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Urban Environmental History of an Anatolian City: Destroying the Riverscape of Kayseri

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Urban Environmental History of an Anatolian City: Destroying the Riverscape of Kayseri

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Abstract

In the long history of human, interrelations with waters and rivers have played an important role in the formation of early settlements and city development. Long histories of extensive human interventions in rivers show that the relationship between the city and the natural environment has been circular. While the natural environment has profoundly shaped urban configurations, cities had massive effects on the natural environment. Urban developers often reshaped natural environment by leveling hills, filling valleys and wetlands, and creating huge areas of made land. They constructed a built environment of paved streets, malls, houses, factories, office buildings, and etc., and altered urban riverscapes according to human needs, aesthetic ideals and technical options. The protection of a heritage such as individual buildings and monuments or an entire district or town is rarely a problem, because of the existing legislation. However, there is no restriction about the alteration of the urban riverscape. Hence, the most pressing problem is that how a city's riverscape, which is a historical resource, can be easily changed.

This paper aimed to assess the relation of integration between city and its river and describe the loss of the riverscape which is a part of the cultural landscape due to the urban expansion in an Anatolian city, Kayseri, between 1882 and 2012. To address this transformation issue clearly, a case study approach was chosen and the data was gained from the historical maps, aerial photos, urban development plans and newspapers. The main result is that the spread of urban populations and urban land use has reshaped and destroyed the river landscape of the city of Kayseri. This study showed that a river which takes a critic role in urban history is a non-renewable product. These results provide a general idea that rivers are not compensable urban resources; therefore, they can't be replicated.

Keywords: Urbanism, urban environmental history, urban expansion, heritage, riverscape, Anatolia, Kayseri (Caiseria)

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Introduction

In the long history of human, interrelations with waters and rivers have played an important role in human development and emergence of human society, in the formation of early settlements and city development all over the world. The city was born "in between rivers" just as in Mesopotamia, and others in Nile, Indus and etc., throughout history. The growth of society continued along the river edge and river was the most important means of transportation for domestic and trade. Most cities tended to be founded about or near rivers, along the river course, on the river mouth, the meeting of two rivers, sharp bends, or on islands [1].

Long histories of extensive human interventions in rivers show that the relationship between the city and natural environment has been circular. While the natural environment has profoundly shaped urban configurations, cities had massive effects on the natural environment. Man activities and pressures of society on the landscape are very changeable in the time and landscapes are changing very quickly in their features and landscape patterns. For example, urban developers often reshaped natural environment by leveling hills, filling valleys and wetlands, and creating huge areas of made land. They constructed a built environment of paved streets, malls, houses, factories, office buildings, and etc., and altered urban riverscapes according to human needs, aesthetic ideals and technical options.

Before the 17th century, rivers providing water resource for daily uses and trading operations were a primary criterion for city development. In the 19th century, the rivers were transformed into a focal point for business activities as well as the small settlements developed into towns, while the buildings were erected along the river for trade and industrialization. After 1970s, better transportation means providing easier access, had resulted the river's decline as a form of communication. Moreover, from 1990, the cities turned their backs from the river. Thus, historical buildings and traditional settlements worn-out industrial activities and redundant transportation infrastructure remain along the riverfront and the river in turn had been neglected [2]. The rehabilitation of rivers is the most recent step in the long history of human interrelations with waters. The emergence of environmental issues and the concept of sustainability [3] have highlighted new themes[1]. The old industrial areas along the rivers are seen as an opportunity to improve leisure activities, and the quality and aesthetics appreciation of public spaces that have clear effects on tourism, and also implicitly the economic development of cities.

According to the long history of human interrelations with waters, it is clear to say that cities and rivers are "socio-natural sites" - in Winiwarter and Schmid's terms [4] - in where nature, society and culture are merged. Every region, city and town is characterized by its allocation, vegetation, buildings and infrastructure. By this view of perspective, it can be indisputably said that

[1]Like waterfront rehabilitation, water quality improvement and regeneration of riversides, the restoration and (re)naturalization of rivers and streams, the quality of urban landscape

"cities as elements of fluvial landscapes" [5]. While the elements of landscapes includes "large-scale characteristics such as spatial relations and views as well as individual features including topography, vegetation, water feature, roads and paths, structure, site furnishings and objects" [6], cultural landscapes are composed of a variety of features defining the historic character [7]. The term "cultural landscape" characterizes the distinctive interrelationships between nature and people [8]. Hence, present cultural landscapes of urban areas are a product of long-term interactions between natural and cultural forces.

A great variety of regional and urban landscapes within Anatolian cities have been developed and created as a result of the long-term interactions between nature and culture. Many of the disturbing anthropogenic pressures cause bigger or smaller changes on the cultural landscape. The protection of a heritage such as individual buildings and monuments or an entire district or town is rarely a problem, because of the existing legislation. However, there is no restriction about the alteration of the urban riverscape. Kundzewicz and Samuels [9] identifies that the approach of living with floods seems more sustainable than the historic approach of combating floods, therefore every transformation of floodplains deserve careful consideration. Tacha states that "until water becomes as sacred, throughout the world as it is in India; we will not develop a proper riverfront solution" [10]. Hence, the most pressing problem is that how a city's riverscape, which is a historical resource, can be easily changed.

The aim of this study then is to assess the relation of integration between city and its river. And to describe the loss of the riverscape which is a part of the cultural landscape due to the urban expansion in an Anatolian city. This paper concentrates on the case of Kayseri and the rivers around the city, a thoroughly representative example of the issues. The period of reference – 1882-2012 – covers the first drawn historical urban map of the city and the transformation of urban pattern.

The study is based on a combination of methods derived from urban development, urban environmental history. Data and evidence were collected by the use of two methods that are the literature surveys and case study. The data was gained from the historical maps, aerial photos, urban development plans and newspapers. Data collections from literature reviews were found from recommended books, journals and research reports, Masters and PhD Thesis. Other important information was obtained by searching through Ottoman archives and also other library collections in Turkey regarding maps, urban plans, and cartographies.

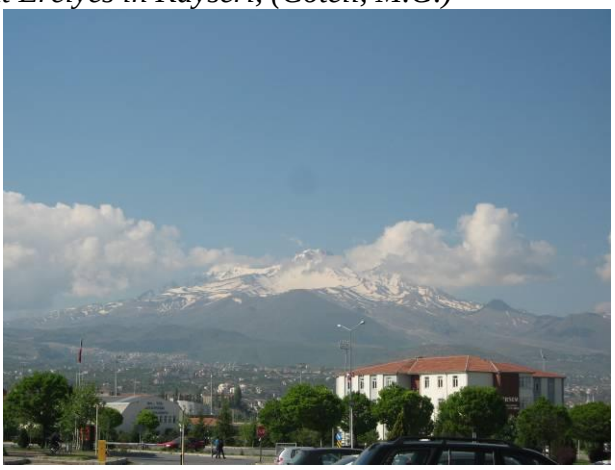
The paper is divided into three principal sections. The first section describes the city of Kayseri and its water resources, riverscapes. The second section depicts the situation of urban development and the disturbances and also changes in Kayseri according to the planning periods. The last section is manifesting the reasons of manipulating the rivers in Kayseri.

Case Study of Kayseri

Location of the Kayseri City

The Province of Kayseri is placed at northern façade where southern side of the Central Anatolia and Mountains of Toroslar are approaching to each other. As in two line and parallel to each other, these high mountains are aligned from southwest to northeast. There occur many plains and plateaus between these mountain chains. The extinct volcano Mount Erciyes that towers 3917 m rises alone on the center of plain. At western side of the Mount Erciyes, Sultan Sazlığı National Preservation Area is providing a natural habitat for 295 bird species [11]. Kayseri city, which is located at the upper Kızılırmak (Halys) region, is a large, medium-sized, industrialized city in Central Anatolia. Being an Anatolian Tiger [12], the city is often cited in the first ranks among Turkey's cities. The city of Kayseri, as defined by the boundaries of Kayseri Metropolitan Municipality, is structurally composed of five metropolitan districts called as Melikgazi, Kocasinan, Hacılar, Talas, Incesu. Kayseri is located at the northern foot of the Mount Erciyes which is at only 30 minutes' drive from the city centre. As a symbol of the city, Mount Erciyes, is a notable trekking and also ski center in winters.

Figure 1. *Mount Erciyes in Kayseri, (Coteli, M.G.)*

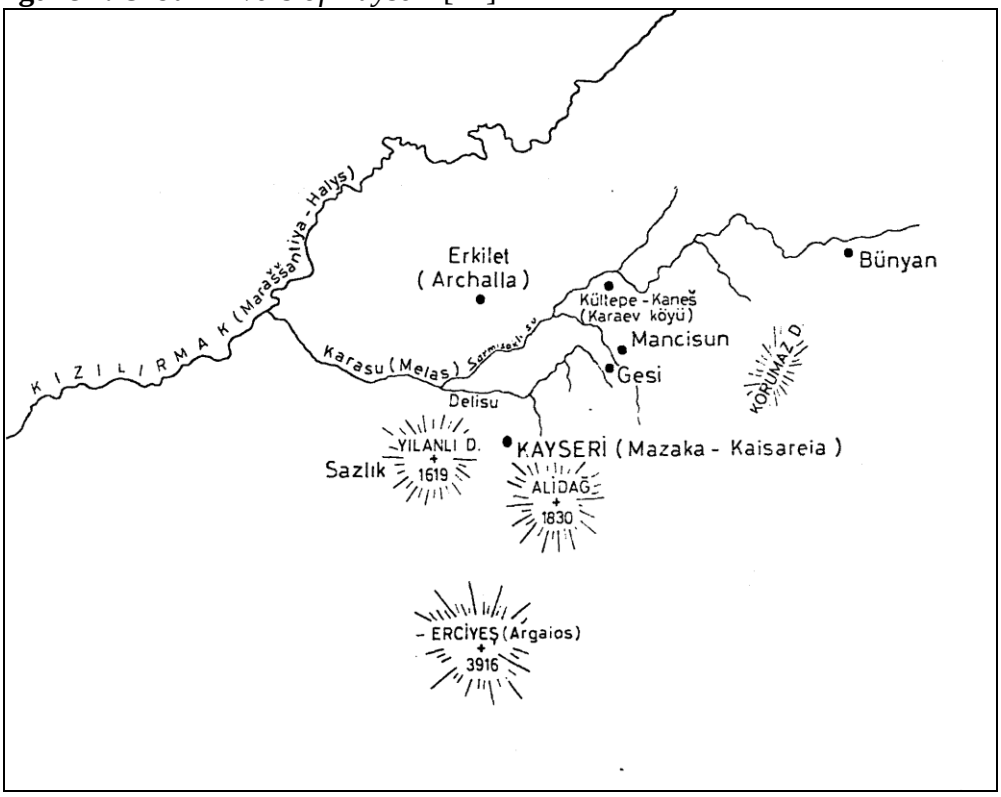


Water Resources of the City

The city of Kayseri located in between mountain chains is surrounded by the river basins, named Kızılırmak ve Seyhan. The most important existing rivers of the province are Kızılırmak River and Sarımsaklı River, sources of the Kızılırmak river basin and Zamantı River, source of the Seyhan river basin. Approximately, 128 km of Kızılırmak River which is the longest river of Turkey passes through the province of Kayseri. The Kızılırmak River, collecting flows dropped to the northwestern side of the city streams down from northeast towards southwest. The Sarımsaklı River passes through the plain of Kayseri. The Karasu River and Delisu River are the other branches of the Kızılırmak River [13]. After filling the dam of Sarımsaklı constructed in Bünyan town, the Sarımsaklı River reaches to the Boğazköprü Bridge by

streaming down from the northern side of the city towards western and joins to the Karasu River and the Kızılırmak River nearly at village of Beğdeğirmeni. On the contrary, the Zamantı River collects stream coming from eastern side. In addition, Sultan Sazlığı National Preservation Area, a closed river basin, collects the stream fell down on the southern slopes of Mount Erciyes. Besides, there are some small watercourses descending to the city from Mount Erciyes and Mount Ali. Although active at spring time, these watercourses run dry in their beds at summer time by the impact of high weather temperature.

Figure 2. *Urban Rivers of Kayseri* [14]



Urban Development Periods

As a result of climatic conditions and influences of traditions there is a common usage of vineyard and orchard houses at summer seasons at the social life of Kayseri [15]. Therefore, slopes of the hills around the city – at the foot of the Mount Erciyes and back of the Erkilet Hill at north – is full of summer houses being used seasonally between June and September. Nearly the whole of the summer houses have cisterns and tanks. Historical literature of the city written by many travelers and also historians depicts urban life. For example; Ebulfeda states that Kayseri had a plenty of watercourses, rivers, fruits, orchards, and trees during the 14th century. Similarly, in 17th century, Hacı

Kalfa explained that there were plentiful rivers, vineyard and orchard around the city of Kayseri [14]

The Integration of City and River: 1882

According to the urban map of 1882 the limits of the eastern side of the city ends on Delisu River. It also shows that at southern and western side of the city there were rivers. However, it is obvious that the most important one was Delisu River, when it compared with others by their wide. During the 1940s

It is enabled to reach Sivas Avenue, connecting the city to eastern part of Turkey, by crossing the bridge over the Delisu River[1].

At the end of the 19th century, the macro form of the city constituted a compact settlement of square shaped. The interesting side of the urban landscape was that there was no urban settlement on the opposite bank of the rivers. However, the bridges on the rivers of Deliçay, Karasu and Kızılırmak made a comfortable connection from city to the other cities located at northern, western and eastern sides.

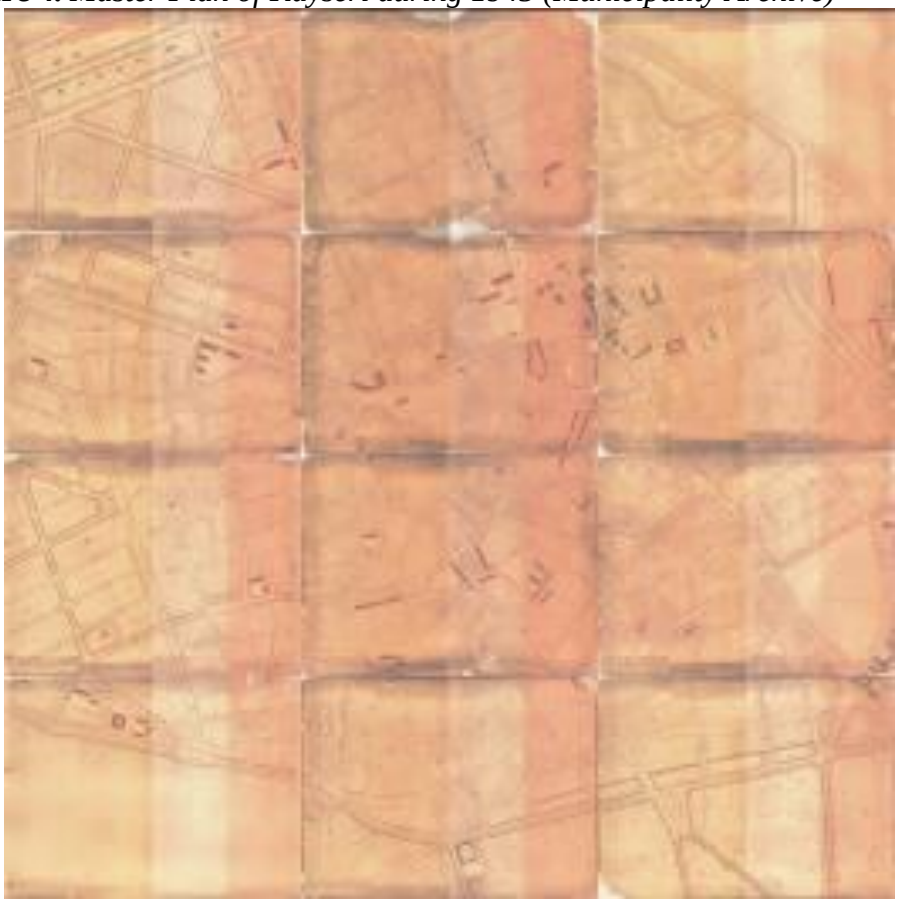
Figure 3. *Urban Map of Kayseri during 1882 (Municipality Archive)*

[1]The name of the Delisu River is written as "Huand Avgunlu Kömlikleri (?)" on a historical map of the city.

The River's Decline: 1945

Although the limits of the traditional city of Kayseri remained as before until 1930s, by the construction of the first industrial and infrastructural investments, a necessity for new development areas to accommodate the growing population appeared. Under this circumstances, a master development plan of Kayseri taking into consideration of modern urbanism principles was began to be prepared in 1944 and practiced in 1945. The development plan was predicting not to conserve all the historical buildings except such as monumental buildings, mosques, schools, baths, tombs and a few of the traditional houses of Kayseri. The transformation and devastating process began at first in city commercial center beginning from traditional bazaar and castle. The most striking thing of the plan is culverts, channeled river sections under infrastructure, and also bank and bed stabilization. As a matter of fact, this alteration can be clearly seen on urban map and also aerial photographs. While the Delisu River's bank and bed were stabilized, the other small watercourses surrounding the city were removed to the culverts.

Figure 4. *Master Plan of Kayseri during 1945 (Municipality Archive)*



The Age of Urban Expansion: 1975-2006

Although urban preservation site was legally announced, the conservation decisions didn't provide adequate conditions for surviving the historical building. Historical settlement pattern and traditional housing features were beginning to be lost. Besides, historical trade center was transformed to a modern city business center. New housing development areas were set at west and east side of the city that is closely connected with main transportation routes, Istanbul and Sivas Avenues. Therefore, the city's compact form was converted into a linear form. The development plan suggested constructing broad boulevards and high-rise buildings what is still characteristic feature of Kayseri city. Considering the nonexistence of green areas and trees inside and around the city, the plan proposed to use orchards and vineyards situated at the south foothills, in the small towns named Hacılar, Hisarcık and Talas as landscape area of the city. At this period, major manipulations of rivers, particularly Delisu River, took place. The Delisu River's bank and bed were disappeared within the city. The limits of the city enlarged to the frontiers of Sarımsaklı River at northwestern side. The Sarımsaklı River's bank and bed were stabilized.

In 1980s, the limits of the city extended to the small town of Talas located at south of Kayseri. On the contrary, the historical city of Kayseri was eliminated. After 1985, the city population was greater than the rural population. Hereby, the city gained metropolitan municipality status in 1988. In 1986, a new master development plan was prepared. Similarly previous period, high-rise buildings, housing projects for middle and upper income groups increased and the use of new materials and techniques was common in this period. In 2006, due to the expansion of hinterland of metropolitan municipality, the boundary was changed and included many small towns, and a new metropolitan master plan was needed. The main themes which were determined in previous development periods were still valid. But this development decision resulted in urban sprawl.

The manipulations of the rivers were as in the same conditions before this period. Thus, bank and bed stabilization, river canalization and spatial constraints from adjacent housing were still the main approach to the river frontiers and stream alignment.

Figure 5. *Master Plan of Kayseri during 1975(Municipality Archive)*

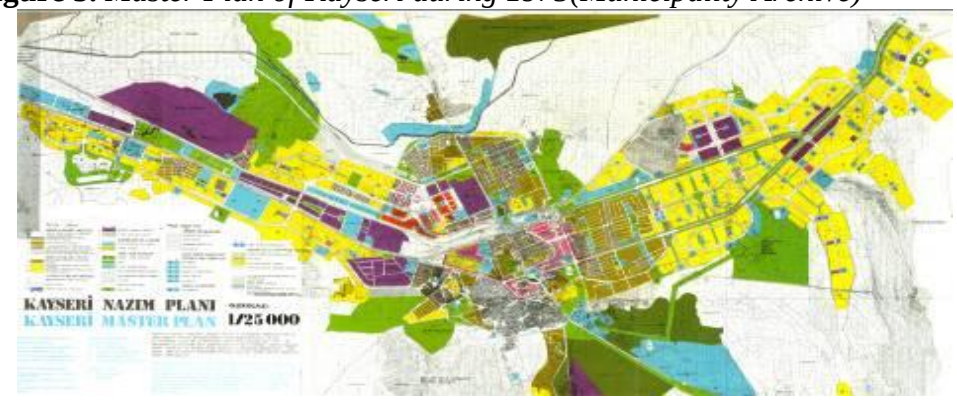


Figure 6. *Master Plan of Kayseri during 1986(Municipality Archive)*

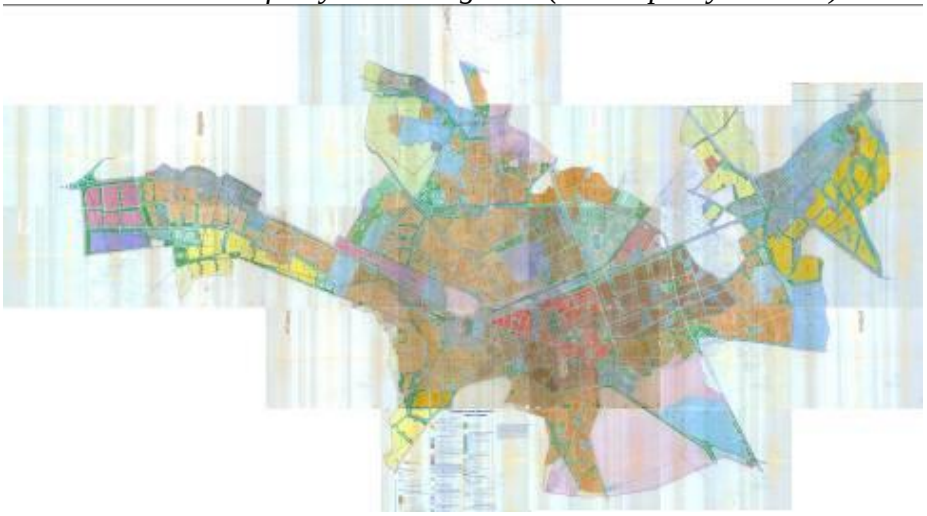
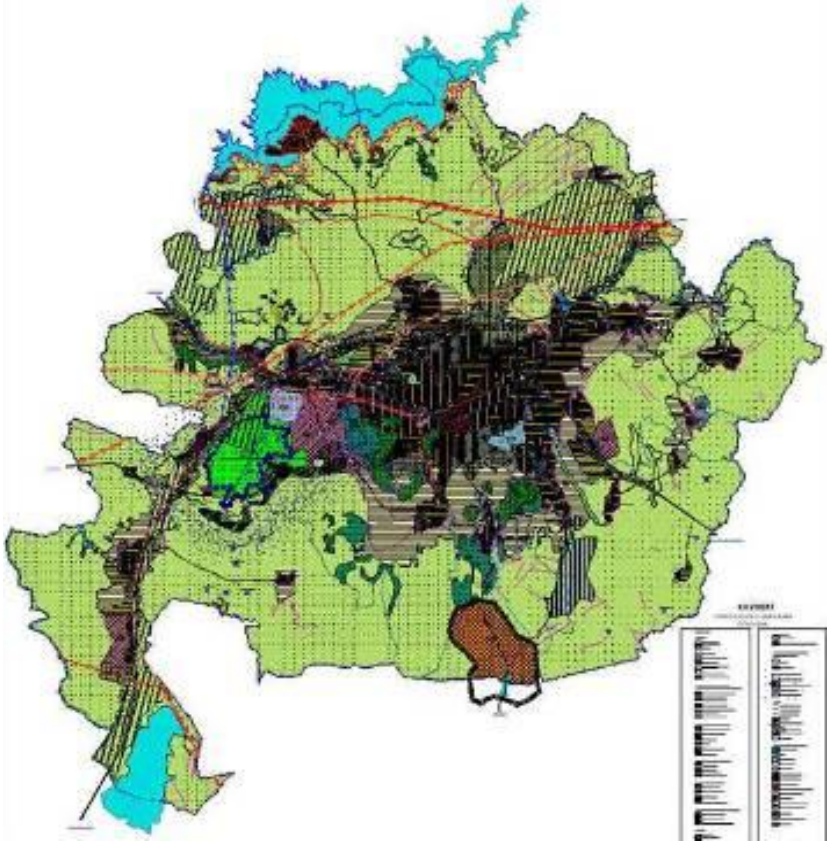


Figure 7. *Master Plan of Kayseri during 2006 (Municipality Archive)*



Rehabilitation of Urban Rivers: 2005

In 2000s local governors have been trying to make Kayseri as a brandmark. In order to success this vision there are a variety of projects are preparing by the metropolitan municipality of Kayseri. One of them, "Channel Project of Kayseri", comprises to build an artificial river bed and bank

stabilization, an artificial environment, stream development and bringing water from Kızılırmak River. This project is being prepared by the municipality in a collaboration of Government Water Affairs. The other mega project called "Şehr-i Derya" was announced in 2014 by the municipality of Kayseri before the municipality elections March-2014. The project is proposing to transform old industrial area remained inner city and build a modern commercial center. In addition, it suggests creating an artificial lake of which stream is coming from Kızılırmak River and also a green recreational region surrounding this area.

Figure 1. *Mega Project of "Şehr-i Derya" Announced in 2014 by the Municipality of Kayseri* [16]

Conclusions

Settlements have tended to be established close to the watercourses, near fertile agricultural lands and other resources, on sheltered harbors and trade routes, and at suitable areas for buildings. As a cultural landscape, rivers serve to maintain our connection with the past. After the Industrial Revolution, waterways lose its importance. One can identify a number of typical pressures on urban waters that result from anthropogenic activities.

To the city of Kayseri, rivers were always a territorial discontinuity, a physical barrier. Anthropogenic pressures appear to have grown relentlessly from the 1945s and even later in Kayseri. The spread of urban populations and urban land use has reshaped and destroyed the river landscape of the city of Kayseri. Due to lack of sensibility and understanding about the city in combination with the nature, rivers are being abused and neglected. In addition, uniform urban rivers created low aesthetical value.

Morphological features of urban rivers in Kayseri are often heavily altered in densely used urban spaces and spatial constraints on urban water courses.

Therefore, the urban demand for space and security of land use resulted in culvert sections under infrastructure, bank and bed stabilization and flood control dams. These alterations lead to a dramatically disrupted ecological integrity and result in a loss of historical memory. But in the future, regarding to the mega future projects of the city, there will be added one another morphological component of waters to the others in Kayseri. This is denaturalized stream alignments and gradients.

This study showed that a river which takes a critic role in urban history is a non-renewable product. However, in order to protect a landscape character with important concentrated aesthetic and natural values there is no legislation[1] related to the landscape character without decreasing its aesthetic and natural value [17-18]. That means there is a deep legal void which was left to the arms of local governors.

Today´s urban riverscapes are becoming decors, as the old pattern of conditions has been disappearing. The case of Kayseri, acknowledged that the restoration of the urban riverscape is being considered for reasons like tourism, trade, recreation, instead of tradition.

These results provide a general idea that urban rivers are manipulated parts of urban infrastructure of Anatolian city and the rivers are not compensable urban resources. The restoration of urban rivers should be drawn according to its historical form. Therefore, even it is possible to make any changes in alignment they can't be replicated.

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[1]It can be acknowledged that there are two rules about the rehabilitation of watercourses in urban areas. Firstly, "Metropolitan Municipality Law No.5216" gives the responsibilities in waterfront rehabilitation and regeneration of riversides; the restoration and (re)naturalization of rivers and streams under the authority of municipalities. However, these rules don't include any guide about the methodology of landscape preservation. Secondly "The Notice of Prime Minister No: 2010/5" concerning the improvement of rivers and streams gives the implementation responsibility to municipalities and design of the projects to Government Water Affairs.

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