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K.M. Sayabayev¹, R.S. Abdrakhmanova², A.S. Doshan³, G.M. Mukasheva⁴^{1,3,4}Kazakh Agrotechnical University named after S.Seifullin;²Kazakh National Academy of Choreographydokphd.unikum@mail.ru, arsrana@gmail.com, as_doshan@mail.ru, laura_agu@mail.ru**APPROACHES TO ESTIMATION OF SUSTAINABLE
DEVELOPMENT OF RURAL AREAS OF AKMOLIN AREA**

Abstract. The development and strengthening of rural areas for Kazakhstan is one of the basic components of economic prosperity and for any state, primarily due to the fact that a sustainable level of development of rural areas is a guarantee of the state's food independence. The authors presented a technique that is a method of aggregation, which is carried out by bringing particular indicators into generalized ways such as summation and grouping. Each stage is considered in detail. So, system-functional connections have a great variety and dynamism, and each group of functions, like systemic education is not closed, and there are also connections between its elements, they are external links of a higher level of formalization. The methodical approach proposed by the authors to the determination of indicators of multifunctional development of the agricultural sector of the territory can not claim to evaluate the whole aggregate of functions of agriculture from the standpoint of its influence on various aspects of the development of rural territorial formations.

Keywords: methods, approaches, agriculture, sustainable development, means, functions

Introduction. Methodology. The theme of the research was based on the current knowledge of the native material and resources of the world's largest scientists in the field of science. Fundamental methods of research - this is a method of deduction and induction, and a specific or complex approach that is effectively applied in the field of logistics.

Results. In countries with developed market economies since the early 90's there were increasing questions about the systematization of quantitative and qualitative consideration of the socioeconomic situation in rural areas. A universal typology, comparable internationally and presented in the "Rural Indicators" project, was developed by the Organization for Economic Cooperation and Development. Within the framework of this project, for the first time at the international level, a regional system for collecting and presenting subnational data was created.

In addition, there are various systems of evaluation characteristics of the territory. In particular, I.M. Mayergoiz proposes to include in the system of regional assessment a system of indicators reflecting: the economic and geographical position of the region (in relation to elements of social production, to mineral deposits, economic centers, etc.); territorial structure of natural resources; characteristics of the population (rates of change, age and sex composition, urban population share, population density, etc.); structure of industrial production.

S.N. Bobylev proposes several approaches to assess the state and development of the territory at the regional level, which differ in the structure and principles of construction. At the same time, he considers it expedient to select and aggregate the indicators in such a way as to give a quantitative description of the identified problems, relying on the database of official Russian statistics for the regions.

Summarizing existing assessment characteristics of the territory, it should be noted that the state and development of rural areas should be viewed from the point of multifunctional development of agriculture. In this case, there is a system of direct and reverse links, which are structured as follows: sectors conditions determine the efficiency of the use of all factors of production and, in general, the development of rural areas, and hence the economic growth rates that initiate the development of the external socio-economic environment of agriculture in the given territory.

The peculiarity of the conditions for the development of the agrarian sector of rural areas obliges us to study the whole aggregate of functions of agriculture and the trends in their development: agro-food; agro-raw materials; economic; social; eco-landscape; cultural; integrating; basic.

The state of the multifunctional ecological-social-economic system of a certain rural area is inseparable from the level of multifunctional development of agriculture, this means the need for detailed study of each of the functions of agriculture.

An acceptable methodological basis for substantiating the essence of the criterion for assessing the impact of a set of agricultural functions that determine the state of a multifunctional ecological, socio-economic system of a rural area and its quantitative characteristics are functional-structural and system-target approaches based on the evaluation of certain different functions that determine those or Other conditions for the development of rural areas at a certain time interval.

Our theoretical analysis of the system of functions of agriculture has shown that each of them possesses features of manifestation, that is, the realization of a part of these functions has a directly expressed explicit result, others are latent in nature and require a temporary lag for revealing the effect. In this case, the functions of agriculture are considered from the perspective of the consequences of the relevant activity.

Each of the functions of agriculture has a complex internal structure, both from the point of view of the mission and objectives of agriculture, and from the point of view of influence on the development of rural areas and is a relatively independent object of systemic research of the whole aggregate of functions. The substantive characteristics of the functions of agriculture made it possible to structure them into three fairly homogeneous groups: productive and economic, territorial-resource and socio-economic, determined by the main directions of development of individual subsystems of ecological, socio-economic systems in rural areas.

The first group, production and economic functions, includes agro-food, agro-raw materials and integrating. The territorial-resource group includes ecological-landscape and cultural functions. The socio-economic group of functions combines basic, economic and social functions.

Such structuring is expedient, in our opinion, because the functions that are included in each of these groups have a conceptual unity and pronounced synergetic connections, unlike the links with the functions of other groups in terms of the emergence of the emergence effect from their realization, both for individual subjects, and society. System-functional relations have great variety and dynamism. Each group of functions as a systemic formation is not closed, in addition to the connections between its elements there are also external relations, which we regard as links of a higher level of formalization.

In addition, the manifestation of the functions of agriculture is frontier. The frontier approach to the study of problems of multifunctional development of the territory's agriculture is manifested in the fact that this territory is a concrete model of the space-time continuum. Each rural area represents an integral system with its spatial architectonics, which is not confined to relations with the use of material factors of production, but also includes attitudes toward man, his social connections developing in time.

The approaches we proposed unite the semantic, expert and calculated aspects of the category "function of agriculture". The proposed methodology allows to formalize these aspects, which means that the study of each of the functions of agriculture is carried out through an analysis of the values of the relevant indicators characterizing the state of both the external and internal environment.

The first stage is the selection of indicators whose values are related to the quantitative assessment of certain groups of functions that determine the role of agriculture in the development of a certain subsystem of rural areas. Selection is carried out on the basis of the theoretical and methodological analysis of groups of functions of agriculture.

Each indicator or several indicators characterize a certain group of functions of agriculture. The choice of indicators and data collection is carried out within the same stage and depends on the possibility of obtaining the necessary statistical information. At this stage, it is possible to perform intermediate calculations of those indicators that can be obtained by calculation based on available statistical data.

The second stage is connected with the general presentation of the indicators of multifunctional development of the territory's agriculture, which is visualized in the form of a scheme containing information on the system of interrelations of indicators and reflecting the conceptual content of all the functions of agriculture that are reflected in the indicator.

Each function of agriculture, based on the characteristics of its manifestation, can be described by a system of indicators. Thus, the production and economic functions in the agri-food sector are characterized by such an indicator as the personal consumption of the main types of food vital to man.

At the third stage, points are calculated for each of the indicators, during which they are rationed, which consists in bringing the indicators measured in different units (percentages, coefficients, monetary terms or physical units, scores, etc.) to dimensionless quantities. The range of these indicators varies from 0 to 1.

Rationing is carried out by referring the difference between the indicator for a given year and the minimum indicator for the period under study to the difference between the maximum and minimum indicators of the time lag studied. The normalization process has a general form, clearly presented in the form of formulas 1 and 2 of this paper.

$$\frac{a_{ij} - a_{\min j}}{a_{\max j} - a_{\min j}}, \quad (1)$$

$$1 - \frac{a_{ij} - a_{\min j}}{a_{\max j} - a_{\min j}}, \quad (2)$$

The transformation is carried out according to the formula (1), if the large values of the indicators correspond to the positive impact on the development of the rural area; the transformation (2) is carried out if the smaller values correspond to the negative influence.

The result of the calculations is a set of indices for each of the indicators reflecting the impact of agricultural functions on the development of rural areas for each year, the value of which is in the range from 1 to 0, where 1 is the best value, 0 is the worst.

At the fourth stage, the indicators (aggregate indices) are aggregated in the final indicator. The final indicator is the arithmetic average of the aggregate indices calculated in the third stage. The indicator of multifunctional development of the territory's agriculture is calculated by the formula 3 below.

$$I_j = \sum_1^i a_i \frac{x_{ij} - x_{\min j}}{x_{\max j} - x_{\min j}}, \quad (3)$$

where x_{ij} is the value of the i -th indicator for the j -th year; $x_{\min j}$ is the minimum value of the i -th indicator for the j -th year; $x_{\max j}$ - maximum value of the i -th indicator for the j -th year; a_i - the weighting coefficient reflects the "weight" (significance) of each cumulative index reflecting the influence of an individual function in the formation of the indicator of the multifunctional development of the territory's agriculture, is determined expertly, $a_i > 0$.

$$\sum_{i=1}^u a_i = 1$$

At the fifth stage, the results of the ranking of aggregate indices are summarized by years.

At the sixth stage, based on the preliminary analysis, the ranking results are evaluated and the degree of influence of certain functions of agriculture on the state of the ecological and socio-economic system of rural areas is revealed.

At the seventh stage, the results of the influence of individual functions of agriculture are summarized and projected onto the state of the ecological and socio-economic system of rural areas over the years,

identifying those that require activation through the development and implementation of a system of institutional, economic, socio-demographic and environmental measures, ensuring sustainable development of rural areas. The methodological approach proposed by us to the determination of indicators for the multifunctional development of the agricultural sector of the territory cannot claim to evaluate the whole aggregate of functions of agriculture from the standpoint of its influence on different aspects of the development of rural territorial formations. But it reflects the vector of long-term development of rural areas as ecologically and socially economic systems in the context of the interconnected system of agricultural functions: agro-food; agro-raw materials; economic; social; eco-landscape; culture and logical; integrating and basic. In the process of substantiating our methodological approach, we abstracted from the less significant functions of agriculture from the point of view of direct or indirect influence on the conditions of development of rural areas.

Summarizing the above, it should be noted that this technique allows:

- to give a quantitative description of the impact of certain functions of agriculture on the development of rural areas;
- consider the impact of individual agricultural functions on the development of rural areas in the dynamics;
- to justify complex conditions for sustainable development of rural areas;
- use the data obtained to form a system of measures to ensure sustainable development of rural areas, which can be used in the process of making managerial decisions both at the regional and national levels.

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АКМОЛЫНЫҢ АЙЫЛЫҚ САЛАСЫНДАҒЫ ТҰРАҚТЫ ДАМУДЫҢ ӘДІСТЕМЕСІНЕ ӘДІСТЕМЕЛІК БАҒЫТТАР METHODOLOGICAL

Аннотация. Қазақстан үшін ауылдық елді мекендерді дамыту және нығайту ауылдық аумақтарды дамыту тұрақты деңгейі мемлекеттің азық-түлік егемендігі кілті болып табылады, бұл шын мәнінде байланысты ең алдымен, экономикалық әл-ауқатын негізгі компоненттерінің бірі және кез келген мемлекет үшін болып табылады. Авторлар мұндай Сонымен мен топтау сияқты әдістері жалпыланған ішінара көрсеткіштерін тарту арқылы жүзеге асырылады біріктіру әдісі әдістемесін, ұсынды. Әрбір кезең толығырақ қарастырылады. Осылайша, жүйелі функционалдық осылымдары оның компоненттері арасындағы байланыстар, сондай-ақ бар, онда, олар сырт қышқектеулер жоғары деңгейін қалыптандыру болып, мұндай емес тұйық жүйесін қалыптастыру сияқты, үлкен әртүрлі мен серпінділігін бар, мен функцияларын әрбір тобы.

Түйін сөздер: әдістер, тәсілдер, ауыл шаруашылығы, орнықты даму, құралдар, функциялар.

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МЕТОДИЧЕСКИЕ ПОДХОДЫ К ОЦЕНКЕ УСТОЙЧИВОГО РАЗВИТИЯ СЕЛЬСКИХ ТЕРРИТОРИЙ АҚМОЛИНСКОЙ ОБЛАСТИ

Аннотация. Развитие и укрепление сельских территорий для Казахстана является одной из базовых составляющих экономического благополучия и для любого государства, в первую очередь в связи с тем, что устойчивый уровень развития сельских территорий является залогом продовольственной независимости государства. Авторами представлена методика, которая представляет собой способ агрегирования, которая осуществляется посредством сведения частных показателей в обобщенные такими способами, как суммирование и группировка. Рассмотрены каждый из этапов, подробно. Так, системно-функциональные связи обладают большим многообразием и динамизмом, а каждая группа функций, как системное образование незамкнута, при этом существуют еще исвязи между ее элементами, они являют внешними связями более высокого уровня формализации. Предложенный авторамиметодический подход к определению индикаторов многофункционального развития сельского хозяйства территории не может претендовать на оценку всей совокупности функций сельского хозяйства с позиций его влияния на разные аспекты развития сельских территориальных образований.

Ключевые слова: методы, подходы, сельское хозяйство, устойчивое развитие, средства, функции

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