AGRICULTURE IN URBAN AREAS AS A SOCIO-ECONOMIC AND TOWNSCAPE VALUE: THE CASE OF RİZE

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ABSTRACT

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Rapid urbanization, which is one of the major problems of contemporary era, created cities as the major destroying centers of nature and ecology by human beings. In this respect, urban agriculture takes place in urban areas as a new way to meet nature and urban for improving the quality of life in the last decades. Despite the belief that agricultural activities always take place in rural areas, agriculture in urban areas would provide citizens many opportunities in terms of social, economic and environmental aspects.

This study aims to identify the notions of urban agriculture, and to investigate its economic, social and environmental impacts by exemplifying the different practices around world. It focuses on Black Sea Towns of Turkey in the case of Rize where agriculture is occupied in important parts of urban and rural areas. Unique features of agriculture in urban areas as they differ from other implementations in the world are examined. In this thesis, UA is considered as socio-economic and townscape value in the city. In the case of Rize, urban agriculture appears as an indispensable part of social life that bears the imprint of rural background of the cities.

Keywords: Urban, Rural, Urban Agriculture, Townscape, Urban Landscape

ÖZ

RİZE İLİ ÖRNEĞİNDE KENT İÇİ TARIMIN SOSYO-EKONOMİK VE KENTSEL PEYZAJ ELEMANI OLARAK İNCELENMESİ

Üstoğlu, Deniz
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Çağımızın en önemli sorunlarından biri olan hızlı kentleşme, şehirleri insanların doğaya ve ekolojiye en büyük zararı verdikleri merkezler yapmıştır. Bu bağlamda kentsel tarım, son yıllarda artan ilgi ile, çevre ve yaşam kalitesini arttırmak adına doğa ve kentsel tasarımı buluşturan yeni bir yol olabilir. Tarımsal faaliyetlerin her zaman kırsal alanlarda yapılması gerektiği inancına rağmen, kentsel alanlarda tarım, kentlilere sosyal, ekonomik ve çevresel açılardan birçok fayda sağlamaktadır.

Bu çalışma, "kentsel tarım" kavramını tanımlamayı ve dünyada farklı uygulamalardan örnekler vererek kent üzerindeki ekonomik, sosyal ve çevresel etkilerini incelemeyi amaçlar. Bu tez Türkiye'nin Doğu Karadeniz Kentlerine tarımın kentsel ve kırsal alanların önemli bir bölümü işgal ettiği Rize ili örneğinde inceler. Rize ilinde uygulanan tarımın kentsel tarımın dünyadaki diğer uygulamalarından farklı ve kendine özgü özellikleri incelenir. Bu tezde kent içindeki tarım bir sosyo-ekonomik ve kentsel peyzaj değeri olarak ele alınmıştır. Rize durumunda, kentsel tarım şehrin kırsal artbölgesinin izlerini taşır ve sosyal hayatın kaçınılmaz bir parçası olarak ortaya çıkar.

Anahtar Kelimeler: Kent, Kır, Kentsel Tarım, Kentsel Peyzaj

To my family

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CHAPTER 1

INTRODUCTION

1.1 Problem Definition

> *Nowhere has mankind been farther removed from organic nature than under the conditions of life of great cities.*
>
> Louis Wirth (1938, p.3)

Rapid urbanization is one of the major problems of 21st century cities. In 2008, it was the first time that the population in urban areas exceeded the population in rural areas (UN-HABITAT, 2011). Today, half of the world's population settled in urbanized areas. The developed regions like Europe and North America reached the urban population tipping point already before 1950s,by the year 2050, it is expected that most of the regions of developing world will be predominantly urban too by 70 per cent of the world population urbanization rate (UN-HABITAT, 2011).

Considering high urbanization rates and the fact that the world population will be concentrated in urban areas in the next decades, providing food, shelter and basic services to the city residents and creating sustainable cities have become challenging for many city authorities around the world. Demographic growth caused by urbanization affects the ecology and human welfare negatively in cities, and makes life difficult for citizens. Cities are continuously changing to struggle with this demographic expansion and its effects. Cities transform to adapt new inhabitants, new functions, and new network of relations. One of these new functions seen in urban areas is urban agriculture (UA). It takes place in urban areas in the last decades as a new way to meet nature and urban for improving the quality of life. Despite the belief that agricultural activities always locate in rural

areas, urban agriculture shows that agricultural activities can be a part of urban life. Today there are more regions around the world experienced urban agriculture due to its economic and social and environmental benefits. It creates new jobs, prevent food shortage, provide social solidarity and contribute to urban ecology. The local authorities, national governments and international agencies also pay attention to UA**.** By the important efforts of the agencies, today there is widespread awareness on urban agriculture in or around the cities for its potential and contribution to the urban life (Mougeot, 2000).

According RUAF (Resources Centres on Urban Agriculture &Food Security), UA could be shortly defined as *the growing of plants and raising of animals in and around cities* (n.d.). It has various definitions derived from different perspectives, and it is applied in different parts of the world. According to Mougeot (2005), food security and poverty problems are the main reasons of urban agriculture. Regarding that UA is a source of food and income; it has particularly significant impacts on economy. However, its social and environmental benefits should also be taken account. To analyze these impacts, two other cases besides Rize are investigated: urban agriculture in Cuba and allotment gardens in Germany. In the case of Cuba, UA has a survival role for whole country to deal with critical food insecurity problems. In 1989, Cuba experienced the biggest economic crisis of its history after the revolution in 1959 because of the collapse of Soviet Union and its economic support together with tightening of US trade embargo (Chaplowe, 1998). There is a strong state provision on Cuban urban agriculture system. Their political strategy turns to decentralization and localized food production. The urban centers, especially Havana, become the centers of agricultural production to feed the city.

Considering the German case; UA is practiced in allotment gardens is land pieces where people can grow their own fruits and vegetables for home consumption in a non-professional way. In 19th century, German allotment gardens were emerged because of the poverty and hunger problems caused by rapid urbanization in the country (Dresher, 2001.) In Europe, today allotment gardens are used mostly for

recreational purposes and it shapes the social life as the place of leisure activity. (Drescher, 2001). However, it will always remain as a potential food source for city dwellers.

This thesis focuses on urban agriculture in Rize. Unlike Cuba, Germany, Eastern Black Sea region demonstrates unusual implementation of agriculture in urban areas. UA in Rize refers to vegetable and fruit production for household consumption from public to private open spaces located in urban core. One of the distinguishing features is that the reason of emergence of UA is not food shortage. The other striking feature of urban agriculture in Rize is that it is embedded in the social life of the citizens, and practiced and maintain by their special affords.

1.2 Aim, Objectives and Research Questions

This thesis investigates the notions of urban agriculture, to identify its economic, social and environmental impacts by exemplifying the different practices around the world. It focuses on Black Sea Region of Turkey in the case of Rize where agriculture occupied in important part of urban and rural areas. It examines different and unique features of agriculture differ from other implementations in the world.

The scope of this thesis is to define UA and enlighten its unrecognized examples for the case of Rize as socio-economic and townscape value. Therefore, the research aims to reveal the outcomes of the current situation in Rize. This paper will analyze the impacts driving people to be engaged in agriculture despite the topographic challenges and land scarcity.

After reviewing literature, it is seen that there are few research about UA in Turkey. This thesis also aims to produce knowledge on urban agriculture to preserve it as townscape element and serves data which could be useful for other Turkish cities. This thesis seeks to find answer of these main research questions:

- How would rural and urban be integrated into each other?
- What are the underlying factors behind engaging agriculture in urban areas of Rize?
- What are the factors driving people to practice agriculture in urban areas in Rize?
- How would agriculture take place in the city center as townscape element?

1.3 The Method of the Thesis

The study includes quantitative and qualitative data, which are composed of different source of information. In this study, as a method, on-site observation, investigation, analysis and evaluation methods are used.

In the thesis, the theoretical background of the concept Urban Agriculture is investigated by extensive ***literature survey***. The thesis begins with examining urban and rural definitions and its changing relationships inferred from its historical background. Then, the concept of urban agriculture and its impacts are explained by exemplifying by two different practices in the world. To overview the urban agriculture the books, reports, previous research and internet data are used. The study concentrated on the province of Rize and aim to draw the underlying circumstances of UA in province. To understand distinctive characteristic of agriculture done in urban areas, the peculiar socio spatial and natural conditions of Black Sea are analyzed. The spatial analysis, photographic analysis, section drawings are used for examining the city.

In the first step, the ***archival documents*** are investigated. The ***visual and verbal documents*** are obtained from the archives of Rize Municipality. Furthermore, 1/1000 scale land use map was used for analyzing the topographic and settlement structure of the site. The green areas allocated for agriculture and current park areas are investigated, Google earth images and the aerial photo obtain from Department of General Command Of Mapping-Turkey.

Spatial analysis was made in order to indicate the green areas of the city. The sections are drawn and maps are prepared to analyze the present condition of the city. In this respect, ***direct observation*** is an important method to gather data. By site observation, the current condition of urban agriculture is categorized into 2 groups in accordance with their location as public areas and in private areas.

Semi structured interviews were conducted with the city farmers and authorized persons. Semi structured interviews were preferred as a data collection method. The aim was to acquire in-depth information on underlying reasons of practicing UA regarding citizens of Rize. Content analysis method was used to analyze the data comes from the interviews. These questions were designed to inhabitants living in Rize and its district for identifying why do participants are engaged agriculture in urban areas and what are their motivations to do so. Moreover, some experts from Rize municipality, Ataturk Research Institute of Tea and Gardens and ÇAYKUR, are also participating in interviews to be able to take their opinion.

1.4 The Structure of the Thesis

The thesis includes seven chapters.

Chapter 1 presents a brief introduction, the problem definition, aim and objectives of the study, research questions, the method of the study and the structure of the thesis.

Chapter 2 outlines urban and rural interaction before going further to urban agriculture. This section begins with explaining the common definitions of urban and rural most of which based on the accepted traditional stereotypical differences in the past. It also includes the new tendencies in urban & rural definitions considering concerns about the changing nature of the relationship between urban and rural recent years. This chapter concludes with two models which cannot be explained by simple distinctions and have significant contribution to integration of urban and rural. The first one is the ‘Garden City’ model proposed by Ebenezer

Howard (1902) in 19th century, and turned to an important movement. The second model is Desakota model emerged in the late of 20th century in Asia and analyzed by McGee (1991). Both of the models show different relations between agriculture and urban areas.

Chapter 3 focuses on mainly urban agriculture and its different practices in the World. Chapter 3 begins with debating general overview of urban agriculture. After that it gives common definitions of UA on literature and analyzes its economic, social and environmental impacts. Besides its benefits, the disadvantages of UA are also mentioned in the chapter. Then, the different practices of urban agriculture are analyzed in term of their contribution to the city. For this aim, urban agriculture in the case of Cuba and urban agriculture in the case of Germany are studied as examples. In Cuba case, the emergence, characteristics, organization and the impacts of UA are studied and it is concluded that urban agriculture has significant contribution to citizens' economic life in Cuba. In Germany case, the *allotment gardens* are taken attention as one of the prevalent ways of urban agriculture within the last decades of 20th century. The history of German allotment gardens, institution scheme and the impacts of them are examined. Finally, it is concluded that the allotment gardens serve as recreational and social places.

Chapter 4 is mainly about the natural and socio-spatial structure of Rize and the underlying factor of urban agriculture in the province. The chapter begins with giving brief information about general characteristics of Eastern Black Sea Region. The topography, climate, demography and settlement, socio-economic structure, and cultural and social life of the Black Sea Region are analyzed before analyzing Rize. The chapter continues with closer look to Rize. The city' physical, natural and social structures are examined. For this aim, history, topography, micro-climate, flora and fauna are overviewed. The agricultural productions are based on the tea plant production, the peculiar settlement structure which is shaped by topography and property pattern of the province are taken attention. Lastly, chapter is concluded with summarizing of the dispersed settlements pattern and its physical and sociological reasons.

Chapter 5 presents the urban agriculture in Rize as socio-economic and townscape value. Chapter starts with the overview of the landscape values of Rize. The landscape values investigated into two groups which are natural landscape elements and townscape elements. The townscape elements are observed for rural and urban areas separately. The chapter includes the urban-rural interaction in Rize. In this part, to analyze the transition from urban to rural, the city is divided into 5 zones. They are Urban, *Urral, Rurban* and Rural areas together with reclaimed land.

Chapter 6 presents urban agriculture in Rize. It is focused on the most distinguishing features of Rize which are driving citizens to practice agriculture in urban areas. Unlike the other cities of Turkey in Rize, agriculture integrated to the urban and serves to better sustainable urban life. Then, underlying reasons for practicing agriculture are studied under two categories: generating factors and supporting circumstances. This chapter includes types of urban agriculture which is practiced by the citizens who cultivate their gardens, balconies, roof tops, vacant areas and even the residual lands. Classification is done in terms of the implementation areas as urban agriculture in public spaces and urban agriculture in private spaces. At the end of the section, the results of the semi structured interviews are analyzed.

Chapter 7 presents general conclusions of the thesis and the answers of the research questions. The chapter is concluded with interpretation of current situation of agricultural activities in Rize.

CHAPTER 2

URBAN AND RURAL INTERACTION

2.1 The Common Definitions of Urban and Rural

It seems that there is no common definition of *urban* for all disciplines and regions, since diverse parties such as historians, urban sociologists, anthropologists, planners, economists and political scientists try to define urban according to parameters of their respective disciplines. Considering the earliest urban sociology theories, they give more importance to define the distinctions of rural and urban communities rather than urban. Therefore, this emphasized distinction underlies the majority of the urban definitions (Öğdül, 2010). For instance, while *rural* is always associated with pre-modern and hereby pre-industrial period, urban is associated with the modern and industrial period and seem as the center of the civilization. In addition to that, agriculture is generally assumed in rural areas, whereas industry and services are assumed in urban centers.

Considering the process of developing urban-rural distinction based definitions, there are two significant authors; Tönnies and Durkheim. Ferdinand Tönnies (1957) conceptualizes the ideal types of *gemeinschaft* and gesellschaft** (German terms generally translated as *community* and *society*). While the societies are heterogeneous organizations which people are differentiated by ethnicity and culture, communities are the homogeneous organizations in which people are not differentiated by ethnicity and culture, but differentiated by close individual relationships (Topal, 2004 as cited in Bal, 1999). In this approach community represents the village, whereas the society represents the city. Like Tonnies, Durkheim (1933) also separates the human settlement into two polar groups; *Simple Societies* and *Complex Societies.* According to Durkheim, in the base of simple societies, there is mechanical solidarity while in the complex societies, there

is organic solidarity (Topal, 2004). While, there are common beliefs and behaviors in societies with mechanical solidarity, in societies with organic solidarity, similarities between people are disappeared and they are getting heterogonous.

Wirth (1938) prefers to analyze *urban-industrial* and *rural folk society* as ideal types of communities. According to Wirth, the city is "a relatively large, dense, and permanent settlement of heterogeneous individuals" (p.1). On the other side, sociologists Sorokin & Zimmerman (1929) also attempted to define the city in the base of comparison of urban and rural. According to authors, a qualified definition should express several traits of differences rather than one trait. Sorokin & Zimmerman suggest eight differences to define the urban and rural settlements: occupational differences, environmental differences, differences in size and community, differences in the densities of the populations, differences in the homogeneity and the heterogeneity of the populations, differences in social mobility, differences in social differentiation and stratification. (Sorokin & Zimmerman, 1929)

Like all differences mentioned above, there are some most widely referred stereotypes for defining urban and rural. It is generally accepted that the rural and urban populations can be distinguished from each other, in respect to economy, occupation, and educational level, accessibility to services and information, demography, politics, ethnicity and migration level (Champion & Hugo (Eds), 2004). (Table 2.1) Among all of the mentioned criteria, demographic and economic characteristics are the most accepted ones even though they changed from nation to nation. Even today, rural and urban settlements are usually determined by population and sector differences (Tacoli, 1998). Population is evaluated according to a certain threshold with respect to the censuses and other statistical data practices. Sector differences are sharply divided into two; agriculture, and industrial and service sector. Agriculture sector is assumed for rural dwellers whereas industrial and service sector is assumed for urban dwellers.

Table 2-1 Some widely accepted traditional stereotypical differences drawn between urban and rural populations (source: Hugo, 1987 as cited in Champion & Hugo (Eds), 2004)

	Dimensions	Urban	Rural
1.	**Economy**	Dominated by secondary and tertiary activities	Predominantly primary industry and activities supporting it.
2.	**Occupational Structure**	Manufacturing, construction, administration and service activities	Agriculture and other primary industry occupations
3.	**Education Levels And Provision**	Higher than national averages	Lower than national averages
4.	**Accessibility to Services**	High	Low
5.	**Accessibility to Information**	High	Low
6.	**Demography**	Low fertility and mortality	High fertility and mortality
7.	**Politics**	Greater representation of liberal and radical elements	Conservative, resistance to change
8.	**Ethnicity**	Varied	More homogeneous
9.	**Migration Levels**	High and generally net immigration	Low and generally net outmigration

Although, only quantitative data such as demography and size is not enough for the sociologists to define urban areas, it is widely used by the countries for administrative purposes. Every country needs to define their urban region to use in legislation practices. In Turkey, the urban area is defined by 1924 dated 442 numbered Village Law (18/03/1924). According to the Law (1924), the settlement with a population less than 2.000 inhabitants are called '*Village*', with a population between 2.000 and 20.000 inhabitants are called '*Town*' and with a population more than 20.000 are called '*Urban*'. Unlike Turkey, some other countries take the density level as the main criterion to decide their urban areas. For example, In France, the settlements with a density more than 500 persons per km^2 and in Germany 2.500 persons per km^2 accepted as urban (Kaya, Şentürk, Danış, & Şimşek, 2007).

2.1.1 The New Tendencies in Urban and Rural Definitions

Lynch (2005) claims that "the rapid population growth of third world cities gives rise to concerns about the changing nature of the relationship between urban and rural." Despite of all varieties of urban definitions mentioned above, there is a discussion on the possibility of making clear distinction between rural and urban areas whose relationship is getting more complex. Because of the rapid urbanization and urban sprawl, there is no exact limit and boundaries of rural and urban areas anymore. According to Champion (2004), there is a necessity to redefine the urban and rural, because of the permeable interaction and fluid activities. Moreover, he claims that making a clear-cut urban rural split is very inefficient way of categorizing, as much as it is difficult too. Champion and Hugo mention about three challenges to indicate the simple urban rural distinction: increasingly blurring of urban rural split; multi-dimensional nature of settlements; and the emergence of new urban form. Moreover, Champion and Hugo (2004) assert that the blurring in the urban rural dichotomy is caused by the massive changes in size, extent and nature of settlements.

Tacoli (1998) focuses on the integration of urban and rural, and indicates that there are the movements of people, goods, capital and other social transactions which serve the inter connection between urban centers and the country sides and provide exchange between them. According to author, there are also sector interactions which have spatial effects. For example, there is a significant increase in the number of households who continue to engage agricultural activities even though they live in urban areas like households who occupy with non agricultural activities although they live in rural areas. Since immigrants could not cut their relation with rural areas and their relatives immediately, they can continue to live in urban areas by combining urban and rural way of life by agricultural facilities (Tacoli, 1998). They exchange knowledge and resources, and they tend to supply their food by growing fruits, vegetables etc. Another invalid assumption is that the development always associated with the urban areas and so the rural was taken outside of this development. However, today rural areas have also significant role in economic, social and spatial development (Öğdül, 2010). Considering the city affected the whole region around of it, the rural and the urban counterparts could not be thought apart from each other anymore.

2.2 The Integration Models of Urban and Rural

There are many terms such as periurban, suburban, urban fringe, or edge city to be able to define the interrelation between urban and rural surrounded it. There are some models which cannot be explained by these terms and have significant contribution to integration of urban and rural and get rid of the borders between them. The first attempt was done by Ebenezer Howard (1891). Howard has significant contribution to the idea of living together harmoniously. In the 19th century, Howard proposed *Garden City* model which turned to an important movement and resulted founding of several garden cities in Britain. Another interesting model is *Desakota* model emerged in the late 20th century in Asia and analyzed by McGee (1991). This model shows totally different characteristic comparing with western world's urban and rural relation.

2.2.1 Garden City Model

"Town and country must be married, and out of this joyous union will spring a new hope, a new life, a new civilization" (Howard,1902, p.10). The effort to make a city which combined the rural and the urban is not new. Among many Utopians of 19th century the "Garden City" proposal of Ebenezer Howard got magnificent attention and took a place in history as an important movement in City Planning. Howard reahed his theory by the chaotic context of 19 th century industrial city; London. He aimed to find solution to the o the social and environmental problems surrounded him. Miller (2010) reports that "by the mid of 19 th century, over half of Britain's population lived in towns: in 1900 the proportion had risen over three quarters." The migration which was going on from the English agricultural district to the already overcrowded cities was the main problem and leads the people concern for the London's future. Howard's "Garden City Movement" which proposes a new relationship between town and country, emerged in such an environment. Dean Farrer describes his concern about the situation of the London in the book of Howard's Garden City Movement:

> *We are becoming a land of great cities. Villages are stationary or receding; cities are enormously increasing. And it be true that great cities tend more and more to become the graves of the physique of our race, can we wonder at it when we see the houses so foul, so squalid, so ill-drained, so vitiated by neglect and dirt?* (Howard, 1902, p.3)

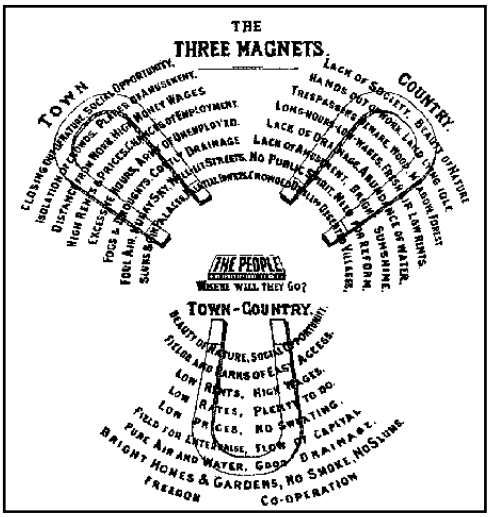

Figure 2-1The three magnet concept (source: Howard, 1902)

Howard focused on that problem: How to restore the people to the land contrary to the population growth in the cities. He found the solution in The 3 Magnet Concept. According to Howard, "…each city may seem (may be regarded) as a magnet, each person as a needle". (Howard, 1902, p.6) He assumes that the town and the country act as magnets which draw the people to them by their advantages but they both have some disadvantages. The solution which overcomes the force of the attraction of the town and the country is to create new attractions. For this aim, he proposed Town-Country model whose advantages are seen to be free from the disadvantages of either. By this way "Human society and the beauty of nature are meant to be enjoyed together." (Howard, 1902, p.9) Howard explained this in 3 Magnet Model which summarized urban and rural problems: in the town , opportunity, leisure, employment and relatively high wages were counterbalanced by environmental and moral problems, while in the country the benefits of fresh air and rural amenity were offset by social control and low wages. The solution lay on the town-country magnet, the garden city, server of a healthy environment and a new way of life. (Howard, 1902)

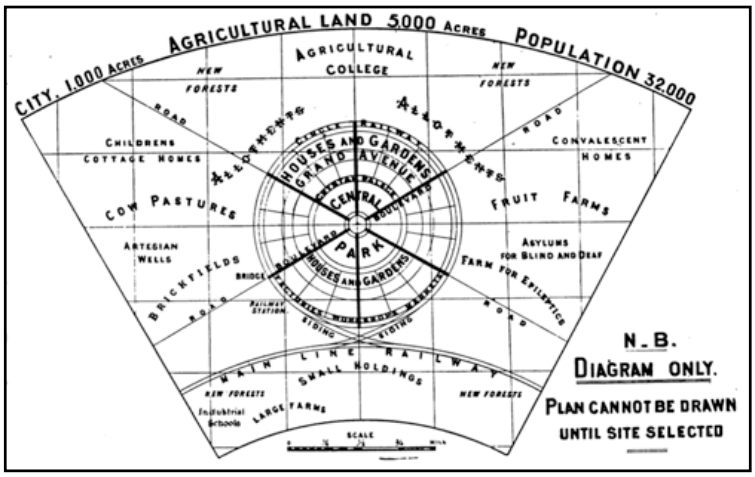

Figure 2-2 Garden city diagram (source: Howard, 1902)

"*The refuse of the town is utilized on the agricultural portions of the estate, which are held by various individuals in large farms, small holdings, allotments, cow pastures, etc.;the natural competition of these various methods of agriculture, tested by the willingness of occupiers to offer the highest rent to the municipality, tending to bring about the best system of husbandry, or, what is more probable, the best systems adapted for various purposes."* (Howard, 1902)

2.2.2 Desakota Model

The rapid urbanization has followed a different process in Asia since the late 20th century with respect to the developed countries in the Western world. (Mc Gee, 1987) This process leads to a new model of extended metropolitan region which makes the urban-rural distinction ambiguous. The main difference is that while the western urbanization brings about a massive migration from rural areas to the big cities which make the cities extend and over-crowded, in Asia, urbanization takes place mainly in already crowded rural areas between big cities (Suia & Zeng, 2000). Therefore, people do not need to change their place for economic reasons; instead they change their economic life which shifts from agricultural activities to non-agricultural activities. This different urbanization process contributes to a new type of landscape in Asia. Mc Gee (1991) describes that new type of Asian urban-rural integration way called *desakota*, an Indonesian word means village-town. Moreover, the process of emerging that new kind of territorial formation is called *desakotasi*. The concept first raised in the densely populated region of South-East Asia: in Javanese Island of Indonesia (McGee, 1991). It has spread to most of South Asia, China and others less industrialized countries. (Desakota Study Team (DST), 2008) McGee (1991) defines desakota as:

"Distinctive areas of agricultural and non-agricultural activity are emerging adjacent to and between urban cores, which are a direct response to pre-existing conditions, time-space collapse, economic change, technological developments, and labour force change occurring in a different manner and mix from the operation of these factors in the Western industrialized countries in the nineteenth and early twentieth centuries." (McGee,1991)

According to Ginsburg (1991) and McGee (1991), in these desakota regions, mixtures of agricultural and non-agricultural activities are taking place together. They lie along corridors between big cities and create a new morphological pattern described in the McGee-Ginsburg model Figure 1 (Suia & Zeng, 2000) The McGee-Ginsburg model challenges the simple accepted dichotomy approaches between rural and urban areas.

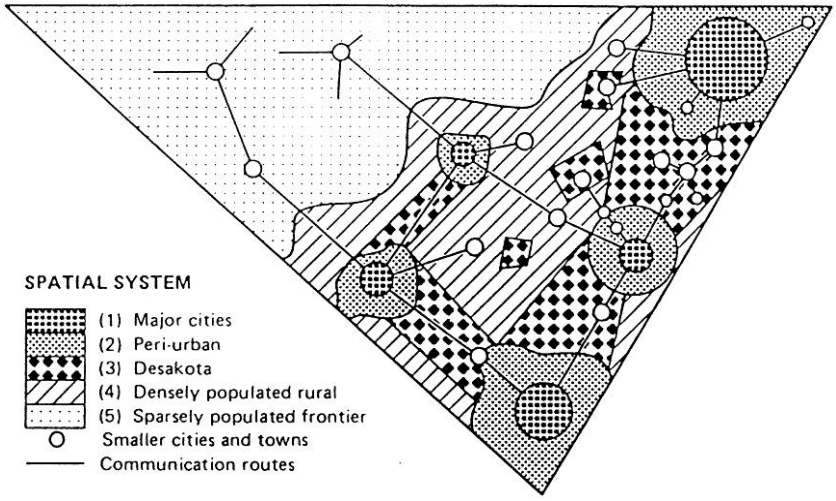

Figure 2-3 The McGee-Ginsburg model: the emerging *desakota* regions in Asia.
(source: Suia & Zeng, 2000)

The Desakota regions are connected by cheap transportation network to the big cities. They are also connected to the urban centers with closely integrated livelihoods, economic activities, and communication routs. This strong connection enables the exchange of goods, information, people, and finance between production and consumption areas in desakota regions. (DST, 2008)

2.2.3 The Interpretations of Integration models

Garden City model of Ebenezer Howard (1891) and *Desakota* model analyzed by McGee (1991) are two different examples which show alternative relations between agriculture and urban areas. These models show totally different characteristic comparing with western world's urban and rural relation. They cannot be explained by clear cut distinction between urban and rural. Agriculture actively takes place in these models and be part of urban life. They have significant contribution to integration of urban and rural and get rid of the borders between them.

CHAPTER 3

URBAN AGRICULTURE

3.1 The Emergence of Urban Agriculture

In fact, the idea of growing food in urban areas beyond rural agriculture practice is not new. The conventional view about the emergence of cities asserts that agriculture comes first, then the cities arise upon the agricultural base which sustains the city (Childe, 1963). Bairoch (1988) estimates that agriculture had been emerged by Neolithic revolution and enabled denser human settlements and thereby they supported city development. Considering these theories, urban agriculture could be considered as returning to the period of emergence of cities. However, this view is not precise. Jane Jacobs (1969) claims that urban existence is not presupposed by agricultural economy which is located within the city. Regardless of which theory is true, there is a certain fact that agriculture and city have been always two complementary side of human system from ancient time to present.

Smith (2002) indicates that "Urban agriculture is a new and ancient aspect of urban landscapes, economies and lifestyles." (para.1). One of the most known examples of urban agriculture in history is 16th century Machu Picchu (Smith, 2002). The Spanish conquerors of Peru, was self sufficient and had special irrigation, terracing, waste management and storage system. Hundred years later, in. In the modern world, UA is essential for urban inhabitants during difficult times like war, disasters and depressions. In 19th century, allotment gardens were emerged because of the poverty and hunger problems caused by rapid urbanization in the country (Dresher, 2001). During the First and Second World Wars, the allotment gardens become significant because of the limited access to food. In the Second World War in Britain, the Dig for Victory campaign left much urban land to the citizens to

cultivate (Deelstra & Girardet, 2000). These are the attempts of citizens to survive in time of crises. Urban agriculture has risen in such conditions and becomes a significant phenomenon in the last decades of this century. Today, it may be argued that people are face to a new kind of crises like high urbanization, unemployment rates, and poverty which force people to cultivate every available land in urban areas. In 1996, United Nations Development Programme (UNDP) stated that in the early 1990s, UA had been practiced by some 800 million people worldwide. It is getting importance in parallel with the rapid urbanization rates.

Most of the available data in French and English literature are for the cities which situated in Africa, Asia, and Europe, with a few in Latin America (Mougeot, 2005). Mostly in developing countries, people occupy urban areas for cultivation so that they can survive in crowded cities. UA is significant to deal with the urbanization especially for urban poor and it seems as a solution to food shortage. In countries such as Zimbabwe, Kenya, Uganda and Haiti, where poor households are engaging in UA to have lower food insecurity and a more balanced diet, children have better health and nutritional status than the poor's who do not engage in UA (Maxwell, 1995; ENDA-ZW, 1997; Foeken and Mwangi, 2000; Regis et al, 2000, as cited in Mougeot, 2005). Furthermore, there are also contributions of urban agriculture to sustainable life, and because of all of them agriculture is widespread to the world. In Europe, today allotment gardens are used mostly for recreational proposes and it shapes the social life, unlike its history (Drescher, 2001). Nevertheless, it still remains its potential to be source of food in time of threat in the future.

The local authorities, national governments and the international agencies give big importance to UA**.** Food and Agriculture Organization (FAO), United Nations Development Program (UNDP), International Development Research Center (IDRC), Resource Centres on Urban Agriculture and Food security (RUAF) are some of these important and active associations. They published reports highlighting the current situation of UA and work for raising awareness on its importance, potentials and risks. UA has seen as an essential element for achieving to Millennium Development Goals, adopted by United Nations (UN) member

states in 2000, set out broad goals related to poverty reduction and environmental sustainability. By the important efforts of the agencies, today there is widespread awareness in local authorities on agriculture in or around the cities for its potential and contribution to the urban life (Mougeot, 2000).

3.2 The Common Definitions of Urban Agriculture

In the official website of RUAF, UA is defined shortly as "growing of plants and raising of animals within and around cities". (n.d.) Broadly speaking, urban agriculture can be understood as agricultural activities taking place in or around urban areas. However, there is a complex network of relations consisted by UA. Therefore, it is required to define it more clearly in order to understand this complexity. Today most accepted definition is Mougeot's (2000) definition[1] of UA:

"Urban agriculture is an industry located within (intra-urban) or on the fringe (peri-urban) of a town, a city or a metropolis, which grows and raises, processes and distributes a diversity of food and non food products, (re-)using largely human and material resources, products and services found in and around that urban area, and in turn supplying human and material resources, products and services largely to that urban area." (p10)

According to Mougeot (2000), the attempt to define UA are depends on the following common criteria (see Figure 3.1); "Types of economic activities; Types of products; The character of location; Types of areas, Product destination; Production system (scale of)" (p5) Except destination, other criteria seem adoptable to rural agriculture too. Mougeot (2000) takes account of the fact that the common definitions of UA tend to ignore the main character of UA, which belong to *urban*. Whereas UA shows different characteristics than rural agriculture, it serves as a complementary element of rural agriculture by supplying perishable products, fresh milk and poultry products.

[1] This definition is based on the work of Luc Mougeot of the International Development Research Centre and used in technical and training publications by UN-HABITAT's Urban Management Programme , FAO's Special Programme for Food Security, and international agricultural research centres, such as CIRAD

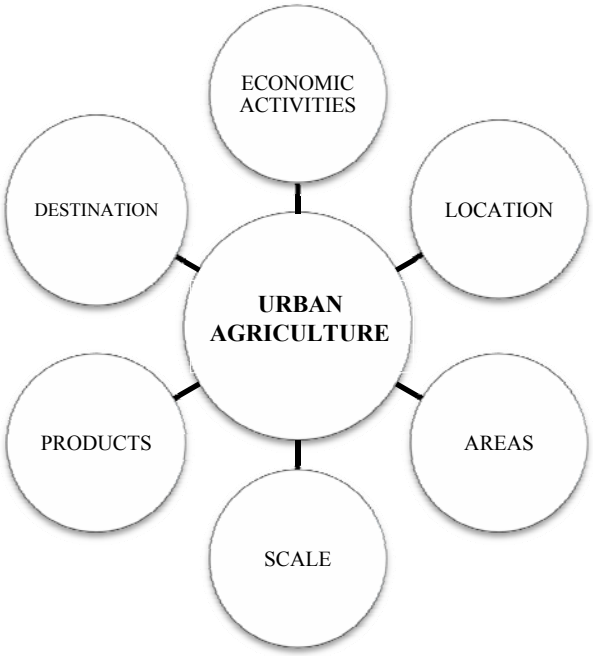

Figure 3-1 Urban agriculture: common dimensions (reproduced from Mougeot, 2000)

The main distinguishing characteristic is that UA is embedded directly in urban economic, social and ecological system (Mougeot, 2000). Urban agriculture provides food for urban citizens by using urban resources and serves social spaces and meanwhile affects the urban systems (Veenhuizen, 2006). Consequently, the impacts of urban agriculture could be studied mainly in three groups which are economic, social and environmental impacts.

3.2.1 Economic Impacts

Although the benefits of UA change according to time and space, its most apparent benefit is solving hunger and malnutrition problems in the city. The opportunities of UA for households and community level are mainly; it increases income, creates new jobs, provides food security, better health and nutrition. Mougeot (2005) addresses two main reasons why people cultivate city: *food security* and *poverty.* Regarding that UA is a source of food and income; it has particularly significant impacts on economy. People tend to cultivate their land to have more independent family economy and to be self sufficient.

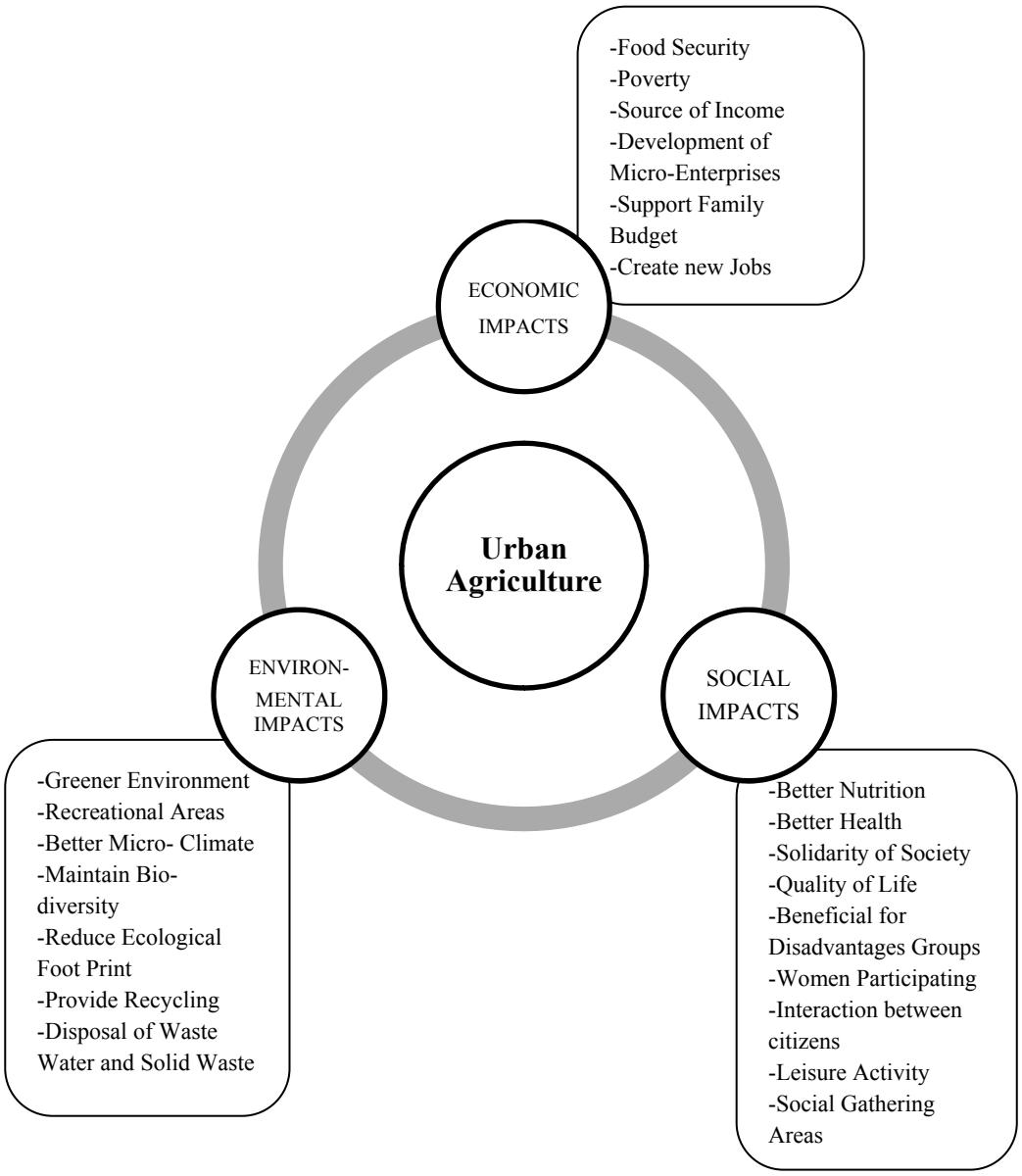

Figure 3-2 The main impacts of urban agriculture (drawn by author)

In developing countries, UA has a crucial role on especially for poor citizens. The families with low incomes use approximately 50-80 per cent of their income on food consumption, and it is still not enough for their daily dietary (Mougeot, 2005). By UA they can obtain their food from their garden or another vacant plot of the city. Therefore, they can spend their money for other family requirements such as other foods and cloths. In addition to self consumption, they also have opportunity

to sell the surplus products on markets (Veenhuizen, 2006). This also generates income that can be used for other basic needs or the education of their children (Mougeot, 2005). The surplus production creates effective economy consists of many stake holders in the process from gardeners to consumers; transporters, inputs suppliers, the retailers.

Urban agriculture also stimulates the development of micro-enterprises for the production of necessary agricultural inputs (eg. fodder, compost, and earthworms), the processing, packaging and marketing of products and the rendering of other services (eg. animal health services, bookkeeping, transportation) (Veenhuizen, 2006, p4).

Moreover, since the production is practiced inner city: food-related transportation, packaging and marketing costs reduced to minimum level and providing fresh food for large communities in every seasons become possible.

3.2.2 Social Impacts

The social opportunities of UA for households and community level are mainly; it serves better health and nutrition, increase the interaction between citizens, greener environment and in consequence enhanced life quality of community. All of these opportunities create the bases of solidarity in society. Citizens are sharing info about agricultural technical methods in their associations in some cases like Germany.

Another significant benefit of UA is the active role of women in UA gardens whereas the gender ratio differs from city to city regarding to cultural/religious context, the economic conditions and scale of the production (Mougeot, 2000). Some UA farms or household gardens are suitable for women to participate the city life. They produced and sell products, by this way they can contribute to household income. UA is important for women who aim to support their family budget and supply food for their families (Dennery 1996, Maxwell 1995). Thereby, they can participate to formal economy by UA. They find chance to work close to home and balanced their role on food management.

Another benefit is on social structure of the city; urban agriculture may be an effective tool for disadvantages groups *"such as immigrants, HIV-AIDS affected households, disabled people, female-headed households with children, elderly people without pension, youngsters without a job"* (Gonzalez Novo and Murphy, 2000 as cited in Veenhuizen, 2006, p.4) They could integrating to social life and social problems would be prevented in society. For high income level citizens like in Germany, the gardens serve as social gathering places. People use them in their holidays to feel the nature in their near environment. They grow vegetables and fruits for food security, for leisure.

3.2.3 Environmental Impacts

UA has considerable positive impacts on environment. UA serves green environment in city centers and works as recreational areas. In addition to greening the city, it provides betterment on urban micro-climate and maintained biodiversity. Moreover, it reduces the ecological footprint of the city by reducing energy required for transportation of agricultural products which is produced already inner city, this also reduced the energy for packaging ,cooling, etc. (Veenhuizen, 2006).

Using the organic fertilizer rather than chemical pesticides in UA is beneficial for environment too. Use of manure or organic composting is a traditional way of rural agriculture. Farmers should be encouraged to use organic inputs and fertilizers by municipalities even policy makers. Regarding the disposal of waste water and solid waste are problematic for city municipalities, UA solve this problem by using waste water and organic solid wastes as inputs of agriculture through compost production, vermiculture, and irrigation with wastewater (Veenhuizen, 2006). Smit and Nasr estimate that (1992) "Urban Agriculture is a clear and significant example of this possibility of converting the consume-dispose open loops into consume-process-reuse closed loops." UA is a way of landscape beautification. In developed world, they are used for their aesthetic and recreational functions by citizens who

need both green spaces and social gathering places in their immediate environment. They are healthy spaces for people who want to experience with the nature and city life at the same time.

3.3 The Different Practices of Urban Agriculture

3.3.1 Urban Agriculture in the Case of Cuba

3.3.1.1 The Emergence of Urban Agriculture in Cuba

In 1989, Cuba experienced the biggest economic crisis of its history after the revolution in 1959 because of the collapse of Soviet Union and its economic support together with tightening of US trade embargo (Chaplowe, 1998). The cries stroked predominantly the food and agricultural sector. Due to the American embargo after the revolution, Cuba had to turn its face to Socialist Bloc to survive. By the support of Socialist Bloc, Cuba had got a rapid modernization and development in the island comparing with the rest of Caribbean and Latin America (Rosset, 1997). The Socialist Block supply not only manufactured goods and foodstuffs, but also raw agricultural inputs like fertilizer, pesticide and minerals. Moreover Cuba was able to export sugar to Soviet Union, for the price 5.4 times higher than the other countries (Pastor, 1992 as cited in Rosset, 1997). Cuba also was able to import petroleum in return. As a result of this favorable term of trade agreement with Socialist Block Trade Organization (CMEA - The Council for Mutual Economic Assistance), Cuba had invested considerably in modernization of national agriculture on the basis of mechanization with intensive use of chemical inputs (Chaplowe, 1998). By the exhaustion of the favorable trade agreements with Soviet Bloc countries, Cuba plugged into the critical food insecurity problems. In 1991, the government declared the ‘Special Period in Time of Peace’ to be able to cope with the crisis. (Rosset, 1997)

Before the economic crisis, agriculture had focused on the monocrop production; mainly sugarcane and exported crops. The caloric intake of the Cuban which 57 percent of it was providing by import decreased more than half (Rosset &

Benjamin, 1994). Similarly, Cuban imports of fertilizer and pesticide decreased more than 80 percent and the petroleum, the main energy source for agricultural production, decreased %50 percent (Rosset & Benjamin, 1994). Considering all of this circumstances, the agriculture and food security were affected significantly by the crisis.

Special period brings about many reforms in Cuban economic and political life. One of the most important reforms was that the Cuban Government admitted decentralization resulted in allocation of the services from state to private or non-state organizations (Premat, 2003). That means a big change in Cuban national political strategy. Until that day, state was the primary food supplier for society and also the buyer of agricultural product from private farmers. However, in 1989, in Special Period, government lost its ability to grown food on its large state farms and unable to allocate food for the cities (Premat, 2003). Their political strategy turns to decentralization and localized food production. The reforms took placed in Cuba by usufruct rights. The state leaves the 70 per cent of Cuba's land to the private individuals or to gardeners associations and cooperatives (Burchardt 2000 as cited in Premat, 2003). Premat (2000) claims that the state changed its communitarian policy by encouraging individual farming.

3.3.1.2 The General Characteristics of Urban Agriculture in Cuba

In the challenging circumstances of the Special Period, urban agriculture by the support of Cuban government has taken a survival role. Considering that urban areas are the most effected places by the crisis and Cuban population was highly urbanized; in the late of 1980s, 69 percent of the country was living in urban areas. (Rosset & Benjamin, 1994), it is not surprising to see urban agriculture as the solution of the food shortage. The capital city Havana by its 2.5 million citizens which is equal to the one fifth of Cuba's total population got most degradation by the food shortage (Chaplowe, 1996). Consequently, Havana has taken most of the attention by the National Food Program of the government.

The only problem of urban areas was not just to be devoid of food, the lack of petroleum was also an important problem since it is necessary for transportation, refrigeration and storage of the food coming from the rural areas (Chaplowe, 1998). By urban agriculture which is located in or closer to the cities, Cubans were able to reduce their dependency on oil and the cost of refrigeration and storage.

In 1991 in addition to previously state owned lands, the urban plots which were not used for agriculture were started to use for cultivation. Raul Castro Ruz (1994), revolutionary leader of Cuba declared that "*Today, we are affirming that beans are more valuable than guns."* Food problem got priority in government and society. It turns to a national struggle and duty of all persons in the society (Premat, 2003). Citizens of Havana responded to crisis by gardening in front of or near their homes. The situation was recognized by the government and in 1994 the Cuban Ministry of Agriculture (MINAGRI) decided to support this movement by opening Urban Agriculture Department by the aim of transforming all open lands into productive gardens.

As Novo & Murphy (2000) cited that according to the law accepted by The Havana City Government, the use of chemical inputs in cultivation within the city limits was prohibited. As a result, chemical fertilizers were replaced by biofertilizer and biopesticides in gardens. Furthermore, they compound biotechnology with pest management, vermiculture, waste recycling and other ecologically rational practices. (Rosset, 1997) By this way, organic agriculture methods gain importance and improved by new research. Fortunately, Cuban scientists were prepared to cope with the cries before 1989. They had started to investigate the alternative methods for agriculture which can provide the control of insect pest and traditional methods which can replace by chemical inputs (Rosset, 1997).

3.3.1.3 Organization of Urban Agriculture in Cuba

As mentioned above, in the time of special period Cuba turned to local economic resources and changed the structure of its economic concepts. Government gave big importance to decentralization and tried to change the strong centralized body of economy (Cruz & Medina, 2003). Among of all the attempts there are two significant economic reforms in Cuban agriculture system: *re-organization of the state farms* and *opening of the free agricultural markets* (Deere, 1997).

Until the 90's Cuban national agriculture carried out by huge state farms. As an important modification in Cuban economy, in September 1993, the Cuban government transformed this large state farms to the smaller scale worker owned and managed co-operatives called Basic Units of Production (*Unidades Básicas de Producción Cooperativa* (UBPCs) (Novo & Murphy, 2000). In this cooperation system, the state is leasing the land to the workers for free in for permanent cultivation. The members of the cooperatives get the new owners of the land and the equipment in it. At the end of the harvest, they are also owner of what they produce. The workers can select a management team for cooperatives among themselves. With that law, the government aims to connect workers to the land. Since the workers have direct autonomy to control the land and the production, they are feeling more responsible and improve solidarity in the community (Novo & Murphy, 2000).

The black market in which food prices got escalated enormously turned to a dangerous situation. The fruits were rotted in the field or warehouses because of the lack of transportation. As a result, it was getting more difficult for citizens to reach the food in the state chain. Following to state farm reform, in October 1994 the free agricultural markets had opened (Deere, 1997). By the opening of new free agricultural market, it is aimed to improve the productivity of UBPCs and support individual farmers and private cooperatives through free market sales. In the same

year, 121 free markets opened around the country. To be able to sell the surplus products directly to consumers in these markets, most producers have to get state contract which they take part in the state distribution chain (Novo & Murphy, 2000).

3.3.1.4 The Garden Types of Cuban Urban Agriculture

Urban agriculture in Havana is experienced in many forms which differ according to characteristics of the soil and location. These gardens increased the agricultural production and husbandry in the neighborhoods where food scarcity is seen. Altieri et al. (1999) examine the types of gardens into 7 groups: Intensive Gardens, Organop´onicos, Suburban farms, Popular Gardens, Enterprise and Factory Gardens, Hydroponics, and Household Gardens. (as shown in Table 3.1)

The primary used garden types are the *organopónicos* and *intensive gardens*. In fact, the first *organopónicos* was built by Cuban army in 1987, after three years, it started to be installed by civil people (Koont, 2009). The *organopónicos* differ from *intensive gardens* in terms of the quality of soil. While in *organopónicos* cultivation occurs in raised bed, in intensive garden, cultivation occurred in already existing soil of the garden. In *organopónicos,* the land are divided into the rectangular pieces which are surrounded by walls. Since the existing soil is not good enough, cultivation occurred in prepared mixture of high quality soil and organic inputs in these wall surrounded raised beds. On the other hand, in intensive gardens, the walls are not needed since the soil is adequate to mixed with fertilizers or other organic material.

Table 3-1 The general types of urban gardens in Cuba (reproduced from Altieri et al., 1999)

Garden Type	Location	Main Characteristics
Intensive gardens	In areas with high quality soils, drainage, and adequate water	Seeds are planted directly into fertilized soil.
Organop´onicos	In areas with poor soil	Cultivation occurs in containers or raised beds filled with organic matter and soil mix.
Suburban farms	In the periphery of densely populated urban areas	Larger units. Use methods of cultivation that utilize locally produced inputs and minimize synthetic inputs.
Popular gardens	In reclaimed dumps and vacant lots in urban and suburban areas	Cultivated by community gardening organizations.
Enterprise and factory gardens	Located on or near the property of factories and businesses.	Produce used to promote self-sufficiency by feeding factory workers and their families.
Hydroponics	Plants cultivated indoors in a nutrient rich solution.	Least extensive type of garden due to higher costs.
Household gardens	In Households gardens	Gardens cultivated by individuals in their own yards with a high variation in size and type of produce.

Figure 3-3 Organopónicos in Havana (source: Novo & Murphy, 2000)

Popular gardens (*huertos populares*) are the most widespread gardens in Havana (Chaplowe, 1996). Popular gardens are cultivated by individuals or communities. They take place generally in parks, in vacant or abandoned plots which were previously full of garbage (Altieri et al 1999). These state owned lands which citizens have the usufructs rights, transferred to the green vegetable gardens later called *parcelas* (Premat, 2009). (see Figure 3.4) In addition the state land, the private gardens of houses even the rooftops have turned to the vegetable sites and small husbandry places. These places have started to be known as *patios*. (see Figure 3.5) (Premat, 2009) Premat describes the parcelas as:

The parcelas of Havana are urban lots of no more than 1000 m2, given in usufruct to private citizens who work them primarily for the purpose of family self provisioning, although sales are allowed either on-site or through agricultural stalls. (Premat, 2009, *p.88*)

Chaplowe (1996) addresses that just four years later after the program for popular gardens first began, in 1995, 26,600 popular gardens were calculated throughout the 43 urban districts which build Havana's 15 municipalities.

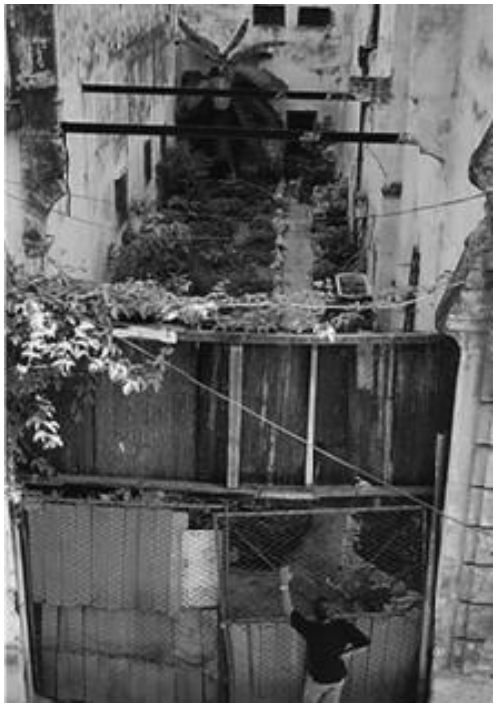

Figure 3-4 (right) Parcelas in the center of Havana, 2001 (source: Premat, 2009)

Figure 3-5 (left) Street view of rooftop, garden with corn, 2004 (source: Premat, 2009)

Most popular gardens are used for providing the need of the households. However, they give significant portion of the products to the institutions like hospitals, childcare centers or the needy neighbors; they also can sell some part of the production for profit (Altieri et al., 1999). People can be organized by one household or more than one household who are sharing the land. The number of participants differs from one to seventy people (Altieri et al., 1999). Premat (2003) says that "In spite of their prior definition and use as 'public' land, once brought under agricultural production, parcelas became absorbed into the private domain in both appearance and function." (p.88)

Figure 3-6 Organopónicos in Havana, Cuba (source: Bourque & Cañizares, 2000)

There is a strong state provision on Cuban urban agriculture system. The government plays an important role in the organization of urban farming. Any citizens who want to cultivate the land, can obtain unused even it is owned privately land from *Poder Popular* (People' Power) (Altieri et al., 1999). People do not need pay as long as the land cultivated. Before 1989 the residents are not familiar with urban agriculture in Havana. In fact they never need to grow their own food because they can supply it by the state (Novo & Murphy, 2000).The government attaches importance to provide the material and technical support to the new urban gardeners.

There are agricultural information offices founded by the Ministry of Agriculture (MINAGRI) in 1991 (Cruz & Medina, 2003). These offices aim to support the urban gardeners who just started to produce and offer them services of technical assistance. They also supply seed and seedling exchanges and organize meetings to exchange experience and ideas. Another service is afforded by MINAGRI is state owned seed houses (Casa de Semillas) (Altieri et al 1999). The farmers can find any agricultural inputs like medicinal seeds and seedlings, biological pesticides and

organic fertilizer which are difficult to find in Special Period **(**Chaplowe, 1996). In addition to MINAGRI, there are also some non-governmental organizations (NGOs) which have also an effective role to support the gardens.

Another option for gardeners is to be organized by *horticulture clubs* which they can share the information, experience, and technical knowledge among themselves. (Chaplowe, 1996) They can meet regularly and arrange workshops to educate the community on organic agriculture.

3.3.1.5 The Impacts of Urban Agriculture

Regarding the Cuban urban agriculture process in the last two decades, it could be summarized that urban agriculture has a crucial economic, environmental, and social impacts in citizen's life. Its main contribution is that it provides achieving to the food security in the country. It solves the problem of food shortage and gets an important source of fresh food for the Cuban urban centers. In view of the significant support of the state and solidarity between gardeners, hundreds of vacant lots and abandoned areas which were previously full of garbage have been altered into green gardens as source of food and healthy environment.

Cuba gets less dependent economy by agricultural reforms. Many new jobs have emerged and that provides important contribution to the economic life of Cuba. Concepción (2007) asserts that over 350,000 new jobs emerged in the urban agriculture program which consists twenty-eight sub-programs on crops, animal, husbandry and support sector in the last twelve years (as cited in Koont, 2009). Thus agriculture increased the welfare of not just individuals but also the society as a whole. Furthermore, urban agriculture results in the incorporation of woman and young workers into agricultural employment (Koont, 2009).

Urban agriculture has given the producers and consumers a chance to be connected in urban areas via varied products. Women and retired man participated to economic and also social life. Urban agriculture serves the solidarity of Cuban

citizens. They struggle by the food shortage as a nation. Premat (2003) calls attention to the *feeling of independence* which gardeners get through their gardens. Since they can get the life sustaining food by themselves in their gardens without needing to any other person or institution, they feel themselves independent and self sufficient.

The other point is that although the gardeners can sell their product, they don't give up sharing the food with the people who need them and also with the schools, hospital etc. Premat (2003) remarks that sharing is not something forced by the authority but rather something consisted in their humanity. People maintain communitarian values like sharing and cooperation by themselves not by the force of the authority. The author claims that even the parcelas shows some "signs of privatization and segregation", they still depend to the solidarity of the communitarian values.

There are also some limitations of urban agriculture in Havana. One of the major restrictions is the low quality of the topsoil. The others are the scarcity of available land in urban areas. Another difficulty is the scarcity of water. Gardeners complicated about the robbery. "Depending on location, season, and crops grown, insect pests, diseases, and weeds can limit production in urban agricultural systems." (Altieri et al., 1999, p.134)

3.3.2 Urban Agriculture in the Case of Germany; Allotment Gardens

Allotment garden is one of the prevalent ways of urban agriculture within the last decades of 20th century. More than 150 years ago a new type of gardening emerged in Europea and get widely popular in time. These gardens are seen not only in European countries, but also in China, Japan, Russia, America and Canada as well (Groening, 1996). Among all of the countries, Germany has got a significant place since there is a big interest arrived by public and also state to the allotment gardens in Germany.

An *allotment garden* is a piece of land where people can grow their own fruits and vegetables for home consumption in a non-professional way. The allotment gardens differ from community gardens in terms of cultivation methods. In the former the land is cultivated individually, whereas in the latter, the land is cultivated collectively (MacNair, 2002). The sizes of these individual gardens vary approximately between 200 and 400 square meter and usually have a shelter for storing the gardening tools (Dresher, 2001). They are generally situated within groups of a few or several hundreds of gardens adjacent to each other named as *Allotment Association*. They enable people from diverse income level to access fresh food and also provide green spaces for them. These gardens play an important role in food security, city landscape and waste management. They also serve as the gathering places for the inhabitants coming from different social group. Regarding its contribution to the urban life, the allotment gardening has considerable environmental, social and economic impacts. Therefore, it is possible to see them in many different countries around the world. However, the organizational structure and the implementations vary from country to country.

Figure 3-7 An allotment garden in Dresden
(retrieved April, 2012 from www.flickr.com/henteaser)

In the case of Germany, the role of allotment gardens ([2]Kleingarten* or Schrebergarten*) evolved gradually according to the social, political and economical conditions. Although in Germany economical impacts were the major issue in the past, recently social and environmental impacts have gained importance. According to BDG's (Bundesverband Deutscher Gartenfreunde*-The German Leisure Garden Federation) (n.d.) official website, today there are 1.000.000 allotment gardens throughout Germany and these gardens cover an area of more than 46.000 hectares. Five million gardeners use them for grown fruit and vegetables and recreational purposes.

3.3.2.1 The History of German Allotment Gardens

Allotment gardens emerged because of the poverty and hunger problems of the 19th century Europe. Therefore, they are called *gardens for the poor* when they first appeared (Dresher, 2001). Rapid industrialization and urbanization forced people to migrate from rural areas to already over-crowded cities with the expectation of better life conditions. However, those who migrated began to live under poor circumstances, e.g. they lived in ill-suited houses and have limited access to food. To better the life standards of immigrants, some factory owners and municipalities gave the workers small plots of land so that they could grow their own vegetables and fruits (Dresher, 2001). For example, the state-owned railway company provided the small plots next to the railway to their workers. In that way the employers not only provide the sources of food for their workers but also support workers' income. This might be the reason that the allotment gardens seen today are mostly situated near railways in Germany.

The first organized allotment garden association was founded in Leipzig in 1864 as a children playground out of the city. The association was named *Schreberverein** after the doctor Daniel Gottlob Moritz Schreber (1808v -1861), who was associated always with the idea of allotment gardens in Germany (Groening, 1996). Schreber was the head of the orthopedic clinic. He suggested outdoor physical training for children's health. To be able to that, children should be keep away from the streets

[1.]The words with that sign * are always used in German.

and bring to the natural spaces. Just after opening of the first association of allotment gardens, the children were replaced by their families, who started to grow vegetables and fruits in those gardens. The allotment gardens still called *Schrebergarden* in Germany.

During the First and Second World Wars, the allotment gardens gained significance because of the food shortage problems. People had difficulties to reach the agricultural products coming from the rural hinterland of the cities. Therefore, they started to grow their own vegetables and fruits in home gardens or allotment gardens, which were also used as the shelter for the people whose houses were bombed during the war. Groening (1996) reports that while at the beginning of 1930's the number of allotment gardens in Germany was about 450.000, in 1949, just four years after the end of World War II, the number increased to 800 000. Because of the growing demand for allotment gardens, The German government decide to support the gardening movement and passed the first Act of Allotment garden named *Small Garden and Small-Rent Land Law* in 1919 (Groening, 1996). This act has undergone change many times. Finally, in 1983 this act was replaced by the *Federal Allotment Gardens Act*. (Bundeskleingartengesetz*)

Figure 3-8 Overview of an Allotment Garden in Hamburg-Mitte
(retrieved April, 2012 from Google Earth)

3.3.2.2 The Institution of German Allotment Gardens

As mentioned above, in Germany, the term and the function of allotment gardens are defined by a specific law, Federal Law of Allotments. The allotment gardens are administered by the associations or garden clubs, and the associations are organized under the roof of the German Leisure Garden Federation (Bundesverband Deutscher Gartenfreunde*), i.e. Federal Union organization of Germany. According to their official website (n.d), there are approximately 115.000 local associations controlled by 20 State unions. (BDG- Bundesverband Deutscher Gartenfreunde)

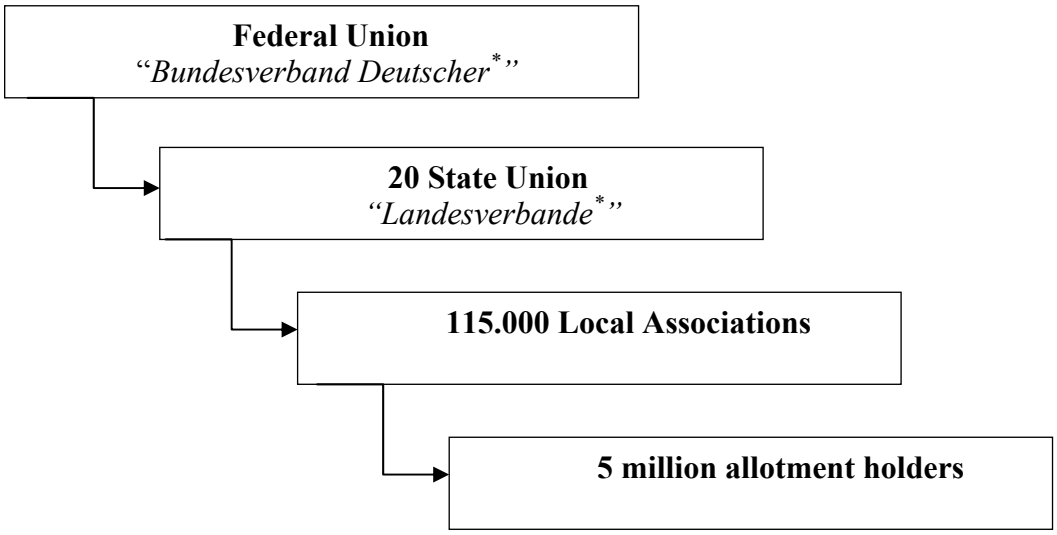

Figure 3-9 The Hierarchic Organization of German Allotment System (drawn by author)

Associations are administered by the group of gardeners who are elected by and within the allotment gardeners. Every problem is solved democratically in accordance with the rules of the association. To be able to have an allotment garden, one must join a garden association. The gardener must pay a membership fee to the corresponding institution. This fee is calculated by considering the characteristics of the land such as trees, cottage, plants, and shed. However, the parcels are the property of the state rather than belonging to any specific person.

The state leases the land to the allotment garden associations, and the associations give the land to the gardeners for a certain time. Gardeners also have to pay a yearly rent after initial fee. They use the land as long as they obey the association rules. Although these rules vary accordingly, there are also several common rules for all associations. For example,

- Only one third of the area can be used for shed, path, terraces etc.
- Only one third of the area can be used for decorative plants.
- At least one third of the area should be used for cultivation of vegetables and fruits. (Landesbund der Gartenfreunde in Hamburg E.V -LGH, 2009).

All members are responsible for protecting and maintaining the association's public places such as roads, parks, club houses (LGH, 2009).

Figure 3-10 (right) Allotment Gardens in Hamburg (source: personal archive of Martin Waldbauer)
Figure 3-11 (left) Main street of Allotment gardens in Rottenburg (source: personal archive of Kübra Özgürbüz)

3.3.2.3 The Role of the Allotment Gardens in Germany

Allotment gardens have always a significant impact on the social, economic and environmental life of the German society. However, considering the historical process of gardening in Germany, the importance of these impacts vary accordingly. After 50's allotment gardens lost their importance for economical life (e.g. food production), they have gained importance socially and environmentally

in comparison to their situation during the first half of 20th century. Now, they are used for their aesthetic and recreational functions by citizens who need both the green spaces and social gathering places in their immediate environment.

One of the reasons why they lost importance economically is that people have not need to grow the vegetables due to the stable economic and political conditions in Germany. Nevertheless, the allotment gardens' potential for the food crises cannot be disregarded. In fact, there is an increased usage of allotment gardens among the immigrant people whose income level is lower than the local German citizens. Dresher (2001) calls attention to the different usage of the gardens between immigrants and German gardeners and claims that immigrants tend to grow much more vegetables and fruits, while Germans prefer generally to grow more flowers and to use the gardens for recreational purposes. With regard to the increase in immigrant gardeners, it is concluded that he allotment gardens connected people not only from different social statue but also from different nationalities. Thus, the gardens allow people to socialize with each other providing social stability. Consequently, even if the gardeners come from different cultural, economic, political and national backgrounds, they can communicate easily on the same subject: gardening.

Another advantage of allotment gardens is their accessibility. Since they are placed with a reasonable distance to the settlements, they are preferred by most of the citizens who have to work in the city center and need to access green spaces in their leisure time. Considering their natural surroundings, the gardens seem as contrary to the artificial environment of the city. Dwellers use the allotment gardens to feel themselves as if they are away from the complexity of city life. They are the refuges of modern people who never choose to be away from the urban life and also want to experience the nature at the same time. Considering immigrants or people coming from the rural areas of the country, this is the only way they can feel like they are in their hometown.

In addition to the immigrants, there are also elderly, unemployed and early retired citizens who participate to the allotment garden associations. Since they could not actively take place in public life, they try to feel themselves workable in gardens by cultivating. Hence, they establish new social relationships in garden associations. Moreover, the children experience the gardens to learn the nature in an active manner. The gardens are self sufficient, healthy spaces. The members can experience the democratic life by actively participating to the administration of association.

CHAPTER 4

THE NATURAL AND SOCIO-SPATIAL STRUCTURE OF RİZE

4.1 General Characteristics of Eastern Black Sea Region

The Black Sea Region is one of the Turkey‘s seven census-defined geographical regions and located on the north of Turkey. Black Sea Region is comprised 3 parts which are called as Western Black Sea Region, Middle Black Sea Region and Eastern Black Sea Region. The Eastern Black Sea Region (EBSR) is located on the north-eastern side of Black Sea Region and bounded by the Black Sea to the north, Georgia to the east and Ordu–Giresun border to the west. Its provinces are, from east to west: Artvin, Rize, Trabzon, Gümüşhane, Bayburt. The region possesses peculiar geomorphology and climate. Moreover, EBSR is differentiated by its special fauna and flora as origin of region’ natural beauties. The region also has a special culture built by local people in conjunction with the distinctive physical characteristics.

Figure 4-1 Physical map of Turkey showing the place of EBSR (retrieved from General Command of Mapping –Turkey)

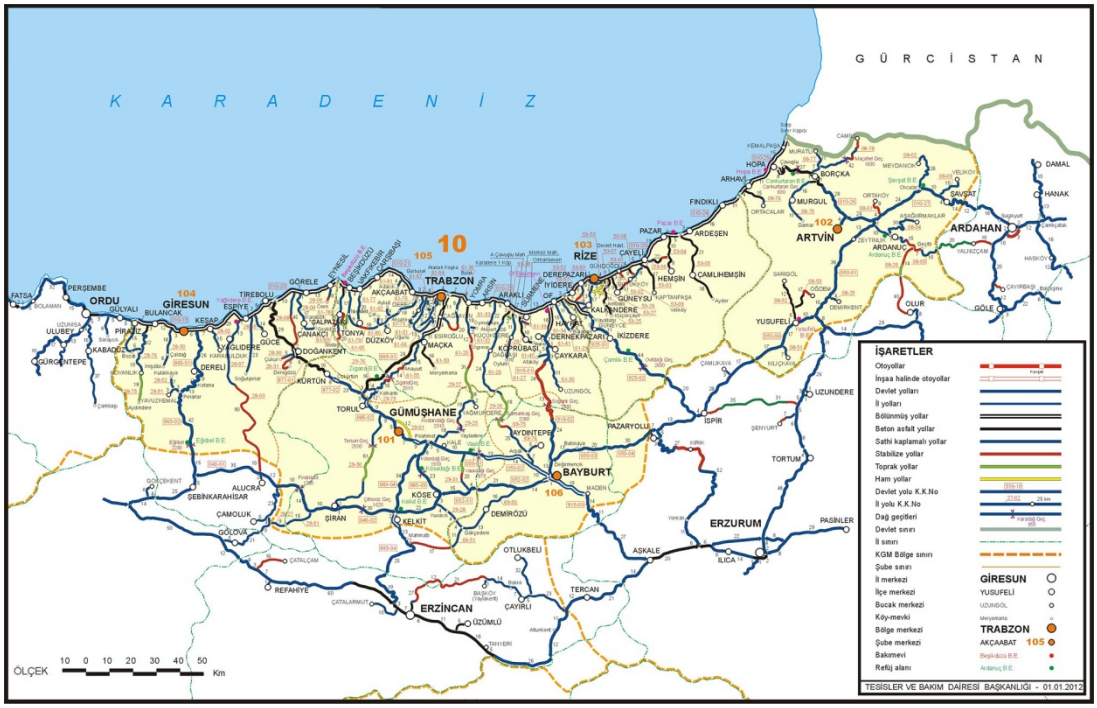

Figure 4-2. Turkey 10. Region Road Map (retrieved April, 2012 from http://www.kgm.gov.tr/SiteCollectionImages/KGMimages/Haritalar/b10.jpg)

4.1.1 Topography

The EBSR has rocky and steep coastline with rivers flowing through deep valleys into the Black Sea. The mountains lengthen parallel to the sea and their altitudes are considerable high. In fact, the region is the most elevated region of Turkey. %80 of land is formed by the mountains. Some of the important mountains are Giresun, Zigana, Rize, Kaçkar, Çimen, Kop, Köse, Mescit, and Yalnız Çam Mountains. The top of the mountains reach even to the 3000 m. (Kaçkar Mountains, 3932 m). The most important river of the region is Çoruh River and it reaches the sea in Georgia. The Black Sea Region has significant plateau and the crater lakes in the mountain tops which are very attractive with the region's rich flora, fauna and the other natural beauties like rivers, streams, forests and waterfalls. The high slopes of mountains are covered by dense forestry. Furthermore, the region is the richest place of Turkey in terms of forestry.

4.1.2 Climate

The EBSR is permanently cloudy and receives immense amounts of rain during the year. It is the rainiest region of Turkey with its high amount of and evenly distributed rainfall. In the coastal region, summers are warm and humid, and winters are cool and damp. The average temperature is 20℃ in summers and 5℃ in winters. Due to the high mountains, there are big climate differences and transportation challenges between inland and the coastal region. On the contrary to coastal region, inland the summers are warm and dry and the winters are so cold.

4.1.3 Demography and Settlement

There is so narrow coastal strip along the Black Sea Because of the uneven and slopped mountainside. These topographic challenges make limit agricultural land and settlement areas and so cause to divide the land into small parcels (Uzun & Yomralıoğlu, 2005). In addition, due to this plainness land scarcity, the agricultural population density is the highest of Turkey and use of machinery in agriculture is at least. Analyzing the demographical dates of 2010 census, it is appeared that EBSR is the only region of Turkey which the rural population is more than the urban one with regarding 4,137,166 people live in cities and 4,301,747 people in villages (TUIK, 2010).

4.1.4 Socio-Economic Structure

According to Black Sea Development Agency, tourism, agriculture and fishery are prominent sectors in the region; energy, mining and ship construction sectors come after those (DOKA, 2011). The economy based on agriculture such that whole tea production and %80 production of hazelnut of Turkey supplied from this region. Due to its rainy and clement climate, hazelnut, tea, kiwi, and corn are the main products of agricultural sector. The villagers also grow their own vegetable and fruits in their gardens such as collard greens, beans, zucchini and citrus fruits. The livestock is based on the bovine animal, people grown them for family

requirements in the barns near their village houses. EBSR is the number one in the Turkish fishery. Furthermore, the apiculture and livestock have also important role in the region economic life.

4.1.5 Cultural and Social Life

One of the most well known and remarkable characteristics of region is its ethnicity. There are *Laz* people who have totally different language and culture. They inhabit specific districts along the Black Sea shore run along to Georgia, such as Pazar , Ardeşen and Fındıklı districts of Rize, Arhavi and Hopa districts of Artvin. They also live as minorities in Çamlıhemşin and Borçka districts. They are bilingual community. However their language is in danger to forgotten. One of the reasons might be the language is not written and the young tend to migrate from the region to have better education. This situation makes damage to transmission the culture from old generation to youth. Moreover, there are many narratives, folk tales, songs and dance with their special instrument *Tulum* and *Kemençe*. In consequent, EBSR possess a colorful folklore by mixing ethnicity and it reflects even to the spatial organization of local people as well as the social life.

4.2 The General Characteristics of Rize

Rize is a small town of Eastern Black Sea Region of Turkey with the population 323.012 according to the 2011 census (TUIK, 2011). It is located in typically mountainside along the coast covering 396.000 hectare area (Republic of Turkey Ministry of Food, Agriculture and Livestock, 2008). There are Trabzon on the western, Artvin on the eastern, Bayburt on the southwestern and Erzurum on the southern side of the province. Rize consists of 11 districts (ilçe); Ardeşen ,Çamlıhemşin , Çayeli, Derepazarı, Fındıklı, Güneysu ,Hemşin, İkizdere, İyidere , Kalkandere, and Pazar, 21 municipalities and 350 villages. According to 2000 census, %56 of the population lives in the villages while %44 of it lives in the city (TUIK).

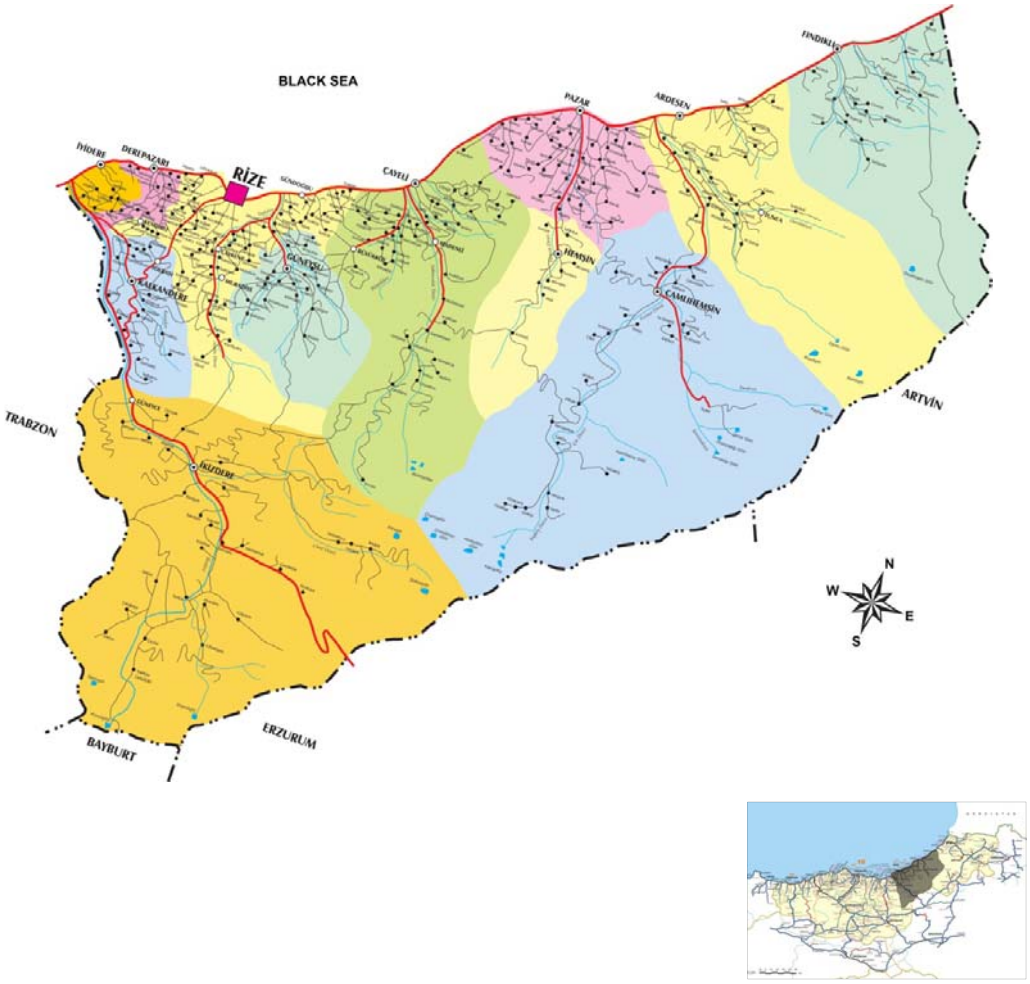

Figure 4-3 Rize city map (source: Rize Tarımsal Kuraklık Eylem Planı, 2008)

4.2.1 History

Rize was founded in a small port in the coast of Eastern Black Sea. Its history goes beyond 6th BC as a port and 6th AD as a settlement area with a castle (Karpuz, 1993). Due to its topographic challenges, the city could not develop and has to remain its existence within the same limited territory. In Byzantine and Ottoman period, the situation didn't change and it subsisted as a small township. The city had been called as "Rhizion, Rhizus, Rhition, Riso, Risso, Risum, Rhizios" means *rice* and "Rihiza" means *mountainside* in Greek. Şakir Şevket (1954) claims that since citizens were growing rise near the river in eastern part of Rize, they gave the name *iriziyos* to the city (as cited in Karpuz, 1993).

Figure 4-4 Rize 1929's (source: Fatih Sultan Kar collection)

After winning Independent War and establishing new Turkey Republic, in 1924, Rize was announced as province and in 1933 it is conjoin with Artvin and called *Çoruh*. In 1936, it is restructured as province of Rize again. In Republican period, the government endeavored to develop the city to be able to deal the problems caused by topographic challenges. For this aim, growing tea plant is encouraged by the government during the years of 1940s and the factories opened in following this period. Consequently the city had started to develop in social and economic aspect (Karpuz, 1993). Before tea plant agriculture, it is known that citrus fruits and corns are the main agricultural products of the city (Appendix A).

The city had experienced significant morphological changes during 19 th century. The first one is land reclamation applied on the coastal line to gain the space from the sea. It is done firstly in the period of Ekrem Orhon the municipal president of Rize between the years 1963-1973. The high rise building had been built in this filling area and they are used for commercial purposes. The city experienced land reclamation during 80's as the second time. In fact, the implementation of the master plan of reclamation has not finished.

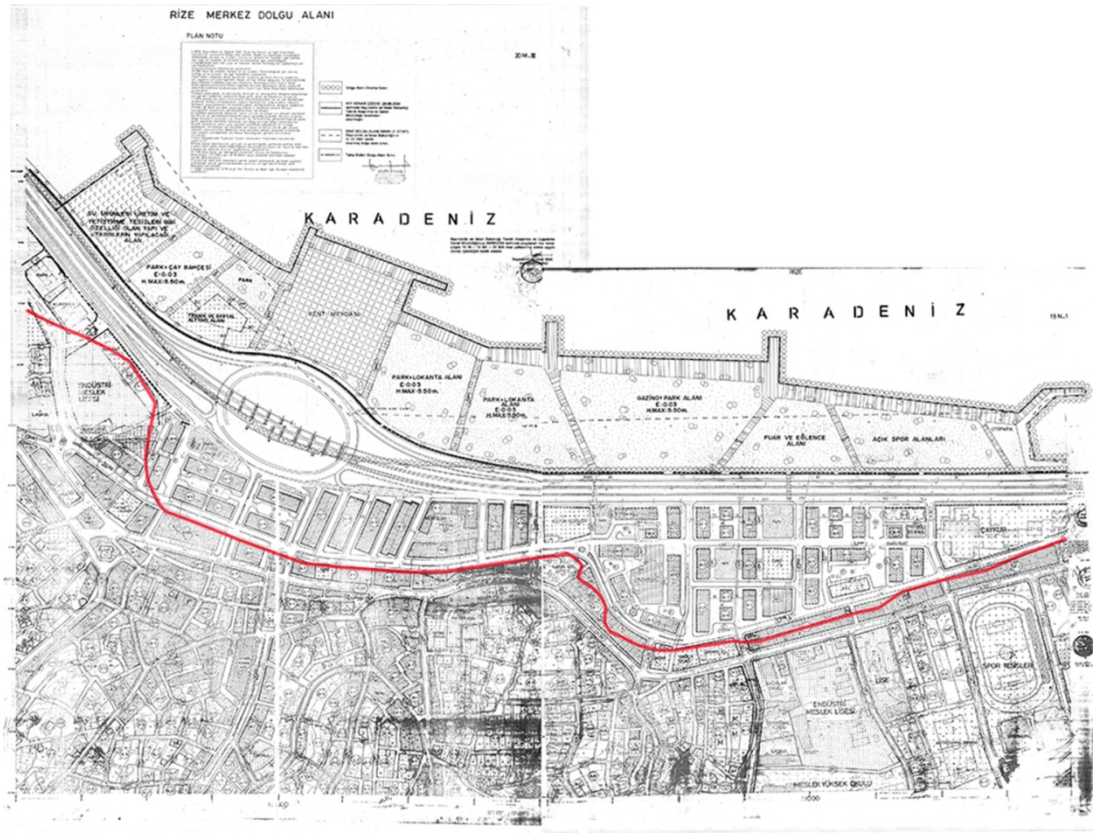

Figure 4-5 First reclamation area of Rize (source: Rize Center Reclamation Land Master Plan)

The other important project which affects the city and the life of the citizens is the highway project passed along coast line of EBS Region. The project joining Samsun to Sarp border gate had been gone out to tender in 1997 and the construction started in 1998. The construction had taken 10 years and finished in 2007. It has criticized by citizens and public due to natural and social concerns. Although this project makes shorter way and time to need to go the Black Sea Region and solves the transportation problems; it causes unenviable destruction to the nature of EBS coast and the life of the local people. It breaks the connection of people and sea and cancels the beaches which are already a few. Moreover, in recent years, heavy rainfall could not be drained from the city due to the high way barricading and this situation cause serious hazards in the city.

Considering the transportation, the province of Rize has very limited transportation opportunities facilities, like most of the Eastern Black Sea Region. There is no rail transport due to its rugged characteristics of the region. Inland of the city are accessible only by roads. Sea transportation is significant feature of city. There are four ports; the largest harbor is located in Rize center. There is no air port in the city instead the citizens is using Trabzon airport.

Figure 4-6 Overview of Rize
(retrieved May, 2012 from http://www.rize.bel.tr/galeri.php?AID=7801&Sayfa=24)

4.2.2 Topography

Rize has similar topographic characteristics to EBSR. There is uneven and mountainous topography with narrow rocky coastal strip along the Black Sea. The neighborhoods of the city are located of the mountain's hillside on different altitudes. The region has the highest mountains of Turkey. The Rize Mountains which are aligned to the sea meet with Kafkas Mountains on the eastern side of the province and create a closed basin. The height can reach to 3200 m above sea level in short distance with average slope of 26% (Günlü, Kadıoğulları, Keleş & Başkent, 2007). The rivers rose from the high mountains tops and reach the sea by flowing through deep valleys. The important rivers of the province are, from west to east: Iyidere, Karadere, Büyükdere, Pazar River, Fırtına River, Fındıklı River.

In the high of 700 m, there are valley bottoms and hill plains which are suitable for agriculture and have fertilized soil. The mountain forests are situated in the high of 700-2300 m. The important mountains of the town are: Kaçkar Mountain (3937),Verçenik Mountain (3711), Hunut Mountain (3560 m) (Yücel, 1987 as cited in Karpuz, 1993)

4.2.3 Micro-climate

Rize has a special condition in the region since it has micro-climate. It has temperate and rainy climate for four seasons. Rize is the rainiest part of Turkey and the average temperature is 14 C. Because of the climatic conditions, there are rich fauna in and surrounded the city. There are many types of trees and flowers in uplands. These natural beauties among the mountains serve to people wonderful panoramic views. Whereas the steep topography limits the agricultural fields, the peculiar climate enables high quality agricultural production.

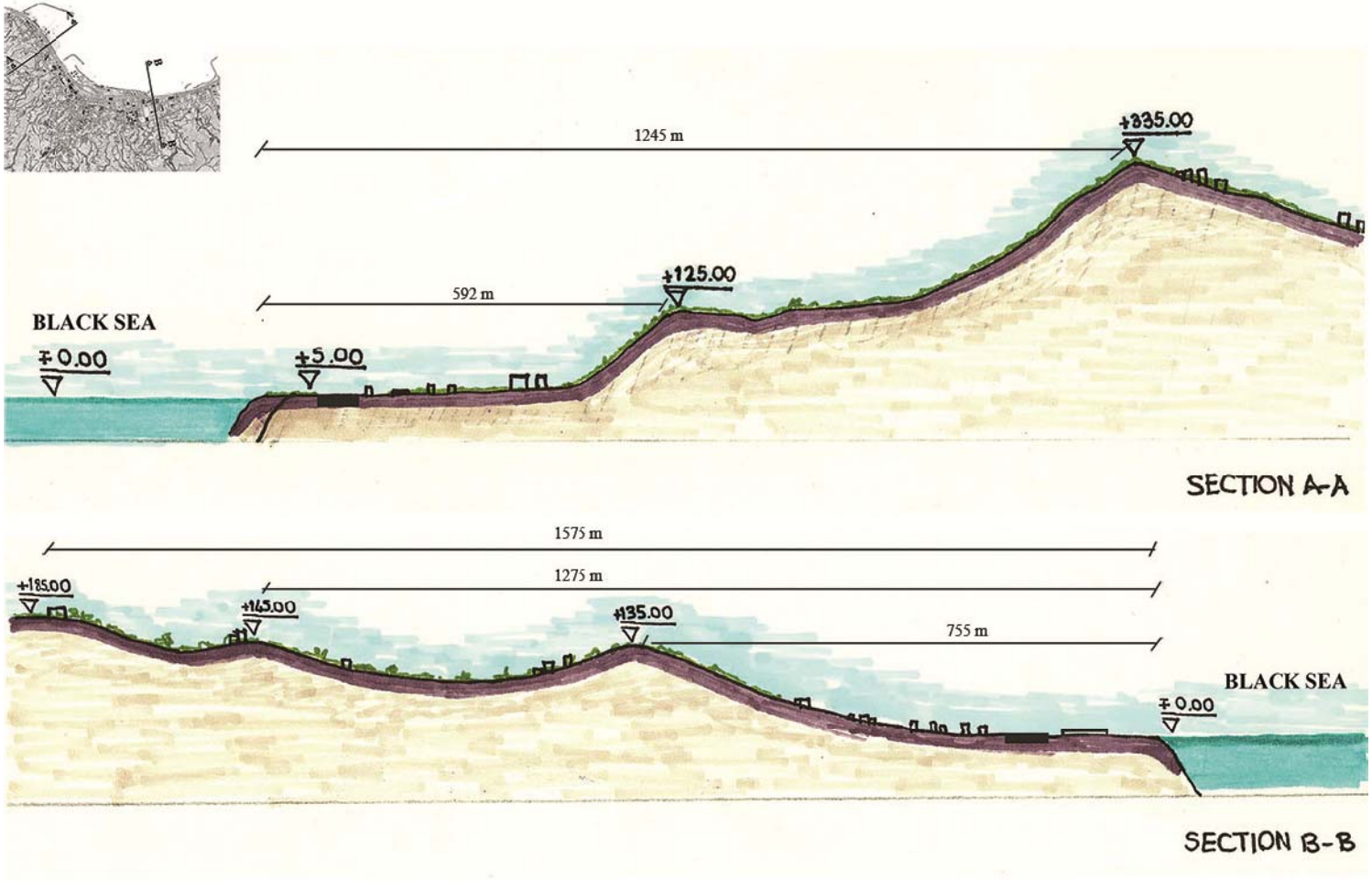

Figure 4-7 Sections of Rize

4.2.4 Flora and Fauna

As mentioned before, Rize is situated in most forestry and rainy region of Turkey. Consequently, it has very rich flora and fauna. Considering flora, the tree species differs according to altitudes as altitudes increases, the temperature decreases and rainfall increases. While the forestry consists of Mountain Alder (Kızılağaç), Carpinus (Gürgen), Oaken (Meşe), Chestnut (Kestane), and Linden (Ihlamur), in the down parts of the mountains, in the upper parst; Spruce (Ladin), Fir (Köknar) become the most seen trees. Considering the fauna, wolves, bears, wild boars, fork-horned mountain goat and birds live as wild animals in forestry. The uplands (plateau) are placed after 2300 m height and come after from the forest line. (Karpuz, 1993) Some famous uplands of Rize are Ayder, Anzer, Çat, Elevit. There are also crater lakes on top of mountains.

4.2.5 Agricultural Production

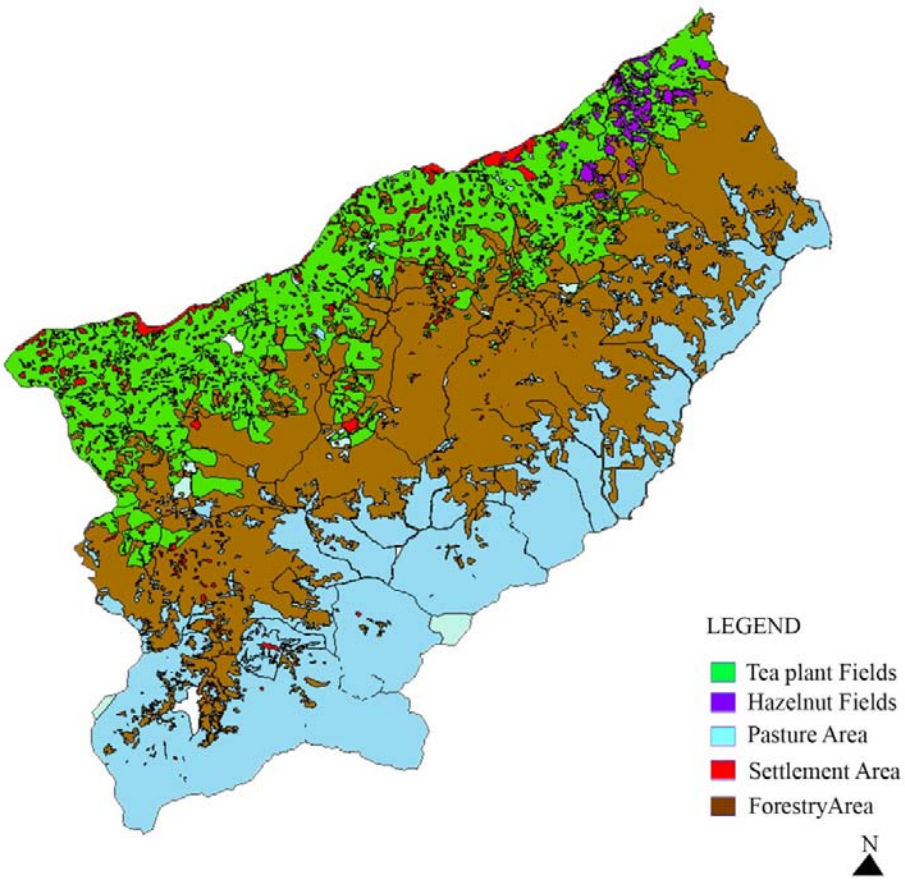

Figure 4-8 Rize city map (source: Republic of Turkey Ministry of Food, Agriculture and Livestock, 2008)

Analyzing the land use pattern of the province, it is reported that 54.678.4 Ha area (%15.2) of total land (359 991 Ha) is suitable for agriculture. 45. 322 ha (%12.58) is meadow and pasture land, 158 411 ha (%44) is forest and shrub land, 101 573 ha (%28.21) is non-agricultural and residential area (Republic of Turkey Ministry of Food, Agriculture and Livestock, 2008). (Figure 4-10)

Figure 4-9 Tea plant fields and kiwifruits (personal archive)

The economy of the province is based on agricultural sector. Tea plant and its sub-industry create significant occupation for the citizens. The agricultural diversity are limited by too much annual rainfall, high relative humidity, the lack of enough sunlight and hilly agricultural land. The tea production areas of the province is %91.8 of the total agricultural land (T.C. Tarım ve Köy İşleri Bakanlığı Rize İl Müdürlüğü. 2008.) (Figure 4-11) In the province, small amounts of citrus products, small amount of vegetables, citrus fruits, kiwifruits and other fruits are grown too. Some of the other fruits are: persimmon (hurma), pomegranate (nar), mulberry (dut), medlar (muşmula), plum (erik), cherry, peach, cherry, apple, pear, walnut, hazelnut, chestnut, lemon, orange and mandarin. Growing kiwifruits are increasing in recent years in Rize as an expanding activity**.** (Figure4-12) Although the rate of cultivation of arable crops in Turkey is %70, it is %1.7 in Rize. On the other hand, the rate of vegetables and ornamental plants is %0.02, and the rate of fruits and citrus fruits is %4.4 (T.C. Tarım ve Köy İşleri Bakanlığı Rize İl Müdürlüğü. 2008). Total vegetable production area is 4240 acres and they are mainly collard greens (kara lahana), beans, corn etc..

Figure 4-10 Tea Plant Garden in 1960 (source: Fatih Sultan Kar collection)

The first attempt to bring tea production to Turkey had been done in the early years of republic. However, it cannot start actually until 1937. The hometown of tea plant is known as China. In the early 17th century it comes to Europe and in the early of 20th century it comes to Turkey.

People were working in construction, bakery, etc. sector in Russia in the period of Ottoman Empire. After closing the entry point of Soviet Russia by October Revolution in 1917, a serious crisis and depression are experienced in Black Sea Region. In 1924, new established republic of Turkey accepted the Law no 407 (1924, 06, February) on tea cultivation to solve the problems. Agriculture Ministry founded a tea plant nursery garden with the seeds provided from Batumi at the first time in 1924. Between the years 1925-1935, approximately 450.000 tea plant seeds were distributed to farmers be able to start tea industrial plant agriculture in the city (Öztürk, 2012). Since then many investigations are done to introduce local people to tea plant and to establish new institutions. Zihni Derin (1880-1965) has an crucial role on realizing tea plant cultivation, constituting the new laboratory and

removing the political barriers (Karpuz, 1993). In 1940 the government charged with taking

the tea leaves with Law No. 3788. The tea plant has been processed at the first time in 1947, in the central Tea Factory of Rize opened by Zihni Derin. Finally, in 1971 Çaykur the state institution of Tea Production was founded.

Table 4-1 The Production Amount of Important Agricultural Products (source: Republic of Turkey- Ministry of Food, Agriculture and Livestock)

The Production Amount of Important Agricultural Products by Years (Tons)		
PRODUCT TYPE / AMOUNT	**2010**	**2011**
Tea	742.813,1	669.003,13
Kiwi	5.910,064	5.862,79
Nuts	1.961,324	373,424
Pears	1.321,45	1.024,15
Corn	1.221,157	1.662,865
Tangerine	1.160,751	1.326,65
Collard Greens	664	630,225
Bean	454,29	412,355

4.2.6 Demography

To be able to understand social, economic, geographical condition of the provinces well, the population data should be analyzed by considering the interrelated relation between each others. The population, settlement pattern, male and female attributes are closely related to natural and social features. (Zaman & Coşkun, 2006) Although the populations of Rize show an unstable growth, the general tendency of the total population is towards an increase. According to the first population census, while in the Republican period (1927) the population of Rize was 171.667, in 2011 it approximately had increased 1.8 (1.88) times and has reached 323.012 (TUIK). (Appendix B)

4.2.7 Settlement Structure

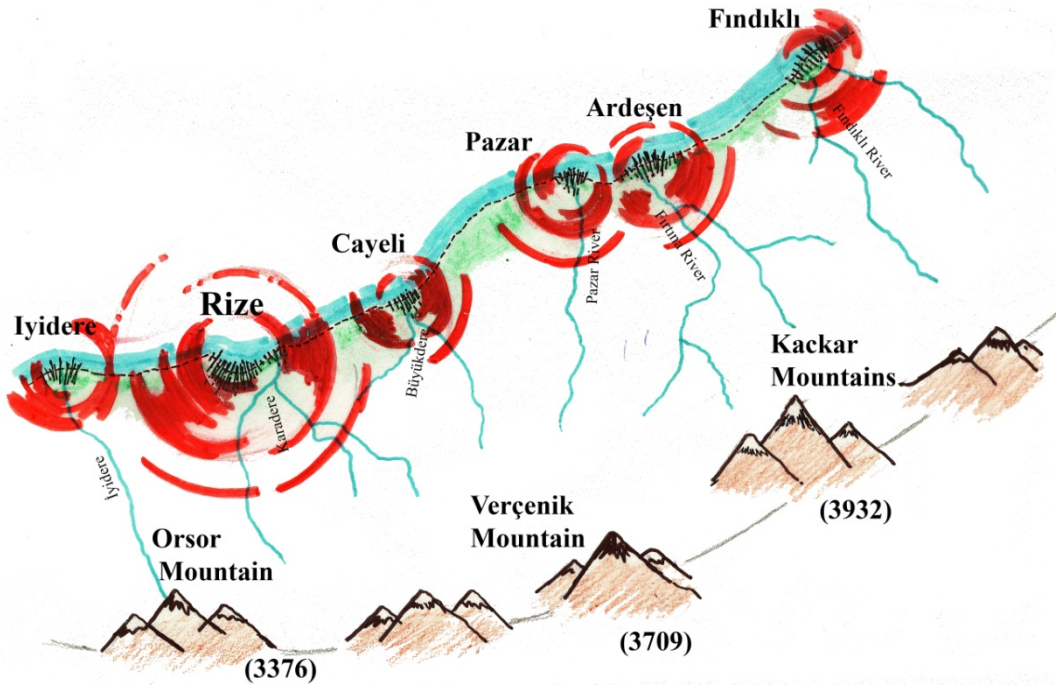

Figure 4-11 Conceptual diagram of Rize (drawn by author)

In Eastern Black Sea Region the settlements are generally concentrated on the coastal line with their extensive hinterland composed of the villages and their agricultural land. Rize center is the most densely populated area because of location, transportation, administrational advantages. Like Rize center, district centers such as Gündoğdu, Iyidere, Çayeli and Pazar, Ardeşen, Fındıklı are also situated on the coast of Black Sea, in the mouths of the dominant rivers which flows by creating deep valley. The other districts Ikizdere, Güneysu, Hemşin, Çamlıhemşin are figured inner part of the city and placed in the way of these rivers. Despite the dangers of flood the region people are closely related to the stream bed.

Rize possess an unbalanced distribution of population and settlement. Despite dense and compact populated urban areas with high rise building which might be 12 stories, in rural areas settlements are getting dispersed with 2 or 3 stories the housing.

Figure 4-12 Transportation network of Rize
(Aerial Photograph of Rize (2009) retrieved from General Command of Mapping-Turkey)

The main reason of unbalanced distribution of settlement is the geographical conditions which affect the population distribution and as response the settlement pattern. There is not adequate urban space to get spread for urban. Rize is located in the Eastern black sea mountain zone. The mountains which start to get high just after the coast and reach even 3000m turn to handicaps which make difficult humane settlements. In history, the plain ground is tried to be provided by reclamation the sea. It is away to be a solution for the city's future. Naturally city has to wide to the south direction through the mountains. However, high elevated

mountain zone is divided by river valleys and this makes difficult to settle down, to transport and to service to the citizens. People settled between 0-500m height and in lower parts of valleys. The roads start from the city center, pass the neighborhoods and end up with the upper villages by drawing a radial pattern. Settlement structure and the density have changed along these roads. Rize has 3562 km village road despite 25 kilometers of asphalt roads, 623 kilometers of concrete, 1891-kilometer gravel. (Republic of Turkey Ministry of Food, Agriculture and Livestock Department of Strategy, 2007)

The other reason effects the settlement pattern may be the climate. The north sides of the mountains of Eastern Black Sea Region have been place for settlements during the history because of the efficient climatic conditions. Therefore the area between mountains and sea shore has been consisted of the rich agricultural product and economic facilities. Considering that the city is located the rainiest part of Turkey and has many strong rivers, the inhabitants do not need to settled compact in rural areas. The districts have a huge hinterland comprise of the villages in the mountains. The settlements are scattered in rural unlike the compact settlement of the urban center.

Figure 4-13 Figure-ground map of Rize (drawn by author)

4.2.7.1 Dispersed Settlement Pattern

The typologies of rural settlements in the region are shaped by the topography and land ownership pattern. As an inevitable result of them, Eastern Black Sea's settlement pattern does not like Anatolian cities' compound settlement pattern. Cities of the Eastern Black Sea are built on a rugged geography. Villages are separated from each other by large valleys. This situation leads to be seen dispersed settlement pattern in villages and the households in the same village. Consequently, the villages with multi neighborhoods are observed. The distant locations of houses result to increase the cost of the basic technical infrastructure services like household's roads, water, sewer, and electricity services in rural areas (Uzun & Yomralıoğlu, 2005). Considering the hilly and rugged topography of the land, villagers try to placed in every suitable lands. Analyzing the rural settlements, it is observed that neighborhoods are mainly located along the hillside, on the ridge, on the hill, and on the valley plains. (Figure 4-20)

ON THE RIDGE

source: İhsan Alkan (retrieved May, 18, 2012 from http://www.panoramio.com)

ON THE HILL

source: İhsan Alkan (retrieved May, 18, 2012 from http://www.panoramio.com)

ON THE HILLSIDE

source: Salih Akıncı (retrieved May, 18, 2012 from http://www.panoramio.com)

ON THE VALLEY

(taken by auther)

Figure 4-14 Settlement areas in rural part of Rize

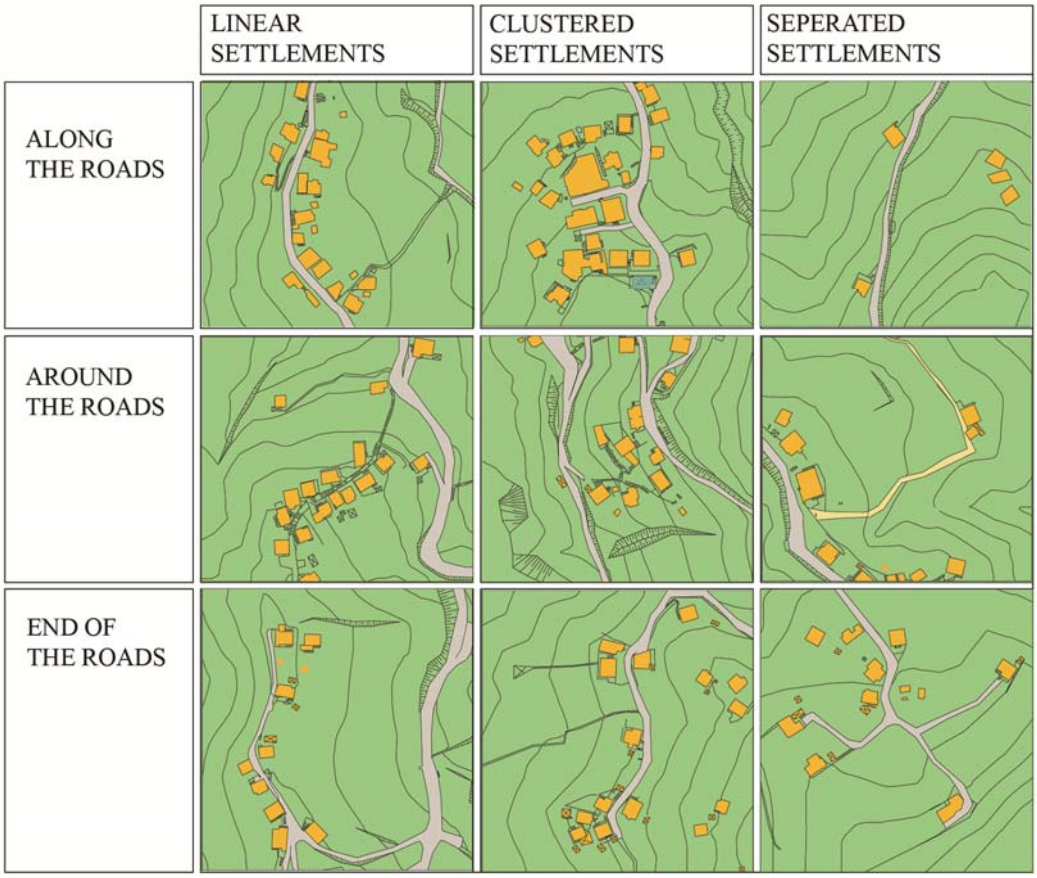

Figure 4-15Settlement patterns in rural parts of Rize (drawn by the author)

As shown in the Figure 4-21, the roads are built correspondence to the mountains slope and houses take place along, around or end the roads. The houses also might be located in different patterns. They can be linear, clustered or separated in a relation with the village road. The clusters consist of 4-5 houses. The houses have always a connection to roads, in the case of clustered or separated settlements; people connect to the road by stairs or paths on the slope. The houses which are placed in the end of the roads are usually away from the other village houses and facilities. Generally, first the houses are built, the roads come after. These roads are built in the place of paths or stairs.

Figure 4-16 Rize view from the sea
(retrieved May, 2012 from http://www.rize.bel.tr/galeri.php?AID=7801&Sayfa=30)

4.2.7.1.1 Physical Reasons

As mentioned above, lack of suitable land for settlement drive dwellers to scattered type of settlement. *Topography* in the eastern Black Sea and the *fragmentation of agricultural lands through inheritance* make the parcels small, scattered, excessive number and insufficient (Uzun & Yomralıoğlu, 2005). On the other hand, each family shares the lands which consist of small parcels and are located in separate locations, by inheritance among mainly the male persons of the family. Each male person wants to construct their own house on the land gained by inheritance. This situation makes the settlement more dispersed (Zaman & Bulut, 2003, as cited in Uzun & Yomralıoğlu, 2005). This unplanned settlement structure makes difficulties to get the technical services like roads, electricity and increase the municipality budget. First, the persons are settled down the land and then the municipality brings the services to there.

Another force to settle disperse is the difficulties of accessing to separated agricultural fields of one person from one certain settlement area. For this reason, people built their houses on their land which is convenient to go to their other fields and come back home and this situation has led to the emergence of dispersed settlement pattern. (Uzun & Yomralıoğlu, 2005) Consequently, the villages have many neighborhoods mainly originated by the kinship.

4.2.7.1.2 Sociological Reasons

In addition to challenging physical reasons there are also sociological reasons why people choose to settle away and maintain this tradition. There is a strong interrelation by the identity of the inhabitants and the settlement morphology. The difficult geographic conditions explain uneven characters the local people (Tezcan, 1997 as cited in Uzun & Yomralıoğlu, 2005).

The limited land and mono agricultural dependency make the land so valuable as source of income and it starts to effect the social relationships. Uzun & Yomralıoğlu declare that since the feeling of property is so powerful, people try to defend their territory strongly. Therefore, they built their houses with a certain distance from each other. Gedikli & Çakıroğlu explain the identity of the people in another way and claim that local people keen on their freedom and do not like to be needy. In this regard, they have high motivation to behave individually. For example, if analyzing a vernacular house type, it is seen that the *Serender*, barn, fountain, toilet, and kitchen are located in the garden of house. Another interesting element placed around house is the graves.

CHAPTER 5

THE URBAN RURAL INTERACTION AND LANDSCAPE FABRIC OF RİZE

5.1 Urban-Rural Interaction in Rize

As a result of urbanization, the boundaries between rural and urban areas become blurred due to the growth from urban to rural. Lynch (2005) claims that because of "changing nature of the relationship between urban and rural", it is difficult to make a clear-cut urban rural split which is even getting more complex. (As mentioned in detail Chapter1) Similarly, in the case of Rize, it is not possible to make strict urban rural distinction. The sectorial stereotypes referring to define urban and rural is not efficient enough considering the role of agricultural activities in Rize.

The province of Rize, which has a significant rural hinterland, displays a peculiar way of urban rural integration. Looking to overview of city, the most conspicuous thing is that whole city is surrounded by dominant green, and this green reaches even to the inner city by drawing extensions, might be called fragmented green corridors.

Figure 5-1Conceptual drawing of green extensions in Rize (drawn by author)

The sloped hillsides which are not suitable for construction subsist as green areas compound of forest tea plant fields, and vegetable gardens. These green corridors extending to city center provide ecological, economic and social linkages between rural and urban. They also deliver a range of other social and environmental benefits, including enhancement of local landscape character. Although they are not used for recreational purposes, they inevitably serve as social spaces. Inhabitants are using these lands for agricultural purposes even if they do not own the land. The tea plant fields are placed in these areas. In or around these places people grow vegetables.

Figure 5-1Rural –urban integration in Rize
(Aerial Photograph of Rize (2009) retrieved from General Command of Mapping-Turkey)

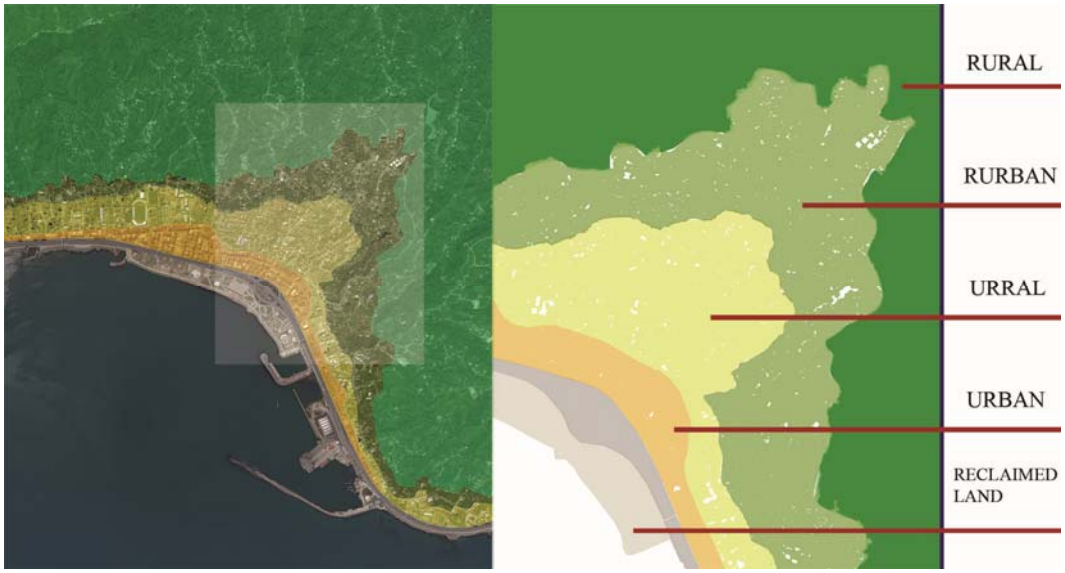

Figure 5-2 The transition zones of Rize (drawn by author)

There is a hierarchical transition from urban to rural. However the terms used to define urban rural relationship are not sufficient to analyze the characteristics of the transition areas. From urban to rural, the city can be divided into 5 zones whose borders are apparent by changing green pattern. They are Urban, *Urral, Rurban* and *Rural.* To understand the relationship between zones better new urban rural integration terms like urral and rurban are offered.

In summary, the first section is the *Reclaimed Land* which is reserved for recreational activities. *Urban* is called to the coastal parts of the city which is bordered by the first filling area which has high concentration of urbanization. The second circle is called *Urral* (Urban-Rural) areas because whereas area carries rural characteristics, urban characteristics are in dominance. *Rurban* (Rural-Urban) is area which carries predominantly rural characteristics while it is still a part of urban. *Rural* part of the city is the surrounded area which consists of the villages and agricultural fields.

The ***reclaimed land*** is planned as recreational area. Despite it has not finished yet, there are one Luna park, tennis courts, walkway along coast, many cafés and restaurants near the way and a fish market on filling area. However since

reclaimed area is detached from the citizens life by a huge coastal highway and huge refuge in the middle of it, it is too away to take part in citizens life. People could not realize that there are sea and recreational area among the high rise buildings.

After urban, it comes ***urral*** areas. Although it is urban, it has characteristics of rural life. Residential high density buildings and a few parks are located in this area. The domestic gardens and residual areas are used for agricultural activities. *Rurban* is a part of urban but still has predominantly urban characteristics. Rurban is the first area gained by reclamation of sea within the history of Rize. High density commercial buildings are situated in this area.

Figure 5-3 High-rise Buildings of Rize (personal archive)

Urban is known for its high concentration of urbanization. Coastal part is the most urbanized part of the city, and it has been developed from east to west, as a narrow strip, with an intense form of construction. This first reclaimed land which was done in 60's in the period of Ekrem Orhon, is composed of high buildings. Two main roads; Cumhuriyet and Atatürk Boulvards pass through here. The border of the reclamation can easily be read by the lines of these roads. They are connected to the highway and consequently to sea by shorter perpendicular streets. This is the only part of the city where natural green is not seen. The only green is the view of the mountains as natural landscape elements if it is possible to see them among the high rise intensive building pattern. This part of the city does not have adequate public spaces, parks and other social support.

Figure 5-4 View of residential buildings in Rize (personal archive)

Urral zone begins just after the high density urban blocks and the main street. The high buildings still can be seen in this part. However, tea and vegetable gardens are placed in between them like natural landscape elements. The residual areas, roof tops, balconies, any small piece of ground are using for growing vegetables by the citizens.

Going away from the city center green becomes dominant. This part of the city is called as ***rurban***. There are still high buildings, but the gardens and forestry areas get larger. Tea plant fields start to be observed in deep valleys or in the places which is unsuitable for building construction. The green extensions mentioned above take place as a reflection of rural background. Where there is no building, there is green. This gradually changing degree of green is closely related to the topographic conditions. As mentioned before the altitude is increased towards south.

After rurban zone, green becomes dominant totally and the ***rural*** part begins. The roads continue to get along through the villages with dispersed settlement pattern and low rise buildings. The borders between rurban and rural parts become visible as looking to the morphology of the city. The height rises and roads along the bridges or hillside according to slope. The buildings are continuing to be seen near the roads and suitable plain. The forestry and tea plants are dominant element in scape. In rural, inhabitants' economy is based on mainly tea plant agriculture. Tea plant also provides inhabitants with job opportunities in factories situated in urban and rural, and tea storing houses in villages. Therefore the people are so familiar with tea and agricultural products.

Figure 5-5 General view from the Rize Castle (personal archive)

The integration of rural and urban does not take place just by physically, the city shows an immense means of integration both culturally too. Moreover, socio-economic status of the dwellers does not break this diffusion. Village culture and urban culture are getting gradually diffused to each other. The economic activities are complementing to each other. There is a strong interaction between urban and rural. While, the intimate behavior, communal relationships characterizing the rural culture is seen in urban life too, in rural areas is getting the place of apartment houses and tea plant factories. The social mobility of the population makes easy that integration.

5.2 Landscape Components of Rize

Landscape is defined as “a picture representing a view of natural inland scenery” *or* “the art of depicting such scenery” in dictionaries (Merriam-Webster). Since landscape is generally estimated in a visual context, it is associated with the visible features of the land composing of the physical and natural characteristics affected by contribution of human factor. From this perspective, in addition to natural elements like mountains, hills, rivers, vegetation, it also includes the man-made elements formed by human presence. Today the concept of landscape referring natural scenery is always associated with the concept of parks which are the representation of nature in urban areas (Günay, 2000).

The most common forms of city built environment as well as natural environment are important for landscape elements as they show the character and the identity of both the city and citizens. To examine the peculiar landscape structure of Rize, it is preferred to divide landscape into two main groups which are natural landscape and townscape. Being aware of the man-made places are constructed on the basis of natural places, these two groups are analyzed separately by considering human factor. In this respect, natural landscape elements refer to the physical character of the province which the human factor could not intervene and change. On the other hand, townscape predominantly intends the man-made place and structures influenced by human factor in urban and rural areas. The reason for using terminology of *townscape* recommended by Gordon Cullen (1961), who associated the concept of scape (view of a place) with the urban, is to be able to look at a broader perspective to different settlement patterns.

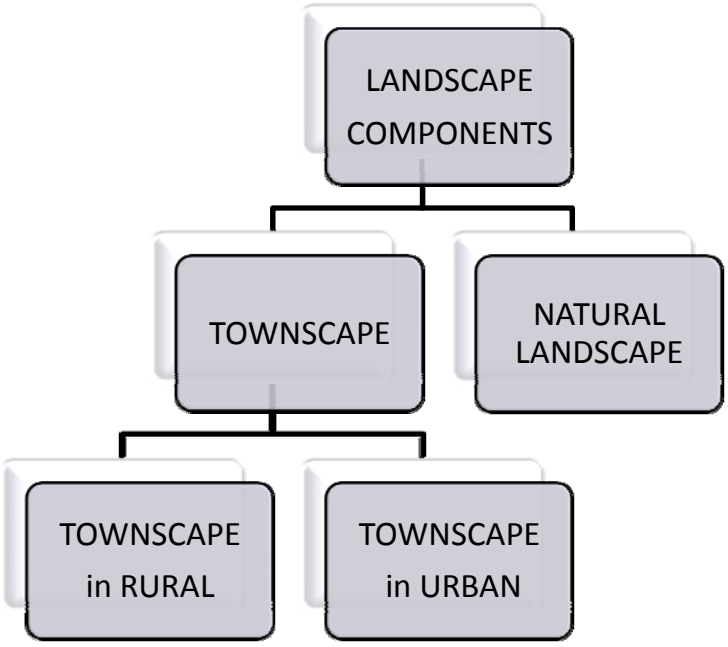

Table 5-1 Landscape Components (drawn by author)

According to Figure 5.6, townscape is divided into 2 groups as townscape in rural and urban areas. The reason for conveying such a distinction is that, rural and urban areas show significant differences in terms of distribution of built-up areas and land use pattern despite they appear to be integrated with each other. Although this distinction is becoming slighter from urban to rural by the existence of intervening spaces like *urral* and *rurban* areas, the main requirements of urban and rural life are entirely different. To understand this difference effectively, the most widely seen special forms of urban and rural built-up environment as well as natural environment will be criticized. Urban agriculture is assumed to be an unplanned and self-generated *townscape* element of Rize in this study. To understand better the context emerging of urban agriculture, the landscape characteristics of urban and rural parts of Rize will be investigated in this section.

5.2.1 Natural Landscape Components

Figure 5-6 Natural landscape components of Rize (personal archive)

Norberg-Schulz (1980) says that "Human identity presupposed the identity of place" (p22). In this regard, it could be understood that identity of places might have a big role on shaping human identity. Then, considering geographic conditions which generate a kind of sense of place, natural factors also seem to affect the characters of inhabitants and their life styles. These natural factors are mainly sea, mountains and vegetation on them. They can be noticed in each picture of the city as its dominant elements. The mountains extend parallel to the sea, the deep valleys created by the rivers, green land cover on them and immense figure of sea are the most remarkable factors in the city view and main elements of the natural landscape of Rize.

Figure 5-7 Panoramic photograph from Rize Castle (personal archive)

The general slope from mountain to sea can be discussed by Patrick Geddes's (1959) approach of Valley Section model of Eastern Watershed of Scotland. He claims that this generalized section from hill to sea can be found everywhere in the world. The Black Sea region is one of the most suitable places to draw such a conceptual Valley section. Geddes (1959) claims that the type of place and the type of work done in affect notably the ways and the organizations of people. He further argues that, the natural elements like climate, fauna and flora as well as topographic features of territory are gaining an important role in identifying organizational characteristics of inhabitants (Geddes, 1968).

Kaçkar Mountains, most dominant figure of The Black Sea Region by its 3932m height, should be at the head of the conceptual section of Rize. This conceptual section demonstrates the interrelationships between geography and human systems and shows how physical environment supports human activity. In summary, the aim of drawing such generalized section is to study the life from mountains to water. Occupations' frame of reference has been determined by geographical conditions. The conceptual section of Rize is investigated into six sections according to their characteristics and occupation on it. The main sectors of Rize are mainly agriculture, small amount of livestock, apiculture, fishery, industry, service sectors. Each has a certain place in this kind of "Valley Section".

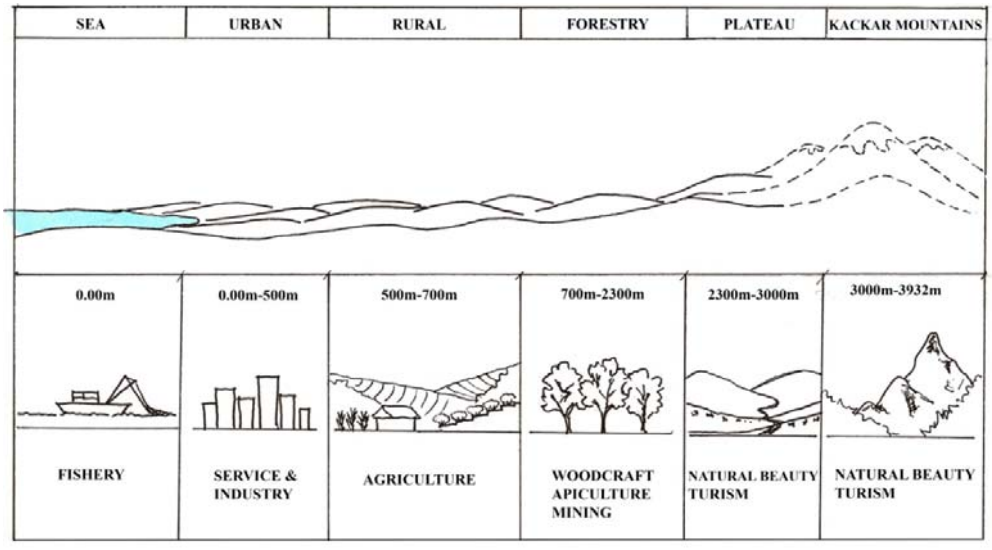

Figure 5-8 Conceptual *Valley Section* from Kaçkar Mountains to Black Sea (drawn by author)

The section starts from the sea level and increased by general slope up to the Kackar Mountains. In the first section, there is fisherman at the sea level. Fishery has been one of most important occupation for Rize for hundreds of years considering its history as a port city. The short-tempered character of the region people can be attributed to their close relation with Black Sea. The settlements are situated in the lower part of the valleys, between 0 and 500 m. People are employed mainly on industry and service sector. Interestingly, there seems urban agriculture in places with no construction or places that are not suitable for construction. These places are located mostly in their domestic gardens. Due to economic opportunities, people tend to migrate from rural to these urban centers.

Next come the peasants between 500m and 700m where fertile soil appears. There are villages covered by agricultural land. As mentioned before, agriculture is the main sector of province. Before growing tea plant, the peasants cultivated corn in the region and their income was low in comparison to present. After the expansion of cultivated areas for tea plant during 1940's, the villagers had transformed the forests and corn fields into tea plant fields. They produced vegetables and fruits just for their daily consumption. Their food culture is mainly based on what they cultivate in front of their houses such as collards, corn, bean and potato.

Next between 700m and 2300m, the forestry comes. Woodcraft and apiculture are getting importance in those altitudes. Next to the forest lands comes the pasturage and plateau which are some of the few places suitable for husbandries. They can be found in altitudes more than 2.300 m. Because of the challenging topographic conditions, livestock are so few in the province; people have cows in barns for meat and milk products. The other important occupation is tourism; the province is famous by their high plateau. At the last section, the highest points of Kaçkar Mountains are placed. There are glacial lakes and natural beauties and conserve as national park and so tourism is dominant sector. As the valley section shows, people are tightly depending on the mountains and the geographical conditions shapes their lives accordingly.

Figure 5-9 Panoramic photograph of the mountains from rural part (personal archive)

5.2.2 Townscape Components

In 1960s Gordon Cullen associated the concept of scape with the urban, and suggested the new concept of townscape (Günay, 2000). According to this approach the elements creating the built up area of the city become landscape elements such as; buildings, roads, squares, status, stairs. Townscape still consists of the natural elements like water, green, trees. Regarding the concept of townscape, natural elements and built up area have a correspondent relationship which is both of them take place in visual context of citizens daily life. This relationship affects both sides, and gives them their meaning of existence. The social circumstances are producing the visibly interrelated spaces surrounding the buildings, parks, streets, structures.

By overlapping physical and cultural factors, townscape reflects synthesis of people and place, which emphasizes its importance for local identity. In this regard, the concept of townscape showing the character of man-made and natural landscapes helps to define the characteristics of a region and consequently identify people's way of life in settlements areas.

In this chapter, it is preferred to use the townscape to define the man-made and natural components of the settlements. For discovering the differences and similarities of rural and urban settlements, it is recommended to analyze them

separately under the name of townscape components in rural and townscape components in urban areas in which relation to people and nature are in different degree and different context especially for the case of Rize.

5.2.2.1 Townscape Components in Rural

Whereas urban areas are man-made rather than natural, constructed environment become unobtrusive in rural areas. There is more harmony with the man-made and natural environment. The relations are based on organic basis. Townscape elements support this integration and togetherness in rural areas. These are mostly the functional tools to make easier the villagers' life. Villagers live in harmony with nature. They organize their houses, ways, and tools according to the environment. Due to dispersed settlement pattern of Rize's rural areas, the houses and streets are diffused to each other in the view of general landscape. Under the dominance of agricultural landscape and greenery village houses, roads climbing the mountains and the mosques are most attractive elements. The stairs, graves, roads, mosques, fountain, bridge can be examples of other rural landscape elements.

Table 5-2 Rural townscape components (personal archive)

RURAL - TOWNSCAPE COMPONENTS		
 The Cut-Fill Roads	 Stairs	 Graves
 Serender	 Tea Storing House	 The Telfer
 The Bridges (Source: Zeynep Hasimoglu)	 Tea Plant Fields	 The Mosques

5.2.2.2 Townscape Components in Urban

Figure 5-10 The facades of buildings in Rize (personal archive)

Today the concept of landscape referring natural scenery is always associated with the concept of parks which are the representation of nature in urban areas (Günay, 2000). The parks are the breathing spaces for citizens in concrete and artificial environment of the cities. Rize has few parks and the main green and recreation area is the reclaimed coast line of the city. However, this area is separated from the city center by the highway. On the other hand, the urban center is the place of high density buildings, mostly above 10 stories. On the main streets, ten stories and two stories building could be found next to each other creating a sense of chaos in the city center. This situation is not esthetical and uncontrolled pattern lead sensory deprivation to the citizens.

Considering the fact that space arrangements and street patterns evolved determine the image of the city, townscape elements give clues about city's identity. Some of them coming from past some of them exist because of the present need. However, all of them are stemmed from the interaction between human and its environment and show the quality of city life.

Figure 5-11 Photographs of stairs examples from Rize (personal archive)

The most common peculiar townscape elements are mainly; highway, high and unqualified buildings, high sloping streets, reclamation land, the parks, retaining walls near the street and buildings, bridges, long stairs taken place of the road in existing very high slope, the narrow paths buildings, and lastly urban agriculture plots. In urban areas stairs also have remarkable place in addition the others and also the parks getting noticeable.

Although there are some differences between rural and urban townscape elements, the most important similarity is agriculture. Vegetable gardens are integrated into city life and maintaining by citizens in every available land of the city from public to private. As a result, agricultural cultivation takes place in the city as townscape elements.

Table 5-3 Urban townscape components (personal archive)

URBAN TOWNSCAPE COMPONENTS		
		
The Parks	The Reclaimed Land	Urban Agriculture
		
The Stairs	The Retaining Walls	The Bridges
		
The Highway	The Streets	The Paths

Figure 5-12 Parks and recreation areas of Rize (personal archive)

The city has few park areas. The municipality tries to balance this deficiency by arranging the reclaimed land as a recreational activity area. Although it is not finished yet, there are cafes, restaurants, Luna Park, basketball and tennis courts, and trees in one side of the area.

CHAPTER 6

AGRICULTURE IN URBAN AREAS OF RİZE

6.1 Introduction

In this section, UA refers to vegetable and fruit production in open spaces from smaller to larger scale in urban center of Rize. UA takes place in both public and private spaces and practiced by the citizens who cultivate their gardens, balconies, roof tops, vacant areas and even the residual lands. This section focuses on city core areas; especially the *urban* and *urral* parts of the city where people try to grow vegetables for their own consumptions. Unlike most of other cities of Turkey agriculture integrated to the urban life and maintain as townscape element in Rize.

Figure 6-1 An example of agriculture within the city core: corns in vacant plot. (personal archive)

Considering the other implementation of UA, people practice UA for its economic contributions as Cuba case. In the countries with high level welfare like Germany, this engagement turns to a recreational activity in time and takes place in the social

life of citizens. In the case of Rize, agriculture is not a phenomenon which is attached to city subsequently. The city had been founded as a small town with its small port and huge rural hinterland. The citrus fruits or corn gardens were located at the gardens of vernacular houses and in the center of the town. Therefore, it might be said that the city was evolved with agriculture. City get sprawl in time and agriculture has to pull away from the city center gradually. This gradual transition between rural and urban areas could be easily noticed by looking the city morphology. The transition zones are *urban, urral, rurban* and *rural* (as mentioned in Chapter 5) from high intensive to less intensive settlement pattern. Going through rural parts, the implementations of agriculture becomes more significant and turns to a rural activity. By the help of topographic conditions, agriculture extends from rural hinterland even to the city core and transforms to an urban activity. The adaptability and mobility features of UA provide people to apply agriculture in different part of the city.

The other distinguishing feature of urban agriculture in Rize is that agriculture is embedded in socio-economic life and practiced and maintained by citizens' effort. This study claims that UA is a result of social interaction between urban and rural areas. Therefore, among the other reasons of emerging urban agriculture in Rize, the social need has significant role.

Another important aspect is that UA is such a common practice that it creates its visual context in the city and turns to significant element in daily life of citizens. UA helps to define the characteristics of a region and in turn to identify people's way of life in settlements areas. Therefore, it is also a part of local identity. Considering UA as townscape element, UA could be perceived as both man-made and natural as it combines human activity with natural elements. In this point, UA is important townscape element for the city as much as its buildings, roads, squares, status, and stairs.

Figure 6-2 View of Rize' residential area: from green to concrete (personal archive)

Figure 6-3Collard greens (kara lahana) in front of the new apartments (personal archive)

6.2 Underlying Factors of Urban Agriculture in Rize

The underlying factors for engaging agriculture in Rize could be discussed under two categories: generating factors and supporting circumstances. The dominant green land cover consists of forest and tea plant fields, the challenging mountainous topography; micro-climate makes the soil suitable and fertile for various agricultural products and agricultural activities. These are the natural circumstances which Rize already possesses and prepare the base for urban agriculture. On the other hand, there are generating factors has revealed in time like: rural background of citizens, high in-migration rates, seasonal mobility, rapid urbanization, and low income level of citizens. These conditions come together with the natural circumstances and prepare the proper environment for UA.

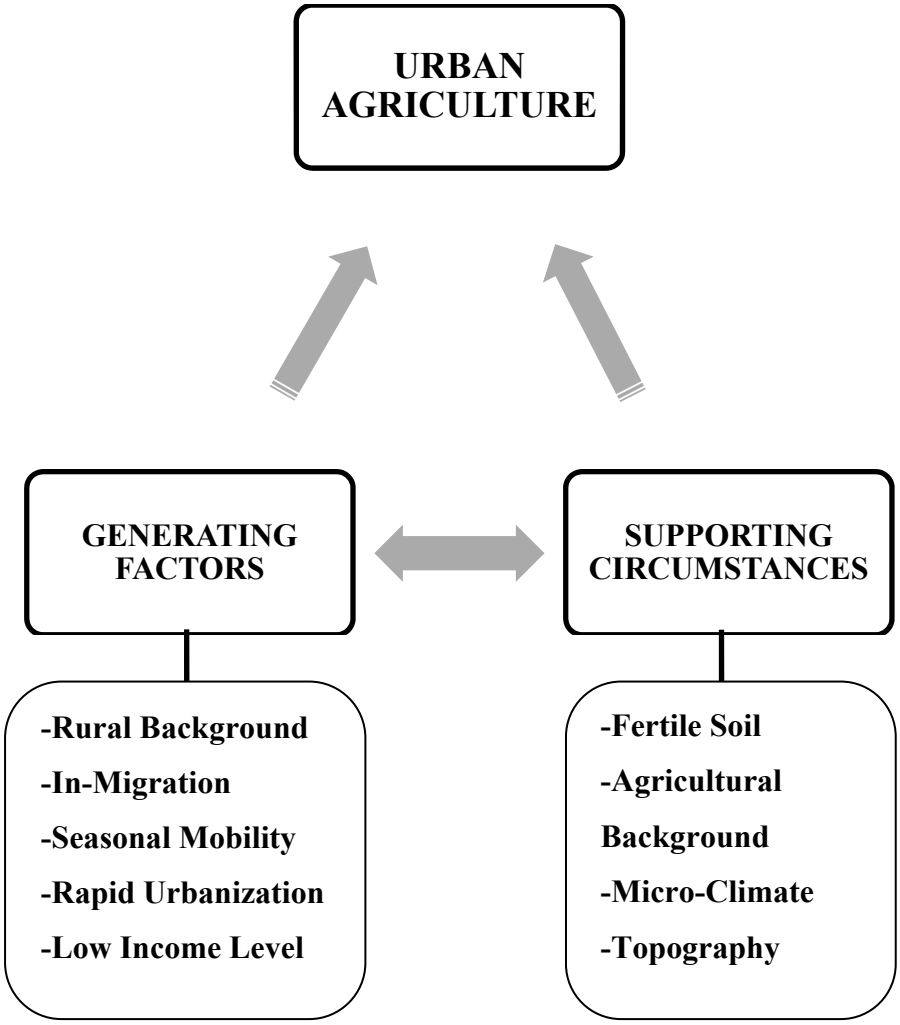

Figure 6-4 Underlying factors of urban agriculture in Rize (drawn by author)

The rural background of the city is the most other significant factor generating UA in the city center. The in migration rates and seasonal mobility, explains the origins of citizens' *rural background.* Examining the demographic data, it is seen that there is a significant change in the ratio of rural urban populations in city's history. After 1985 there was a dramatic decline in rural population which might be attributed to the increase in the rate of in and out migration of the province. In 1980, %73 of population was in rural, and %27 of the population was in urban. However, in 2011 %63 of the population lives in urban while %37 lives rural areas. Whereas rapid urbanization and migration movements occur in the city, it often shows internal migration from rural areas towards the city center (Uzun & Yomralıoğlu, 2005).

People are migrated to city centers with maintaining their traditions and cultural values. The social mobility between rural and urban provides citizens the opportunity to maintain their lifestyle in city center. Especially due to transportation facilities, periphery-center population movements were observed between urban-rural residential units. Indeed, 80 percent of the population living in urban areas do not end their relationship with rural (Baloglu, Steel, Kul & Long, 2003, as cited in Uzun & Yomralıoğlu, 2005). One of the important reason of this is they still continuo engaging tea plant agriculture in summer periods.

Continual rural relations lead the seasonal mobility. Most citizens have a village home used together with the family members. Since tea plant harvesting is done only in summer periods (4 times with 20 days breaks), people use their village homes in summers. Families continue to use their urban homes in the remainder of the year and they try to keep their relationship to the soil maximum. In winters there are no tea plant harvesting and meanwhile, income source for families in villages is disappeared. Therefore, seasonal mobility mostly increases in summer time to harvest the tea plant, and sell to state and private sector. In addition to the people living in the city center, who were migrated from rural, there are people migrated to other cities who also turn back to their village for holidays and for harvesting tea plant.

Economic concerns caused by rapid urbanization also encourage inhabitants to benefit from every possible pieces of land in *rurban* and *urral* areas of Rize by cultivating food. Citizens have to live in high density settlements between concrete blocks, contrast with rural life. UA creates breathing spaces in this depressed environment. Due to their rural backgrounds, they have enough experience with agricultural activities to cultivate their own food. Mostly women try to support Family income by engaging in UA in their gardens or balconies.

Figure 6-5 Parks and urban agriculture areas in Rize center

Figure 6-6 Path - side agriculture in Rize (personal archive)

6.3 Types of Urban Agriculture in Rize

Rize displays a contradiction between its high and chaotic buildings and agricultural hinterland surrounding them. Agriculture among concrete blocks seems more curious for the people who are not familiar to see it in urban life. Actually, in Rize every piece of land from public to private is as a potential area for cultivation. Beside the rural areas which are the main source of tea plant industry of the city, agriculture is engaged in city core, wedge areas, green corridors, and on the periphery. In city core, areas vary from very small scale spaces like windowsills, containers, fences, rooftops, basements, to public or private vacant plots, recreational areas and transportation ways.

Urban agriculture can be categorized in terms of implementation areas. Regarding this, urban agriculture practices in the city are divided into 2 groups: Public Areas and Private Areas The publicly owned lands are categorized in 4 groups: parks,

roadsides, residual lands, while the private lands comprise private residential land, vacant private land, residual private land, derelict private land and small scale UA balconies and roof tops (Table 6-1).

Table 6-1 Agricultural places in terms of implementation areas

	PLACES	PLANTS
PUBLIC AREAS	**-Parks** **-Raodside Land** **-Residual Land**	Beans, Cucumber, Lettuce, Onion, Collards, Tomato, Potato, Chili Plant, Corn, Pumpkin.
PRIVATE AREAS	**-Private Residential Land** **-Vacant Private Land** **-Residual Private Land** **-Derelict Private Land** **-Small Scale UA**	Beans, Cucumber, Lettuce, Onion, Collards (Kara Lahana), Corn, Swiss Chard (Pazı), Parsley, Dill (Tere), Arugula (Roka), Tomato, Chili Plant, Eggplants, Watermelon, Pumpkin, Mint.

6.4 Urban Agriculture in Public Spaces

The publicly owned urban agricultural lands are parks, roadsides, residual lands. The most attractive type of UA in these lands is roadside agriculture. UA could be observed along the Coastal Highway sides as well as steep roads in the city center. The road side agriculture consists of the land along roads, security islands, even in lands under the road-bridges (Figure 6-8). They cultivate mostly beans, cucumber, lettuce, onion, collards, tomato, potato, chili plant, corn, pumpkin. Due to the appropriate climatic conditions, people do not have to irrigate the land. Every kind

of vegetable could be grown in security islands or roadsides by rain-water. The only thing the citizens have to do is to spud out the soil and planting the seeds. Another reason of using roadside lands might be the fact that the land is empty and flat. Considering the difficulties of finding a proper land for agriculture, citizens want to use every available land. Moreover, in the villages, the lands are using for tea plant, villagers used to grow vegetables near the road or their tea plant fields. After 1940s, the forests and the corn fields are turned into tea plant gardens. Since tea plant has an important industry and income source for inhabitants of region, people try to get larger tea plant field to earn more money.

Besides the roadside agriculture, every piece of residual lands like stair sides, path sides or small pieces of land in streets are also used for agricultural purposes by the people live near environment of the cultivated land.(Figure 6-9,10) The parks and recreational areas are another common public places used for UA. The municipality let citizens to practice agriculture. The filling area is planned the place of recreational activities. There is a walkway along the coast and around it the café and restaurants located near the way. In this walkway side you can see small piece of land for agriculture. (Figure 6-11,12,13) Considering that the land in public spaces like parks, security islands or roadsides are very small areas, it could be concluded that the farmers do not sell their product; instead they cultivate the land for themselves.

The municipality of Rize tolerates and even approves this activity. Ali Osman Çevik, Executive Assistant of Mayor of Rize, attributes this behavior of the citizens to the personal characteristics of them. He says that “The inhabitants are hard-working and fell in love with green; they do not find brown, color of uncultivated soil aesthetic”. Moreover he declares that the Municipality of Rize encourages the inhabitants to engage in agriculture in public spaces, and advices them to use the reclaimed land for agricultural activities. Therefore, maintaining agriculture in public areas could be explained by that agriculture may seem aesthetic to citizens since they are already familiar.

Figure 6-7 UA in security island in the way of Pazar (personal archive)

Figure 6-8 A family cultivating land near highway (personal archive)

Figure 6-9 Cultivating security island along way to Pazar (personal archive)

In Figure 6-7, 8, it is seen a family cultivated the land near signboard in the middle of ways. Disregarding the dangerous exhaust fume and highways traffic occurs right and left sides of them, they are working together in the middle of the refuge. The whole roadside is using for agriculture approximately along 500m until Pazar. Since it is long road side land, the family needs to determine their borders of the land by aligning the stones left and right sides of cultivating area. This situation is considerably interesting because family pretend like they owned the land.

Figure 6-10 Urban agriculture in a piece of land under the Çayeli Road-Bridge

Under the bridge it is seen beans, collards etc. These attractive views from Cayeli Road-bridge may not be seen normally in other cities. , However, this situation is not disturbing for anyone. People normalize such implementations in public space.

Figure 6-11 Path-side urban agriculture (personal archive)

Figure 6-12 Urban agriculture in residual lands (personal archive)

Figure 6-13 Urban agriculture areas on reclaimed land (personal archive)

Figure 6-14 Fence surrounded agricultural area on reclaimed land (personal archive)

In Figure 6-14, there is a fence surrounded area in reclaimed land. The most interesting part is that, people create this place on the rocks just near the sea. Firstly, they carried the small stones to gain a flat ground on the filling rocks and they covered with fertile soil on them. Consequently, they succeed to grow vegetables even in the places where there is no soil. In this land, the collards are taken most attention at first sight. Along with collard, lettuce, beans, parsley are other favorable vegetables. Considering this organization request great labor and the size of the land is not big enough to have economic benefits, the young should like to engage in agriculture and take leisure during growing and consuming these vegetables.

Figure 6-15 The vegetables grown in fence surrounded area near the sea (personal archive)

Figure 6-16 Urban agriculture in house and apartment gardens (personal archive)

6.5 Urban Agriculture in Private Spaces

UA in private spaces consists of private residential lands, vacant private lands, residual private lands, derelict private spaces and small scale UA spaces like balconies and roof tops. Agriculture has diffused the city life in different scales. In urban places where the most intensive settlement pattern is seen, people are practicing agriculture in their gardens, balconies, rooftops or even in containers placed near entrance of their houses. However if there is no suitable land, they use even the residual, derelicts lands and they contribute to the city landscape by improving the environment by cultivating vegetables.

Considering the *private residential lands* using for agriculture, it is possible to see that kind of UA in every corner of the city. These lands could be investigated into 2 groups: house gardens and apartment gardens. The private house gardens are mostly belong to vernacular Rize houses. In city center there are some houses their "land title" was taken as tea plant garden in past. Therefore they have huge front garden and a house not more than 2 floors. The owners still use their old houses and maintain their gardens for growing vegetable or sometimes tea plant. People live in apartments are using the garden by shifts. Whoever needs to cultivate more than others can use the garden. Mostly, they use the garden together by sharing the garden land into small pieces.

Figure 6-17 Urban agriculture in apartment garden (personal archive)

Figure 6-18 Swiss chards (pazı) seen in front of the apartment entrance (personal archive)

Figure 6-19 Urban agriculture in residual land next to the road (personal archive)

UA done in residual lands is another implementation method of UA in private areas The residual lands, even the small pieces of ground are utilized by citizens. Figure 6-16 there are swiss chards (pazı) seen in front of the apartment entrance and the land is just approximately 1 square meter. Figure 6-18, there are collards next to the road in a residual land. The collards are the most widely cultivated vegetable in every kind of lands. This condition could be explained by their instinctive behavior. Citizens are not pleased to see vacant land even if it is so small. It is obvious that this kind of usage do not have economic value, since the amount of product would not enough to fulfill the requirements of an ordinary kitchen. Nevertheless they grow foods in front of their house, sometimes just for accustomed taste of vegetables or for being pleased by aesthetically.

Figure 6-20 Urban agriculture in vacant plot in a neighborhood in Pazar (personal archive)

Figure 6-21 Urban agriculture in vacant plot in Rize (personal archive)

Figure 6-22 Corn growing in vacant plot (personal archive)

The *vacant plots* are very suitable places for UA in private areas. Going away from city center, the vacant plots used for agricultural purposes begin to draw attention. These lands have the owners but for various reasons they could not be used for residential purposes. One reason could be disagreement between the land owners. During the period the land keep idle, their owners utilized the land by practicing agriculture. (Figure 6-20,21,22)

The number of vacant plots using for agricultural purposes decrease every day, regarding increase in land rent. In fact the accommodation prices in Rize are very high due to the land scarcity problems; the empty plots are so valuable too. For this reason, the owners tend to give their land to constructor for some flat. The suitable land for construction is between 0 and 300 m from sea, so the city squeeze in between the mountains and the sea. The former photo of Figure 6-22 was taken in 2009. At that time there are 2 story house and a tea plant field in front of it like in rural areas. Together with tea plant the vegetable are also grown by the land owner in his garden. Today, the land turns to construction site where 3 huge and high building constructions is continuo.

Figure 6-23 Tea plant and vegetable garden in 2009 (personal archive)

Figure 6-24 The same garden turns to construction site in 2012 (personal archive)

Figure 6-25 Agricultural activities in vacant plots (personal archive)

If there are no vacant lands, residual lands and house gardens due to dense housing, inhabitants use their home spaces for agriculture. Similarly, the roof tops and balconies, windowsills, containers, fences, are also part of the agricultural urban way of life. In the apartments, the absence of soil leads them to grow vegetables in pots. These pots are used for not only flowers but also for vegetables and fruits like orange, mandarin or grape. (Figure 6-26) Grape is preferred for its shade and visual value in front of apartments or in rooftops of single story houses. Balconies differ from the rooftops in that it is easy to grow plants in balconies and they provide easy access to fresh food every time.) In Figure 6-24, it is seen the parsley, swiss chard, beans, and onion which are the most grown and consumed fruits in kitchens.

Figure 6-26 Growing vegetables in balcony (personal archive)

Figure 6-27 Urban agriculture in Rooftop (personal archive)

Figure 6-28 Collards growing in pots (personal archive)

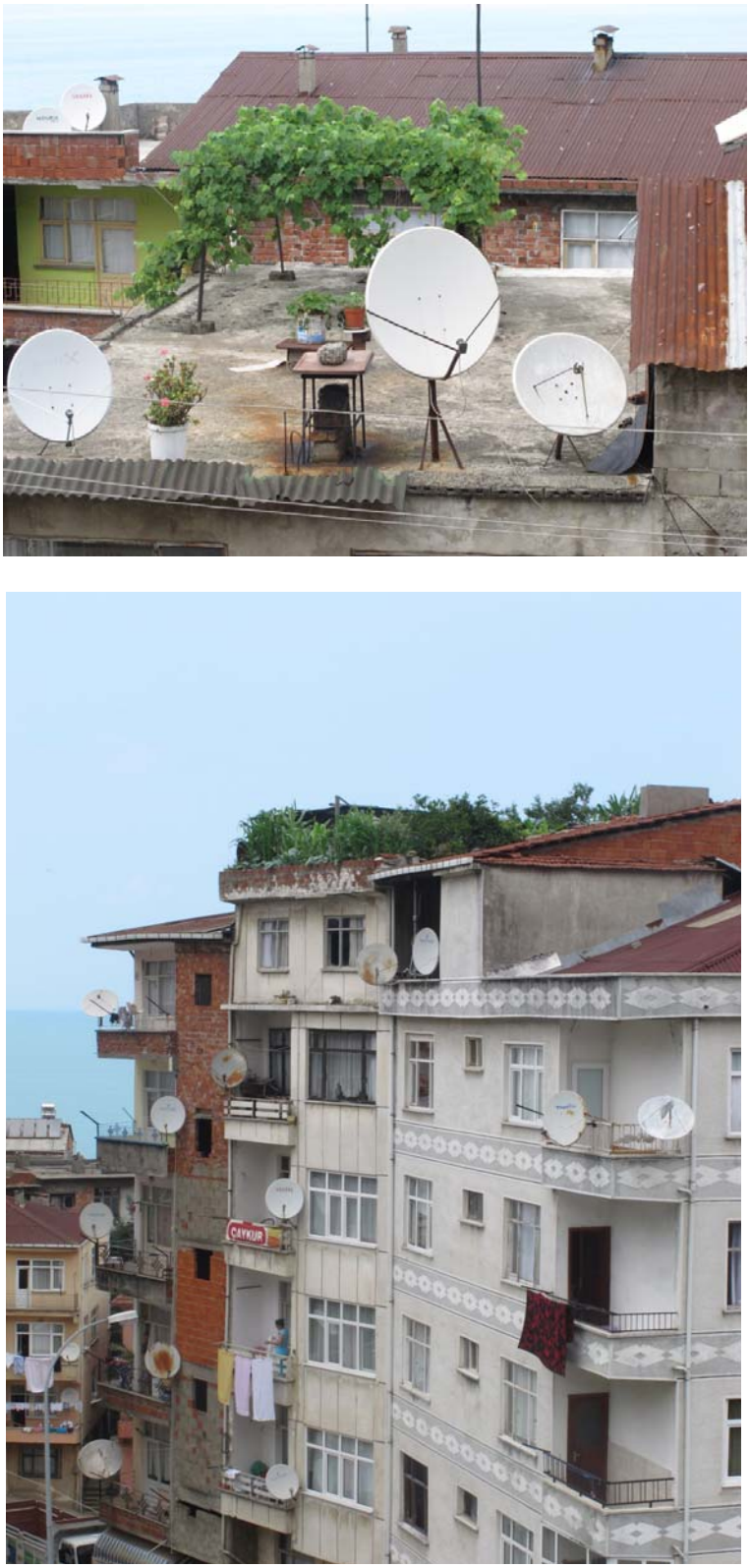

Figure 6-29 Urban agriculture in rooftops in Pazar (personal archive)

Figure 6-30 Urban agriculture in private derelict areas (personal archive)

Finally, *the derelict areas* are also suitable places for UA in Rize. Abandoned places, houses or unused apartments could be the subject of UA. Areas not used by their owners start to be used by other people for agricultural purposes. Urban farmers are tolerated by the real owners of the places. No one is disturbed due to growing vegetables. In Figure 6-28 (right), there is an old mansion of Rize' famous family, Tuzcuoğlu Mansion. The family does not live in the mansion. There is 80 years old gate keeper. He and his wife are cultivating the garden of the mansion. There are crops and collards. The old man says that the family let them to cultivate the land. In next figure there seems an idle apartment. Although the apartment is idle the garden is cultivated by the people living nearby.

In Figure 6-29-30 are the pictures of an idle flat with unfinished inner construction. In fact, in Rize people start to live in new apartments before the apartment construction totally finished. Each occupant does his/her construction himself/herself. In most cases the facade of the buildings left as brickwork without plaster. The other flats are finished by their owners and people get started live in them. Since there is no door or private staff in the flat seems in picture, the neighbor of owner uses it for herself. She puts some containers in the flat. She said that since she has no balconies she used here. The vegetables grown here are onion, beans, parsley and swiss chards.

Figure 6-31 Vegetable growing in cases in an idle flat (personal archive)

Figure 6-32 Vegetable growing in case in an idle flat (personal archive)

6.6 The Results of Interviews

Semi structured interviews were preferred as data collection tool. The aim was to acquire in-depth information on reasons for practicing UA from citizens of Rize. Interviews are conducted with 10 participants (8 women and 2 men) who are engaging in agriculture and live in urban districts centers of Rize. Moreover, 3 experts are also participated in interviews. These experts are from Rize Municipality, Ataturk Research Institute of Tea Plant and Gardens (Atatürk Çay ve Bahçeler Araştırma Enstitüsü) and ÇAYKUR. (Executive Assistant of Mayor Ali Osman Çevik from Rize Municipality, Department Manager of Food Technology Şaziye Ilgaz from Ataturk Research Institute of Tea Plant and gardens, ÇAYKUR Assistant General Manager, Agricultural Engineer Dr. Turgut Turna,). The interviews are structured mainly around the questions like:

- *Why do citizens need to cultivate the land in urban areas?*
- *Where do the farmers grow their vegetables?*
- *Is it an economic or social activity?*
- *What kinds of vegetables are preferred to be grown in the garden?*
- *Whether the farmers have rural background or not?*
- *Who are participating in cultivation in the family?*
- *What kind of advantages has doing agriculture in urban areas?*

Figure 6-33 The interview questions

The results of interviews and field observations showed that urban farmers are more likely to be female in the case of Rize. Another significant feature is that they all have a connection with rural life. Some of them practicing tea plant agriculture; some of them did in the past. They do not break their relation with their village at least relatives and emotional level. The participants cultivate vegetables

in places their near environment such as owned or not owned vacant plots situated their houses, in their apartment or house gardens, in balconies or derelict places. One of the participants grows corn in a pot on the windowsill of his office. The fruit trees are seen in house gardens in urban areas or villages mostly. In smaller plots participants prefer to grow mainly: beans, cucumber, lettuce, onion, collards (kara lahana), swiss chard (pazı), parsley, dill, arugula (roka), tomato, chili plant, eggplants, corn, watermelon (a new experience for farmers), pumpkin, mint. The fruits like kiwifruit, quince, figs (incir), pears, pomegranate (nar), mandarin, oranges, and persimmon (hurma) are seen in house gardens in urban areas (Table 6-2).

Table 6-2 Interview results: the place and products of urban agriculture

	WHERE?	WHAT?
Participant 1	Apartment Block garden	Beans, Collards, Eggplant, Tomato, Chickens
Participant 2	House garden	Beans, Cucumber, Lettuce, Onion, Collards, Swiss Chard, Parsley, Dill, Arugula, Tomato, Kiwifruit, Quince, Figs, Pears, Mandarin Oranges,
Participant 3	Owned-Vacant plot	Corn, Beans, Cucumber, Tomato, Watermelon, Pumpkin
Participant 4	Derelict Apartment Flat	Parsley, Onion, Swiss Chard
Participant 5	Balcony	Parsley, Onion, Swiss Chard, Beans
Participant 6	Not owned-Vacant plot	Beans, Onion, Lettuce, Corn, Collards, Chili Plant
Participant 7	Not owned Derelict House garden	Corn, Collards, Beans
Participant 8	Apartment Block garden	Collards, Beans, Mint
Participant 9	Apartment Block garden	Cucumber, Chili Plant, Tomato, Eggplants
Participant 10	Office window windowsills	Corn

The interviews revealed that *beans, collards, parsley, corn* and *onion* are the most favorable products in urban farming. They are the main vegetables necessary for daily consumption of households. Considering corn, collard, and beans together with "hamsi" (a kind of anchovy) are very important for the local cuisine, almost all of the meals are concentrated around these foods. Since drying is not possible and common, people grow what they can consume and sometimes do pickles by the surplus of production to consume during the year. The culinary culture of Rize preserves its' conventional structure especially in the villages of Rize. The attempt to grow local vegetables in urban areas shows that inhabitants want to preserve their local taste by growing their own food.

The variation in production depends on the size of the agricultural land. In the small scale places like balconies, derelict or residual lands participants prefer to grow perishable vegetables every day used. To access the fresh food and the quality of taste are their main motivation. In bigger scales like vacant private plots or house gardens or apartment gardens, participants tend to grow mainly corn, collard and beans. Collard is the most common vegetables in every place. As the place gets larger, corn becomes dominant. One of the reasons why so much corn is produced is that it is used for production of their bread.

Another important aspect derived from the interviews is the factors motivating people to cultivate in the city. Although participants meet in common ground, they also have different concerns in terms of their motivations. The analysis of the outcomes revealed many different notions. These notions could be associated with 4 titles: which are social factors, economic factors, environmental and personal factors.

Unlike the known dominant reason in the world, economic factors are not dominant in the case of Rize. In fact the social and personal factors become more important in inhabitants' preferences. Environmental Factors are also effective in UA.

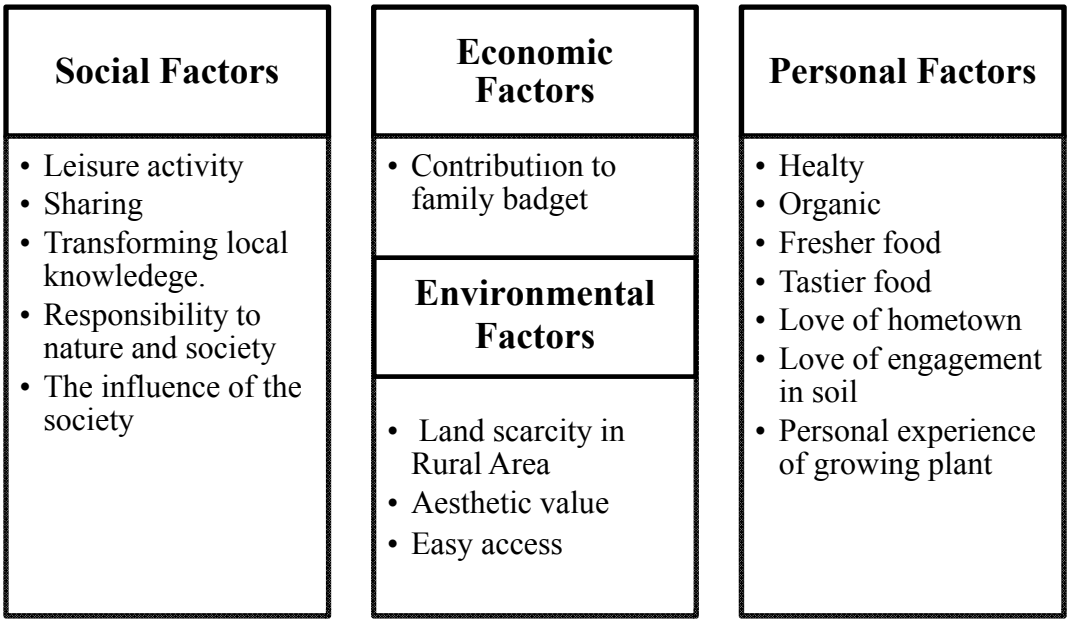

Figure 6-34 The factors motivating people to cultivate in urban areas (drawn by author)

The field observation indicates that farmers participated to interviews do not sell the products. In this point, it could be argued that economic factors are not so important for farmers. They mentioned the economic concerns as secondary reason. The most of the participants answer the question "why are you doing UA?" by saying they love to do, not for economic reasons. They seem UA as a leisure activity which also provides economic benefits. The participants indicate that they share surplus food with their relatives or neighbors. Participant 1 stated that "*the economic benefits are not worth comparing with the labor, I do not grow to not have to buy from market. I still buy the food from market. Nevertheless, it is pastime for me*." (Translated by the author) Some participants say that whether they have much money or not, they would still prefer to grow her own food because they like to engage in agriculture and soil. Personal factors such as love of hometown and love of engagement in soil seem to be main reasons for engaging in UA. However they are aware of the contribution of UA to the family budget. During summer they have to buy only the food which they cannot grow in their gardens.

Considering other personal factors, every participant mentioned the love of engaging in agriculture or the love of hometown. This is the primary reason of doing agriculture in province. Farmers said that although it's leisure they cannot do that if they don't love the soil. Considering the other personal factors, participants have personal preferences to cultivate the land. They agree with that food they grow is healthier and fresher than in the market. They said that they like the taste of what they grow. They like experience of growing plant. Participant 2, participants 3 indicate that they use the organic manure instead of chemical one.

Another social aspect is that some of them perceive this struggle as a duty which passes through local knowledge. They said that they feel responsible to the nature. The soil had been cultivated by their parents, and this should be continuing in this way. The soil seems as the source of fertility and every piece of land seems as waste when it is not cultivated. As mentioned before the land scarcity makes people more addicted and regardful to the soil. Participant 2 said that *"Agriculture is about conscious. My father and mother had been always advised us to take care of the soil. I always remember their words and try to say the same words to my sons and daughters."*

Participant 8 has a different situation. They are migrated family from Van. The women grow some beans, collard and mint in a small place near their apartment. The women said that when they arrived in Rize they saw all people are growing their own food. Therefore, they were influenced by this and want to try. She added that she is already do agriculture in Van. In this point it can be said that the society could be affective to influence each other.

From the interviews an interesting fact appears: some of the participants take attention to the land scarcity in villages. As known, tea plant covers an important part of the fields. The forests are cut to grow tea plant. It is known that Tea plant took the place of corn fields and orange trees in time. Under these circumstances villagers try to use every possible land for tea plant. They grow their own vegetables in front of their homes in small squares. They use roadsides or residual

parts of tea plant fields. The big fields are kept for tea plant since the economy mainly depends on tea plant. Some participants complained about this situation. They indicate that there is not enough places to grow vegetables in rural. Some of them prefer to do cultivate vegetables in urban areas not in rural, because the urban areas are sufficient for them.

Finally, female and male participant indicate that their mothers were engaging when they were child. Female participants say that they only help to their mothers with household chores and tea plant harvest. However gardening is the responsibility of mothers. When they get mother they take the responsibility of gardening.

Considering the environmental factors, another notion is appeared; the aesthetic value. The participants emphasized that they see agriculture as aesthetic value. A participant from Pazar who lived in district center for 20 years said that Her daughter is a landscape architect and wants to design some ornamental trees for their from garden . However the other neighbors change these trees by corn plant in time. Their pragmatic behavior effects their aesthetic perception. The easy access to the land is also significant for participants since the villages are so away from urban center and the transportation opportunities not adequate.

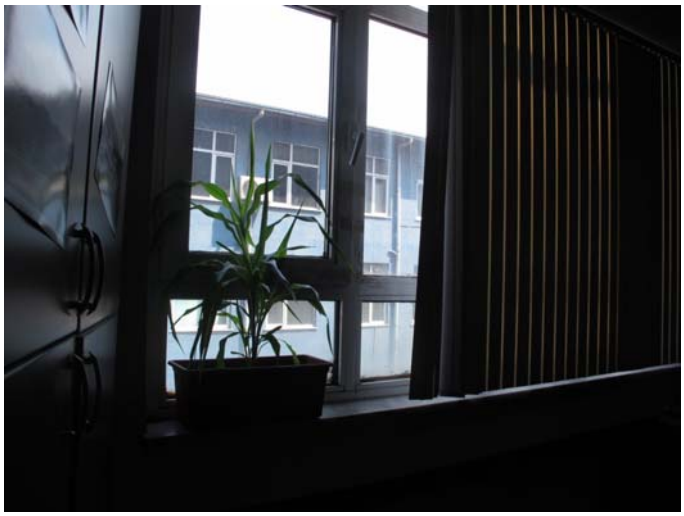

Figure 6-35 Growing corn in a pot on the windowsill (personal archive)

CHAPTER 7

CONCLUSION

This study aims to identify the notion of urban agriculture, to investigate its economic, social and environmental impacts and to elaborate its implementation methods in Black Sea towns of Turkey via the case study of Rize. The research is divided into two parts: including the analysis of the theoretical background of urban, rural and urban agriculture notions, and The analysis of the characteristics of Eastern Black Sea Region and Rize and implementations of agriculture in urban areas. It analyzes the current situation of urban agriculture in Rize which differs from the other implementations in the world in terms of local and social characteristics. Semi-structured interviews were conducted to comprehend citizens' motivations for practicing agriculture in urban areas. Interview participants include city farmers and experts from public institutions.

This section tries to answer the research questions by addressing the significant findings of literature review and case study, and it ends with a discussion of the potentials and drawbacks of practicing UA in Rize.

7.1 Research Questions Revisited

How would rural and urban be integrated into each other?

As mentioned in Chapter 4, there is big connection between rural and urban land in Rize despite the destruction of urbanization. This connection is provided by physical and socio-economic way. Considering Rize, it is noticeable that whole city is surrounded by dominant green, and this green reaches even to the inner city by

drawing extensions, which might be called as green corridors. Christopher et al. (1977) in their book Pattern Language describe the way of designing environments with certain personal and social qualities, and suggest "interlocking fingers of farmland and urban land, even at the center of the metropolis." In the case of Rize this proposed condition, existing urban and farmland areas together and interacting to each other has realized randomly in the city. However, the urban and farmland fingers are neither designed nor organized. City dwellers come into contact with rural life by green extensions. These lands are covered with forestry or agricultural fields. Since the city has access to the country side near every point, there are continuous connection between city dwellers and natural greens of rural lands.

"*People feel comfortable when they have access to the countryside, experience of open fields, and agriculture; access to wild plants and birds and animals"* (Christopher et al,.1977, p.35)

The province of Rize, which has a significant rural hinterland, sets different integration of urban and rural life and cannot be investigated simply as urban or rural. There is a hierarchical transition from urban to rural which becomes obvious when looked at the overview of the city. In order to better understand this transition, city is divided into 5 sections from urban to rural. They are urban, urral, rurban and rural. Since strict urban and rural distinction is not sufficient to explain the case in Rize, new terms like urral (combination of urban and rural) and rurban (combination of rural and urban) are preferred to analyze the integration scheme. In summary, the first zone is the Reclaimed Land which is reserved for recreational activities. The second zone is Urban which is located in the coastal parts of the city and bordered by the first reclamation with high concentration of urbanization. The third zone is called urral areas because whereas they have rural characteristics, urban characteristics are dominant. Rurban is forth zone, and it has predominantly rural characteristics while it is still a part of urban. The Last zone is Rural zone surrounded the city and consists of the villages, forestry and agricultural fields.

The integration of rural and urban does not only take place by physically but also culturally. Village culture and urban culture are getting gradually diffused to each other. The economic activities complement each other. In conclusion, there is a strong interaction between urban and rural.

What are the underlying factors behind engaging agriculture in urban areas of Rize?

The results of case study research revealed that *there* are some *underlying factors* in engaging agriculture in urban areas of Rize. These factors could be studied under two categories: *generating factors* and *supporting circumstances*. Both of them motivate people to practice UA in household level. The dominant green land cover consisting of forest and tea plant fields, the challenging mountainous topography, micro-climate, high precipitation makes the soil suitable and fertile for a wide range of agricultural products and activities for areas as well as rural areas. Rize already has these natural circumstances which prepare the base for agriculture in urban areas. On the other hand, there are generating factors revealed in time. They are: rural background of citizens, high in-migration rates, seasonal mobility, rapid urbanization, and low income. These conditions come together with the natural circumstances and create an environment suitable for UA.

The *rural background* of the city is one of the significant factors generating UA in the city center. High migration rates and seasonal mobility explain the rural background of citizens. Majority of the citizens dealing with agriculture have connection with rural life. Considering in-migration rates, in 1980, %73 of population live in rural, and %27 of the population live in urban (TUIK). However, in 2011 %63 of the population lives in urban while %37 lives rural areas. Migration from rural to urban areas leads to social mobility. This social mobility contributes to social, economic and cultural diffusion between rural and urban. With the help of topographic conditions citizens have the opportunity to engage in agriculture in urban, and maintain their rural lifestyle. Most of the migrants do not end their connection with rural, i.e., they still have houses and tea plant fields in their

villages. Continual rural relations lead the *seasonal mobility*. Since tea plant harvesting is done only in summer periods; people use their village homes in summers. As practicing agriculture becomes a part of their life, they try to keep their relationship to the soil maximum during rest of the year.

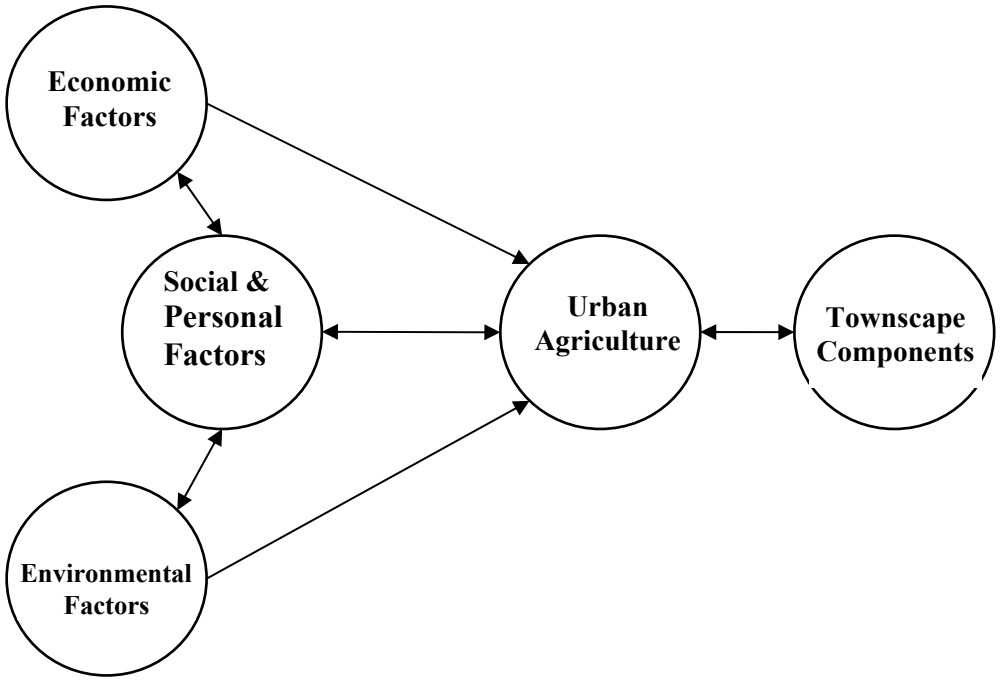

Figure 7-1 The relations of urban agriculture with other values (drawn by authors)

What are the factors driving people to practice agriculture in urban areas in Rize?

The interviews showed that mainly social factors, personal factors economic factors, environmental factors and drive people to cultivate in the city.

Social factors are the most dominant factors among them. All participants declare that they mostly engage in agriculture as *leisure activity*. It is maintained and practiced by citizens' personal efforts despite all the destructive conditions of high urbanization rates and land scarcity. Another social aspect is that some of the citizens perceive this struggle as a duty passed through *local knowledge***.** Their

parents utilized the land for agriculture, and they should preserve this tradition. Therefore, they feel responsible to the nature.

In field analyses, it is seen that people grown in village tend to engaged in agriculture more than people who grown up outside of their village for education or other purposes. Their connection with the soil ceases to exist due to ending the connection with rural. When man grows in village, they establish certain relations with particular environment. Consequently the elements of this environment convert to realities which they carry with their existence. In this respect, it could be concluded that agriculture becomes a part of *traditional* life as a regular *custom*. It seems as a notion and maintained in the present with its origins in the past.

Personal factors become significant in interview results. The love of hometown and love of engagement in soil seem as the main reason of UA. Participants said that they enjoy the experience of growing plant, and they like the taste of food that they grow.. They agree that these foods are healthier than the ones that they buy from the market. Moreover, by UA they could have fresh vegetables whenever they need to use in kitchen.

Considering ***economic factors***, it seems that the farmers participated to interviews do not tend to sell the agricultural products from their gardens; they prefer to share the surplus with their neighbors or relatives. In this point, it could be said that economic factors are not so significant for farmers. However they are aware of the contribution of UA to the family budget. During summer, they have to buy goods only which they cannot grow in their gardens.

Considering the ***environmental factors***, it is surprising that some of the participants take attention to the land scarcity in villages. They indicate that there is not enough place to grow vegetables in rural. Some of them prefer to cultivate vegetables in urban (not in rural) because urban areas are sufficient to fulfill their needs. Urban areas provide easy access to fresh vegetables. Some participants put agriculture an aesthetic value. They said that they are happy to see green around them, which reminds them their village and natural life in city.

In addition to all findings it could be concluded that soil seems as the source of fertility. Each piece of the land which is not cultivated seems as waste. The urban area is so limited by sea and mountains. The land scarcity makes people more addicted and regardful to the soil. The reason why people try to utilize every piece of land might be based on ***appropriation of land***. This is because they use the derelicts and private or public residual lands. They want to use every piece of land in a productive manner. . Scarce and inadequate settlements forced to grow vertical more horizontally growth in the region. The construction available land is only between 250-300m from the sea to south direction. Consequently the land is so valuable in urban as well as in rural areas.

How would agriculture take place in the city center as townscape element?

In 1960s Gordon Cullen associated the concept of scape with the urban, and suggested the new concept of townscape (Günay, 2000). Cullen (1961) asserts that there is an art of relationship between the components creating urban environment. According to this approach the components creating the built up area of the city become urban landscape components such as; buildings, roads, squares, status, stairs in addition to natural elements like water, green, trees. Regarding the concept of townscape, it could be said that agriculture is a townscape component of a city as it can be widely seen forms which effects and is affected by the relations between inhabitants and built environment.

Field observations showed that, inhabitants practice agriculture mainly in public and private areas. Publicly owned lands are categorized in four groups: parks, roadsides, residual lands, while the private lands comprise private residential land, vacant private land, residual private land, derelict private land and small scale UA balconies and roof tops The most attractive type of UA in these lands is roadside agriculture. UA could be observed along the coastal highway sides as well as steep roads in the city center. The road side agriculture consists of the land along roads, security islands, even in lands under the road-bridges. Under the bridge or road

sides, citizens grow beans, collards, corns etc. Therefore, maintaining agriculture in public areas could be explained by the belief that agriculture may seem aesthetic to citizens since they are already familiar with it. UA takes place in visual context of citizens as natural elements in made-made places in urban areas.

On the other hand, today the concept of landscape referring natural scenery is always associated with the concept of parks which are the representation of nature in urban areas (Günay, 2000). In Rize case, agricultural practices might be perceived as representation of nature by considering that agriculture is thought together with natural environment. The absence of parks in urban areas drives people to create their natural environments by themselves. They try to imitate village environment familiar to them. As a result, agriculture evolved as a reproduction of nature in their near environment.

7.2 The Interpretations of Urban Agriculture in Rize

When the environment is meaningful man feels "at home".

(Shulz, C. N, 1980, p.23)

Referring back to the literature review, two case studies from the world show that the state has a big role to situate and maintain UA in the cities. There is a strong state provision on Cuban urban agriculture system. State provides the necessary technical support and information to city framers, and guides them to available places for UA. On the other Hand, in Germany agriculture is regulated by the state. The frame of UA is drawn by the laws and the rights of farmers are supervised by these laws. Whoever wants to cultivate the land could obtain allotment garden from respective associations. Comparing these two cases by the case of Rize, it is concluded that the inhabitants do not take any support from the state. They are engaged in agriculture despite destruction of land scarcity and urbanization. There are neither large plots like Germany nor any encouragement like in Cuba. However, there is a similarity with Cuba case. In Rize and Cuba, there is a kind of

campaign and social solidarity. In Cuba, UA takes place generally in parks, in vacant or abandoned plots like in Rize. Cuban State encourages citizens for transforming all empty spaces into productive vegetable gardens. The difference is that in Rize, citizens do the exactly same thing not because of imposition of state. They do that as a part of their ordinary life. Another difference from the other implementations is that UA has many factors in city life: they could not be categorized as social, economic and environmental only. Considering the research questions, UA has interactions with many notions in city life.

Figure 7-2 Different notions related to urban agriculture (drawn by author)

UA converts to a continuous and instinctive habit for citizens. They need to practice agriculture as a way to maintain their agrarian roots with the land even in urban areas. Agriculture satisfies citizens' physical and social needs. Due to their

rural background, the experiences in rural areas are meaningful for them and they associate these experiences with their villages.

Another finding is that agriculture is practiced in a ***social conformity*** and it also provides social solidarity. It seems that there is an agreement between citizens and the rules of this agreement are neither verbal nor written. Every one respects to other gardens. No one interferes with others' gardens even it is placed in public areas like security islands, road sides or parks. Everyone enjoys seeing agriculture as green element.

Considering that agriculture is better than leaving the land uncultivated, municipality tolerates the farmers. Whoever needs, s/he can cultivate the land with whatever s/he wants. However, it is declared in interviews that people could use any empty land as long as it is not used by municipality for other purposes. This situation could be problematic for the future of urban agriculture in city center. Already many empty plots have turned to construction sites. Citizens prefer to have high apartments in these sites. It seems that agricultural activities would continue as long as the citizens are engaged in UA with special effort. Thus, UA in Rize seems different from the other implementations since the situation in Rize exists and survives spontaneously.

As this study investigates the characteristics of current implementation of UA in Rize, it reveals that urban agriculture appears as an inevitable part of social life that bears the imprint of rural background.

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APPENDIX A

THE HISTORIC PHOTOS OF RİZE

Figure A-1Tangerine gardens in Rize, 1931

(source: Fatih Sultan Kar collection)

Figure A-2 Students parade among the corn gardens, 1928

(source: Fatih Sultan Kar collection)

APPENDIX B

DEMOGRAPHICAL DATA OF RİZE

Table B-1 The demographical data of Rize (source: TUIK)

Years	Total Population	Male Population	Male %	Female Population	Female %
1927	171.667	71.948	41.9	99.719	58.1
1935	169.913	72.737	42.8	97.176	57.2
1940	172.764	72.559	42	100.205	58
1945	171.929	72.737	42.3	99.692	57.7
1950	181.512	77.377	42.6	104.135	57.4
1955	211.967	92.142	43.4	119.825	56.6
1960	248.930	113.345	45.5	135.585	54.5
1965	281.099	130.070	46.3	151.029	53.7
1970	315.700	150.099	47.5	165.601	52.5
1975	336.278	165.016	49	171.262	51
1980	361.258	173.651	48	187.607	52
1985	374.206	181.001	48.3	193.205	51.7
1990	348.776	166.481	47.7	182.295	52.3
2000	365.938	181.200	49.5	184.738	50.5
2007	316.252	155.580	49.2	160.672	50.8
2008	319.410	157.650	49.4	161.760	50.6
2009	319.569	157.753	49.4	161.816	60.6
2010	319.637	157.161	49.2	162.476	50.8
2011	323.012	159.304	49.3	163.708	50.7

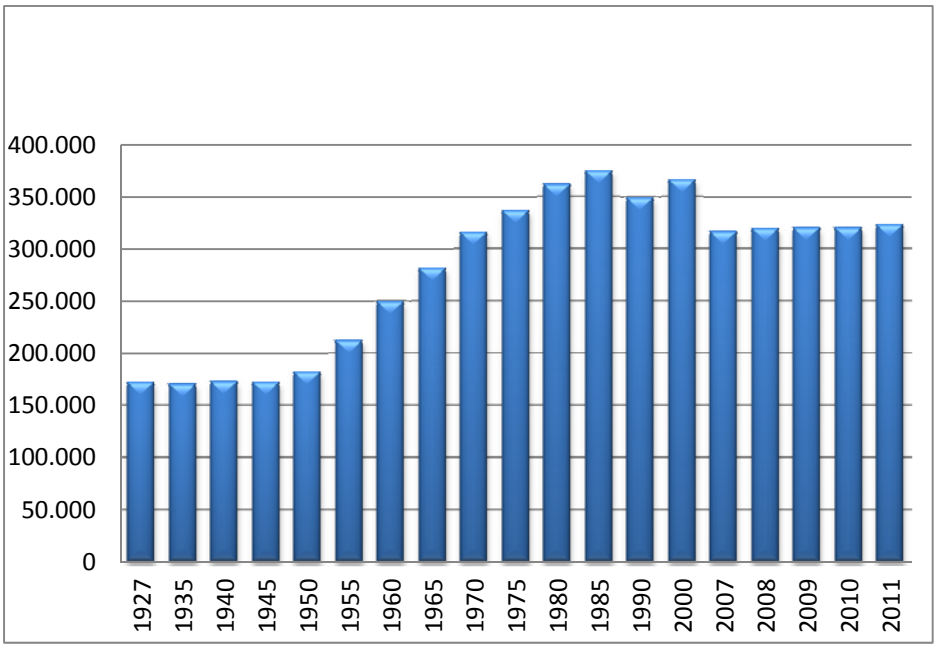

Figure B-1 Graph showing population growth between 1927-2011 (source: TUIK)

Analyzing the population graph of Rize (Figure 4-14) between 1927 and 2011, it is seen that there are different time periods which show different accumulation of the population. Considering between the years 1927 and 2011, there are an unbalanced development. In general, the population has growth. While there is very slower increase in population between the years 1927-1950 that might be a reflection of difficult years of Independence War, there is a remarkable growth in the population between the years 1950 -1985 by the affects of tea plant industry (Zaman & Coşkun, 2006). The most rapid increase in population was experienced between the years 1950 and 1985. This situation might be explained by that after World War II, male population go back their homes and get married and have children. As a result of improvement in their welfare, population started to increase. Finally, a decrease in population is seen between the years 1985 and 2007. The city lost the population because of the migration from rural and urban area of Rize to big city centers and abroad (Zaman & Coşkun, 2006). In recent years, the population increases which may be caused by the changing in economic potentials of the province.

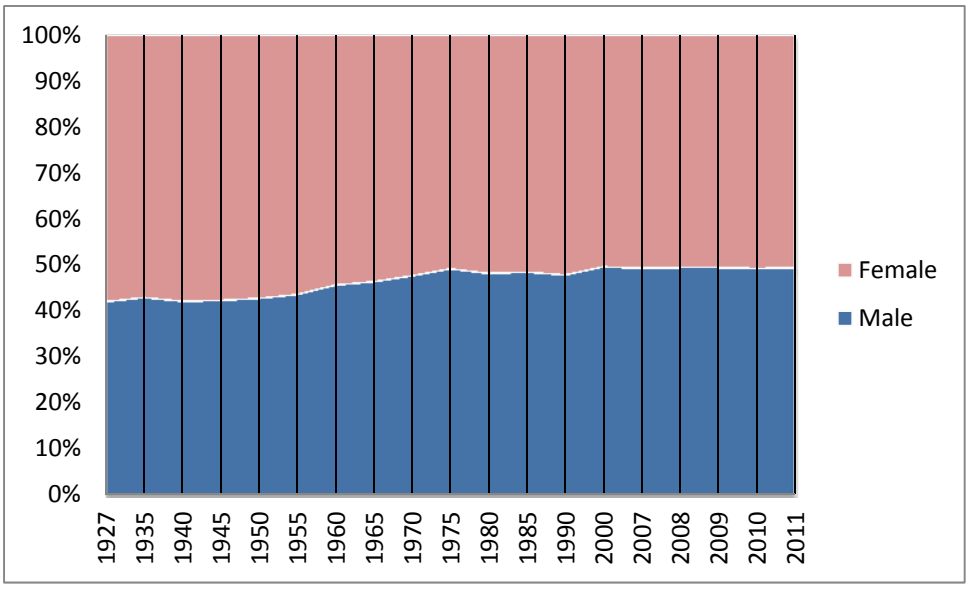

Figure B-2 Graph showing ratio of female - male population of Rize

Another interesting demographic inference is about gender attributes. Rize has shown dominated female population in almost every census. While in the first years of republic, War of Independence is associated to this low ratio of male population, in the following years, the reason changed to migration which resulted to increase in the female population. Generally, father or the young males of the family tend to migrate. In last census, it is seen that the ratio of male is %40.3 while the ratio of female is %50.7. Therefore, it can be said that there is an increase in male population in recent years comparing with the first years of republic.

Table B-2 Rate of migration in Rize (source: TUIK)

Years	In-migration	Out-migration	Net migration	Rate of net migration(‰)
2007-2008	13.253	13.825	-572	-1,79
2008-2009	12.428	14.575	-2.147	-6,7
2009-2010	13.070	14.819	-1.749	-5,46
2010-2011	14.558	14.560	-2	-0,01

Migration is significant problem for the province. According to the demographical data (Table 4-4) it is understood that the city has high amount of out- migration.

The forces which push people to migrate are mostly natural environment and its corresponding drawbacks. The lands are not enough to sustain the existent population. It creates challenging situation to get populated. As a result the province gets lost the population. Since the land scarcity has limited both the agricultural land and the industrial development, the people tend to migrate from rural to urban centers in or outside of the district (Uzun & Yomralıoğlu, 2005). Therefore, Rize has remarkable population accumulation.

Considering the population born in Rize, it is seen that most of them live in İstanbul. Ankara, İzmir, Kocaeli and Bursa (Zaman & Coşkun, 2006). Nevertheless it is also received migration from surrounding districts from rural to urban. According to census 2011, %63 of the population lives in urban while %37 lives rural areas. There is a significant change on the ratio of rural urban populations. There was an increase in rural population until 1980; such that %73 of population lives in rural, on the other hand; %27 of the population lives in urban. After 1985 there is significant decline in rural population.

Table B-3 The ratio of rural - urban population of Rize (source: TUIK)

Years	Rate of rural	Rural	Urban	Rate of urban
1965	77	217.545	63.554	23
1970	77	242.986	72.714	23
1975	75	253.570	82.708	25
1980	73	265.106	96.152	27
1985	70	262.838	111.368	30
1990	62	215.406	133.370	38
2000	44	160.693	205.245	56
2007	38	119.085	197.167	62
2008	41	129.706	189.704	59
2009	39	124.000	195.569	61
2010	38	122.117	197.520	62
2011	37	120.376	202.636	63

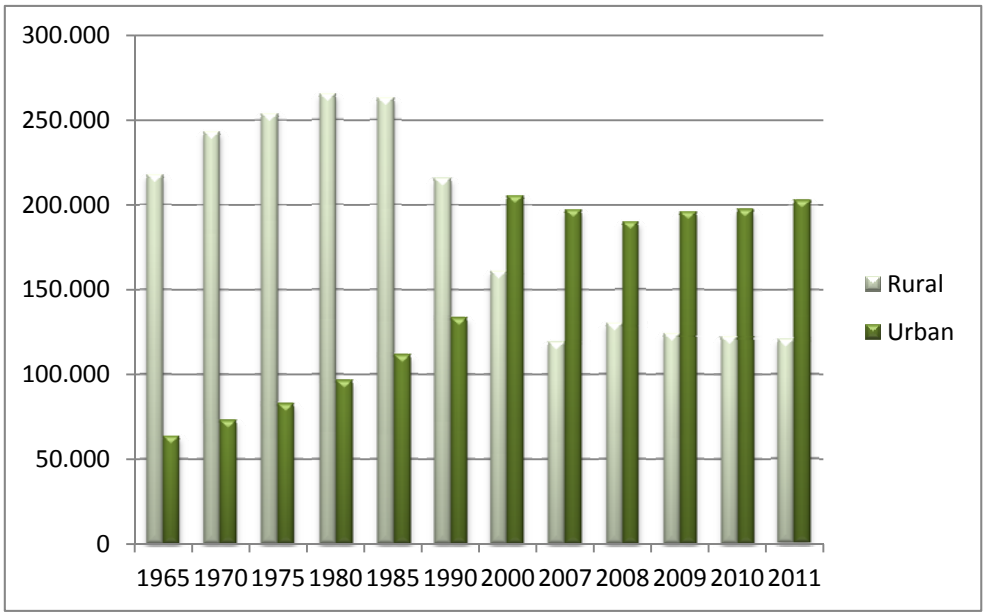

Figure B-3 The ratio of rural - urban population

APPENDIX C

THE MAPS OF RİZE

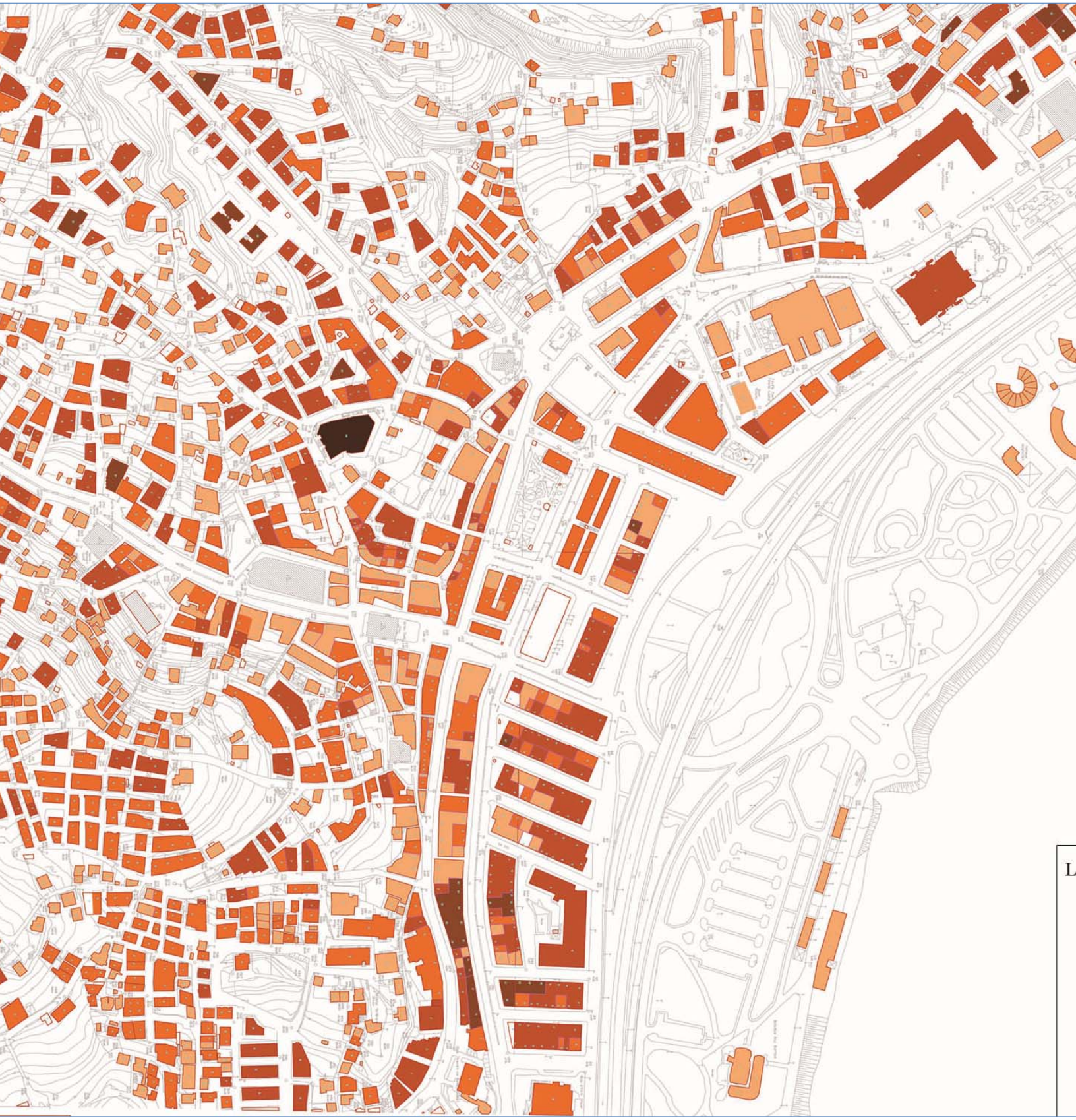

Figure C-1 Buildings heights map of center Rize (reproduced from Land-use map of center Rize)

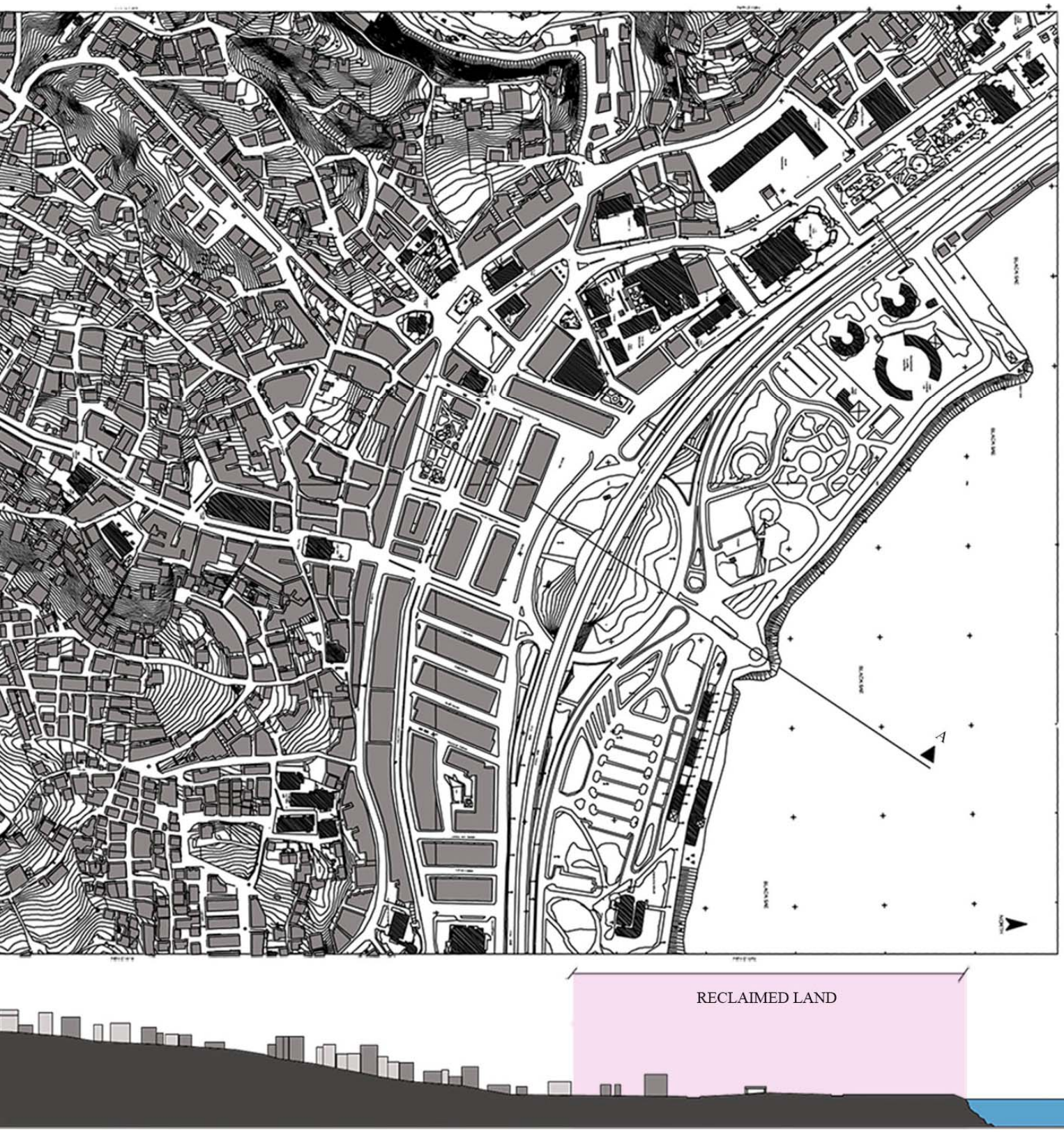

Figure C-2 Plan and Section of Center Rize (reproduced from land-use map of center Rize