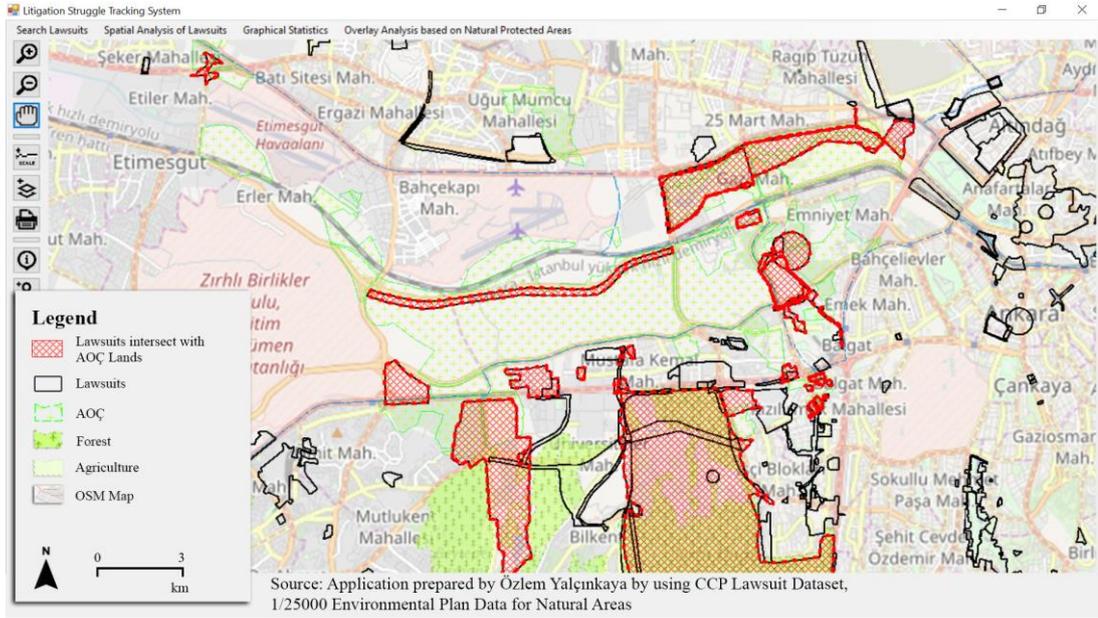


Figure 5.24. The result of the intersection analysis of lawsuits based on AOÇ areas on map

The spatial distribution of 7.7 % (n=39<sup>42</sup>) of the lawsuit areas that intersects with Atatürk Forest Farm (AOÇ) Lands is presented in the figure 5.24. The suspension of execution results and court results are also illustrated as graphical charts in figure 5.25. Within the intersected lawsuits by AOÇ lands, only 15.4 % (n=6) acceptance decision for suspension of execution request was given by courts. On the other hand, 23.1 % (n=9) refusal decision for suspension of execution request was given. Within the 39 lawsuits, the 30.8 % (n=12) of the court result resulted with acceptance, 33.3 % (n=13) refusal. Besides, five cases remained in devoid of essence situation during the court process as administrative decision canceled. The accepted results of the court together with the devoid of essence state for AOÇ lawsuits, 43.6 % (n=17) of these spatial decisions are decided to be cancelled by the administrative court or by its institution.

<sup>42</sup> Differences can be found due to precise production/drawing detail of two different data.

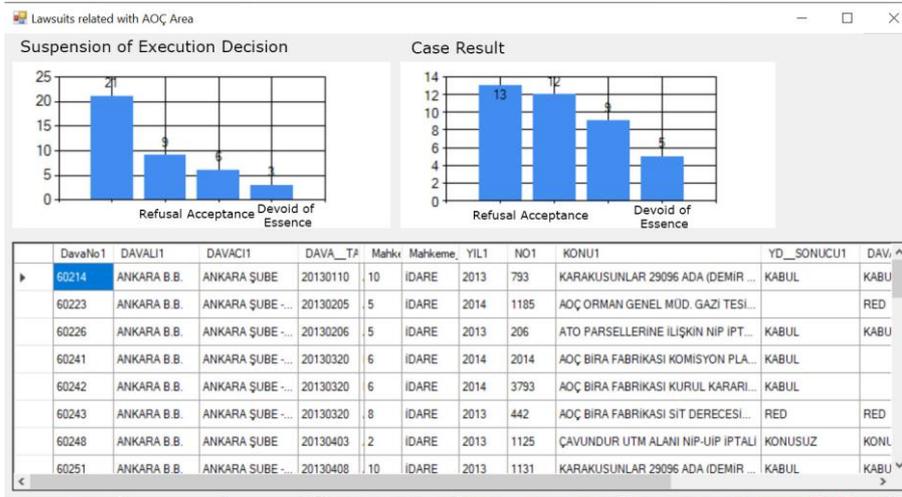


Figure 5.25. The result of the intersection analysis of lawsuits based on AOÇ in statistics interface

On the other hand, the legal struggle of the CCP could not stop the losses and land use transformations within AOÇ. For example, despite all the legal gains regarding the Ankapark area, the constructions had been continued for years. The construction was completed, while the litigation process was in progress. Ankapark project could not be tendered to anyone until the end of 2018 and the area with its huge toys left empty for years<sup>43</sup>. Similarly, the roads and palace constructions finalized despite the ongoing legal struggles. The Marmara Pavilion in AOÇ lands was demolished without anyone noticing during the palace constructions.

### 5.8. Lawsuit Density Analysis (Iterative Planning Actions)

In addition to all the assessments evaluated before, the legal struggle processes have its own dilemmas. Court's adjudication process may take a long time, besides after the court decisions the appeal processes and revision of decision processes may continue. Within this process the suspension of execution decision is critical for CCP, in order not to cause a situation that is hard to recover or unrepairable on condition that the administrative procedure is applied. On the other hand, this process negatively affects public institution's rapid decision-making and construction policies. So, authorities continue to make new spatial decisions and planning practices for the areas

<sup>43</sup> Before the local elections held in 2019, a part of the Ankapark was put into use.

subject to lawsuit, even though the court adopt a motion for stay of execution or cancels the plan or spatial decision that contradict with the principles of urbanizm. The problem is that regardless of lawsuits, authorities continue to approve faulty decisions in the same area. Even if these spatial decisions are canceled, an equivalent, similar or even worse (like suggesting more development rights for the area) precedent decisions are approved by the authorities, which are later become subject to lawsuits as well. Another problem is that, during the litigation processes, the licenses of the projects can be given for construction and despite the gains in the legal struggles, these licences are not revoked. CCP also carry on a lawsuit for licences but as the constructions begin, irreversible damages can be given to cities. Repeting such practices which were confirmed to be inaccurate by a judicial decision or giving licences for constructions actually means defusing the judicial decisions and processes. Therefore, these repetitive planning or spatial decisions create a special problem area for both practice of law and spatial production practices in planning profession.

In this part of the thesis, it is aimed to uncover the unlawful practices spatially and reveal the professional and legal problem areas of Ankara. In order to reach the results, the calculation of the overlapping lawsuits is realized with a method based on the given code in Appendix – B. From this mapbasic code, the calculated number of intersection is written on lawsuit database. In addition, as can be seen from the figures 5.26 and 5.27, a density thematic map based on is prepared. The legend is based on higher counted overlapping lawsuit to lower as dark red color to light.

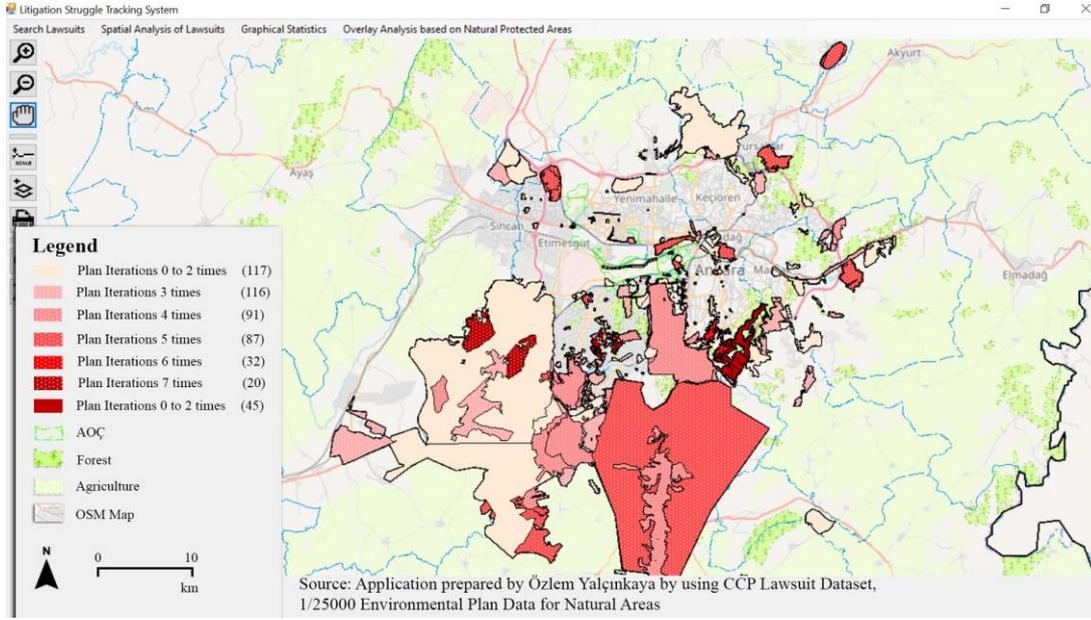


Figure 5.26. Lawsuit density analysis based on repetitive plan decisions

The figures 5.26 and 5.27 show that 8.8 % (n=45) lawsuits intersects with other lawsuits 7 to 10 times, 3.9 % (n=20) of lawsuits 7 times, 6.2 % (n=32) of lawsuits 6 times, 17.1% (n=87) of lawsuits 5 times and so on. Because of the Environmental Plan, every lawsuits intersects with a lawsuit at least one time except agin Environmental Plan which is not concluded in thematic map. By evaluating the intersected lawsuit areas at least 5 times, the problem areas where planning practices and spatial decisions contradict with the principles of urbanism and public interest in Ankara can be grouped below:

- Central Ankara and City Center: Ulus Historical Center, YDA Center Project-Demirkafes (Ironcage), Saraçoğlu District, Etlik Garage, Cebeci Stadium, YDA Söğütözü Residences
- AOÇ Lands: Ankapark Project, Beer Factory, Presidential Complex
- Western corridor: Çayyolu Afforestation Area, Sincan – Yenipeçenek, Yaprıcık Plans (West axes),
- Southwest: Akçalı Cooperative Housing, Beytepe Plans, Hallaçlı District (Far south-west)

- Eastern Corridor: Mavigöl Plans
- Southeast: İmrahor Valley, Dikmen Valley Plans
- South axes: Gölbaşı Plans
- Northern Peripheries: North Ankara Karacaören Plans (north axes) Göksu Plans (northwest)

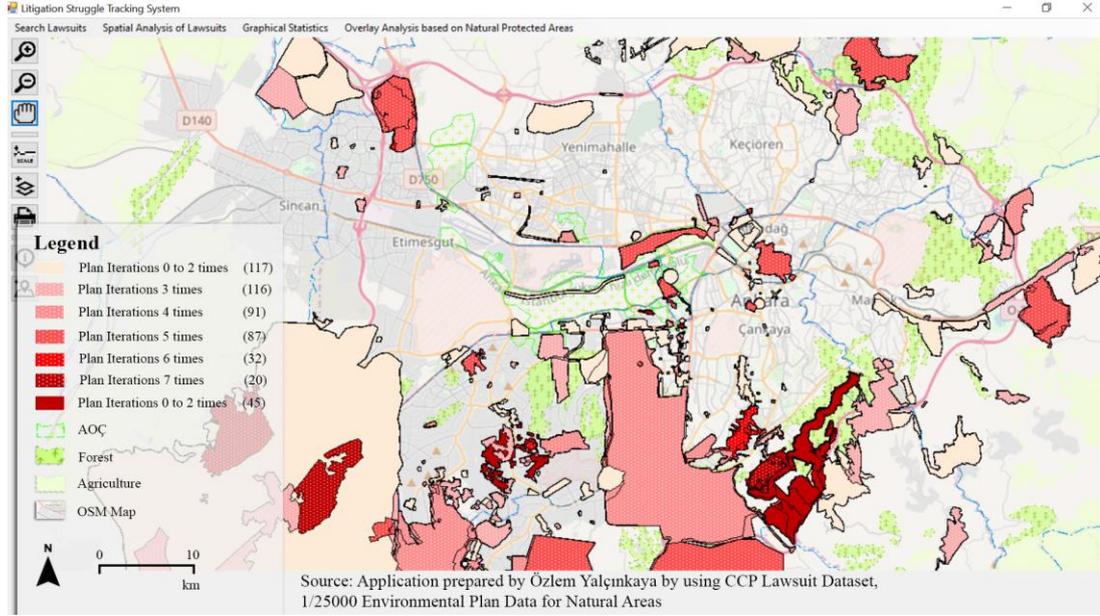


Figure 5.27. Lawsuit density analysis based on repetitive plan decisions zoomed to central Ankara



## CHAPTER 6

### CONCLUSION

#### 6.1. Conclusion

Space is not neutral; it is produced within a social, economic, political, and ideological basis. Space is subject to the actions and operations based on urban planning practices in which the control, ownership and regulation of space permits some actions to occur, limit or prescribe others. However, analysis of past urban planning practices reveals that they are used improperly by decision makers, often ignoring the social and environmental impacts of planning processes, the planning principles and public interest, which actually is the basis of planning principles. This is due to the gap between the theoretical background of profession and real-life practices, which includes the interests of practitioners together with decision-makers (state).

This problem actually based on the fact that space is produced as a commodity by political and economic powers in the neo-liberal economic structure. Harvey defines this process within the circuits<sup>44</sup> of privatization of public assets, financialization, management and manipulation of crises and state re-distribution. In this context, production of space has been realized with the effects of neo-liberal politics, which changed the concept of public service that is based on the principle of social state, and leave the principle of public and community benefit aside by introducing environmental and cultural assets into the market mechanism, and producing “place” within marketing politics. As a result of this process, various spatial decisions which

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<sup>44</sup> Although it is possible to analyze the lawsuits as part or result of this circuit in detail, in this thesis it is aimed to define and provide spatial analyses for the legal struggle carried out against the city plans and spatial decisions that are need to be terminated through legal processes.

would cause irreversible damages to space and its social, economic and cultural integrity are started to be taken. Therefore, the production and implementation of these decisions can actually be defined as crimes against the urban environment.

One of the most effective channels of struggle against the spatial decisions that would create irreversible damages is to file a lawsuit to stop the execution of the decision. Professional chambers, NGOs, local authorities and individuals struggle against these kinds of urban plans or spatial decisions on legal ground. This process carried out by professional chambers is in fact a method to struggle against the executive (urban plans) and the legislative (privatization of public assets, declaration of risk area, and declaration of urban transformation areas) decisions of the local and central governmental institutions. Moreover, when the litigation process is considered as a whole, struggle processes are carried out within jurisdiction powers as well (which is analyzed in 4.2.1. topic including the appeal and revision of decision processes). Urban planning process as a strategic public service is stuck within the dilemma of Lefebvre's definitions of "planning of developers" and "planning of state". Struggling against those spatial decisions and the forces behind it, actors act in accordance with the definition of "planning of men of good will". Even if these actors do not produce plan decisions, they try to conduct the profession and its execution in cities properly on behalf of the public.

Even if litigation processes are critical actions to struggle against the crime toward urban environment, there is not much a specific research area especially within Geographical Information Systems field. Besides the whole analysis of the plans and co-decision of opening cases are labor-intensive, manual and complex processes and there is a lack of digitized spatial data for the city plans subject to the lawsuits.

The purpose to overcome these deficiencies and the idea that technology should actually be used as a tool to reveal and solve society's problems have motivated

author<sup>45</sup> to study within this research area. Keeping in mind that GIS is a force for good which defines its role in enhancing scientific knowledge about the geographic world, human as well as natural environment and in improving the quality of their related decisions (Nyerges et al., 2011) have triggered to use GIS as a main tool to help spatial analysis and decision-making processes under uncertainty in this study.

The theoretical analysis and discussions are aimed to reveal the reasoning of professional and legal struggle, which is actually the basis of the research question; “is it possible to develop a Geographical Information Systems (GIS) based tool to analyze spatially the legal struggles of professional chambers, NGOs and others for urban environment?”

GIS deals with spatially located phenomena and is designed for collection, storage of geographical data in order to reveal its spatial distributions and realize spatial analysis for specific output. It is a tool for Lefebvre’s (1991) “representations of space”. It is mainly used to reveal and analyze the spatial relationships including the change/trend, the route, patterns, possible model etc. of the spatial data. Within the scope of this research question, system analyzes and need assessments are performed in order to ensure the basis of the system is developed upon user needs.

In this context, firstly, spatial decision problems concerning the professional processes are analyzed. Secondly what kind of spatial analyses are needed to assist in the decision process of filing a lawsuit against a plan or its decisions are examined. By referencing the needs and requirements of UCTEA Chamber of City Planner’s legal struggle processes, a conceptual framework is designed and a geographic information system is developed for plan tracking, lawsuit management and analysis processes.

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<sup>45</sup> It should be mentioned that the author has been working within GIS sector and also within the professional struggle processes in Chamber of City Planners; therefore there is also a personal motivation for this research area.

The capabilities of Visual Studio, Map Basic and Map Info are used during the development process of the GIS application.

The research field and developed application in this context has not been studied in a holistic context in literature and in GIS sector. For this reason, the development processes of the study especially need and requirement assessment for the development of GIS software are important for the analysis of the relevant process. The development and practice of a GIS software developed specific to the needs and requirements as a final product and groundwork, has contributed both to a software-based research process and to create a tool that includes the spatial analysis needs for the thesis.

The developed GIS application presents a basis for a spatial decision support system that would offer the users collecting and producing data, creative ways of visualizing data, a flexible and user-friendly environment to provide assistance in analysis of the plans, co-decision of opening a lawsuit, managing and monitoring the legal processes. It will enable the construction of conceptual and spatial relations that will affect the decision of starting a legal process. It is aimed to develop a basic model to realize these manual and labor-intensive processes in a more efficient, collective and knowledge intensive way in an easy access platform together with a Geographical Information System. The GIS application also contributes to production of information by spatial analysis which would help the accumulation of knowledge (know-how) within the chamber. It is intended to provide a platform that would propose a holistic analysis of the legal struggle together with easy access to spatial data and queries; however, a real-time usage and user-experience analysis to validate this objective have not been examined in the scope of the thesis. Yet still, this information system can be used as a basis for CCP, all other professional chambers and NGOs who struggle against crimes toward urban environment. Once the findings of the thesis and information system can be blended and opened to academia and bring to the chambers' service, new analysis and the utilitarian use can be realized.

GIS is a spatial analysis engine, reveals what is otherwise invisible such as its patterns, relationships and anomalies by using spatial data. In order to analyze the spatial struggle originated from problematic spatial and administrative decisions in a city, litigation cases of the Ankara Branch of CCP were examined. Spatial data is produced based on the urban plans and spatial decisions that are subject to Lawsuits in Ankara between 2013 and 2018. Production of this spatial data and its output is also an intended learning outcomes that reveals spatial distribution of the lawsuits in Ankara. The use of the data within the developed application aims to pioneer the creation of a means to make the legal struggle in the urban environment more visible.

The subject of this research is mainly based on the studies conducted with the aim of analyzing the struggle stems from administrative cases that have a spatial decision dimension in GIS infrastructure. In order to develop relevant solutions and construct technological methods that are specific to the field, this study analyzes processes, difficulties and the needs of the Chamber of City Planners' litigation processes through interviews, e-mail surveys and group meetings.

This process guided the researcher to develop a GIS system that would serve the needs of the chamber and community and to define the requirements of the system. It also served to define the spatial analyzes conducted within the scope of the research question and the research's sub-questions which are listed below;

- What is the trend of litigation by the districts of Ankara and lawsuit years?
- How does the spatial distribution of the cases vary among the defendants?
- How are the joint-plaintiff cases based on their actors distributed across Ankara?
- How does the spatial distribution of the wins and losses of the cases in Ankara change according to the suspension of execution decisions and case results?
- Does the distribution of lawsuit areas in Ankara intersect with the natural protected areas such as forestry areas, agricultural areas and Atatürk Forest Farm? To what extent do they intersect and how is the spatial pattern?

- Where are the specific risk/problem areas of Ankara regarding multiple and similar plans for the same area that are subject to judicial processes? How does the spatial distribution of the trend of the repetition of unlawfulness look like in Ankara?

Litigation struggle analysis comprises of 509 lawsuits that are filed by CCP between the years 2013 and 2018. By using the analysis capabilities of the developed GIS application, the results of spatial analysis and statistics are evaluated and discussed by referencing the characteristics and the lawsuit information of the spatial areas. These outputs are visualized as thematic maps and graphical statistics in order to provide a value-added for decision support processes in evaluation problems of professional chambers. The litigation struggle analysis of Ankara is discussed in detail within eight topics in the Chapter 5 – Results.

First, the intensity of lawsuits by the districts of Ankara is analyzed. This analysis showed that the spatial distribution of case intensity on a district-by-district basis is concentrated (just as it is expected to be) more in the city center and become infrequent towards its periphery.

Second, the spatial distribution of lawsuits is analyzed based on the litigation year, which also means the execution year of the spatial decision. The production of the plan decisions subject to the case depends on wider factors such as neo-liberal market mechanisms, municipalities and other governmental institutions' policies or the stability of governing structure. This analysis aimed to find out spatial changes and trends of these spatial decisions taken between litigation years of 2013 and 2018. For this period, socio-political milestones should be defined since they have a critical role in production of spatial decisions analyzed within the scope of this thesis. One of the most effective factors for the stability/fluctuation variance is the central and local election periods. Turkey has passed through six election periods within the six years period this study covers. Besides, the increasing authoritarian and unstable regime, the ongoing impact of war, migration and terrorism and economic breakdowns (which

still continues) have also severe impacts on the social, political and economic atmosphere in which spatial decisions are taken. It is revealed that there is a rapid increase in lawsuit number filed between the years 2013-2015. Spatial decisions during these years are under effects of local elections, presidential elections and repetitive general elections and their results on spatial arena especially. During this period, specifically in 2013, it is observed that the lawsuits are filed against small-scale plans near the city center, and along northern and western corridors. In 2014, fragmented large scaled plans become subject to litigation processes particularly along southern development corridors. In 2015, the lawsuit areas are not concentrated within a specific area but spread within and around the settlement area of Ankara. Within this six years span, approximately 25% (n=126) of the 509 lawsuits are filed in 2015. In the 2016-2018 period, the number of lawsuits is more stable and less than the previous period which could be related with coup attempt and emergency of state period, resignation of the mayor, elections for changing the regime and its figure. In this three-year period, it is seen that lawsuits have been filed against fragmentary and large-scale plans and it can be observed that the plans subject to the lawsuit have been produced again in similar areas of the lawsuits filed in previous years. During these six years period, one lawsuit is filed against the Ankara Environmental Plan, which was produced for the entire city border of Ankara in 2017.

Through the analysis of this sub-research topic, it is seen that repetitive city plans were realized in specific areas of Ankara as a manipulative actions for the plans subject to lawsuits. Besides, after large-scaled fragmented city plans, it can be seen that comprehensive small-scaled plans had been prepared for a reverse plan hierarchy. It can be seen that the development of the city is occurred with fragmented plans and then followed by small scaled environmental plans. This process can be seen especially along the western and south-western peripheries of Ankara.

Third, by the analysis of spatial distribution of lawsuits based on the plaintiff of the lawsuits, it is aimed to reveal the spatial distribution of the joint-plaintiff lawsuits. Only 10.8 % (55) of the lawsuits are filed together with other professional chambers.

The joint-plaintiff lawsuits occurred as interdisciplinary problem areas that include practices or decisions which various professionals object to. CCP mainly filed lawsuits together with chamber of architects, landscape architects, cadastral engineers and environmental engineers specifically for the following critical areas: İmrahor Valley, Dikmen Valley, AOC- Ankapark, Presidential Palace, Saraçoğlu and Ulus Historical Center.

Fourth, by the analysis of spatial distribution of the lawsuits' defendants, it is aimed to reveal the span of authority and its changes based on the spatial decisions subject to cases. The defendants of CCP's lawsuits are governmental institutions including Ankara Metropolitan Municipality (AMM), district municipalities and central administration organizations such as Ministry of Environment and Urban Planning. 80.5% (n=410) of the 509 lawsuits have been filed against only AMM. Merely 1.6% (n=8) was filed against district municipalities. 10.4% (n=53) of all lawsuits have been prosecuted against the plans of the Ministry of Environment and Urbanization, 5.9% (n=30) is against Privatization Administration and the others are against Housing Development Administration of Turkey, Bank of Provinces, the Ministry of Culture and Tourism, and Prime Ministry Privatization Administration.

Fifth, spatial distribution of lawsuits regarding the status of the court decisions is analyzed. The Chamber of City Planners tracks the court decisions and current situation of the lawsuits within the scope of the following three main topics; decision of suspension of execution, case results and current/last state of the court. Suspension of execution decision is a kind of provisional injunction. It differs from other court decisions since it includes a precautionary annulment proceeding before the decision of the courts. The acceptance decision of suspension of execution can be given when the conditions of the administrative action are evidently unlawful and when it creates a situation that is hard to recover or unrepairable on condition that the administrative procedure is applied. The acceptance of suspension of execution is an important gain for a lawsuit as it stops the execution. In Ankara, 58.4% (n=150) of eventuated suspension of execution requests resulted with acceptance or partly acceptance

decision. The distribution of the suspension of execution decisions on Ankara actually presents an urgent risk map.

Whether the litigation process is finalized or continues, case results information shows the last decision of the administrative or regional administrative court. In 78.8 % (n=401) of the lawsuits, a decision is given by administrative courts. Within the 401 lawsuits that have an administrative court decision, 64.8 % (n=260) of the CCP' trials are accepted and 23.4 % (n=94) of the trials are rejected. If the lawsuits resulted with devoid of essence (n= 46) are evaluated with accepted trials, 76.3 % (n=306) of the 401 plans/spatial decisions that are subject to the lawsuits of CCP are decided to be cancelled by the administrative court or its institution. The spatial distribution shows the first rank accepted and rejected cases however the litigation process continues with appeal processes; therefore it does not define the final decision of the court.

Current/last state of the court; defines at which stage the court is. This information also includes the decisions and processes of Council of State appeal processes. It is revealed that the litigation proceedings are complex processes and the spatial analysis results affects negatively the legibility of the analysis of current/last state of the lawsuits. For an overall assessment, 58.7% (n = 299) of all cases are in appeal process and referring the July 2019 current situation, only 10.8 % (n=55) of the 509 lawsuits' decisions are finalized. Among these finalized lawsuits, 45.5 % (n=25) of the lawsuits are accepted or partly accepted and 45.5 % (n=25) of the lawsuits are refused or partly refused. Together with the devoid of essence 52.7 % (n=29) of the 55 plans/spatial decisions that are subject to the lawsuits of CCP are decided to be cancelled by the administrative court or its institution. The thematic map of the current state did not reveal a spatial pattern but gave general information about the current situations of the distinct lawsuits.

As a general discussion, analyses based on spatial distribution of lawsuits did not reveal spatial patterns but showed the specific situations of the lawsuits on the map. The discussions on specific areas should be analyzed in further works relating spatial

occurrence and lawsuit actors since this study aims to analyze the lawsuits in a general term with its focal information.

Sixth, it is aimed to reveal the spatial lawsuit distribution those intersect with the natural and protected areas which are considered as risky spatial decisions for Ankara's natural reserves. The analysis included forest areas, agricultural lands and Atatürk Forest Farm (AOÇ) lands which is a highly significant cultural and natural heritage area. Firstly, agricultural areas analysis shows that 9.6 % (n=49) of the lawsuits mainly around peripheries of Ankara and also in AOÇ lands intersect with agricultural areas. When the results of the cases are evaluated, 55.1% (n=27) of these spatial decisions are decided to be cancelled by the administrative court or its institution. Secondly, forest areas analysis shows that 16.5 % (n=94) of the plans or spatial decisions may create a risk for forest areas. These areas mainly suffer damage from infrastructural investments in urban center and so-called public investments that are incapable of providing public interest or luxury housing projects around peripheries as well. When the results of the cases are evaluated, 55.3 % (n=52) of these spatial decisions are decided to be cancelled by the administrative court or its institution. Thirdly, a special analysis is realized for Atatürk Forest Farm (AOÇ) area, which is a cultural and natural heritage, includes forested areas and agricultural lands in Central Ankara. The analysis revealed 39 plans that are subject to lawsuits which would create a risk for damaging its cultural and natural heritage characteristics. Only, 43.6 % (n=17) of these spatial decisions are decided to be cancelled by the administrative court or its institution.

Last, it is aimed to reveal a specific problem area for execution of plans and legal struggle processes which is the iterative/repetitive plan decisions. During court's adjudication process or for finalized decisions, authorities continue to make so-called new but similar spatial decisions and planning practices for the areas subject to lawsuit. The problem is that regardless of lawsuits, authorities continue to approve decisions those were once cancelled by the courts for the same area. Since, it is critical to reveal specific problem areas of unlawfulness the overlapping plan areas are

analyzed and a density map produced for this study. Map revealed specific problem areas based on the repetitive plan decisions for Ankara which are listed in the topic 5.8.

In conclusion, within the scope of this thesis, a GIS application which provides basic input, query and analysis needs for the legal struggle channel has been developed and the litigation analysis case study has realized for CCP's Ankara lawsuits by using this application's tools. It provided the spatial distribution of immoral urban practices of neoliberal policies in Ankara, Turkey. Author believes that strategic use of tools, technology and tactics has an important place for social change. It is aimed to make visible and contribute to the spatial analysis of past speculative and problematic planning practices and spatial decisions with a view to make planning practices and take decisions in a fair order by glorifying all the social, natural and cultural assets of the city. Therefore the results of these analyses are significant for urban planners, professional chambers and other NGOs, decision makers as state authority (especially Metropolitan Municipality and district municipalities, Ministry of Environment and Urbanization, Ministry of Culture and Tourism, etc.) and also for citizens. Through this research results right to information on crime against the urban environment is aimed to be reached.

## **6.2. Recommendations for Future Research and Practice**

The analysis of the crimes against the urban environment and its struggle in the neoliberal system, together with further research areas and technological developments in this field will actually provide benefit for expanding the legal struggle and making it visible. Recommendations and further work for future research and practice, is going to be discussed from the point of view of research and analysis area and actors of the legal struggle with the aim of expanding this research and development field.

With this study, it is aimed to establish a basic spatial data and technical infrastructure for larger studies. First, thesis case focuses on Ankara and solely on the cases of the Chamber of City Planners between the years 2013 and 2018. It would be a powerful

and critical analysis if the data includes all the chambers and NGOs that struggle against urban crimes since their establishment. Thus, analyses can be extended and differentiating problem areas can be identified by their professional fields.

The application developed within the scope of this thesis grounded on analysis studies mainly defined by user needs and spatial analyses for Ankara are realized by using CCP lawsuit areas, district areas, and specific cultural and natural protected areas. In addition to the basic analysis capabilities presented in the application, diverse analyses are suggested for future studies with the contribution of various data specific to the research subject. At this point, some research areas and further works should be shared. For instance, by analyzing the number and spatial distribution of the plans approved by municipalities (this data will also need to be digitized) in detail, both the distribution of spatial decisions produced and the details of the decisions subject to lawsuits with regard to others can be examined. A specific analysis based on defining the reasoning of the lawsuits and questioning its spatial patterns can be analyzed in detail through finding similarities and differences of the lawsuit objections. In addition, actors (including constructors, planners, authorized institutions and people, experts and so on in the dispossession network) can also be revealed if the information of these plans and the construction companies underneath can be extracted. Actually, the evaluation of these cases requires explicit consideration of diverse professional criteria as they result in judicial process and their results have various social, political, economic, and environmental outcomes. Hence, the results of this study may contribute to the analysis of social, economic, legal, environmental problems.

Another research area could be analyzing the effect of judicial decisions on urban development processes and planning practices. As explained, the legal struggle may not always be an effective solution for crimes against urban environment. Even if the litigation process results in a gain, it may not be counted as a gain for the city since another similar plan can be approved or the construction permits can be given by authorities during the litigation process. Therefore, it would be an essential further work to analyze the administrative and legal deficits. Besides, the land use of the area

subject to the lawsuits before and after the plan decisions can be analyzed with the aim of damage and impact assessment. The questions can be analyzed including: How many square kilometers of agricultural and/or forest areas have been lost as a result of plan decisions? What density (in terms of population) has been projected for these areas? What is the market trend of real estate values as a result of plan decisions?

This study contributes not only to the Chamber of City Planners but also to other chambers and NGOs that similarly maintains spatial struggle on legal grounds. The database and system architecture of this study has been designed to enable the development of a modular, user-friendly structure, which can be used by different actors in order to establish an infrastructure for all those actors to interconnect with, contribute to or enlarge this struggle.

Within an institution, data sharing is an absolute necessity for its needs and purposes. Similarly, sharing geographical information based on cases with other actors and also public has a specific importance for the public right. In this context, this kind of an information system creates a common platform to follow up the cases in which different actors participate as complainant. Moreover, as a further work, through this specific Geographical Information System, it is suggested to develop a potential portal open to public that would serve information in order to raise awareness and mold public opinion against the urban plans and practices that are contrary to the public interest. Therefore, it is expected that professional chambers and NGOs to use this developed application or to pave a way for them to develop a specific GIS application for the stated purpose above. By the use of the proposed GIS application, it is expected that the users would dominate the system, furthermore differentiate their expectations from the system with the aim of enhancing their decision-making and business processes. So, the domination will bring the expectations and further work for the application. The collective usage of the system by all actors will bring the system in a more inclusive tool for analyzing crimes against the urban environment. The system can be expanded to a web application for better access for all actors. If all NGOs that struggles in all cities of Turkey can use this kind of system and by converting the

system to web in order to be used by different actors in one platform, expansion of spatial legal struggle processes can be achieved and a comprehensive method for detailed analysis of struggle in different cities can be reached. Also through web environment, the results can be published to public. This would provide public access to these information and analysis, which is significant for raising public awareness and also for producing a method for right to information about our cities. It is obvious that information has power in itself including awareness and acknowledge to transform, to improve lives, to reveal reality with the aim to bring about equity and fairness. Nevertheless, the use of information is mainly depends on how individuals, companies, governmental institutions practice it and that is a political issue. This thesis provides a retrospective review of speculative decisions for public institutions in order to suggest a basis to analyze, control and avoid them. The designed spatial data in this study enable local and central administrations to perform their analysis or auditing activities in order to avoid or not to produce erroneous plans, practices and methods that will undermine the sense of justice. In this context, this data, together with the results of spatial analyses, has a potential for administrators to face these malpractices head-on starting from Ankara.

Another critical further work for decision makers would be development of potential projects based on expanding GIS for transparency of planning activities of public institutions. It also opens up an opportunity to integrate the tool with associated systems for this. Public can track all plans by their Geographical Information System in a more transparent manner and the changes on the plan can be analyzed easily. With integrated systems, the plans subject to lawsuits can be monitored and compared with former plans or checked according to upper scale plans through institutions' development of web based Geographical Information Systems.

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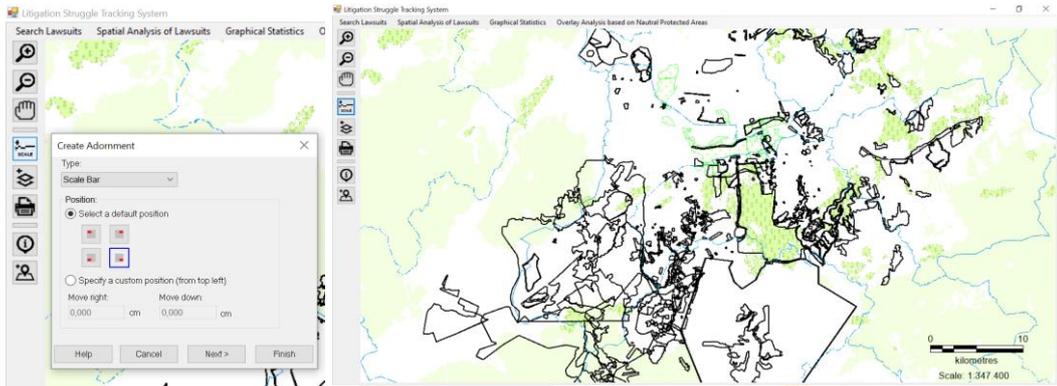
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# APPENDICES

## A. Map Tools of the Application

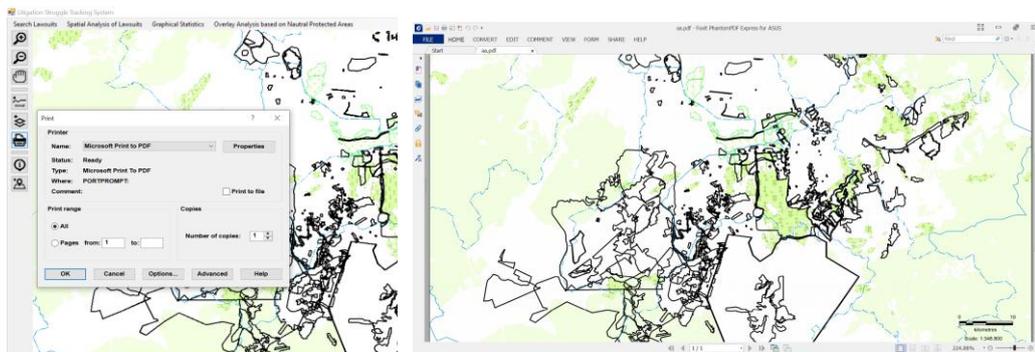
### Scale Tool



### Layer Adjustment



### Print Tool





## B. Density Map Basic Method

Map Basic code used for calculating iterative planning actions

```
dim k,s as integer
dim o as object
print time("00:00:00")
s=tableinfo(alan,8)
set map layer alan editable on
set table alan fastedit on
for k=1 to s
fetch rec k from alan
o=alan.obj
select * from alan where obj intersects o into sel
set target

select * from alan where rowid=k into ssss
objects split into target
next

print "split bitti " + time("00:00:00")
select * from alan where area(alan.obj,"sq m")< 1 into sel
delete from sel
commit table alan
pack table alan Graphic Data

print "pack bitti "+ time("00:00:00")

for k=1 to tableinfo(alan,8)
fetch rec k from alan
o=alan.obj
select * from alan where obj contains o into sel
s=tableinfo(sel,8)
update alan set kesendava= s-1 where rowid=k

next

print "Güncelleme bitti" + time("00:00:00")
```