

## Urban land value and map of land values

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### ABSTRACT

Land is the gift of nature to mankind. It provides continuity and progress. Land is not only our biggest asset, but at the same time, the whole real source. As immovable property, land constitutes one of the most valuable assets for the country and individuals. Because land is so important, the correct determination of its value for any evaluation purposes attracts special attention. There are different purposes the land is valuating for, like buying and selling, mortgage, financial reporting, development and redevelopment, etc. Regardless of the purpose of valuation, the market value is the most required kind of value and the main basis of evaluation of the land.

In their daily work, the appraisers are based generally on the market transactions, but more and more are added cases when the value maps are used on valuations.

This paper firstly deals with the methods and procedures for the evaluation of urban land, even in individual and mass valuation and concludes that their applications provide us significant differences in values that can't be negligible. Finally, after working out these differences, relevant recommendations for the "spaces" where the maps of value can be used, are given.

**KEYWORDS:** urban land, map of land values, market value, purpose of valuation.

### 1 INTRODUCTION

*Land* is any portion of the earth over which rights of ownership, stewardship, or use may be exercised, including: the earth's surface, water covered lands, water and mineral resources, as well as features and resources attached to the earth whether they be natural or artificial. (Barlowe,1986) On this basis it is of great significance in political, social, economic and environmental terms, at all levels ranging from the individual to the global. Land is one of the most precious assets and it has many uses. Besides other things, it is the basis of urban and industrial development.

Earth is finite in extent and is becoming increasingly rare and desired. This makes it a commodity, a primary tool to generate income, wealth and power. In other words, it means that the land has a price and exchange value.

The value and price of land is determined primarily by demand and supply and the potential profit is expected to be taken from the property. The urban land is worth for what can be built on it. Whatever the purpose of valuation is, the most required kind of value and the main basis of evaluation of land is the market value. Market value is the estimated amount for which a property should exchange on the date of valuation between a willing buyer and a willing seller in an arm's-length transaction after proper marketing wherein the parties had each acted knowledgeably, prudently and without compulsion ( IVSC, 2011) ( EVS, 2012)

## 2 METHODS AND SYSTEMS FOR ASSESSING URBAN LAND

There are two the main systems for determining market value, used even in Albania, individual and mass valuation.

### 2.1 Individual valuation

**Individual valuation** is the valuation of a particular property as of a given date (IAAO, 1990). In case of individual valuation one or some of real property objects are assessed; consequently, such valuation is distinguished for a detailed analysis and description of the subject property, detailed interpretation of legal and economic factors of value (Glaudemans, 1999).

There are five conventional methods for the assessment of the real estate depending on their type and the purpose of valuation: the Comparison method, the Investment method, the Profit method, the Residual method (Development method) and the Cost method.

Land is the basic essential of property development and unlike building commodities, such as concrete, steel and labor, it is in relatively limited stock. The quality varies between sites. The value is affected by many variable factors that determine economic availability and market requirement; therefore set the price. Inevitably, the value of land has to be the result of a calculation. Therefore there are two methods available to enable this calculation: the comparison method and the residual value method (Real Estate Financial Solutions Limited, 2008).

**The Comparison Method** is based on comparing the property to be valued with similar properties and the prices achieved for them, allowing for differences between them, so determining the price likely to be achieved for the property in question. It assigns a value to a site by comparing it with the prices obtained in the market for the sale and purchase of sites with similar characteristics. The weight given to each element of comparable evidence is determined by the valuer, based on his judgment and knowledge of the market” (Real Estate Financial Solutions Limited, 2008).

**The Residual Value Method** is adopted in the valuation of development property. This may be of bare land which is to be developed or redeveloped with entirely new buildings, or of land with existing buildings which are to be altered and improved. This method is based on the prediction that the price which a purchaser can pay for such property is the surplus after he has met out of the proceeds from the sale of the finished development, his costs of construction, his cost of purchase and sale, the cost of finance, and an allowance for profits required to carry out the project. This can be expressed as follows:

$$\begin{array}{r} \textit{Proceeds of sale} \\ \textit{Less Cost of development and profits} \\ = \textit{Surplus for land} \end{array}$$

*While the comparative method answer the question “what is this piece of land worth”, the residual method answer the question “what I’m prepared to pay for it” (Real Estate Financial Solutions Limited, 2008)*

### 2.2 Mass Valuation

**Mass valuation** is defined as the use of standardized procedures for collecting data and appraising property to ensure that all properties within a group are valued uniformly and equitably. It is the process of valuing a group of properties as of a given date, using common data, employing standardized methods and conducting statistical tests to ensure uniformity and equity in the valuations. Valuation models developed for mass appraisal purposes must represent supply and demand patterns for groups of properties rather than a single property (IAAO, 1990). Assessing a large amount of property, it is difficult to highlight each of their qualities, so special attention is paid to defining what is common to all properties being valued, but not to the specific features.

The International Association of Assessing Officers (IAAO, 2002) and the Appraisal Institute of Canada recognize the applicability of all three approaches to value for use in mass appraisal. Each approach may be appropriate in certain circumstances (IAAO, 2002).

There are three classical method of real estate valuation: cost approach, sales comparison approach and income capitalization. Two of them are used in land valuation: sales comparison approach and ground rent capitalization.

The *sales comparison approach* is based on a direct comparison of market transactions of vacant land, thus, data from the Immovable Property Registration Offices have to be used (Council of Ministers, 2012). It is the most preferred method of land valuation and probably the only widely used mass valuation method in the context of land. In the valuation process the sales of similar land units are analyzed and a comparison is carried out using some adjustments (Appraisal Institute, 2001).

*Ground rent capitalization* is an approach based on annual rental payments, which are converted into market values through direct capitalization. Land rental is the amount of money paid for the right to use and occupy the land. This method is useful if an active and competitive market for land leases exists. Ground rent capitalization can be used in mass valuation, but is fairly complicated because the rental market is very rarely active and competitive (Appraisal Institute, 2001).

It should be noted that the sales comparison is probably the best way to estimate the land value.

Having studied the two processes, it can be said that the other following steps, the principles of assessment and the methods of valuation, are the same in both systems (Eckert, 1990). The main differences between those two approaches are in scale and in their handling of market analysis and quality control. If in the process of individual valuation it is important to find at least several comparable objects corresponding to the description of the object under valuation, mass valuation needs greater amount of comparable objects and their diversity in order to apply statistical methods efficiently. Undoubtly, the accuracy is greater when the process of individual valuation is used. However, because the individual valuation takes time and it is quite costly, its application in cases of valuation for expropriation, compensation and, taxes purposes it's impossible.

In Albania, the individual valuation is widely used for purposes like: sale, purchase, mortgage, financial reports, property division, etc. The mass valuation, instead, is used in compiling of maps of land values. The maps of land values are used for purposes of expropriation, compensation and taxes for property transfer.

The methodology for determining the value of urban land is approved by Council of Ministers decision No. 658, dated 26.09.2012.

The calculation of the value of the property is done according to international standards of real estate evaluation, defined in Annex 1/1 of this methodology, where the value of the property is equal to the price of the contract of sale. Price of sale contracts is defined as the market price, according to the type of property and its intended use. Market price data are provided from official sales contracts registered at the Registry of Real Property. The fundamental zone for price calculation is Cadastral Zone. The data provided by the Office of Immovable Property Registration are processed as follows:

- a) issued minimum and maximum price from sales contracts at the cadastral area;
- b) is estimated average price of sales contracts in the cadastral area;
- c) 5 % of lower and higher values of sales contracts are excluded initially. In case that after the exclusion the real estate value cannot be calculated, followed by excluding 10 % of lower and higher values of sales contracts;
- d) "mode" in cadastral area is calculated according to the total number of contracts . "Mode" is the value that repeated more;
- e) median value per sqm (square meter) is calculated according to total number of contracts. Median is the average value of all transactions for a kind of property in a cadastral area;
- f) the final calculations of the value of real property is done. (Council of Ministers, 2012)

Based on this methodology, there have been developed the maps of urban land values for the cities and villages of Albania.

**Is there a difference in urban land value determined by individual valuation and map of land value?**

### 3 RESULTS AND DISCUSSIONS

The mass appraisal techniques depend upon the extent and quality of land data available. This information may be quantitative (e.g. land areas, dimensions, building types, accommodation and fittings) or qualitative (e.g. assessment of physical condition, character, or market desirability of structural improvements and classification of submarket groupings). The mass appraisal process must ensure that standards of appraisal level and uniformity are observed in the interests of assessment equity (IVSC, 2002).

The term *appraisal level* relates to the proximity between assessments and actual prices (IVSC, 2002). A fraction study compares the results of mass valuation to market values. The appraisal level is the overall ratio of values to market values. In mass valuation, the results cannot be expected to equal the market values of individual properties, but high and low ratios should be balanced. The typical ratio is nearly 1 (100%) (Glaudemans, 1999). The measurement of the valuation level would require quantitative analysis as a basis to check accuracy. In the conditions of cities (the city of Tirana), especially, where there is little or no free land, this ratio cannot be measured. As a consequence, the accuracy of the mass valuation from the appraisal level point of view, cannot be determined.

The term *uniformity* is a measure of consistency in error ratios. Uniformity requires equity within group and between groups of properties (Glaudemans, 1999). Uniformity relates with the equitable treatment of every individual property.

The international documents suggest that the allowable difference between the results of individual and mass valuation should not exceed 20% (Arvydas et al., 2005). The experience of these years in Albania has shown that the approved prices by the decision of Council of Ministers in general did not really match with the prices led by the market. In this paper, two cases are reviewed; one case of a land surface in the city of Tirana and a surface area of urban land in Kashar commune.

**Case 1.** A land area of 4900 sqm, part of Cadastral Zone No.8270, is located on the southwest of Tirana Artificial Lake (Figure 1). This piece of land is located within the sub-structural unit 5-33 of urban study of Tirana City (Figure 2). Local detailed plan for this piece of land provides a 35% utilization coefficient and on it can be built 9, 10,11,12,13 and 14 story building composed by shops and apartments (Figure 2).



Figure 1: Aerial photo of the land location



Figure 2. Land location on the map and land detailed plan

Land surface = 4 900 sqm  
 Building area = 10 317 sqm  
 Ground floor area (shops) = 1 170 m<sup>2</sup>  
 Market value of shops = 2 500 Eur/m<sup>2</sup>  
 Market value of apartments = 900-1200 Eur/m<sup>2</sup>

The market value of the aforementioned land using Residual Value Method from the calculations turns out to be 1284 Eur/sqm. Referring to the map of land values, lands on Cadastral Zone No. 8270 have a value of 120 000 ALL/sqm or 857 Eur/sqm. The difference of values turns out to be 33%.

**Case 2.** A land area of 10000 sqm, part of Cadastral Zone No.2105, is located in Kashar, 600 m to the southeast of the "City Park" Shopping Centre (Figure 3).

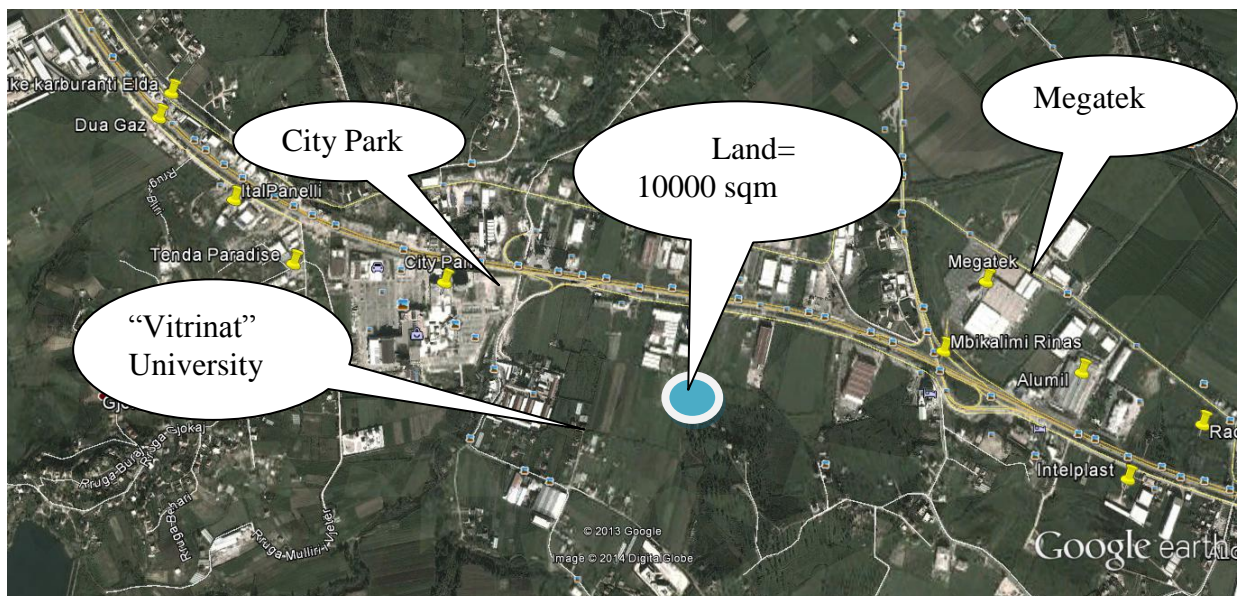


Figure 3: Aerial photo of the land location

Even though in the ownership document, the property seems to be agricultural land, it is located within the area of Regulatory Plan of the Kashar Commune (Figure 4).

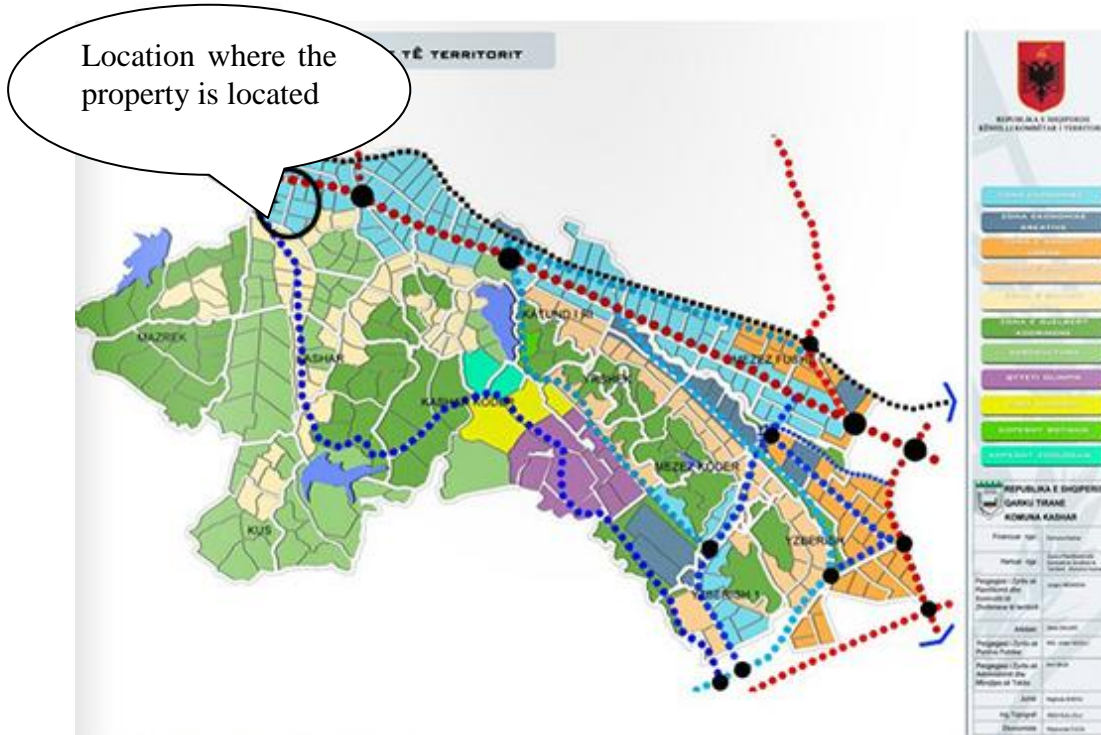


Figure 4: Land in the regulatory plan of the Kashar Commune

According to the Regulatory Plan, for the land is permitted to be used for structural subunit industrial with the coefficient of utilization of land for use up to 70% and the coefficient of utilization of land for roads and public spaces min 35%.

- Land surface 10000 sqm
- Roads and public spaces  $35\% \times 10000 \text{ sqm} = 3500 \text{ sqm}$
- Building area  $70\% \times 6500 \text{ sqm} = 4550 \text{ sqm}$
- Ground floor area (shops) 1,170 m<sup>2</sup>
- Market value of apartments 420 Eur/sqm
- Market value of units 630 Eur/sqm (1.5 x 420 Eur/sqm)

The market value of the aforementioned land using Residual Value Method from the calculations turns out to be 65.9 Eur/sqm. Referring to the map of land values, lands on Cadastral Zone No. 2105 have a value of 3 397 ALL/sqm or 24.3 Eur/sqm. The difference of values turns out to be 63%.

#### 4 CONCLUSIONS

As noted in the calculations of both cases above, there are significant and non-negligible changes in the values defined using the individual valuation system and the values from map of land values, drawn by mass appraisal system.

The current methodology of compiling the map of values tends to apply the market methods of determining the market value, but it is based on statistical calculations and the accuracy of these estimates depends primarily and above all, on the number of available data. The market data for urban lands within cities are very limited because of lack transaction for selling and purchase. The land owners increasingly prefer to negotiate with developers in order to benefit part of the construction more than to sell the land. The market data for land in rural areas suffer lack of comparability base. Cadastral areas have a very large spatial extent and therefore the use of data obtained from sales

contracts has need of a processing prior to use. Although the methodology predicts the exclusion of higher and lower values and this is an attempt to increase accuracy, it is not satisfactory and sufficient.

The existing methodology of the compiling the map of values is an attempt to bring closer to the market values, the values of the map of values. However, the existing methodology need improvements to reach as close as possible to the market value. In order to increase the degree of uniformity and to improve the basis of comparability, it is required a subdivision of cadastral zones. Moreover, it is necessary to have a digital data system based on geographical information.

For all shortcomings mentioned above, the values of map of values can be used for a very narrow range of assessment purposes. The map values cannot and should not be used for the evaluation of specific properties. In the cases where the map values are the only opportunity the valuers have, further adaptations need to be done in order to bring them closer to market values.

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