

A Model for Sustainable Urban Regeneration in Turkey

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SUMMARY

Due to deficiency of land/terrain politics across the country, existence of dense urbanization against to development plans, absence of comprehension and opinion about real estate valuation in development applications; new legal and technical arrangements and development application tools are required for land settlements in Turkey. The process of urban regeneration comes in agenda because of dense urbanization, problems related with applications of land management, necessity to increase the standards of equipments in densely urbanized zones of cities, regeneration due to reduce the risks of earthquake – a reality of Turkey – and requirement of new constructions in demolished areas. In this paper, authors suggest methods and recommendations concerning law and legitimacy for development plan applications, which will settle this process.

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1. INTRODUCTION

Urban regeneration refers to an arrangement of property whose land has crooked and dilapidated constructions, sensitive to natural hazards and urban risks, with insufficient and poor infrastructure, dense, illegal and unsettled (Ulger, 2010). The stakeholders of an urban regeneration project are as follows:

- **Local Administration – Public Organizations**
 - Ministry
 - Metropolitan municipalities
 - Communes
 - Local administrations with other public organizations that take a role in planning and projects
- **Investor-Financier**
 - Financial organizations
 - Real estate investment partnerships
 - Real estate investment companies
- **Project Development Group – Land appraiser**
 - Project developers and land appraiser, design, planning, engineering services, project management, construction control, sale, marketing, advertisement, software etc. facilities
- **Holders of Right**
 - Municipality
 - National treasury
 - People
 - Others

In order to achieve an urban regeneration project the following steps should be done (Ulger, 2009);

- Nationwide urban regeneration policy,
- Related law (Act No. 6306),
- Urban/Rural Land Use (Development) Plans
- Application Methods of Development Plans defined and determined in law,
- Regulations that indicate applications
- Strong financial support,

The following laws are legal foundations of urban regeneration in Turkey:

- Expropriation Law (Act No. 2942): states that it is not an arrangement of property. It removes the property, instead.

- Urban Development Law (Act No. 3194): ‘Land redistribution with equal rate’ method is applied according to Article 18 under the title of Land Readjustment process.
- Municipality Law (Act No. 5393): Article 73 enables to carry out ‘value-based’ application methods.
- Law on reconstruction of areas under risk of natural disasters (Act No. 6306): Even though descriptions and concepts take part in the law as ‘other methods’, it states that in case of disagreement, the expropriation is the applied method.

Three methods can be mentioned for urban regeneration in Turkey:

- **Public-based method:** It is set up on the assumption that the public covers the total sum of constructional expenses. This method foresees a complete demolition in project area, a reconstruction in the same area and a consignment to real estate owners. In addition, holders of right, whose lands are not constructed, take an area depending on their amount of participation area after the regeneration process.

- **Agreement-based method:** This method is applied to small and narrow places where problems related with property do not exist. This model is based on agreements and financial share; however participation and consignment values are not known and not defined in detail. Actually, stakeholders make plans and decisions depending on their profit / value in both types of contract. The main logic is related to the profit with a partnership. The relationship between participation and consignment value is similar to the relationship between the revenue and land cost or cost of independent unit. However, there are important differences. The first, there is a lack of civil or public mediator to manage the process; the second is that the criteria is not clear for consignment of profit to stakeholders after defining participation / participation value and consignment / consignment value, in another word current net value of the project.

- **Value-based:** A new project has an investment cost including all expenses with construction company’s profit. Current participation value (land + building values) is considered as one of the expenses of investment cost. Investor desires to have a profit from the project depending on its expectations on this investment. It is obliged to give investment costs and profit to construction company. This cost must be supplied to the company as cash or an equivalent land or construction zone that are located nearby or anywhere else.

On the other hand, owner of property / the public must also take a part of this positive value which is obtained after urban regeneration project. What is the method that sets up a legal relationship among investor, owner of property and the public? This method is called as ‘value-based method’ which is reliable and judicious in Urban Regeneration and all development plan applications. In fact, there are still legal and administrative insufficiencies in this topic even though it is the most discussed and popular method. As long as the legal support is constituted, this method will be the most possible to apply and the most judicious one.

An urban regeneration process that is based on this method has following steps:

- **Determining regeneration areas and declaration**
- **Identifying the current conditions of real estates**
- **Investigation of participation value and ratio, identification of holders of right**
- The best and the most efficient land use analysis
- Preparation of development plans for urban design projects and regeneration
- Feasibility analysis for consignment according to project value
- Confirmation of project value
- Confirmation of development plan for regeneration
- Confirmation of consignment value
- Preparation of consignment value lists, preparation of consignment offer lists
- Consignment offer lists and preparation of independent unit plans
- Consignment
 - Application of Development Plan for Regeneration
 - Validation by Municipality Assembly
 - Registration
- Construction

It is required to complete in agreement the first three steps that are stated in bold characters. After these steps, the process continues with the steps indicated in Figure 1. These steps are organized depending on demands of construction company and owners of property. For the purpose of definite project value, it is recommended to apply the steps in Figure 1. These steps are optional. In the analysis of feasibility; physical possibilities, legitimacy, feasibility and the most productive usage in terms of economy are taken into account. By making consignment values definite, preparations for value list and consignment offers come afterwards. Together with consignment, a development plan in aim of regeneration is applied with validation of assembly of municipality and title registration. After all these steps, urban regeneration process is completed with construction.

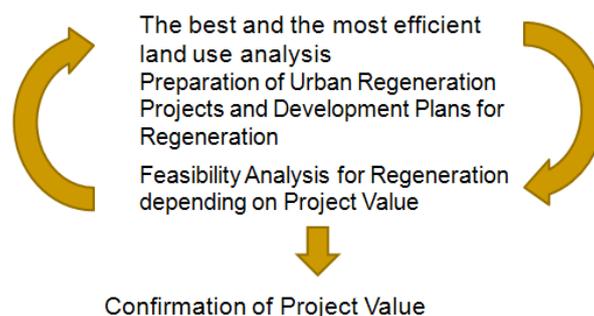


Figure 1: Confirmation of Project Value

It is clear that public support alone is not able to carry out great urban regeneration projects

that require enormous capital. Therefore, it has been figured out that developing new models, that add private sector into the project as stakeholders, would be applicable. For this purpose, value-based model should be a legal obligation in development plan applications. In all laws, including Turkish Civil Law, property, rights of property and their usage should be re-arranged. In addition, a comprehensive regeneration/development law is a must and Value-Based Application Method (VBAM) should take part and a regulation of application should be prepared for VBAM. After taken all explanations into consideration; it can be figured out that a model is a necessity for value, valuation and VBAM. In the following section, a particular model for our country is expressed as a method for value-based development plan application.

2. A NEW APPROACH TO URBAN REGENERATION MODEL¹

It is difficult to set up a method that can be expressed with formulas because of complexity of the development law, versatility of economic system, sensitivity for interior and exterior factors, necessity for re-arrangement of existing legal system that organizes property depending on daily conditions, lack of an integrative land policy across the country, high-dense crooked constructions and unsettlements, insufficiency of laws that organize real estate market (Mainz, 2007), deficiency of understanding for valuation of real estate for the purpose of development plan applications and disability to arrange public and personal benefits for the good of society and people. During our studies, plenty of different and complicated problems are found out to be related with the property and development generally in Turkey, specifically in Istanbul. Methods and suggestions are developed for the purpose of not only resolving these problems but also carrying out applications in the base of legitimacy. As long as the problems related with developments and properties are resolved, suggested model will be re-organized. It is believed that this model will be a good example of application that is suitable for the current legal, economic and mental understanding of the country, for all development plan applications based on value-based method.

To make the model understandable, it is necessary to make some definitions. These definitions are: **Value Multiplier**, **Value Correction Factor**, **Value Correction Variables** related with all value correction factors and **Value Correction Coefficients** which are calculated for all Value Correction Variables. The model will be explained after these definitions and brief information in terms of participation and consignment values.

Table 1: Definitions of VM, VCF, VCV and VCC

Value Multiplier (VM) / Unit Cost of sqm	Value Multiplier (VM) / Unit Cost of m ² ; generally refers to an approximate value which is derived from real buy-sell costs of similar/equal real estate depending on sampling in daily market conditions. To define the participation and consignment values in urban regeneration projects and development plan applications, the first thing to do is calculating the unit cost of m ² /value multiplier with the help of equal data with similar characters in the real estate market. Then, positive or negative corrections will be added by multiplying raw m ² unit value / value coefficient of each independent unit with all value correction factors that
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¹ This model is called as ULOGGER MODEL.

	affect value and value correction coefficient corresponding to value correction variables which belong to these value correction factors. This obtained value will be assumed as net m ² unit price / value coefficient. Participation and consignment values will be found out with a multiplication of this coefficient and real/legal areas.
Value Correction Factor (VCF)	Value Correction Factors (VCF); are general factors on real estate which affect the participation and consignment values and these factors are accepted after research.
Value Correction Variable (VCV)	Inside the Value Correction Factors, any other particular condition that affects the value is called Value Correction Variable (VCV). Value Correction Factor is a general comprehension which has numbers of different conditions. These conditions, which affect positively or negatively on participation and consignment value of an independent flat/unit, are also called as value correction variables.
Value Correction Coefficients (VCC)	Value Correction Coefficient refers to different conditions of value correction factors and it is a numerical coefficient that is accepted after a survey on effect ratio and amount of tested value correction variables. Value correction coefficient is accepted by valuation experts because of reasons that affect the value in the project area. They can be changed depending on the project area. These coefficients are changeable ratios for each city and for each zone in the cities. However, these coefficients must be between 0 and 2. With the help of these coefficients, Raw Value Coefficient (RVC) can be found in order to make a correction on Value Correction Coefficient (VCC). With a multiplication of RVC and VCC, a Net Value Coefficient (NVC) will be calculated.

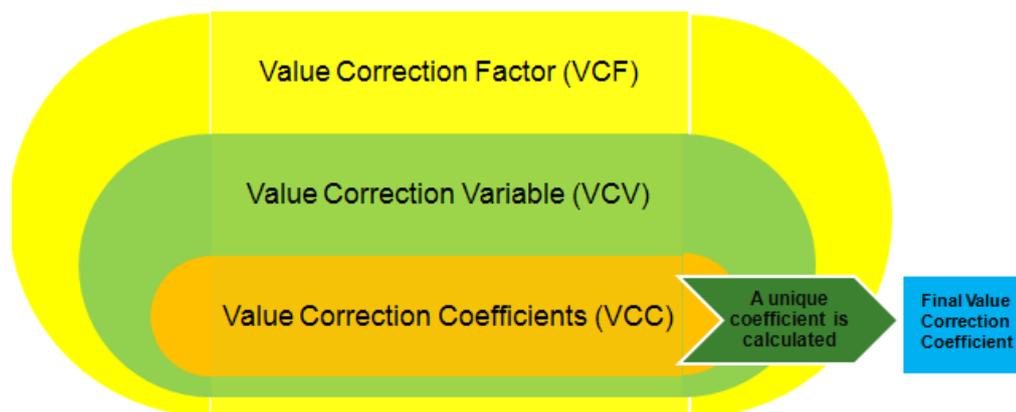


Figure 2: Calculation of Value Correction Coefficient

3. IDENTIFICATION OF PARTICIPATION VALUE

These value factors should be generally well defined since they have tendency to show

possible diversities in each regeneration project. When one investigates completed regeneration projects, it is obvious that there is a lot of value correction factors accepted; however, particularly in Turkey, legitimacy and incongruity to development plans are the most important value correction factors. The current area of an independent flat/unit is the measured area in that place. The appropriateness of the current area with the project can be checked in case it is required. As a result of the investigation, the unsesttlement area of independent flat/unit to development plan is determined. As long as there is not any unsesttlement area, whole area is legal area. The reasons (VCV) of this unsesttlement that affects to value are summarized with a unique value correction factor. Beside of this factor, all other value correction factors are related with legal area.

The existence of these value correction factors has a fundamental function in the creation of this model's paradigm. In other words, if in Turkey use of real estate had been suitable for plan decisions and the legitimacy had been supplied, the value-based method would have been used again but with less complexity and more simplicity. Therefore, in order to give examples for this model, these two correction factors are used.

3.1 Legitimacy Value Correction

If the real estate is registered and has a project, validated floor plans are investigated for calculating legal area amount and current area amounts which are calculated by in-situ measurements in the place of independent flats/units. By extracting the legal area from the current area, the remaining area means unsesttlement area. Raw m^2 price that is obtained from equal data of an independent unit means a raw value coefficient for not only legal area, but also for unsesttlement. Different corrections are applied individually on legal area raw value coefficient and, if it exists, unsesttlement raw value coefficient. Value corrections on unsesttlement area are done with correction factors that are illustrated in Table 3. As indicated before, all other correction factors are related with legal area value correction.

3.2 Unsesttlement Value Correction

Value Corrections of unsesttlement areas generally happen in case of following situations:

- Enlargement in building dimensions.
- Enlargement with invading other parcels.
- Transformation to whole floor.
- Enlargement with invading to road or public land.
- Additional (illegal) floor.
- Enlargement on terrace or roof area.
- Enlargement on common areas.
- Enlargement to other independent unit.
- Enlargement on back garden.
- Construction is inside the borders of development rights but actually unsesttled for project, incomplete project modifications.
- Construction inside the borders of development rights but constructed floors or additions without license.

- Others.

The independent unit might have one or more value corrections related with unsesttlement. Even though sometimes it is hard to define them in its place, unsesttlement area should be separated with analysing. For instance; in case of an enlargement both on contours and to common areas, how much unsesttlement is caused on contours and to common areas should be well defined separately. Each separated area is multiplied with its own variable's correction coefficient in order to find out the net m² unit price. As a real case, in a regeneration project for commune of Zeytinburnu, Istanbul, in the neighbourhood of Sümer, the analyze graph of unsesttlement is shown in Graph 1.

Table 2: Correction of Unsesttlement Value

CORRECTION FOR UNSESTLEMENT AREA VALUE COEFFICIENT	
CORRECTION VARIABLES	VALUE CORRECTION COEFFICIENTS
Enlargement in Building Dimensions	0.65
Enlargement with invading other parcels	0.40
Transformation to whole Floor	0.55
Enlargement with invading to road or public land	0.65
Additional (illegal) floor	0.20
Enlargement on terrace or roof area	0.55
Enlargement to common areas	0.35
Enlargement to other independent unit	0.40
Enlargement on back garden	0.40
Construction is inside the borders of development rights but actually unsesttled for project, incomplete project modifications	0.85
Construction inside the borders of development rights but constructed floors or add-ons without license	0.90
Others	

3.3 Determination of Legal and Unsesttlement Area of an Independent Unit

Unsesttlement Area (UA) = Current Area – Legal Area

Total Value of Unsesttlement Area (TVUA) = NVC × UA

NVC = Value Correction Coefficient of Unsesttlement Area (VCCUA) × RVC

$$TVUA = \sum_{i=1}^n (VCCUA \times RVC) \times UA$$

The value of unsesttlement area can be found by multiplying the amount of area corresponding to value correction variables of unsesttlement area by related value correction coefficients and raw m² unit price.

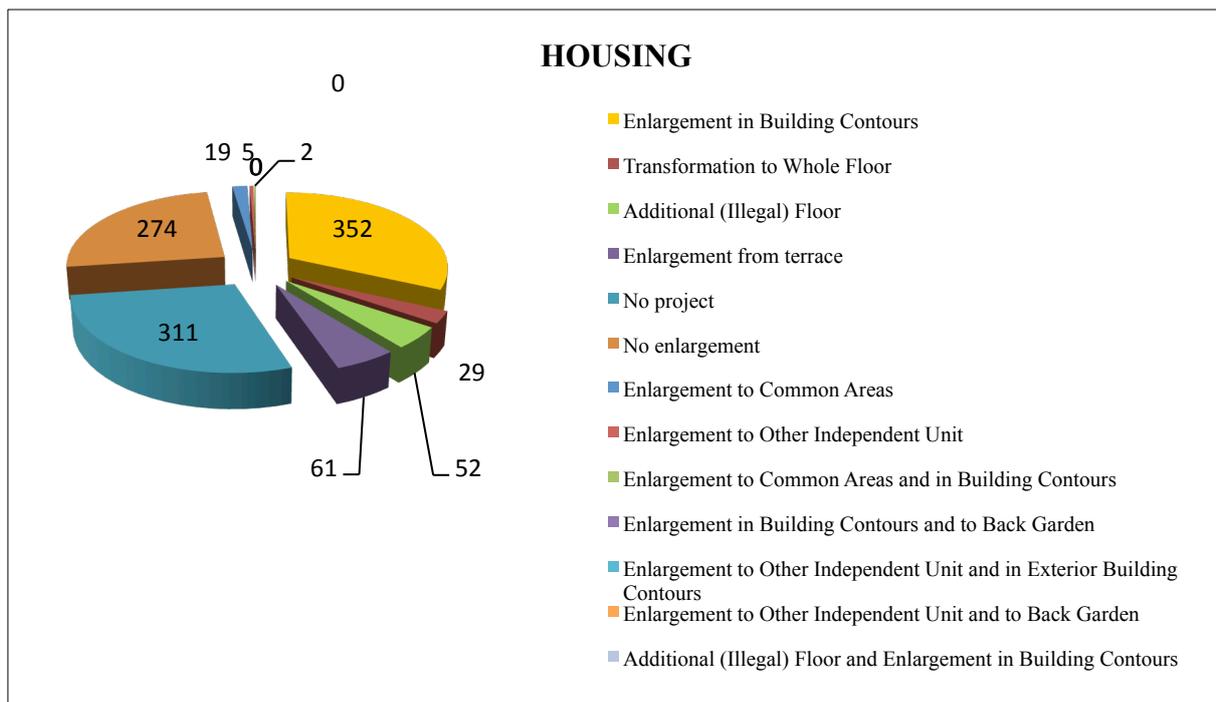
Value of Legal Area = Net Value Correction Coefficient of Legal Area × RVC × Legal Area

Project Participation Value = Value of Legal Area + Value of Unsettlement Area (if it exists)

Related data is given in Table 3.

Table 3: Project Participation Value of an Independent Unit

		Amount of area (m ²)	RVC (Lira)	Raw m ² Unit Rent Price (Lira)	Raw Value Correction Coefficient	NVC with Value Coefficient	Net Rent m ² Unit Price with Value Correction	Value (Lira)	Rounded Rent Value (Lira per month)
		A	B	C	D	E = B X D	F = C x D	G = E X A	H = F X A
Legal Area		72	1416	-	1.73	2449.68	-	179376.96	
Current Area		95	-	8	173 ²	-	13.84	-	1314.80
Unsettlement Total Area		23.00							
Unsettlement Value Variables	Enlargement in Contour	18	1416.00	-	0.65	920.4	-	16567.20	Total Project Participation Value: 195422.16
	Enlargement to Common Area	5	1416.00	-	0.35	495.6	-	2478.00	



Graph 1: Analysis of Unsestlement in Zeytinburnu Regeneration Project Area

A sample calculation for an independent unit that can be seen in Table 3 with variables of unsestlement, enlargement in contour and enlargement to common areas. If value variables of unsestlement: enlargement in contour is 18, enlargement to common area is 5; Value Correction Coefficient: 0.65, RVC: 1416.00 Turkish Lira (TL); net m² unit price with value correction will be 920.60 TL. If the area corresponding to the enlargement in contour is

multiplied by NVC with correction, the value will be calculated as 16567.20 TL (Approx. 1 TL = 2.24 USD).

4. DETERMINATION OF THE PROJECT VALUE

The aforementioned method for the determination of participation values is also used here. The same definition and the same methodology are valid also for the calculation of consignment value. To find the consignment values, net consignment value can be found by multiplying the mean gross m² sell price and value correction coefficients that are derived from suitable value correction variables for the new project.

The gross m² unit sell price of different types of new independent units defined by valuation experts after designing and constructing the new project suitably to development plan, these price is the mean gross m² unit sell price of similar type of independent units. If we open up the definition of similar types; there can be a variety of construction classes in regeneration area such as housing, offices, hotels etc. depending on the descriptions of ministry. Luxury housing can be also cluster housing with more affordable costs. Mean gross m² unit sell prices are defined with taking these differences into consideration. When the sell prices of functional areas of consignment-based project in regeneration area are defined, development status of the region, standard of living, economic conditions, and the effects of global and Turkish economic movements on real estate market and ways of investment strategies are searched. Then, mean gross m² unit sell price (raw price) is calculated with the help of sell prices in similar investments in the real estate market across the province or commune where the project area is located.

During the project valuation, not only individual housing units or office equals around the project area are based. In Istanbul, prices are investigated in regions whose features are similar and the regions that cover large settlement areas with a variety of functional areas and independent units. Market research on real estate sales is very important. Therefore, there is a requirement to arrange reliable, sustainable and observable organizational and legal structure in our country. These data are considered to be base data for equal method, which is one of the valuation methods we chose. For all types of design belonging to all functional areas in our project zone, mean gross sqm unit sell price is assumed to be raw sqm unit sell price for consignment value - and net gross sqm unit sell price is calculated with the help of value corrections and coefficients corresponding to consignment values.

5. CONCLUSIONS

As indicated often in the paper; when one investigates the condition in Turkey, it is difficult to define a systematic approach with limitations, well-designed framework and mathematical explanation on value-based method applications. Even in Germany, where detailed and sustainable applications of value-based method are carried out with our long-term co-operation for investigations and research, there are still evaluations and discussions related with the topic (Grundstücksmarktbericht, 2007; Mainz 2007). In the UK, current regulations and memorandum are utilized for the results of applications of urban regeneration. In China, the studies go on for the purpose of valuation of public rights (Kötter, 2008; Maliene, 2008;

Qu and Ye, 2008).

It seems easier to suggest development plan application methods which are expressed by mathematical models in a country, which has reached to a maturity level in economical, political, law and spatial manner, its problems related to the property rights and property use are resolved, has a well functioning economy, stable demographical features and existing satisfied settlements. However, currently we found that it is not possible to suggest a statement for our country. Moral values of our country also do not seem to be suitable for such a statement. An agreement should not be expected when development plan rights define the economic growth and ruling parties in such an economic-politic structure. It is possible to get easy results and reach to a perfect maturity when it is not started wrongly, when it is not considered in logic of exchange like shopping, when it has scientific, legal and rightful foundations. It can be said that the suggested method is convincing and persuasive in current and future value-based development plan applications, even though it can be considered as a detailed method. Currently this method is being utilized in different urban regeneration projects.

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BIOGRAPHICAL NOTES

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