SECTION 5: THESIS DETAILS

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DEDICATION

To Aybüke Okudan

ACKNOWLEDGMENTS*

I owe my gratitude to the people who have helped me in the preperation of this thesis and who care about me in their lives. First of all, I am so grateful to dear Prof.Dr.Müge Akkar Ercan for all her support, which allowed me to return to my studies with her interest and valuable advice in the period when I was thinking to end my studies. I would also like to thank to examining committee members; Prof.Dr.Mehmet Somuncu and Assist.Prof.Dr.Anıl Şenyel Kürkçüoğlu for their interest and suggestions for my thesis studies .
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Aybüke Okudan; With the fact that not being accustomed to be accepting of sending you on your eternal journey , I will try to live every day with your soul and imagine you on our most beautiful memories …We have had another moment to share with you : my thesis is finally completed .As a result of it , one of my aims came true . With the ending of my thesis, I became able to carry you into eternity by owing it to you. You are my eternal friend, darling and sisterhood. I owe you joy, happiness, peace and so much more than I can count ..

* If you have received project support from TÜBİTAK, you must mention about it.

HOW TO DEVELOP A SUSTAINABLE RURAL-URBAN FRINGE (RUF) FROM THE PERSPECTIVE OF URBAN AND RURAL ACTORS? THE CASE OF DÖŞEMEALTI IN ANTALYA

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

BY

YAŞAR OKUDAN

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FOR
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Approval of the thesis:

HOW TO DEVELOP A SUSTAINABLE RURAL-URBAN FRINGE (RUF) FROM THE PERSPECTIVE OF URBAN AND RURAL ACTORS? THE CASE OF DÖŞEMEALTI IN ANTALYA

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ABSTRACT

HOW TO DEVELOP A SUSTAINABLE RURAL-URBAN FRINGE (RUF) FROM THE PERSPECTIVE OF URBAN AND RURAL ACTORS? THE CASE OF DÖŞEMEALTI IN ANTALYA

Okudan, Yaşar
Master of Science, City Planning in City and Region Planning
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Prior to the 1980s, a settlement system used to be defined in ‘urban’ or ‘rural’ terms, or in terms of its scale or its settlement stratification, such as village, district, town, city, etc. While ‘urban’ referred to be an area in which non-agricultural activities took place with certain form and boundaries, ‘rural’ signified an area with definite boundaries in which the urban features were indirectly lacking. From the 1980s onwards, along with the changing forms of production (from Fordist to Post-fordist), the globalization and the effect of neo-liberal urbanization, socio-demographic, economic and spatial structures of cities in all over the world have considerably changed. In this period, the precise indicators and quantitative thresholds that urban studies used to distinguish the notions of rural and urban have become futile. Nowadays, in cities, there is no spatial form that is either classified as core urban fabric or qualified as rural. This spatial change and transformation have been influential in the development of academic debate in urban studies. More than 200 academic studies have focused on the concept 'fringe'. Many of these researches on the fringe are related to its definitions, while some of them study the factors which affect the fringe formation process. Some others examine the relations of urban core and fringe, and seek to understand social, cultural, economic and environmental effects of such

relationships on fringe formation. This research, based on a literature review on the fringe development, aims to examine definitions of ‘fringe’, the dimensions (or parameters), which come forward to define the fringe and the way they are used in different research, as well as the planning interventions that have been taken in order to respond to the changes and problems in the fringe of cities.

In fast growing cities, how to achieve a sustainable fringe development is an important question to be addressed. This thesis aims to define the parameters which become important for the sustainable development of fringe, and to examine a local district of Antalya metropolitan city, Döşemealtı. Döşemealtı, with a population of 60,000, is located at the border of Antalya. Presenting a typical example of fringe in Turkish metropolitan cities, it acquires a variety of characteristics of fringe. This research seeks to examine the potentials and problems, weaknesses and threats against the sustainable development of a fringe in Döşemealtı, and to develop alternative policies (or scenarios) to achieve a ‘sustainable local development’ within the context of Antalya metropolitan city. It suggests a holistic approach by exploring how urban development impacts on agricultural production and economics, ecology, and social life in urban areas. In addition, this study presents an approach that addresses planning and design principles together on how sustainable development can be achieved in the fringe area.

Keywords: Fringe, Sustainable Fringe Development, Actors, Urban Sprawl, Planning and Design Principles, Döşemealtı, Antalya

ÖZ

KENTSEL VE KIRSAL AKTÖRLERİN PERSPEKTİFİNDEN KENTLERİN ÇEPERİNDE SÜRDÜRÜLEBİLİR BİR KENT VE KIR İLİŞKİSİ NASIL GELİŞTİRİLEBİLİR? ANTALYA, DÖŞEMEALTI ÖRNEĞİ

Okudan, Yaşar
Yüksek Lisans, Şehir Planlama
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Eylül 2019, 199 sayfa

1980 öncesi, bir yerleşim sistemi kent veya kır olarak, ya da yerleşim büyüklüklerinin kademelenmesine göre tanımlanırdı. ‘Kent’, tarım dışı faaliyetlerin yer aldığı mekânsal formu ve sınırları belli yerleşimler olarak görülürken, ‘kır’, kentsel özelliklerin eksik olduğu belirli sınırlara sahip yerleşim alanları olarak tanımlanmıştır. 1980’lerden itibaren, Fordist üretimden Post-fordist üretime geçişle birlikte değişen üretim biçimlerinin, küreselleşme ve neoliberal kentleşmenin etkileri ile birlikte, dünyadaki tüm kentlerin sosyo-demografik, ekonomik ve mekânsal yapıları önemli ölçüde değişmektedir. Daha önceki kent araştırmalarında kır ile kenti ayırt etmek için kullanılan keskin göstergeler ve niceliksel eşikler anlamsız hale gelmeye başlamıştır.

Günümüz kentlerinde, kırsal ve kentsel doku olarak sınıflandırılan mekânsal bir biçim bulunmamaktadır. Bu mekânsal değişim ve dönüşüm, iki yüzden fazla akademik çalışmaya ilham vererek, ‘çeper’ kavramının akademik tartışmalarla gelişimini sağlamıştır. Bu araştırmaların birçoğu ‘çeper’ kavramını tanımlamaya çalışırken, bir kısmı ise çeper oluşum sürecini etkileyen faktörleri ve kentsel çekirdek ile çeper ilişkilerini incelemektedir. Diğer bir başka grup araştırma ise, sosyal, kültürel, ekonomik ve çevresel faktörlerin çeper oluşumuna etkilerini anlamaya çalışmaktadır.

Bu araştırma, çeper gelişimi üzerine yapılan bir yazın taramasına dayanarak, çeper tanımı, çeperi tanımlamak için ortaya konulan ölçütler ve parametrelerin yanı sıra, farklı araştırmalarda kullanılma biçimlerin ve kent çeperlerindeki değişimlere ve sorunlara cevap arayan planlama müdahalelerini ortaya koymaktadır.

Hızla büyüyen ve gelişen kentlerde sürdürülebilir bir çeper gelişiminin nasıl sağlanacağı ele alınması gereken önemli bir sorudur. Bu araştırmada, çeperin sürdürülebilir kalkınması için gerekli olan parametrelerin belirlenmesi ve bu bağlamda Antalya'da Döşemealtı örneği üzerinden incelenmesi amaçlanmıştır. Döşemealtı 60.000 nüfuslu yerleşimiyle Antalya sınırında yer almakta, Türkiye metropol şehirlerine benzer çeper özellikleri barındıran bir çeper gelişimi örneği sunmaktadır. Bu araştırma, Döşemealtı çeperinin 'sürdürülebilir çeper' gelişimi açısından potansiyelleri ve problemlerini, zayıflıkları ve tehditleri incelemeyi ve 'sürdürülebilir yerel kalkınma' için alternatif politikalar (ya da senaryolar) geliştirmeyi amaçlamaktadır. Kentsel gelişmenin tarımsal üretim, ekoloji, ekonomi ve sosyal hayata nasıl etki ettiğini araştıran ve araştırma bağlamında sürdürülebilir gelişimin nasıl başarılacağına yönelik plan ve tasarım prensiplerinin birlikte ele alındığı bütüncül bir yaklaşım sunmaktadır.

Anahtar Kelimeler: Çeper, Sürdürülebilir Çeper Gelişimi, Aktörler, Kentsel Yayılım, Planlama ve Tasarım Prensipleri, Döşemealtı/Antalya

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CHAPTER 1

INTRODUCTION

1.1. Problem Definitions

From early times till today, rapid changes in rural and urban areas have created the need for new definitions in conceptual terms. As the rural-urban areas show tendency to transitional space character and similar variables increasingly, it has been difficult to segregate urban from rural. The geographic convergence of the rural and urban, the elimination of physical boundaries, the transformation of the socio-cultural structures and the poliferation of the similar employment structures and labor forces and participation in uniform production relations into the rural and urban structures made it necessary to re-interrogate. This situation accelerates the transformation process from multi-tissue to an increasingly new, interactive and transient texture from rural to urban. Whereas rural and urban distinctions vanished, the physical line that was clearly blurred instead of having clear borders. In the literature, the zone of transition area where city or towns resembles the rural environment is called as ‘’rural urban fringe’’. Pryor (1968), offers a extensive and helpful overview of the rural urban fringe, the transition zone of land use, social and demographic features continually standing between both the urban and suburban areas of the main town and the rural hinterland. Moreover, this area is characterized by the lack of non-farm housing, activities, land use, lack of urban and rural social cohesion, and uneven range and initiation of urban utility services. The first is problem of urbanization pressure in rural urban fringe area which is surrounding rural and urban district and loss of rural characteristics. Rural urban fringe region can therefore be considered as a productive urban development environment.

The second problem is the unidentified parts of the city because of the absence of spatial planning and land management stages for rural urban fringe. For instance, Qviström (2007) indicate that rural urban fringe landscape almost remain uncertain, getting ready for plans to be completed, choices to be taken and concepts to be put into practice or growth to begin. This fringe negativity shares comparable thoughts with the fringe concepts of other scientists: messy landscapes (Gant, Robinson, & Fazal, 2011) ; fresh urban sprawl geography (Micarelli & Pizzoli, 2008), ephemeral landscapes (Qviström & Saltzman, 2006) ; and forgotten landscapes (Scott, 2012).

The disappearance of boundaires between rural and urban areas incorporate both potentials and risks. According to Gallent et al, 2006), The urban rural fringes are not only an area where the cities and towns meet with the landscape, they also have the following characteristics:

• ' a multifunctional environment usually characterized by vital service features

• a vibrant environment characterized by modification and transition between uses

• low-density financial activity (retail, business, warehousing, etc.)

• untidy wildlife landscape '.

As I mentioned above, many definitions and perspectives identify the rural urban fringe. While some definitions, like Gallent et. al.'s definition, provide positive assesment, other thinkers' assesment are negative. These two side present two sides perspective either on rural or urban frame. From the rural point of view, fringe places offer possibilities for forests, for community production of food, rural community, rural landscape and land use functions. This is perceived as positive by the rural perspective, while the urban center is perceived as negative for the following reasons. The urban-centric view opens up different residential, commercial, tourism, leisure and transport facilities that portray the fringe as a transition area for urban growth and urban expansion.

Thus, this study is important due to the risk of intense urbanization pressure and transformation of the rural district to the urban district, how to approach the rural urban fringe and planning-design policy become one of the crucial issues to be answered.

1.2. Aims and Objectives

Increasing demand of new lands for further urban development and rising gap between urban and rural and the appearance of unidentified land in the rural-urban firnge (RUF) lead to need urgent intervention. The problem of balancing natural areas and built up areas is a critical problem of today's cities. How to balance the conservation of natural lands and built up urban areas in development of rural urban areas has been one of the major questions of urbanism. For this reason, several research seeks to provide new definitions of fringe, rediscover the new and emerging meanings of fringe and the dimensions and paramaters of fringe development and find new ways of studying these dimensions and parameters. Thus, the literature review aims to unveil the problems, potential threats and opportunities of the rural urban fringe.

Lack of strong land control mechanism and lack of sustainable development models are some prominent problems of urbanism which lead the recent perspective of sustainable development strategies in rural urban areas. The major aim of this thesis is to rediscover the rural-urban fringe as a part of sustainable development. It seeks to discuss how we can manage and plan the RUFs in more sustainable ways, because RUF is more than sum of land uses and transitional zones. Somewhat, it is a operating landscape with distinctive characteristics, complexity and dynamic. Given the complexity concept may also have considerable meaning in the framework of future interventions, as it shows how different activities are combined to achieve sustainable fringe development. For this reason, this thesis aims develop both planning and design principles for sustainable RUF development in order to preserve agricultural production, farmland areas, forests, biodiversity and wetlands, control urban sprawl and negative effects on nature.

1.3. The Main Research Questions and Research Methodology

The main hypothesis of this study is that the degree of urbanization is positively related with agricultural and natural land loss at urban fringe. Therefore, agricultural and natural land is generally the major land use and major land reserve for meeting the urban land demands by sprawling the city. In other words, this thesis poses the following research question: how is it possible to control RUF development in a sustainable way? In accordance with the main hypothesis and the research question, the main subquestions along the thesis are presented:

- What is fringe? How fringe is defined in the literature?
- What are the today's fringe pattern? What are the drivers of transforming RUF?
- What are the general indicators of sustainable assesment? How these indicators are studied in different research?
- What are the preservation strategies of natural and agricultural land in the countryside of the urban fringe?
- How to balance the conservation of natural lands and built up urban areas? How to create new pattern without distrupting rural character and rural life?
- How can planning tackle the RUF issue?

The first question points out the definition of the fringe with reference to literature of fringe, peripheral urbanism, suburbanization. It also include summarizing features defining of rural urban fringe from the number of different studies.

The second question is on dynamics of urban expansion and sprawl. In other words, interested in one of the most current trends arising from rural urban fringe by researching the problems and potential future problems. Driving forces (population growth, migration, economic development, openning new land for urbanization, i.e) are investigated for understanding of tension between the urban and the rural areas and the urban development process.

The third question is related to main theme of thesis giving the sustainable development indicators with reference to different research by done institution, legal entity. Indicators are developed in terms of sustainability which are preliminary tool for suggesting strategies to manage preserve natural lands while growing built up area in rural urban fringe areas.

The fourth and paralell questions leads us to present problems, and threats of rural urban fringe and signing the future problems and evaluate potential solutions. They identify the sustainable urban rural fringe futures and strategies to manage land control that enables the economic, socio-political, environmental integration. These questions aimed to success ideal condition for sustainable rural urban fringe development.

The structure of the thesis is twofold. First, it aims to understand the recent land use changes in RUF of Döşemealtı, one of the main local districts of Antalya, which is highly under the risk of quick urbanization and uncontrolled urban sprawl that will lead to unsustainable consequences for the city, nature and society. This research is conducted in three main phases of sustainability assessments which study socio-political, economic and environmental dimensions. First, it examines the land use changes in different period of time in RUF of Döşemealtı, and try to understand how these land use changes have occurred in time. The systemic method illustrates these changes in land use. This is achieved through an assessment by landowners, government and private organizations of current land management policies, as well as current land dynamics and planning instruments. This approach is related to socio-political dimensional of sustainability assessments which are developed using two methodological tools: farmers and policy makers interviewing and collecting current planning and management strategies records.

Secondly, economic factors strongly influence on the sustainability of RUF development as changing production system or decreasing of their production capacity

change the farmers decision process in the direct of sell their land or sustain the farming on the land, at that rate, economic production facilities, typology of agricultural system is analyzed.

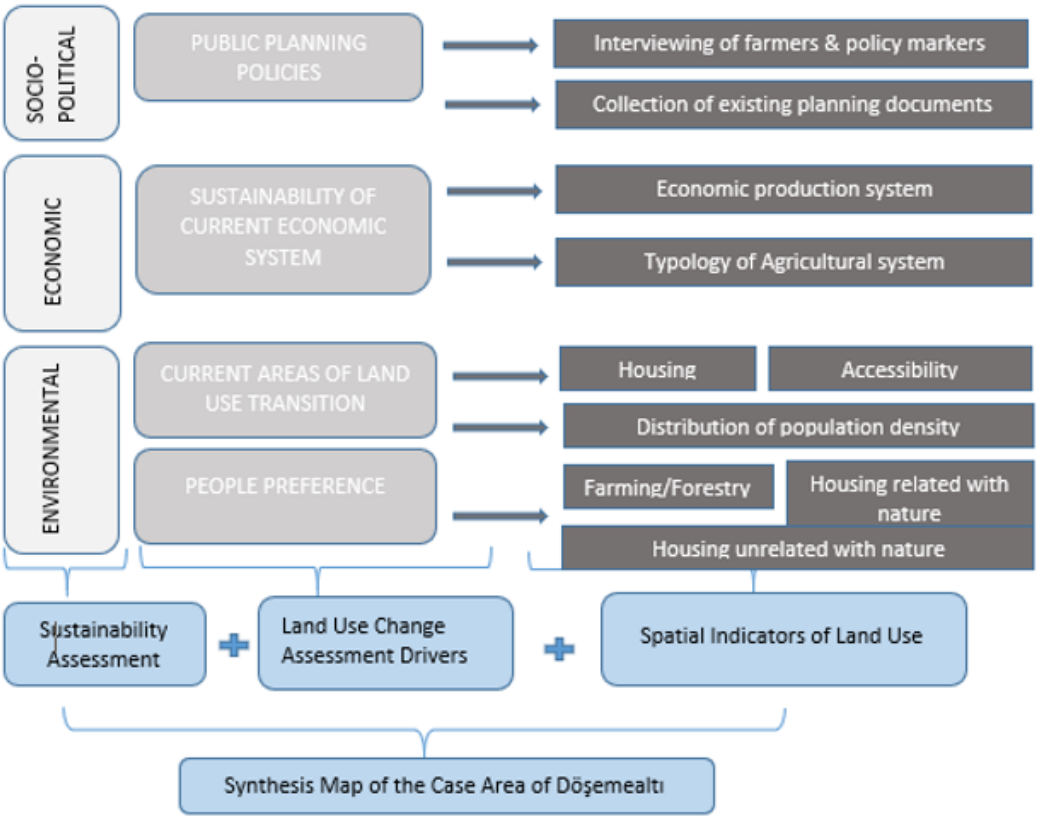


Figure 1.1. Overall Scheme of Thesis Structure

Lastly, environmental factors are investigated in two side: current areas of land use transitions and morphological structure of landscape. Current areas of land use transition is considered with the frame of speculation in land sale so it is searched for distance from the primary highways and closeness to the city centre. From the morphological perspective is related to farming and forestry, waste management

facilities, energy production, distribution, recreational land uses, conservation sites and historical/arcaelogical sites. In this respect, factors that affect the urbanization positively and negatively, spatial distribution of vulnerability from urbanization is analyzed and then categorised according to own driver urbanization indicators.

All section is combined to obtain synthetic map which create information about socio-political, economic, and environmental factors. Synthetic map shows the potential drivers changing land use, potential threats for preservence of natural and agricultural land area. The second step of the thesis structure allows for better develop policy and design tools for rural urban fringe future.

1.4. The Thesis Structure

This thesis consists of five primary sections including theoretical definitions, examining the case area and resulting with discussions and concluding remarks.

Chapter 2 sets the theoretical framework of this research. It defines today's urban fringe patterns, by introducing their definitions and characteristics. It also presents the factors and reasons behind the urban fringe development (therefore the loss of natural and rural lands) in the contemporary cities. Besides, it discusses the notion of 'fringe' in detail by asking the following questions: What's the ' fringe? 'And what land-use operations in the present urban forms are frequently noted in the urban fringe? Additionally, this chapter seeks to address the questions of how different land-uses can co-exist and how we can classify them. Finally, it examines the urban fringe and the nature of these land-uses in terms of 'aesthetic', economic, social and ecological perspectives.

Chapter 3 investigates the interrelationship between the sustainability and rural-urban fringe. By re-visiting the 'sustainability' concept, it seeks to address the question of how the sustainable fringe development can be achieved in contemporary cities. Hence, it focuses on two different literatures: an urban perspective on sustainable

development and a rural perspective on sustainable development. The investigation primarily aims to understand how sustainable development can be achieved in urban fringe by overcoming the Adverse effects of urban sprawl in the transformation of rural lands. The divide of these two perspectives highlight the links between natural landscape and built environment. Thus, this chapter investigates tools, concepts and principles of harmonizing different morphological patterns of rural and urban settings.

Chapter 4 focuses on the case study of this research. It examines the urban fringe development of Döşemealtı in Antalya with regard to the sustainable urban fringe development indicators and characteristics. The sustainability assessments conducted by this research are threefold: socio-political, economic and ecological. In terms of socio-political assessments, Interviews with farmers and policy-makers are presented and analyzed to find out existing land-use management strategies and stakeholders' perceptions for the present and future rural-urban fringe zone in Döşemealtı. In terms of economic assessments, this chapter investigates the current economic system which includes economic production and typology of agricultural system, and how far these economic systems sustainably operate in the urban fringe development. Finally, in terms of environmental assessment, morphological analyses are presented to show how Döşemealtı has been developed spatially by damaging natural and agricultural lands and production system. This research presents a multi-dimensional analysis to gain an integrated and comprehensive outlook for Döşemealtı in Antalya in terms of its sustainable fringe development.

Chapter 5 summarises the major findings and answers of the questions. It explains how the current urban fringe has developed in the case of Döşemealtı in Antalya, the specific and general conditions which have impacted this fringe development. It also clarifies how far the fringe development in Döşemealtı is compatible with the principles of sustainable fringe development, as well as what the limitations and challenges of Döşemealtı are regarding the principles of sutainable urban fringe. It also discusses the possible planning and design principles that can be followed in the future to turn the recent and current development of urban fringe into a sustainable

one. His chapter also presents the limitations and the shortcomings of the research, and how it sheds light on the future studies, what kind of research can be done in the future based on the findings of this thesis. Last but not the least, after the discussions and findings, this thesis offers some suggestions to improve the fringe model of Turkish cities to lead to a sustainable urban development.

CHAPTER 2

LITERATURE REVIEW

This chapter mainly focuses on the review of current literature regarding the impact of urban sprawl on the environment. Recently, urban sprawl has become a common topic, but on many sides of this phenomenon there is a little aggregation: its definition, effects and features. Thus, this chapter firstly begins with the survey of literature on urban sprawl. Secondly, the negative effects of urban sprawl on the consumption of natural and man-made assets will be evaluated. Although there are many debates on urban sprawl, impacts of urban sprawl will lead to either positive or negative consequences. The effects of urban sprawl are mixed. Evidences of various research show that the benefits of sprawl are fewer than costs of sprawl. Thus, in general, sprawl is accepted as a problem, instead of inevitable and undesirable step during the urban growth phase. The scope of the thesis will be restricted to the framework of urban sprawl's environmental effects. The literature on the sprawl is used to comprehend the fringe setting process. The first step on the manner to identifying the fringe is urban sprawl.

2.1. Urban Growth and Urban Sprawl

Urban growth and sprawl are problems that are extremely interlinked as having comparable causes ; however, this does not imply they have to happen hand in hand. Urban growth can be noted without sprawling, but the opposite is not the case ; however, sprawling must lead to urban growth. City growth is just as important a phenomenon as some urban growth debates following a ' ' urban transition " pattern (UN, 1998). The growth of cities, as noted urbanization in the U.N report, refers to four growth phases: First, the highest development in the town centre ; second, the fastest-growing suburbanization just outside the town centre ;the third is reverse

urbanization that's the core and suburban population surround the rural lands coined by Berry (1976), and the last stage is re-urbanization with population growth at the heart of the town. Gottman & Harper (1990, 101) states that:

> ‘’ Urban regions are increasing, and the implications for urban form are a ' breaking out of the ancient boundaries, walls, boulevards, or administrative boundaries that set it apart, the town has invaded the open land massively, though sections of the landscape may have maintained their rural appearance. The growth in size of population has also meant a spectacular growth in area for the modern metropolis.”

' Sprawl ' can be described in a multitude of ways because the definition of sprawl depends on who presents the concept from the viewpoint. Sprawl is a low density development beyond the brink of service and jobs, according to the Sierra Club (1999, 1). ‘Fragmentation’ is an important term in this situaiton which seperates peoples’ living area from the where people shop, work, recreate and educate. In this sense, it creates dependency on cars to move between areas that are fragmented.

Ewing (1997,32) describes sprawl from the three terms and features: ' ' leapfrog or scattered growth, retail strip growth and big expenditures of low-density or single-use projects with low accessibility and absence of functional open space operations '.

Another definiton of sprawl refers to a specific types of suburban growth by unlimited outward extension of dispersed development where settlements of very low density (both residential and non-residential) and the use of personal cars dominate ; also the classification of land use by activity (USHUD 1999, 33).

Other scientists who call sprawl a carcinogenic growth or a virus. (Dilorenzo of the year 2000). Less vocal descriptions include ' ' the spreading development in the rural landscape of urban settlement " (Harvey and Clark 1971, 475), 'urbanization of low density ' (Pendall 1999, 555) and ' discontinuous growth ' (Weitz and Moore 1998). Richmond (1995) defines, in relation to this expression, the various sprawl indices that are decentralized land ownership and fragmentation of national land use power and

disparities in local government fiscal capacity. Down (1998) describes sprawl from two other features: extensive development of business strips, and no low-income housing outside of central core. It is clear that the definitions of sprawl has different meanings for each study field. Therefore, there is no common consensus. However, nearly all of descriptions express the common characteristics: consuming rural land with the expansion of urban land with very low density settlements, segregated land use activity, lack of public/open space and lack of accessibility and automobile dominance.

To summarize, it is necessary to consider urban sprawl in a framework of space-time. Increasing urban land in a specified region is greater than the population growth rate. According to USEPA (2001), metropolitan sprawl occurs when the level of land transformed from urban to non-agricultural or non-natural uses exceeds the population growth rate. Sprawl is related to the destroying of green space or natural values, increases traffic and air pollution, large expanses of single-use development because of the irresponsible and poorly-planned or unplanned-uncontrolled development.

Table 2.1. Definitions of urban sprawl

Author	Definition	Characteristics
Harvey and Clark (1971)	The scattering growth of urban settlement into the rural landscape	The scattering growth
Richmond (1995)	Decentralized acquisition of land and the fragmentation of state authority for land use and disparities in local authority economic capacity	Decentralization, fragmentation, disparities
Ewing (1997)	Advancements with low accessibility and absence of operational outdoor area and leapfrog or scattered development, business	Leapfrog outward extension

	strip growth and big expenditures of low density or single use	
Weitz and Moore (1998)	Discontinuous development	Discontinuous development
Down (1998)	Wide-ranging business development and no low-income housing outside the core	Commercial strip development, low income
Sierra Club (1999)	Development of low density beyond service and jobs. Fragmentation is higly related to the sprawl which seperates peoples' living area from work area.	Low density, fragmentation
USHUD (1999)	Unlimited expansion of distributed growth where settlements of very low density are both residential or non residential and dominance use of private automobiles; also segregation of land uses by activity	Unlimited outward extension, low density settlements, private automobile dependency, segregation
Pendall (1999)	Low density urbanization	Low density urbanization
Dilorenzo (2000)	Cancerous growth or a virus	Cancerous growth, Virus
USEPA (2001)	Sprawl is occurred at the metropolitan scale when the rate of converted land from Urban, non-agricultural and non-natural uses exceed population growth rates	Increased the rate of sprawl compared to the rate of population growth

2.1.1. Measuring Sprawl

The USA Today developed the sprawl index which has been increasing interest on the notion of urban sprawl. Despite its limitations, the USA Today Index focuses on two

density related measures and gives a score for every 271 metropolitan areas related to these measure indexes. Sprawl index is determined below:

• Percentage of urban inhabitants in the subway area

• Change in the proportion of urban population between 1990 and 1999.

Urbanization has to be defined like those areas of a subway with a population of 1,000 or more per square mile. Metropolitan areas were ranked from 1 to 271 on each measurement of sprawl degree and lower number representing lower degree of sprawl. The degree of sprawl cannot be measured easily, but USA Today index take advantage in terms of its simplicity. Totally dependency of density measuring cannot be reliable, because it does not differentiate between low suburban density growth and elevated urban density growth.

Other measuring method of sprawl is housing consumption that introduced as more or less sprawling and characterized number of rooms, square unit features, rates of ownership and construction year. Kahn developed this measuring and explored potential benefits of sprawl: The first one is increased housing affordability and the second one is Greater housing equality across racial lines. Degree of decentralization of jobs in a subway region voiced the sprawl for his measurement. It was especially represented by the proportion of metropolitan employment that located more than 10 miles from the central business district. The sprawl level was varied depending on the situation of inside or outside the CBD. Kahn's sprawl level would be zero which requires locating of all employment inside a 10-mile ring around the CBD. If all were located outside the 10-mile ring, the sprawl level would be accepted as 1. At this point it is crucial to note that, this sprawl measure is partial and problematic in terms of ignoring residential development patterns and multi-centered employment patterns characteristics of large metropolitan areas.

Down's explanation on sprawl is developed within the two frameworks: specific traits of sprawl and measures of urban decline. In order to understand relationship between these frameworks, concentrated urban poverty that is seen as source of urban decline.

There are three forms of defining Down's sprawl conception: assortment of land use patterns, root causes of these patterns, and specific consequences of these patterns. To measure the sprawl, following dimensions were analyzed for specially 162 urbanized areas that had populations of 150,000 or more in 1990:

• Urban land area
• Density of urbanized population outside the town center or towns
• Ratio of urban population density to urbanized density
• Percentage of total urban population residing outside the urban region
• Percentage of total urban population residing within the town center or towns

All variables in this measuring were normalized on a scale of 0 to 100 to obtain a sprawl score and then averaged. According to Down's conclusion, own concept of the sprawl cannot be useful differentiate causes and effects from sprawl features and defining meaningful and substantial statistical relationships between particular sprawl characteristics and urban decline measures is not sufficient.

Glaeser et al. (2001) focus on sprawl associated with the The degree of employment decentralization and the need information were acquired from the United States Zip Code Business Patterns for the Department of Commerce for 1996. To explain the relationship between job decentralization and sprawl, the distribution of the total metropolitan work within 3 kilometers, inside or outside a The Central Business District's 10 mile ring was calculated. While the share was expressed as the existence or lack of a well-defined center of jobs where the share outside 10 miles defined the extent of work sprawl within three miles of the Central Business District. When metros are considered in terms of values of indices, four categories can be pointed out, namely; dense employment metro, centralized employment metro, decentralized employment metro and extremely decentralized metro. First, thick employment metros like New York illustrated their jobs within three miles of the town center by at least one quarter. Other meters of jobs such as Minneapolis-St. Paul was centralized,

capturing 10-25% of jobs within three miles of the town and over 60% within 10 miles. The one of the examples of decentralized employment metros is Washington D.C. have within the three-mile ring by 10 to 25 percent of employment and within the 10 miles by less than 60 percent. The last categorization is extremely decentralization metro like Los Angeles, having less than 10 percent of their employment within the three-mile ring. To express differences across metros, Glaeser et al. interested in two components of measuring sprawl as ‘’the age of the metro area that is the year of primary city establishment’’ and ‘’the degree of political fragmentation within the metropolitan area that is the number of local jurisdictions within their boundaries Glaeser et al. state that it is not any relationship between age and job decentralization, but the connection between political fragmentation and decentralization of employment exists statistically.

Pendall (1999) advocates sprawl incidence for big metropolitan regions: land values, metropolitan political organisation, local government spending, collisions of traffic, and numerous local land use strategies. Pendall claims that policies on land use, appropriate requirements for government amenities and control variables such as high valued farmland or expensive housing which force to prevent sprawl while zoning in low density, jurisdictional fragmentation and more sprawl was connected with construction caps. Pendall's sprawl metric focuses on the density separated by metropolitan acreage in order to achieve estimates of density. Population change estimates between 1982 and 1992 were split by estimates of change in urban land over a comparable period that was used to measure changes and sprawl increases over time.

Fulton et al., who researched urban property usage relative to demographic change for each U.S. metropolitan region, created another important subscription. Sprawl is the imbalance between the increasing of the ground covered by the city and the growing of population. If real need for consumption land is bigger than the population that is growing and spreading over the rural land, it have to be sprawl and say it's growing.

The concept of sprawl is studied among various academic researchers, as failed to explained of sprawl with few exceptions like that Galster et al. All sprawl studies concentrate on density that is relatively easy to measure and so comes to the fore as the sole indicator of sprawl. Another notable feature of sprawl studies is failure to explain consequences of sprawl as different variables given to different metros and lead to very different results. For instance, while in one study, Portland is ranked as most compact and Los Angeles is seen as one of the worst in the list, in another list their rankings are reversed.

Table 2.2. Different methods of measuring urban sprawl

Author/s	Name of measure method	Parameters/Indicators	Pros and cons
The USA Today	Density measure	* [Percentage of the population of a metro area located in urban regions] Change in the proportion of urban population over the years	* USA Today index take advantage in terms of its simplicity * Difficult to differentiate between low-density growth and high-density growth
Kahn	Housing consumption	* Number of rooms per unit square footage * rates of ownership per building year	* explored potential benefits of sprawl * ignoring residential development patterns and Multi-centered patterns of work * characteristics of large urban regions
Down	Particular sprawl characteristics and urban reduction interventions	* Urbanized land area * Population density of the urbanized area outside the city center or cities	* Causes and consequences can not be easily distinguished from the features of the sprawl

		* Ratio of the density of the population of the city center to the density of the urbanized fringe * Percentage of the total population of the metropolitan area living outside the urbanized area * Percentage of urbanized commuters driving alone or in carpools * Number of distinct authorities controlling land use per 100,000 inhabitants of the suburban region * Ratio of bad core citizens with bad suburban inhabitants	* it is not meaningful and significant statistical relationship exists between specific traits of sprawl and measures of urban decline
Glaeser et al.	The level of employment decentralisation	* The share of overall employment eithin a 3 mile ring, inside or outside a 10 mile ring of the CBD * The underground age * The extent of political divide	* express differences across metros * it is not any relationship between age and job decentralization, but The connection between political divide and decentralizing of jobs exists statistically
Pendall	Density estimate	* population change between the years * urban land change between the similar years * Land prices, metropolitan organisation, local authority expenditure, congestion of traffic and multiple strategies on local land use.	* Density method is simple but it is not enough for reliable consequences

2.1.2. Urban growth and sprawling causes

The trend of outward growth has continued since the beginning of the twentieth century. It has since developed congested and low-quality residential patterns and environments in overcrowded and unpleasant urban cores. Failure to physically accommodate the growing population leads to urban growth, and the increase in urban population leads to urban expansion. This is one of the factors leading to the outward development of the population; But, alterations in urban shape are also associated with social transition. In parallel with social change, technological and economic developments caused more fluidity in the population. In parallel with the developments in transportation and technology, activities such as industrial production, retail trade and housing spread out of the city. The fact that land use functions can no longer exist outside the city and increases in living standards have led to increased spatial demands of urban residents (Gottmann & Harper 1990). As a result, changes in the functions and technology of a city inevitably become part of the formation of new urban forms. The city cannot be limited to a certain size, technological and social changes shape the distribution and size of cities.

'Population growth in urban area' is especially shown as another factor, being responsible for sprawl (Bhatta 2010). Two types of population growth lead to urban growth. One is natural increase in population and the other is migration from rural areas to urban areas. Rural to urban migration is the most significant type, which is explained in terms of pull factors and push factors. Pull factors include job opportunities and better living facilities, whereas push factors include high unemployment or political persecution. Some conditions in the origin place are perceived as harmful for their wellbeing or economic security so some people prefer to live in better place conditions where attract indivuals to move there.

Another important factor of urban sprawl is 'the competitors (government or private) that hold a variety of expectations about the future and development demands. These competitors can make decisions on their own to meet their future expectations and

development demands, but it can result in uncoordinated and unplanned development because of the lack of master plan as a whole (Harvey and Clark 1965).

'Expansion of economic base', such as per capita income, increase in number of working persons, causes the increases in demand for new housing or more housing space for individuals (Boyce 1963; Giuliano 1989; Bhatta 2009b). In addition, developers' role on the decision-making process of constructing new houses increased and impacted on rapid development of housing and other urban infrastructure. It often produces a variety of discontinuous uncorrelated developments. 'Rapid development' is accepted as a problem which is a result of lack of time for proper planning and coordination among different actors such as developers, governments and proponents. Parallel to changes in development of economy, establishment of new industries in countryside causes increase of impervious surface rapidly, loss of space productive function and production replacing with consumption. The sprawl of industry threatens the rural land, as the time passes and the transition process from agricultural to industrial tends to grow. With these reasons, demand of housing for its workers in a large area must be increased.

Speculation about the future growth, future government policies and facilities are one of the main reasons beyond the sprawl, but also cause premature growth without proper planning (Clawson 1962; Harvey and Clark 1965). The existence of speculation results with sprawl with holding of land for development. Speculation can be explained in terms of several political manifestos, which can also encourage people direction and magnitude of future growth towards a speculation. In other words, speculation is a motivation of the growth process which does it through all incremental additions to the urban fringe expressing as speculative ventures. Expectations of land appreciation at the urban fringe consequently lead to some landowners to withhold land from the market (Lessinger 1962; Ottensmann 1977). This result with a discontinuous pattern of development, the higher rate of growth in a metropolitan area, the greater the expectations of the suitability land for development; as a result, more land will be manipulated for future development. Another reason of sprawl is

ownership of land causes speculation also, desired by many institutions and even individuals. Often these lands left vacant within the core city area and makes infill policies unsuccessful. In other words, the city grows outward and leaves the undeveloped land within the city (Harvey and Clark 1965). They also argue that unsuitable physical terrain such as rugged terrain, wetlands, mineral lands or water bodies become the cause of sprawl. This is not allowed to continuous development and often creates leap-frog development.

The concept of vacant land is also called as dead land, explaining that blighted vacant land in the city of Chicago suggested by Aschman, but cannot be thought as a main reason of sprawl. Because Aschmane and Berkman also state that developments take place at the edges of city to provide enough living space although dead land exists in the center of the city. The importance of inner vacant land is not ignored for the protection of peripheral development via prevents development in this area; but it is likely that the opportunities for peripheral development obviate the need for removing the obstacles to the redevelopment of the so-called dead land.

Furthermore, transportation routes open the access of city to countryside and responsible for sprawl. Trolley and bus lines produce linear branch development and the rapid transit lines have inevitably create extending of the strips. The construction of expressways and highways cause both congestion in the city and rapid spread of the city at the edge (Harvey and Clark 1965). Roads are commonly considered in modeling and forecasting urban sprawl (Cheng and Masser 2003; Yang and Lo 2003). The development of a highway system often creates land parcels unsuited economically to farming or housing and promote the unfortunate heterogeneity of uses.

Table 2.3. Causes of urban sprawl

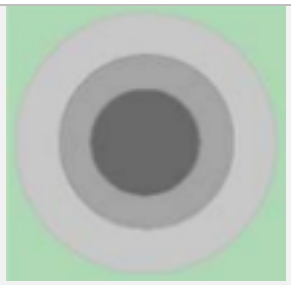
Author/s	Causes of urban sprawl	Description of key characteristics
Gotmann&Harper (1990)	Urban Growth	• increasing of urban population • urban expansion
	Social Change	• technological, economic, transportation development
Bhatta (2010)	Population Growth	• rural-urban migration • pull factor (job opportunities, better living standards, etc.) • push factor (high unemployment, political restrictions)
Boyce (1963); Giuliano (1989); Bhatta (2009)	Expansion of economic base	• per capita income • increasing of employee • increasing of housing demand • developers 'role on the decision-making process of construction new building • Rapid development • Loss of space resulting of the sprawl of industry
Clawson (1962); Harvey and Clark (1965)	Government policies	• Unplanned growth
Lessinger (1962); Ottensmann (1977)	Land speculation	• Expectations of land appreciation • Discontinuous development pattern • Land manipulation for future development
	Political manifestos	
Cheng and Masser (2003); Yang and Lo (2003)	Transportation	• Creating unfortunate land parcels for farming or housing economy
Harvey&Clark (1965)	Expectation and decisions of the competitor	• uncoordinated and unplanned development
	Transportation	• expressways, highways,etc.

2.1.3. Spatial Forms of Sprawl

Sprawl development includes three basic spatial forms: low density continuous sprawl, ribbon sprawl, and leapfrog development sprawl (Harvey and Clark 1971). The first spatial form of the high consumption of land for urban reasons determines the lower density sprawl. This type of sprawl consists of segregated extensions of basic urban infrastructure such as water, sewer, power, and roads. The second spatial form of development is ribbon sprawl depends on following major transportation arteries outward from urban cores. This type of sprawl results in development of land as adjacent to corridors and converted of such adjacent ' ' raw " lands are used for urban purposes with increased land use and extending of infrastructure perpendicularly from the major roads and lines. Finally, the spatial type of growth is the growth of leapfrogs with parts of developed land commonly isolated from each other and the borders. Besides, in some instances, leapfrog development is seen as blurred and urbanized areas. It needs "the biggest capital expenditure at the moment of growth to provide complete urban facilities" (Harvey and Clark 1971, 476). Structural geology such as rough terrain, agriculture, mineral lands or bodies of water can prevent ongoing growth that affect the leapfrog development and make it prohibitively expensive. A physical factor does not only factors causing the leapfrog development sprawl. Policy on restrictive land use in one political domain are another factor, which may make production to ' ' leap " or less capable of preventing or controlling development.

Hanson and Freihage (2001) illustrate six geographical dimensions of land development: ‘density, continuity, concentration, centrality, nuclearity, and diversity’. The quantity of production of lower density with a proportion or proportion of complete developed property is called as ‘density’. Larger levels of low-density development to complete land development mean spreading, while reduced ratios show more compact and quicker growth patterns. ‘Continuity’ is one of the diversity metrics refers to the degree to that urban development is spatially contiguous or discontinuous and also reflects being leapfrog sprawl.

Table 2.4. *Types of urban sprawl*

Types	Example	Description
Low-density continuous sprawl		Phenomenon referring to the highly consumptive use of land for urban purposes is caused by outward spreading of low-density suburban land uses as their population becoming wealthier and there is no lack of land supply (Barnes et al., 2010).
Ribbon sprawl		Including the expansion along major transportation arteries, primarily concentration on roads. A pattern of development is seemed to tendency of remain as greenfield when areas without accessibility to the roads. While remaining greenfield, with the reason of increasing of land values and extending of infrastructure perpendicularly through the major road, this land has waited for conversion into urban land uses. (M. R. Majid & H. Yahya)
Leapfrog development sprawl		They are the scattered from of urbanization and are mostly conceptualized as disjointed patches of urban land uses and interspersed with green areas., is caused by physical limitations such as prohibitive topography, water bodies, and wetlands or by more subtle reasons such as differences in development policies between political jurisdictions. (M. R. Majid & H. Yahya)

Source: CGIS at Towson University, 2010

'Concentration' is a sign of the extent to which growth is focused on a comparatively tiny part of the complete land region of a jurisdiction. In this sense, a low level of urban concentration demonstrates the sprawl.

'Centrality' offers the explanations by relating the degree to which development is located closely to a jurisdiction's most intensely developed areas or designated growth areas. 'Nuclearity ' implies organizing urban growth across one or more focused centers of jobs. Therefore, the greater the amount of job facilities, the more distributed and widespread patterns of growth will be. The last one is the 'diversity' dimension that refers to the blend of possibilities for jobs and housing in a specified region. Segregation of land uses is important to portray the diversity functions. In this situation, separation of residential properties functions from occupational land uses such as offices, shops, companies, and industrial land uses are shaped by diversity dimensions. Commuting distances between homes and employment opportunities depends on the distances between separate these land uses. Increasing of distance between different land use leads to the longer commuting distance between them. According to Hanson and Freihage (2001), the high diversity refers to more compact development pattern; low diversity shapes the sprawl pattern.

2.1.4. Consequences of Sprawl

A literature review in an earlier study (Burchell et al. 1998) pointed out twice as many negative (27) as positive (14) impacts of sprawl. At this point it is quantified for analysis include:

- increasing both the private and public capital and operating costs of an accommodating population growth;
- growth of automobile usage and greater travel trip distance and consequently greater consumption of fossil fuels;

- disproportionate consumption of an agricultural and fragile environmental land in excess of what is necessary population growth
- raising of air pollution, water pollution and soil erosion
- intensifying inner-city ills in consequence of economic segregation and spatial mismatch of population and jobs.

The literature is composed of five substantive areas in unearthing the nature of sprawl impacts: land losses; capital infrastructure costs for roads and water/sewer; transportation impacts such as vehicle miles traveled and automobile versus transit use; quality of life which measures of satisfaction of place under sprawl; social impacts include the spatial mismatch of jobs/workers and the decline of urban tax bases. In this sense, negative and positive impacts of sprawl is clarified shortly, are evaluated based on the five categorizations above and following the impact of sprawl on environmental and natural land loses is specially defined.

The wide range of literature on costs and benefits of sprawl focus on sprawls' capital and operating costs, both are public and private. ''Public capital and operating costs of sprawl'' indicate usually roads, water and sewer infrastructure and public buildings. This refers to the annual expenditures to sustain them in places where both small enclaves far from the metropolitan areas, population is growing, and in central cities where some of the population is being decreased as well. '' Private capital and operating costs of sprawl'' is taking the issue from the construction and occupancy costs of private housing and how this can be varied with the reasons of metropolitan location and the density and the form of development. This situation is linked to the patterns o sprawl in the literature with the expression of large-lot single family zoning, cause both the problem of excessive ''public'' infrastructure and operating costs and increasing housing purchase prices and occupancy costs. Moreover, benefits of sprawl, is composed of reduced transit capital costs and operating losses, related to reduced use of this mode of transit in locations where sprawl is dominant as private automobiles bear these transportation costs. (Burchell, 1997).

Opinion about the sprawl impact is also divided into the social and economic, research shows that such a phenomenon increases both advantages and expenses. (Barnes, K.B., & Morgan, J. 2002). The main themes of the cost of sprawl are that unrestricted suburban outmigration has led to a void in the economy of core areas, and the second cost is inadequacy support of finite sources to multiple separate systems of public services and capital infrastructure. The important expression is based on the effect of sprawl on urban and regional fiscal capacity. The literature implies that sprawl destroy the tax-paying capacity of central cities and decrease the tax-paying capacity of inner suburbs. Yet, the social benefits of sprawl, have been accepted by all forms of American society, Mathew Kahn's latest research concludes that sprawl reduces housing gaps between distinct races by enhancing housing affordability in suburbs and towns. It's increasing movement to the outer reaches of metropolitan areas, which has allowed the lower-middle class and near-poor to occupy less expensive housing in "zones of emergence" or stable yet heavily integrated inner suburbs. (Sternlieb, G., & Beaton, W.P 1972, 58-148)

Another cost or benefit of sprawl is related to the vehicle miles traveled encompassed in commuting time. While excessive commuting time refers to the means of cost of sprawl, reduced commuting time refers to increasingly suburban jobs. Only one benefits, studies on sprawl showed that is not a ''true'' benefit, creating lower overall transportation costs than more compact forms of development. The studies about the transformation analysis showed the opposite of the above situation, overall transportation cost of sprawl development would be higher than under more compact development forms. (Burchell et al. 2000).

Another concentration of sprawl in the literature is the impact of sprawl on quality of life. According to those who view sprawl as having negative consequences indicate that in time, place lost their ''sense of place with the expansion of vast single use residential subdivisions, accessible primarily by the automobile. This notion has been supported by the idea of a multi-use village with people biking and walking that

supplant the row upon row of houses without sidewalks or bike paths, driven by three off-street automobile parking spaces per dwelling unit.

The last alleged impact of sprawl on ecosystems and other environmental resources, which is tendency for the destruction of them. More and more land are consumed due to the uncontrolled and ignored conversion of less expensive peripheral development sites. Sprawl development consumed these lands for development which can pose significant rates of threats for natural habitats such as flora and fauna. Forest and agricultural lands may be prematurely sacrificed while other which closer in lands remain. This separate space creates ‘’ islands’’ which causes no connecting corridors and inadequate habitat to thrive for many species. Environmental and ecological impacts of sprawl is important issue, will be discussed in detail within the framework of environmental related to wildlife and ecosystems and natural resources linked to loss of farmland, vulnerability to natural hazards, human-wildlife conflicts, by accepting the wide-ranging context of problem.

2.1.4.1. Environmental Resources

Researchers generally underline those communities which is the source of the sprawl issue to identify the impacts of sprawl on environment. These perspective provide a understanding of these impacts, which have been identified: loss of environmentally fragile lands, decreased regional open space, greater air pollution, higher energy consumption, reduced aesthetic appeal of landscape (Burchell et al, 1998), loss of farmland, decreased diversity of species, raised runoff of storm water, increased risk of flooding (Adelman, 1998; PTCEC, 1999), and ecosystem fragmentation (Margules and Meyers, 1992). According to Steiner et al (1999), the sprawl impact on environment includes excessive removal of native vegetation, monotonous (and regionally inappropriate) residential visual environment, and absence of mountain views.

The advantages to society and the environment rely on biological and physical systems including wetlands that provide climate regulation for flood control and wastewater refurbishment, atmosphere, woodlands and grasslands. Furthermore, biodiversity variables that add to healthy, excellently-functioning ecosystems are also crucial; and products such as solar and wind power, design, clean air and clean water, and future resources. Environmental resources have a crucial impact on economic systems but are not direct inputs or outputs as they are in-place products and services that are supplied by nature. Furthermore, environmental resources are goods and services that remain unchanged in case the ecological systems and spaces required to produce them remain unchanged. However, when increased pollution, devastation of the ecosystem and other types of abuse occur in space, the problem of destroying and degrade environmental resource exists and arises (Daily 1997).

Other effect of sprawl is reduction the quality of both ground and surface waters, and poorly performing septic systems that pose an important threat of the environment. For instance, residents who provide their water supply from nearby or on-site wells may find that ground water contamination because of falling septic systems threatens their health and welfare. In addition, aquatic, estuarine, and near-shore marine ecosystems loss of the quality which is a result of influent from polluted groundwater sources and storm-water runoff originating from impervious surfaces.

The environmental consequences of sprawl include local, national, and worldwide geographic scales in relation to the long term effect on energy usage and air pollution of private suburbanites and exurbanites related to the back-to-work commuting. For instance, Carbon dioxide emissions in vehicles are significant greenhouse gas emissions, resulting in worldwide warming. Another instance of significant global impact on the environment is vehicle-generated air pollution that poses a threat to people's health, agricultural manufacturing and ecosystems. A major air pollutant is shaped by sprawl development related to traffic conditions and quantities, specified by area at ground level. The ozone leads to impairment of breathing operates in healthy people, deteriorate Sick people with heart and respiratory illnesses and other health

issues such as chest pains, nausea, and throat irritation with the increasing of ozone exposure. They also have hazardous impact on foliage, interferes with the physiological operations of plant which make loss of crop production for an annual $500 million (USEPA, 2011). It also contributes to extra environmental impacts, including poor water quality from non-urban sources of pollution; disruption of stream systems and flooding from developed areas due to stormwater runoff. The factors can be increased by changes in micro-climates and local climates; the impact of urban heat islands and increases severe summer thermal danger, reduction and disruption of natural ecosystems: landscape aesthetics decay and vibration and light pollution (Barnes et al. 2000, Doyle et al. 2001, NWF 2001).

Another important element of the threat to the planet here is the biggest danger to wildlife in the United States, resulting in habitat loss (Doyle et al. 2001). Changes in landscapes and fragments of previous land use patterns and land cover base result in a reduction in the quantity of habitat, which decreases the size of surviving habitat groups and raises the level of connectivity between the remaining patches. With the increase of distances between remaining fragments of habitat, it is impossible for isolated populations of plants and animals to make interactive each other. We can add that sprawl also includes except consuming wildlife ecosystems, degrades adjacent habitats with light and noise pollution resultant from developed areas (NWF 2001). Nevertheless, According to National Wildlife Federation, a land use area where some species deliberately avoid from illuminated and artificial night, the landscape and habitat of wildlife may also be fragmented, even if linking corridors exist (NWF 2001). Artificial lighting also makes stars invisible by dimming them, degrades the aesthetic of the nighttime sky and especially for the wildlife that their behavior is affected negatively from noise issuing causing diminish the value of wildlife habitat.

Another point of view considers urban sprawl as a problematic mode of urban growth and flow this view as an alteration of ecosystem patterns and process by the cause of concentration of human presence in residential and industrial settings (Grimm et al. 2000). Decreasing the amount of forest area (Macie and Moll 1989; MacDonald and

Rudel 2005), farmland (Harvey and Clark 1965), woodland (Hedblom and Soderstrom 2008), and open space are significant consequences of sprawl, however they are not alone, also associated with break up what is left into small chunks that disrupt ecosystems and fragment habitats (Lassila 1999; McArthur and Wilson 1967; O'Connor et al. 1990). The extension of urban sprawl into rural areas can be considered as the main forms of wildlife habitat loss such as woodlands and wetlands. Roads, power lines, subdivisions, and pipelines mostly cut through natural areas that can have inconvenient consequences, thereby ''fragmenting wildlife habitat'' and '' altering wildlife movement patterns''. Briefly, fragmentation of a large forest into smaller patches may not be influential size or functions to sustain viable breeding populations of certain wildlife species by disrupting ecological process.

2.1.4.2. Natural Resources

The dominant force of the residential, retail, and commercial centers of growth and political muscle as high as never before commodified over the suburbs area such as land, water, and other resources which are under enormous pressure of the continuation and replication of this trend (Diamond and Noonan 1996, 94). Suburban and exurban development not only influence adversely environmental resources, but also natural resources such as agricultural lands, timberland, minerals, and water, which makes it hard to eliminates or limits to natural resources.

Natural areas are the main point of economic system, without which economies would cease to function. They are extracted from the environment and these areas have the potential to turn into finished goods or used for power. Natural resources have been defined in two categories: firstly; renewable resources which are agricultural lands, timber, and water in that they respond to human manipulation and if it is careful management, their use can be extended almost indefinitely, secondly; nonrenewable resources such as fossil fuels and metallic ores are consumed by the production of goods and humans but they also cannot induce their accumulation.

Sprawl is expressed with reference to consumption of farmland and open spaces (Berry and Plaut 1978; Fischel 1982; Nelson 1990; Zhang et al. 2007). Although sprawl may not threaten overall national agricultural production, it creates the problem of alterations and declines in local agricultural activities and results in the loss of prime farmland. Furthermore, as Burchell et al. (2005) puts clearly in his own work, urban sprawl only in the United States, is predicted to consume 7 million acres of farmland, so 7 million acres of environmentally sensitive land and 5 million acres of other lands in between the years of 2000 and 2025. The example given by Burchell et al is meaningful in this case to show the world scenario and now the prime farmlands of their hinterlands are becoming more sprout houses rather than crops due to the growing of metropolitan areas spatially. Some policies encourage the loss of farmland, is directly related to the provincial tax and land use policies that create financial pressures on propel farmers for selling their land to speculators. Low prices of farm commodity in global markets shows the tendency of farmers to see sell of their land as a most profitable and more than that continue farming. Because of this, thousands of relatively small parcels of farmland, the characteristics of prime agricultural soils are being served as rural residential and commercial development, depending on one's perspective. And consequently, these small lots unfortunately contribute to the loss of hundreds of hectares of productive agricultural land per year in order to meet the pressure of housing and other needs. In addition to the loss of agricultural land, the loss of fresh local food sources, the loss of habitat and species diversity are strongly related to this term since farms include plant and animal habitat in woodlots and hedgerows.

The other threaten characteristics of farming are heavy traffic and congested roads, damage to crops from air pollution, fragmentation of farm, proliferation of weeds, nuisance suits, higher taxes, high land prices and declines in farm service infrastructure (Buelt 1996; Furuseth and Pierce 1982). The suburbanites and exurbanites who complain about the farm odors and noises, dust, movement of equipment and long farm operating ours, also they abuse farmers legally and socially.

Sprawl includes a conflict position against farm in terms of values and land use and raising the conflict between farm and more recent non-farm residents. For instance, Vaux (1982) define the value conflicts, it can be the conflict over the use and management of forestland intensify because urban uses consume more widely open spaces and more urbanities and remaining forests is transformed for recreation. In other words, if the condition of economic base is to be analyzed, it is highly possible to see that rural landscaping radically is transformed, economic base is shifted from agricultural to other uses such as timber production, recreational or residential has been risen dramatically and consumed far more. The existence of farm on the rural landscape enables different benefits; green space, rural economic stability, and preservation of the rural lifestyles. To compete with alternative uses which are specified above, farmers in urbanizing areas needs intensive work on agricultural lands, more profitable crops, or less investment operations in infrastructure.

With the expansion of sprawl and exurban development, as populations become more widely dispersed, the more increasing numbers of people are exposed and vulnerable to natural hazards (Mileti 1999). Although there are the adjustments needed to protect life, the hazards are new and unfamiliar for some (Mitchell 1976). Incompatibility between land uses and the natural process operating in those areas eventually lead to an increase of problem in natural hazards, such as floods, landslides, earthquakes, expansive soils, subsidence, and wildfires. For instance, the incompatibility exists between technology and environmental conditions, like high-speed transportation and fog, will not have enough efforts for restrict or prevent development in hazardous areas, because sprawl and exurban development have positioned around the river and coastal floodplains, and into areas prone to flash floods, slope failures, tectonic activities, and wildfires (FEMA 1997; Mileti 1999). There are two consequences of increased urban expansion and population growth in hazardous areas of the United States which are: the rising costs of natural disasters and the increasing number of people at risk (FEMA 1997).

Often the land to be disposed of closing the location where to streams and bush, or with trees, or containing other physical characteristics, desired by the consumer seeking the rural environment. Sometimes, sprawl may be a product of a buyer seeking a particular environment. For instance, some suburban sprawl users seek a housing environment of a special character like their childhood environment; whereas some seek area accordance with separate from main urban scene and sometimes just because of being different from main urban scene may provide users to prefer amenities. Without doubt, there is much more about the suburban scene which is imperfections, and but oftentimes the suburban sprawl occupier prefers to trade the kinds of imperfections found in the periphery for those found in the central city. Consequently, in this perspective human-wildlife conflicts will increase as land consumes more agricultural and wildlife habitats and land uses intrude into areas located far from metropolitan areas. The increasing fragmentation of forested areas is another outstanding concern is defined as an increasing of the amount of ‘’edge’’ habitats, transitional, linear ecosystems between two very different ecosystems such as field and a forest. Also, even though the major definition of sprawl is approved, public policy to address sprawl development requires measures to assess sprawl.

2.2. Defining the Rural Urban Fringe Belt

The literature research of more than 200 publications displayed a few interesting conclusions about fringe belt debates as it is known to have great impacts on environmental and socio-economical phenomenon. It is generally described under two main topics, one of which is related to the urban fringe theory that express either a type of land use or land use dynamic functioning as ‘divide’ between city and countryside, and the second one is about the sprawl approach is defined as dynamic and fast transformation of rural land into urban land. But, in some cases accepted as it forms its own ‘landscape’ and it is called the peri- urban or more correctly semi-urban area. In my opinion here is the divided landscape should firstly be explained and a

following focus given on the definition of fringe belt concepts and related subject as it is necessary to understand the depth of the relations between rural and urban.

2.2.1. Forms and Contents: Dialectics between Urban and Rural

'Urban areas' are generally described as cities or towns with their specific urban form (Lynch, 1954). However numerous studies deal with growing of urban areas far beyond the edges of core city areas and this growth manifesting itself as rural urban fringe or peri-urban interface. Along with this traditional perspective, these studies identify space as located between a rural and urban dichotomy (Woods, 2006). More recent research emphasizes most dynamic views that understood as a place of change and adjustment, where shows the different characteristics of both rural and urban spheres (Woods, 2006; Allen, 2003). No longer seen as just a boundary 'in-between' the city and the country, the interface and the impact of urban and semi-urban areas on the rural environment which is characterized as a process and emerged in two significant themes: identification and location; place and identity, are being contested and reconfigured (Kaiser and Nikiforova, 2006). The space where rural meets urban are often amongst society's most valued and pressured places which together form the rural urban fringe because of rising the tension between urban and rural.

The classical idea of dichotomy of urban versus rural area is not new and is the conceptual discussion about the countryside/ rural-city/ urban relation. However, because of disciplinary clefts between rural and urban traditions and approaches, a standard definition about what exactly rural, where is rural or rural, what is fringe does not exist. As a result of this, this relation and lack of meaning requires a review of some fundamental principles that support and contribute to clarifying its meaning and linked phenomena.

At the same time, it requires a new perspective to evaluate the subject from a different perspective that can overcome the radical interpretations of old concepts. The distinction between the city and the countryside is one of the realities that deeply and

definitively determine the different human communities since the distant times. Contemporary transformations following 3rd the Industrial Revolution, increased the blurring of urban-rural duality and, until recently reduced the sensitivity of rural and urban terms used to characterize life in rural and urban areas. Initially, there were the countryside and the city or the city and countryside as some theorists emphasize (Jacobs, 2000). The city has been defined as the area of power, the party and its succession, the collection and concentration of the collective surplus since its birth. Concentrated institutions, laws and management, religious rituals and cultural manifestations, monuments, market places and collective services of daily life created itself as the center of social life. However, the existence of a city territory was independent of the fact that community members lived within the urban boundaries; that is, the area that was built from the furrow of the scaly carried by the sacred bulls. The city was the region that was raised and symbolized by Rome's caries, which embodied the politically defined society by police or civilizations, thus giving a definite meaning to the idea of civilization.

The rural area, the surrounding space which has always been a centralized urban as its reference was the city complementary and was also the hostile and at the same time defining territory of the city. This sense of complementarity between the city and countryside can be understood through the creation of autonomous management units in municipalities. The city, which was originally a political and commercial center that enabled the realization of the rural region with its political and ideological domination and the realization of its production in the markets, has undergone a radical transformation with the realization of industrial production in its region.

From a privileged party space, power, and surplus which is the symbol of civilization and, it became the production area itself. The combination of the same sovereign and subaltern classes, as required by the reproduction of industrialized capitalism, allowed the city to manage its rural areas strictly and completely, not only in its organization, but in higher yields. Thus, the city became the primitive area of collective life and as well as the industrial modern production zone that intensified the conditions of

production (and reproduction) demanded by the production co-operative process. Shortly thereafter, urban life would now refer not only to the city, but also to the production and consumption of commodities and the reproduction of capitalist relations of production created and developed in the urban-industrial context. The arrival of the production activities in the city provoked the transformation from oeuvre to product (Lefebvre, 1969 and 1999), like conversion from use value to exchange value, also explaining a condition for the survival of capitalism and the reproduction of the relations of production. A rural, once privileged habitat and agricultural production, the city loses its potentially self-sufficient character after being subsidized to the total city. This sub-regulation includes the sphere of production area and the creation of commodities, as well as the dependence on the products, technologies and services offered by the city.

Many were theoretical attempts to understand the urban-rural issues of the last century, from the Chicago School to a large number of neo-Marxist theoreticians (Saunders, 1984). At that time, further research was conducted to understand the meaning and specific function of the city to capitalist accumulation (Castells, 1972). The perception that there is something new in the urban-industrial regions gave rise to difficulties in understanding what would be the nature of social space. Lefebvre stated that the virtual reemergence of the importance of daily life and collective urban reproduction after May 1968, by putting new limits on the industrial hegemony that had dominated the production of the social sphere by focused on exchange value. Lefebvre (1969) initiated a discussion around the right of the city questioning its functional fragmentation, including the concept of the space of power, leisure and culture, an to urban centrality itself as well as the notion of dwelling as something in itself. He criticized the approach to the problem of housing within the logic of human and social function by accepting the reasons of class strategy as an excuse to remove the proletarians and the poor from the city center (a focus on the common wealth, power and culture) towards its outskirts and the periphery. According to him, the expansion of cities into the surrounding areas and virtually almost the entire region has expanded

the social space at the national (and planetary) scale to create a virtual urban society. Being virtually here is understood as potential. It will be accompanied by an urban revolution into the virtual urban community which expresses itself in the re-politicization of the city in the re-creation of urban praxis by focusing on the privilege of urban perspective based on collective re-production and use-value, on use-value and increasing restrictions on industrial production. Now this expression, at first sight, to understand that the urban revolution shows the expanding of the urban area to the countryside. This can also illustrate the expansion of the general conditions of production scale to national and regional space. It also has a strong capitalist relation of production that directly leads to extent of the germ or the virus of politic and citizenship to all national space.

City and countryside have been accepted as hegemonic conceptions that recall us a conceived landscape. City and countryside are defined as a mental image in each individual memory and imaginary which is a result of life experiences and combining knowledge and ideologies. These images remind us of landscapes, spaces; a rhythm is defined by Lefebvre (1991) as representational spaces. It refers to the representations and rationalizations of what the city is, what the countryside and nature are. As mentioned earlier, the idea of the city refers buildings, activities and the community of people, whereas at the same time, the idea of countryside reminds of plants, animal farming, forests, mountains and large earth extensions. Although these representations change over time in every society, perceiving the forms and contents of urban and rural areas can be evaluated in their own independent meanings.

To understand the city as a form, not to think of it as a chamber of social processes, means to reduce it to a set of structures and infrastructure. Instead, to discover such an abstract form of the city and the countryside requires a dialectical perspective starting from the relations between form and content. One way of approach is to follow the procedure of Marx (1975), beginning of the search of the abstract form of the commodity, in what follows, approach tries to understand the capitalist system and reveal its content as a synthesis of multiple determinations. In the pre-capitalist phase,

the city could be seen as a form that was initially produced by spatial practices and Marx relates it with the representational space and spaces of representation. When the city and the countryside coexist as forms, both can be understood as concrete manifestations in social sphere. While determining what would be the urban or what would be the rural, Lefebvre (1969, p. 72) says urban as content is a quality or a difference, likely the rural. The urban is or was the party, the meeting, the simultaneity, the centrality, a quality arising from the quantities, unlike the contents of the urban world, rural would be accepted as the peace, the calmness, the isolation, the sequential, the peripheral, and the unqualified quality. From a critical perspective, the appropriation and the terms of urban and rural can be used to indicate both that are defined in common sense as respectively urban with the city and the rural with the countryside. The figure of 2.1 illustrate briefly the terms of them in terms of content and quality. The transition periods between the historical stages of the production models of capitalism limited by industrial revolutions constitute the critical points in which old coherences and social relations break down. These moments of transition between the three industrial revolutions of capitalism are taken into consideration which is important to ensure understanding of these changes. As already mentioned, after the introduction and hegemony of Henry Ford's mass production model (2nd Industrial Revolution) there is an informative and contributive ground to the change in relations between the countryside and the city, between rural and urban. A third element is added to the dialectic between the form and content of the old historical relationships with the emergence of the industrial capitalist model of production.

city	countryside	form	appearance
urban	rural	content/ quality	essence
industrial	agrarian	function	process

Figure 2.1. The development of the terms of rural and urban

(Limonad, 2010)

The emergence of the industrial capitalist model of production adds a third element to the dialectics between the form and content of the old historical relationships. The industry spread over the city/urban and the countryside/rural body thus it breaks up the dialectical relations between form and content. With the priority of Fordism, agriculture and industry found reciprocity, respectively, in the city and in the countryside. During the 1st Industrial Revolution, the manufacturing industry has chosen site over rural areas were close to raw materials and energy sources. Then, based on the development of productive forces and technical-scientific knowledge, new production conditions were formed and as a result industrial activity began to take place in the vicinity of the city. If the abstract capitalist relations in the city and the rural side are compared, such changes are more pronounced in the city than in the countryside. Thus, all of this narration shows that the dialectics between rural and rural have somehow maintained the characteristics of the dialectics between form and content. The new production conditions enabled to separate of working and dwelling space from each other, however, the historical link relationship between rural and urban has reached another level of development and another degree of quality. A further deviation occurred with a third break point, and these relations became more complex. This process, which is formed by the model of flexible accumulation and also called the 3rd industrial revolution, has solved the previous hostilities and complements between the urban and rural areas by making a combination of differences within the social space. The forms, contents and functions previously expressed according to the logic of historical separation, but the opposition and complementary elements between the city and the urban and the countryside-rural were broken. The social processes taking place in the city or in the countryside began to emerge in both, despite the differences in density, extension and intensity, as shown in figure 2.2.

Time	Form	Content	Function
1st. Industrial	city	urban	politics, trades, services
Revolution	countryside	rural	agriculture, industry
2nd. Industrial	city	urban	politics, industry, services
Revolution	countryside	rural	Agriculture
3rd Industrial	city	urban/rural	politics, industry, services
Revolution	countryside	rural/urban	agriculture, industry, services

Figure 2.2. Present of differences in relation to their extension, intensity, and density

(Limonad, 2010)

If we look at the new forms and appearances after the 3rd industrial revolution, we see once again a different logic than the first industrial revolution. On the other hand, different social groups, from middle-class to working-class families; follow these deportations, large urban areas are being abandoned and contributing to the formation of gated communities, slum neighborhoods on the road, river and mountain slopes which take place on the rural areas. In this process, the city and the countryside are redefined by industrial logic and lost to their original character and subjected to capitalist production and accumulation. What constitutes the urban and the rural come to represent residues of significant social spaces almost vanished, the metaphors of transformative realities integrated into the global sphere today (Santos, 1994 and 1996).

2.2.2. Emergence of the Fringe Belt Concept

> ‘’Like the poor, we've always had the rural-urban fringe with us. It has certainly been with us since civilization first appeared more than 6,000 years ago, and settlements started to gradually grow in function and

> size at the cost of the rural sector.'' (Thomas, 1990: 131)

The term of rural urban fringe belt is not new in our concern as Thomas points out, it has always been with us and inevitably in daily life and integral part of any urban systems. Studies related to the historical development of urban form carried out in the 1920s by the morphological studies which reflect some early concern about the edge (Burgess, 1968; Douglass, 1925). The relationship between urban morphology and planning and the concept of fringe belt have been elaborated in especially the English-speaking world during the over half a century.

Geographer of Herbert Louis (1936) found the term *Stadtrandzone* which is called ''urban fringe belt'' in English but commonly shortened as 'fringe belt''. The term is applied firstly by him to explain the zone of extensive land use that developed at the urban fringe during pronounced hiatuses in urban growth. Building to some extent research on Louis's ideas, understanding the nature and role of rural urban fringes have sought to be understand by numerous writers, as an essential part of the landscape and as an essential part of the cities (Pryor, 1968; Thomas, 1990; Whiteland, 1988). Regarding this, the rural urban fringe has been called ''planning's last frontier'' by Griffiths (1994: 14) who argue that land use planning has been overlooked and those organizations, both government and private, with directly or indirectly planning duties for regions nearby to towns and cities. There is also the list of definition of what the fringe actually is, has been lengthened from followers and there is still not clear definition of them, but also some agreement on existing literature. Louis' (1936) study contributed to the identification of the phenomenon of fringe belts as a means of understanding of how the physical configuration of cities has developed. In subsequent studies, developed by Conzen (1969, 125) as: a belt like zone originating from the temporarily stationary or very slowly advancing fringe of a town and composed of a characteristic's mixture of land use units initially seeking peripheral location. Main significance in the formation of a fringe belt is the existence of a

fixation line related to complexity and variety of urban evolution. Conzen (op. cilt.) defined as:

the site of a strong, often protective linear feature such as a town wall marking the traditional stationary fringe of an ancient town. During subsequent growth it causes the topographical fixation of a consequent ring system of streets as the backbone of an incipient Inner fringe Belt and as the dividing line between its intramural and extramural. In this sense, he identified three fringe belts in his seminal study of the town of Alnwick, an inner and a middle fringe belt are embedded within the built-up area, and outer fringe belt locating the present edge of the town, all of which can be considered as fundamental in the development of the morphological structure of the town. The fringe belt gains an initial insight into the concept of the nature of urban physical growth and transformation which contains a way of thinking about urban form, grounded in a number of processes, among which were innovation, diffusion and cyclical development (including building cycles) (Whitehand, 1977). Barke (1982, p.111) defines fringe belts also as zones, ‘’composed of land uses that are produced by the town but do not necessarily have to be located within it’. In land use terms, they are representatives of distinctive group which include certain industries, instutions, community services, small houses and further out isolated larger houses and even open spaces. (Conzen, 1969, p. 58). But fringe belts are more than just ways of describing land-use relations: it allows a city’s physical physical make up to be understood in terms of distinctive phases of growth and hiatus in relation to explain historical-geographical development of urban areas (Whiteland, 1994). Whiteland and Morton (2003) has re-emphasized the significance of such zones for historico-geographical structure due from the lack of awareness of this issue. On the other hand, fringe belt is associated with individual features or small areas of cities rather than the historical-geographical structuring of entire cities or sizeable parts of cities. This fact, their role is not only making the built-up area more legible and providing orientation. Of course, they provide practical geographical orientation by providing a sense of position within or on the edge of the city, but at a deeper level of appreciation they

provide a historical-geographical frame of reference within which the phases of development, and physical forms, of previous societies are related to the physical configurations of present cities. (Whiteland, Morton, 2004, p.276). The fringe is the main elements in environmental awareness which is inseparable from their historical development and is one of the most important tools that implies a more holistic cultural environmental view of cities: the many individual features that generate urban scene that take on added cultural significance integrating from one to another by combining form historically urban landscape.

As I mentioned before, the first time that the term ‘’inner fringe’’ was mentioned in the literature was by Barke’s study of the Scottish town of Falkirk (Barke, 1974) from the spatial perspective. In his latter study emphasized that ‘’ how urban size influences the formation and modification processes of fringe belts’’ are accompanied by economic perspective. Barke presents the integrity of urban size with morphogenetic process and reviews this issue by putting forward a related to two reasons in modifying effects upon urban process, one of which is accessibility cost. He argues that accessibility cost is becoming less in the small town compared to the large city due to the two reasons: small town it may well be feasible to walk for a large proportion of desired destinations and small town is also the fact that involving lesser distances and so transport cost is likely to be reduced than large city. The second discussion on the urban size in relation to the distance from the town or city centre is often expressed in the context of commuting costs to the urban core. It is represented as the mean centre of gravity of employment. All these assumptions emphasize the validity in the small town and especially in place with a low proportion of service employment and in which multiple sources of evidence is found to support this view. For instance, Stone (1973) argue that traveling costs per head were 22 per cent in urban areas of 50.000 population while in those of 100,000 it is higher than this ratio but almost 50 percent higher in cities of 250,000. The cost of transportation can be seen from the example, the significance of the centre in employment terms is likely to be limited and thus commuting costs will be less than in a large city, compared to small town. Another

contribution to the argument here is the actual cost of sites for residential development at the periphery of the city in comparison with those at the periphery of the small town which may be considered two reasons behind the support of the view. This is for two main reasons, the first of which is relating to urban size that can be considered on a preferential basis by urban economists who have recently drawn attention towards working with future expectations of urban growth for land costs (Ottensmann, 1977). Briefly, this argument puts forward to the greater tendency to withhold land from current development to force up the price and the density of use on the land which is developed in the current period. Thus, there are great differences between the price of land at the periphery of the large city and small town in terms of forcing up for the price of land. The price of land in the larger city has been become much more forcible compared to the small town. The vital effect is about the large city land development of all kinds would be more intensive manner than in the small town. This tendency would take place especially in a boom period that the importance of the building cycle on the intensity of development would be more pronounced in the large city than in the small town (Barke, 1990).

In some situations, fringe should not be taken only physical markers of a temporarily static built up area, but also emerge from the relationship between economic explanation of land use (Barke, 1990), their incidence and character to. Whiteland's (1972a) paper adopted a deductive approach based upon neo-classical urban economic which is a major contribution to the literature on fringe belt. Thunian analysis was used to construct model of the process of transformation of land from rural to urban use and this model is explored by the frame of two major types of urban development, housing and institutions. According to him, the main component of differentiation of urban land rent is the price of transportation which increase with the distance from the center because as distance from the center increases, there is less competition for land and so land values fall. Whiteland's approach used to bid rent theory, building cycles and innovation to explore interrelation between the formation and modification of fringe. He states that, increasing distance from the urban core diminished the utility of

sites for residential use more faster than for miscellaneous institutional uses due to higher cost of accessibility for housing per unit area whereas its cost for institutions tend to be lower per unit. Briefly, it can be said that this process produces a steeper bid rent curve for housing compared to institutions, with greater distance from the city center. This situation and differences that related to both accessibility to center and whether there was a housing boom or slump. During the booms of housing building, cities characterized with the pressure of increases residential accretion at their edge, when the price of land which is relatively high. However, during house building slumps, cities characterized by lower land values, institutional land-uses tended to be able to compete more effectively and colonize the existing urban fringe to form a fringe belt (Barke, 1990). The following approaches towards examination these processes are provided by Openshaw (1974) aimed to construct a more general model of fringe-belt process as he points out the concern of functional links and the core area within a much more complex multi-core development. This perspective refer to the changing prosperity of these cores would influence fringe belt whether its progress would expand or decline in competition with each other.

The following research has focused on the social perspective about the emergence of fringe belt concept. Carter and Wheatley interested in fringe belt development in the city of Aberystwyth linked to the changing locations of different social groups. There are significant arguments of them that uncover the 'relationship between the evolution of the physical structure of a town, the consequent disposition of its land uses and the organization of its social space' (Carter and Wheatley, 1979, p. 237). Also, Slater (1978) defined those factors affecting locational decisions with respect to the nineteenth-century ornamental villas, the detached residences of the business and professional classes. He adopted a social perspective in his study of the town of Cirencester and hence his research related to the family life cycles of the owners of villas to changes in location, plot size and tenure.

The recent tendencies of fringe belt research have been changed with respect to the requirements of planning practice to the spatial process of fringe belts starting from

the last decade. The relationship between urban morphology and planning is poorly developed in the English-speaking world according to Whiteland and Morton (2003, 2004, 2006) research on Birmingham's Edwardian fringe belt. They come up with the importance of open spaces in the genius loci, paying more attention at this point because of the number of people using them for recreation and other purposes. In similar term was mentioned in the literature by namely; Gu (2010) explored fringe-belt transformation and its socio-economic and environmental implications. The authors use the fringe belt as a tool in the formulation of more integrated planning and design policies. M.P. Conzen et al (2012, p.36) claims that the fringe belt concept has not only, potential for clarifying historical-geographical landscapes, but also it provides a basis for the sensitive management of historical landscapes. This claim is an outcome of a comparative study of Pingyao, China and Como, Italy which is explored with reference to the physical structuring and the significance of fringe belts as well.

Table 2.5. The development of fringe-belt research

	Spatial Perspective	**Economic Perspective**	**Social Perspective**	**Planning Perspective**	
English-speaking world	Louis, 1936				
	Conzen M.R.G., 1960				1960
	Pryor, 1968				
	Conzen M.R.G., 1962				
	Conzen M.R.G., 1969				1970
		Whiteland, 1972a,b			
	Barke, 1974	Whiteland,1974; Openshaw, 1974			
		Whiteland,1975			
	Barke, 1976				
	Conzen M.R.G., 1978		Slater, 1978		
			Carter and Wheatley, 1979		

			Whiteland, 1981			1980
	Barke, 1982					
		Whitelan d, 1987				
			Whiteland, 1988			
	Thomas, 1990	Barke, 1990				
Worldwide diffusion						
						2000
					Whiteland, 2003	
					Whiteland and Morton, 2004	
					Whiteland and Morton, 2005	
			Conzen, M.P 2009			
						2010
					Gu, 2010	
					Whiteland et al, 2011	
					Conzen, M.P. et al, 2012	

2.2.3. Definitions of the Rural-Urban Fringe

While attempts have been made to avoid proliferation beyond urban limits, many forms of economic development and housing have improved their effect on urban limits and processes of change. Under the conditions of urban shadow agriculture has enhanced a unique identity resulting in fragmentation and the struggle to seep into nearby urban markets and service functions. Fragmentation has a multiplier effect on the fringe: pushing of the illegal activities like as fly-tipping and consuming far more rural land, have become common and this means that it is the tension between rural and urban. A similar term ‘’ pressure on fringe areas’’ stated by Wibberley’s (1959) and but also ‘’ complex rural urban dynamic’’ examined by Pahl (1965) with the study of Hertfordshire’s metropolitan fringe. The growing number of authors has been particularly interested in the natural quality and position of the urban fringe, not only as part of the countryside and as an essential component of the urban fringe. (Pryor, 1968; Thomas, 1990; Whitehand, 1988). Elson offers the new understanding of related

study which is conflict mediation at the fringe and remaining as being one of the most important edge development research that focus on London's green belt. The definition of the fringe, which is usually something built up at the edge or border, and more open rural land. Some writers, on the other hand, state that the fringe is only the rural or countryside ''around'' cities or towns without penetrating the urban. But for some authors, it's a ' ' transition " area region that demonstrates the features of mixing land uses, operations, and growth density. It has already begun with predominantly urban and reached and ended up as mainly rural. On the other hand, Gallent 2006, 383) argues that the city growth pushes urban development towards the countryside which becomes swallow by urban development. The fringe, in this sense, this makes the fringe a juncture between developmental and environmental agendas and where town meets country or the urban competes with the rural (Foot, 2000; Sieverts, 2003). While I plan to explore the origin of the fringe and prevent easy definitions, a fundamental understanding of what the fringe is at this stage would be helpful.

By definition, a rural urban fringe (RUF) is ' ' a transition zone that starts with the brink of the entirely-built urban environment and continues gradually to be more rural, while remaining a clear combination of urban and rural land uses and effects before turn into the broader landscape " according to the Countryside Agency (2002b, no page number). This definition only informs us that the fringe is a transition zone that reaches the limits beyond the built-up region. Without doubt, the fringe has a much more a about meaning, also discussed in terms of the uniqueness of the fringe so this definition fails to recognize that term. The transitional model suggests gradual transition concentration that from urban to rural; shows the gradual decrease of the offices, factories, and shops from urban area to a lower concentration in the urban fringe, and very low density in rural areas. We can add that farm diversification also has shown the conversion of a great many farm buildings to business and industrial uses.

Moreover, the fringe includes both urban and rural land uses and pressures that leads to existence of hybrid landscape or urban pressure and ''mutated'' countryside

(Hoggart, 2005, p. 1). The other significant contribution of determination of the fringe was identified with 500 metre girdle enveloping all metropolitan and smaller built up areas, given by the Office of the Deputy Prime Minister in 2003. By saying this, the fringe areas formed between 10 and 11% of England's land area, which pointed out the fringe had been defined, but the fact that the fringe are not uniform girdles is overlooked since fringe development relates to topography, politics, and economies. If there is a loose attitude towards an adjacent municipality or local authority, the fringe may extend with development; if the authorities on the enclosure are willing, the urban edge can be defined more tightly. But this fringe definition is completely meaningless: can towns and cities remain 'built up' a fixed density right up to their administrative boundaries in a conventional sense? Can they not decrease their intensity before the border or go beyond it? It should be noted that the fringe can only be defined as a reference to their properties and characterizes. Regardless of which country's fringe issue is being dealt with, central government planners simply cannot draw a line to the plans, and it cannot be said that 'this is the fringe'. Patrick Geddes (1915), one of the founders of the modern planning system, advocated the evidence-based policy to understand the context prior to the plan and was a firm believer of 'survey before plan'. The understanding of planning after the Second World War has forgotten this connection between evidence and context and started a period of top-down intervention. On the other hand, if all fringes are unique and only limited at the local level, planning for the fringes will be a very long and labor-intensive process. So perhaps the healing process is needed and the need for such a formula to describe the fringe can be useful. This formula has been developed by Socco et al. (2004) for work in Turin to create a planning tool that would delimit the city's wider footprint and provide a balancing of environmental, social and economic objectives around the city. The project was goal-oriented dividing those considered non-resident areas into land cells, and also had a practical aim to assist municipal planners in assessing the impact on land use change or the development of the new infrastructure on ecology and heritage assets. The fringe was generally cut by orbital and arterial pathways. This was the starting point of Socco's work. The researcher evaluated the size of the land parcels

between the roads with the reference to create an " index of insularity ". When mapped, the fringe was characterized by small fragmented land parcels closer to the edge of the city and had a high index of insularity; the size of land parcels increased, ahead of the edge of the city and the index value dropped. When the value fell below a fixed threshold, the land was no longer thought to be within the fringe. This formula provides the description for the unique urban-rural hybrid of uses and activities and seen as an opportunity that enrich the fringe literature framework. Similarly, period economic pressures on the urban cores, the existence of a cheaper land beyond the border, and especially the development of arterial roads where not afforded to legal protection can be eroded along the fringe. These approaches are remarkable for the theoretical framework of the literature, but how the plan is to cope with the fluidity of the fringe; does the local structure of the issue prevent the need for national policy? Do we know what we want to do with the fringe according to the local plans of the country even if the fringe limit is defined and drawn? such as planning problems. The details of these problems have been examined in the accompanying sections of my work, which have been explained and associated primarily with the environmental approach in relation to sustainability.

Many studies have been conducted since the 1970s on the urban fringe and intuitive definitions have been produced (Bryant et al., 1982; Elson, 1986; Thomas, 1990; Garreau, 1991; Daniels, 1999; Sieverts, 2003; Hoggart, 2005; Gallent et al., 2006). The fringe, as noted before, general meaning refers to an area, zone or buffer between ‘real’ countryside and the town or city. Also, the fringe is ‘’the edge of the built-up area differentiated from these adjoining landscape texture’’ with its particular mix of land use. Although it has its own land use, it has traditional urban and rural textures (Broughton, 1996; Shoard, 1999; CURE, 2002; ODPM, 2002). The fringe has its own land uses or mixes more traditional urban and rural uses which results in penetrating of urban uses into the countryside, it is just normal for a fringe to have multiple functions. On the other hand, the use in rural areas is subject to the influence of this low-density urbanized environment: they are often fragmented, even though farming

continues to occur. The roads passing through the fringe reduce the applicability and continuity of crop production; areas abandoned by large commercial farms shrink and leave their place in small farm fields. In addition, the fringe is defined as a ‘’home of the urban dowry’’ (Kaika & Swyngedouw, 2000) which are part of the machinery of cities, but those are noisy, noxious or use large amounts of space. The fringe comprises some forms including transport infrastructure, waste processing facilities, municipal dumps, power stations or utility companies that are major landowner of the fringe. For this reason, the fringe is seen as ‘transitional zone’ with this type of urban settlement that transforms former rural areas into a new type of landscape.

The word 'urban fringe' proposes a topological category, which is the border zone of an urban area, not a sharp divide or edge. According to Hite (1998), the fringe is a frontier in space, where the economic return to land from new urban land uses are roughly equal to the returns from traditional land use. In this sense, the fringe is exposed to a problem of losing the edge of rurality and a movement towards countryside. As long as there are no strong practices against land policies, the potential of the agreement between the urban-rural ‘’win-win’’ is hopeless. The problem of the decrease in transportation costs and communication costs is an outcome of strong growth pressures of urban to rural which causes differentiation between different communities in terms of the space, land use, social composition, and the economic foundations. As Hite claims, the fringe that is the ever-continuing expression from global to local impacts on prices and of the relative costs of conflicting land uses and commodities. The U.S Census Bureau defines the fringe as ‘’ urban(ized) areas as consisted of one or more urban cores (central places) which adjoin densely settled surrounding territory. The existing literature often studied urban fringes as part of a landscape or phenomenon and discussed the fringe as a dynamic ‘border’ zone that contributes the morphological studies of fringe with research place of Phoenix, Arizona by Gober and Burns (2002), and the study of the fringe areas of Chicago by McMillen (1989). Indirectly, in accordance with the landscape ecological properties of fringe areas, gradient analysis approach can be used as methods to calculate the

specific landscape metrics, to characterize and classify the area. This method has been developed in Phoenix urban landscape study of Luck and Wu (2002). The next attention is given to the phenomenon of the fringes dynamic land use which research to conversion from agricultural or natural land into urban land offering by Hite (1998); and Theobald (2001), or in the same sense, Gallent et al. (2004) and Adell (1999) or Cavailh'es et al. (2004) defined the fringe as "the belt outside the city limits occupied by both households and farmers" which allow us to call them multifunctionality of land use in the urban fringe. In addition, the issue of the fringe has attracted the attention of sociology and economics disciplines. Since the direct relationship between real estate prices and urban expansion go hand in hand, it has been tried to be explained by the economic aspect. Deal and Schunk' work is one of the well-known examples who exemplify the econometric modeling based on effects of urbanization on land prices, or Libby and Sharp' (2003) work is the second one that propose the concept of social capital as it can be accepted as an instrument of socio-economic side in urban fringe regions. An example of economic modeling in fringe areas where the competition between housing and agricultural land uses are explained using variables such as distances to the nearest town and metropolitan area is found by McMillen (1989). Table 2.6 summarizes the main concepts and some additional features defining fringe areas which have been expressed this chapter in terms of terminology used in descriptions and definitions of rural urban fringe, and their sources.

Table 2.6. *Terms used in descriptions and definitions of Urban Fringe, and their sources*

	Countryside Agency, UK	CURE	Statistics Canada	Helmichand Anderson USA (2001)	Hite USA (1998)	Bunker et al, Australia	ODPM, UK (2001)	ODPM, UK (2002)	ReUrbA, UK/Netherlands	Broughton, UK, (1996)	Shoard, UK, (1999)	Urban Planning Act, Japan (1968)	Foot, Italy

Land Use													
Population													
Development													
Spatial Economy													
Accesibility													
Landscape													
Policy													
Transition Zone													
Urban 'Shadow'													
Statutory protection													
Green wedges													
Within rural													
Within built-up area													
Edge of built-up area													
Urban meets rural													
Way of life													
Metropolitan area													
Pressure zone													
Undeveloped land													
Activities													
Competition													
Conflict													

2.2.4. The Rural Urban Fringe Land Use Pattern

The fringe is mentioned in a special pamphlet published by Countryside Agency (2006, p.2) which highlighted the challenges to policy-makers and suggested that parts of the land between the urban boundary and the wider rural area could not be classified because of both containing both rural and urban elements. However, another proposition has chosen to distinguish between rural and urban. Audirac (1999) who pointed out the two categories of the fringe formation as: 'rural-urban' and 'urban-rural', and emphasized the dominance of rural change in the formation of 'rural-

urban', while the second formation emphasized the expansion of urban structure and function that it is more important in the 'urban-rural fringe'. In order to understand the dynamics within the categories mentioned in this description, both parties should be considered impartially. Because these areas are subject to a series of complex processes, which makes it difficult to measure the extent to which 'rural' factors are affected by urban factors or vice versa so this debate is not useful. The areas that were previously open and perhaps agricultural were the borders that had been lost by a series of processes and called 'urban'. If we want to get an idea of whether this border is in the countryside or in the countryside, and if we want to see that the fringe is a peculiar and strange thing, we have to accept that the fringe is not only a defective rural area or a urban region of low density. All this reveals that it has a variety of extra uses that can be defined as rural as well as urban. This inference was developed in the previous work for the Agency and produced the more significant meaning about the recognition that the land is a separate entity between rural and rural areas. It has been suggested that the fringe areas have 'special characteristics' (Gallent et al., 2004) that differentiate it from urban and rural areas. The argument that the fringe has certain land uses and activities will be explained in detail.

The fringe contains a higher concentration of farmland, but it is frequently more fragmented. Agricultural land can be deliberately deteriorated in the hope that planning authorities will want to lift the area of an eye-catching, expand the boundaries of settlement and extend the planning permit for new development in the next period in addition to the vandalism and the unlawful destruction of what individuals see as ' ' waste land "leads to the destruction of agricultural lands. Another perception of farmland on the fringes is well-managed horticulture where farmers market their goods directly to the neighboring metropolitan population via farm stores. Another issue which has been examined later is the view that farming cannot be coexist with other more profitable land uses on the sides of towns and cities. Another typical characteristic of English rural-urban regions is equestrian centres, similar uses such as horse racing, training trails and stables with soil sections involved in the field.

'Horseback riding' is one of the activities of the fringe, which is called an important factor in taking the middle and high middle classes to the fringes for recreation and for horseback riding in summer evenings or weekends. Unlike other parts of the fringes, while parks play a role in attracting people like magnets, recreational use of some parks can be more powerful. Access difficulties, landscape degradation, noise and pollution can restrict recreational appeal. Moreover, most of the remaining rural-urban eaves may be labeled as "indifferent rugged terrain," which may include land that cannot be developed because it is too steep or very dirty; these regions may also include soils that have lost their sophisticated function and become outdated or unused. Some former military sites may fall into this category. However, this is clearly a group of land areas with very different characteristics and future potential. Contaminated and degraded land can be cleaned and recovered for economic use, but steep slopes, topography and natural barriers can bring a physical boundary to the expansion of cities. Thus, when the fringes roll enveloped a settlement, they rarely show a uniform girdle: the size, density, subject matter and frame of the individual fringe sections may differ. It is an Anglo-concentrated perspective of the fringes and their multiple forms, although there is global consensus that land-use compounds distinguish the fringes. Table 2.5 contains some of the characteristics that define the fringe areas summarized from different sources. The common feature of the table and many studies is that the fringe areas are located at the edges of the settled areas. Second, patterns of land use were seen in most research as a defining element, many writers referenced the kinds of uses listed above.

The common thought on the fringes is a landscape area under pressure, the formation of an unstable position between the countryside and the city, and the characterization of certain land use patterns. Of course, one of the accepted approaches among fringe definitions is their proximity to the residential area (and town and country). Furthermore, rural urban eaves cannot simply be defined as a smooth belt surrounding a town because as stated, the eaves can be broken down by physical obstacles and can either move in a capillary river-like shape towards the urban heart. Low density light

industry or storage on the floodplain of a river which is marked as the fringe; similarly, the old railway buildings on the adjacent land also be considered as fringe penetrating a central urban core that is now transformed into business workshops. Especially if some units continue to be used and the land assumes the image of edgeland, they also called as fringe. The fringe's features will also differ depending on the distance to the city's edge. The Center for Urban and Regional Ecology proposes (CURE, 2002: 18) that the rural urban wall formation around the town was suggested to be split into three classifications, each with distinct features of land use as 'inner, middle, and outer fringe'. Similar thinking was proposed by Bunker and Holloway (2001: 2), as all fringes consist of an 'inner edge and an outer periphery'. A specific collection and density of urban uses defines the internal border, while the periphery is marked with reduced horticultural uses of density. The importance of the accessibility of remote rural areas may become less important for larger city centers with a more fragile transient economy and the housing market will be more distinctive in the accessible rural area where vehicles flow. The central company districts will also have fewer residential areas in towns than the suburbs; the use of culture centers and cultural space in the suburbs will be lower than the inner core. The formation of all rural and all urban forms with different forms and materials has shaped all these areas to have unique uses and functions.

We can not define eaves areas only in the context of financial activities, land use inte nsity, and physical development, because eaves have a fragile structure that distingui shes them from traditional land use definitions and makes them unique. The mixture of land use is described as the defining feature of the fringe; however, accurate measurement of land use patterns in rural-urban areas is very difficult. Failure to put forward a definite definition may be due to the challenge of rigid definitions, as the eaves are a measurable and zoneable structure that extends beyond the metropolitan boundary and delays the onset of true landscape and approximately encapsulates the fabric inside and outside the town. The fringe has become a constant that extends beyond the urban boundaries and delays the onset of the real countryside, the fringe is

a no-man’s land weaving inside and outside the city, but roughly wrapping it; the fringe can be measured and zoned; it challenges solid definitions.

The absence of information also resulted to evidence of how it is represented in both the policy and the media. In the face of multiple difficulties for leaders and decision-makers and the nature of the uncertainty of coping with these problems, the eaves have become subject to interpretation. England Rural Development Programme (ERDP) Annual Report to the European Commission’(2003) suggest that the demand for land increases in the fringe area and due to the proximity of large urban populations, the fringe area faces many threats and opportunities. Taken together, these results state that the main problem is integration of rural and urban groups in fringe even though acceptance of the significance of ecological areas such as wetlands, lowland raised bogs and woodlands. These results are similar to those reported by other regional reports which all point to fringe areas is consisted of degraded and derelict land and also consisted of community forests providing employment and recreation. In addition, other types of fringe landscape character could include horticulture, a degree of dereliction and vacancy, threaten of important habitats by urban encroachment, and both open land and buildings but other types of that include important habitats present an opportunity for tourism and agriculture.

That kind of characterization is prevalent in political literature; although it provides some indication of what the fringes are, it is not enough to provide a clear definition. Therefore, starting from the explanation of the various forces that made the landscape change in the fringes, the fringe picture should be revealed. In short, there is a need to understand and express the nature of the fringe. These are the dynamic landscapes that can be called the 'melting pot' between the growth pressure and the desire to protect; or between the survival of them and facing the pressure of continuous growth. In comparison, the pace of physical conversion can be lower in bigger rural regions than in other fields, but of course, as social and economic changes occur over time, landscape will have to face change. The constant displacement of capital in cities leads to depletion of urban nuclei, increased pressure on public interventions, and rapid

social changes. The differences in national and global changes and trends vary by location and have unique special physical consequences on the fringe. In this context, I propose that the fringes have a unique and special view, and I intend to examine the physical characteristics of the fringes and their representation in a comprehensive way. As a second issue, the fringes are in many ways an undersigned landscape. 'Capital' pursues opportunities in an unrestricted and unhindered way; creating fringe landscapes, as well as creates a diverse landscape, rich ecological diversity, recreation opportunities, social capital and aesthetic diversity. At this point, a detailed study related to understand the fringe and its representation according to the mentioned features above, and to concentration on construction features of the landscape in the case area of 'Döşemealtı' is examined by the representations.

2.2.4.1. The Physical Fringe

This section will focus on the formation and mix of contemporary land uses on the fringe in order to add some detail to the fringe draft. Research conducted for the Countryside Agency (Gallent et al., 2003) consisted of the nine main land use class characteristics in the fringes were examined that were trade, agriculture, transportation, accommodation, legacy, energy for leisure, disposal and removal of minerals. The aim of this study for the agency is to show how different land uses can coexist in the fringe and how they can be managed together with soft management approaches. The representation of the fringe is explained through 5 themes that support the understanding of land use patterns and land change issues are stated as follows: historical fringes, aesthetic fringes, economic fringes, social fringes and ecological fringes.

The first one is the ''waste management activities'' that usually take place in new landfill sites and old mining sites (old factories or power generators on the ground) in fringes. The removal of heavy industrial waste from cities may involve new handling operations. Similarly, the recycling of waste has traditionally been viewed as un-

neighborly, so they are pushed into fringe. The second category is 'mineral extraction', which focuses on the removal of soft materials from neighboring flood areas in order to prevent flood floods, particularly as sand extraction from rural urban fringe. Rural urban fringe, however, can be considered as the heritage of deserted works, such as those linked to the massive industrial past, while these ancient works are characterized by presenting possibilities for leisure or waste disposal. The third land use category is characterized by 'energy production and distribution' built on an environment closer to the urban population. In general, the transformer substations that make up the land use of many edges of cities are the inner fringe, and on the fringe are also seen current types of energy production. Particularly the modern incineration plants are valuable assets of energy production and their potential for composting of urban wastes in the vicinity of towns. It makes it a suitable place for everyone, while providing the opportunity for wind energy and biofuel energy generation to be used in the urban fringe. It is crucial to note that, development of reduced density homes and green belts are chances in terms of their contributions to production of solar energy and recycling of grey water. In addition, solar energy can be related to the warehousing which can be produced from plat panel from the fixed warehouse roofs.

Following this, transport infrastructure continued to play significant role as making the fringe by the feature of orbital and arterial roads which are strongly defined with general characteristics: intersections, roundabouts, park and ride stations, commercial and distribution parks, several office and storage spaces. Because of highway network density at the edge, countryside around towns may be urbanized and rural urban fringe may be transected by railways and many stations created at the intersection of highways and railways are called 'parkways'. It becomes a new station related to the alleviation of pressure on urban terminals where opportunities are created for commuters to drive a station, needs of car parks are satisfied and daily journey to work are continued by train. The similar type of rural urban fringe places all around the world seem to similar features in terms of locating the freight and maintenance yards. Geography of places, characterized by waterways such as canals or navigable rivers,

offers an emphasis for greenways and a corridor for bike and pedestrian opportunities. A similar land use characterizes ' hard infrastructure ' also located on the fringes of constructed-up areas and this pushes rural urban fringe landscape to become unique and attach to it to provide an equilibrium of land uses discovered in the fringe.

The other characteristic of physical fringe is related to the ‘recreational land uses’ that include parklands and historical buildings and landed estates are associated. A few of this is experienced with unlimited access but some are still private. Forests, community gardens, public land, golf courses, rivers and canals, and ponds and reservoirs are other kinds of land use potential. Many country parks, regional parks and green areas are among the characteristics of physical fringe. The presence of these areas also provides opportunities for sports fields, jogging tracks, and less formal recreation activities. Maintaining such recreation opportunities is about building community forests or paying particular attention to management plans.

The so-called ' retail operations, ' which covered a broad variety of operations such as retail parks, scientific parks, and light industry, which were the primary focus of planning strategy in the 1970s and 1980s, are the primary area of rural labor; however, when their full impact on city centers was recognized, they were rejected in the next decade. But today, despite its broad rejection, it is clear that town retailing is more appropriate to place some forms of mass retail (hardware supermarkets, garden centers, distributors, etc.) in the fringe areas, since such operations require large-scale lands if they take up space, therefore settling in the fringe area is the most appropriate decision since it cannot afford the high paid rent in the city center. More specialized retailers (plumbers / builders, traders, large car dealerships, etc.) often prefer to be located on the fringes for similar reasons. The light industry site selection also shares common goals such as the need for space and the growth potential provided through an off-center location as above. Once used as the primary business area of many cities, light industry has begun to move out of the city due to increased spending and lack of space. Because it is more difficult to place and distribute from central locations but having the good access of the best fringe to radial and orbit paths and therefore provide

customers to access well. High land prices in the city center and especially slow access in the city causes the land use such as storage and distribution to be preferred in the countryside. Because of similar concerns, uses such as science and business parks are also located in the city wall.

Other key characterizes among them is ‘conservation sites and historical/archaeological sites’, former industrial buildings, factories, old airfield buildings, farm buildings of historical importance, providing the rural-urban fringe with a sense of historical association / continuity by means of a conservation strategy. In fringes may also be situated noting other possible characteristics of fringe such as military facilities, recognized as deserted after the cold war. But besides these, there are historic parks and buildings that have been established in open landscape in rural but current orientation is established around a growing town or city with bordering them. Although fringes may appear distraught at first glance due to construction, they are areas where rich natural values are in habitat in terms of its presence and biodiversity.

Another important part of the physical fringe concept is ‘housing’ development. In some cases, these areas create a landscape texture without community units. The housing development of the fringe areas tends to be low density compared to other areas. The arterial roads whose connections and intersections are provided in order to create lane development in history are defined by the shaping of them around the office centers today or retail development that concentrated on road junctions, creating hybrid 'towns of edge'. There is concern that housing development in the fringe does not achieve quality in terms of design or sustainability. The vehicle-oriented development of the housing tissue developing in the fringe, and the hosting of low-density developments covering large volumes, raise concerns about sustainability. Yet, this certainly requires a preservationist approach to green areas in the green belt and other fringe locations and opportunities can be created to promote this approach.

‘Farming and forestry’ are an integral part of the fringe landscape. The fringes' farmland is not only affected from direct urban pressures such as housing and growth of infrastructure, but also by a series of indirect pressures and challenges, such as 'illegal flying-tipping'. While some farmland on the fringe is deteriorated due to these pressures, some of them aim to gain competitive advantage by using this situation as a potential to be close to big urban markets. Organic agriculture can participate in the short-chain product network or in consumers who distribute directly in local markets. Other agricultural products may pursue a variety of activities to capture the urban market: for example, they can feed rare breeds and identify themselves as education centers; others can generate economic gains and others may constitute the ‘activity weekend’. Market potential differentiates between large rural and rural-urban fringe areas that leads to diversity are likely to be greater than that of rural areas’ market capacity.

2.2.4.2. Representing of the Fringe

A mixture of certain physical features comprises of land use in rural urban fringe, but the fringe is more essential than the physical features of the landscape, producing character and perception at the edge of the town. The fringe is considered to be necessarily functional, chaotic, and necessary while representation is seen as ugly and often compared to the rural unique charm. I will explain in the 'aesthetic fringe' section, which is one of the forms of representation I have mentioned before. Fringe is seen as the antithesis of traditional landscape tastes and 'quality landscape' (Shoard, 2002: 121). Basically, the negative relationships between the functionality of the fringe, the speed of changes that may occur, and land use can reinforce this negative perception, leading to negative perception amplified through more negative representations. If there are central areas in the fringe, it can be seen as a damaging and nature-degrading symbol of the fringe landscape. In this case, the society can create opinions about them with simple and unattractive characteristics. To illustrate

this, Thayer researcher (2002) argued that functionality is related to symbolism and explained this by considering green power generation facilities as more favorable and positive landscape quality than fossil fuel combustion plants. The fringe is not only the product of the physical elements that make up themselves, such as roads, power plants, warehouses, offices, wastewaters, but are also associated with the representation of the meanings imposed on them. But these fringes have been a major problem area for planners and policy makers. This necessitates re-planning and re-walling with the emphasis on physical formation in the periphery, major commercial developments, such as shopping malls and company parks, as well as extensive transport and power facilities, have taken place and have had a main effect on today's landscape. This situation was named by Marc Augé with the notion of "Non-Places'', and it was claimed that is the production of "super modernity'' that is a type of place where is unrelated or historically undefined or unidentified (Augé, 1995: 77). From this point of view, we can say that the fringe landscape is produced with little foresight and is therefore surrounded by unconnected and unrelated texture. The fringe can not only be characterized by their physical size, but also it is a representation landscape. People may not be able to make frequent trips to the outskirts of cities or towns, but they have an instinctive perception of where they can be found and what type of the texture that occurs there. This perception is shaped by the deterioration of the traditional rural fabric as a result of a series of urban activities that develop along the urban border. The planning task is therefore bi-directional: the first task is to deal with the physical challenges posed by the urban interface; the second task is to address concerns about the image created on the edge of the towns or urban.

2.2.4.3. A Historic Rural-Urban Fringe

It can be clearly stated that all landscapes are associated with history. People want to visit the sights of the old town, splendid historical houses, ancient towers or historic sites of world heritage. How many people visit the icicle, which has become a place

where many visitors come together with national and global marketing strategies? There are key areas on the sides of the city, but these are not the historical remains of interest, but are often landscapes that were acquired as a result of restructuring and may play a role as a result.

Many of the historic environmental features found at the edge of the city today may be the products of the previously existing rural tissue, the scattered settlement of prehistoric times, or the location of industrial and service activities associated with the growth of the city center. Some of these features may have re-use value, such as reuse of old airport hangars nowadays as light production and industrial storage. Rather than the commercial roles of water channels in the local and regional economy, the change in the use-value for recreational purposes in the fringe may be a similar example. Although many central or more rural structures have been preserved for the sake of conservation, the historical features of the fringes have only been valued when they can be reused, so the fringes have become less visited and seen places. Such places have rarely been preserved because of lack of visitor attraction or not believed to be marketed. Throughout history, the canals in the cities have been preserved because it is thought to provide rent for new developments in the future. The protection of the industrial revolution and the remaining buildings after the war is decided on whether it is suitable for commercial use again. It would not be wrong to say that protection is based on a strong 'today and tomorrow' argument. Decisions regarding the future of the structures that are expected to cause a greater value tomorrow are sought for potential appraisal. Therefore, in the next section, while emphasizing the potential of the eaves in terms of historical heritage, I will mention that they should be protected and the protection and planning and management of the eaves' historical heritage should be taken into consideration. This sometimes leads to the development of new resources for visitors, sometimes to policy making that reveal the value of reuse, or to learn more about the historical development of space.

It is emphasized that cities have large structures and historical values, while rural areas have castles and traditional houses, but what is the historical heritage of rural urban

eaves? While the city and its environs consist mostly of functionalities connected to an industrial and military structure, rural areas consist of village mansions and castles. The aim of this section is to explain the historical and archeological values of the uncared and unappreciated eaves and to reveal how the eaves, which I will talk about from time to time, will contribute to the multifunctional potential. I will explain the relationship between the concept of multi-functionality and sustainability and its contribution to sustainability in the following sections. In this section, I will talk about how to emphasize the historical heritage of the fringe through the concept of multi-functionality and what renewal strategies for rural-urban fringe can be. I also aim to show that the fringe has a historical association potential that cannot be ignored in any rural-urban fringe plan and management.

Pre-Modern Archeology

In the simplest sense, fringe is the product of urban expansion developed in the post-war period, and as a result of the rapid infrastructure that developed to serve increasing urban populations. Any urban area larger than the urban fabric of the past includes the remnants of former fringe use. For example, the city of York, where traces of the Roman period are prominent, the Roman fortress and the area outside the city's borders were used for four purposes: production of ceramics and tile manufacture in kilns; military trainings were given in the execution areas; burial and garbage collection areas. These remains now stay under the later town of York, and it appears that there are no attempts to establish contact with the fringe. Such results can be seen in many places and cities. Therefore, rural-urban areas of such places may have too many archaeological remains. Usually, what we found on the wall was formed earlier than the current settlement, so it became evidence of a history unrelated to the town or city that developed in a later period. The importance of the fringe in the archaeological sense may depend on a time when the region is completely rural. The planning system often did not treat such scenes. Looking at the history of planning, this reveals the

need to preserve the forgotten and overlooked historical landscape. In order to prevent future generations from judging us harshly as a result of our careless actions, the biggest difference that distinguishes us from the past is the production of the idea of sustainability is produced. It is a guiding light for developing contemporary actions with a perspective on the future, and a framework that encourages today's policy makers and practitioners to think not only about money and profit, but also on community and environmental issues.

If fringe has an archaeological relic, guidelines should be developed in which proposals such as the existing policies, the archaeological framework of planning conditions, the discovery of archaeological remains under control systems and the development plan for these areas are developed. All of this will play a role in shaping how the fringe areas are planned and managed. Due to the disappearance of prehistoric archaeological features from modern maps, more recent historical features have a special place around the edges of towns and cities. These have gained historical character as a result of economic restructuring and industrial heritage in the twentieth century. This process is referred to as an industrial heritage.

The industrial heritage and modern re-use

This section describes reuse for protection purposes. The scope of industrial archeology and most of the historical remains are related to today's urban development, towns and cities. Examples of past uses include water pumping stations, unused aqueducts, old gasometers or reservoirs, and these have begun to serve growing cities over time. For example, in the seventeenth and eighteenth centuries, water mills established cotton towns near the riverbank to ensure the continuity of their operations; most of them have been abandoned, demolished or converted into themed pubs and restaurants. But sometimes the opposite happens; towns and cities have grown to serve sectors that are sometimes over. The most important development in the 19th and early 20th centuries was the development of the mining, coal and iron

ore industries. These areas are now considered the greatest heritage for rural urban eaves. With the advent of these primary sectors, many urban industries have grown and have welcomed employees in the relevant processing industries and associated sub-sectors.

The fringe of many northern towns: abandoned mineral extraction areas, derelict industrial landscapes, abandoned fringe, old pit buildings, cotton mills, railway infrastructure, unused canals and trams, chimney piles, light industry, storage, distribution and prefabricated white warehouses has an industrial background with non-retail sales. However, sometimes this utilitarian landscape introduces the history of heavy industry through the use of old buildings for more modern purposes. Perhaps the simplest cases of reuse are the decision that a particular building is reliable and robust enough for a new use: walls are re-painted, roofs and windows are replaced, and modern wiring and installation work is done. Thus, the structure is ready to play the new role. It can also happen when it comes cheaper than building from scratch, or when public money is ready for reuse. The aim of the reuse method is to integrate industrial archeology into recreation, education and improvement of the natural environment. All these examples are evidence of what can be achieved with industrial uses that have been left unattended and abandoned to date. Thus, the works and other industrial buildings were used for various purposes, the ‘monuments’ of the past were preserved, new habitats were created and new opportunities for outdoor recreation emerged from them. However, we should avoid making a prescription for protection, considering that it would be useful to give a footnote about planning at this point; planning should relate to working with a space and its specific qualities. Although the examples I have mentioned above are shaped around the concept of multi-functionality, they encourage economic, ecological and aesthetic functions to be brought together; this strategy may not be suitable for other locations. The principles may be rational and sound, but decisions need to be made to match the specificity of the fringes. It is sometimes very important to do something in the fringe because it is compulsory against the fact that the qualities that need to be protected will be

destroyed as a result of situations where inertia will promote redevelopment. Protection through reuse is often not an inexpensive and easy option. Compared to building a new structure, which is usually the cheaper option, it can require a significant amount of time and money investment. The ultimate goal is to preserve for 'conservation's sake' rather than reuse, and to create a sense of local or historical identity for either historical sites or structures throughout the country. This is ideal for businesses that want to achieve commercial profitability in historical buildings may not be supported. However, it is very difficult to compromise between the economy and the protection objectives. Providing a unique area of use as a result of protection, it is the most suitable opportunity for the reuse model of airports. For the protection of other places, a serious public sector intervention and a conscious policy should be developed. But there is also the issue that protection is flawed. Re-use is done under the name of preservation of historical unity, but this re-use has a deeper meaning on history and breaks the connection with the past as it creates its own understanding of history.

Before briefly addressing the recreational potential of historical fringe, I would like to draw attention to the fact that not all historical heritage is made up of bricks and mortars. First, the fringe landscape is a product of past agricultural practices: it means hundreds of farming and fence lying. Today, fences in rural-urban areas are less protected than fences in large rural areas. Generally, the fences around the sports grounds and adjacent to the golf course are not protected. This leads us back to the argument that the legacy of the fringe is a lower, second-class landscape. Secondly, the reuse of old quarries for waste treatment and landfill, which is another economic reuse area that is economically successful, but which is problematic in terms of restoration and conservation, will be discussed.

Solid waste landfills are one of the basic physical elements that make up fringe areas. Many cities and cities in the UK, who preferred to be close to raw materials in order to nurture their growth in the nineteenth and early twentieth centuries, grew up near mines and quarries. However, today the mining areas on the fringe are being

abandoned, and today most of them are included in waste strategies as ideal places for disposal of domestic and other wastes. The following waste strategy is described in PPG10 and emphasizes that management facilities are located in areas with the following characteristics.

Industrial regions: including, in particular, other intense or individual industrial uses, land degraded, polluted or destroyed;

Operation and treatment of the quarry: landfill is commonly used to restore the quarry, but also other waste disposal systems may have possibilities in some quarry locations;

Existing waste landfills: where proper placement of composting equipment is possible;

4. Areas or structures existing or spare: that can be used or adjusted for use in incineration or recycling equipment or composting activities;

5. Other kinds of waste management facilities used to occupy areas; and

6. Other appropriate sites in the vicinity of railways or water piers or significant transport network crossings.

From a historic fringe perspective, different topics are also discussed. Fences are thought to be important in fringe landscape issues such as disrupting the monotony of intensive farming, reducing the visual impact of roads and creating a mark for circulation. But did the quarries turn into dumps because of their rambling? There are two issues discussed on this issue: first, while the quarries are considered to be traces in the landscape, it is accepted that the landfill will be the first step in improving them; or, conversely, fences have a similar role, providing a valuable source of leisure time. The fact that stone quarries are a historical heritage of eaves formation cannot be ignored, but apart from all the views, the question of what can be done about quarries is more important. Groundwork Trust recommends that quarries are suitable for use as a waste facility and that landscaping can be improved as a subject of a summer land restoration study. There is no clear conclusion as to whether this can be practiced or

whether the old mineral fields can later be transformed into another use (recreation, protection function). Groundwork Trust recognizes that the processing of minerals creates wounds on the soil, worsening with the soil filling, and argues that this can only be improved by policies that can be developed through the addition of soil and the re-planting program. But how convincing is the use of these areas for waste management, recreation and protection? For example, for an industrial zone where no landfill and waste sites have been established, it will be easier to be convinced that uncontaminated areas have potential for recreation and other uses and will be of more interest to those involved in restoration. According to the Regulation on Landfill (2002), landfill and surface water pollution, odor and dust formation, pollution of wind-carried materials, proliferation of birds, insects and vermin, formation of aerosols and fire risk are stated.

From this point of view, the use of storage areas for recreation activities on the fringe; there is a view that it will be possible with the provision of attractive environments for pedestrian and bicycle users and with cleaning and beautifying the areas with time and significant investment. As cities grow, the relationship between the fringe and the city take a new direction. Once based on mineral deposits near cities, the fringe is now based on a range of other functions. I stressed the importance of protection for the historic fringe, but I cannot say that preserving the quality of the fringe in any case can be achieved with protection, because this means rejecting the wide range of functions required for the fringe. The rural-urban fringe must maintain its relationship with the town or city: fossilizing the fringe will destroy its identity, fail to preserve all structures and all historical heritages, and lose more than reuse. First of all, the fringe should continue the long-term preservation of historical buildings, despite the difficulties in their re-use.

But the key point that I want to put forward so far is that the fringe is a functioning landscape and what we see as historical heritage is proof of this function. Therefore, although a few castles or splendid houses form part of the historical landscape, uses

such as industrial and military functions are also characteristics of the historic fringe. Reuse as a means of protection has a special place in the rural-urban fringe.

The fact that the fringe is a close source to people that offers an important opportunity for recreation. In the previous chapter, I have mentioned the recreation potential of the industrial landscape areas on the fringe and now I will mention the country parks in the rural-urban fringe as part of the land properties. Such landscaping areas are important areas for recreation of various species such as hiking, picnicking, playing, swimming and rowing. According to a study, the British preferred landscape is 'a calm and peaceful deer park with large meadow areas adorned with slow-moving streams and thin trees (Lowenthal and Prince, 1965: 192). It is not difficult to understand why parking spaces should be attractive: it is a landscape designed specifically for the community to find an attractive and privileged environment. These landscapes cannot be designed and found in the same way at all points of the fringe, but often show coarser, less ordered landscapes.

Although the fringe is not always a place for people, in some cases there is the potential for outdoor entertainment and relaxation. In this section I tried to draw attention to another powerful feature of the fringe, which is known to serve the historically in growing city centers. In recent years, politicians have pointed out that the fringe have a strong historical value and talked about the efforts to reveal the potential of this forgotten landscape. I made a statement based on the re-use process and the revival of the eave's history.

2.2.4.4. An Aesthetic Fringe

The appearance of the landscape is determined in terms of physical and social aspects and in part by arranging natural and special construction features. The word aesthetics is defined as the field of philosophy that appreciates the things affecting our senses and manages to influence our senses in pleasant ways (Carlson, 2000: xvii). The work, which emerged in the Netherlands in the first sixteenth century, referred to the concept

of ‘landscape by depicting rural landscapes. In time, landscape has been seen as a ‘visual phenomenon’ in which rural areas are represented with a more general view (Muir, 1999: xv-xvi). In the field of geography, landscape is first defined with certain ‘landscapes such as mountainous and woodland’, and its meaning is expanded and it is now associated with ‘subjective reactions and aesthetics’ specific to the place (Bourassa, 1991: 2-3). Subjective responses may vary according to differences between cultures and periods, but there are characteristics that are thought to be similar and common to a positive landscape in people's perception: first of all, providing the scale of the landscape between the space and the human being, ensuring the orientation of the arrangements, the coherence of the arrangements and the readability of all of these create universal aesthetic properties (Anthrop, 2000, 22-23).

I have already mentioned that there is an ugly and scattered image in the perception of people due to the unplanned formation of the fringe and the absence of any arrangement. In this section, the main focus of the study will be shaped through perception and representation, and the physical characteristics of the fringe and cultural representation of the landscape will be discussed. The definition of landscape by Daniels and Cosgrove (1988) argues that landscape is as much as ‘physical content’ it is also related to cultural representation. Aesthetic quality is not only associated with untouched naturalness, but also with traditional rural features and undivided landscape structure (eg Zube et al., 1975; Kaplan & Kaplan, 1989; Ulrich, 1993; Strumse, 1994). In addition, the relationship between aesthetics and built environment was also considered and the extent to which post-industrial landscape reconstruction fits with its environment (Wood & Handley, 2001). For example, it is argued that increasing the aesthetic appearance of the fringe will be ensured through an architectural construction appropriate to the local or regional architecture, and that the use of a specific building material will provide a positive aesthetic by preserving the ‘context of the structure’. Uses such as business parks, trade, retail and roads and architectural structures on the edge of the city are the features that make up the rural-urban fringe and are often perceived as scattered, and where ’feeling of space’ is low. But

‘improvement’ can be created in accordance with the existing aesthetic forms mentioned above with the reconstruction through planning. In this regard, Adorno (1984: 69-70) says that beauty will be strengthened by the integrity of the structure adapted to the form and lines of the surrounding landscape. Appleton's view of this is like that of Adorno: the researcher argues that landscape created by the use of architectural and local building materials in accordance with local references tends to be more popular than landscape texture that is not created accordingly.

In order to understand the aesthetic dimension of the rural-urban fringe, it is necessary to emphasize its physicality, so I will briefly describe the following land uses that appear only in the rural-urban fringe, and then re-address its aesthetic functionality. In the following, I will give examples of aesthetic representation of the fringe in the fields of art and try to depict the perceptions of the artists on the fringe.

Firstly, the fringe consists of areas where service functions such as sewage works, motorway junctions, gas stations, garbage collection areas are planned to be away from the settlements. The second type of land use is defined as ‘recreation facilities which include the go-kart tracks, golf courses, private fish production facilities, garden centers, the consumption of commercial services that provide such services. Other land use, also seen as a product of consumer society, consists of non-recreational uses such as sheds and kennels. The camp sites and caravan sites of travelers, which offer opportunities for temporary use, are also one of the physical characteristics that make up the fringe. Uses such as retail outlets, supermarkets, farm stores established at close distances to the farm areas to benefit from the opportunity of being close to the market and formed the physical texture of the fringe.

Again, the factories, business parks and storage areas established by taking advantage of the transportation infrastructure are among the uses created as a result of this process. When some public institutions had the opportunity to obtain land from the rural-urban fringe at a cheaper price than the city center, they considered the institutions that require large land assets such as educational institutions and regional

hospitals. One of the most important land uses here is agricultural land. However, landowners who are unable to counteract the speculation of land and strategies for the destruction of rural areas are encouraged to allow land degradation in the hope of reconstruction income in the future. Areas such as country parks, horse grazing and horse-riding fields are also located on the fringe (Gallent et al. 2006, p.73-74).

In addition, the fringe areas are characterized by a large amount of housing pressure but are also referred to as a 'community less landscape'. What is meant here is that the urban area that grows outward as a result of urban development consists of discontinuous isolated dwellings, often resulting in the fragmentation of agricultural and forest areas, as they are formed along a road or around an intersection of lane lanes. The fringe additionally includes other open land uses such as an unused production plant or a military zone. It may also include the existence of a land reserved for the desired development (Gallent et al. 2006, p.76-77).

> '' According to Augé, motorways and supermarkets – icons of the fringe are prime examples of ''the real non-places of super modernity' because they 'have the peculiarity that they are defined partly by the words and texts they offer us'' (Augé, 1995: 96 cited in Gallent et al. 2006, p.78).

At the same time, there was an increase in the use of urban shopping and a new icon for the fringes; regional centers, retail parks and factory outlets. These major changes that affect the aesthetic perception of the fringe, processed by producer Jem Cohen in the film Chain, representing the sprawl of the world, presented the regions of the public spaces devoted to the private sector and revealed the fact that multinational companies were allowed to globalize their brands and renew their image. More well-known films such as Reservoir Dogs, Pulp Fiction, and Se7en present the apparent lawlessness and illegal activities of fringe areas (Shoard 2002: 130 cited in Gallent et al. 2006, p.80). In the light of all this, I can say that the fringes are negatively represented in these films and there is a perception that the fringe is not aesthetically appealing. However, as I mentioned before, a group that rejects this idea argues that

the wall landscape has a dynamic structure and that an aesthetic environment will be achieved with the improvements to be made. According to Thayer, the concepts of aesthetics and beauty created a framework in which he defined three social attitudes that formed around the perception of landscape that were not static, unchanging. These were ‘topophilia’ which represented plants and animals; ‘technophillia’ in which he represents the positive things that occur in the landscape as a result of man-made; and ‘technophobia’ as a representation of negativity resulting from man-made things. For example, in spite of the negative aesthetic effects of wind farms, the landscape of the wall is perceived as positive by people because of the clean energy they produce; The negative perception of nuclear power plants due to environmental concerns summarizes this situation (Thayer, 2002: 107).I think that the greatest contribution of the researcher is that it is not true to evaluate the fringes only through their physical representations, and that they clearly give the message that fringes are the product of the meanings imposed on these elements. Gallent et al. (2006) state that it is not necessary for fringe to have traditional landscape features, but that the landscape should have the features that present and future society think and value positively.

2.2.4.5. Socio-Cultural Fringe

The landscapes are shaped by the society and reflect the attitudes of the changing society and their environment. It also reflects many initiatives adapted to improve living conditions. (Anthrop, 2000, p. 21) We say that the fringe has a user community for informal recreation, entertainment and employment, but it should be noted that it can be a landscape without a community (Gallent et al., 2006). The landscape is considered to have a strong symbolic value with memories, and it is even clear that these places are exploited in the tourist sense. But over a period of time, landscape changes take place step by step on a local scale. Consequently, a diversity of traditional landscapes reflects and unites the natural diversity of the environment and the cultural diversity of different ethnic groups that occupy the land. The concept of

traditional landscape was first introduced in Flanders in 1985 to create the chorology of geographical regions. Anthrop (1997) defined the traditional landscape; 'Tabula rasa' is defined as landscapes that have evolved over the centuries until rapid and large-scale modern changes began. These large-scale effects were made possible by the Industrial Revolution, where the necessary technological power was available. However, the modern influences became really devastating with the economic boom after World War II.

These changes disrupt the traditional structures of the existing landscapes and thus their functions. In some places, the traditional landscape has completely disappeared to create a completely new landscape which is called as the modern landscapes, are mainly characterized by uniform and rational solutions and a lack of identity and personality. Although the remains of traditional landscape structures still exist, they have become isolated patches in a large-scale uniform area and are increasingly difficult to recognize. These changes sometimes eliminated existing traditional structures to create a new landscape and thus impaired their function. While modern landscapes have been described as having lost identity and personalities mainly due to uniform and rational solutions, the remains of traditional landscape structures are still present, but have been described as becoming isolated patches in a large-scale uniform area and increasingly difficult to recognize. In some cases, they are grouped into complexes of different landscape elements, and such complexes are called communities that can make connections in the management and reorganization of the surrounding landscape (Anthrop, 1997). Thus, traditional landscapes are defined as landscape areas which reflect the relations between the elements that make up the landscape through natural, cultural, or aesthetic values and have a recognizable landscape. In most cases, the creation of such areas and the development of land values above took centuries. Thanks to their long history, all changes have taken place in harmony with the natural conditions and the previous cultural models. As a result, a wide range of regional characteristic landscapes were created and clearly identified by appropriate names. The process of creating them took place slowly, with several

periods of change and long periods of consolidation. The process of creating modern land reforms can be achieved with a technology that enables rapid change and change of existing structures. However, as a result of this rapid transformation, the identity of all regional diversity and landscapes becomes unrecognizable and the spirit of the place and its own fabric disappear. (Anthrop, 2000, p. 22).

Politics and the wider literature have said much more about how people would want to natural environment and on the potential of open rural areas around urban centers. Based on the fact that city people visit the countryside frequently to learn about rural areas, wildlife and habitats, the issue of 'reunification' of the city and countryside has been much mentioned. In this way, a cultural bridge will be established between the countryside and the city. Although this is the case, reality for the fringe is different and offers different socio-cultural functions for many visitors. For this reason, I will address three important issues related to the socio-cultural fringe. The first is related to the examination of the places where the development of housing takes place in the areas of parking stations, especially in the vicinity of the transportation, and the quality of the houses located in the fringe. The aim of first dimension is to demonstrate how fringe are used for non-residential, unemployed uses such as recreation, education and health. The second issue is concentrated of the fringe as a recreation and experience area. The final issue will try to identify the extent to which the fringe is accessible by potential users to the main centers where a service and economic collection. It is emphasized how communities experience and reach the edges of the city, the fringe, and their importance for future policy decisions. (Countryside Agency, 2004, 2005). Sullivan (1996) argued that 'cluster housing' could be more preferred for suburban development in the fringe. Planners have used standard design principles to guide the development of the fringe and subdivision arrangements (agy: 292). As a solution to this problem, advocating the development of a strictly connected village model surrounded by open spaces (ibid.: 293), its equivalent in the geography is referred to as eco-villages, and most of the needs are defined in areas with small and self-sufficient local economies at a distance of one or two kilometers. (Trainer, 1998: 83).

It would be great to say that development in many places is approaching the ideal of a well-designed ‘cluster housing’ or an ecologically appropriate and self-contained o eco-village, but improvements are neither mitigating or sustaining the ecological footprint. Current development is opportunistic, because it is profit-based; it takes place quickly and inexpensively, without planning. Its only interest is to lay the groundwork for the political process that would allow such a development. This is an indication that the reputation of the urban-urban fringe is kept low. Priority should be given to design in order to build a situation that values rural-urban fringes. Congreve (2003) stated that there is a lack of interest in the environmental improvement of modern home buildings and that the construction industry is not interested in ‘ecological modernization. Perhaps it is possible to bring the real communities together in the rural-urban periphery and there are opportunities to create a different kind of socio-cultural function that will enable them to participate in environmental discussions. An example of this is the development of zero energy development housing plans in Hackbridge, South London, and the aim of the project is to show how to meet housing demand without destroying the countryside. The features that distinguish this schema from other schemes are as follows:

• Use construction materials selected from natural, renewable or recycled sources where possible and brought from a 35-mile radius of the land;

• Combined heat and power unit that generates energy and heat from tree waste

• The houses are located south to maximize the use of the sun and have excellent insulation and energy-efficient house designs such as three-glass windows.

• There is a water strategy that can reduce current consumption by one third with the contribution of developers who have installed water-saving devices that make the most of rainwater and recycled water.

• Having a green transportation plan that increases connections with the environment, reduces the need for travel within the site and creates different driving alternatives

• Each house has recycling bins

In 2003, the Chartered Housing Institute made a joint statement with the Royal City Planning Institute, which said that planning authorities should better introduce the design and environmental standards and that future housing should fulfill five basic principles. These conditions include: low resource use, reliable water and land use, confidence through design, a healthy environment that contributes to physical and mental development and promotes social productivity (community cohesion); designing business and housing relations with consideration; and finally, aesthetically and ecologically beautiful (Gallent et al., 2006).

From all these, we can say that the 'cluster housing' can offer an alternative vision for environmentalism and sustainability. I mentioned at the entrance that the fringe has a 'community user' but in the socio-cultural sense, the fringe is not only defined by the pursuit of 'greener' and more environmental, but also consisted by having different uses such as entertainment complexes and retail centers. The fringe is considered as the arena of various socio-cultural experiences. The point that draws attention about the fringe is that consists of 2 issues which make it accepted as an informal recreation area. The first issue is that it contains more open spaces and the second is that it is close to the urban area (Gallent et al., 2006). The Countryside Commission (1999) state that 'people can learn more about their environment and can participate in their environment; pleasure, pride, respect and a sense of commitment are part of the created places'. The potential recreation area in the fringe is divided into 3 groups. The first of the group is that offers recreation facilities such as golf courses, car parks, football or similar stadiums and other sports facilities within the scope of private property areas. The second group consists of public parks and reservoirs, while the third of them includes the most interesting and diverse ones: opportunities for activities such as cycling and walking, old tram lines, picnic areas, and airfields where can concentrate to various leisure activities. This category also consists of so-called unattended lands where dogs can walk, kites fly or mountain bikes (Gallent et al., 2006).

There is common agreement that fringes, together with applied environmental education, provide children and adults to the opportunity for learn from experience and knowledge that cannot be obtained from a formal classroom environment (see, for example, Taylor et al., 2001; BHF National Center and Loughborough University, 2004; RSKENSR). (2003). For example, local landscape plays an important role in school education and we encourage local authorities and others to use green spaces as outdoor classes, studios and laboratories (ODPM, 2004b: Paragraphs 4.37 and 4.38). It is thought that the educational benefits provided by access to the green area also provide health improvements and have been the focus of the studies conducted in the last few years. For example, Entec UK studies have examined the contribution of forests and urban green areas to health improvement, especially for target groups who are at risk for medical conditions such as coronary heart disease and obesity (Entec UK, 2003a).

'Accessibility' is another important issue related to the existence of recreation area of the rural-urban fringe. Osment (1998) states that the fringe lacks access to the fringe that forces the vision of multi-functionality. Some fringe areas are described as locations of where very low accessibility is considered closed and fragmented and it is thought that it will be difficult for people to experience these areas and will be limited in terms of socio-cultural sense. Although some parts of the fringe have paths, lane nets and passages, most of them are designed with vehicle-oriented transport networks in mind. Traditionally, a barrier such as a ring road, which cuts radial movement patterns from the city to the countryside has been built and often only allows access between the two zones by means of vehicles (Gallent et al., 2006). The issue of access to the fringe, securing this access, and vehicle initiatives to enable people to use the fringe are clearly important. Because if there is no access to the fringe, the areas deprived of access are considered excluded and cannot benefit from social and entertainment opportunities since they cannot reach the socio-cultural functions in the fringe. If the roads to the fringe are unreliable and the services are irregular, communities will not have access to the health benefits of walking and

cycling; and if public transport is replaced by a fringe development where based on car ownership, communities do not take advantage of opportunities such as business, entertainment and recreation offered by the fringe. The aim of improving access in the fringe is not only to provide for recreation and similar areas, but it is also important to ensure access to these areas in order to employ them in the new economy. Recreation areas in the fringe tend to be more accessible but have less established potential and are more disconnected. Accessibility can be problematic for young, age and unemployed groups experiencing 'transport poverty'. The fact that many experiences in the fringe allow experiences that can often be realized by private vehicle ownership poses a major obstacle to the realization of the socio-cultural functionality of the rural-urban fringe (Gallent et al., 2006). The rural-urban fringe can be a potential environmental resource for a 'class', 'health center', 'nature reserve' and 'sustainable living (Countryside Agency, 2005). In addition, the indoor and outdoor spaces provide the opportunity to experience the necessary space for leisure activities. This is also an aspect of the function that serves the socio-cultural fringe developed within the economic fringe.

The idea of a socio-cultural fringe is based on strengthening the links between housing and the environment, and for more than a century, Howard (2003 [1898]) advocates the idea that people are closer to city life and nature, and that cities and countries are better integrated. According to the Halifax Building Society, people still want easy access to the countryside. Therefore, some residential developments have increased at highway intersections, but this shows that planning has failed to create a sustainable life.

2.2.4.6. Economic Fringe

The focus of this section is to be elaborated through an analysis of the economic functions and the economic future of the fringe. Many post-industrial rural areas have undergone a transition from production to consumption. The economic changes

emerged with the industrial revolution and the increasing international competition and the differentiating economy that put the industrial forms of production (coal, steel) under intense pressure, and the production areas located on the edge of the city had to gradually unite them. However, in other processes, demographical process in the satellite and new cities; the expansion of peri-urban road networks has led to the regeneration of economic seeds in the fringe. The regional advantages of the new highways have led to the development of a wide range of uses, including storage, office space, distribution and retail in the fringe. By saying productive, it means accepting that it has an economic past and life on its own. However, as I explained above, the fringe which has an economic function is said to have shifted to a wider economy while preserving its function. For this reason, two frameworks have been put forward regarding the 'economic boundary of the fringe. The first is defined as a landscape that serves a wider economy; the second defines the fringe as always having its own internal economic property. Its special economic features stem from its role as an 'interface' between the city and the countryside.

Historically, we see that agricultural activities take place intensively in rural areas close to the city or urban areas. Due to the lack of any means of rapid transportation and the threat of food spoilage, agricultural activities opted to produce near the city markets. Hall et al. (1973) observed that the existence of a clear boundary that separates urban areas from adjacent agricultural areas at the beginning of the 19th century but then this boundary is convert from 'clear' to 'blurred' because of changing the relationship between urban and rural areas on account of the development of industrialization and transportation. At first agriculture was replaced by industry and housing and business functions became blurred in and out of the city. Secondly, with the development of cheap public transport, food transport between long distances became possible and therefore the urban population began to spread again beyond the urban boundaries (Hall et al., 1973: 76). For this reason, transport plays a key role in the development of the fringe economy: while the lack of vehicles becomes places

where intensive agricultural activity occurs; the intensification and development of the transport infrastructure has made the fringe an ideal place for retail sales.

Of course, all fringes are not similar, but generally the new economy of fringe has a mix of common activities such as mass sales centers, business and science parks, storage, light industrial area, farm, recreation and basic service functions. Guy (1998) and Lockwood (2001) argue that some of these commercial functions that have settled on the fringe in recent years which are problematic. It was considered that it would be inconvenient for customers and employees to access the commercial functions on the fringe by domination of road networks and cars. In view of the reasons that some types of bulk retailing (garden centers, specialized wholesalers, etc.) require large areas and these large areas are costly in the city center, these areas of activity are more suitable for the fringe as a location. For similar reasons, specialist retail activities such as large car galleries, traders, builders prefer the location of fringe. Areas of activity such as storage and distribution that require space outside the center, also being drawn to rural-urban fringe areas as these activities are difficult at the center. Therefore, we can say that the economy of the fringe depends on space and access. The current economy of the fringe will be divided into three main themes: the new economy of the fringe and the survivors in the context of inter-transitional transport; secondly, farm areas that have yet to exploit their potential in the fringe, and finally opportunistic industries integrated into the broad service functions of the fringe. Information will be presented accordance with the relationship between newly established and surviving industries, the multifunctional nature of the fringe, and the role of multifunctional planning approach and future management strategies in establishing and strengthening this relationship.

Road construction and road use are interconnected: the use of vehicles increases as new roads provide more and more access. However, road development is not the only factor in the emergence of new economies in rural-urban fringe. Railway connections are also another dimension that affects this movement because businesses and manufacturing industries demand to be close to the railway. The recent emergence of

Parkway stations has created new dynamic hubs in transport. Fishman defines a new type of urban form that he calls ‘technoburbs’ in ‘beyond Suburbia’: he has made a definition of a livable region of socio-economic units of the size of the district by this term. It consists of shopping malls, industrial parks, campus-like office parks, hospitals, schools and a wide variety of housing types spread along the highway growth corridor (Fishman, 1996: 485). I have mentioned that transportation is the key driver of economic development in the rural-urban fringe, but on the other side it is an obstacle to development. The policy of many governments on this issue included resisting excessive vehicle-oriented use that would lead to the expansion of the fringe field. It is argued that accessibility will increase with the creation and promotion of the use of public transport and thus will be more satisfactory for economic development (DETR, 2001a: Para. 21).

Aside from the new economy outlined above, farming was a production economy that existed before this development. Does this mean that agriculture does not exist in the rural-urban fringe right now? When we looked at the role of agriculture in the past, it met the nutritional needs of the urban population by concentrating on countryside around towns.

> There was a locational necessity for agriculture to be close to people: today, this locational necessity has become a potential locational advantage, especially as consumers become more concerned with the environmental consequences of agricultural production, measured in terms or organic versus non-organic cultivation and ‘food miles’ (Gallent et al., 2006).

Agriculture has exposed to several political and economic changes in the last 60 years and therefore, it has become more difficult to separate general agriculture from the concern of specific fringe. Concerns about the ecological and environmental degradation of intensive farming have eventuated the Common Agricultural Policy (CAP) reforms and the desire to promote initiatives and practices of the ‘agri-environmental’. In this context, Bickmore Associates (2003) argues that food

production on the fringe lags behind environmental and access-related objectives and does not enrich as agriculture is in conflict with other uses in the fringe. It is stated that the fringe areas on the sides of cities and towns have agricultural land with significant food production potential. At the same time, the urban fringe provides millions of urban populations with opportunities for rural recreation and enjoyment. However, rural and agricultural potentials of these areas are not fully exploited (Advisory Council for Agriculture and Horticulture, 1978: 20, 37). This statement clearly points to the problems in combining different uses and demands of the fringe. Even if it has potential advantages such as farming and access to nearby urban markets, it is also the most remarkable problem. Large-scale farmers were pushed out of the fringe: distinctive modes of transport, such as highways and railways divided the fields and consequently restricted the mobility of the animals. For the same reason, the farms were fragmented and had to shrink but there are some farms that turn this into an advantage: these are so-called 'adaptive farms' and are considered commercially successful on the fringe. Bickmore Associates (2003: 27) mentions examples of agricultural crops being planted and distributed locally around the city, west of Lancashire, close to consumers in the urban edge. The aim of the program is to promote local agriculture and reduce 'food miles'. For many years, 'farm shops' have been one of the fringes dropping strategies, have provided opportunities for direct marketing initiatives and have also contributed to the economy of the rural-urban fringe by being supported by strategies such as proximity to big city markets. Along with globalization, the creation of a particular species is a product of factory farming. In response to globalization, the importance and strength of farming in the fringe can be enhanced by rebuilding local market advantages and recovering many practices such as non-fertilizer and organic production that lost in agriculture. What matters at this point is the dissolution of agriculture's conflicts with urban uses. If the solution can be produced, it will begin to take advantage of the potential of the fringe position.

The last category of economic activity that I will examine on the fringe is about mineral extraction and commercial waste management. Commercial waste processing

and recycling has become a major business in recent centuries as a result of rapid urban growth in many parts of the world. The common message of this chapter is that the fringe has a mix of new service functions and an economy that includes economically survivors. The fringe is seen as a burden rather than an opportunity by creating situations such as illegal waste disposal, land fragmentation and degradation. Therefore, it appears that farming on the fringe expects clear guidance and more help from the national-regional government. Of course, some farmers do not want to farm in the hope that the planning authorities will encourage agricultural land to allow more profitable use in the future. However, If the public's awareness of organic production is provided, the need to reduce transport miles and incentives for the purchase of local products are made, the potential of agriculture in the periphery is revealed and made profitable.

2.2.4.7. Ecological fringe

In previous sections of historical and aesthetic fringe narratives; I've talked about the ecological richness of the fringe such as uncovered meadow areas where people walk their dogs, the woodland areas that have become battlefields for paintball, the large hectares of old airport areas and abandoned industrial buildings and lands. Shoard (2000) described the fringe as a shelter for wildlife originating from increasingly uninhabited rural areas; flora and fauna have developed the potential of an unplanned savagery. The same researcher Shoard (2002) stated that the diversity of plant life in the fringe is a product of local conditions.

The fragmentation of the landscape and the increase in its relatedness form the basis of the restructuring of the geographical environment and therefore the natural components of the landscape, all its resources and the ecological functioning of the landscape. Many natural values are constructed by humans and overlapping, causing isolated residues lost in landscapes (Anthrop, 2000, p. 21). The fringe provides ample resources for what is called a ‘challenging area’, and because of the fragmentation of

land, these areas are rarely agricultural. Shoard, called the key commentator on ecological fringe, sums up and explains eco ecology as partial disregard of the biodiversity of the interface regions. However, I would say that they should not be ignored. The clutter of the interface will be cleared by those who want to create an acceptable landscape there, will create new niches that can benefit from wild creatures, and will often develop wildlife. For example, let's assume that we throw an empty milk container into a lake, although the lake appears irregular, fish will enter and leave the container and make it part of their ecological world.

> 'So, while town parks are grassed over for ball games and our national parks overgrazed by sheep, these truer wildernesses are allowed to find their own accommodation with nature, evolving silently and unhindered'. (Shoard, 2002: 129)

The equilibrium between fringe development and protection is difficult to understand because it is considered an arena of intense land use conflicts (Osment, 1998; Bickmore Associates, 2003). The fringe is not particularly affected by the negative consequences of housing development that occur around transport centers and roads, but are also subject to similar pressure from a number of economic uses, which often cause large amounts of open space consumption. The rest of this chapter will focus on how to balance the need for development and ecology and the role of planning in achieving it.

Box and Shirley (1999) tried to draw attention to the potential loss of brown areas and its effects on urban ecology. Although the planning system produces partly policies on open rural areas and agricultural lands, they have not attempted to deal with ecology and biodiversity. For example, the green belt policies that cannot be called totally 'environmental, even though they refer to environmental protection in preventing rural development. They try to prevent 'urban' structuring in 'rural' environments, but they are not interested in the ecology of the soil. Shoard's essay on 'edgelands' is a statement on a broader understanding of the ecological fringe, and

states that biodiversity is not found only in national parks or specific scientific interests; for example, that rare birds also nest in buildings, not only on isolated cliff edges; and 'green' is not equivalent to biodiversity. Scientists and especially biologists were the first to recognize the richness of wildlife found in the fringe and the role of the fringe in supporting urban ecosystems (Harrison et al., 1996; Douglas and Box, 2000; Ling, 2001). Nevertheless, policy makers and policy regulations rarely mention rural-urban fringe and ignore their ecological potential and function. Shoard (2002) reminds its readers that the fringe has a ‘hidden wealth’, which hidden from many nearby communities and policy makers. Obviously, there are two questions for politicians: the first is about whether these habitats are to be protected; the second is about how to achieve this. There is, of course, legal protection for certain habitat types, such as wetlands, plateaus, meadows, or old woodlands should be applied.

The special scientific characteristics of the fringe cannot be understood due to the fact that the fringe is considered abandoned and local authorities are insensitive to the fringe. Often, it is more likely to be seen as sites with degraded soil potential in the future than to be seen as ecologically interesting open land (Kendle and Forbes, 1997). In general, there are locally applicable management and ‘environmental regeneration’ tools such as biodiversity action plans, local natural reserves, community forests and rural management programs. One of the important points here is that some mechanisms are only intended to preserve ecological qualities, while others are related to the relationship of these functions with the landscape. The first studies on biodiversity belong to the Rio Earth Summit in 1992 is related to the Convention on Biodiversity and the creation of global targets for biodiversity. These developments were followed by the Biodiversity Action Plans in England and the Working with Nature Cereals document prepared by the Department of Environment, Food and Rural Affairs to form a framework for biodiversity (DEFRA, 2002). In addition, Community Forests have been proposed as a useful model of cooperation at the border and have been addressed to reflect economic and socio-cultural frameworks. In 1989, it aims to create good landscapes in and around large urban areas. One of the activities

of the local authority on this issue is the determination of ‘local natural reserve’ areas. For example, a detailed list of the nature of the British Nature Reserve, Northumberland Wildlife Foundation, Wetlands, Wildfowl Foundation and other nature conservation organizations has been prepared and identified priority areas for conservation within the project. One of the decisions made by the project partners is to create large wetlands with species-rich grassland, forested areas and free habitats for shrubs. Accordingly, the main lake was designed, and channels were established to control the water levels occurring at different times of the year. ‘Pebble islands’ have been established to support the reproduction of both common and relatively less common bird habitats.

> By 1999, the Countryside Commission - one of the last reports before being subsumed into the Countryside Agency - anticipated that the fringe could become 'an area valued in its own right, where the town meets the country and where the regional diversity and local distinctiveness are recognized' (Countryside Commission, 1999: 3).

Therefore, we need to accept of ecological features of the fringe and do more for biodiversity and therefore ecological functionality of the fringe. For example, parts of nature can be included in sustainable drainage programs; can be assessed for flood defense purposes and used to mitigate the footprint of development. If special habitats or other ecological features can be notice, all of them can be utilized in terms of aesthetics, recreation and education.

2.2.5. The Inner-Middle-Outer Fringe Belt

One of the most important consequences of periodic expansion of the settlement area is the formation and modification of the circular fringe belt. The exact description of the fringe is an exercise of historical reconstruction. The identification of the fringe belt elements was made by the contributions of Conzen and Whiteland. Initially entirely within Europe, mostly working in England, M.R.G. Conzen (1960, 1962,

1969, 1978) described the inner fringe belt characteristics of the cities of medieval origin. Conzen described the fringe on two themes as ‘extramural’ and ‘intramural’ and called this fringe type as a ‘closed fringe belt’ (Conzen, 1969, p. 59). On the other hand, Whiteland (1967) stated that, in towns without fixing lines, fringe belts tend to unbroken and it will be less continuous. According to Openshaw (1974), land uses of the inner fringe belt will be located in proximity to the urban core and reflect the commercial importance of the core where the absence of city wall or fixation line.

Whiteland (1967) has developed the three terms to define the existing land use pattern which each has similar characteristic features: inner fringe belt, middle fringe belt and outer fringe belt. It is confirmed that different fringe structures exhibit certain continuity as they move from the inner core to the surrounding rural area and that the features are closely related. The inner fringe offers a transition of uses from rural to urban and defined as twilight areas where rural areas are continuously transformed into urban attitudes without complying with the norms of urban development (Chatterjee, op. cit, 1976). According to the Ravetz (2010), the inner fringe is open land or areas in large metropolitan areas of mixed and non-rural uses and surrounded by more than one urban area or infrastructure. High land prices and high rental prices in the core encourage migration from the core to the fringe; it causes the old and settled city centers to be pushed out slowly.

> Changes of use on fringe-belt plots usually involve an increase in intensity of use, largely resulting from the fact that during " . . . a long period of time in a growing city a site is likely to be transformed from a peripheral location to one deeply embedded within the built-up area and the related increase in its land value is likely to be associated with considerable organizational changes in the activity located on the site. (Barke, 1974)

In order to define the process, let us assume that the use of a low-density land, such as an allotment garden, is built on the edge or outside the fringe. Initially, the price and the density of this place is low, the rent is payable and its value is low, but as this area

becomes insert in built up area of the city, its value increases significantly and the unit price per plot rises. In time, this place which is used as an allocation garden cannot be expected to stand against rent and it is expected to become an area where more intensive uses will be produced and the occupancy rate will change (Barke, 1974). According to Whiteland, 'as the fringe strap grows, the inner fringe finds itself not on the fringe of the built-in area, but on the modern CBD'. Uses with the morphological change process vary in the fringe belts which is related to the density on the different fringe belts. If the inner fringe (I.F.B) lands are sucked; shifts may occur over time between maximum uses of areas: from the I.F.B to the middle fringe (M.F.B) and the outer fringe (0.F.B). In this context, we can say that the fringe is the result of the migration of belt uses. An I.F.B area can be encouraged to migrate to new fringe belts (M.F.B, O.F.B) due to certain requirements, resulting in new fringe belt (Barke, 1974).

Brytant et al., (1982: 14) also conceptualized these linkages in terms of the continuum relations between rural hinterland and urban area, unlike the researcher of Whiteland, he studied this relationship into several zones of inner and outer as can be seen in Figure 2.3.

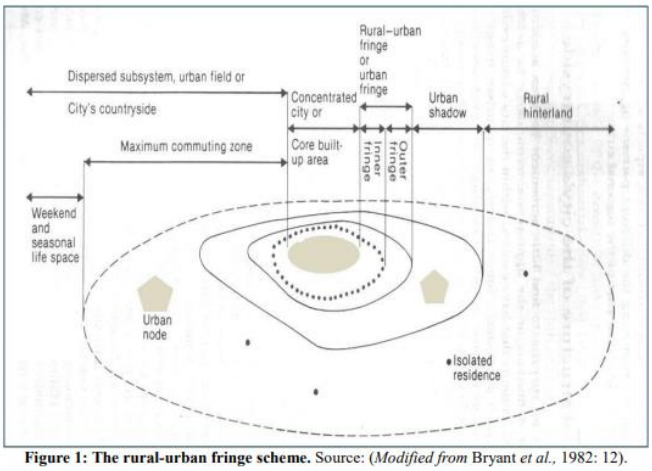


Figure 1: The rural-urban fringe scheme. Source: (*Modified from* Bryant *et al.,* 1982: 12).

Figure 2.3. The Rural-urban scheme

(Bryant et al., 1982: 12)

The inner fringe takes place by the transition to urban uses and the outer fringe where the predominant area of rural landscapes is. They defined the outer zone of the urban countryside by referring to the terms urban shadow and rural hinterland associated with the city. The boundaries of the outer zone change periodically in response to the various rhythms of the regional city and are therefore considered temporary (Bryant et al., 1982: 13-14). The inner fringe is characterized by land and land construction in the later stages of transition from rural areas to urban uses. Although the outer fringe is predominated by rural areas, they are open to the penetration of urban oriented elements such as single-family housing types. The urban shadow is the place where the physical evidence of the city has a minimal impact on the landscape, where the metropolitan influence is seen, albeit slightly, due to factors such as part-time and hobby farming and the arrival of small-town residents for commuting. Rural hinterland consists of the secondary homes, recreational uses, and intensive agricultural uses and open spaces (Bryant et al., 1982: 13-14). Browder et al., (1995: 312) defined the rural urban fringe as having several land uses depending on urban rural sectors that affect the functionality of rural urban fringe. As they move from the city center to the countryside, they are increasingly transitional in nature as they become more and more agrarian in their orientation. These areas are quite diverse as they have links to both rural and urban areas, and therefore it is very difficult to characterize them separately.

CHAPTER 3

SUSTAINABLE DEVELOPMENT AT THE RURAL URBAN FRINGE

3.1. Sustainable Development: From Brutland to Rio 1992

In the process of the development of humanity, the effects of people's production quantities and production types did not create alarming negativities on nature. Together with the industrial revolution in the capitalist system, both the production and resource use approaches of the industry and the consumption patterns that have been developed and have increased the negative effects of human on nature (Goodland, 1995).

The term ‘sustainable development’ began to gain importance with the publications of various researchers and authors on environmental crisis from the 1960s: the very referenced article of Lynn White, the books of Paul Erlich’s *The Populaton Bomb*, and Garrent Harding’s *The Tradegy of Commons* and the Roman Club’s *the Limits to Growth* created the alarm in 1972. The theoretical framework of sustainable development was shaped between 1972 and 1992 by the series of international conferences and initiatives. Firstly, UN Conference on the Human Environment to be held in Stockholm in 1972. Moreover, various of recommendations causes the establishment of UN Environment Programme (UNEP) and the numerous national environmental protections.

The UN Conference was the first major international gathering to discuss the sustainability. It also provided the establishment of the numerous environmental agencies at the national level. Consequently, *Our Common Future*, also known as the Brundtland Report, was published in 1987. The Brundtland Report signaled the growing problem issues, such as deterioration of the human environment and the natural resources, and the consequences of that deterioration of economic and social

development. The report defined the ‘sustainable development’ that “development that meets the needs of current generations without compromising the ability of future generations to meet their own needs”. (WCED, 1987, p.45). In addition, the report contained re-thinking our ways of living and governing to meet humanity’s goals and aspirations that would require new ways of considering problems. Based on the definition in *Our Common Future*, components of sustainable development are defined as follows:

- adopting the principle of protection of natural environment in the process of economic policy development
- ensuring intergenerational equality
- instead of the only understanding of economic growth and adopting a balanced development model (Jacobs 1991, Healey ve Shaw 1993; Robert ve Chan, 1997)

‘Sustainable development’ concept led to the generation of the new terms such as ‘societal responsibility’ and ‘economic, social and environmental performance’, when the International Union for the Conservation of Nature (IUCN) published the World Conservation Strategy in 1980. This concept came into general usage after the publication of the Brutland Report.

At the center of environmental strategies, the concept of sustainable development, which is mainly concerned of not destroying the natural environment without giving up development? However, this aim, and definition of the report has been interpreted in many different ways. Some groups argue that the report encourage the development and increase the technology to meet the needs of future generations. Others state that sustainability means that no development as it will deteriorate the environment and consume natural capital of the Earth.

The Brundtland Report provided the momentum for the landmark 1992 Rio Summit, prepared the foundations for the global institutionalization of sustainable development. The Earth Summit admitted the Rio Declaration on Environment and

Development and Agenda 21. The Rio Declaration is composed of 27 principles of sustainable development, 7 of the principle which is common but differentiated responsibilities. It included 4 chapters, and subdivided into 40 chapters associated with:

Section I: **The social and economic dimensions of sustainable development** such as combating poverty and promoting sustainable urban planning,

Section II: **Conservation and management of resources for development**, dealing with the sectorial issues,

Section III: **The role of major groups** such as women, local governments focusing on local empowerment and alliance building between various partners to ensure all major groups are actively in all program areas of Agenda 21

Section IV: **Means of implementation** such as transfer of environmentally-sound technology.

Three seminal instruments of environmental governance were established at the Rio Summit: the UN Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity (CBD), and the non-legally binding Statement of Forest Principles. In terms of the political standpoint, The Rio Summit attracted attention of the world's and active engagement and attendance by almost every national leader. However, two negative side of the Agenda 21, one of which is too much of an emphasizing on the 'environmental pillar' in the negotiations and secondly, too little implementation of goals related to development aid and cooperation.

Sustainable development concept is defined both at the Brutland Report and at the Rio Summit. The thinking and practice on this concept have developed over the past two-plus decades. Cherqui (2005:5) states that the evolution of the concept and the implication for the actors was prepared by Brodhag (2004:8). Figure 3.1 shows the important dates and evolution process, and different actors' role in the evolution of

this concept over time. Although the concept has been beneficial for framing approaches to development and growth, sustainable development has remained an idea and conceptual framework.

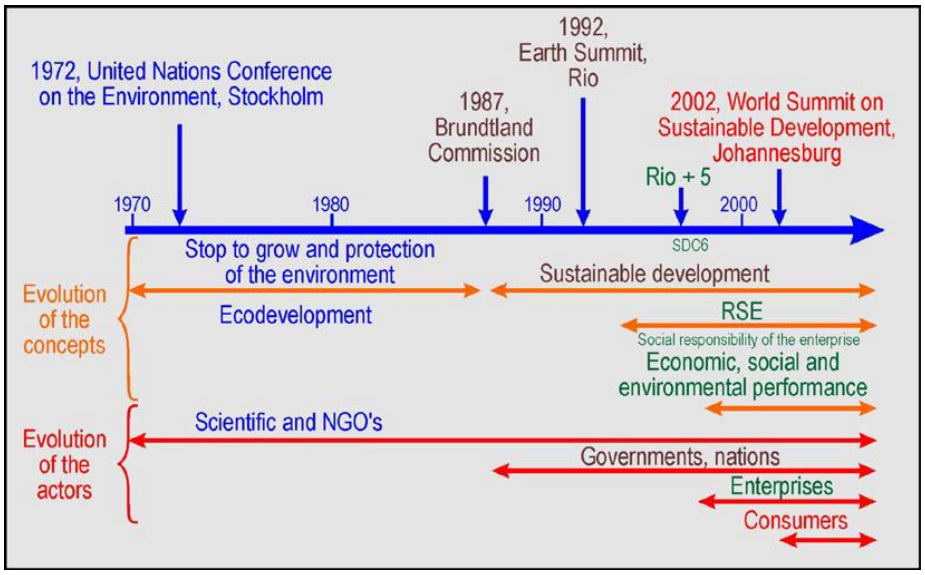


Figure 3.1. Important dates of Sustainable development

(Brodhag 2004:8) (Source: Schutte Chapter 2)

3.2. The Three Pillars of Sustainable Development

Sustainability is about integration of three pillars: the society, the economy and the environment. Some United Nations texts and the 2005 World Summit Conclusions have argued that economic, social development and environmental protection are three components of sustainable development, should be 'interdependent and mutually reinforcing pillars' od sustainable development. The concept of sustainable development is included in the environmental discussion and is defined of the interdependence of the three systems; economic system, social system and biophysical system (environment). (Schutte, Chapter 2, p.30). Sustainable development is also described in Agenda 21 with the same conceptual frame. The model is related to

classification of impacts of sustainable development into three convenient categories, which make analysis much simpler. The main aim of sustainable development is to bring the three pillars in a balanced way to reconcile conflicts. All the components of the model are shaped equal size rings in a symmetrical interconnection to overcome giving different perspectives and priority to one or the other. (Figure 3.2)

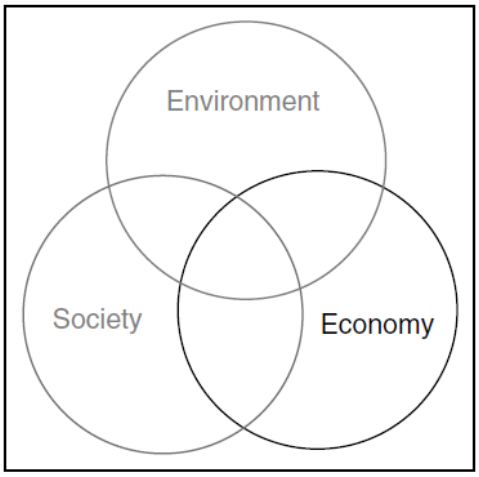


Figure 3.2. Common three-ring sector view of sustainable development

This model present major weaknesses and limitations which assume the separation and autonomy of the economy, society, and environment from each other. Thus, this view causes the approaching and tackling issues of sustainable development in a compartmentalized manner. Neumayer (1999) assumes that the three sectors can compete with each other, suggests that weak ideas of sustainability have emerged that capital can replace and replace natural resources and systems.

There is the unargued realization that people, habitat and economy are interconnected. Interdependence of three pillars may be ignored for few years or decades, but history has reminded some type of crisis and alarms. Economic growth alone is not enough, for instance, focusing only on profit margins has led to social and environmental damage. The opposite cases continued of environmental services depend on the

current state of economic resources. The fact that we depend on ecosystems and the services as it run businesses, built communities, feed our populations and much more. OECD (2001) explains that, whether we consider the more obvious, the need for soil can grow for food or clean water drink or the less obvious but equally significant things like oxygen production during photosynthesis or waste processing by bacterial decomposers. Briefly, we cannot ignore the importance of environment for the future existence. Social well-being and economic well-being also depend on the environment. If we continue to destroy the environment, we may face the inadequate services for healthy and productive population.

Kahn (1995) writes that the paradigm of sustainable development rest on the three pillars. Economic sustainability means a way of growth, development and productivity, which has guided the conventional development in the past. Economic sustainability focuses on the physical inputs of natural resources which are both renewable and consumable processes into the production process. It emphasizes life-support systems such as atmosphere, water and soil in production and ensures that physical inputs are taken into consideration in production. These life support systems need to be healthy; their environmental service capacities must be maintained. Activities on continuous consumption can cause irreplaceable and irreversible environmental damages, which are incompatible with sustainability (Goodland and Daly 1996, 1003). Social sustainability includes opinion of equity, empowerment, accessibility, participation, sharing, cultural identity, and institutional stability. It aims to preserve environment through economic growth and the reduction of poverty. Lastly, environmental sustainability encompasses ecosystem integrity, carrying capacity and biodiversity. Main components of environmental sustainability is natural capital, must be maintained as a source of economic inputs and as a sink for wastes. (Figure 3.2) Resources must be harvested more slowly than they can be regenerated. Wastes must be emitted no faster than they can be degenerated by the environment.

Table 1. The paradigm of sustainable development in *Agenda 21* as elaborated by Kahn (1995)

Element	Criteria
Economic Sustainability	Growth
	Development
	Productivity
	Trickle Down
Social Sustainability	Equity
	Empowerment
	Accessibility
	Participation
	Sharing
	Cultural Identity
	Institutional Stability
Environmental Sustainability	Eco-System Integrity
	Carrying Capacity
	Biodiversity

Figure 3.3. The paradigm of sustainable development in Agenda 21

(Kahn 1995, 10-15)

Understanding the complex connections and interdependence of three pillars requires some efforts to propose viable solutions. This effort includes multiple experiments, learning, failures, mistakes and adapting process. Sustainable development means that considering the relationships of things to each other. According to the Brundtland Report, sustainable development is the process of change rather than is a fixed state of harmony. Sustainable development has been useful concept in framing approaches to development and growth. Government, institutions, businesses and NGOs accepted the sustainable development as concept to desire goal and strategy. The focus idea of government and businesses is that economic growth is the main driver of sustainable development. Economic development made more environmentally sensitive by

raising living standards globally and breaking the link between poverty and environmental degradation. Economic growth as a part of the solution, markets and technology will produce a richer world that is more ecologically stable. (Hopwood, Mellor and O'Brien, 2005). In this respect, the economy is the process shaping the possibilities, and is a vehicle that reaches us the overall, collective, goal of improving quality of life globally. However, the Local Agenda 21 agreements at the Rio Conference included the issues of strengthening participation and means of implementation apart from the issue of economic and environmental development. Many English and American environmentalists who concentrate on the issues of the countryside, wild animals and wilderness to prevent from people, but less priority is given to the urban environment. Without integrated outlook, environment is seen separate from humans and anti-urban tradition. But as mentioned above, main success comes through the create balance between all three pillars.

In sum, sustainable development refers to a conceptual framework: a way of changing the predominant world view to more holistic and balanced view and a way of applying the principles of integration to all decisions, space and time. Identifying all three pillars aspects of development includes a various of concepts, policies and projects. Some argue that this concept is not useful in spite of its easy acceptance and popularity by some members of government, civil society, countless companies, and many cities. Because the complexity of the problems and the difficulties inherent in changing people's perceptions and actions are crucial, sustainable development has not created the rapid changes in behavior and policy. In addition, decision-making process requires changes in previous patterns of behavior at the level of individual consumption or international law. The sustainability stands on the idea that negative consequences will be arrested, positive consequences should be increased, and real development should be encouraged by integrating and interlinking economic, social and environmental sustainability. As these three pillars form elements of dynamic system, they cannot be isolated from each other for sustainable development.

3.2.1. Economic Sustainability in Development Theory

Economic sustainability refers a system of production that satisfies present consumption level without compromising future needs. Economic sustainability' seeks is the 'sustainability' of the economic system itself. (Basiago, 1999). Markets are effective tools for distributive mechanism. Goodland (1995) defined economic sustainability as a providing physical inputs for both renewable (e.g. forests) and exhaustible (e.g. minerals) into the production process. Economic sustainability emphasizes an environmental life system that is necessary to be healthy. In this sense, environmental service capacity should be maintained to decrease depletion and damage by human activities.

Economist generally proposes that natural resources was unlimited and focuses on the capacity of the market to allocate resources efficiently. But today, thinking about the natural resources provide the understanding of insight that natural resources are not infinite. The growing process of economy has forced to the natural resource base. According to them, also economic growth would bring the technological capacity to renovate destroyed natural resources in production process.

3.2.2. Social Sustainability in Development Theory

McKenzie defines social sustainability as ''a positive condition within communities, and a process within communities that can achieve that condition" [24, p.23]. It is composed of few examples of indicators or features including:

- equity between generations such as future generations should not be disadvantaged in consequence of current generations' activities.
- equity of access to services such as education, transportation, housing and health
- sense of community ownership

- political advocacy to meet needs that cannot be met by community action

Other topics of social sustainability are social justice, community resilience, and social capital. Although, social sustainability may be the least popular sustainability pillar, it gains new popularity by the research of HCI (Human Computer Interaction Researcher), addresses the issues of citizen science, community resilience, politics, and the importance of social capital.

Ruttan (1991) defined social sustainability as a social organization that alleviates poverty. According to him, social sustainability establishes the link between social conditions such as poverty, and environmental decay. Ruttan's this theory identifies three attributes: negative linkage between sustained colonization, sustained poverty levels, and sustained natural resource exploitation. There is an opposite opinion in development theory whether 'environmental sustainability is needed for economic growth and poverty alleviation, or economic growth and poverty alleviation is prior condition of 'environmental sustainability'.

3.2.3. Environmental Sustainability in Development Theory

Environmental sustainability requires maintaining natural capital. Goodland (1995) express harvest rates of resources must be kept within regeneration rates at the 'source site' and waste emission from industrial production must be controlled to not exceed the capacity of the environment to assimilate them without deterioration. According to Goodland, natural capital is the Earth's reserve of resources that provide goods to sustain life such as water, absorption of carbon dioxide, fossil fuels, biodiversity. This definition constitutes input/output rules. They are both a provider of economic inputs called sources and an absorber provided of economic outputs called sinks. (Daly, 1973; 1974; World Bank, 1986; Pearce and Redclift, 1988; Pearce *et al.*, 1990a; 1990b; Serageldin, 1993). The source constraints include the use of renewable and nonrenewable sources, and the sink constraints include pollution and waste assimilation.

However, taking this issue from a superficial perspective which ignores the the market forces and social inequalities that are driving environmental degradation. He identified the sustainability in terms of economic, social and environmental components but especially focused on the strong linkage between economic and environmental sustainability. Attention on the environmental sustainability has been given with facing the fact that economic underdevelopment and poverty. However, environmental sustainability cannot be accepted as only one doctrine for achieving sustainable development. It is related to entire system of the three pillars of sustainable development. In this sense, the preservation of natural system is necessary for achieving economic vitality and social justice, but also economic reforms and social reforms are necessary and important.

3.3. The Three Conflicts of Sustainable Development

The three pillars lead to three perspectives on the city. From an economic development planner perspective, the urban is described as a location where take place production, consumption, distribution, and innovation. This means that the urban is in competition for markets and new industries. Urban space is the economic space where highways, market areas and commuter zones take place. According to environmental planner, city is a consumer of resources and producer of wastes. It poses a threat of citys' competition with nature for scarce resources and land. The space is seen as ecological space of greenways, river basins, and ecological niches. Lastly, equity planners state that the city is a location of conflict over the distribution of resources, of services, and of opportunities

Figure 3.4: The triangle of conflicting goals for planning, and the three associated conflicts. (Campbell 1996, 25)

Figure 3.4 emphasizes the one-dimensional flow that is 'man versus environment' misses the social conflicts in contemporary environmental disputes, such as farmers

versus suburban developers, or fishermen versus barge operators (Reisner 1987; Jacobs 1989; McPhee 1989; Tuason 1993).

In this perspective, the three points on the triangle emphasize the different interests, and so lead to three fundamental conflicts. The first conflict is the 'Property Conflict' which shows the conflicts between the economic growth and equity. It arises from competing claims on and uses of property. This growth-equity conflict is further complicated as in between relations among this conflict needs the other for its own survival such as management and labor, landlords and tenants, or gentrifying professionals and long-time residents. (Campbell, 1996). The property is defined as a private commodity such as housing or land which also depend on government intervention. For instance, they are zoning, or public housing for working class to provide social aspects of the same property which is defined as 'property contradiction' by Richard Foglesong (1986). While the private sector resists the social intervention, it simultaneously depends on the social intervention. The conflict defines the boundary between private interest and the public good.

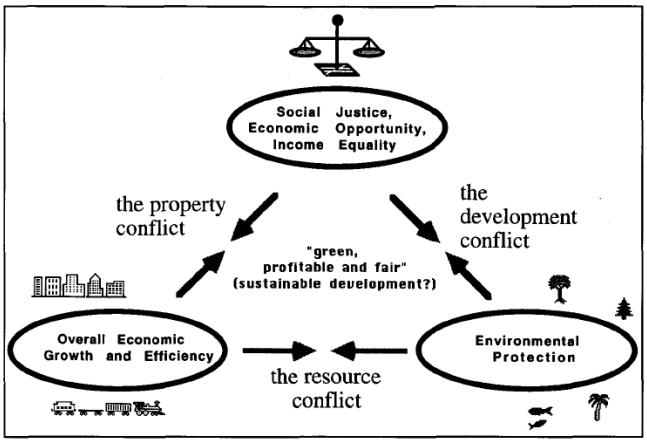


Figure 3.4. The triangle of conflicting goals for planning, and the three associated conflicts.

(Campbell 1996, 25)

The second conflict is deal with the tension between the natural resources' economic utility in industrial society and their ecological utility in the natural environment. While private sector resists regulation of property to keep the flows of economy, at the same time it needs regulation to conserve natural resource and to preserve exploitation of nature. The conceptual conflict is defined as ''resource conflict''. This conflict helps us understand the boundary between the developed city and undeveloped wilderness. It refers to the city limits, which the boundary is not fixed; it is a dynamic and contested boundary between mutually dependent forces. (Campbell, 1996).

The third axis on the triangle is the ''development conflict'' which is the most elusive, defining the conflicts between the poles of social equity and environmental preservation. The property conflict is characterized by the economy's ambivalent interest in providing at least a subsistence existence for working people. The resource conflict is interested in providing sustainable conditions for the natural environment. In this sense, it is not an easy task for development conflict as it is difficult for doing both at once. Environment-equity disputes are coming to the fore to join the older dispute about economic growth versus equity (Paehlke 1994, 349-50). In this point, the most challenging problem of sustainable development is how to increase social equity and protect the environment simultaneously. Meanwhile, other important questions about how could those at the bottom of society find greater economic opportunity if environmental protection mandates diminished economic growth? However, a protection effort of the environment has slowed the economic growth in many countries, and this resulted in increasing the inequalities between rich and poor nations.

Although, there are the strong conflicts among economic growth, environmental protection, and social justice which is emphasized the image of the triangle, all of three point on the triangle depend each other. Mutual dependence based on both opposition and collaboration. That is, three corners of the triangle present key goals in planning

linked to the three resulting conflicts. In this sense, the center of the triangle is defined as sustainable development

CHAPTER 4

THE PHYSICAL GROWTH OF ANTALYA AND RURAL URBAN FRINGE AREA OF DÖŞEMEALTI

4.1. Changes in Population and Density of Antalya

The element that made the city of Antalya the main subject of this study; although it is one of the most important agricultural production and rural areas of the country, it is receiving immigration and increasing population due to tourism; as a result of this, the significant amount of agricultural land surrounding the city has been opened to construction in recent years with the effect of urban expansion.

As a port city, Antalya became the control center of a very limited agricultural area in the 15th century. In the 15th and 16th centuries, the city grew northward outside of the city border and formed around the northern gate outside the central. In the 17th century, 5,000-10,000 people in the city and 10 000 people outside the city border, in total 15 000-20,000 people are thought to be. In the first half of the 19th century, although the urban structure did not change much and trade activities intensified after the middle of the 19th century, it could not expand the control area due to transportation difficulties and therefore could not become a port city with a large hinterland. It has remained a center for collecting the crops of a limited agricultural area surrounded by high mountain ranges on three sides. Antalya has grown in terms of population and spatial structure with the developments of agriculture and tourism after the mid-20th century (Can, 1992). In the years when the Republic was founded (1927), the fact that the population movements were static and low migration was reflected in the population increase and the population of the city have increased the amount of 12,500 people in 30 years (Dampo 2002).

Table 4.1. Antalya Urban and Rural Population, Annual Increase Rate (1927-2018)

(TUIK Population Statistics 2018, prepared by author 2018).

Years	Total population	Urban Population	Rural Population	ANNUAL INCREASE RATE (in thousand)		
				General	Urban	Rural
1927	206270	35533	170737	-	-	-
1935	242609	43857	198752	2.03%	2.63%	1.90%
1940	256366	49903	206463	1.10%	2.58%	0.76%
1945	278178	48714	229464	1.63%	-0.48%	2.11%
1950	311442	53972	257470	2.26%	2.05%	2.30%
1955	357568	67480	290088	2.76%	4.47%	2.39%
1960	416130	95424	320706	3.03%	6.93%	2.01%
1965	486910	129657	357253	3.14%	6.13%	2.16%
1970	577334	176008	401326	3.41%	6.11%	2.33%
1975	669357	223089	446268	2.96%	4.74%	2.12%
1980	748706	280837	467869	2.24%	4.60%	0.95%
1985	891149	397712	483437	3.48%	6.96%	1.06%
1990	1132211	602194	530017	4.79%	8.30%	1.43%
2000	1719751	936330	783421	4.18%	4.41%	3.91%
2008	1859275	1273940	585335	3.84%	0.00%	0.00%
2013	2158265	2158265	-	3.09%	0.00%	0.00%
2018	2426356	2426356	-	2.59%	0.00%	0.00%

Spatial formation of Antalya in parallel with the process of urbanization in Turkey and the consequent change of identity began in 1950, and then accelerated of the city population. In 1950s the city span reached 270 ha with a population of 53,972, while the population of the city increased to 95,424 with a growth percentage of 85% and total cover area was 690 ha in 1960. The city is impressed by this migration movement in terms of the meaning of social, economic and physical.

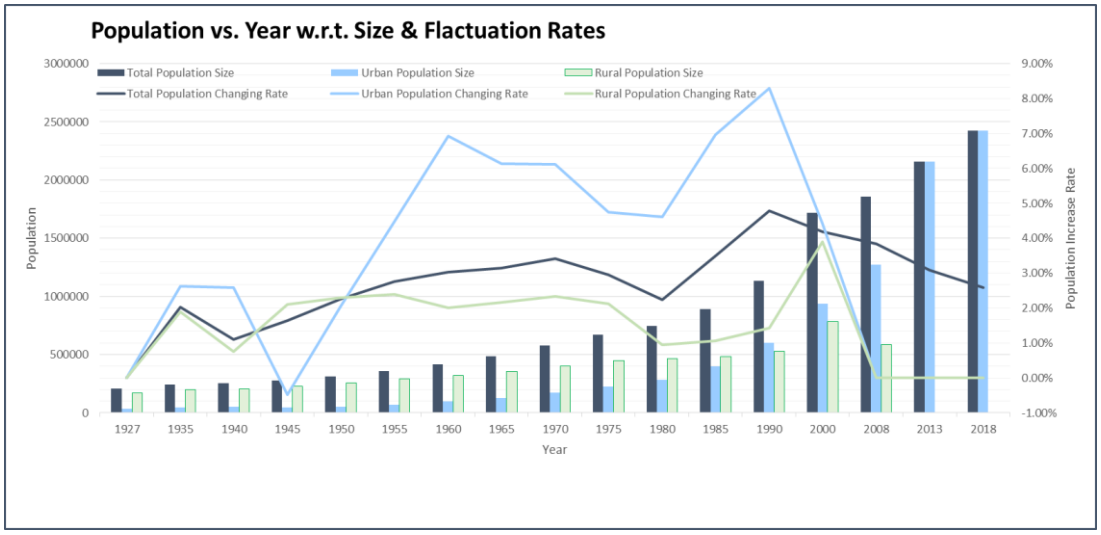


Figure 4.1. Population changes in Antalya and changes in the increase rate between 1927 and 2018.

While the city of Antalya was the center of collection and distribution of agricultural hinterland from the beginning of the Republic until the year of 1950, it showed a continuous increase in population by being affected by migration movements at the end of 1950s when rural to urban migration accelerated. As it can be seen from the table, the population of the city reached 176,008 in 1970; reached 936,330 in 2000 and reach 2,426,356 in 2018. The highest annual increase of urban population was in 1990 with 8.30%. The impact of policies aimed at balancing the urban population and increasing the rural population in Turkey in the year 1945 that can be seen as a similar picture in Antalya (Gelekçi, 2015). In the early years of the Republic, the policy of increasing the population, especially the rural population, was transformed to the contrary in 1965 and became policies supporting the urban population growth. In this process, it can be seen from the table and graph that in 1945 the urban population in the Antalya decreased by 0.48% and the rural population increased by 2.11%. In the 1965s, we see the reflection of the politics aimed at increasing the urban population by increasing the urban population by 6.13%.

Antalya's population change shows the reality of growing Antalya, but if we look at the graph of the change in growth rates over time, it can be said that Antalya actually gained population, but the rate of increase has been decreasing since 1985.

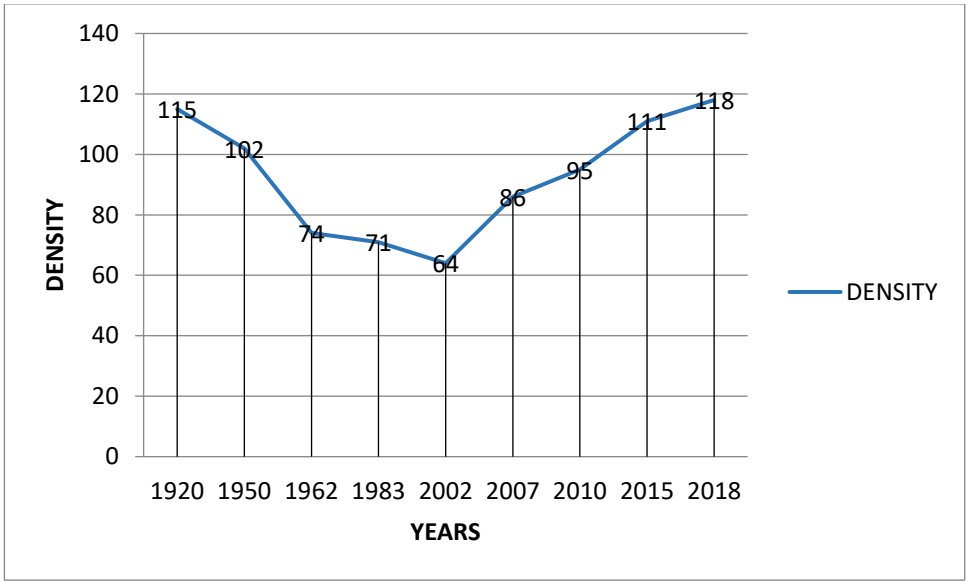


Figure 4.2. Changes in population density of Antalya (people/hectare) between 1920 and 2018

From the 1920s to the 1980s, the gap between rural and urban areas increased, but after the 1980s, the population, migration and urbanization rates in our country decreased, the rural-urban population was balanced, and the population growth rate in Antalya started to decline. However, this decrease does not mean that the population added to Antalya is low, it has reached to over 1 million population with an increase percentage of 4.79% in total population. When the following density graph is examined, it can be concluded that the increase rate in the area that occupied by the city between 1920 and 2002 is faster than the increase in population. It is understood that this situation stems from the fact that priorities in planning have changed.

After 2008, the reason for the big difference seen in the graph data is related to the amendments made with the law of Metropolitan municipality, which was put into force on 6 December 2012. With this law, rural areas, small settlements and villages around the metropolitan area transferred to metropolitan area that is called as cities and the urban population rate increased in an instant. A large number of villages in Turkey include into the scope of metropolitan area boundaries that has caused great differences over the years between the population living in provinces and districts and the population living in towns and villages

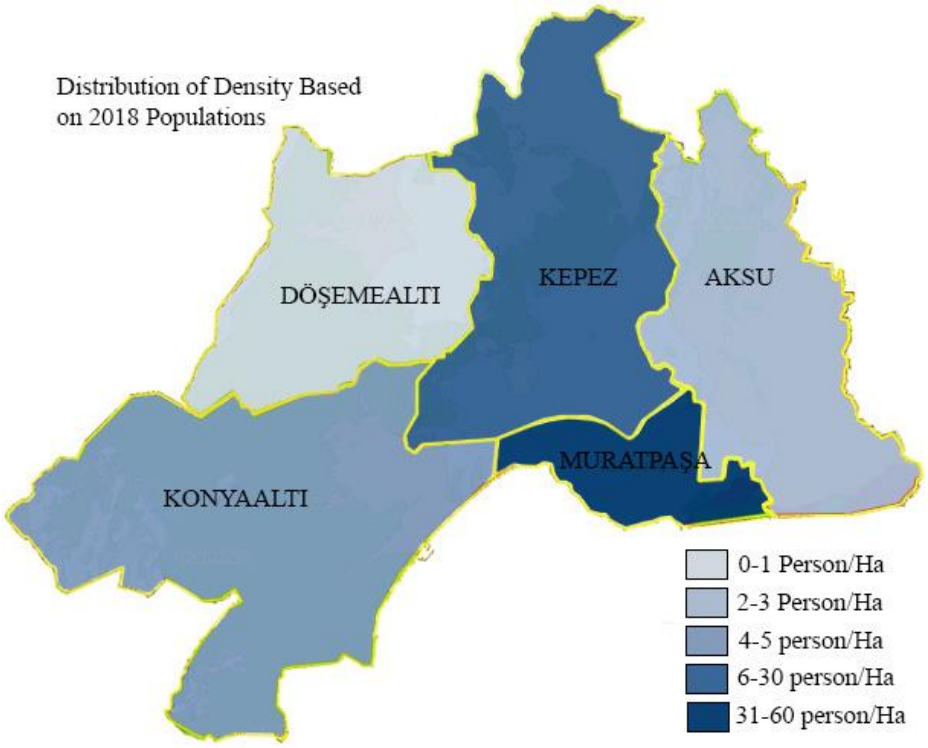


Figure 4.3. Distribution of District Density in Antalya Based on 2018 (people/hectare)

If we look at the distribution of density, it can be said that the core of the city showed to be high density due to the dominance of commercial and administrative functions in the city center and out of the city continues with the low density. The fact that

Antalya became a metropolitan city in 1994 is the inevitable result of the increasing population; Muratpaşa, Kepez, and Konyaaltı that are sub-municipalities formed the main city municipality. When the density distribution that is illustrated above, we can see that Muratpaşa, Kepez and Konyaaltı are ranked respectively from high density to low density and this region covers the settlement areas and built environment within the boundaries of district municipalities.

4.2. The Historical Change of Spatial Development in the Planning Process

Previously mentioned effect of the spatial process of Antalya that is the result of the multivariate approaches in population growth, tourism and planning. Depending on these factors, urban development has experienced splashes, breaks and transformations in some periods; these developments have spread over the urban fringe and surrounding rural settlements and as a result have created number of problems like the destruction of rural areas, fragmented and discontinuous pattern and rural-urban fringe development that cannot be connected with the urban. In order to understand better of the formation of all these processes and the factors that cause them, I will examine the spatial development and planning studies of the city of Antalya from the historical perspectives in eight periods after 1923; these periods will include a detailed description of the analysis of the periods, which are; 1923-1950, 1950-1960, 1960-1970, 1970-1980, 1980-1990, 1990-2000, and finally post 2000.

4.2.1. Spatial Development in 1923-1950

From the beginning of the 1923s to the 1950s, the urbanization process taking place in the city of Antalya showed an urban development via building public services, trade and service functions, provincial centers where became the collection and distribution center of agricultural hinterland.

The city was developed around the center which formed city fringe outside the city by being a form of development that is transformed into a settlement pattern along the road is observed in agricultural areas and citrus orchards, while preserving the characteristics of low density, organic texture (Dampo, 2002).

4.2.2. Spatial Development in 1950-1960

The first plan of Antalya was produced in the 1950s**,** was prepared by the General Directorate of City Bank. It was approved in 1957 by the Ministry of Public Works and Settlement. This plan proposed the development in a new area; Kaleiçi and its surroundings, Bahçelievler in the west, Şarampol in the north, Yenikapı region in the east). Public investments and industry are popular in this period. Antbirlik (Antalya Cotton and Citrus Agricultural Sales Cooperatives Association) founded in 1952 which played an important role in the establishment of agricultural development and agro-industry in Antalya. In 1956, the foundation of the Antalya Cotton Weaving Factory was laid to solve the unemployment problem in the city, and production started in 1961. In the same year, Antalya Kepez Power Plant was put into operation and Antalya Ferrochrome Factory was established in 1957.

Although the plan envisages a coherent development strategy and a balanced distribution of social equipment areas, migration and population growth have not been adequately assessed. In addition, the original texture and climate characteristic of the city is ignored in the plan and became a problem of irreversible zoning process (Dampo 2002). The regions where high-rise constructions are developed in the city such as Konyaaltı district can be considered as shaping this understanding. The development of the city during this period was around the Kalekapısı and the center. The direction of development is defined in axis from east and west of the Burdur road; taking place in the neigborhoods of Bahçelievler, Memurevleri, Yıldız, Varlık and Deniz; development is continuing with the direction of Lara neighborhood,

Muratpaşa, Eyiler; is completed with Sinan, Zerdalilik, Çaybaşı and Yüksekalan neighborhoods (Dampo 2002).

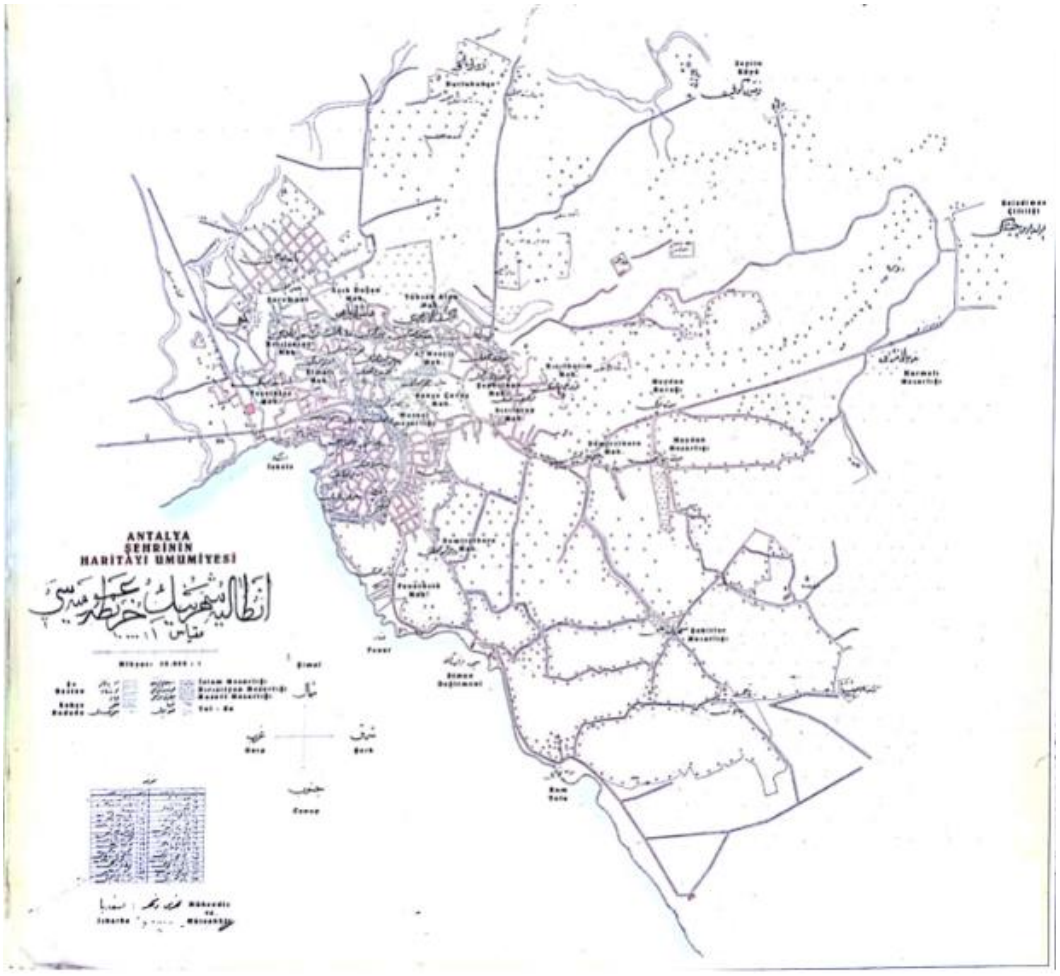


Figure 4.4. First Plan of Antalya

Source: Antalya Metropolitan Municipality

The gecekondu firstly observed in this period; especially in the late 1950s, the development gecekondu are in north-west side of the city which was attributing collective and higher intensity, developed simultaneously due to the establishment of

factories and formed around industrial plants. Today, Kepezaltı-Santral Neighborhoods are among the gecekondu districts that developed in the north of the factory area after the opening of Ferrokrom factory.

The beginning of tourism movements in the city coincides with the end of the 1950s. However, in those years, it is mentioned that there is limited tourism activity due to the lack of transportation infrastructure, utility of transportation and the inadequacy of accommodation facilities. (Kemerağzı Kundu Region Plan Report; 2009).

4.2.3. Spatial Development in 1960-1970

In the first half of the 1960s, parallel to this industrial development, important industrial investment is located on the north side of city, has shaped around the Burdur road. The Antalya Cotton Weaving Factory, 82% of which was owned by Sümerbank was proposed an industrial facility that triggered the formation of gecekondu in the surrounding settlements. In the same year, Antalya Kepez Power Plant was put into operation. In the second half of the 1960s, the tendency of gecekondu have transformed from the northern direction into another one. After immigration from rural areas of Antalya and nearby provinces such as Isparta, Burdur and Konya consequently end with new gecekondu areas, which has started to locate in Kızıltoprak and Yüksekalan.

Between 1960 and 1965, the Kalekapısı bazaar was formed between the Kalekapisi and the Municipal Destruction; the trade functions that are currently in use have taken their place. In 1970, as well as the commercial complex of Vakıf is established. It was decided to renew the zoning plan in 1965, and the plan works started in 1969 and carried out by a private office were stopped in 1973.

In addition to the development of highways and the revival of tourism activities throughout the country, the “Tourism Incentive Policy” has also led to the development of tourism in Antalya. With the government's decree enacted in 1969, 3

km. wide coastline has been identified as a priority tourism development area in the coast of Aegean and Mediterranean. After this decree, tourism activities in Antalya started to develop. (Kemerağzı Kundu Region Plan Report, 2009) In this period, the spatial effects of urbanization movements began to be seen in the city, important in terms of being the period in which a new settlement has begun to bring about differentiation in production, lead to socioeconomic and cultural change. In 1965, a new zoning plan was required, and İller Bank prepared the 1/5000 scale Master Plan, which was completed in 1969, but the construction of 1/1000 scale implementation plan could not be completed (UTTA, 1995).

Between 1960-1965, Antalya Project was prepared under the direction of State Planning Organization (SPO) and the aim of this project is to provide economic and to carry out pre-investment research which will be the basis for a socially balanced development and to serve as a pilot project for the training of Turkish personnel in planning. It is difficult to argue that it can provide integrity between studies involving manufacturing industry, tourism, trade, irrigation, agriculture, forestry and employment (Keleş 1997).

The period of 1960-1970 is a process in which Antalya faced unprepared for the rapid population growth and social, cultural and spatial changes arising from urbanization. The search for temporary solutions to the problems caused the destruction of the historical texture, especially in core of the city, and the renewal efforts created cultural and physical destruction in the place. Especially in the city center of Antalya, the structure and the increase of rent on the fringe areas of the region where the old texture is located, in order to meet this rent and increase their income, many shops and office floors were built, the main streets were transformed, the old tissue was demolished and the unidentified buildings became like that.

4.2.4. Spatial Development in 1970-1980

Since 1974, there has been a demand for intense structuring in Antalya which has not been seen until this date. The main factors that increase this demand are as follows; the announcement of the tourism area of southern Antalya and the commencement of infrastructure works, the completion of the construction of the new harbor, the increase of the capacity of the airport, the implementation of the old port and Kaleiçi project, the construction of the Fethiye-Kaş road, the installation of a very nationwide important touristic center of Antalya. As a result of these developments, before starting the close of the cities, later in other provinces of Turkey emerged demand of "Owning an apartment in the city"; as a result of these demands, it has resulted in the opening of new settlements to structures that are not foreseen in the plan.

The infrastructure investments made in Antalya during this period had an impact on the formation of the current structure of the city macroform. The construction of the Antalya port in the Hurma area and the construction of the Burdur and Kemer-Antalya ring roads are important investments affecting the present development of Antalya. In this period, industrialization was more local oriented to producing of agricultural products, textile and food. In 1974, the opening of the Antpil Facilities was in this period. Antalya Organized Industrial Zone, established by the decision of the Minister Commission, has created employment by increasing the industrial facilities in the city. In parallel with industrialization and urbanization, gecekondu housing has accelerated in this period and began to change its quality. In the first years of urbanization, the illegal structures are built to meet the housing needs of the population migrating from rural to urban areas, have been changed in order to get a share from the urban rent in the last period, the number of floors increased and legalized by zoning forgeries. Gecekondu in Muratpaşa started to develop after 1970 and between 1973-1976 spread rapidly. After 1980, gecekondu towns formed a belt on the skirts of Masadağı to the north of the ring road and also concentrated on Kepezaltı, Göçerler and Ahatlı on both sides of the Burdur road. The unsupervised municipalities have accelerated the spread of this development. It is known that the number of gecekondu flats were over 10 000 in Antalya in the early 1980s (Güçlü, 2002). Antalya's urban planning activities also

gained momentum during this period. The 1/5000 scale Master Plan and the 1/1000 scale Implementation Plans prepared in line with this plan, directed by Bank of Provinces which is failure to complete, it was decided to prepare a city plan based on an analytical study and planning studies started in 1976. The zoning plan of 1978, prepared by Can Planning Bureau, aims to protect the agricultural areas in the east by shifting the development in the west and; the Lara band in the east is defined as a natural site and the plan proposed building very limited level between Old Lara and the sea and only touristic facilities are provided in certain places. It envisages. In addition, the plan develop a decision about the protection of the city's water resources in order to ensure zone where further development and construction on environment is prohibited by the zoning plan. In this plan, the main functions such as Food Wholesaler, Organized Industrial Zone, Trade Center, Administrative Center, Bus Station, Slaughterhouse, Airport, and Port Location have been determined in this plan. When the spatial developments in this period are examined, it is seen that the only higher education institution of Antalya, Akdeniz University was established in 1982 in the city. Car ownership has been increased since 1970 in Antalya, increasing and has continued to expand rapidly.

The second housing cooperatives have created a process of intense land speculation on the coast. Since there was no zoning plan, the lands purchased from the local villagers were transformed into zoned areas by local cooperative owners. From the second half of the 1970s onwards, the impact of urbanization on the space became clear. Due to the limitations imposed by the Kaleiçi Conservation and Development Zoning Plan, which entered into force in 1979, the pressure of renewal and increasing of density on the main axis of Atatürk Street and Cumhuriyet Street increased, and also some problems occurred in terms of increasing demand of commercial activity and traffic, noise and parking in the city center.

The 1970-1980 periods is an important time period in Antalya for the first time by establishing an on-site office and starting a comprehensive research-based planning and including positive plan decisions for the future. The spatial effects of this plan

began to be observed after 1980; the development of the city was towards the west. However, this plan has a negative aspect of being ineffective in preventing of gecekondu; due to the change of plan decisions and opened up new building area for development (Manavoğlu, 2009).

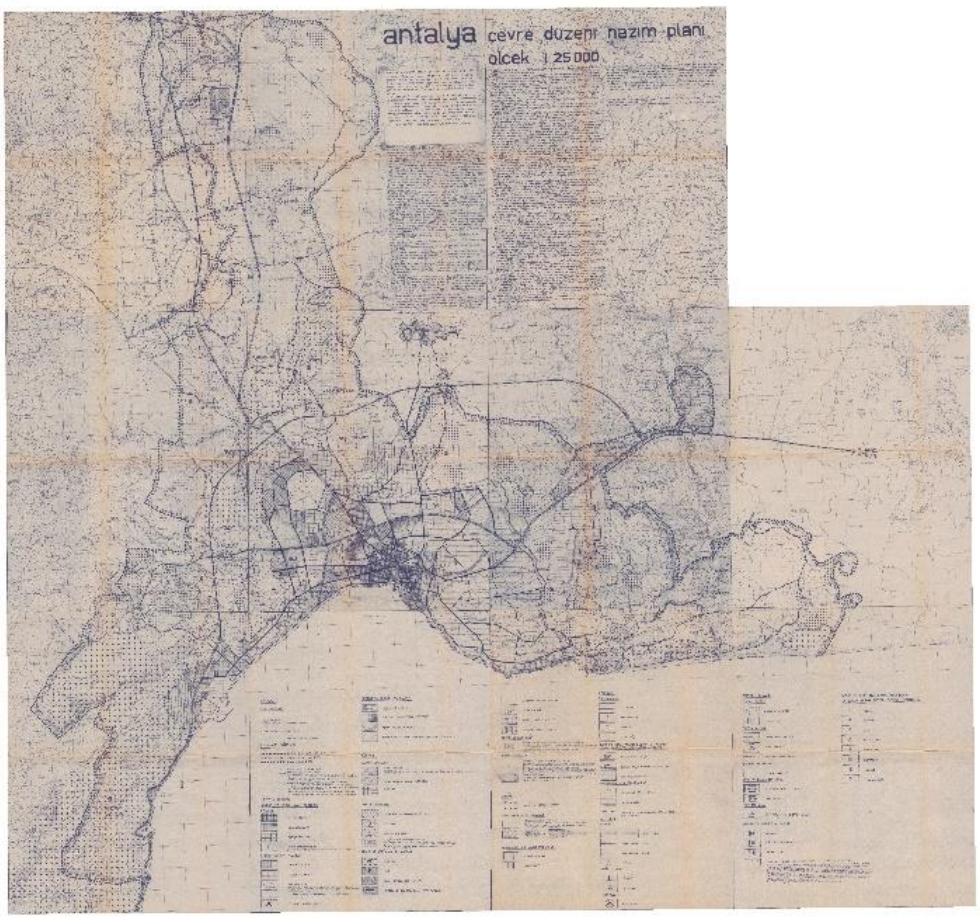


Figure 4.5. Master Plan of Antalya in 1977

Source: Antalya Metropolitan Municipality

4.2.5. Spatial Development in 1980-1990

With the Tourism Incentive Law, 2634, investments in the city increased and the tourism bed capacity increased significantly accordingly. The increase in bed capacity, which is an important indicator of the developments in the tourism sector, made a significant contribution to the development of social and cultural infrastructure in the city economy. In addition, the positive input increases with food and drink, entertainment, sports and cultural facilities, social and technical infrastructure, as well as the development of urban services. Along with the urbanization in Antalya, there have been changes in the sectorial distribution of employees in the city. While Antalya established an economic structure dominated by agriculture from the foundation of the Republic until the 1960s, the declaration of the Antalya Region as a Tourism Development Zone in 1969 and the implementation of many Tourism Development Projects in the 1970s were important in the economic structure of Antalya caused changes.

In the 1980s, when the urbanization gained momentum, the urban population overruns the rural population, tourism projects started to be implemented and investments increased, and had rate of total employment with 81.14% in agriculture and service sector, while the lot of the agricultural sector in the labor force decreased in 1990, trade and tourism increased by 165% since 1980 and became the second sector after agriculture. Agriculture, tourism and services have started to reveal the presence of a structure predominantly in the economic activities of Antalya. In addition, during this period, the construction industry is one of the leading sectors in terms of the economic growth of the region and the increase in the labor force that developed as a derivative of this growth. While the ratio of the people employed in this sector to total employment was 2.41% in 1970, this rate increased to 7.04% in 1990 (Manavoğlu, 2009).

Can Planning Bureau, which will guide the development of Antalya in 1977-1994, primarily carried out the 1/5000 scale Master Plan that is prepared with Antalya

Municipality Planning Bureau was completed in 1979 and approved in 1980. Then 1/1000 implementation zoning plans was prepared. Until 1994, urbanization continued with the revision and additional plans in the borders of this master plan. The plan proposed a population capacity of the area was 650 000 for the year of 2000, is important with its consistent objectives, but is being renewed by the amendments to the rent pressure created by urbanization. After 12 September 1980, the municipality boundaries were changed according to the new boundaries, a 1/25 000 scale Master Plan was initiated in 1981 and this plan was approved by the Ministry of Reconstruction and Settlement in 1982. In this process, 1/1000 scale development plan studies continued. The development plans of Altınova and Çakırlar, which started planning studies before being connected to Antalya Municipality, were approved in 1983. In 1985, the development and growth of the city far above the projected level required a revision zoning plan in 1/25 000 scale plans and it was estimated that the population would reach 1,000,000 populations in 2005.

During this period, rural to urban migration was replaced by urban to rural migration. The city receives 71.47% of the immigration received from other provincial centers. The city receives 73.90% of the immigration to the province of Antalya (UTTA 1995). The gecekondu houses continued after 1985 and intensified in the north of the city and continued to grow.

Antalya Free Zone was established in 1987 where the investments continue is mainly trade and is next to the Antalya Port. The city was defined as the 4th level center by the State Planning Organization's survey of the Settlement Centers in 1982. The city's economic structure, demography, economic and spatial development, which developed as a result of tourism investments after 1985, was loaded with 5th level functions. 1980-1990 period; The changes made in the social, cultural and spatial structure of the city with the effect of tourism investments, which gained momentum especially after 1985, caused physical deterioration of the environment in terms of physical values, water resources, green areas, coasts, as well as the economic development (trade, transportation, services, entertainment) provided to the city. The

city has left an irreparable visual legacy to the new generations with the plan changes that have resulted in the disruption of the city's natural structure through frequent changes in the city. In particular, changing of conservative plan decisions taken in the first plans lead to open the agricultural areas to the settlements, increasing the density of the buildings, free floor applications, illegal peer discussions, narrowing the site boundaries that constitute the main reasons of the city's current skyline.

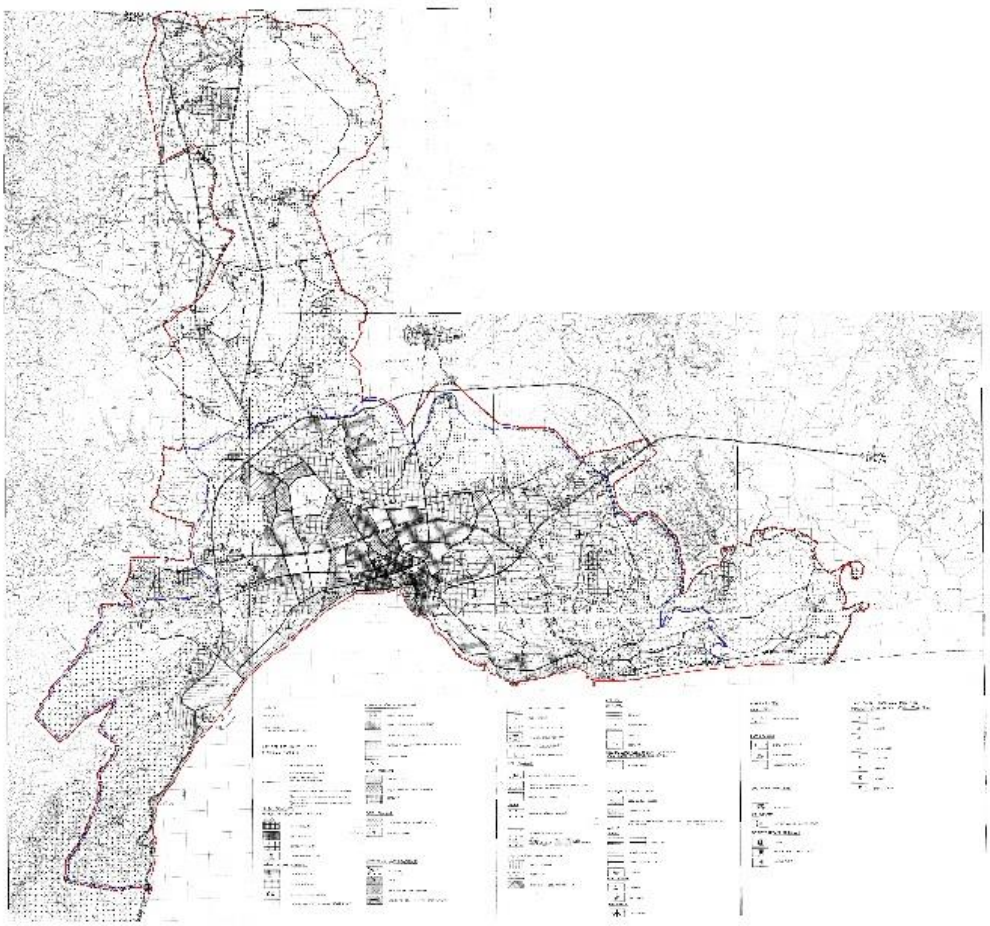


Figure 4.6. Master Plan of Antalya in 1986

Source: Antalya Metropolitan Municipality

4.2.6. Spatial Development in 1990-2000

In this period, the impact of urban development on the place becomes irregular, and the structures that spoil the urban identity constitute irreversible Antalya skyline. The rapid development of the tourism sector in Antalya and the fact that the main sector is tourism has also been reflected in the plan decisions as "Touristic Facility Areas'' settled on the east and west coasts of the city. However, due to the instability in tourism sector and increasing rent, the areas designated as 'tourism facility area' were transformed into residential areas with plan changes, and a multi-storey and linear structure was created especially on cliffs (UTTA 1995). As a result of the expansion of the city of Antalya and the population size reached in 1994, it became a metropolitan city.

The development plan of Antalya, which will guide the development of Antalya between 1995 and 2015, was given to a special planning office. On 21.11.1995, 1/5000 scale Master Development Plan covering the border of Antalya Metropolitan Municipality was approved on 08.11.1996 with the decision of Metropolitan Municipality Council. The 2015 projection population is planned with a population of 1,662,000. Inconsistencies between the population objectives and plan capacity of the plan, lack of urban social and technical infrastructure-population relationship, lack of a transport plan in line with the development of the city, opening of agricultural areas to settlement, inadequacies of technical problems maps for reasons the plan was objected by professional chambers. This period is also important in terms of bringing of investments to the city that will ensure urban development. In 1990, the Mediterranean Small Industrial Site and Wholesale Facilities, in 1996 the fair, Antalya Culture Center, Glass Pyramid Congress Center, bus station and Konyaaltı the implementation of the coastal arrangement is the reflection of the development of the city to the urban space. Thus, tourism was tried to be diversified in the city, sub-centers

were created, the functions of trade and culture city were expanded, and urban services were differentiated and specialized.

The 1990-2000 periods were a period in which Antalya struggled with the problems of urbanization and developed solutions for the problems. Especially in this period, where the concepts of transportation, environmental problems, sustainable development and ecological planning are frequently mentioned, it is important in terms of the beginning of the basin-scale planning studies. This time, the public awareness of the problems of the city and the development of solution proposals under the leadership of non-governmental organizations in the last quarter of the year had a developing effect on the city.

4.2.7. Spatial Development in 2000-2010

With the Antalya Metropolitan Municipality Law,5216, the borders of Antalya Metropolitan Municipality were redefined. Within the scope of this law, Beldibi, Doyran, which are the other sub-municipalities at the boundary area of the Metropolitan Municipality; Düzlerçamı, Yeşilbayır, Yeniköy (Döşemealtı), Çığlık, Varsak, Pınarlı, Aksu, Çalkaya, Yurtpınar municipalities and 17 villages were included in the mainland. With the changing new borders, it has been started to handle Antalya as a whole with the surrounding watershed and to plan the rural settlements as a whole. The boundaries defined by the law have not only identified an urban metropolitan area but also defined a basin as a metropolitan administrative boundary which includes many natural, cultural, geographical, archaeological and administrative varieties (Antalya Nazım Planning Department, 2006).

One of the important issues of the post-2000 period for the city of Antalya is urban transformation projects. After the urban transformation process in 2000, urban regeneration activities in Antalya also gained momentum and started to be discussed in the planning agenda. Urban transformation projects, which are an action aimed at providing a holistic planning understanding in the solution of the problems, have

started to be implemented in Antalya city, especially in the city center and gecekondu areas. Urban transformation studies in Antalya especially in the city center are gaining importance and Antalya city center was declared as “Culture and Tourism Protection and Development Zone’ which include Kaleici, Balbey and Haşimişcan neighborhoods covering an area of approximately 90 ha. Urban transformation projects prepared within this framework gained momentum in this period.

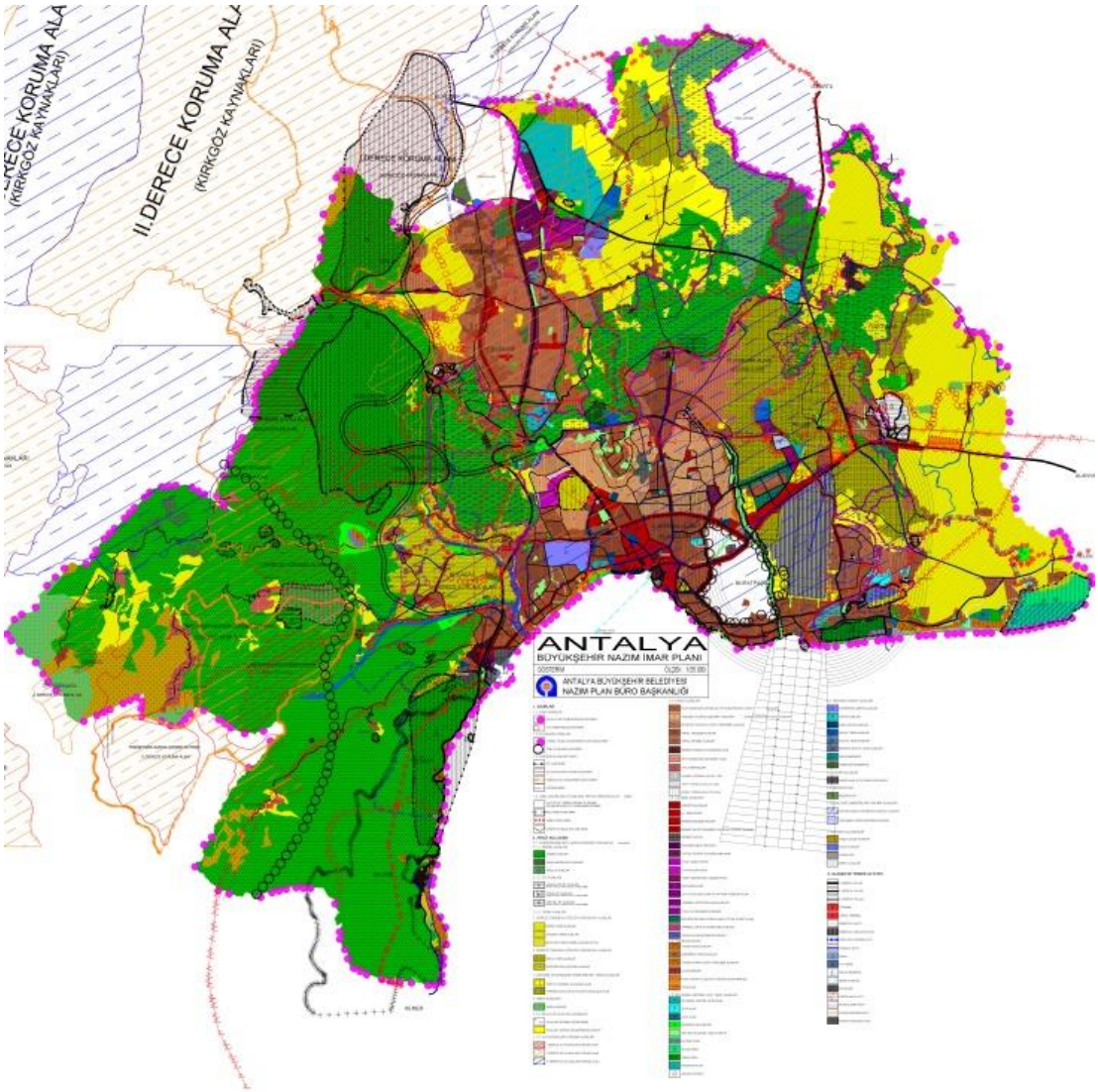


Figure 4.7. Master Plan of Antalya in 2008

Source: Antalya Metropolitan Municipality

Urban transformation projects aiming to demolish the gecekondu areas and turn them into healthy residential areas are seen in the northern part of the city where gecekondu areas are concentrated. Interventions in the form of urban renewal in the gecekondu and the city center are implemented in the form of rehabilitation and revitalization in historical areas. The date of 2000-2009 is a period in which important decisions were taken and applied to the place in the transformation of the city of Antalya. Especially urban transformation projects and high-scale planning decisions were the agenda of the planning. The new routes are opened, and arrangements made in the transportation system that have accelerated the expansion of the city, the diversity and differentiation in services, and the spread of the city to large areas have given the city a metropolitan identity (Antalya Metropolitan Municipality Plan, 2013). It is important to plan the problems of Antalya at the scale of the watershed with the surrounding settlements and to regulate the development with high-scale plan decisions. Particularly in this period, strategic planning approach, multi-actor decision-making processes and participatory protection policies were tried to be established. Planning and coordination of many institutions in the city is a major problem. Furthermore, Antalya's lack of a transport policy based on consistent and scientific data affects adversely the development of the city.

4.2.8. Spatial Development in 2010-2018

The spatial development of Antalya from 2000s has developed to the north of the city's Dosemealti region; east of Aksu. The employee areas are located around the Organized Industrial Zone that is to the north of the city. In rural areas where agricultural production is continuing, a period is defined where the soil changes hands rapidly and is subject to the expectation of rapid development. The relationship

between urban land value and urban form is known; As prices move away from the city center, land prices decrease and entrepreneurs who do not want to pay high urban surplus with the opportunities offered by parcel size as well as land value, make a choice in rural areas or in the periphery of the city. The effect of this situation on the city form, as mentioned before, is realized by leaving splashes and gaps. When the high-scale plans are examined in terms of determining the spatial extension and functions of the city center; the forest areas in the western region, the mountains in the northern region and Aksu stream and agricultural basin in the eastern region are accepted as natural threshold of the macroform of Antalya. However, as you can see in the figure, the thresholds in the east and north were not enough to prevent growth and the development of housing was planned for the Çalkaya region covering the Altınbaş and Güzelyurt neighborhoods of Aksu district in the eastern part of the city (Manavoğlu, 2009). On the other hand, it was decided to enlarge the Organized Industrial Zone located in Döşemealti in the north of the city by adding a total area of 89.6 ha. Another important decision that will affect the direction of urban expansion was the establishment of the Expo Fair Center, whose accessibility to the city center was supported by the establishment of a tram line and the provision of public transport services. With the development of new developments around the fairground, which was decided to choose a place in Aksu district in the east of the city, this region became a spreading area in a short time. Site selection decisions and services such as transportation and technical infrastructure show that the city is growing and spreading to rural areas (Antalya Metropolitan Municipality Plan, 2013).

4.3. Macroform Change

The political and administrative conditions and decisions in the planning process starting from the 1950s to the present day have influenced and guided the development of the city. Especially after 1980, conservative and consistent plan decisions taken with the zoning plans and the adopted parliamentary decisions were changed with the

plan changes, and the lack of supervision of the local administrations caused a negative zoning process to the city. The development of tourism in the city of Antalya and the rapid increase in population has brought changes in the organization of urban space. In addition to the economic development provided by tourism, the environment problems, especially for coasts, water resources, values to be protected, open and green areas were under pressure (Manavoğlu, 2009).

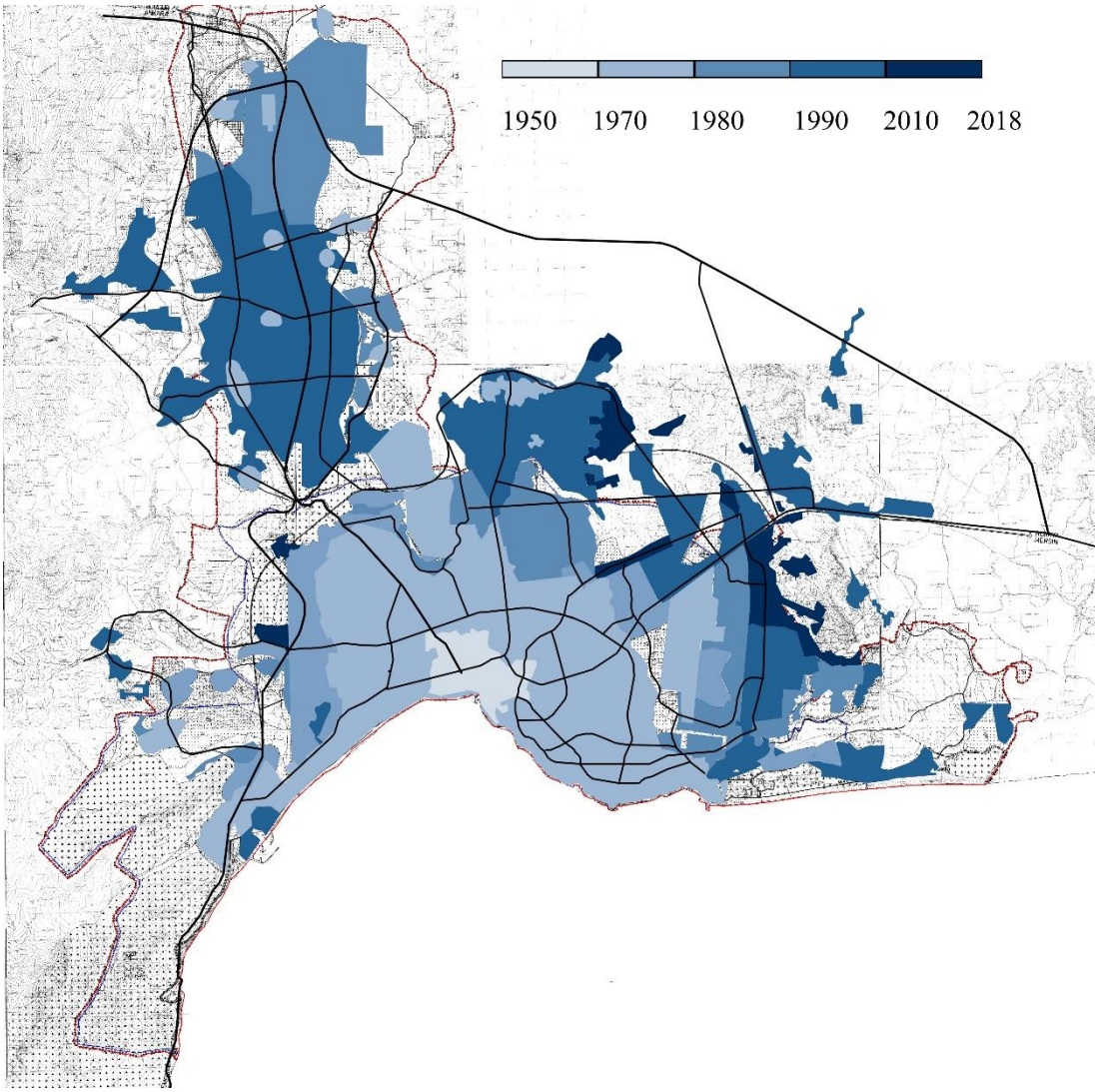


Figure 4.8. Macroform change by years between 1950 and 2018

Source: Personal Rendering by Adapted from plans

It is seen that the development of Antalya macroform did not show a tendency to leapfrog characteristics and sprawl form until 1980 but the current development developed on agricultural soils. With the plans after this period, the settlement area of the city has doubled and its spatial development has started to spread in the form of oil stain, and fringe at the edge of the city and uncontrolled growth in the surrounding settlements have been realized.

We can say that the Antalya macroform has reached a skewed pattern over time and this process continues increasingly. Natural thresholds such as agricultural forest areas and topography are effective in the limitation of the western corridor of the city, while urban and regional infrastructures and transportation network have affected the direction and shape of urban development by the changing trends in planning approach.

Periodically, the growth of land use towards the fertile agricultural lands in the north, north east, east and south east directions with the use of housing, industry, university and storage areas caused the loss of fertile agricultural soils. The shape of Antalya has become illegible and a controlled or uncontrolled growth pattern has been realized in all directions.

CHAPTER 5

CASE STUDY RESEARCH: DÖŞEMEALTI AREA

5.1. Methodology

This study expresses the need for a research that focuses on understanding the processes of rural-urban fringe formation and evaluating the environment resulting from these processes in terms of social, economic and ecological aspects. Methodology refers to a set of principles and processes in which goals and objectives are perceived, so it is useful to remind the hypotheses of the thesis and those intended with the methodology.

Regarding this, the main hypothesis of this study is that the degree of urbanization is positively related to agricultural and natural land loss of rural-urban fringe is intending to find the changing land use pattern with current land use pattern. Other hypothesis is rural-urban fringe land use/land cover is affected by many factors and driving forces-potentials for expanding of urban pattern through rural pattern vary between cities is dependent on social, economic and environmental conditions in cities. I would like the put on the most local driving forces. In this sense, I hypothesize that this changes in land use/land cover have been changed by the preferences of individuals. It examines the perceptions of the people living there and the relationship between the changing amount of land use, nature and preferences by the individual for developments at the RUF.

Human preference can be seen as an expression of the cognitive process created by the functioning of the environments for the environments that contain useful and supportive elements and gaps is defined by Kaplan and Kaplan (1982, 1989). Accordingly, people interpret the environment by choosing environments that are likely to function effectively for their own benefit. Therefore, the meaning of

environmental degradation for people and users living there can be better understood in the real-life context in which face-to-face surveys can be conducted, and therefore users' behavior and perceptions can be directly observed.

5.2. Research Design

Based on the findings of the literature research, four main open-ended questions have been prepared in order to create a comprehensive range of information and to test the hypotheses listed above. Open-ended questions were divided into 3 groups: the first group; It is considered to be part of a series of household surveys and includes questions about the participants' homeownership, residence time, age, gender, occupation and where they live.

The questions in the second group were formed around four main frameworks. The aim of these questions is to reveal the concerns arising from the growth of urban areas towards the rural areas related to the case area;

- How people define the rural-urban fringe?
- How people describe the characteristics and importance of the RUF?
- How people perceive the transforming and changing RUF via urban growth in 'social, economic and ecological dimensions'?

In fact, the purpose of this article is the part that sets out the framework in which all open-ended questions are set. In other words, open-ended questions will be evaluated under the social, economic and ecological heading as you can see in the table.

The third group of questions aims to learn the problems developing as a result of the existing land use strategies. As a result of the survey findings, it has tried to form indicators of sustainable RUF development, and it is aimed to find the sources as a planning tool for future studies and plans.

Table 5.1. Research Design

Sub-questions	Data collection	Data analysis	Questions group
• **How people define the rural-urban fringe?** • **How people describe the characteristics and importance of the RUF?**	• Open Ended Questionnaire • Observations	Content Analysis	Second group
• **How people perceive the transforming and changing RUF via urban growth in 'social, economic and ecological dimensions'?**	• Open Ended Questionnaire	Content Analysis	Second group
• **What do people living in the rural urban fringe think about the formation of the environment? Are these thoughts shaped around a single thought?**	• Open Ended Questionnaire • Observations	Content Analysis	Third group
• **How do the current development trend and the preferences of local people towards this trend develop?**	• Open Ended Questionnaire • Observations	Content Analysis	Third group

In the fourth group, the questions were accepted as individuals' preference indicators for different environments, the relationship between changing urban development and the changing nature, to examine the relationships between existing land use strategies and the preferences of individuals living in the rapidly growing rural-urban fringe, and to assess the perceptions of the respondents in relation to current and future RUF formation. The other purpose of the study is to answer the following questions;

- What do people living in the rural urban fringe think about the formation of the environment? Are these thoughts shaped around a single thought?
- How do the current development trend and the preferences of local people towards this trend develop?

In this context, a photo-questionnaire survey method was designed to address the questions listed above; the photographs represent the types of development that appear in the rural-urban fringe case area. All the photos were taken from different neighborhoods with rural and urban characteristics. In order to compare the relationship between the formation of the countryside and the city and to evaluate people's choices correctly, the photographs from these two poles were grouped by dividing them into side columns.

A total of 39 photographs were selected from all the photographs taken in different categories. The photographs consisted of 200 photographs taken from nine different neighborhoods; Nebiler, Yukarı Karaman, Çığlık, Yağca, Killik, Kömürcüler, Kovanlık, Kırkgöz and Bademağacı. A total of 39 photographs were selected from all the photographs taken in different categories.

5.3. Respondents

ASince the surface area of the study area is geographically wide, it was difficult to form a sample frame. To overcome this problem, cluster sampling technique was used and rate of 2 per thousand of Döşemealtı population was included in the sampling. A sample of the 58,000 population means that 116 surveys are conducted. Here as the basic principle; interviews have been conducted in many neighborhoods so that various clusters, ie neighborhoods, can be included in the sample, thus increasing the representation ability of the sample. However, this also had disadvantages; the cost of transportation due to the difficulty of inter-neighborhood transportation and the distance to the center increased during the fieldwork.

The second point in this regard; it was about determining the characteristics of the targeted universe and establishing certain quotas. A total of 116 questionnaires were distributed in similar numbers to 6 target groups: municipal employees, farmers, students, housewives, civil servants and artisans. The aim is to avoid biased thoughts that may be caused by the dominance of a particular group among local people. Therefore, it was tried to create a participant profile from different age groups, gender and professions. However, the gender distribution was not equal in the study because female participants said and refused to participate in the survey without their spouses and without consulting them. We can say that the limitation on this issue is not only within the borders of Döşemealtı, but the result of the borders drawn on the general profile of women in our country. At the same time, it can be thought that the Döşemealtı is originated from the local culture and customs and traditions that it is strictly connected. During the survey, some problems were experienced by the tradesmen in the central district of Bademağacı, but the reasons were related to their work intensities and prejudices against the surveys. Conversations in the rural neighborhoods were far more challenging than others because the farmer woke up in the early hours of the morning and spent the rest of the day resting at home, so it was very difficult to meet farmers on the streets or in public areas. Therefore, a survey was conducted with farmers gathered in village coffeehouses or village headmen.

Table 5.2. Age Distribution of Respondents

Age		Frequency	Percent
Valid	15-25	30	27,8
	25-45	48	44,4
	45-65	25	23,1
	65+	5	4,6
	Total	108	100,0

Table 5.3. Gender Distribution of Respondents

Gender		Frequency	Percent
Valid	woman	44	40,7
	man	64	59,3
	Total	108	100,0

Looking at the age distribution tables above, the highest participation rate in the survey is the 25-45 age groups with the age range of 44-45%, followed by the second highest participant, the youngest respondents who share similar rates with the third highest participant, which corresponds to the 15-25 age range with 27.8%. The table shows that the participation of 65+ groups is very low. When the gender distribution is examined in the second table, 59.3% of the participants are male, and as seen in the table, interviews with 44 female respondents correspond to a total of 40.7%.

When the neighborhood distribution of the respondents is analyzed, the Bahçeyaka district neighborhood was the highest participation rate 38%, followed by the participants living in Yeniköy with a share of 22%. The six number of the participants living away from the neighborhoods of Döşemealtı, while the respondents from the remaining was 19 neighborhoods in gray belong to Döşemealti. When the distances of the 4 neighborhoods with the highest rate of participant to Dosemealti center are examined, it is seen that the participants are living in the neighborhoods approximately 5 km distance from the center of Döşemealtı.

Table 5.4. The number and ratio of Respondents in Occupations

Occupation		Number of questionnaires	% of questionnaire
Valid	farmer	30	27,8
	government employee	11	10,2
	housewife	13	12,0
	craft	20	18,5
	municipal employee	13	12,0
	student	21	19,4
	Total	**108**	**100,0**

When the occupations of the survey participants were examined, as I mentioned before, the number of target groups was wanted to be kept close to each other and when the table is examined, it is seen that the occupational distribution of the participants is balanced. If the weights of the occupational groups in this balance are listed, the first is composed of farmers with a rate of 27.8%. When the distribution of municipal workers and housewives were compared, they shared similar rates with 13 participants for each. When the participation of tradesmen and student groups is compared, it can be said that even though the fact that the student has more than 1 participant makes a difference of 1 percent in proportion, they have a similar rate. The lowest rate belongs to the group of crafts because the chance of meeting with the civil servants in the working area has decreased due to being on holiday.

5.4. Data Collection

This research consists of in-depth interviews and direct field observations. Open-ended questions are designed to take a closer look at the participants' thoughts from the ecological, socio-cultural and economic dynamics that change with urbanization.

Table 5.5. Open Ended Questions

Questions Group	Open Ended Questions
SECOND GROUP **Questions about the growth of urban areas towards rural areas**	What do you think about the growth of Döşemealtı urban texture towards rural areas? What are the reasons for growth?
	What are your feelings as a result of this growth?
THIRD GROUP **Questions on current and developing land use problems**	What are the three most important problems of Döşemealtı?
	What are your suggestions for solving the problems and difficulties you encounter in your place?

The aim of the data collection process of photo-questionnaire was to define the fringe development preferred by the individual. The photographs have been organized by

selecting the most characteristic areas reflecting the problem of rural-urban fringe. In addition, all photographs were selected from a series of photographs that best represent the dominant types of development occurring in the rural-urban fringe. In addition, the pictures taken were selected to illustrate the problem areas of the inner fringe-middle fringe-outer fringe. Before the photographs in the study area were photographed, the different neighborhoods in the area were visited by me as a researcher and the routes where the most appropriate samples would be presented were marked on the map.

A scale of 1 to 5 graded preference order was created for each photograph, in the scale, 1; indicates the lowest preference; 5; indicates the highest preference. For the graded scale placed next to the pictures, the participants were asked to circle them according to their preferences. Although the questionnaires were intended to be taken in black and white for the reason of the number of questionnaires to be printed was high, the photo-questionnaire documents were printed as colorful so that the participants were asked to better understand and interpret them in a healthy way. Of course, this situation was more in terms of cost but was forced. The photographs were categorized into 8 groups:

The first category; it consists of agricultural areas surrounded by olive trees, pomegranate trees and forest areas or forest areas only. It has been chosen based on the fact that these areas will face extinction with the construction and development of urban tissue.

The second category; it has been selected from the two-story dwelling units on large land and agricultural production.

Third category; it is a single-story group of photographs which includes mostly the characters of local architecture, housing and its surroundings, where agriculture is done, and the environment is covered with trees.

Fourth category; it is a large, small plots of family housing units sitting on the land and the surrounding area. Since these areas are residential areas that are derived from

build-sellers without creating any settlement criteria, they are one of the groupings in which relations with nature are quite low.

Fifth category; it is named as the housing unit and its surroundings belonging to non-clustered housing areas. The aim here is to question whether these villas are settled on agricultural lands, which are developing rapidly in Döşemealtı and which are thought to continue to construction increasingly. It is the group of questions that I try to measure whether the local people are aware of the disappearance of agricultural areas with the continuation of this form of construction. Only this mode of settlement is divided into two in itself; depending on whether it has relationship with nature. The fifth category will analyze non-clustered housing areas associated with nature.

Sixth category; the non-clustered housing unit unrelated to nature and its surroundings is analyzed. The only difference between the 5th and 6th groups was to be evaluated under the relationship with nature. The main purpose here is to show how people's preferences will change according to the only difference between the two developing housing groups.

Seventh category; clustered housing units are related to plant material. Enclosed communities, also known as wall-enclosed communities, which had four sides of security systems and walls, which gained momentum under the pavement, certainly had to be considered. These spaces, where a wide range of services are provided within the housing complex, from the sports hall to the shopping center and the cinema hall, stand as the places that created their own universe by being completely isolated from the environment. Questioning the preferability of this type of development, which is completely alien to the changing nature and environment, is an element that should be taken into consideration in the decisions to be made regarding the future of Döşemealtı.

Eighth category is the housing group where clustered housing units have low or no relationship with plant material.

5.5. Data Analysis

This research includes verbal data (open-ended questions) obtained from the survey conducted with 108 users in Döşemaltı and data obtained by photo-questionnaire. Content analysis technique was used to analyze open ended questions. To evaluate the response texts given at the end of the interviews, repetitive and similar keywords were categorized and evaluated according to their frequency of mention.

In addition to content analysis, the data requested to be graded with the photo-questionnaire method are the relationships between the categories; assessments of how people perceive the changing relationship of nature with urbanization will be made. Dimensional analysis techniques were used to define and understand the categories given to a particular group of variables. The variables observed at this point are assumed to originate from some common categories.

5.6. CASE STUDY AREA

5.6.1. The Assessment of the Case Area

The high-scale plans of the town of Döşemealtı district of Antalya in the 1990s, the problem of the decrease in the presence of an increasing population in the existing tissue of Antalya and the decisions taken by the municipalities evaluating of the city quickly and insufficiently, that has rapidly affected the development of the city in the form of residential housing and urban development.

According to the Master Plan Revision Report of the Antalya Metropolitan Municipality (2013), when considering the fact that the district has an occupancy rate of 7% as of 2016 and the project target population of 2030 plan years is 167.430 people, it is seen that the current zoning plans are capable of meeting the urban area needs of the district for at least 50 years.

28% of the population proposed for Antalya in 2030 is active working population and in this context, 10% of the working population is expected to be employed in

Döşemealtı. The fact that Antalya organized industrial zone and wholesaler in the district to be located in the district as a service center has developed, macro plan decisions and the development tendencies along with the current zoning plan projections indicate that Döşemealtı will develop as a service in the future. The Organized Industrial Zone, which was foreseen to be built in the 1980s, was the driving force of the development of the service focus, and this trend led to the formation of a linear development in the city in the north-south direction with incentives for irrigation and agriculture. However, the unpredictable change in the recent urban development has caused significant impacts on the urban deficit and the immediate rural areas.

5.6.2. Dynamics of Rural-Urban Fringe in Döşemealtı

The overview table of the main dynamics of Döşemealtı shows the conventional dynamics and changing fringe conditions. Varying socio-political, environmental and economic conditions, urban policy makers and governmental-non governmental institutions has contributed to this new form of Döşemealtı.

Table 5.6. The overview of the main dynamics of rural-urban fringe case area Döşemealtı

Farm Types	**Conventional; independent farming based on property**
Livelihood	Primary livelihood; agriculture and animal husbandry and also industry
Farmer Type	A model of production based on traditions previously practiced by tribal elders and mostly from the family; namely, usually is born as farmer
Products	Mostly barley, wheat, pomegranate, olives, milk and dairy products, red meat production is produced also it is suitable for almost all kinds of vegetables, fruits.

Farmer Organization	Organization model under the same roof with agricultural development and irrigation cooperatives under agricultural cooperative services
Social Context	• Most families deal with farming and animal husbandry and share a common social background; lack of organized farming but relatively stable. • A new life form called as gated communities began to form, an inhomogeneous social profile has been formed
Environmental context	• Land and water resources relatively polluted • Fertile agricultural land and natural value is faced with the danger of increasing urban development
Market	• Producer easy access to markets with the closer agricultural patterns to the urban areas. • Market relationship is provided through whosaler market or farmers sell their products directly in the neighborhood markets

The table above is presented to illustrate the analysis of the existing settlement areas through the eight concepts; farm types, livelihood, farmer type, products, farmer organization, social context, environmental context, and market. Having an economy based on agriculture for many years; cotton, olive, wheat, barley, corn, oats, sesame, onion, citrus fruits and all kinds of vegetables and fruits have been a source of livelihood. In addition, sheep and cattle breeding and carpet weaving are another source of livelihood. Nowadays, with the establishment of the Organized Industrial Zone in Döşemealtı which has provided a different branch to the city, job employment has shifted in this direction.

In Döşemealtı, which is surrounded by 'Yörük villages', subsistence farming is carried out by the villagers who process their land and the products offered to the market are very limited. Traditional agriculture is carried out depending on the information related to the traditions and rituals transferred from generation to generation. Cooperatives and unions have been established for the reasons of decreasing the

production costs of rural farmers and increasing productivity in employment. According to the Agricultural Strategy Report of Antalya Province (2011), eight cooperative unions have been established in each subject focus of agricultural development purposes and irrigation services.

As the relations of the villages with the centers increased, the products produced became easier to reach to the markets and the local limit of the market was exceeded with the increase of the users coming from the centers to the local markets; thus, both economic and socio-cultural positive effects were experienced.

Düzlerçamı, Duacı, Yeşilbayır and other neighborhoods belonging to Döşemealtı have been built to a great extent for this day and most of these areas have lost their agricultural quality without being recycled. This undesirable present situation is typical of the scientific, technical, legal, administrative and political inadequacies and occasionally helplessness of those responsible for the planning and implementation of a city that has developed faster than planned.

5.6.3. Population and Social Profile of Döşemealtı

The population of Antalya metropolitan area has increased since the 1950s. When the tendency of the demographic change in RUF area is examined in Figure 5.1, it is possible to observe a steady increase. The population increase of Döşemealtı shows a parallel tendency with the increase of Antalya's population. It is depended on the urbanization rate of Antalya. This population increase in Döşemealtı also shows an increase in the rural population that engaged in agriculture. Döşemealtı's population is currently occupying 3% of the Antalya population. It has reached to 63, 186 in 2018.

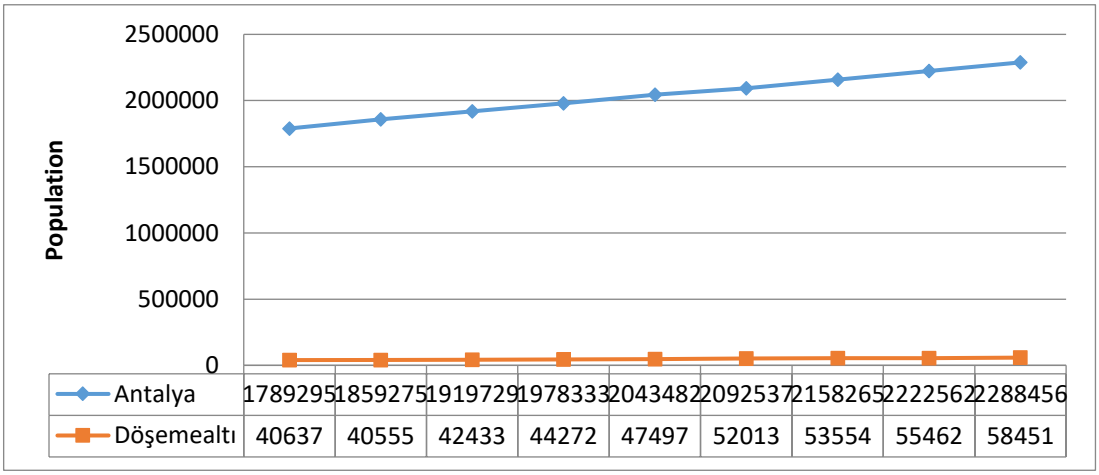
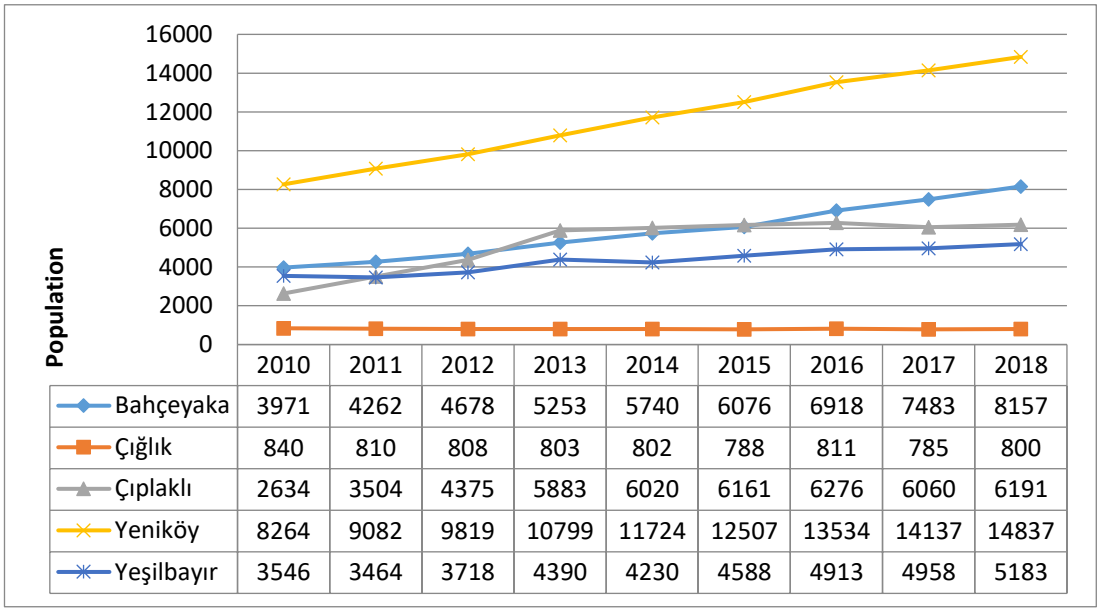


Figure 5.1. Population Changes in Antalya and Döşemealtı in between the years of 2010-2018

In order to better understand the reason behind this population increase, when we look at the population trend of Döşemealtı neighborhoods, that is, the increase trend of rural population; the population trend in Bahçeyaka, Çıplaklı, Yeniköy and Yeşilbayır is increasing. One of the reasons behind this increase is the fact that the real estate sector, which keeps the trio together, has directed the eyes of the real estate sector to a cleaner, greener and more speculative city walls. In addition, housing demand of the cooperatives, the Organized Industrial Zone in the region, workplaces and the recent municipal investments have also increased the population.



	2010	2011	2012	2013	2014	2015	2016	2017	2018
Bahçeyaka	3971	4262	4678	5253	5740	6076	6918	7483	8157
Çığlık	840	810	808	803	802	788	811	785	800
Çıplaklı	2634	3504	4375	5883	6020	6161	6276	6060	6191
Yeniköy	8264	9082	9819	10799	11724	12507	13534	14137	14837
Yeşilbayır	3546	3464	3718	4390	4230	4588	4913	4958	5183

Figure 5.2. Population Changes in Döşemealtı's District in between 2010-2018

5.6.4. Land Use Categories of the Case Area

This section of the study addressed two objectives namely: to examine the characteristics of the current land use classes and to determine the forces that influence the spatial history of the case area. This section aims to identify how different land uses may coexist in rural-urban fringe and to show and compare to what extent my case study area has similar uses with the land use categories that I have mentioned in the literature.

To summarize the land use categories that I have previously mentioned under section 2 of the physical fringe:

The first category is 'waste management activities'. It has activities such as old quarries, surface mining facility, heavy industrial waste cleaning facilities and garbage storage areas.

The second category is the land use of 'mineral extraction'. It is known as sand extraction that carried for water elements threaten floods for its environment.

Figure 5.3. Examples from first category: Agro-forested Area

Figure 5.4. Examples from second category: Residential areas on large land size

The third category is 'energy production and distribution'. Modern incineration plants include land use class such as bio-fuel generation facilities, wind power and solar power generation areas and transformers.

Figure 5.5. Example from Third Category of Farm Housing & Fourth Category of Multi Family Housing

The fourth category is related to the 'transport infrastructure'. It includes land uses such as trajectory and artificial roads, intersections, service stations, terminals, parking spaces, retail distribution parks and office spaces.

The fifth category encompasses recreational land uses. They are defined as areas that include park buildings associated with historical buildings or historical ruins. It is a category of land use class which includes other uses such as forest areas, golf courses, rivers, lakes and canals, horse riding facilities. Regional parks, sports fields, jogging tracks and other green areas are also another general characteristic of this class.

Figure 5.6. Example from fifth-sixth category: non-clustered housing units associated with nature / without nature

The sixth group is called 'trade activities'. It includes land uses such as retail parks, science parks, storage areas, heavy industry and light industry.

The seventh group is 'protected areas and historical / archaeological' areas. It includes land use class such as abandoned military buildings, old industrial buildings and factories, historical buildings and archaeological sites.

Figure 5.7. Example from seventh- eighth category: clustered housing units associated with nature / without nature

The 'housing development' class as the eighth group is a landscape texture that does not form a community unit, develops along the lane and focuses on the use of private vehicles.

The last group is one of the land classes as an unchanging and important part of the fringe landscape is agriculture and forestry.

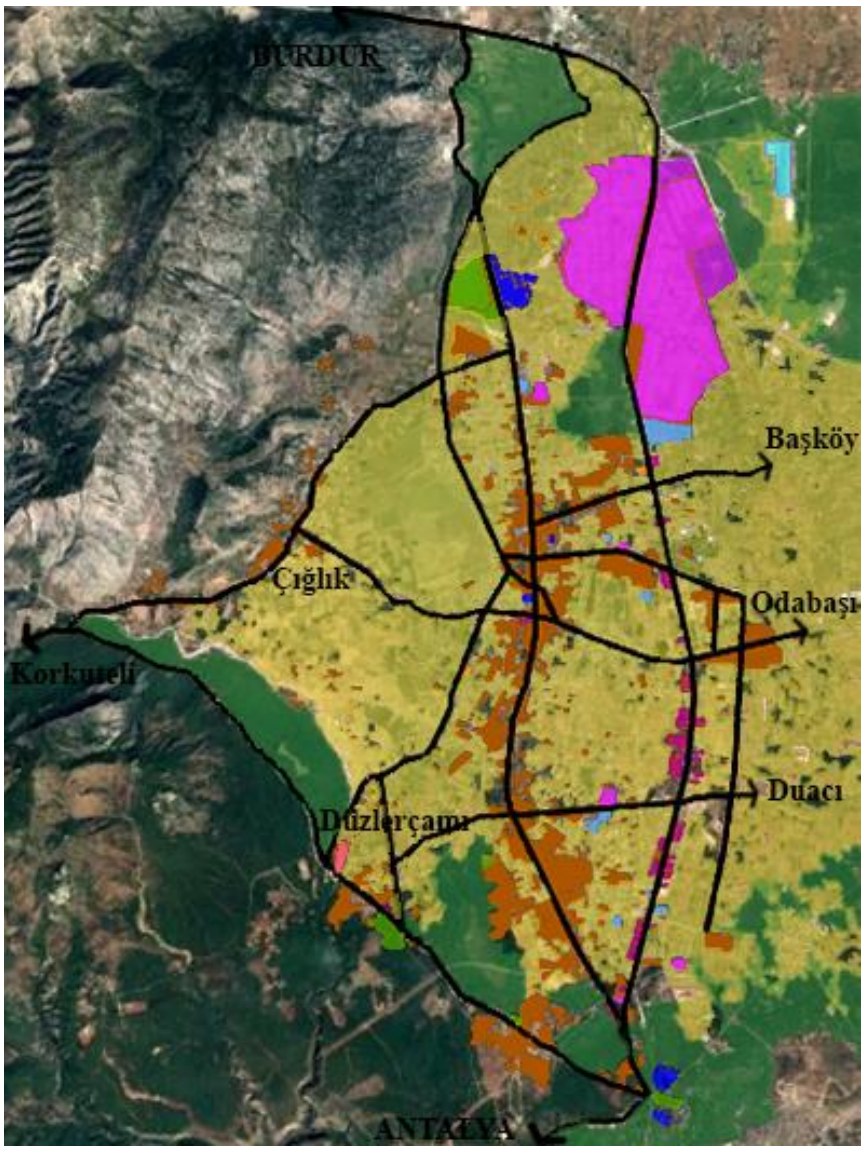


Figure 5.8. The Rural-urban fringe land use in Döşemealtı

Personal Rendering adapted from Google Earth, August 2019)

The study area is suitable for a case study area because large agricultural and natural land are converted to urban uses, so variety of patterns begin to form on the rural-

urban fringe. In this sense, these structural patterns present a useful land use category for determine some of the rural-urban fringe land cover types.

Looking at the land use demand that appears in the RUF of Döşemealtı, it is seen that it consists of land uses which constitute the transformation of the wall cover related to commercial, institutional, residential, industrial, and distribution. A large part of the land cover is composed of relatively high density but mostly low density residential and commercial and industrial land use. High-density residential areas are prominent along the Ataturk Street of the Burdur Antalya ring road. High-density housing islands are mostly covered with impermeable surfaces such as houses, roads and lawns; on the other hand, in low-density housing islands, the ratio of the area occupied by impermeable surfaces decreases and is surrounded by agricultural fields outwards.

Table 5.7. Comparison of Land Use Types between RUF of Döşemealtı and Literature

		Döşemealtı			Literature
	Type	**Function**	**Presence**	**Absence**	**Function**
1	**Waste Management Facilities**	Sewer system		*	Modern clean up facilities for waste of old quarries, surface mining facilities, heavy industrial areas
2	**Mineral extraction**	Established of stone quarry in Ekşili district produce agregate	*		It involves sand extraction and aggr egates that operate in rural-urban fringe fields. Especially in flood are as containing soft materials, these a ctivities take place.
3	**Energy Production and Distribution**	The region consists of solar power plants located west of the Dağbeli neighborhood to use the obtained energy in irrigation of agricultural areas.	*		The fringe is consisted of major power generation installati ons, substations and new types of e nergy generation. Because of its closeness to the town , the fringe is appropriate for composting urban w aste, gathering wind energy, generat

		At the same time, it is composed of companies that produce solar energy equipment in the Organized Industrial Zone, and factories that utilize solar energy panels to produce electricity.			ing urban agriculture related biofuels and generating ener gy from contemporary combustion crops.
4	**Transport Infrastructur e**	The main artel road Burdur Antalya is located on the ring road accelerates the transformation of the rural-urban fringe	*		One of the primary features of the fringe is the trajectory, arterial roads and airports that all accelerate rural areas' conversion into urban areas.

5.6.5. Research Findings

To better understand of the relationship between rural-urban fringe formation and urban development preference and changing nature; the research findings prepared to examine the relationships between the existing land use strategies and the preferences of individuals living in the rapidly growing rural-urban fringe are grouped under 6 main headings:

- The reasons of the growth of the Döşemealtı's urban texture towards rural areas
- The participant feelings as a result of this growth
- Identifying of the three most important problems of Döşemealtı by participants
- The solution suggestions of the participants in the face of these problems and difficulties

- Analysis of the connection between altering nature and participant preference for development observed in rural-urban fringe growth
- Analysis of whether the environment of the participants will differ between participants who have different socio-economic conditions

5.6.5.1. Reasons of The Growth of Rural Urban Fringe of Döşemealtı

Rural urban fringe growth is affected by many factors and driving forces so starting from the investigation of the reasons of the growth of rural fringe that is consisted of economic, social, spatial and environmental content groups.

To understand the reasons beyond the urban tissue towards the rural area, the participants were asked to What do you think about the growth of the urban texture towards rural areas in Döşemealtı? What are the reasons for growth?

Table 5.8. Participants' Response in the Reasons of the Rural Urban Fringe

Content Groups	Contents	Frequency of Mentions	Total freq. of mentions	Ratio %
ECONOMIC	Rent	3	24	12,5%
	Economic anxiety	1		
	Low price in rural areas	3		
	Increasing trade facilities	5		
	Farming difficulties	6		
	Industrialization	5		
	Large investment	1		
SOCIAL	Destruction of traditional culture	1	79	40,7%
	Overpopulation of village	1		
	High interest in Döşemealtı	3		

	deficiences in social, cultural, general structure of consciousness and value perception	1		
	the same facilities in antalya are also requested by Dosemalti	1		
	limited life in the center of Antalya	1		
	population growth	31		
	villages gain neighbourhood status	2		
	necessity	2		
	occupancy rate of antalya central population	2		
	low human density in Döşemealtı	1		
	absence of family planning	1		
	aim of development and modernization	1		
	low rural population compared to urban population	3		
	desire to escape from the crowds, noise, and intensity of the city	8		
	housing needs increase with migration	1		
	subsistence issues	1		
	immigration	18		
SPATIAL	scaleless growth	3	57	29,3%
	loss of valuable agricultural lands	1		
	increasing of building with opening of field	2		
	having regular planning	1		
	near the center of Antalya	7		

	easy access to the city by vehicle	2		
	being central district	1		
	Land area is the largest in Antalya province	2		
	having large areas for settling the population	4		
	transfer of the bus station here	1		
	being away from the center	3		
	growth takes place in planned areas	1		
	unplanned urbanization, lack of strategic plan	1		
	Accelerating the transition from the production society to the consumption society	1		
	development of city center towards the Döşemealtı	1		
	north star of Antalya	1		
	Gated community construction is done everywhere so trees are cut down	1		
	no new places where antalya will develop	1		
	antalya surrounded by mountains to limit the construction	8		
	opening of agricultural land to construction	4		
	attractive location	1		
	expanding of Antalya	1		
	developing of construction with new projects	1		
	wrong planning approaches	2		
	crooked urbanization	4		

	it was like a village before it had to grow	1		
	having low floor height	1		
ECOLOGICAL	calm and peaceful place	2	34	17,5%
	soft climate	19		
	dense of forest areas	2		
	abundant oxygen	1		
	noise, air polluiton of Antalya	1		
	intertwined with nature	1		
	pleasant environment	2		
	rural areas should be protected and production continuity ensured	1		
	disappearence of agricultural land	2		
	natural wealth and beauty	2		
	redundancy of open areas	1		
TOTAL			194	100%

Almost 40,7% of all mentions are related to the social issues. Almost 39% of mentions in this category stresses the population growth of the city of Antalya and the district of Döşemealtı while almost 23% of mentions refers to the immigration. The other include desire to escape from the crowds, noise, and intensity of the city, having lower population of rural areas than urban areas, increasing of housing needs with the population growth and immigration, attractiveness of Döşemealtı due to its low human density. The region attracts a great deal of attention since the people living in Antalya are relatively close to the city but also have a more natural life. The other contents of this category of social and frequency of mentions are illustrated in Table.

In the spatial category, which has the second highest mention rate with 29.3 percent after the social category, the most mentioned content was that the direction of the growth of the city was limited because of the surrounding of Antalya by the mountains.

Away from the center; thanks to Dosemealti's large surface measurement, it has the capacity to carry large populations; destruction of agricultural areas with the growth of the city and the remaining agricultural areas have been opened together with the plan decisions that have been developed with the acceleration of the transition from production society to consumption society; scaleless growth of cities and crooked urbanization; the proximity of the city provides the opportunity for easy access which all of mentions are also highlighted in this category.

Moreover, almost one fifth of all mentions (17.5%) is associated to the content group of ecology of which the half (56%) is about districts' soft climate. Other frequently mentions are respectively; pleasant environment, natural wealth and beauty, dense of forest areas, calm and peaceful area, disappearance of agricultural land and ensuring of protection of agricultural production areas. Regarding to the these mentions, participants mention that economic side of the contents and evaluating this refers to the farming difficulties (25%), increasing of trade facilities 20,8%, industry follows it with a ratio of almost 20% while rent and low price in agriculture hold an equal ratio of 12,5%.

5.6.5.2. The Feelings of Participants

In order to comprehend the participants' feelings about the destruction and urbanization of Döşemealtı rural areas, the interview findings were grouped into two groups as positive and negative. While people's emotions were expressed in negative terms due to the disappearance of natural and agricultural areas (not pleased, not happy, worrying, against, etc.), trade would be revived with the increasing of population, socialization would develop with the opportunity to meet different people and being considered as a phenomenon of overall development would be good that they have expressed themselves with emotions (happy, supportive, satisfied, and positive, etc.) for reasons.

Table 5.9. Feelings of the Participants of Fringe Growth

Feelings	Variables	Frequency of mention	Percentage
Positive Feelings	Good, happy	17	
	Satisfying, supporting	4	
	Pleased, glad	6	
	Positive, not problematic	3	
Total		30	**30.3%**
Negative Feelings	Worrying, disturbed, not pleased	9	
	Wrong, negative, problematic, fail, hormonal	13	
	Not happy, sad, sorry, dangerous	13	
	Against, uncomfortable, bad	5	
	Destruction of nature	30	
Total		**69**	**69.7%**
TOTAL FEELINGS		**99**	**100%**

Among the content group given in Table, negative emotions have the highest rate with 69.7%. An important point here is that 43.5% of the negative emotions have an expression of destruction of the nature that cannot be ignored. In other words, people wanted to give emphasis to the disappearing nature as well as to express their negative emotions. It should be emphasized that although the positive thoughts are at a rate of 30,3%, the share of the explanations about nature within the total emotions is the same as the content of positive emotions (30,3%). In short, Döşemealtı users often express themselves with emotions such as wrong, problematic, hormonal growth, dangerous, sad, etc., and it can be inferred that they have strong reactions to structuring. Another important point was that, in a negative sense, the reliability of the region was deteriorated, and the thefts increased with the population increase in the region.

5.6.5.3. The Three Most Important Problems of Döşemealtı for Participants

This question which enables the people living in the region to convey their wishes and problems, a direct relationship with the public has been established and a relationship has been established which allows the public to convey their problems. In this category, users' responses were examined in 8 groups: economic, spatial, transportation-infrastructure, agriculture, environmental, social, administrative, and planning. Most of the expressions used by the respondents to express their views on the three most important problems of the region are concentrated around transportation and social contents. 35.9 percent of the total content is about problems with transportation and infrastructure. The lack of a septic system with the highest rate of 36.1 percent in the category and transportation difficulties with 31 percent attract attention. The expressions related to public transport such as the lack of a rail system, the lack of pedestrian roads and the lack of access to bus services to every neighborhood are 12.8 percent.

Table 5.10. The Problems of Fringe Development

Content Groups	Contents	Frequency of Mentions	Total freq. of mentions	Ratio %
ECONOMIC	Real estate and its high tax	3	12	**4,6%**
	Mass economy	1		
	People's expectation of reconstruction, easy earnings	2		
	Stagnation of the construction sector	1		
	Increase in trade's wages	1		
	Lack of employment/unemployment	3		
	Cheap sale of agricultural products	1		

SOCIAL	Lack of health service (public hospital)	17	73	**27,9%**
	Urbanization culture	1		
	Loss of local cultural value	1		
	Inadequacy of socio-cultural facility	4		
	Migration of foreigners and Syrians	5		
	Low cultural level	2		
	Unauthorized driving and traffic violations	3		
	Low level of education and education requirements	7		
	Poverty	2		
	The existence of gazin and pavilions	1		
	Ignorant, and bigot people	5		
	No playground for children	1		
	Lack of social reinforcement (library, religious facility, social activity areas, parks and sports fields)	24		
SPATIAL	TOKI buildings	1	30	**11,4%**
	narrow planning of the road widths	2		
	large settlement area	3		
	Existing old buildings and its unprotected historical value	2		
	Parking problem	1		
	Increase in concrete, reconstruction	6		
	No creating areas where people will spend social time	1		
	Crooked urbanization, irregular structure	7		
	Immaturity, slow development	2		
	difficulty in access to villages	1		
	expanding of urban areas, accelerated of urbanization	3		
	Low lighting	1		
TRANSPORTATION INFRASTRUCTURE	Transportation difficulties	30	94	**35,9%**
	Infrastructure (absence of septic system)	34		
	Lack of natural gas	7		
	Lack of internet	1		

	Lack of rail systems, bus services, sidewalks	12		
	Poor ground quality of roads	5		
	traffic	4		
	insufficieny of main roads	1		
PLANNING	Unplanning urbanization	1	9	**3,4%**
	Scaless growth	1		
	Urban planning	4		
	Lack of sidewalk on main roads and streets	1		
	Non determination of agricultural lands except residential areas	1		
	Grouping in settlements	1		
ADMINISTRATIVE	Lack of meticulousness in the work of municipalities	1	6	**2,3%**
	Municipality law	1		
	Failure to keep election promises	1		
	poor public relations of the municipality	2		
	Lack of cooperative	1		
AGRICULTURE	Continue livestock production in the center	5	16	**6,1%**
	Expensive agricultural inputs	1		
	Not determining the original product pattern	1		
	Lack of organized agricultural areas	1		
	Reduction of agricultural land and pasture areas	3		
	Opening of agricultural land to construction	3		
	Lack of support to reduce agricultural inputs	2		
ENVIRONMENTAL	Noise and environmental pollution	2	22	**8,4%**
	Loss of natural values (water basins)	3		
	Lack of clean environment, environental quality	11		
	İnsufficient spraying for insects and mosquitoes	6		
Total			**262**	**100%**

Social content is the second most important problem area with 27.9 percent. in this category, the inadequacy of health services (absence of a state hospital) is 23 percent, and the level of education and low level is 10 percent. People in the region have been expressed as ignorant and uneducated because of their traditional culture. However, the lack of social activity areas for young people, the elderly and children are another important problem area. Especially, the youth complained about the lack of facilities such as libraries and public education courses.

The participants mentioned about the Spatial content with the ratio of 14%. Participants talked about largely crooked urbanization and irregular-unplanned construction conditions. In fact, in this context, there are expressions given by people who are mostly engaged in agriculture and animal husbandry such as 'concrete is happening as mushrooms are formed quickly, we do not want them'. In addition to these, problems such as the expansion of urban areas with the acceleration of urbanization, access to villages and districts are difficult, the necessary importance and protection approach is not given to historical places and narrow road widths are stated.

Regardless of which question I have posed, most of the respondents, whether their approach is positive or negative, see to urban development as 'development should not destroy agricultural and natural areas'. This situation is meaningful when it is thought that the local people's agricultural background is since there is a large group engaged in agriculture and they love the natural beauties and air of the place. In this context, the environmental content unit is 8.4 percent of the total unit and the agricultural content is 6.1 percent. While there is a problem of lack of clean environment and environmental quality, which is as high as 50 percent in the environmental content, the disappearance of natural values and the idea that environmental pollution will increase with urbanization have been shown as problems. Another point that draws attention to the agricultural content is that 31.25 percent of the people who do not engage in agriculture express their statements against the continuation of agriculture and animal husbandry activities in the vicinity of the city. This is followed by the

opening of agricultural areas to structuring and the decrease in agricultural production and arable land with the same percentages as the ratio of 18.75 percent.

5.6.5.4. The Solution Suggestions of the Participants

In order to present solutions to the problems, the content is divided into 8 groups which are economic, social, spatial, administrative, transportation-infrastructure, planning, agriculture and environmental issues. The indigenous people who have obtained individual experiences and regional problems through physical observations on the unique identity of the place so survey of the problems and solutions according to local peoples' experience is important.

In parallel with the fact that transportation and infrastructure are the most fundamental problems in the previous section, the solutions offered under transportation-infrastructure correspond to the ratio of 20% of the total depending on the results of this finding. Within this category, 36% of the participants suggested increasing the number of bus services and arranging their routes; 16 percent of the participants suggested improving the quality of the dirt roads and building new roads. Public transport, rail transport, reducing the use of private vehicles, and solving infrastructure problems are expressed in similar importance.

Table 5.11. The Solution Suggestion of Participant

Content Groups	Contents	Frequency of Mentions	Total freq. of mentions	Ratio %

ECONOMIC	to be increased of investment	2	6	**4,8%**
	Funding for municipalities	1		
	to be falled in interest rate	1		
	to be reduced of agricultural input costs	1		
	to be developed of industry investment	1		
SOCIAL	Building of hospital	5	20	**16%**
	increasing of social life quality	1		
	to be planned of more courses and activities	2		
	Public education	1		
	Conscious education given from the family	1		
	Establishment of shopping center	3		
	To be improved of education quality	1		
	Development of social activities and areas	2		
	To be educated of people about to respect of nature	1		
	To be more careful of people about traffic issues	2		
	Need of empathize to solve problems	1		
SPATIAL	Creating of environments in which neighborhood relations	1	10	**8%**
	Reconstruction of some places	2		
	Contruction should be towards the mountain slopes	1		
	increasing of precedent	1		
	all school should be collect in campus form	1		
	To build more parking spaces	2		
	Restructuring the zoning areas with a more planned construction	1		
	Not to be opened of places to construction	1		
TRANSPORTATION INFRASTRUCTURE	Tram service to district	3	25	**20%**
	To be improved of municipality conditions for the investment of infrastructure	1		

	To be reduced the use of vehicles	1		
	To be increased the use of public transport	1		
	To be increased of bus trips	9		
	To be solved of infrastructure problems	3		
	İncreasing of accesibility of public buses to all neighborhoods	3		
	To be developed of dusty road and built of new road	4		
PLANNING	To be stopped of urban development in existing plans	1	19	**15,2%**
	Making of special plan for the sustainability of agriculture and livestock	1		
	Necessary work should be done by municipalities	3		
	To be foreseen of population growth in plans	1		
	Conscious urban planning	1		
	Making plans for future without bringing further problems	1		
	To be considered of natural values in zoning plans	2		
	To be listened of local people before produced plan	1		
	To be determined of characteristics of the locality	1		
	Land subdivision should not be made according to personal relationships	1		
	Promotion of historical sites	1		
	Right planning solutions should be	2		
	urban development without environmental damage	2		
	Green areas also should be designed rather than only structuring	1		
ADMINISTRATIVE	Co-operation betw. different groups of state	7	23	**18,4%**
	To ensure the regularity of new structures	1		
	The work for the benefit of society should be done	1		

	without considering political conflicts			
	Metropolitan municipality should solve	10		
	to carry out the studies meticulously by the necessary institutions	3		
	Mobilizing all the Dynamics with the solutions of different instutional actors	1		
AGRICULTURAL	Agricultural land should not be opened zoning	4	14	**11,2%**
	Agricultural production pattern should be planned	2		
	Olive and pomegranate cooperatives should be established	1		
	To be encouraged of organic and inorganic agricultural production	1		
	Livestock and agricultural areas should be supported	1		
	insurance and health care opportunities should be provided	1		
	Support for farmers	4		
ENVIRONMENTAL	Elimination of odor and environmental pollution	1	8	**6,4%**
	Creating a conscious city structure without polluting natural values	1		
	İncreased of spraying and cleaning	3		
	Water basis is accepted as 1st degree protected area	1		
	To be done of initiatives for environmental quality	2		
Total			125	**100%**

The role of management and planning in solving and stabilizing space problems was also emphasized by the participants. While the administrative content was 18.4 percent, the role of planning was rated at 15.2 percent. Within the context of management, it has been revealed that municipalities are the key factor in solving problems, and at the same time, it is stated that in cases where working cooperation's between municipalities and working groups including different units of the state are

provided, the solution of the problems will be approached more. In addition, it was stated that the studies should be carried out meticulously without allowing different political views to prevent public interest.

The subjects that are noteworthy in the context of planning have been proposed such as making and implementing planning decisions by considering the natural areas, realization of urban development without causing environmental damage, and the increase of population should be envisaged in the plans.

Döşemealtı users' frequency of mentioning agricultural content corresponds to a total of 11.2 percent. In the agricultural sense, they made suggestions such as not opening the agricultural areas to structuring, reducing the inputs of the agricultural products of the farmers and supporting them on various issues and creating a local agricultural production pattern. Under the emphasis on the local issue is the presence of olive and pomegranate orchards that make up the identity of the region from past to present. However, the lack of co-operative olive and pomegranate to support the original production was said to be a problem by the farmers and they stated that there should be co-operative.

5.6.5.5. Citizen Preferences for Rural-Urban Fringe of Döşemealtı

Habitat selection, which is explained by the fact that animal species prefer the environment in which they live, is defined as the choice where each species will adapt successfully. According to the framework described by Kaplan and Kaplan (1982, 1989), people tend to choose useful and supportive environments for themselves. In short, people prefer possible environments that support the environment and respond to their needs. Therefore, in this part of the study, the criteria that will reveal the relationship between nature and new housing development in rural urban area will be evaluated. The presence of the natural environment and the contact of people with nature determine the satisfaction of life. It would not be wrong to say that natural elements are generally more intense in low-density residential areas. At this point, the

study will continue with the study that will reveal the relationship between user-preferences of rural-urban environment resulting from varying amounts of nature. In this context, the dimensional analysis technique was applied in which the average of each participant was analyzed and as a result the selection averages by category were presented. Accordingly, a photo-inquiry questionnaire was designed, and care was taken to ensure that the photographs belong to the textures that would show the existing and changing nature-structure relationships in Döşemealtı. In the questionnaire which includes open-ended questions together with photo-inquiry questionnaire; While people welcomed the development in terms of new business opportunities, developing socio-cultural environment and increasing social activities, people living in rural areas and living in rural areas were quite opposed to this new housing and environmental development. This study is very important in order to clarify the duality in this issue.

Table 5.12. Citizen Preferences of the Rural Urban Fringe of Döşemealtı

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
agriculture_forest	108	1,00	5,00	3,7852	1,12232
largeland_housing	106	1,00	5,00	2,7736	1,02468
farmhousing_environment	108	1,00	5,00	3,2778	1,17699
multi_family	108	1,00	9,00	2,5074	1,27475
nonclustered_withnature	108	1,00	5,00	3,7005	,96117
nonclustered_withoutnature	107	1,00	5,00	2,6285	1,13497
clusteredhousing_withnature	107	1,00	5,00	3,3589	1,17994
clusteredhousing_withoutnature	107	1,00	5,00	2,4523	1,25693
Valid N (listwise)	104				

Agriculture-Forest Category in RUF of Döşemealtı: It consists of 5 images including forest and agricultural lands. These photographs do not contain any details

of the built environment and are purely a category where plant elements are strongly presented. Each photograph in this category is highly preferred. The table where we see the results of photo preferences; the choices in the agriculture and forest categories had the highest average of 3.78 in all categories; it is observed that agricultural scenes are less preferred than forest areas. People who are mostly occupational farmers or who have traces of agriculture in their families or in the past gave high scores to the photographs of agricultural areas. The reason for this situation is the poor definition of agricultural areas to space.

Large Land House Category in RUF of Döşemealtı: One of the main features of this category, which consists of 5 photographs including residential units based on large land assets, is not close to the main road and consists of two-storey houses. Natural elements are not in the foreground in this category. Trees, fruit trees and agricultural fields are located in the background of the houses. Another distinctive feature of this category of housing is a large, open front area. While the preference for this category is lower than the agriculture and forest category, it is not wrong to say that it is low preferred by the participants of the region by taking the 5th place during the preference with an average value of 2,7736.

Farm House Category in RUF of Döşemealtı: It is a category of farm houses consisting of 5 images with residential housing units belonging to the traditional architectural texture. In contrast to the previous category, trees and agricultural areas are placed in the forefront of the housing category, as well as areas such as grass, weed surface is dominant. Although the average preference for this category is lower than the preference for agriculture and forested areas, it has a high preference rate with an average of 3,2778.

Multi-Family House Category in RUF of Döşemealtı: It includes a sample housing presentation of 'apartment building' consisting of two and three storey multi-family housing units. It is characterized as unrelated to its environment and low density of

plant material. This is one of the lowest preference rates, with an average of 2.5074 in this category.

Non-Clustered Housing Unit Related with Nature: It consists of five photographs as villa type housing units. The main feature of these settlement types, which is one of the new housing developments in the region, is that the density is low, and it has 1 or 2 floors. Another feature of this category is high density of trees. This category has the highest rate with the preference rate of 3,7005 after the first category of agriculture and forest.

Non-Clustered Housing Unit Unrelated with Nature: It consists of four photographs of non-clustered housing units. Unlike the previous category, we have tried to select photographs that will best illustrate housing areas with poor or no relationship with nature. The preference of the category has an average of 2,6285. One of the main factors in this low rate is the existence of an environment unrelated to nature, as well as the fact that the working people who provide the main source of livelihood from agriculture and animal husbandry in the region are absolutely against this type of settlement.

Clustered Housing Unit Related with Nature: The main feature of this category is consisting of five photographs of clustered housing development. It does not give the impression of a high-density environment despite the high housing density. Considering the relationship of the category with the environment, the front or common areas of the housing units are rich in natural elements. The main difference that distinguishes this category from the farm houses category is related to the amount of housing and tree density. In the category of farm houses, tree density is higher, while housing density is less. The common feature of both categories is that it is close to the road. When these two categories are compared, the preference for housing and environmental development associated with nature has a higher average than farmhouses with an average of 3,3589. The reason why there is a slight difference

between the averages of preference can be said to be a more organized structure of clustered housing areas.

Clustered Housing Unit Unrelated with Nature: This category consists of five pictures and unlike the above category, it has no relationship with nature. The average of the category is lower than the previous category. This may be due to the low density of trees and a uniform structure.

The results of the photo choices show that the relationship between housing and nature is clearly evident; most of the participants preferred tree and nature-related housing areas. In addition, it turned out that they preferred single family houses rather than multiple family houses. Nature-related multi-family categories are also highly favored and clustered housing areas that protect the fields and forests surrounding development.

5.6.5.6. Analysis of Participant Preferences from the Perspective of Different Occupational Groups

The desired nature-built environment relationship of the rural-urban wall region which varies according to different views of the groups, will be presented in this section. Because people living in the countryside have different concerns and views of life. For him, some will see the transformation of rural-urban lands as an opportunity, and some will see it as a problem. Whose voice in these answers defends which opinion? Whose opinions remain marginal? For example, what are the differences of opinion between those engaged in agriculture and trade, or between municipal employees and civil servants? This section will shed light on all these questions and will have important results.

Subsequently, the study was followed by Anova test performed in the SPSS program to identify the definite group of variables and the relationship between dependent variables and independent variables. Tukey and Bonferroni analyze were performed

to determine the accuracy of the findings of the Anova test. A few rules have been developed to understand the meaning of any element in a particular category. According to the hypothesis that the environment that the participants prefer would show a significant difference according to different occupational groups;

- The least factor load (alpha value) of an item was determined as 0.05. h0 and h1 values are defined in the analysis;
- h0: the preferences of the participants do not differ according to occupational groups
- h1: It was accepted that the preferences of the participants differed according to occupational groups.
- If the stigmatically determined sigma value is greater than the alpha value, h0 is accepted and the results of the categories hypothesized cannot be accepted.

When the following Table 5.13 is examined according to the rules defined above; As a result of the following ANOVA analysis of the first category of agriculture-forest, 0.088 sigma value was obtained. Accordingly, as a result of sigma value greater than 0.05 alpha value, there is no difference between the preferences of six different occupational groups.

Table 5.13. The ANOVA Analysis of First Category of Agriculture-Forest

ANOVA					
Agriculture_forest					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	11,930	5	2,386	1,981	,088
Within Groups	122,846	102	1,204		
Total	134,776	107			

As a result of the ANOVA for the second category, the sigma value is 0.048. The fact that the sigma value is smaller than the alpha value allows us to accept the hypothesis h0 that is defined. According to this, there is a significant difference between the choices of wide-range housing and surroundings of different occupational groups. When ‘mean values in the table are compared, it is seen that the highest average is followed by the housewives and the farmers prefer this category, while civil servants prefer this category with the lowest average. According to this result, the groups who prefer this category are housewives and farmers. Large-land house category is defined as having high relations with the countryside and nature, far away from apartment culture.

Table 5.14. The Descriptive Analysis of Second Category of Large Land Housing

Descriptives								
Large Land Housing								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
farmer	30	3,06	,98448	,179	2,6991	3,4343	1,80	5,00
government employee	10	2,16	1,45694	,460	1,1178	3,2022	1,00	5,00
housewife	12	3,30	,67420	,194	2,8716	3,7284	2,20	4,00
craft	20	2,71	1,14336	,255	2,1749	3,2451	1,00	5,00
municipal employee	13	2,53	,65005	,180	2,1456	2,9313	1,00	3,40
student	21	2,55	,91193	,199	2,1373	2,9675	1,20	4,00
Total	106	2,77	1,02468	,099	2,5762	2,9709	1,00	5,00

When we look at whether the preference of Farm-housing category differs between different occupational groups; the sigma value of the ANOVA analysis is higher than

the alpha value, it means that we reject the hypothesis. Therefore, there is no significant difference between the nature choices of different occupational groups.

As the sigma value is smaller than the alpha value, there is a significant difference between the choices of different occupational groups. When we look at the preference of multi-family category's average values by the actors in the table of 5.15, the differentiation between the civil servants and the housewives is evident. While housewives want to live in multi-family housing, it is seen that the civil servants do not prefer to live in multi-family housing.

Table 5.15. The Descriptive Analysis of Third Category of Multi-Family

Descriptives								
Multi-Family								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
farmer	30	2,40	1,68767	,308	1,7765	3,0369	1,00	9,00
government employee	11	1,45	,93420	,281	,8269	2,0821	1,00	4,00
housewife	13	3,24	,93507	,259	2,6811	3,8112	1,20	5,00
craft	20	2,65	1,13856	,254	2,1171	3,1829	1,00	4,20
municipal employee	13	2,40	,92736	,257	1,8396	2,9604	1,00	4,00
student	21	2,67	,90438	,197	2,2645	3,0879	1,00	4,40
Total	108	2,50	1,27475	,122	2,2642	2,7506	1,00	9,00

When the ANOVA result for the category of Non-Clustered Housing with nature is examined in Table 5.16, it is seen that there is no significant difference between different occupational groups and all occupational groups prefer the photographs of this category related to nature highly. When the 'Mean' values are examined, the group that chooses this category with the highest average of 3,9692 is the municipality

employees, followed by students, farmers and housewives with a high average. The crafts and municipal employee that fall below the total average value are less preferable than the other occupational groups, but it is important to have an average of over 3 at a value out of 5 and therefore the range of preference among the different occupational groups does not vary much.

Table 5.16. The Descriptive Analysis of Fourth Category of Non-Clustered Housing with Nature

Descriptives								
Non-clustered Housing with Nature								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
farmer	30	3,79	1,02590	,187	3,4119	4,1781	1,00	5,00
government employee	11	3,30	1,43767	,433	2,3432	4,2749	1,00	5,00
housewife	13	3,75	,67406	,186	3,3465	4,1612	2,60	5,00
craft	20	3,32	1,03089	,230	2,8375	3,8025	1,00	5,00
municipal employee	13	3,96	,67748	,187	3,5598	4,3786	2,80	5,00
student	21	3,93	,69089	,150	3,6188	4,2478	2,60	5,00
Total	108	3,70	,96117	,092	3,5171	3,8838	1,00	5,00

As the sigma value is smaller than the alpha value, it can be said that there is a significant difference between different occupational groups in the category of Non-Clustered Housing without Nature. When the relationship of preference differentiation between occupational groups is examined in Table 5.17, the difference in preference between housewives and civil servants is seen clearly. While housewives prefer categories unrelated to nature, civil servants with the lowest average do not prefer such an environment. Average overall preference is 2, 6285 and farmers and tradesmen

below this average. They do not prefer an environment unrelated to nature. For housewives, the preferences of the same type of housing between the two groups, whether related to nature or not, do not differ in this occupational group.

Table 5.17. The Descriptive Analysis of Fifth Category of Non-Clustered Housing without Nature

Descriptives								
Non-Clustered without Nature								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
farmer	30	2,53	1,13284	,206	2,1103	2,9563	1,00	5,00
government employee	11	1,65	,74391	,224	1,1593	2,1589	1,00	3,00
housewife	12	3,50	,65713	,189	3,0825	3,9175	2,75	5,00
craft	20	2,38	1,34867	,301	1,7563	3,0187	1,00	5,00
municipal employee	13	3,17	,92638	,256	2,6133	3,7329	2,00	4,50
student	21	2,66	,98531	,215	2,2182	3,1152	1,00	4,25
Total	107	2,62	1,13497	,109	2,4110	2,8460	1,00	5,00

When we look at the result of this category in table 5.18, there is no significant difference between different occupational groups because the sigma value of 0,304 is greater than the alpha value of 0,05. While it is seen that all occupational groups prefer this group which is related to nature, firstly the rate of preference of the tradesmen is the lowest and then the officers and housewives are respectively below of the general preference average of the category of clustered housing with nature. However, as mentioned above, a value over 2.5 out of 5 means that the groups prefer actually this environment.

Table 5.18. The Descriptive Analysis of Sixth Category of Clustered Housing with Nature

Descriptives								
Clustered Housing with Nature								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
farmer	30	3,38	1,24552	,227	2,9149	3,8451	1,00	5,00
government employee	11	3,14	1,42854	,430	2,1857	4,1052	1,00	5,00
housewife	13	3,32	1,25841	,349	2,5626	4,0835	1,00	5,00
craft	20	2,91	1,40596	,314	2,2520	3,5680	1,00	4,60
municipal employee	13	3,63	,76962	,213	3,1657	4,0958	2,00	4,20
student	20	3,74	,72866	,162	3,3990	4,0810	2,60	5,00
Total	107	3,35	1,17994	,114	3,1327	3,5850	1,00	5,00

There is a big difference between the preferences of municipal employees and farmers and again the preferences of municipal employees and civil servants. Farmers and civil servants have not opted for housing development unrelated to nature. While the general preference ratio is found to be 2,4523 and the municipality employees have the highest average above general mean, while housewives and artisans follow this average with decreasing mean.

Table 5.19. The Descriptive Analysis of Seventh Category of Clustered Housing without Nature

Descriptives							
Clustered Housing without Nature							
	N	Mean			95% Confidence Interval for Mean	Minimum	Maximum

			Std. Deviation	Std. Error	Lower Bound	Upper Bound		
farmer	30	1,95	1,18924	,217	1,5093	2,3974	1,00	5,00
government employee	11	1,58	,72363	,218	1,0957	2,0680	1,00	3,00
housewife	13	2,87	1,36757	,379	2,0505	3,7033	1,00	5,00
craft	20	2,72	1,28865	,288	2,1169	3,3231	1,00	5,00
municipal employee	13	3,16	,87119	,241	2,6428	3,6957	2,00	4,00
student	20	2,67	1,27531	,285	2,0731	3,2669	1,00	4,60
Total	107	2,45	1,25693	,121	2,2114	2,6932	1,00	5,00

The result of the photo selection of the actors drew attention to three issues. Agriculture and forestry is show to be more preferred. If housing development within the rural-urban perimeter area is related to nature or not, there are differences in preferences among actors. There were also differences in preferences in the rural urban fringe when compared to traditional residential development and new residential development areas. The choice of traditional farm areas resulted in a lower preference average than the preference of new residential development.

It is concluded that forested areas are preferred more than agricultural areas. As a result, the fact that the forest areas are more spatially defined, and that agriculture is considered as an obstacle to the development of the region has decreased the preferability of agricultural areas.

The participants were mostly interested in single family housing rather than multi-family housing and they also prefer dense tree houses rather than low density tree houses.

According to the results, all participants think a great deal of the new development model of clustered and non-clustered residential development. However, it is revealed that they prefer this new development under conditions where this development is related to nature and densely wooded.

CHAPTER 6

DISCUSSION AND CONCLUSION REMARKS

Uses in the periphery consist of inadequate spatial planning and land management. Therefore, it becomes an undefined part of the urban system. The ignorance of the RUF makes them a transit zone with lower land prices and more accessible transport links. RUF areas are defined as transitional zone and these uses are often under the pressure of urbanization and lose their productivity. At present, it has become very difficult to separate semi-urban areas from rural-urban areas since there are no clear indicators to distinguish between rural and urban areas. This creates growth pressure on the RUF. It is difficult to realize if an agreement between the urban and rural areas cannot be reached and cannot be an effective counteract policy.

Agricultural land is seen as an important provider for construction, which creates significant pressure for farmers living around the fringe. The destruction of the boundaries between urban and rural areas carries risks and potentials. The RUF offers multifunctional opportunities in terms of historical development, biodiversity, production, recreation, identity and aesthetics. With these features, it is possible for the citizens to avoid dense urbanization and the problems that arise with them. In regions under intense urbanization pressure, how to approach the RUF becomes important due to risks such as urban transformation of the country. Therefore, this thesis has been created within the ecological, economic and social framework representing sustainability. It presents a holistic approach that explores how urban development affects agricultural production, ecology, economy and social life, and discusses the principles of plan and design together to achieve sustainable development in the context of research.

In addition, these areas at the interface of urban and rural areas face to rapid physical, social and economic change processes. The question of how the RUF areas formed as a result of these change processes is understood among different local groups and actors and how sustainable development is affected, has become the center of this thesis. In parallel with this issue, another topic that has been researched is to understand the views and perspectives of the local actors living on the RUF about spatial change in the fringe. As a result of this thesis; the role map for the sustainable development of the society in the RUF will be produced as a result of local concerns. This thesis which takes into consideration the views and perspectives of the local people, also provides an opportunity for individuals to shape the environment in which they live and desire.

6.1 A Summary of Thesis

This thesis structures around the firstly, understanding of sprawl, reasons and causes of sprawl. Because, in order to understand the tension between rural and urban areas, it is necessary to understand the concept of sprawl, which is one of the main reasons of the RUF process. In addition, my thesis continued to provide an understanding of the complexity of rural urban interaction by defining what is the fringe? for understanding of the linkage and conflicts within and between the terms of ‘sustainable development’ and ‘rural urban fringe’. The process of sustainable development formation, its three pillars dimensions, its importance for urban and rural perspective, and the role of sustainable development in fringe perspective are the fundamental aspects in this sense.

In theoretical framework of the study, I revealed the factors that accelerate rural-urban fringe formation processes and development. In this sense, I focused on reveal the effects of the master plans on urban and macroform development by associating 'urban sprawl' which causes fringe formation and rural-urban conflict. As told before, the urban sprawl indicators are defined to understand general problems that give us a general idea about the urban growth. Before looking at the impact of urban sprawl on

the urban macroform from a historical perspective, I aimed to show the relative changes in population, population growth rate and overall density among urban sprawl indicators. Population mobility between rural and urban areas leads to transformation and spatial differentiation at the level of settlements. Therefore, first of all urban sprawl indicators are analyzed, then the direction of development between rural and urban areas and the dynamics that affect this development direction and how it affects spatial process are analyzed. The formation of the rural-urban fringe regions resulting from the mixing of functions and borders of urban and rural areas are examined in more detail.

After investigating the rural-urban fringe processes and forms in the literature research, in order to take a closer look at the case, Döşemealtı region of Antalya was studied. The rural urban fringe of Döşemealtı is getting urbanized rapidly because of the general characteristics of the city of Antalya was the plateau settlements which is preferred by people. One of the impacts of the Antalya city on surrounding country was the upper plateau in the north east corridor; namely, Döşemealtı is one of the districts of Antalya and is located to the north of the city. The distance of the district to Antalya is 20 km and its population is around 59.000 according to the 2018 census. Main features of Döşemealtı is traditional life, rural characteristics, ethical values, natural values, forest areas which are now transformed to cope with the new changes of social life. The continuity of these changes are main reason of choosing Döşemealtı as case area because Döşemealtı will be exposed to a series of problems and changes that the urban life and this transition will bring more intensively over the years.

The main hypothesis of this research has stated that the degree of urbanization is positively correlated with agricultural and natural land loss at urban fringe. This hypothesis has been supported by the findings of the literature survey as well as the case study research. The investigation of loss of agricultural and natural land loss has been demonstrated by open-ended questions and the method of photo-questionnaire. Destruction of the rural-urban structure on the nature can also be understood through housing and other spatial development tools which are in important contact with

nature. For this reason, it has been developed to understand how urban development is perceived by local actors in the RUF and what is the development model they desire in the RUF.

In the following, a series of policies and approaches have been realized for the development of 'Sustainable Fringe' and 'Sustainable Local Development' in the RUF of Döşemealtı, which was prepared in accordance with the literature review and fieldwork.

6.2 Policy Review

In recent years, the Commission for Natural England and Rural Communities has called for an integrated and inclusive planning of the wall. In this regard, what was the rural urban fringe was investigated, the causes of the problems and concerns of the rural urban fringe were investigated and the search for how best to manage the rural urban fringe development started.

Studies on the causes of fringe formation have been conducted from different researchers. In Carruthers (2003), he argues that political fragmentation, the division of land use authority into numerous individual jurisdictions affects development adversely. According to Friedberger (2000), it has been argued that the regulations of the land control of the developers are minimal and that the rural areas develop in their own destiny in the vast atmosphere. According to Abrechts, he argued that the spatial dynamics in mixed rural areas were brought together by old urban functions (retail, business parks and entertainment), creating a dispersed rural-urban environment.

In this case, it is clear that the policies should be rethought, the existing borders should be revised in the light of the problems mentioned above and new policies should be produced which will positively improve the landscape of rural-urban environment.

This issue is one of the most well-known approaches designed for the Green belt, the wall. but there is a misconception that the green belt is not a mechanism designed for the wall. to protect development pressure from the residential areas on the periphery.

It also aims to protect open spaces from fringe development and promotes urban renewal. Here, however, the green belt is criticized for causing unsustainable development beyond the existing structured development.

In this case, different purposes must be brought together for the fringe. There is a need for an approach that makes the fringe as a community resource, improves landscape quality and provides opportunities for new economic activities. The recent planning reform in the UK has introduced two key concepts for 'spatial planning'. The first purpose is to develop a model that requires separation from the land-use planning model, while offering multifunctional areas that perform in social, economic and environmental dimensions. The second is the Multi-functionality approach, which understands the existing fabric and presents targets for future plans. With this approach, segmentation of land uses is avoided, and applications that seek comprehensive and integrated responses to developmental pressure are proposed instead.

It shows how to combine different functions and activities in a useful way. it does not focus on a single issue, for example economic development or social quality or purely environmental quality. For example, agriculture is based on the agricultural economy and provides policies and recommendations that explain how farms can expand to new productive areas (from single-function cereal production to vegetables, fruits, livestock farming) or farm diversity.

The LA21 Local Agenda Plan, adopted at the 1992 World Summit, has developed a new literature that explores the sustainability community issue and the vision of sustainable regions. This plan is characterized by two main characteristics: local action plans to ensure sustainability and a bottom-up approach to the solution of local problems. All activities in this plan are based on locality and cooperation with locality. At the local level, citizens and the government are involved in achieving sustainable development together. For example, Tire milk cooperative considered as an important example in the development and growth of the cooperative, also demonstrates the

importance of local cooperations. The cooperative, which foresees a project of distributing milk to school students in order to regularly evaluate the milk of its partners, cannot find support to implement this project. In the same period, İzmir Metropolitan Municipality, which designs a similar project independently from the cooperative, and finally come together Tire Dairy Cooperative and start to implement the project which they form "School Milk''. İzmir Metropolitan Municipality and Tire Dairy Cooperative is an exemplary partnership in order to show that cooperatives can be successful if they are supported by local administrations and that welfare level and local economy will be affected positively. In the short-term story of Tire Milk Cooperative, it was mentioned above that the support of İzmir Metropolitan Municipality created an important leap point and how important this was in strengthening the cooperative. The results of this cooperation provide important clues as to how public policies on cooperatives should be. The support of Izmir Metropolitan Municipality has facilitated and accelerated the development of Tire Milk Cooperative. With the market opportunity it offers, it has given the cooperative the ability to trade and strengthened its organizational skills. Tire Milk Cooperative has become very well equipped after this cooperation. It has made it possible for the cooperative to be more conscious and confident in its participation in the market-oriented production process and to hold onto the market. It was able to evaluate the support of the Izmir Metropolitan Municipality in the most efficient way and to a large extent achieved its objectives stated in its Articles of Association. At the same time, it has acquired the necessary equipment and knowledge to sustain the mobility and development that comes with Izmir Metropolitan Municipality. The cooperation of the Tire Milk Cooperative and the local government in the region is a good example of predicting the level of development to be achieved if the right policies for cooperative are produced (Tuş 2015, 25-30).

Related to this, strategies that will increase the awareness of people to the natural environment and provide legal and organizational structure with an environmentalism vision gain importance. These include:

- Improving the system of values that actors in society make when making decisions, in other words improving environmental morality;
- Providing environmental education to ensure that actors from different capacities and responsibilities in the society have a culture of living together;
- To improve the knowledge base of the actors in the society; to make institutional and legal arrangements that change the reward / cost balances that actors in the society will take into account in their decision making in a way to contribute to sustainability;
- To develop the economy and technology based on the ecological order of the society and to build the capacity to benefit from the existing technology (Tekeli and Ataöv 2017, 127).

Since these strategies will affect every actor in the society, they will contribute to sustainability at all scales. However, it will not be sufficient to guide how to achieve results for a particular place. To sum up, the threats on the RUF should be eliminated and the potentials should be turned into opportunities. For this reason, every individual, decision-makers and local governments living in that rural and urban areas need to reconsider the view of nature, the countryside and the city. The right policies should be implemented in order to maintain balance between the three pillars of sustainability, to prevent irreversible damages to nature and sustainability.The RUF has great potentials in terms of socaial, economic and environmental. In this way, rural and urban essence without losing one and the other can work as a whole without destroying the other.

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APPENDICES

A. ORIGINAL FORM OF SURVEY

Bu anket, kırsal-kentsel çeper oluşumu ve çeperde oluşan kentsel gelişim tercihi ile değişen doğa ilişkisini; mevcut arazi kullanım stratejileri ile hızla büyüyen kırsal-kentsel çeper bölgesinde yaşayan bireylerin tercihleri arasındaki ilişkileri incelemek ve Döşemealtı'nın mevcut ve gelecekteki çeper oluşumu ile ilgili algılarını değerlendirmek üzere hazırlanmıştır. 10-15 dk sürecek olan anket çalışmasının sonuçlarından elde edilen bilgiler ODTÜ Şehir ve Bölge Planlama Bölümü, Şehir Planlama Ana Bilim dalı yüksek lisans öğrencisi Yaşar Okudan'ın tezinde kullanılacaktır. Ankete katılan kişilerin isimleri tez çalışmasında yer almayacaktır. Teşekkürler.

1. Kişisel Bilgiler

Yaş: 15-25 ☐ 25-45 ☐ 45-65 ☐ 65+☐ Cinsiyet: ☐ Kadın ☐ Erkek:

Meslek: …… Ev sahipliliği: Kira ☐ Kendi eviniz☐ Lojman ☐

Hangi mahallede/köyde yaşıyorsunuz?.....

Mevcut ikamet adresinde kalma süreniz: 1-5yıl☐ 5-10 yıl☐ 10-15 yıl☐ 15+ ☐

2. Kentsel Alanların Kırsal Alanlara doğru Büyümesi Konulu Sorular

2.1.Döşemealtı kentsel dokusunun kırsal alanlara doğru büyümesi konusunda ne düşünüyorsunuz? Büyüme nedenleri nelerdir?

2.2.Bu büyüme sonucunda hissettiğiniz duygular nelerdir?

3. Mevcut ve Gelişen Arazi Kullanım Sorunlarına İlişkin Sorular

3.1. Döşemealtı'nın en önemli 3 sorunu nedir?

3.2. Yaşadığınız yerde karşılaştığınız sorun ve zorlukların çözümü hakkında önerileriniz nelerdir?

4. Kırsal-Kentsel Çeperde Görünen Gelişme Çeşitleri Konulu Sorular

Bu bölümde resimler için her fotoğrafın altına 1'den 5'e kadar derecelendirilmiş toplamda 42 soru tasarlanmıştır. Derecelendirmede 1: en düşük tercihi gösterirken; 5: çok yüksek tercihi göstermektedir. 1'den 5'e kadar derecelendirilmiş sayıları tercihinize göre daire içine alınız.

4.1 Kırsal-Kentsel Alanda Yer Alan Tarım-Ormanlık Alanların Fotoğrafları		**4.2 Kırsal-Kentsel Alanda Yer Alan Geniş arazili Konut Alanların Fotoğrafları**	
	1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek		1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek

 1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek	 1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek
 1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek	 1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek
 1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek	 1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek
 1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek	 1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek
4.3 Kırsal-Kentsel Alanda Yer Alan Çiftlik Konut ve Çevresinin Fotoğrafları	**4.4 Kırsal-Kentsel Alanda Yer Alan 2,3 katlı Çoklu Aile Konut ve Çevresinin Fotoğrafları**

	1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek		1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek
	1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek		1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek
	1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek		1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek
	1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek		1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek

 1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek	 1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek
4.5. Kırsal-Kentsel Alanda Yer Alan Doğa İle İlişkili Kümelenmemiş Konut Birimlerinin Yer Aldığı Fotoğraflar	**4.6 Kırsal-Kentsel Alanda Yer Alan Doğa ile İlişkisiz Kümelenmemiş Konut Birimlerinin Yer Aldığı Fotoğraflar**
 1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek	 1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek
 1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek	 1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek
 1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek	 1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek

1 en düşük
2 düşük
3 orta
4 yüksek
5 en yüksek

1 en düşük
2 düşük
3 orta
4 yüksek
5 en yüksek

1 en düşük
2 düşük
3 orta
4 yüksek
5 en yüksek

4.7. Kırsal-Kentsel Alanda Yer Alan Doğa İle İlişkili Kümelenmiş Konut Birimlerinin Yer Aldığı Fotoğraflar

1 en düşük
2 düşük
3 orta
4 yüksek
5 en yüksek

1 en düşük
2 düşük
3 orta
4 yüksek
5 en yüksek

4.8. Kırsal-Kentsel Alanda Yer Alan Doğa İle İlişkisiz Kümelenmiş Konut Birimlerinin Yer Aldığı Fotoğraflar

1 en düşük
2 düşük
3 orta
4 yüksek
5 en yüksek

1 en düşük
2 düşük
3 orta
4 yüksek
5 en yüksek

 1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek	 1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek
 1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek	 1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek
 1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek	 1 en düşük 2 düşük 3 orta 4 yüksek 5 en yüksek