

THE METHODOLOGY OF DEVELOPING VALUE INDICATORS TO INTEGRALLY ASSESS RESOURCE POTENTIAL IN AGRICULTURAL UNITS

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Abstract

The problem of increasing the economic efficiency of resource use in agricultural production is very important. Its solution directly depends on the economic security of the country and its constant supply with agricultural products. There are three basic factors in agricultural production: nature (land), labour and capital, which have different measure units. Comparability is necessary to express the value of the integral potential that gives the possibility to take into account the main resources involved in producing and obtaining results from the agricultural sector.

Key words: capital, indicators, integrated values, labour, land, potential resources

INTRODUCTION

The systematic approach to the economy presupposes the development of a system of indicators that reflect the main types of economic activities. The systematic nature of the approach provides coordination, coherence and harmonization of multiple indicators used to describe and analyze various aspects of the economic process. Management tools, techniques and methods should be selected according to their ability to provide research and use of some cognitive, decision making and communication competences that would facilitate the development of some organizational policies in accordance with the real complexity of the phenomenon of space management intervention.

MATERIALS AND METHODS

Investigations on this topic have been focused on generalizing the opinion of scientific and practical solution of the problem: how to assess the integral resource potential in agricultural units.

The method of estimating the value of the resource potential was preferred the most. We have also used the method of medium and relative values, the table method, etc. in our research.

RESULTS AND DISCUSSIONS

Currently, when the competitive ENvironment is intensified and the corresponding agricultural units are adjusted to it, there appears the necessity to use a system of indicators specific to every activity branch, which leads to the promotion of innovative ideas with the positive influence on the whole agricultural unit activity.

The quality of the indicator system and its ability to provide useful information in making decisions at the microeconomic level is essential in obtaining a comprehensive and effective diagnosis.

The dynamics change of resource insurance: land, labour, fixed and current assets under the market economy conditions are different in each agricultural unit. Thus, they have different production directions and development branches. At present, the change of the size of the production potential in agricultural establishments in the Republic of Moldova largely depends on the influence of different trends to change production resources: firstly, it depends on the reduced efficiency of labour resources and agricultural parcels; secondly, it depends on the quantitative and qualitative changes of fixed and current production assets, etc.

According to Petru Pantiru, D. Moldovanu, D. Ciucur, I. Gavrilă, C. Popescu and N. Dobrota, production resources are represented

by the natural, material, financial and human potential which an agricultural unit has at a specific date and which are taken and used in the agricultural production process [6, p. 99; 5, p. 59; 3, p. 59; 4, p.94].

We agree with this opinion and it is worth noticing that the essence of management lies in the efficient use of scarce resources and protection of unlimited resources by using some combination and substitution methods and techniques based on the application of agricultural scientific research and economic rationales.

The theoretical and methodological approach to assess the potential of agricultural units, which is discussed in the agricultural economic literature, allows to conclude that the production potential of agricultural units is the economic category that expresses the systematic feature of production forces as a totality of various combinations of production resources: land, capital (both fixed and current assets) and labour resources. However, the authors include only agricultural parcels, labour resources and production means in the resource potential.

As to the composition of the resource potential, we believe that it would be rational to include material resources as well, which make significant part in the production potential and are extremely important within the outcome indicators.

The authors propose different methods to scientifically and practically treat the problem of assessing the integral resource potential, such as: the one based on the calculation of statistical indicators, the method of values as well as economic-mathematical methods, which can help to determine the exact percentage of every resource. We would like to state our own point of view, taking into account the fact that partial resources are assessed in different measure units (the agricultural land – in hectares, fixed and current assets – in monetary units and labour resources – in natural indicators (people). To compare them (the area of the agricultural land and labour) one needs to assess them in value units.

To assess the value of agricultural lands one should take into consideration the

quantification of their productive capacity by land evaluation.

According to the Law on the normative price and land purchase and sale nr. 147-149 of 2001 [1], the value of agricultural land in the Republic of Moldova was assessed at a normative price of 289.53 lei per hectare. Therefore, the value of agricultural land at the republican level can be assessed as follows:

$$S_{a.u.} = S_{ca} \cdot B \cdot P,$$

where:

$S_{a.u.}$ is the area of agricultural land expressed in value (the value of agricultural land), thousand lei;

S_{ca} is the area of agricultural land expressed in hectares;

B is the average grade of evaluation, hectares;

P is the normative price for a hectare, lei.

The studies on agricultural land zoning and evaluation have shown that production potential in the Republic of Moldova is assessed by an average grade of natural evaluation which equals 63 per hectare [2].

Due to the fact that regions, districts and agricultural units are located in different natural-climatic conditions, with the different soil fertility, we have determined the average grade of evaluation for every developing region of the country. Thus, agricultural lands in the North were marked with the highest average grade of evaluation – 70.0 per hectare, followed by the municipality of Chisinau – 64 per hectare, the Central region – 59.9 per hectare, the South – 59.2 per hectare and Gagauzia – 56 per hectare.

We propose the following methodology to determine the value of agricultural land for every agricultural unit, district and region:

$$S_{a.u.} = \frac{S_{ca_i} \cdot B_i \cdot P}{B},$$

where: S_{ca_i} is the area of the agricultural cadastral land, i is an agricultural unit (district, region);

B_i is the grade of evaluation (per hectare), i is an agricultural unit (district, region);

The calculation of the differentiated agricultural land value by the proposed method takes into account the following main

components for every region (district, enterprise):

- the absolute size of the agricultural land in each studied unit;
- the soil quality;
- the price of every differentiated hectare depending on the soil quality.

The assessment of labour resources is possible through the annual average labour remuneration of a worker employed at the studied agricultural unit. This is explained by the fact that the increased level of labour remuneration should be subject to a greater amount of agricultural products. Therefore, the higher the level of annual labour remuneration of an average worker, the higher the value of human resources, so that of the corresponding potential.

To assess the value of the integral resource potential there has been developed and is proposed to be implemented the following methodology in agricultural units expressed by the relation:

$$V \cdot P \cdot R = S_{agr} + MF + FR + Cm,$$

$$or \quad V \cdot P \cdot R = \frac{S_{agr} \cdot P \cdot F}{F} + MF +$$

$FR + Cm$

where: $V \cdot P \cdot R$ is the value of the integral resource potential, thousand lei;

S_{agr} is the value of agricultural land, thousand lei / hectare;

MF is the value of production means, thousand lei;

FR is the salary fund (the value equivalent of the labour potential), thousand lei;

Cm is material consumption, thousand lei.

The value determination of the integral resource potential gives us the opportunity to consider the main resources involved in producing and obtaining results in the agricultural sector.

According to the *effect/effort* relationship, the profitability of production factors is presented as the return of every separate resource or the total resource potential.

According to the effect/effort relationship, the return of production factors is presented in the

form of resource capacity and expresses the resources needed to achieve a production unit (income, profit).

Further, we have developed and propose for practical application the following activities of agricultural units: the indicator determination system, the use and analysis of the integral resource potential expressed in value as following: assuring companies and labour force with the integral resource potential, returns and the capacity of the resource potential, presented in Table 1.

Table 1. The integral resource potential expressed in value and its indicators in Moldavian enterprises that have been developed and recommended

The indicators which act as resources	Integral (global) indicators of using the resource potential
The value of agricultural land, thousand lei (Sa.v.)	1. The integral intensity level in agriculture (assurance with the integral resource potential of an enterprise, thousand lei / ha (N_i)) $N_i = \frac{VPR}{S_a}$
The value of production means, thousand lei (VMF)	2. The labour force assurance with the integral resource potential, thousand lei / people (I_p) $I_p = \frac{VPR}{E_{a.L}}$
The labour remuneration fund, thousand lei (FR) (value equivalent of the labour potential)	3. The return of the integral resource potential, lei (R_p) $R_p = \frac{FG}{VPR} + \frac{VG}{VFR} + \frac{VV}{VVR}$
Material consumption, thousand lei (Cm)	4. The average capacity of the integral resource potential, lei (C_p) $C_p = \frac{VPR}{FG} + \frac{VPR}{VV}$
Value assessment of the integral resource potential in agriculture, thousand lei (VPR)	

The source: developed by the author

CONCLUSIONS

Research results allow us to determine the benefits of the developed methodology to assess the value of the integral resource potential:

-The method in question is based on the comprehensive approach of assessing the potential of the resources used at enterprises;

- The assessment is performed based on the data published in specialized forms of enterprises, which are used in the traditional practice of resource assessment;
- It is possible to assess the share of every resource in the total amount of the used resources;
- It gives the possibility to identify the outcome level by the level of the integral resource use;
- The overall comparability of indicators is preserved, because the latter are assessed in one and the same measure unit (value).

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