

# **Determining the River Basin Changing Effects to the Property: Case Study in Trabzon Degirmendere River Basin of Turkey**

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**Key Words:** Cadastre, River basin management, Land use, Cadastral activities

## **SUMMARY**

The coastal and river basins are accepted the most important areas on the earth for protection the ecological balance. In order to protect these areas, first of all, their location should be exactly known boundaries have to determine by surveying. Especially, with the cadastral works which are made near the coastal or river basin areas, the interference in property disputes can be obstructed. Although the implementations are the same as stated above but sometimes the private ownerships were established on these areas because of determining the cadastral boundaries incorrectly during the cadastral works. As a result of these current situations different and improper land uses have been formed in the coastal or river basin areas. The land ownership of coastal and river basin areas belongs to state in Turkey. But there is a legal loophole on the river basin's property ownerships except the some major rivers. Therefore, the river basin regions had been the most attractive areas especially the regions have rough topography for using improper urban development. Consequently, the water sources are polluted with irregular land using without infrastructure built on the river basin. Thus, considerable economical damage and lost of life may be occurred during the water flood. Trabzon Değirmendere valley where investigated in this paper is one of the improper land use's river basin stated above in Turkey. In fact, lost of life and economical damage was happened in this valley because of a huge water flood occurred in 1990. The causes of the irregular land using in this valley and proper solutions and suggestions of these problems are aimed by the discipline of land management. In the result of this investigating; changed the river bed in the course of time and planned the improper land use standards on the river basin were determined. Then present ownership and the way of use of river basins were also determined. These were compared to their right statues which are acceptable by the law. The result of this comparison main mistakes were determined for the solution of the problems and doing same mistakes again on river basin which are in wrong use, in need of actions and suggestions have to be taken by surveying and cadastre engineers are deal with.

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## **1. INTRODUCTION**

From the time of Ottoman Empire up to today, sea, lake, river bank etc have been possessed by the State according to the regulations about the river basins, and exploitation of those places has also been based on some legal rules. According to those regulations no one is allowed to utilize those places without permission, and no one could act in a way that his actions prevent the other people from utilizing these places. However, nowadays, if these places are analyzed it will be seen that they have been being used as residential areas, for industrial facilities, as areas where sand and gravel are produced, for facilities to crumble stones, and as agricultural area which are all illegal according to the regulations.

In our country, Degirmendere Walley has been subject to change according to reconstruction plans there times by Trabzon Municipality. In every reconstruction plan, reconstruction density was increased in the region. According to the revision reconstruction plan accepted in 2003, different facilities were established in the region. Unfortunately, some of these facilities were planned in the river basin. Moreover, the existence of bad and unplanned constructions, industrial facilities, oil and gas stations, sand and gravel facilities, throughout the river basin, demonstrates the planned or unplanned wrong usage of the region. According to the regulations no one is allowed to utilize the areas without permission by himself alone, and no one has a right to prevent the others from utilizing them. But today's practices show that these places have been being used as residential areas, for industrial facilities, as areas where sand and gravel are produced, for facilities to crumble stones, and as agricultural area which are all illegal according to the regulations. Because of the present law, only specific type of buildings and facilities are allowed by coastal regulations, after The State Water Work Organization performs some correctional and organizational work. Constructing facilities other than these is prohibited by regulations. Free areas, gained after correctional and organizational work, are registered under the name of treasury of the state. They can later be assigned or transferred to the private people or to the corporate. But, unfortunately, especially in cadastral works on coastal areas or riversides, while determining the boundaries of working area, the boundaries are determined in a way that they includes river basins so that such river basins become subject for private ownership consequently with cadastre. However, river basins are possessed and controlled by the state. They must not be subject to private ownership in anyway. Treasury can not establish a proper ownership on its properties. There are some deficiencies in cadastral regulations in our country. The riverside line has not been defined properly for river basins except for some major rivers. Therefore, private ownership in river basins were formed with cadastral works except for the rivers defined in the regulations. It further triggered the improper use of these areas.

## **2. OWNERSHIP STATUS OF RIVER BASINS**

From Ottoman time up to today, ownership status of river basins are regulated with law issued at times.

According to the article 123 of land regulation issued in 1858, river basins were not subject to private ownership, and those places are accepted as state owned and controlled areas.

In the article 715 of our actual civil law, it is stated that rivers and river basins are among the resources whose benefits belong to the public, and these places should be exempted from registration.

In article 43 of our constitution, it is indicated that coastal areas are possessed and controlled by the state.

According to the article 16/c of the cadastral law number 3402 issued on October 10 1987, “rocks, hills, mountains, the abandoned places that is not suitable for agriculture, coast of lakes and river sides are possessed and controlled by the state”. These places may not be subject to registration and restriction. However, according to article 18 of this law, if it’s possible to convert these places in to agricultural areas or if these places provide some economical benefits they are fixed and registered under the name of treasury. While conducting cadastral applications in places that include river basins and coastal areas, the boundaries of neighbor real estates are accepted to be suitable to change and expand over these areas. During the cadastral works, according to the articles of 20 and 21 of the law number 3402, the actual measurement of the surface area of the real estate is accounted, and if there is any extra area it is parceled out from the suitable sides and registered under the name of treasury. However only sixteen major rivers but the others are mentioned in the regulations and the riversides are not defined for the others yet (Demir and Bıyık, 1993).

In practice, it is seen that private owners of the parcels that are next to a river or a sea has been using their land as far as the places that rivers naturally run. Especially in regions having insufficient land suitable for agriculture, such as East Black Sea, because even a tiny little land is extremely valuable it is certain that these places are used as if they are privately owned places. Even though these boundaries are accepted to be suitable for expansion, in practice, river basins are made smaller and smaller, and converted in to privately own areas. (Tudes et al., 1990).

## **3. THE PRESENT LAND USE OF DEGIRMENDERE RIVER BASIN**

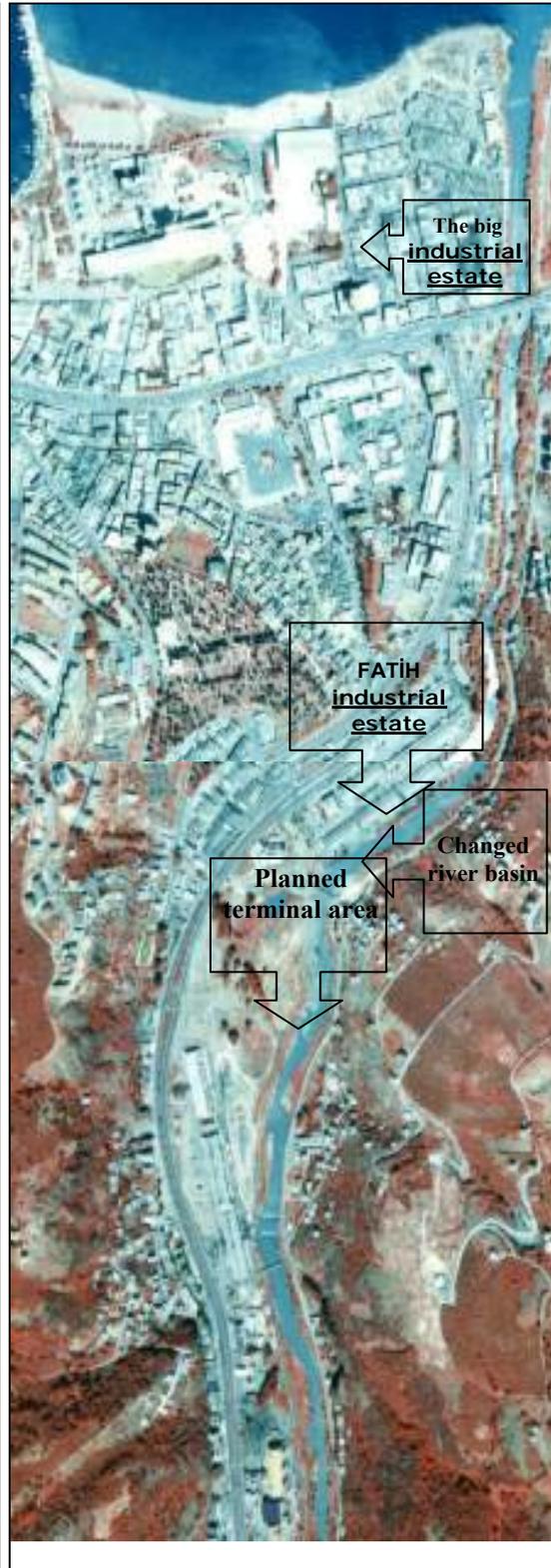
As the result of cadastral works done in 1958 in examined region Degirmendere, 38 cadastral parcels created in the region that covers an area of 3 km starting from the coast, but only two of those parcels were registered under the name of fiscal treasury, and the others were converted in to private ownership. However, all of those parcels had to be registered under the name of state treasury according to the laws since they were in river basin. For the application area, the rate of such places is decreased from 100% to 5%.

It is observed that in some part of the area, extra land are gained by private owners neighboring the river basin by changing and narrowing the river bed. When we look at the sky-pictures taken in 2002, some facilities such as industrial facilities, school areas, bus station that is planned to be built in the river basin in the new reconstruction plan prepared in

1973, are seen in the area that covers 10 km of distance from the sea coast in the same region. (Picture 2) When two picture are evaluated it is obviously seen that the river basin is misused by constructing new buildings that covers almost all the river basin after 1970 (Demir, O., et all. 2003)



**Figure 1** : Degirmendere Valley

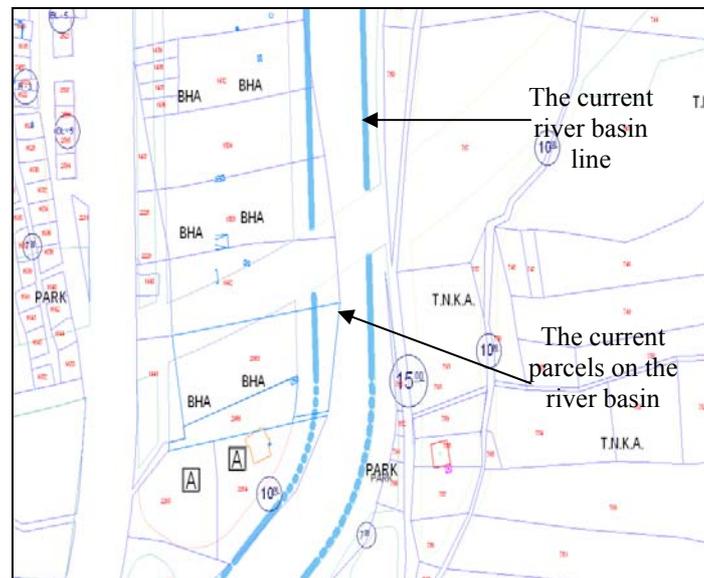


**Figure 2:** Degirmendere Valley 2002  
(Demir et all. 2006)

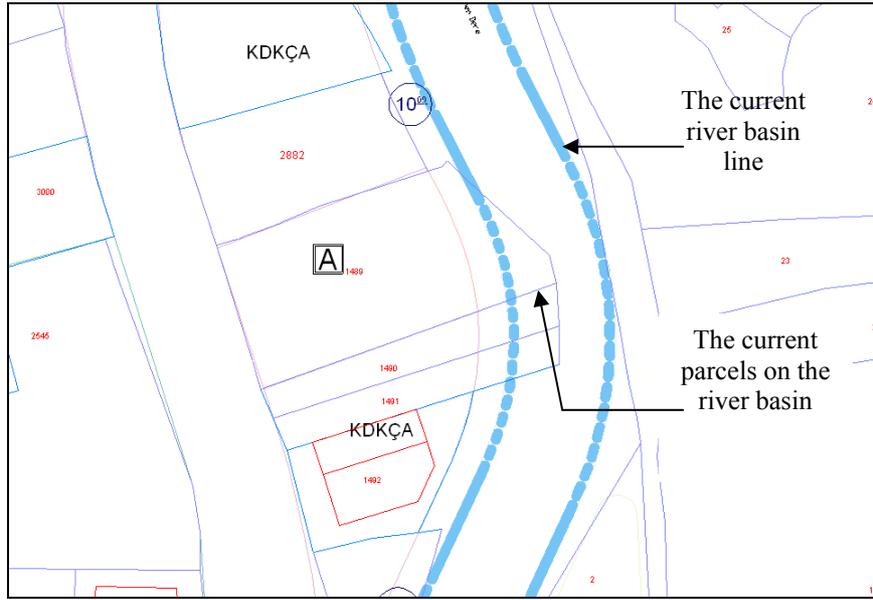
#### 4. THE EFFECT OF CHANGING RIVER BED ON OWNERSHIP AND THE MISTAKES DONE DURING CADASTRAL WORKS.

In the article 16/c of the cadastral law number 3402, 16 major river for which riverside line will be determined are mentioned. Except for these 16 major rivers there is no operation to determine riverside lines according to the law. Degirmendere river is one those rivers that are not included in the list. Additionally, river basins are among the regions that are always owned and managed by the state. For those places, being a subject for a private ownership is out of question. During the cadastral works it is necessary to determine the river basin correctly while restricting the neighboring private lands. While determining the boundaries of the areas cadastral crew may be insufficient technically. In order to determine the river basin correctly, qualified technical people should be employed in these places as if they are working as a committee determining the riverside lines, and the boundaries determined by those people should be used in differentiating the private ownership and state ownership on the land.

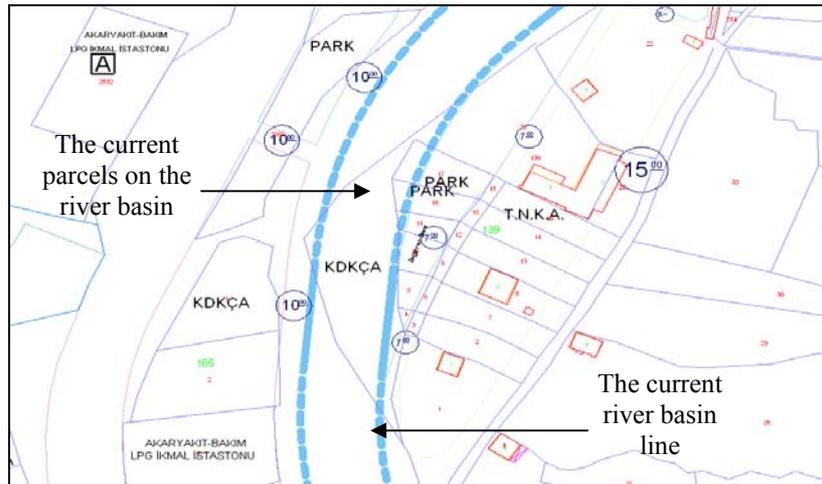
When the cadastral work done in this basin is evaluated, it is seen that there is a private ownership on the lands starting right after the riverside lines. In this respect most parts of the river bed were subject of private ownership. It is calculated that the rate of parcels that belong to the state treasury is 5% in the chosen area. (Demir, 1993). It can be inferred from this situation that during the cadastral works, no proper action was taken while determining the boundaries of the parcels next to the river basin. As a consequence, these lands are privately owned and misused by the owners in terms of urbanization.



**Figure 2:** The status of actual cadastral parcels in a chosen part of Degirmendere basin



**Figure 3:** The actual cadastral parcels in a chosen part of Degirmendere basin



**Figure 4:** The actual cadastral parcels in a chosen part of Degirmendere basin

During the cadastral works on the river basin, the lines of private ownerships were determined starting from the place that river runs. Therefore, in course of time natural changes in the river bed happened and the river moved to the privately owned lands created with cadastre. This situation can be observed on the cadastre above and on the actual maps( Figure 2, 3, 4). The maps show the present river beds. There are some parcels affected and covered by the river because of the changes in the river bed seen on the map. In fact, there

would not be any negative situation as mentioned if the determination of ownership were conducted based on the river basin.

## 5. CONCLUSION AND SUGGESTIONS

Before the cadastral works through river basin and valley, the river basin should definitely be determined correctly. There is a need of qualified people in order to do this. There is no expert to determine the location of the river basin among the people in cadastral work group. Therefore the cadastre team for these kinds of lands should be determined by issuing new legal regulations. This team should determine the river basin and draw the lines for the riverbed. After that, cadastral works may be allowed. Thus, the boundaries between privately and state owned land could be determined correctly.

Before doing betterment works on river basins the land usage should not be allowed. The land produced with betterment works should be evaluated as state land and should be registered under the name of the treasury. These areas may be rented to the interested parties on if they are used properly or their ownership could be passed to the other parties. But these lands are not transformable to their original conditions in terms of ecological balance. In this respect these areas should be planned to use as recreational activities such as picnic and sports activities, and as green lands or rest areas. Municipality should encourage and these places for these kind of usage.

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