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METHODS FOR SOLVING ECONOMETRIC ISSUES OF MANAGEMENT IN THE GRAPE AND WINE COMPLEX.

Jumaev Gurbanmurat Khurramovich

Аннотация: Sanoat klasterining rivojlanishini shakllantirish ko'plab omillarni hisobga olishni talab qiladi. Eng muhimi noaniqlik omilini hisobga olishdir. Batafsil o'rganilgan noaniqlik turlaridan kelib chiqib, maqolada agrosanoat klasterini rivojlantirish strategiyasini shakllantirish yo'llarining nazariy asoslari keltirilgan.

Kalit soʻzlar: sanoat klasteri, strategik prognozlash, strategik rejalashtirish, rivojlanish strategiyasi, noaniqlik, noaniqlik turlari.

Аннотация: Формирование развития промышленного кластера требует учета множества факторов. Наиболее актуальным является учет фактора неопределенности. В статье на основе подробно изученных видов неопределенности приведены теоретические основы путей формирования стратегии развития агропромышленного кластера.

Ключевые слова: промышленный кластер, стратегическое прогнозирование, стратегическое планирование, стратегия развития, неопределенность, виды неопределенности.

Annotation: Shaping the development of an industrial cluster requires taking into account many factors. The most relevant is the consideration of the uncertainty factor. Based on the types of uncertainty studied in detail, the article presents the theoretical foundations for the ways of forming a strategy for the development of an agro-industrial cluster.

Key words: industrial cluster, strategic forecasting, strategic planning, development strategy, uncertainty, types of uncertainty.

INTRODUCTION The global market for viticulture and winemaking requires the cultivation of wine varieties that yield high-quality end products as a result of processing. According to international statistics, more than 140 countries produce over 250 million hectoliters of wine with a total vineyard area of 7.6 million hectares.

In countries with a developed grape-wine industry, already at the stage of growing grapes, the manufacturer takes care of the quality and competitiveness of the finished product. In world practice, work is underway to solve the problem of organizing cluster system modeling and interaction in the strategic management of interconnected objects of the vineyard and wine industry. Therefore, the most important is the creation of an established interaction , a model of regional and sectoral production in the strategic management of enterprises in the grape and wine industry.

In the Republic of Uzbekistan, scientists economists have deeply and widely studied the issues of modeling and forecasting production management , modeling socio -economic processes in a market economy , forecasting trends in the development of the economy of the industry , modeling and developing agriculture, studied the factors affecting the development

of the industry . To rupny mi domestic scientists and economists in the field of econometric modeling are : Gulyamov S.S., Ziyadullaev N.S., Kasymov S.M., Chodiev T.Sh., Makhmudov N.M., Salimov B.T., Begalov B.A., Alimov R.Kh.; Gayibnazarov B.K., Inoyatov U.U.[1] and others.

The problems of the functioning of the viticulture, grape processing plants, infrastructure development , the issues of the sale of finished grape products are devoted to the work of the following domestic scientists: Shafkarova B.Kh. , Ergasheva E.I., Mukhitdinova U.S.[2] and others.

Solution methods. In the modern economy of the agro-industrial complex, the importance of strategic development, forecasting and planning of production activities is increasing. This is due to the increase in risks in a market economy, the need to coordinate the economic activities of individual agricultural organizations (objects of the production cluster), the high pace of development of agro-industrial complex organizations, the increase in the competitiveness of manufactured goods, the influence of environmental factors and the internal environment.

The solution of these issues rests on the establishment of the infrastructure of the production cluster. A well-established production infrastructure is a prerequisite for the intensive development of the region. The agro-industrial complex is a branch of the economy with the most extensive infrastructure. In foreign growing, it occupies a special place here, being the main component of the functioning of the grape and wine industry.

Since the solution of any economic and mathematical problem in agricultural production is associated with a large amount of information, the following stages of modeling are distinguished: obtaining initial information; information processing, its analysis and evaluation; preparation of information for solving economic and mathematical problems; implementation of the decisions made. In the scientific works of Shafranskaya I.V., to determine the prospects of crop yields and crops, the following model is proposed [91], which takes into account the achieved level of yields of a particular agricultural crop and the increase in yields of grain and leguminous crops in the future, after calculating the parameters, these econometric models have the following form:

$$y_x = y_0 + a_0 e^{\frac{a_1 \Delta u}{y_0}}, (1)$$

where y_x is the prospective crop yield of the species j ;

y_0 – actual average for 2–3 years crop yield of type j by organization;

a_0 , a_1 – model parameters;

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e is the base of the natural logarithm;

Δu is the increase in the yield of grain crops of the organization ($\Delta u = y_x - y_i$).

With an increase in the level of introduction of intensive technologies, advanced methods of rational organization of production, the influence of natural and climatic factors on productivity decreases. Therefore, it is proposed to use the calculation formula, taking into account the fact that in the agricultural organizations of the region there are approximately the same conditions for the growth of grape yield (6):

$$y_x = y_i + \frac{\lg y_0}{\lg y_i} \cdot a_i t \quad (2)$$

where y_x is the estimated (planned) grape yield for the future;

y_i - average (for 2-3 years) actual grape yield at the beginning of the planning period for the organization;

y_0 – average actual (for 2–3 years) grape yield in similar organizations in the region;

a_1 - regression coefficient characterizing the possible average annual increase in productivity in the organization;

t is the number of the year, assuming that $t = 1$ in the first year of the planning period.

the productivity of the average annual harvest is considered depending on the actual productivity of the vineyard:

$$y_x = y_0 e^{\frac{\Delta u}{y_0}} \sqrt{\lg t} \quad (3)$$

where y_x, - promising yield of the vineyard;

y_0 – actual (average for 2–3 years) vineyard yield;

Δu is the difference between the prospective and actual yields;

a – regression coefficient;

t is the duration of the planned period.

was checked by analyzing the characteristics of econometric models: multiple correlation coefficient (R), coefficient of determination ($R2$), Fisher's F -test (F), Student's t-test (t_{calc}).

The analysis of the studied scientific studies showed shortcomings in the study of the grape and wine cluster, in the search for methods for solving econometric problems of planning and forecasting the volume of finished products, the development and cultivation of agricultural products, in particular in the grape and wine industry. In addition, we proposed a method for determining a competitive variety and type of grapes, and determined the optimal ratio of sowing grape varieties.

Methodologists _ cluster system , based on economic and mathematical calculations, provides an increase in the reliability of the proposed activities, and is a tool for state regulation of the development of the industry , the formation of market relations in it . The use of the cluster system approach and its methods allows the transition from a fragmentary consideration of individual activities to the development of a set of necessary solutions that provide unity, purposefulness and interconnectedness of all elements for the cluster.

CONCLUSIONS

1. The essence of the cluster model of tasks lies in the ability to unite organizations of different industries into a cluster production chain to achieve a common goal. This leads to the rational use of production factors for the efficient use of material, labor, financial and other resources. When modeling cluster relationships, the cluster approach reflects the

production process of expanded production in the regional economy. At the heart of the positive trends in the development of cluster planning is strategic planning.

One of the principles of cluster system modeling is the formation of a farming cluster, primary and secondary processing of raw materials, and sale. In the vineyard and wine industry, agriculture is the central link in the food complex. The setting of cluster tasks should be based on the production potential of the cluster economy complex. A feature of the production stages of the vine and wine industry is that for each area it should be considered separately as a rule. This should be the basic principle of distribution of grape cultivation.

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