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National University  
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**IV International Scientific and Practical  
Conference**

**Ukraine, Bulgaria, EU:  
Economic, Technical  
and Social  
Development Trends**

**27 June - 3 July 2020  
Burgas, Bulgaria**



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enterprises determines their investment attractiveness, which also determines the further ability to expand the minds of the economy with a variety of complexities.

Therefore, increasing the investment attractiveness of agriculture is a large-scale task, the solution of which is of national importance and requires immediate measures to create favorable conditions for investor activity, use internal opportunities and attract external investment resources to the regions.

The dramatic increase in the investment resources of the industry depends on active measures to ensure entrepreneurial efficiency. Finding mechanisms to increase the volume of investment resources will actually contribute to the development of business processes at the sectoral and regional levels and increase the efficiency of enterprises.

Further development of the agrarian sector of the economy in Ukraine requires a significant increase in the volume of investments by intensifying the use of existing sources of financing. This makes the question of determining the level of investment in agricultural production and highlighting the most promising areas of raising capital relevant.

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### **MODELING OF SOCIO-ECONOMIC DEVELOPMENT OF RURAL TERRITORIES OF UKRAINE**

The negative results of the transformation of the socio-economic system in recent decades have led to prolonged crisis in the processes of rural development in Ukraine. Their state under the influence of transformation processes has reached a critical level. The devastating impact on rural lifestyles can affect not only the food security of the country, but also the cultural traditions that impair migration, promote unemployment and increase geopolitical risks [1; 2].

The current crisis situation in rural development requires immediate state support. Therefore, rural areas need a new model of socio-economic development, which will increase the quality of life of the rural population [2]. This



model is based on a mathematical apparatus that is an integral part of the decision-making subsystem in local government at the administrative district level.

Modeling of socio-economic development of rural territories is closely interconnected with the scale and nature of transformation processes, the effectiveness and activity of which depends to a great extent on the level of efficiency and the degree of utilization of the existing aggregate resource potential. In this context, research on the development of sustainable rural development policy has become extremely relevant.

The term "model" is derived from the Latin word "modulus", which means measure. Simulation, in turn, is based on analogies (similarities) between objects or phenomena, which are usually of different nature. The model has the most specific features or parameters of the object to be investigated. It abstracts from a minor, minor. Modeling has opened up enormous opportunities to simulate atypical socio-economic phenomena and processes [2; 4]. Creating their analogues simplifies the execution of economic analysis and planning, as well as economic calculations.

The possibility of using territorial governance models for the socio-economic development of rural areas is important in the phase of enhancing the autonomy of local authorities, as they can use modern analysis and forecasting tools to substantiate decisions in short-term and strategic development planning [1; 4]. Based on the results of mathematical modeling, managerial decisions in planning the development of rural territories can be justified in the context of their assessment and forecast of the state of socio-economic development (Fig.1).

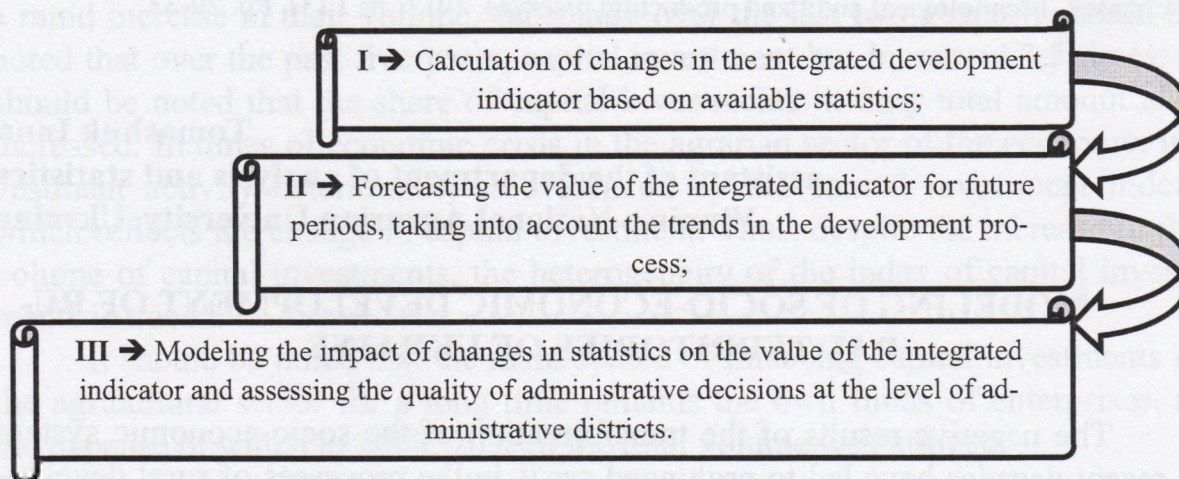


Fig. 1. Ways of substantiation of management decisions on planning of development of rural territories of Vinnitsa region

Source: formed on the basis of [1; 3]

Mathematical formalization of the criterion of optimality of modeling of socio-economic development of rural territories in the problem of linear programming can be represented as the sum of products of its components,



$$Z_{extr} = \sum_{j=1}^n C_j X_j$$

where:

$Z_{extr}$  – Function target value (minimum or maximum);

$C_j$  – an indicator of the positive impact of the j-factor of activation of socio-economic development of rural areas per unit;

$X_j$  – the importance of the factor of socio-economic development of rural areas;

$J$  – factor number;

$n$  – number of factors [3].

The simulation effect can only be successful if the model adequately describes the physical processes and phenomena being investigated. Modeling the socio-economic development of rural areas should be understood as a complex, systematic sequence of measures [2; 5] that are used to develop strategic parameters and likely scenarios for rural development.

Such measures should be taken to enhance the effectiveness of national and regional economic policies for rural development and to create preventive mechanisms to protect the interests of rural populations in order to provide organizational and economic support for forecasting socio-economic processes and phenomena [1; 4]. This approach helps to reduce uncertainty in the decision-making and implementation of regional development decisions.

Today, there is a growing need to organize modeling of socio-economic development of rural territories of Vinnytsia region under the conditions of action of individual factors (Table 1).

Modeling the socio-economic development of rural areas is an information base for strategic planning. The key difference between the modern organization of the planning process is the orientation to the formation of strategic partnerships, the search for progressive landmarks and ensuring concerted action between the actors of territorial development. Contemporary regional planning is first and foremost aimed at developing the local community and creating prospects for business, public authorities, local residents and potential investors [1].

As a consequence, modeling should provide for the formation of mechanisms to activate the socio-economic development of rural areas based on stimulating initiatives by local businesses and communities. Such an approach will contribute to the formation of a leadership institute, the development of local territorial communities, the decentralization of regional development management [2; 3], giving greater autonomy to local budgets.



Table 1

**The main factors of necessity of organization of modeling of socio-economic development of rural territories of Vinnitsa region**

	Characteristic
<b>I</b>	For the most part, the peripheral nature of rural development, which exacerbates the problems of socio-economic exchange
<b>II</b>	Low incomes, poverty and unemployment of rural population, which aggravates migration processes in rural areas and leads to "extinction" and "aging" of villages
<b>III</b>	Underdeveloped and neglected infrastructure in rural areas
<b>IV</b>	Imbalances in regional development leading to greater differentiation between different socio-economic groups in the country
<b>V</b>	Deterioration of human capital, low education of rural population, inertness of thinking and behavior of villagers
<b>VI</b>	Lack of coordination between representatives of public authorities, state administrations and local self-government bodies to enhance the socio-economic development of rural areas
<b>VII</b>	Imbalance in key areas of rural development, exacerbating the manifestation of economic, social and environmental problems
<b>VIII</b>	Imperfection and increased level of uncertainty in the institutional environment of rural development
<b>IX</b>	Giving insufficient level of priority within regional policy to the processes of activation of socio-economic development of rural territories
<b>X</b>	Limited information and analytical support for the process of activation of socio-economic development of rural areas

*Source: formed on the basis of [2; 4]*

The practical development of models of socio-economic systems is an objectively iterative process of sequential improvement and adaptation to changes in the system and the environment (although these factors are closely related) [3; 5]. Now, one of the most important factors in the development of modern villages in Vinnitsia region should be innovations, the development and use of which depends on the current state of the rural territories of the region. In addition, state-of-the-art technologies should help to improve the efficiency of public administration and self-government.

Therefore, it is necessary to define at the state and local level the conceptual framework (model), an algorithm of measures and tools for improving the productivity and efficiency of production, which can provide a solution to social problems of rural development. After all, the productivity of the rural economy is the key to the financial self-sufficiency of rural communities, a high standard of living and the solution of socio-demographic problems in rural areas of Vinnitsia region.

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### **RISK FACTORS OF SLOWING THE FINANCING OF AGRICULTURAL ENTERPRISES IN UKRAINE**

The need for financial resources of agricultural enterprises is carried out according to objective economic laws that cannot be balanced in agriculture without adjust methodological support. This variation of risk in financial transactions covers all the possible changes in the structure of financing. Firstly, each financial operation causes a risk of financial flow cycle, during which there is a change in the composition of financial resources and sources of funding. Secondly, the total amount of financing changes when transactions provide regrouping the structure of property assets [2, p. 52]. That is, the variability of operations is specified as financing risk of variable and fixed costs of economic activities related to the replacement of inventories, machinery and equipment [3]. Thirdly, the balance between financial resources and their sources should be retained after any transaction. This equality occurs during residues redistribution of financial resources, that is, increase or decrease in the volume of financial flows [1, p.355].

As part of the risks inherent in short-term financial investment, the liquidity risk has the biggest impact, i.e. the probability of absenteeism from financial operations planning period (not the return of property assets in cash). The tools are the short-term financial investment of deposit operations and the acquisition of liquid securities. You should understand and consider these features; it is necessary for management decisions that will synchronize incoming and outgoing cash flows, accelerating the process of financial resources and temporarily capitalize free residues, making real investments, taking into account the possible terms of return and risk. This term of investment opportunities during which a certain amount of residual funds may not be in cash, should be aimed at the implementation of short-term financial investments. Return on investment should cover inflationary costs of depreciation and secure investment income, according to the target or actual profitability of property assets.