

# **Economic Assessment of Agricultural Grounds – Basis for Introduction of General Cadastre in Romania**

**Maria CONTOMAN, Romania**

**Key words:** economic, assessment, cadastre and tax.

## **SUMMARY**

Economic assessment of agricultural grounds has as object the establishment of clear profit related to the best ground with the view of taxing the landed real.

This is the most important and necessary phase in elaboration of the general cadastre, for the establishment of taxation shares and equitable allocation of taxes.

Also, it offers the state the information necessary for intervention with a view to forming a favorable frame for revaluation of all production factors in agriculture, through economic-financial measures and of protecting and stimulating agrarian policy measures.

Among these, more important are: progressive tax, credits with advantageous interests, mergers and subsidized landed improvements, practical guidance of farmers and agricultural research support, damages establishment in case of expropriation or temporary taking out of agricultural output, vent establishment.

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## **1. INTRODUCTION**

The economic part of general cadastre that accomplishes the economic function drank it to establish the economic value of the agricultural grounds and the constructions.

The knowledge of this function of the general cadastre is justified by the following:

- The data of the economic cadastre is the basis of the calculation for fair taxes collected by the Fisc, by the juridical processes, and by the public notaries;
- The news of the technical part of cadastre is insufficient for calculating the respective obligations and is necessary and the qualitative evaluation of the grounds from an economic point of view.

## **2. THE ECONOMIC IMPORTANCE OF THE GROUND**

The importance of the ground results from the following:

- The ground is the most efficient and the most important source of revenues for the state;
- It assures the need for supplies and housing for the population and foundation for the site of constructions;
- It is the main means of production and the object of work in agriculture and in forestry;
- It is the source of raw materials for the food industry.

## **3. ECONOMIC ASSESSMENT OF AGRICULTURAL GROUNDS**

The economic evaluation of agricultural grounds in a complex activity very important for the management of the territory by that it offers solutions to several problems such as:

- The efficiency of sustainable use of the lands;
- The re-organization of exploitations;
- The needs of the land for urbanization, industrialization, and for recreation;
- Strangle against pollution and deterioration of the lands.
- Therefore evaluation is necessary to browse the following phases:
- Soil evaluation
- Soil assessment.

### **3.1 Soil Evaluation**

The assessment of soil is a complex methodology of qualitative evaluation of grounds from an economic point of view.

The establishment may be scientifically performed on the basis of pedo-climatic studies and establishing the following economic elements:

- The production capacity of agricultural grounds is expressed by the notes of assessment;
- The value of the production and the cadastral clean rent.

The production capacity of the grounds is determined by many natural factors and as much that of man's intervention of land improvement.

Therefore land assessment is made for both natural conditions and those of planning and land improvement.

In our country the assessment of agricultural grounds is made after "Methodology for the Elaboration of Pedological Studies" issued by the Institute of Pedology and Agrochemistry Research in Bucharest.

The capacity of production of the agricultural grounds expresses itself through notes of evaluation.

They indicate the difference between the normal conditions for production and the technical level ordinarily reached in the area.

The assessment has two successive stages:

- The description of the soil according to its nature;
- The determination of the capacity for production.

To determine the capacity for production is necessary to know the qualitative differences because of the natural conditions of production (soil, relief, climate, hydrology) of the zone.

For soil the Institute of Pedology and Agrochemistry proposes one scheme that wins 0 ÷ 50 points.

The partial score is given for:

- The depth of soil  $\pm 7$  points;
- The texture of soil 0 ÷ 7 points;
- Rate of saturation in bases  $\pm 7$  points;
- The depth of humus horizon 0 ÷ 7 points;
- The content in humus 0 ÷ 7 points;
- The content in harmful salts  $\pm 5$  points;
- The state of cultivation 0 ÷ 5 points.

For the climate one grounds one interval of  $\pm 20$  points according to the yearly middle temperature of the zone.

The respective data can drive to the diminution of the affordability of the other natural factors.

For the relief the scheme of evaluation has  $\pm 20$  points that agree according to the middle slope of every plot as shown in Table 1.

**Table 1:** The evaluation of the ground after the slope

The slope	Points				
	Arable terrain	Hay fields	Pasture land	Vineyards	Orchards
Plane land	15	15	15	5	10
3 ÷ 5	10	15	15	10	15
5 ÷ 10	0	10	10	15	15
10 ÷ 15	-10	5	5	15	10
15 ÷ 25	-15	0	-10	-5	0
> 25	-20	-10	-15	-10	-10

For hydrological conditions they get  $\pm 15$  points according to the depth and the nature of ground water (Table 2).

**Table 2:** The value of evaluation points after the hydrological conditions

The level of ground water (m)	Points				
	Arable terrain	Hay fields	Pasture land	Vineyards	Orchards
> 10	0	0	-5	5	5
10 ÷ 6	5	0	0	10	10
6 ÷ 4	10	5	5	15	15
4 ÷ 2,5	10	10	10	10	5
2,5 ÷ 1,5	10	15	15	-10	-10
1,5 ÷ 1,0	5	10	15	-15	-15
1,0 ÷ 0,7	-5	0	10	-15	-15
0,7 ÷ 0,3	-10	-5	10	-15	-15
<0,3	-15	-15	0	-15	-15

The middle rates of evaluation of agricultural grounds are influenced by the roads and by the distance between the place of production and the market place or the way to the nearest warehouse.

If the ground is very productive but it is hardly accessible I loses the some of its value.

In our country the Agrarian Economy Institute elaborated one scheme for the correction of the evaluation rates according to the length and the condition of the road and that is presented in Table 3.

**Table 3:** The corrections for the road distances and condition

The situation of roads The length (km)	Points				
	Asphalt	Stones	Soil	Broken road	
				Sandy	Muddy
0 ÷ 2,5	0	0	-1	-2	-3
2,6 ÷ 5,0	0	-1	-2	-3	-4
5,1 ÷ 7,0	-1	-1	-2	-4	-5
7,1 ÷ 10,0	-1	-2	-3	-5	-6
10,1 ÷ 15,0	-2	-3	-4	-6	-9
15,1 ÷ 20,0	-3	-4	-5	-7	-9
> 20	-4	-5	-6	-8	-10

To achieve the cadastre evaluation we make pedological prospections. The determination of the average rates of assessment is necessary to frame the grounds in classes of quality. After the degree of fertility the grounds have been classified in 5 classes:

- - First class – grounds with best fertility ready for agricultural culture (81 ÷ 100 points);
- - Second class – grounds with good fertility that have a humus horizon of less depth (61 ÷ 80 points);
- - Third class – grounds with average fertility with processes of degradation, low capability for arable; the relief is hilly (41 ÷ 60 points);
- - Fourth class – grounds with low fertility, the processes of degradation appear very strong and its necessary a work of improvement (land improvements 21 ÷ 40 points);
- - Fifth class – grounds with very weak fertility that offers unfavorable conditions for agricultural plants (1 ÷ 20 points).

The average rates of assessment are registered in tractable forms and in cadastral register for every plot or body of property.

The assessment is made only for the productive grounds, with the exception of the following categories:

- - The surface for the construction of lodgings buildings areas;
- - The lands (state property) without taking into account the land use;
- - The lands occupied by hunting fields and airfields;
- - The lands situated close to railways or dams.

At the end the work of assessment develops the card of evaluation.

### 3.2 Soil Assessment

The determination of the value of grounds is the basis of the cadastral registry main economic.

The element is the cadastral assessment that gives qualitative information scientifically determined. As for methods at the assessment of agricultural grounds one uses the following notions.

*The efficiency value* has at the basis the soil assessment and the value of the clear profit according to by the classes of quality by some model units;

The taxable value is calculated with the clear rent and the efficiency value.

The clear rent cuts down the interests of the advantage.

The method drives at a just tax.

*The circulation takes* into consideration the output value plus the chance to achieve a profit.

For the general cadastre it is necessary to calculate the net cadastral income and the value of the efficiency as the basic elements for establishing the tax.

Prices of the free walk are influenced by the law of solicitation and the after.

#### **4. METHODS OF THE ASSESSMENT**

In the activity of assessment of agricultural grounds we must use those methods that reflect as minutely as possible the place and value of the land under analysis within market economy parameters.

In economy there are used the following methods of assessment:

##### *The general assessment method*

This method uses the formula  $V_a = K_a \times S_a \times R_f$ , where:

$V_a$  = the value of the land;

$S_a$  = the surface of the land;

$R_f$  = the landed rent actualized on 30 years;

$K_a$  = the factor of correction that includes the following elements for correct integration:

- The location within locality, roads;
- The pedological nature of the land.

##### *The capitalized rent method*

One takes the norms as a basis and on the patrimonial value of the land determined, which is orientate. For the calculation we use the following formula:

$V_t = V_b (1+M)$ , which means:

$V_t$  = the value of the land

$V_b$  = the value of basis of the land determined as minimal limit for one classic period of 99 years leasing;

$1+M$  = coefficient of the correction of the value of basis, that M represents the sum of the rates based on criteria (maximum 9).

The criteria of offering these evaluating rates are:

- The category of locality  $0 \div 1,5$ ;
- The site of the land in the locality  $0 \div 1,0$ ;
- The economic function and social specific feature of the locality  $0 \div 1,0$ ;
- the position of the land by versus the roads  $0,2 \div 0,5$ ;
- The technical – public utility equipment of the zone or to the land  $0,5 \div 1,5$ ;
- The degree of pollution and the ambient of site  $0 \div 1,0$ ;
- Restrictions in utilizing these lands  $0,5 \div 1,5$ .

*The method of assessment according to the market price*

This method consists in the determination of the value of the grounds after the price of the land purchase of the other lands by the calculation of the average value of the zone.

The assessment is made after the average price on every land use.

For this method we do the following operations:

- The determination of the value for every category of use and class;
- The determination of the total value;
- The verification of the results by comparison with the value of other evaluated properties.

For the determination of the average value we take into account data along many years back (10-15), of selling it on small or big plots.

For the grounds taken out the agricultural circuit or those used to other purposes special process are established.

The Agrarian Economy Institute offered the formula of calculation:

$E_{pp} = (V_p \times K_g \times P \times A) \times R$ , which means:

$E_{pp}$  = the value of the ground comes back to the owner in the case to put out the agricultural circuit;

$V_p$  = clear rent got by agricultural producer;

$K_g$  = correction coefficient that represents the clear supplementary rent achieved by the improvement of the ground;

$P$  = coefficient of the increase in prices for the industrial products that determined the decrease of the clear rent (%) for a 100 years period.

## 5. CONCLUSIONS

The introduction of the general cadastre in Romania is an important activity for EU Adherence.

The economic assessment of agricultural grounds is an integral part of the land general cadastre, with the function for the determination of the value of ground to settle the right taxes and to guarantee the property.

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