

Determination Of The Valuation Criteria In Rural Areas And The Account Of The Scoring Weights Of Some

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INTRODUCTION

Valuation of real estate in our country has been come up in urban areas, but has been neglected in agricultural areas. The reasons are;

- a)Acceleration of migration from Rural to urban (urban population is 62% of the country in 2000 whereas it is 76% in 2010) demand for land in cities has increased for that reason real property demand traffic become more than villages,
- b)Buyers and sellers in the urban area are in a wide range in cities while they are in very narrow range in villages,
- c)The lack of importing freedom and inventiveness in agricultural sector.

For the three main reasons, real estate valuation in rural areas has been applied on selling the treasury lands to their users, bank mortgage and credit transaction more than purchasing between individuals.

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INTRODUCTION

However, in recent years, the real property valuation in agricultural lands has become important because of the increase on

- a) banking transactions,
- b) credit transactions,
- c) sale of treasury lands,
- d) privatization,
- e) investments on technology done by the large land owners.

The number of people who needs balanced and adequate nutrition has been increasing with the increase in world population.

The new agricultural lands are the areas which belong to the state and that lost their forest land feature and the village lands used for threshing or pasture lands that weren't planted before.

REAL PROPERTY VALUATION

A global definition of real estate valuation is determining the current normal price of a real property in real property market by using one of the suitable methods.

Real property valuation means comparison in its classical sense and it is done by using the income and cost methods or both of them.

Till today, regional capitalization rates are calculated according to usage of land as it is suitable for irrigated or dry farming and by this way the value of real property is reached. However,

- a) The valuation criteria established by law,
 - b) The weights of these metrics
- are needed to calculate.

VALUATION CRITERIA FOR RURAL AREA

There aren't enough studies on rural area valuation in our country whereas sufficient studies are seemed in European countries. Studies on the rural area has been carried out by several scientists.

Rural valuation criteria in these studies can generally be listed as below;

- | | |
|--|--|
| a) The opportunity of producing a new parcel, | k) The proximity to a city or town, |
| b) The size of the land, | l) The facility of irrigation, |
| c) The overgrowth of the population of the city or town, | m) Land planting plan, |
| d) Having one piece of land, | n) The regional variety of products, |
| e) The cadastre, | o) Slope, |
| f) Population density, | p) Soil depth |
| g) Property security | q) Soil class, |
| h) The ease of purchase - sale, | r) Land Shape, |
| i) The ease of transport, | s) Proximity to Forestry border, |
| j) Having a building and its accessories, | t) The status of wild animals (pigs, mice, moles), |

VALUATION CRITERIA FOR RURAL AREA

However, these criteria can be divided into two main groups.

These are:

- a) The **positional** criteria affect the location value,
- b) The **fertility** criteria affect amount of product taken from the field.

Since the product value is affected by both positional and fertility criteria, the capitalization interest is affected directly or indirectly and this affects the value of the land unit.

Here are the calculation of the criteria and their influence weights.

Evaluation Criteria and Weights

a) The opportunity of producing a new parcel (kps):

The opportunity of producing a parcel is directly proportional to the size of the parcel.

Since agriculture is done by economic and physical contributions of the whole family members, enough land must be inherited for living to the inheritors of the farmer after his death.

The criteria must not be **the smallest** size that law says but large enough for farmer family to live.

This size for dry areas is 188 da and for wet lands 49 da in the Central Anatolia Region.

Value is increased 5% for each produced parcel. And it is calculated as:

$$k_{ps} = 0.05 \times \text{produced parcel number}$$

Evaluation Criteria and Weights

b) The overgrowth of the population of the city or town (kn):

According to the Municipal Law places of which central population is more than 750.000 is accepted as metropolitan.

Therefore, this criterion is important for agricultural areas around the metropolitan.

In fact the surplus population in the city is a criterion of the land and when it will become an urban land (raw settlement land).

As the population increase, surrounding farmlands are under the threat of being converted to urban land.

Its mathematical weight depends on the conjuncture.

Evaluation Criteria and Weights

c) Having one piece of land (kt):

The investment is important in aspects of transportation cost, planting plan, agricultural equipment and crop transport when the land is in one piece and large (the distributing norm) enough for a farmer family to live.

Value is increased 5% for having one piece of land.

1st class living land for Konya region is $f_{dn} = 188$ da

for dry lands and $f_{dn} = 49$ da for the wet lands.

$$k_t = \frac{f_p}{f_{dn}} \times 0.05$$

Evaluation Criteria and Weights

d) Having cadastre in the region (kk):

There is no weight since our country's cadastre is completed.

e) Population density (kny):

The more the population is many the more agriculture is easy in a village.

As density increases, agricultural fertilizer factories, agricultural equipment factories and agricultural workers will come to village easier and cheaper.

However, the population shouldn't exceed 5 000, because after 5000, the right of being a municipality is obtained according to the Reconstruction Law.

Therefore, it becomes a city. An ideal village population is 750 to 3000.

If the population is in these limits the value of increased 3% . If the population is less than 750, the value is reduced 2%.

Evaluation Criteria and Weights

f) Property security (kmg):

Property security is a situation whether there is a danger for the farmers to go to their lands and prevent them planting or collecting their crops or not.

There is no such a problem in Central Anatolia. For this reason, the value is increased 1%.

g) The ease of purchase – sale (kas):

All kinds of difficulties prevent buying and selling is called the ease of purchase–sale these difficulties in the region are;

a) Tribal structure,

b) Farmers' intention not to pay their taxes or credit.

Evaluation Criteria and Weights

The difficulty coefficient is determined as follows.

Banks give 25% less value (75% of the value) of the land as a credit to continue their lives.

The value that the banks reduced from 75% for such lands is taken and used in calculation.

The rate in the Central Anatolia region is between 75 to 70 has value is reduced from the land value per unit.

$$k_{as1} = \%75 - \%75 = \%0 \quad k_{as2} = \%75 - \%70 = \%5$$

$$k_{as} = \frac{k_{as1} + k_{as2}}{2} = \%2.5$$

Evaluation Criteria and Weights

h) Ease of Transportation (ku):

The distance from farmer's house to;

- a) The main road (kuay),
- b) The village center (kukm),
- c) Petrol station (kupi),
- d) Crop buying center (kuam)

are important.

Determining distance is 10 km. because the agricultural vehicles can go 25 km/h when they are empty and 20 km/h when they are full.

Since transportation experts says that journeys which took from more than 30 minutes makes people tired, the distance is determined as 10 km.

Separate scoring for these three basic criteria can be done as below;

Evaluation Criteria and Weights

Distance (km)	1	3	5	7	9	10	12	14	16	18	20
k_{uay} (%)	5	4	3	2	1	0	-1	-2	-3	-4	-5
k_{ukm} (%)	5	4	3	2	1	0	-1	-2	-3	-4	-5
k_{upi} (%)	5	4	3	2	1	0	-1	-2	-3	-4	-5
k_{uam} (%)	5	4	3	2	1	0	-1	-2	-3	-4	-5

Evaluation Criteria and Weights

i) Having a building and equipments (Dyd):

The buildings and equipments are;

- a) Electrical installation,
- b) Drainage installation,
- c) Warehouse,
- d) Housing

Their presence of these increases the productivity and quality of crops and makes the harvest easier.

The constitution cost of these structures and equipments in a land is calculated.

Then depreciation is discounted from the constitution cost and divided by remaining life span (Dyd).

Total area is divided by the former division value and the result is added to annual net income.

$$D_{yd} = \frac{D_{yd}}{f_p}$$

Evaluation Criteria and Weights

j) The proximity to the city or town (kky):

The distance of the land to the city (Uk) is important.

The ideal distance is between 50 and 70 km. because if it is nearer than 50 km to the city, it loses its agricultural land feature and passes to urban land speculation.

Each 8 km from 70 km increases the cost of transport (transport vehicles go 8 km with 1 liter of diesel).

Thus, the cost of the product increases 1% in each 8 km.

For this reason, value is reduced 1%.

$$k_{ky} = \frac{U_k - 70}{8} \times 0.01$$

Evaluation Criteria and Weights

k) The facility of irrigation (ksi):

Is a major criterion. Irrigated land or arid land agriculture in a land affects a planting plan directly.

Arid land is 1 of 3 years used in fallow and the other 2 years passes with grain cultivation of which value is very low in stock market whereas 4 years are fully used and sugar beet and sunflower (or corn) which is 2 times expensive than grain in irrigated lands.

According to the experience of Expertise (court decisions), the transfer coefficient between lands is determined as follows.

Table 3.1.1 Transition index table of land classes

Index	Irrigated	Arid
1st Class Land	800	240
2ndClass Land	350	130
3rd Class Land	140	100

Evaluation Criteria and Weights

l) Slope, soil depth and soil class (kakk):

In this system, terrain, slope, texture, depth, water permeability, physical properties, are handled according to the erosion criteria.

All of these criteria create "the ability of land use".

Due to the formation, agricultural lands are classified as 1st class, 2nd class, 3rd class.

This table allows us to compare all the land within their own class.

Evaluation Criteria and Weights

Table 3. 1. 2 Land Classification according to use ability

Criterion	1st Class Land	2nd Class Land	3rd Class Land
Slope (%)	0 - 2	2 - 4	4 - 6
Texture (structure)	Loamy	Clay	Sandy
Depth (cm)	+ 90	90 - 50	50 - 25
Water Permeability	Early Absorption	Middle Absorption	Early Absorption
Physical Properties	Dark Color	Light Color	Stony
Erosion	Never	Middle	Happened

Evaluation Criteria and Weights

m) The shape of the land (kb):

When the shape of the land has much zigzag corners, plow loses are much in the land.

Because of not being easy to maneuver tractor and one cannot come closer less than 75 cm to the property boundary, the amount of unplanted land increases. Here, the question comes to mind "What is the ideal size of the land?"

The golden ratio series which exists in the nature and makes the human body appearance aesthetic comes in mind.

If we compare the elements of the serial with each other beginning with the 8th term, coefficient 1.62 is obtained and we can get it as 1.60.

From here on we can come to the conclusion that the land should be rectangle and have 1.60 rates between the edges.

After this judgment we can create the weight criteria as follows:

Evaluation Criteria and Weights

From here the shape measure of land is calculated as:

$$k_b = \left(\frac{5.2 \sqrt{\frac{f_p}{1.65}}}{C_p} - 1 \right)$$

n) Proximity to Forest Border (kos):

This proximity carries two threats with it.

The first, wild animal and the second is expansion of the forest border with legal regulations.

The second risk may result of nationalization of your land.

However, thus forest creates a natural environment; there is no need to use pesticides for insects such as stink bug that are harmful for wheat.

Evaluation Criteria and Weights

o) The status of wild animals (Dyh):

Pig, mouse, mole are wild animals which give damage to the product.

Total cost of struggle with these animals (Dyh) such as traps and poisons is divided by total size of land and obtained product is rated as %.

$$D_{ky} = \frac{D_{yh}}{f_p}$$

Weighted Evaluation

As it is known, land value is calculated by the correlation as below;

$$D_i = \frac{G_i}{k}$$

(Gi: The annual net income, k: Capitalization rate Di: Land value).

In order to account more accurate value of land, the annual net income Gi must be calculated by taking into account of the criteria given in previous section.

If the annual net income shown as Ga, calculation model below is recommended:

$$G_a = G_i \times (1 + k_{ps} + k_t \pm k_{ny} + k_{mg} - k_{as} \pm k_{uay} \pm k_{ukm} \pm k_{upi} + k_{ky} \pm k_{si} + k_b) + D_{yd} + D_{yh}$$

Weighted Evaluation

After this weighted income calculation, the valuation process is continued. After that correlation is transformed into

$$D_i = \frac{G_a}{k}$$

As a result of scientific studies and court decisions, the capitalization interest rate is observed as 5-6 % in arid lands and 8-9% in irrigated lands

ABBREVIATIONS

f_p : Land space	k_k : Criterion of having the land cadastre or not,	k_t : Criterion of being one piece of land,
f_i : Ideal sized of land space,	k_{ky} : Criterion of the proximity of the land to the city or town,	k_u : Criterion of ease of transport,
f_d : Distribution norm space,	k_{mg} : Criterion of security of property,	k_{uam} : Criterion of proximity to crop buying center,
D_{yd} : Annual value of buildings and establishments of 1 year value	k_n : Criterion of over population of the city or town,	k_{uay} : Criterion of reaching to the main road,
U_k : Distance to the city,	k_{ny} : Criterion of population density,	k_{ukm} : Criterion of ease of access to the village center,
C_p : Total perimeter of the land,	k_{os} : Criterion of proximity to the forestry border,	k_{upi} : Criterion of proximity to petrol station,
C_i : Total perimeter of ideal sized land,	k_{ps} : Criterion of productivity of new parcel,	k_{yd} : Criterion of the buildings and establishments of the land,
k_{akk} : Land using ability criterion	k_{si} : Criterion of the facility of irrigation	k_{yh} : Criterion of wild animals.
k_{as} : Criterion of the ease of purchase – sale of land		
k_b : Criterion of the land form,		

THANKS ...
QUESTIONS ?

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Seven Advice of Mevlana

1. In generosity and helping others be like a river,
2. In compassion and grace be like sun,
3. In concealing other's faults be like night,
4. In anger and fury be like dead,
5. In modesty and humility be like earth,
6. In tolerance be like a sea,
7. Either exist as you are or be as you look.

