

## STATISTICAL ASSESSMENT OF EFFICIENCY OF FARM ACTIVITIES

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### ANNOTATION

This article focuses on methods of statistical evaluation of the effectiveness of economic support mechanisms for farms. The article describes the methods of statistical assessment of the effectiveness of economic support mechanisms of farms and methods of convenient statistical analysis of improving the effectiveness of economic support mechanisms of farms.

**Keywords:** Enterprise, economic and social efficiency, material, labor and financial resources, spiritual development, farms, gross output, efficiency ratio, fixed assets.

### АННОТАЦИЯ

Ушбу мақола фермер хўжаликларининг иқтисодий қўллаб-қувватлаш механизмлари самарадорлигини статистик баҳолаш усулларига бағишланган. Мақолада фермер хўжаликларининг иқтисодий қўллаб-қувватлаш механизмлари самарадорлигини статистик баҳолаш усуллари ва фермер хўжаликларининг иқтисодий қўллаб-қувватлаш механизмлари самарадорлигини оширишнинг қулай статистик таҳлил қилиш усуллари ёритилган.

### АННОТАЦИЯ

Данная статья посвящена методам статистической оценки эффективности механизмов экономической поддержки фермерских хозяйств. В статье описаны методы статистической оценки эффективности механизмов хозяйственной поддержки фермерских хозяйств и методы удобного статистического анализа повышения эффективности механизмов хозяйственной поддержки фермерских хозяйств.

**Калит сўзлар:** Корхона, иқтисодий ва ижтимоий самарадорлик, моддий, меҳнат ва молиявий ресурслар, маънавий–руҳий ривожланиш, фермер хўжаликлари, ялли маҳсулот, самарадорлик коэффициенти, асосий фондлар.

**Ключевые слова:** Предприятие, экономическая и социальная эффективность, материальные, трудовые и финансовые ресурсы, духовное развитие, хозяйства, валовая продукция, коэффициент полезного действия, основные фонды.

### INTRODUCTION

The concepts of economic and social efficiency are used in assessing the efficiency of enterprises and farms. Economic efficiency is reflected in the fact that the unit of material, labor and financial resources used in the production process becomes more efficient. Social efficiency is

determined by the satisfaction of the needs of the farmer and his family members in material and financial resources, as well as the level of spiritual development of the individual.

Production efficiency on farms is also expressed by its criteria and dimensions. A criterion is a key quality or trait that determines and evaluates effectiveness.

“Calculations of economic efficiency in agriculture are becoming more complicated due to the fact that in agriculture, among all other factors, there are always factors consisting of plant and animal biology, natural-climatic conditions and other specific conditions. In this case, all these factors and conditions are inextricably linked and interdependent. As with other forms of management, these factors influence the determination of the economic and social efficiency of production on farms, and the determination of efficiency is based on a system of indicators. Their practical significance is that they allow to determine the content of the efficiency criterion quantitatively and taking into account each factor.

### THE MAIN PART

The main criterion of economic efficiency is the ratio of the result obtained on farms (gross, commodity, gross income, net income, profit) to costs.

Gross agricultural output (GNP) is the total agricultural output produced in a year, calculated at current or comparable prices. Gross domestic product is divided into products used within the farm and products sold abroad, ie commodity product (TM), depending on the use.

Gross profit (GNP) is the fraction of the value of gross output after deducting all costs other than labor costs incurred to produce the product. Net income (SD) and profit (F) represent income generated on a farm and sold outside of it. The net income generated represents the full value of the additional product, and the profit is received only after the sale of the product. Profit is determined by deducting its full cost from the proceeds from the sale of the product[6]. Thus, the economic efficiency of production on the farm is determined by the ratio of the result (YM, TM, YaD, SD, F) to costs (resources) or, conversely, the ratio of costs (resources) to the volume of results obtained, as accepted in many economic literature:

$$C_{uq} = \frac{YM(\ddot{e}kuTM, YD, CD, \Phi)}{X_{uq} * K * A\phi} \quad (1.1)$$

Where:  $X_{ich}$  - current production costs;

$K$  - efficiency coefficient;

$A_f$  - fixed assets.

In this case, the economic result is compared with the cost of living and packaged labor. To determine the economic efficiency over a short period (e.g. 1 year), only the production costs can be shown in the denominator.

It is known that in order to determine the real profitability of a farm in a short period of time, it is necessary to evaluate the gross and commodity products at the actual selling price, and the unsold part of the product at production cost. In order to monitor and analyze the efficiency of agricultural production over a long period of time or to compare the efficiency of farm activities with other agricultural enterprises, it will be necessary to determine the product produced at comparable prices.

The formation of gross income on the farm is carried out by comparing the "income" and "expenditure". The following are the sources of gross income on the farm: income from the sale of goods, services, non-agricultural activities, non-sales operations, securities, bank deposits, non-discriminatory or charitable funds and other sources. Insurance premiums received for losses caused by a natural disaster can also be included in the income.

The head of the farm must cover all his expenses from the proceeds from the sale of products and other sources of income, as well as have a residual farm income used to meet the needs of family members, create a production development fund, pay wages and other purposes. If a farmer is interested in the benefits of entrepreneurship, he should deduct from his income a wage fund that can be determined based on the level of wages paid for similar work in the company and community farms. The remaining amount is the real income received by the farmer as a result of entrepreneurship.

In order to get an idea of the relative economic efficiency of production of individual types of products or production of individual industries and the economy as a whole, it is necessary to compare the benefits received with the costs incurred. To do this, use the rate of return indicator. The ratio of profit to production costs is the efficiency of using the means of production. Farms incur not only current costs in the production process, but also a certain amount of costs to purchase fixed assets. Therefore, it is necessary to take into account not only the profitability of production costs, which include depreciation of fixed assets, but also the profitability of fixed and working capital. ) is used.

When considering indicators of economic efficiency, attention should be paid to the efficiency of use of land, production assets and labor resources. For example, land use efficiency ( $S_e$ ) represents the production of gross, marketable product, gross income (GDP, TM, GDP) per unit of agricultural land ( or 1 point per hectare): 1 гектар

$$C_e = \frac{ЯМ(ёки ТМ, ЯД)}{S_m * K_{af} * K_{mr}} \quad (1.2)$$

Where:  $S_m$  - agricultural land area, ha, points hectare;  $K_{af}$  - fixed capital adequacy ratio;  $K_{mr}$  - coefficient of labor resources.

The farm operates under special economic conditions, ie private ownership of all fixed assets, striving for maximum profit. The recommended coefficients are determined by comparing the performance of the farm with the existing norms, and they reflect the economic conditions of the production activity of the farm. If the result obtained in the case of large agricultural enterprises (gross, commodity output, gross income) is compared only with the land area, the use of the recommended coefficients on the farm is used to more accurately show how effective it is compared to other farms.

The indicator of efficient use of labor resources ( $S_{mr}$ ) is determined by the ratio of production results to the average annual number of workers or the total labor cost spent on the production of a particular product:

$$C_m = \frac{ЯМ(ёки ТМ, ЯД)}{I_c(ёки Шис, Мс)} \quad (1.3)$$

Here:

$I_s$  - average annual number of workers ( $S_{his}$  - number of conditional workers,  $M_s$  - labor costs)



It should be noted that determining the efficiency of the use of labor resources on farms has some peculiarities. Because in the current situation it is impossible to take into account the total labor costs on the farm. Because the farmer and his family members work hard to earn a high income, and this is not always taken into account. With this in mind, it is not possible today to determine the efficiency of farm activities in all aspects, such as company farms. Therefore, it is advisable to use the efficiency of land use as the main criterion when comparing the efficiency of the farm with other types of farms.

Assessing the social effectiveness of farm activities is also important. Because the end result of any economic efficiency must lead to social efficiency. The social efficiency of farming is characterized by the indicators of gross income per family, per family member, per worker, reduction of labor capacity, provision of housing, utilities, preschool education, environmental protection.

### CONCLUSION

The results achieved by farms confirm that they are one of the most effective forms of organization of production in the agricultural sector. However, the experience we have gained over the past period has required us to address a number of important issues for the rapid development of farms, including improving their financial stability, competitiveness and economic efficiency.

Based on the characteristics of agriculture, the main tasks of the state in the regulation of farms can be defined as follows:

1. The task of legal protection and regulation is to ensure the adoption and observance of legal norms and documents that allow to ensure the sustainable development of farms and their operation on an equal footing with other business entities.
2. Incentive function - represents a measure of private entrepreneurship, fair competition and measures to encourage and support the activities of farms, as well as the sectors that serve them with the help of various economic incentives.
3. The task of redistribution is related to the redistribution of income as a means of social justice and protection, as well as the introduction of adjustments to the distribution of resources in order to create conditions for farms to use material and technical resources on a preferential basis.
4. The task of social security includes the creation of an effective system of social security and protection, as well as measures to meet the needs of farms in education, health and cultural activities.
5. The task of information-consulting support is to provide farmers with equal access to the information system, to find effective solutions to economic problems, to provide advice on the supply of raw materials and resources, the use of advanced techniques and technologies.
6. The task of alternative foreign economic activity is to protect the interests of farms in international markets, to create a favorable economic environment for exports through preferential customs tariffs and taxes.

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