

TRANSFORMING OF HISTORICAL REAL ESTATE ENTITIES'S PROPERTY TO PUBLIC PROPERTY

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Commission VI, WG VI/4

KEY WORDS: GIS, Cultural Heritage, Urban Land Use

ABSTRACT:

Being international public assets, historical and cultural entities are heritages left to today's human being by past communities. Protecting and transferring to the next generation of these entities are one of the main mission of individuals and administrators. Today, unearned income of lands has a great importance, so, cultural entities's protection in urban areas is very difficult. The cause of this effects real estate's location which is in restricted areas is limited in terms of acquired development rights (in result of transformation to public property). Thus, in result of the losing development rights which is one of the factors effecting land value, economical value of land property diminishes. Transferring to public property of cultural real estate entities, whose property is in private property is important in protecting these entities. Legal legislation can not allow to any solution except for land condemnation and urban land readjustment in realizing of this purpose in Turkey. On the other hand, some developed countries have different approaches for gaining property of historical, agricultural or other areas requiring protection. In this study, firstly existing legislation has been examined, then solution proposals have been investigated for gaining of cultural property entities to public property by providing an approach to property problems via transferring land development rights to other areas have been examined. For this purpose, an application area has been selected in Ortahisar surroundings of Trabzon Cattle one of the most important assets of Rome and Byzantium era. In this specified area, Geographical Information System (GIS) has been used for relating, analysing and querying of non-graphical data. In addition, property transfer between old and new housing areas via assistance of GIS techniques has been realized.

1. INTRODUCTION

Nowadays, cultural and natural entities are threaten by different factors. The biggest and the most common threat is arisen by modern life wishes (Kalabalık, 2002). Because, generally the real estate cultural entities are in urban rent (unearned income) areas, these areas are becoming more attractive economically, so, real estate owners have economic loss and they want to compensate their loss. As a result of this situation, unsuitable constructions and demolished or burned buildings have been arisen in protection areas and then historical assets remain in unsuitable constructions.

As a result of rapid urbanization, historical assets are destroyed especially in big cities of Turkey. So, the question of 'how can these important heritages be protected from destroying' is becoming most important and current matter of Turkey (Sokman, 1987).

Producing solutions for such problems is a main duty of planning and property related disciplines. On the other hand, at the end of the rapid changing and development, globalization, localization and restructuring process, classical planning and restructuring of property design approaches have become inadequate to solve these problems. Failed in application stage, this approach should be changed with a contemporary, allowing to produce solutions for the problems in short and long period of time, flexible and optional planning approach (Tuncer, 1998).

Planning decisions and property design are directly related with applicability of plans. Gaining to public property of these historical assets's property being national and also international property is the most important stage in protection of historical

assets. Except expropriation and land readjustment, there is no other ex-officio way to gain private property to public property. Whereas, developed countries have developed different methods to realize this purpose. Transferring of development rights, which is one of the this study's concerns, is one of the these methods.

Transfer of development rights (TDRs) means shifting the future development potential from one piece of property to another piece of property (Bredin, 2000). TDR is premised on the idea that ownership of land entails ownership of a bundle of rights, including rights to access (easements), minerals (mineral rights), and undeveloped spaces above the parcel (air rights) (Woodbury, 1975). A development rights is defined as the difference between the existing use of the parcel and its potential use as permitted by existing law. In other words, a development right is equal to the unused development potential of a parcel of land (Pizor, 1986). Sales of rights can compensate landowners for the costs of restrictions on development of their land. Rights (measured in various units of development density) are purchased in open-market transactions by those who want to build to bonus densities on other parcels. The buyer gains density; the seller reaps profit from the sale; the community benefits from whatever is preserved by the development restriction-open space, farmland, historical sites, or environmentally sensitive lands.

In this study, an example application has been realized to gain property of the area named as interior castle in the historical Trabzon castle in the Ortahisar district where is one of the historical settlement areas to public property.

2. DEFINITION OF THE PROBLEM

Especially in developing countries, as a result of rapidly development / growth in urban areas, a lot of problems have been arisen. One of them is related with protection of historical assets having cultural worth. Urban development is realized respect to a plan via public investments, on the other hand, some of the new real estate owners could be build inappropriate buildings in protection areas. Dominant factor of protection concept is arisen from gaining of private property in such areas, because, especially in developing countries, land property is very important for wealth or capital accumulation of human being. So, development plans bring same rent to the all real estates is main expectation of real estate owners. Whereas, in reality, with development plans, while some real estates owners have rent, the others whose lands allocated to public service or have restricted development rights are deprived of rent.

Because of the restricted rights, especially for the real estate owner who have historical asset in his land can not use their development rights, so, some social injustices are appearing. In addition, because of the restriction, some of these real estate owners destroy the historical assets in his land. It is a principal that individual property and it's guarantee by government is a main human right. With this principal, can not be used such a real estate afterwards for country or public benefit? No, but, it is a social paradox. Then, some methods have to be developed respect to both society and real estate owner's benefits. As a matter of fact, to the person who is owner of a historical asset is given some rights. The most important of them is that development rights are used. In other words, it is a traditional method that cost of the real estate that development rights are restricted / confiscated are paid to real estate owner by government or that real estate is barter with an equivalence real estate of government.

3. THE PURPOSE OF THE STUDY

Real estate owners use their real estates in development rights framework. Because of the restrictions, real estate owners, whose real estate in historical protection areas, can not use their rights considerably. Certainly, like the other rights, developing property right is not an unlimited right and always used in specified restrictions. Remarkable development right differences in same district result in unavoidable reactions (Sokman, 1987).

Two base indicators are taken in the consideration in allocation of development rights in planning process. One of them is land value, the other is density level of settlement / structuring demand. In other words, development rights are allocated in maximum level in the areas where real estate has the highest value and demand for settlement is the highest.

Accordingly, in Central Trade Areas (CTA), generally development rights are very densely allocated and real estate values are high. Consequently, because of the restrictions, real estate owners who have historical asset in his land have a big loss in such areas (Sokman, 1987). In this study, just as the district located in central area are selected.

Collecting, updating manipulating and displaying data is a necessity in urban level. Following of such an consecutive-temporal development with classical methods is very difficult. The purpose of this study is gaining the private property of historical real estates to public property in urban areas. To realize this purpose, existing buildings, cadastral map, property registers and historical castle walls have been digitized. GIS techniques were used for querying, analysing, displaying and

reporting of spatial information. The digitized topographical map done by Trabzon Municipality in 1999 is used to constitute digital layers.

4. DEVELOPMENT RIGHTS TRANSFER METHOD

The main idea of this approach is to provide that real estate owner use development rights of his real estate independently from his real estate's location. This method provide that the development rights which are not allocated in historical areas are allocated at other urban areas independently from real estate's location (Sokman, 1987).

The most important factor to increase the applicability of development rights transfer method is meeting of public and real estate owners' expectations. In other words, the success of application rely on real estate owners' pleasure in both sending and receiver areas. One another important factor is allocation of active fund for the real estate owners who want to convert his development rights to cash, in beginning of the study. In addition, reliability of this fund also contributes to success of the system. However, especially transferring rights is very important for countries suffer from lack of cash source.

A purchase of development rights program is simple in practice. **First**, local leaders (through a strategic planning and priority setting process) decide which historical acreage or real estate is most important to retain so as to maintain historical (or cultural) character and/or to form an "anchor" for a national historical preservation effort. **Second**, the value for historical real estate or parcel which is in the historical area is determined. This value is accepting its rental income per year. **Third**, rental income per year of the parcel or real estate if converted to a not historical (imperfect ownership) use is estimated. **Fourth**, the difference between the values of the parcel/real estate as historical or as a development is estimated. For example, the historical real estate value might be 20.000\$ but the value of the development parcel or imperfect ownership is cancelled to a prospective subdivider might be 50.000\$. The difference is the "development right" value of 30.000\$ parcel/real estate. **Fifth**, the parcel/real estate owner would receive a check in the amount of 30.000\$ times the number of parcel/real estate to be included in the TDR project. **Sixth**, the owner would agree to have a restriction placed on the deed to the property in which the owner agrees never to sell, donate, or bequeath the parcel for a use other than as is (Last, 2000).

5. THE STUDY AREA

Trabzon city locating Trabzon Castle in it is a coast city that extend along Blacksea coast in the north east of Turkey (Figure 1). Because of the geographic characteristic, it has become an important center for a long time. The historical silkroad passes through Trabzon. This situation has increased of it's historical importance. In some historical literature, it has emphasized that Trabzon established in B.C. 756 and it also agreed by the researchers who research Trabzon's history (Trabzon Valiliği, 2002).

Built between Roman and Byzantine Empire term, Trabzon Castle consists of the three part. These parts are named as İçhisar, Ortahisar ve Aşağhisar (Figure 2). The study area, Ortahisar, is located on the hill which separate Tabakhane and Zağnos Walley. Both Tabakhane and Zağnos Walley hillsides have unsuitable buildings. Along these walleyes, there are buildings that adjacent to the castle. Kaleçi also have the same construction conditions (Figure 2). Some historical assets in the



Figure 1. Locating of study area

castle were restored via expropriation. Some of these assets are used as recreation area for public use and the others are used as hotel or office by non-governmental organizations. The study area extends 600 metres along north-east and 150-200 metres along east-west.

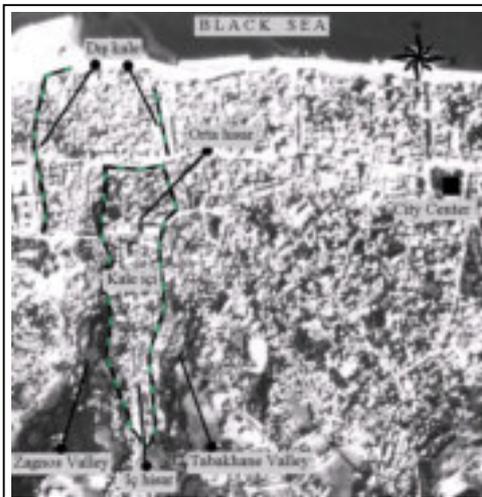


Figure 2. Locating of study area in large scale

6. REALIZED STUDIES

6.1 Data Collection

In this study, transforming of historical real estates' private property to public property is aimed. To realize this purpose, cadastral map, topographical map (created in 2000), development plan and aerial photos (1970) of the area have been collected from related institutions. These data were in

CAD format and so, they haven't had topological structure. Land registry data were in excel format.

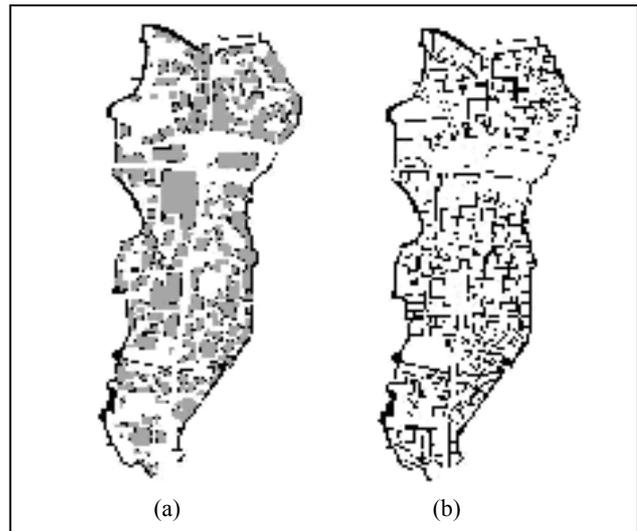


Figure 3. (a) Construction situation of the study area, (b) Existing cadastral situation Locating of study area

Firstly, three dimensional topographical map of the study area created. This process realized after the construction of three dimensional digital terrain model via contour. Then, castles (Figure 4) and existing buildings (Figure 5) overlapped on this surface. Thereby, general topographical situation of the study area created. Graphical data displayed with ArcView software.



Figure 4. The study area overlapped on the three dimensional surface (a view from south-west)

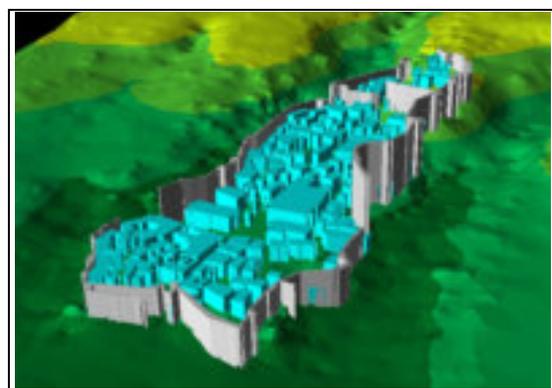


Figure 5. existing building pattern of the study area on the three dimensional surface (a view from north-west).

6.2 Determining of Real Estates And Their Values

The purpose of this study is gaining of the all real estates with private property to public property in the study area. To realize this purpose, all real estates, except government properties, will be transferred. In that point, determining of real estates values is very important. Most of the buildings in the study area are in ruin situation and used as residential buildings Figure 6 (a). While real estates values are determined Figure 6 (b), both land and building value are determined separately and then the sum of these values give real estate's value. In determining of building value, cost method should be used, and in determining of land value, nominal valuation method should be used for getting suitable and practical results in such wide areas. The method is based on determining of factors that effects real estate value and a point for each real estate (Nisanci and Yomralioglu, 2002).

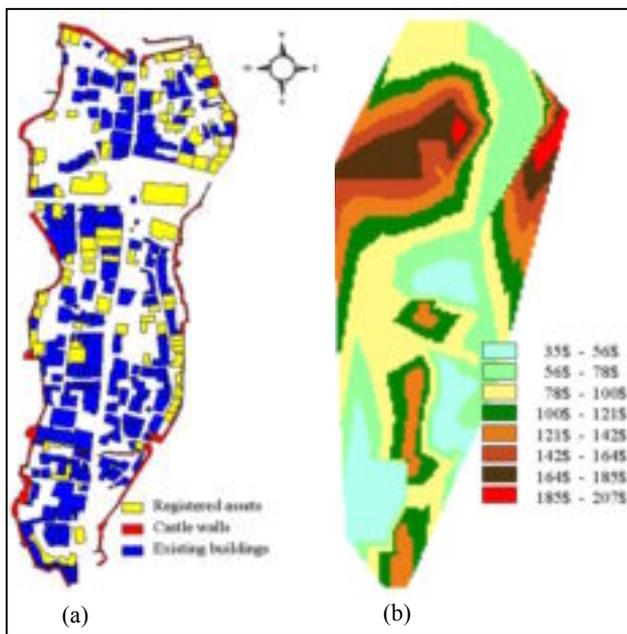


Figure 6. (a) Distribution of registered and unregistered buildings in the study area, (b) Value map of the study area created respect to real estate tax values

6.3 Selection of Transfer Area

The another one of the most important stage of the study is selecting of the transfer area and valuating of it. Because, this process doesn't require intervention to urban plan. In addition, because real estate value is related with position, unit area values of each real estates change respect to it's position. However, selection of these areas is related with application method. If transfer area will be located in the all city, an approach will be used, if transfer area will be located in specified area, a different approach will be used. If each approach is examined:

First Approach;

Distribution to all urban areas. For this process, the areas where additional density or flat could be allowed in urban areas are specified. Besides, value coefficient are specified for each development rights respect to historical asset area. For example, real estate values in transfer area (added land part value as flat fee) and a flat value in receiver area are calculated and then

compared. After the calculation and comparing of values, development rights are transferred to receiver area. In application, local administrators allows using such rights but not demand price for that allowings. Whereas, used right is a public right.

Second Approach;

Supplying the study area is wide, using development rights in the same district (Figure 7). Property design in such a approach is analyzed with land readjustment respect to 18. article of Development Law. The advantage of this approach is that there is no need approval of real estate owners.

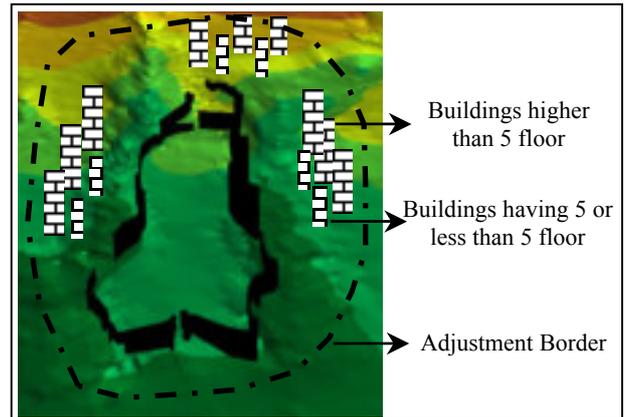


Figure 7. Using development rights in the same district

Third Approach;

Using public domains for protecting cultural heritage same as used by local authorities in slum protection area.

7. CONCLUSION AND PROPOSALS

TDR may be of particular use in contexts where resources to achieve specific physical objectives are scarce. Typical are the cases of protection of natural and historical assets in Turkiye. For this reason, the potential exploitation of TDR is inquired here in a typical case study of historical conservation, emphasizing how this procedure could be supplemented through TDR as a planning tool, as well as, the calculation of the volume of financial resources required, together with GIS methods in representation, accounting and plan making. There may be alternative methods of modelling the physical and financial arrangements through GIS methods. Yet benefits of such practice prove commendable implementations. Proposed in this study, TDR method is a new approach for Turkey but extremely in active-fair structure. Arising with protection development plan between real estate owners, benefit-cost balance is provided with this method. However, this method has not been in legal regulations of Turkey. So, it should be firstly added to Turkish Development Law. Which instution will implement it should be specified. Inventory of urban public land stock should be defined and maintained with GIS technics. TDR method and existing readjustment regulations should be integrated and flexible property organization chance should be provided.

8. REFERENCES

Bredin, J. B., 2000. Transfer of Development Rights: cases, status, examples, and a model, 2000 APA National Planning Conference, New York, USA.

Kalabalık, H., 2002. *İmar Hukuku*. Seçkin, Ankara, pp. 466

Last, D., 2000. Purchase of development rights may become a valuable farmland protection tool in Wisconsin in the next century. Wisconsin, USA.
<http://www.uwsp.edu/natres/dlast/Nov97.pdf> (accessed 10 May 2003)

Nisancı, R., and Yomralıoğlu, T., 2002. To produce land valuation maps using GIS&RS techniques. *International Symposium on Geographic Information Systems GIS 2002*, Istanbul, Turkey.

Pizor, P. J., 1986. Making TDR work: A study of program implementation. *Journal of the American Planning Association*, pp. 203-211

Sokmen, P., 1987. Tarihsel çevre korumasının kent planlaması. Tarihi Kentlerde Planlama/Düzenleme Sorunları, Türkiye 11. Dünya Şehircilik Günü Kollokyumu,

Trabzon Valiliği, 2002. *Trabzon*. Cem Ofset, Trabzon, pp.167

Tuncer, M., 1998. Presented in Kentsel Tasarım ve Uygulamalar Sempozyumu "Kentsel Tasarımın Tarihsel Çevre Korumasında Etkin Olarak Kullanımı, Böl ve Yönet Modeli: Ankara, Konya, Antalya Tarihi Kent Merkezleri", Istanbul, Turkey.
http://www.haberbilgi.com/bilim/cevre/mehmet_tuncer/bolveyo_netmodeli.html (accessed 5 June. 2003)

Woodburry, S. R., 1975. Transfer of development rights: A new tool for planners. *Journal of the American Institute of Planners* 41(1), pp. 3-14