STUDYING THE CONCEPT AND ESSENCE OF THE ECONOMIC EFFICIENCY OF FISH PRODUCTION

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Abstract

This article gives information about concept and essence of the economic efficiency of fish production. Moreover, the article discusses the opinions and views of a number of foreign and domestic economists on ways to improve the economic efficiency of fish farming. Performance indicators were recommended in the economic evaluation of fish farming. The directions of the state support of the industry were also recommended and classification of factors affecting the efficiency of fish farming were analyzed.

Key words: *intensive fish farming, economic efficiency, state support, cost calculation effectiveness, commercial fisheries, resource-saving technologies.*

Introduction. The ultimate goal of any production is to obtain economic results. To determine the efficiency of production activity, it is necessary to consider the economic effect of the activity in relation to its costs, therefore, an important condition for production activity is to determine its economic efficiency. For a deep and detailed study of the issue, it is very important to carefully analyze the concept of "economic efficiency".

In foreign and domestic literature there are different explanations of the essence of economic efficiency. The description of this concept was first given in the work "Economic Table" by the physiocrat F. Keane, and the term "efficiency" was first used in the work "The Theory of Comparative Advantage" by D. Ricardo.

Representatives of the classical school of economics expressed the opinion that economic efficiency can be achieved only in market conditions, in conditions of private ownership, where each owner (private entrepreneur) seeks to save available resources. Further development of the concept of efficiency is reflected in the works of the neoclassical economic school. For example, Arthur Pigou describes the concept of national income in his Welfare Economics. According to him, overall productivity is determined by national income, which in turn is a measure of overall welfare [1].

Among the researchers involved in the achievement of well-being (efficiency), the representatives of the Lausanne school Leon Valras and Vilfedo Pareto stand out. In his work on the theory of general economic equilibrium, L. Walras tried to reveal the general principles of a market economy, he explains the conditions for maximizing utility, which is one of the achievements in the study of economic efficiency [2]. The principles of the theory of general economic equilibrium by L. Walras were further developed in the works of V. Pareto, another representative of the Lausanne school of economics. The theory of welfare (efficiency) is the theory of the economic frontier, that is, the task of the theory is the optimal distribution of economic resources and output. Thus, V. Pareto emphasized that optimal economic decisions ensure the efficiency of economic activity. The Pareto principles formed the basis of the modern mathematical theory of welfare economics (efficiency) [3]. Ludwig von Mises was a supporter of the ideas of V. Pareto, who recognized that maximum efficiency cannot be achieved with central planning in the economy.

Literature review. The founder of the statehood theory and one of the supporters of the monarchy was the English scientist T. Hobbes, who emphasized that the most important tasks of the government are efficiency, legislation, order, and, above all, peacekeeping. The thinker was convinced that indifference is required when choosing a form of government. Any reforms to improve the situation will lead to anarchy and civil war [4]. Studying the theory of Western scientists, it should be noted that the views of T. Hobbes and V. Pareto correspond to the views on efficiency, therefore, in the theory of values, they substantiated their reasoning, assigning the leading role to individuals. Both Hobbes and Pareto rejected the possibility of common interests and the need to compare the economic situation of individuals.

Thus, V.Pareto's concept is agreement with the uncertainty of public welfare, agreement with the inequality of personal values (Pareto's principle of rationality).

It can be said that the situation in which the production potential of the economy is used to the maximum leads to the greatest efficiency, and the best results cannot be achieved with the same resources. This conclusion was made by the famous economist M.Alla. She says: "... the maximum level of efficiency corresponds to the limit of the set of conditions that can be achieved using the resources and knowledge of society, using a set of unattainable conditions. Any state below this limit is inefficient, any state above the limit is impossible, and all conditions within the limit meet the general goal of maximum efficiency [5].

Modern economic sciences do not stop at determining efficiency; various scientific articles and scientific works are now available for study, confirming the versatility and depth of this category and the importance of its disclosure. In the definition of economic efficiency, which is given in the encyclopedic dictionary as "Capital", we can say that this is one of the aspects of production.

In a broader sense, economic efficiency is the same as the efficiency of the allocation of resources in the economy, the volume of production of goods and services occurs in full, reflecting consumer preferences for these goods and services, and certain goods and services are produced at appropriate minimum prices or the efficiency of economic activity, economic programs and activities, achieving the greatest volume of production using specific cost resources [6].

Many authors deal with the definition of economic efficiency. A.V.Khomutetskaya defines this category as the efficiency of using resources to achieve a specific goal. In simple words, efficiency means achieving excellent results with minimal effort. But when you delve into the problem, the concept of efficiency loses its transparency, becomes relative and difficult to quantify. This is where new concepts such as economic efficiency and management efficiency come in, and it is necessary to understand the difference between them. Economic efficiency (production efficiency) is the ratio between the costs of the production process and the useful result [7].

The efficiency indicator is the most important indicator in the development of the economy of the state and an individual enterprise, in addition, the final costs are expressed in the form of predetermined fixed and working capital, and the final results are expressed in the form of profits. The economic efficiency of an enterprise is discussed only from the point of view of making correct, qualified management decisions, and a comparison of costs and results is used to justify management decisions [8, 9].

Materials and Methods. To determine the efficiency of the economy, based on the foregoing, research scientists pay great attention to the resource composition of the category under study. In addition, resources, in their opinion, do not independently affect economic efficiency, they are affected by their optimal use, and in general it is carried out together with the efficiency of managerial, production, technical and other processes (Figure 1).

Efficiency should preferably be taken into account in the context of individual sectors. Here, the analysis of fish farming in the operating fish farms of the regions showed us that there are opportunities to increase the economic efficiency of the production of fish transfer materials and marketable fish in the conditions of cooperation between fish farms and nurseries.

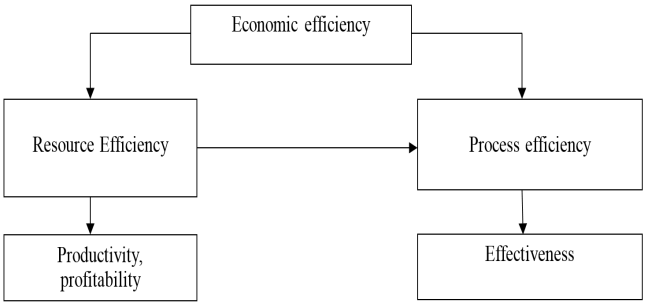


Figure 1. The composition of the category "Economic efficiency" [10]

Such cooperation allows fish farms to keep fish in fish farms for future breeding, and local quality fish transplant material reduces transportation costs, increases the volume of fish transplant material, reduces the cost of production, which allows products to be competitive and available throughout the year. These measures will give an additional impetus to improving the economic efficiency of commercial fisheries.

The indicator of economic efficiency for the fishing industry will be specified and will have a number of specific characteristics. Here are some authors, E.V. Levkina, M.E. Vasilenko, having considered the effectiveness of the fishing industry, came to the conclusion that this indicator reflects the efficiency of fish production, and also shows the level of development of the fishery complex of the country or region [11]. According to scientists, efficiency can be classified according to characteristics, more precisely, it is divided into indicators of economic and social efficiency according to its structure; according to the nature of the object assessment, it is divided into full and local, and depending on the purpose of use - into planned, practical and normative (Table 1).

Table 1

Classification of effectiveness by features [11]

According to the composition			
Economical		Social	
Object evaluation function			
Full		Local	
Intended use			
Planned	Practical	Normative	
Calculation method			
Абсольют		Comparison	
Generalization level			
Economy as a whole	Network	Enterprise	Structural division
Object of assessment			
Production and economic activity of the enterprise	Economic processes	Elements of business processes (operations, processes, contracts, agreements, etc.)	Individual production and economic solutions in the field of production and management

When evaluating intensification, one should take into account the increase in costs relative to production factors that increase the fish productivity of water bodies and commercial fish catches. The level of intensification of lake commercial fisheries is represented by the following indicators [12]:

- average annual values of fixed production assets in fisheries;
- average annual values of fixed production assets used in the cultivation, fishing and processing of lake fish;
- cost of the most efficient means of production;
- production costs;
- lake fertilization costs;
- costs for the mechanization of production processes in fish farming and fishing;
- the ratio of intensively managed water bodies to the total area of lakes in the water sector.

Cost calculation plays an important role in determining the effectiveness of fish farming.

It should be noted that the real cost as an economic indicator in determining the efficiency of the fish farming allows for an accurate assessment of the effectiveness, taking into account the influence of external factors. Thus, the real cost of 1 centner of commercial fish is calculated according to the following formula [13]:

$$RC_{cf} = MV_{cf} - DC_{cf} - SEC_{cf}, \quad (1)$$

Here, MV_{cf} – the market value of 1 centner of commercial fish, sum;

DC_{cf} – costs associated with the delivery of 1 centner of fish to the nearest (operating) market, sum;

SEC_{cf} – Estimated costs for the sale of 1 centner of marketable fish, sum.

Currently, fish production complexes are faced with the task of organizing the most optimal production and achieving high performance results. To do this, it is necessary to analyze the factors affecting the efficiency of fish farming and draw the appropriate conclusions (Table 2).

According to O. Ponomareva, several factors influence the activity and efficiency of fish farming (Figure 2):

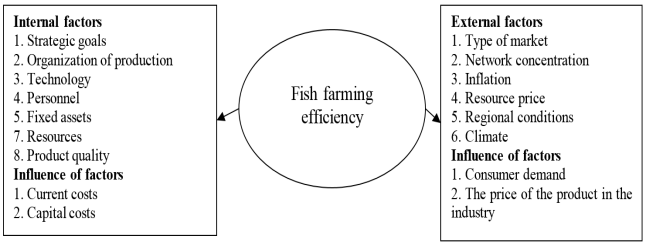


Figure 2. Classification of factors affecting the efficiency of fish farming [14]

Discussion and suggestions. In our opinion, organizational and economic measures to improve the efficiency of fish farming and find solutions to existing problems under the influence of factors and regulation are the main issues in the areas of state support, and this is reflected in the following picture, i.e. as an example of state support mechanisms for fisheries (Figure 3).

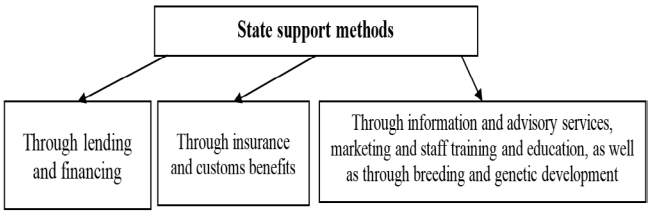


Figure 3. State support of the fish farming (Recommended by the author)

Today, fish is becoming a strategic resource when it comes to medicinal consumption. Therefore, highly qualified specialists in the field of managerial decision-making are required in order to increase the efficiency of the fishery complex to perform the following tasks [15]:

- development of waste-free and low-cost resource-saving technologies;
- use of production facilities (equipment) with high productivity;
- increase the utilization rate of equipment;
- replacement of simple equipment with automated one and introduction of a multidisciplinary service system.

In addition to the above remarks, it can be said that foreign economists Arthur Pigou, Leon Walras, Vilfedo Pareto, English economist T. Hobbs, R.G. Krause, M. Alle, Russian economists A.V. Khomutetskaya, Z. M. Talperin, E. D. Shchetinina, V. P. Volkov, A. I. Ilyin, I. A. Minakov, N. Ya. Kovalenko, O. N. Ponomareva, I. A. Chernyavsky and others in their studies of the concept of economic efficiency of agricultural products in the context of sustainable development of agriculture, they expressed their various approaches and scientific views, such as the differences between the concepts of "efficiency" and "performance", the concept of economic efficiency of fish production, categories, criteria, types and indicators for determining economic efficiency and calculation formulas. In addition, leading scientists in the field of fisheries of our republic Kurbanov R., Elmurodova B., Shokhimardonov D., Kurbanov A., Niyozov D., Komilov B. and others studied issues related to the technology and efficiency of fish production and make a great contribution to the development of the fishing industry of the country with their research [17, 18, 19, 20, 21].

In particular, the foreign economist I. A. Chernyavsky considers it expedient in his research to study three types of indicators of the efficiency of the fishing industry [16]:

1. Social efficiency:

-number of newly created jobs;

-salary level;

-the level of social stability in the industry;

-the ratio of average wages and minimum wages in enterprises;

-social payments of the enterprise at the expense of one employee.

2. Environmental efficiency:

-volumes of discharges and residues into the environment (water bodies). The evaluation process is carried out according to the established indicators in comparison with the threshold standards (this indicator should not decrease after the launch of the project);

-evaluation of the profitability of the implementation of production through a closed technological cycle of processing fish resources.

3. Economic efficiency. When determining economic efficiency, two main tasks can be named: directly - this means achieving the maximum effect within the framework of given costs (in conditions of limited resources) and, conversely, implies achieving a given effect in conditions of minimum cost.

In our opinion, fish productivity, average daily live weight gain, feed consumption per 1 centner of production, production volume per 1 kg of feed, volume of feed and fertilizer used per 1 hectare of pond, labor costs per 1 hectare of pond, 1 centner of production. Evaluation and analysis of labor costs for cultivation, the cost of 1 q of production and profit from sales, the level of profitability, etc., more fully reveal the economic and social nature of fish farming. Improving these indicators means more efficient investment in fisheries. We believe that without intensive technologies it is impossible to achieve economic efficiency in fish production.

Conclusion. In conclusion, we can say that the concept of economic efficiency of fish farming is represented by minimizing production costs and maximizing profits for the production of 1 kg of fish. Economic efficiency is ensured through the economical use of resources, increasing the volume of fish production using the most optimal resource-saving technologies, providing high-quality and affordable products for the consumer, and reducing feed costs as much as possible (for example, by growing feed crops in the fish farms). Currently, the largest share of costs is the cost of feed, as well as the cost of fish fry. When studying the economic efficiency of fish farming, first of all, it is very important to make a clear and correct calculation of the cost of fish farming. It is also possible to scientifically substantiate economic efficiency by paying close attention to the specific characteristics of the fishing

industry, the optimal fishing location, the depth or shallowness of the ponds, the death of fish due to diseases, changes in demand and supply for fish products, the market price of fish and other important aspects.

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