

## Formation of management mechanisms for rural development under martial law and European integration

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**Abstract.** The purpose of the study was to assess the financial, organisational, and institutional parameters of management in view of external challenges and to determine their adaptive potential. The study used methods of structural and functional analysis of budget indicators, ratio and relative analysis, aggregation and grouping of statistical data, normalisation and integral indexing, and descriptive statistics. Assessment of the financial base showed that local budget revenues of UAH 679.5 billion formed a basic resource platform, while the revenue structure, dominated by own-source revenues at 72.3%, increased decision-making autonomy. The financial stability coefficient of 0.64 summarised the capacity of the system to maintain stability in a changing environment. The organisational component of management was characterised through the number of territorial communities, which described the scale of the spatial coverage of the system and the distribution of management

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functions between administrative units. Strategic planning covered approximately 91.4% of communities, while the institutional capacity index of 0.54 reflected an average level of consistency between structural elements. Organisational parameters also covered the management of land resources and agricultural infrastructure. Analysis of development showed substantial capital expenditure of UAH 145.8 billion, reflecting an orientation towards forming a material base. The structure of budget expenditure demonstrated the priority of the social component and support for economic activity, which created conditions for meeting basic needs and supporting development. The integral index of 0.59 summarised the effectiveness of management influences. At the regional level, budget revenues of UAH 4.36 billion formed the basis for the functioning of the system, while the 1.6% share of the special fund reflected limited targeted financing. For Mykolaiv Oblast, this was combined with the significance of the agricultural sector in the revenue base. The practical value of the study lies in the possibility of using its results by local self-government bodies, state institutions, and regional authorities to improve budget planning, increase the efficiency of financial resource allocation, and strengthen the institutional capacity of management.

**Keywords:** rural development; management; financial stability; European integration; security conditions; martial law

## INTRODUCTION

The relevance of this study is determined by the need to reconsider approaches to managing rural development under the simultaneous influence of security threats and European integration processes, which transform the financial, institutional, and organisational mechanisms through which territorial communities' function. The current stage of development is characterised by changes in budget policy priorities, the growing role of local self-government, and the need to adapt management decisions to an unstable external environment. Under these conditions, evaluation of the financial capacity of communities, the effectiveness of organisational structures, and the performance of territorial development management becomes especially important, as it helps determine their capacity for stable functioning and recovery. The problem under study is shaped by structural disproportions in the rural management system, the insufficient level of financial autonomy of some communities, uneven institutional capacity, and limited resources allocated to development. The influence of war-related risks is another factor, leading to contraction of the revenue base, changes in the structure of expenditure, and reorientation of budget policy towards stabilisation measures. European integration processes also create new requirements for management related to greater transparency, efficiency, and compliance with European standards, which requires adaptation of existing mechanisms and the formation of new approaches to rural development.

In the context of restoring agricultural infrastructure, A. Kliuchnyk *et al.* (2025) considered the role of local communities in rebuilding production facilities, logistics, and land resources after destruction. The paper underlined the need for financial support,

partnership mechanisms, and coordination between communities, state structures, and donor organisations. From the perspective of public administration, A. Kliuchnyk *et al.* (2023) examined the functioning of territorial communities of Ukraine during the war and post-war periods. The research highlighted the importance of adapting powers, coordinating with military administrations, and implementing comprehensive recovery programmes.

Within the modelling of community recovery, V. Shebanin *et al.* (2025) analysed the formation of comprehensive approaches to territorial development in the context of sustainable agricultural development. The conclusions emphasised the expediency of strategic planning, population involvement, targeted support funds, and the introduction of modern agricultural practices. In relation to digital transformations, D.K. Das (2024) addressed the relationship between infrastructure, management, and the quality-of-service delivery. The paper substantiated the role of digital technologies as a tool for improving the performance of management processes in territorial systems.

In the field of public administration modernisation, J. Millard (2023) defined the influence of digitalisation on the transformation of management structures. The results outlined digital solutions as a factor in improving management transparency and efficiency. From the perspective of institutional constraints, Z. Irani *et al.* (2023) discussed the influence of legacy systems on digital transformation processes in the public sector. The study established that technological barrier limit the speed of innovation implementation and require renewal of management infrastructure.

In the field of social innovation, F. Navarro-Valverde *et al.* (2022) considered mechanisms of neo-endogenous

rural development in EU countries. The significance of local initiatives and the integration of internal and external resources was established as factors increasing the effectiveness of territorial development. In the context of institutional development, R.D. Kelemen & K.R. McNamara (2021) investigated state-building processes in the EU through the lens of economic and political transformations. Uneven institutional development was defined as a factor influencing the performance of territorial management.

From the perspective of digital technologies, E.M. Ouafiq *et al.* (2022) addressed data management and the integration of low-power Internet of Things (IoT) devices in smart farming systems. The results showed that combining sensor technologies with data-processing systems helped transform information into practically oriented management decisions. The results confirmed the key role of digitalisation in increasing the efficiency of management systems. In the field of agri-food policy, T. Reinhardt (2022) assessed the influence of the Farm to Fork strategy on the transformation of the agricultural sector. The importance of innovative approaches for forming modern mechanisms for managing agri-food chains was demonstrated.

Within research on rural transformation, Y. Liu *et al.* (2022) analysed rural revitalisation processes through industrial change under globalisation. The role of structural changes in production as a factor activating territorial development was identified. In relation to technological innovation, M. Van Hilten & S. Wolfert (2022) considered the influence of 5G technology implementation on the agri-food sector. The potential of digital infrastructure to improve management efficiency and optimise production processes in rural areas was highlighted. The comprehensive combination of financial, institutional, and security factors in the management of rural areas under European integration transformations and their influence on the adaptive capacity of territorial communities remains insufficiently addressed.

The study aimed to provide a comprehensive assessment of the financial, organisational, and institutional mechanisms for managing development in Ukraine under the influence of security threats and European integration transformations, and to determine their functional capacities and directions of adaptation. The objectives of the study were to analyse the financial base and organisational structure of management, assess development performance within the management system, and determine the specific features of functioning under security challenges and transformations.

## MATERIALS AND METHODS

### Characteristics of the conditions and parameters for assessing the management system

The study was conducted using financial-economic and organisational indicators of the functioning of the rural management system of Ukraine for 2020-2025, with the regional level distinguished through the example of Mykolaiv Oblast (Ukraine). Analytical generalisation, processing, and interpretation of indicators were conducted within the research area of territorial development management systems, using structured approaches to the analysis of budgetary and institutional parameters. The paper analysed official statistical and financial data on local budget revenues and expenditure, the structure of budget resources, financial stability indicators, the institutional capacity of territorial communities, and integral characteristics of rural development. These indicators were selected because they reflect key parameters of the functioning of the management system, are available in open state sources, and can be processed using standardised methods of quantitative analysis, which ensured correct comparison of the results. The study covered the national level of Ukraine and the regional level through the example of Mykolaiv Oblast, which enabled territorial differences in the formation of financial and management mechanisms to be considered. Conditions affecting the functioning of the management system in the context of security threats and European integration transformations were considered separately, which enabled interpretation of the results in view of external factors. During the study, internationally recognised ethical principles of scientific activity were followed, in particular, academic integrity, transparency, reproducibility of results, and prevention of data manipulation in accordance with the recommendations of the Committee on Publication Ethics (2026). Data processing and interpretation were carried out objectively, without selective presentation of results, and in compliance with the principles of openness and accessibility of the information sources used.

### Resource base for managing the socio-economic development of rural areas of Ukraine

Indicators of local budget revenues and tax revenues were defined using official materials of The Accounting Chamber (2025). The share of transfers, the share of the development budget, and the average community budget were determined using official statistical data, structural analysis, the method of averages, and tabular generalisation in Microsoft Excel (USA), as these indicators were used to describe the general configuration of the financial system. The share of own-source

revenues was defined as the ratio of own revenues to total budget revenue (formula (1)):

$$S_{own} = \frac{D_{own}}{D_{total}} \times 100\%, \quad (1)$$

where  $S_{own}$  – the share of own-source revenues, %;  $D_{own}$  – the amount of own-source revenues of local budgets, UAH;  $D_{total}$  – the total amount of local budget revenues, UAH. Calculations were performed in Microsoft Excel (USA) using structural analysis tools, which ensured the correct determination of the share of financially autonomous resources. The resulting value was used to characterise the relationship between internal sources of budget formation and the total amount of financial resources. The financial stability coefficient was defined as the ratio of own-source revenues to expenditure (formula (2)):

$$K_{st} = \frac{D_{own}}{E}, \quad (2)$$

where  $K_{st}$  – the financial stability coefficient (dimensionless);  $D_{own}$  – own-source budget revenues, UAH;  $E$  – total budget expenditure, UAH. Assessment was conducted in Statistica 12.0 (USA) using ratio analysis. A conditional scale was used to interpret the financial stability coefficient: values up to 0.30 were regarded as low, values within 0.31-0.60 – as medium, and values above 0.60 – as relatively high. This distinction was applied to compare the relationship between own-source revenues and total budget expenditure.

### Institutional support system for rural management in Ukraine

The number of territorial communities was determined using data from the official Portal “Decentralisation” (n.d.), and the average general-fund revenue per resident was determined using analytical materials by Ya. Kazyuk & V. Ventsel (2025). The average community size, share of management expenditure, and share of communities with low capacity were determined through aggregation of statistical data, functional grouping of expenditure, and statistical grouping in the International Business Machines Statistical Package for the Social Sciences (IBM SPSS Statistics) (USA) and Microsoft Excel (USA). The share of communities with development strategies was defined as formula (3):

$$S_{approved} = \frac{N_{approved}}{N_{total}} \times 100\%, \quad (3)$$

where  $S_{approved}$  – the share of communities with development strategies, %;  $N_{approved}$  – the number of communities with strategies;  $N_{total}$  – the total number of communities. Calculations were performed using the method

of relative indicators in SPSS, which enabled assessment of the level of strategic planning implementation. The institutional capacity index was defined as an integral indicator (formula (4)):

$$I = \sum w_i x_i, \quad (4)$$

where  $I$  – the integral index;  $w_i$  – the weight coefficient of the indicator;  $x_i$  – the normalised value of the indicator. Normalisation was performed using the min-max method in Statistica 12.0, which ensured comparability of heterogeneous indicators. The conditional division for the institutional capacity index was as follows: values up to 0.30 were regarded as low, values within 0.31-0.50 – as medium, and values above 0.50 – as a higher level of capacity. This approach was applied to arrange heterogeneous organisational characteristics within a single integral indicator.

### Management of rural development in the national system of Ukraine

Capital expenditure and non-tax revenues were determined using official data from The Accounting Chamber (2025). At the national level, the object of the study covered 627 rural territorial communities, representing 42.7% of the total number of territorial communities of Ukraine. The share of infrastructure expenditure, social expenditure, and expenditure on economic activity was established through functional grouping of budget items and descriptive statistics in IBM SPSS Statistics (USA) and Microsoft Excel (USA), as these indicators were used in the results section to explain the structure of budget priorities. The share of investment in budgets was defined as formula (5):

$$S_{inv} = \frac{I}{E_{total}} \times 100\%, \quad (5)$$

where  $S_{inv}$  – the share of investment, %;  $I$  – investment expenditure, UAH;  $E_{total}$  – total expenditure. The calculations were performed in Microsoft Excel (USA) using structural analysis. The calculated indicator served as the basis for assessing the share of the investment component in the overall system of budget expenditure. The territorial development index was defined as formula (6):

$$I_{dev} = \frac{x - x_{min}}{x_{max} - x_{min}}, \quad (6)$$

where  $I_{dev}$  – the development index (0-1);  $x$  – the actual value of the indicator;  $x_{min}$  and  $x_{max}$  – the minimum and maximum values. Normalisation was performed in Statistica 12.0 (USA). The conditional division for the territorial development index was as follows: values

up to 0.30 were regarded as low, values within 0.31-0.59 – as medium, and values above 0.59 – as a higher level of development. In this form, the index was used to integrate different performance characteristics into a single scale for subsequent comparison.

### Regional rural management system of Mykolaiv Oblast

The regional block was introduced as an in-depth example that specified national trends through local budgetary parameters and allowed the general model to be compared with a regional case. Community budget revenues and special-fund budget revenues were determined using official materials of the Finance Department of the Mykolaiv City Council (n.d.). The resource concentration coefficient, budget flexibility index, and community development coefficient were defined using regional budget data in Statistica 12.0 (USA), Microsoft Excel (USA), and elements of variation analysis. A single conditional scale was used for the coefficient of programme orientation of the budget, the budget flexibility index, and the community development coefficient: values up to 0.30 were regarded as low, values within 0.31-0.60 – as medium, and values above 0.60 – as high. This division was applied to place regional coefficients on a common basis for comparison and to ensure their uniform interpretation in the analytical block. The share of the special fund was calculated as the ratio of special-fund resources to total budget revenues (formula (7)):

$$S_{spec} = \frac{F_{spec}}{D_{total}} \times 100\%, \quad (7)$$

where  $S_{spec}$  – the share of the special budget fund, %;  $F_{spec}$  – the amount of special-fund budget revenues, UAH;  $D_{total}$  – the total amount of community budget revenues, UAH. The calculation was performed in Microsoft Excel (USA) using structural analysis tools, which enabled the relationship between general and targeted financing within the budget to be determined. The coefficient of programme orientation of the budget was defined as the ratio of programme-structured expenditure to total expenditure (formula (8)):

$$K_{prog} = \frac{E_{prog}}{E_{total}}, \quad (8)$$

where  $K_{prog}$  – the coefficient of programme orientation of the budget (dimensionless);  $E_{prog}$  – the amount of expenditure implemented within budget programmes, UAH;  $E_{total}$  – the total amount of budget expenditure,

UAH. The calculation was performed using ratio analysis in IBM SPSS Statistics (USA), which enabled the degree of consistency between budget planning and the programme-target approach to be assessed. The interpretation used the following scale: above 0.7, a substantial level of programme-approach application; 0.4-0.7 – medium; below 0.4 – limited. This scale enabled the degree of programme structuring of expenditure to be related to the general configuration of the budget process at the regional level. In this form, the index was used to integrate different performance characteristics into a single scale for subsequent comparison.

### Specific features of territorial development management under security challenges and European integration in Mykolaiv Oblast

Community budget expenditure and the general-fund budget surplus were determined using official data from the Finance Department of the Mykolaiv City Council (n.d.). The decline in community revenues, the rate of revenue change, the share of recovery expenditure, and the share of grant financing were determined through time-series analysis, trend analysis, functional grouping of expenditure, and structural analysis of the revenue side in Microsoft Excel (USA) and IBM SPSS Statistics (USA). The share of stabilisation expenditure was defined as the share of expenditure aimed at maintaining the functioning of the system in total expenditure (formula (9)):

$$S_{stab} = \frac{E_{stab}}{E_{total}} \times 100\%, \quad (9)$$

where  $S_{stab}$  – the share of stabilisation expenditure, %;  $E_{stab}$  – expenditure on maintaining functioning (stabilisation), UAH;  $E_{total}$  – the total amount of budget expenditure, UAH. The calculation was performed using structural analysis in Microsoft Excel (USA). The resulting value was used to quantify the place of stabilisation expenditure in the system of budget priorities under external pressure.

## RESULTS

Local budget revenues characterised the basic level of financial support for the rural management system and reflected the scale of resources accumulated at the level of territorial communities. Together with other financial parameters, they formed a general understanding of the resource base for the functioning of the management system (Table 1).

**Table 1.** Financial base of the rural management system (Ukraine)

No.	Indicator	Value
1	Local budget revenues	UAH 679.5 billion
2	Tax revenues of local budgets	UAH 441.1 billion

Table 1, Continued

No.	Indicator	Value
3	Share of own-source revenues	72.3%
4	Share of transfers	27.7%
5	Share of the development budget	≈21-22%
6	Average community budget	UAH 0.46 billion
7	Financial stability coefficient (dimensionless)	0.64

**Note:** the financial stability coefficient was calculated in Statistica 12.0 (USA) using ratio analysis to assess the relationship between budget revenues and expenditure

**Source:** compiled by the authors based on *The Accounting Chamber (2025)*

The total amount of UAH 679.5 billion corresponded to a significant concentration of financial flows within the decentralised model, which pointed to the important role of the local level in resource redistribution compared with individual components of the budget system. This amount was associated with the possibility of covering current management expenditure, but it did not provide grounds for treating it as an independent indicator of efficiency without considering the structure of expenditure and revenue. The distribution of financing sources characterised the relationship between operational activity and the investment component, reflecting the general configuration of budget policy. The scale of the financial base suggested a high level of resource mobilisation within the national economy, which could point to the potential for reproducing financial flows without substantial involvement of external sources. For communities with a pronounced agricultural specialisation, this revenue structure could reflect substantial dependence on local economic activity, including farms, agricultural enterprises, and the use of agricultural land. In this context, the predominance of own-source revenues was associated not only with budget autonomy but also with reliance on the agricultural sector as one of the basic sources of revenue. However, the data provided no grounds for quantifying the exact share of revenue formed directly by agricultural activity, so this dependence was interpreted as a structural characteristic of the revenue base rather than a separately measured parameter. Growth in the share of own-source revenues was not treated as direct evidence of expansion of agricultural production at the local level, although it could be associated with expansion of the tax base of communities, including through land use, lease payments, and the activity of agricultural actors (The Accounting Chamber, 2025).

The share of own-source revenues in the structure of local budgets characterised the level of financial autonomy of territorial communities and their degree of independence in management decision-making. The value of 72.3% corresponded to the predominance of internal sources of budget formation over transfer

revenues, distinguishing the system from models with greater dependence on centralised financing. This structure was associated with the possibility of more flexible resource management, which could suggest increased adaptability to changes in the external environment. However, the dominance of own-source revenues was accompanied by differentiation in the financial capacity of communities, reflecting uneven access to resources within the system. The level of autonomy characterised the degree of dependence on centralised financial instruments, which was associated with differences in approaches to budget planning and the implementation of strategic programmes. Within such programmes, agricultural production in rural communities occupied the position of one of the basic directions of development because it was linked to the use of land resources, local employment, the functioning of farms, and the formation of the tax base. Growth in the share of own-source revenues was linked to the stronger role of local management decisions, but it did not eliminate structural imbalances in the system. This also suggested that the place of agricultural production in community development strategies was defined not as a secondary element but as one of the practical foundations of the financial self-sufficiency of rural areas. This coefficient also served as an indirect indicator of the sensitivity of local finances to the condition of the agricultural economy, as revenue stability was partly linked to the stability of land payments, employment in the agricultural sector, and the tax base of agricultural enterprises. A direct correlation between the financial autonomy of communities and the activity of farms or agricultural enterprises was not traceable in the available materials, but the relationship between own-source revenues, resource volume, and financial stability was associated with the possible influence of the agricultural sector on the formation of the local financial base (The Accounting Chamber, 2025).

The financial stability coefficient was used as a generalised indicator of the balance of the budget system and characterised the relationship between revenues and expenditure. The value of 0.64 corresponded to a

moderate level of stability, which indicated a basic capacity to maintain financial equilibrium in a changing environment. This level was associated with stability of functioning in the short term, but it did not ensure the elimination of imbalances in resource distribution between individual territories. The indicator integrated the characteristics of the revenue base, expenditure structure, and redistribution mechanisms, reflecting the general state of the financial system. Its value outlined the limits of maintaining continuity of management processes and characterised functional stability without confirming long-term efficiency (The Accounting Chamber, 2025). Generalisation of the results that the financial base of the management system was formed through the interaction of resource volume, the level of autonomy, and financial stability. These indicators were interconnected and reflected the configuration of financial support in which none of them acted as an independent determining factor. An increase in the resource base was not associated with an automatic increase in stability without changes in the revenue structure, while a high level of autonomy coexisted with uneven territorial development. Therefore, the effectiveness of the system was characterised not only by the amount of resources but also by the specific features of their distribution and adaptive capacity, reflecting the complex multilevel character of management. The agricultural component in this system was traceable not only through own-source revenues, land and tax payments but also through its place in the strategic orientations of communities, where agricultural production was combined with the development of land use, infrastructure, and the local economic base. This enabled agricultural production to

be viewed as one of the system-forming elements of the financial and strategic basis of rural development.

Overall, the analysis distinguished the volume of the resource base, the share of own-source revenues, and the level of financial stability as key indicators that together reflected different aspects of the functioning of the financial system. The relationship between a substantial amount of resources and the dominance of internal sources characterised the relative financial independence of the system, while the level of stability reflected a limited balance without full equalisation of internal disproportions. The combination of these parameters showed that resource provision and autonomy were not accompanied by a corresponding level of stability, which reflected structural constraints in the distribution of financial flows. In this context, the financial system reflected a combination of substantial resource potential and heterogeneous use of that potential, which is directly related to the assessment of management effectiveness under transformations. The results support the conclusion that the key issue is not the amount of resources but their internal configuration and relationship with autonomy and stability indicators, which characterise the specific functioning of the management system under current conditions. The number of territorial communities characterised the administrative structure of the management system through the number of basic units within which decision-making, resource distribution, and management functions were conducted. Together with strategic planning and institutional capacity, it reflected the organisational structure of the system and the general conditions of its functioning (Table 2).

**Table 2.** Organisational structure of territorial community management in Ukraine

No.	Indicator	Value
1	Number of territorial communities	1,469
2	Average general-fund revenue per resident	≈UAH 8.1 thousand
3	Average community size	≈26 thousand people
4	Share of communities with development strategies	≈91.4%
5	Share of management expenditure	≈10-15%
6	Share of communities with low capacity	≈30%
7	Institutional capacity index	0.54

**Note:** the share of communities with development strategies was determined using the method of relative indicators in IBM SPSS Statistics; the institutional capacity index was calculated after normalising indicators by the min-max method in Statistica 12.0, which ensured comparability of heterogeneous indicators

**Source:** compiled by the authors based on Portal "Decentralisation" (n.d.), Ya. Kazyuk & V. Ventsel (2025)

During the study, the total number was 1,469, reflecting a considerable level of territorial division and decentralisation of management, with powers assigned to individual communities. This number presupposes the presence of coordination mechanisms between

administrative units, since management processes were carried out not centrally but within a branched system. Under these conditions, community size was considered not only as a demographic characteristic but also as a parameter of the spatial coverage of

agricultural land, local transport links, production sites, and facilities serving the agricultural sector. Accordingly, a larger community scale was associated with a broader list of management objects, where decisions on land use, access infrastructure, product logistics, and support for farms grew in importance alongside budgetary and social issues. The quantitative composition of communities was associated with different scales of territories, population, and the resource base, reflecting differences in the initial conditions for management. Therefore, the indicator of the number of communities characterised only the organisational framework of the system and did not move to assessment of the effectiveness of its functioning (Portal "Decentralisation", n.d.).

The share of communities with development strategies characterised the extent to which formalised planning was spread as a management tool. The value of approximately 91.4% showed that most territorial communities had strategic documents, reflecting implementation of basic development planning procedures. This level of coverage was associated with the use of unified approaches to determining priorities, but the indicator itself did not reflect the content of strategies, their quality, or the degree of implementation of planned measures. The presence of strategies recorded the use of the tool, while not allowing for its effectiveness in achieving specific results to be assessed. The share of communities outside this value reflected differences in planning approaches, characterising the heterogeneity of management practices within the system. However, the high level of coverage of communities by strategic planning provided grounds to view agricultural issues as part of the general system of local priorities, since for rural territories, the development of land use, production infrastructure, local agricultural entrepreneurship, and the farming sector were among the basic directions of development. Thus, the indicator was used as a measure of formal implementation of strategic planning, without extending the interpretation to the level of real management effects (Portal "Decentralisation", n.d.).

The institutional capacity index was used as a generalised indicator that combined parameters of organisational structure, management procedures, and the ability to perform functions, which enabled the condition of the system to be assessed in an aggregated form. The value of 0.54 characterised a medium level of institutional capacity, reflecting partial consistency between elements of the management system without full integration of processes. This level was associated with the possibility of performing basic management functions, although it did not guarantee the same level of performance in different communities, due to

differences in resources and organisational characteristics. The indicator summarised a set of system characteristics without detailing individual components, which limited the possibility of identifying specific factors that affected the level of capacity. For communities with different economic specialisations, this meant unequal opportunities for organisational support of agricultural resources, land relations, logistics infrastructure, and interaction with farms and agricultural enterprises. In this perspective, the medium level of institutional capacity reflected that some communities could provide basic administration of agriculture-related functions, while in others, organisational and procedural conditions remained more limited. However, the index enabled the overall state of the organisational system to be compared with other indicators without going beyond the description of their coexistence. Therefore, differences in institutional capacity could also appear through the varying ability of communities to implement management actions in the agricultural sphere, even with similar resource or territorial potential.

Consideration of these indicators together enabled the relationship between the structure of the system, the use of planning tools, and the level of institutional capacity to be traced without moving to unsubstantiated causal claims. The number of communities reflected the organisational structure of the system, the share of strategic planning characterised the level of use of formalised tools, and the institutional capacity index summarised the state of their functioning in general. The combination of these indicators was associated with a structured management system in which differences existed in the level of implementation of management practices and the ability to carry them out. This configuration reflected a system with formally defined elements and tools, but without a uniform level of application across all communities. In terms of the agricultural component, this provided grounds to view the organisational system as an environment in which management of agricultural resources depended on the combination of territorial scale, strategic orientations, and the real institutional capacity of communities. Under this relationship, the share of communities with lower capacity was associated with less stable conditions for organising agricultural development, supporting production infrastructure, and administering land resources. Given the results obtained, the organisational system of rural management was characterised as a combination of quantitative structure, formalised planning tools, and generalised parameters of institutional capacity, reflecting different levels of development of its individual elements. This allowed the agricultural component to be viewed not as a

factor external to the system but as one of the directions sensitive to differences in community scale, strategic coverage, and organisational capacity. This approach avoided excessive generalisations based on individual indicators and focused on their interpretation as interconnected system characteristics.

Overall, the analysis treated indicators reflecting the structure of the system, the spread of strategic planning, and the level of institutional capacity as key. Their combination characterised the coexistence of a branched administrative structure with formal use of management tools, which was not accompanied by a corresponding level of coordinated functioning. Comparison of these parameters traced the gap between the presence of strategic documents and the ability of the system to ensure their implementation, reflecting differences between formal introduction and actual

functioning of management mechanisms. This configuration characterised the system as structurally organised but heterogeneous in the level of organisational capacity of individual elements. The results support the conclusion that assessment of the organisational system should be based on coordinated consideration of structure, management tools, and their practical application, rather than on interpretation of separate indicators. Capital expenditure of local budgets, the share of investment in budgets, and the territorial development index were considered together as interconnected indicators reflecting the structure of budget expenditure, the orientation of financial resources, and the generalised result of their use. This approach avoided isolated analysis of each indicator and shifted the assessment towards their coexistence within a single financial-management system (Table 3).

**Table 3.** Rural development within the system of territorial development management (Ukraine)

No.	Indicator	Value
1	Capital expenditure of local budgets	UAH 145.8 billion
2	Non-tax revenues of local budgets	UAH 43.6 billion
3	Share of investment in budgets	≈20-22%
4	Share of infrastructure expenditure	≈15-20%
5	Share of social expenditure	≈40%
6	Share of expenditure on economic activity	≈15%
7	Territorial development index	0.59

**Source:** compiled by the authors based on *The Accounting Chamber (2025)*

During the analysis, capital expenditure reached UAH 145.8 billion, while the share of investment in budgets was approximately 20-22%, which showed the presence of an investment component in the expenditure structure and the orientation of part of the resources towards long-term directions. For rural areas, this also meant the presence of a financial base within which facilities related to agricultural infrastructure could be financed, in particular, irrigation, logistics support, product storage, and other elements of the material base of agricultural production, although the aggregated capital expenditure indicator itself did not allow their exact share to be distinguished. This relationship characterised the budget as combining current and development expenditure without dominance of the investment component in the overall financing structure. Joint consideration of the absolute amount of capital expenditure and its share in budgets showed that a substantial amount of resources was not accompanied by a proportionally high share of investment expenditure, reflecting the limited role of this expenditure in the overall structure of budget priorities. This configuration was associated with the predominance of other financing directions alongside development

expenditure, which characterised budget policy as mixed in its orientation. The share of investment in budgets confirmed the presence of financing for development directions, including infrastructure elements related to the agricultural sphere. In this context, capital expenditure was considered not as a dominant factor but as one component of resource distribution that coexisted with social and current expenditure. The territorial development index, with a value of 0.59, was used as a generalised indicator combining economic, infrastructure, and social characteristics, enabling the state of development to be assessed without detailing individual components. This level characterised the medium state of territorial development, which was associated with partial realisation of the existing potential without achieving high values in all components. However, the index did not separately disclose the contribution of agricultural indicators and did not provide grounds to state that agricultural productivity was an independent component of its structure; agricultural issues were reflected indirectly through economic and infrastructure parameters of development. The index therefore did not disclose the structure of the contribution of individual factors but only summarised their

combined result, which limited the possibility of establishing the role of each individual indicator in forming the final value (The Accounting Chamber, 2025).

Comparison of investment parameters with the generalised development indicator showed that the presence of capital expenditure and the investment component was not accompanied by a proportional increase in the level of development, which characterised the absence of a direct relationship between the amount of financing and performance indicators. For the agricultural component, this meant that investment growth by itself was not reflected as proportional growth in agricultural performance, because additional links stood between resource investment and production effect: the state of infrastructure, organisation of sales, access to irrigation, the structure of land use, and the management capacity of communities to support development projects. This result was associated with the influence of additional factors, in particular, organisational and institutional factors, which were not directly reflected in the structure of budget expenditure. However, the coexistence of these indicators reflected the complex character of relationships in the management system, where development results were formed under the influence of several interconnected elements. Within the analysis, capital expenditure characterised the amount of resources directed towards development directions, the share of investment in budgets reflected their share in the overall expenditure structure, and the territorial development index summarised the result of the functioning of the system. This operationalisation avoided the use of abstract categories and ensured a clear relationship between concepts and specific

indicators. Consideration of these indicators within a single system showed that none of them can be interpreted in isolation, since their value acquires analytical meaning only in relation to the others.

Generalisation of the results focused attention on the relationship between capital expenditure, the share of investment in budgets, and the territorial development index as key indicators characterising development processes within the management system. Their joint consideration showed that the presence of a substantial amount of investment resources was combined with a limited share of this expenditure in the budget structure, reflecting the mixed character of financial policy without the dominance of development directions. However, the generalised development indicator did not show proportional growth relative to investment parameters, which characterised the absence of a direct relationship between the amount of invested resources and the results achieved. This relationship supports the conclusion that the level of territorial development within the system studied is linked not only to the amount of financing but also to its structure and its relationship with other expenditure directions, which directly reflects the specific character of management under transformational changes. Within the study, the regional analysis of Mykolaiv Oblast was introduced as a specification of national trends and as an example that enabled verification of how generalised patterns appeared at the level of a particular territory. Community budget revenues characterised the financial basis for implementing management functions and outlined the amount of resources available to support the activities of territorial units (Table 4).

**Table 4.** Rural management system (Mykolaiv Oblast)

No.	Indicator	Value
1	Community budget revenues (2025)	UAH 4.36 billion
2	Special-fund budget revenues	UAH 70.6 million
3	Share of the special fund	1.6%
4	Coefficient of programme orientation of the budget	0.83
5	Resource concentration coefficient	0.58
6	Budget flexibility index	0.62
7	Community development coefficient	0.55

**Note:** the coefficient of programme orientation of the budget was determined in IBM SPSS Statistics (USA) using a ratio approach to processing budget data

**Source:** compiled by the authors based on Finance Department of the Mykolaiv City Council (n.d.)

During the analysis, their amount reached UAH 4.36 billion, which showed the concentration of financial flows within a specific region and enabled this indicator to be related to the general model of financial support. This amount of resources was associated with the possibility of maintaining current management

processes and implementing separate development programmes, but it also reflected the dependence of the functioning of the system on the structure of revenues and mechanisms of their distribution. At the regional level, this also meant that the agricultural sector remained one of the significant components in

the formation of the revenue base, as budget revenues of rural-profile territories combined payments from land use, the activity of agricultural enterprises, employment in agriculture, and related types of economic activity. Under this relationship, budget revenues reflected not only the general resource potential of the region but also the indirect role of agriculture in maintaining the financial basis of local management. In this case, the revenue base was treated as a parameter of resource capacity that characterised the ability to finance both current and separate strategic directions, without moving to generalised assessments of efficiency. This approach enabled the regional indicator to be linked to the general logic of the study without transferring abstract conclusions to the local level (Finance Department of the Mykolaiv City Council, n.d.).

The share of the special budget fund characterised the distribution of financial resources between general and targeted directions of financing. The analysis determined that this indicator was 1.6%, which reflected a relatively small share of funds directed towards specialised programmes and investment projects. This budget structure was associated with limited use of targeted financing in the total amount of resources, which allowed investment expenditure to be viewed as an additional rather than dominant element of budget policy. With regard to agricultural projects, this reflected a situation in which the special fund did not act as the main channel of investment support for agriculture; therefore, financing for irrigation, storage, logistics, or other production-infrastructure directions occupied a limited place in the structure of targeted budget resources. The low share of the special fund demonstrated that agricultural investment was not concentrated in a pronounced amount within specialised financing and therefore remained subordinated to the general configuration of budget distribution. Within the study, this indicator was interpreted through the relationship between the general and special funds, which avoided abstract conclusions on investment activity and focused on the actual structure of financial flows. This interpretation ensured comparison of the regional level with the general model, where current and development expenditure also coexisted (Finance Department of the Mykolaiv City Council, n.d.).

The coefficient of programme orientation of the budget was used as an indicator reflecting the share of expenditure related to implementation of the programme-target approach. Its value was 0.83, corresponding to a high share of programme-structured expenditure within the budget. Under this interpretation, the resulting value was associated with the predominance of the programme structure of budgeting,

but it was not used as a direct indicator of the effectiveness of implementation of these programmes. It also showed organisational conditions under which support for agriculture could be included in targeted budget programmes as a separate direction of regional policy. Thus, the programme-target approach reflected not only formalisation of expenditure but also the possibility of distinguishing agricultural measures within the budget process, in particular, through programmes related to production infrastructure, land use, livestock production, or crop specialisation of territories. The indicator was considered in connection with other parameters, which enabled assessment not only of the fact that the approach was introduced but also of its place in the general management system. The resource concentration coefficient further reflected that financing was not distributed evenly between directions, which allowed concentration of funds to be linked to support for specific types of economic activity, including agricultural directions of regional specialisation. Under such a distribution, the allocation of resources could be traced as selective and potentially oriented towards segments with greater significance for the structure of the local economy, particularly grain production, livestock production, or related infrastructure links. Joint analysis of the amount of revenue, budget structure, and programme orientation showed that the regional level generally corresponded to the national model in terms of the presence of a resource base and the use of management tools, but differed in the relationship between general and targeted expenditure. This showed that, at the level of a particular oblast, general patterns were retained, although their concrete implementation depended on the structure of financing and local management decisions (Finance Department of the Mykolaiv City Council, n.d.). Thus, the regional example supplemented the national analysis through specification of the relationship between indicators rather than generalisation, which enabled clearer interpretation of the specific functioning of the management system under different levels of organisation.

Overall, the analysis identified three key indicators: the amount of financial resources, their distribution between general and targeted areas, and the level of programme orientation in the budget process. Their comparison showed that the presence of a sufficient resource base was combined with a limited share of targeted financing, while the high level of programme orientation characterised formal implementation of planning tools in the expenditure structure. This relationship showed that the programme structuring of the budget was not accompanied by a corresponding share of resources directed towards implementing targeted

projects, reflecting the difference between formal planning and the actual distribution of financial flows. In this context, the regional management model was characterised by a combination of available financial resources and implemented management tools without full consistency with one another. Community budget expenditure of Mykolaiv Oblast characterised the amount

of financial resources directed towards ensuring the functioning of the management system under increased pressure and environmental transformation. Together with the budget surplus, stabilisation expenditure, recovery expenditure, and grant financing, it characterised the financial conditions for the functioning of the management system under external challenges (Table 5).

**Table 5.** Management under security threats and European integration transformations (Mykolaiv Oblast)

No.	Indicator	Value
1	Community budget expenditure (2025)	UAH 4.23 billion
2	General-fund budget surplus	UAH 687.7 million
3	Decline in community revenues	-13.5%
4	Rate of revenue contraction	-6-7%/year
5	Share of stabilisation expenditure	≈50%
6	Share of recovery expenditure	≈20-30%
7	Share of grant financing	≈10-15%

**Source:** compiled by the authors based on Finance Department of the Mykolaiv City Council (n.d.)

During the analysis, the amount reached UAH 4.23 billion, which showed the scale of expenditure required to maintain continuity of management processes within the region. This level of financing was associated with the performance of basic management functions and reflected the structure of budget priorities without moving to assessment of their effectiveness. The expenditure structure showed a shift of financial flows towards ensuring current functioning, which characterised the relationship between expenditure on maintaining activity and expenditure directed towards development (Finance Department of the Mykolaiv City Council, n.d.). This relationship suggested that, under security threats, the budget emphasis shifted towards maintaining current activity, while directions related to agricultural production did not occupy a leading place in the structure of priority financing. This indirectly pointed to stronger constraints for agricultural production in communities since reduced expenditure on renewal of infrastructure and the material-technical base coincided with difficulties in supporting the agricultural sector. Within the study, this indicator was interpreted as a parameter of financial pressure, which enabled the relationship between the amount of expenditure and the ability of the system to maintain continuity of activity under external influences to be assessed. This expenditure configuration was considered as a characteristic of the budget structure reflecting the actual distribution of resources within available financial capacities, without generalised conclusions on the functional capacities of the system.

The general-fund budget surplus characterised the relationship between revenues and expenditure and was used as an indicator of financial equilibrium,

calculated as the difference between budget revenues and expenditure. The analysis showed that its value was UAH 687.7 million, which reflected a positive balance in the budget structure. This indicator was associated with the possibility of accumulating part of the resources without their immediate use and reflected the state of financial flows in a specific period. The positive balance also pointed to the presence of an internal financial reserve that could be used to cover recovery costs in separate sectors of the local economy, including those related to agriculture. However, the value of the surplus itself did not provide grounds to discuss full coverage of losses in the agricultural sector, as the needs for reconstruction of production facilities, technical support, irrigation systems, and storage infrastructure go beyond a single indicator of budget equilibrium. This parameter was not treated as evidence of long-term stability but only as a characteristic of the current relationship between revenues and expenditure. Within the study, this indicator was used to analyse budget equilibrium, which enabled it to be related to other parameters of the financial system without using generalised categories such as “integral influence”. This interpretation ensured a more precise reading of the results and reduced the abstractness of the presentation (Finance Department of the Mykolaiv City Council, n.d.).

The share of stabilisation expenditure characterised the orientation of financial resources towards maintaining the functioning of the management system under external challenges and was considered as the ratio of expenditure on current support for activity to total expenditure. During the analysis, this indicator was approximately 50%, reflecting a substantial share

of expenditure oriented towards maintaining stability (Finance Department of the Mykolaiv City Council, n.d.). This financing structure was associated with the priority of expenditure related to ensuring continuity in the functioning of the system, compared with other directions. Under this distribution, growth in stabilisation expenditure was accompanied by a narrowing of the share of resources that could be directed towards development directions, including the agricultural sector. Under this financing configuration, agricultural needs in the budget structure moved into the background compared with expenditure on maintaining current functioning. The recovery expenditure block also characterised the presence of a separate resource for rebuilding damaged facilities, among which agricultural infrastructure – warehouses, the technical base, irrigation, and other elements of production support – could be included in the financing directions, although its exact share was not separately distinguished. Grant financing supplemented the budgetary base for reconstruction, but its amount was considered as an additional source of covering losses rather than full compensation for damage sustained by agriculture. The indicator was not used to establish causal relationships but was treated as a characteristic of the distribution of budget resources within a specific period. Within the study, this parameter was applied to analyse the expenditure structure and enabled assessment of the relationship between stabilisation and other types of financing without using abstract concepts such as “organisational consistency”. This interpretation focused on factual data and their relationships, which increased the analytical precision of the presentation.

Systematisation of the results enabled management under security threats and European integration transformations to be considered as an integrated system whose functioning was determined by the combination of financial parameters and structural characteristics of the budget. Within the analysis, indicators characterising the amount of budget expenditure, the relationship between revenues and expenditure (through the surplus), and the share of stabilisation expenditure were treated as key because together they reflected the financial condition of the system under external challenges. Their comparison showed that a substantial amount of expenditure was combined with a positive budget balance, while a substantial share of stabilisation expenditure characterised the orientation of resources towards maintaining current functioning. This combination pointed to the priority of short-term needs in resource allocation compared with other directions. In this context, the management system was characterised by the presence of a financial reserve and

concentration of expenditure on maintaining activity, without moving to generalised conclusions about its efficiency. For the agricultural sector, these indicators were mainly indirect since they characterised the financial conditions of the system but did not contain a direct assessment of the influence on agricultural production. This enabled the state of the agricultural sector to be linked primarily to the expenditure structure, the presence of a budget reserve, and the relationship between current expenditure and expenditure on renewing infrastructure and the production base, on which opportunities to support farms and agricultural infrastructure depended. Under this approach, the current management model supported functioning under risks, but separately, it did not confirm the stable functioning of the agricultural sector without indicators of yield, production volumes, and economic results of agricultural producers. It is appropriate to increase the share of expenditure directed towards renewing infrastructure, the technical base, and other development directions in the structure of local budgets, expand targeted financing for restoring agricultural infrastructure, and involve grant resources more actively in modernising the agricultural sector. Local development programmes should include separate directions for supporting farms, restoring irrigation systems, storage infrastructure, and the technical base, which is consistent with the identified parameters of budget adaptation under risks.

## DISCUSSION

The results of the study enabled the financial base of management to be interpreted as a multilevel system in which the amount of resources did not act as a self-sufficient factor of effectiveness but interacted with the structural characteristics of revenues and their distribution. The identified concentration of financial flows created conditions for ensuring the functioning of management processes, but it did not eliminate dependence of performance on the quality of budget planning and redistribution mechanisms. The dominance of own-source revenues confirmed strengthened financial autonomy, which expanded decision-making opportunities at the local level, but simultaneously deepened differentiation between individual elements of the system. The integral financial stability indicator confirmed the capacity of the system to maintain continuity of functioning, while also reflecting limitations in overcoming internal imbalances. The organisational component of management was characterised by a complex configuration in which a large number of administrative units ensured spatial coverage but increased requirements for coordination and consistency of actions. The spread of strategic planning contributed

to structuring management processes and forming long-term orientations, but incomplete coverage of communities demonstrated uneven implementation of management tools.

In the field of financial innovation and digitalisation of management, the works of M. Preziuso *et al.* (2023), and A.F. Vatamanu & M. Tofan (2025) explored mechanisms for integrating financial instruments and artificial intelligence into public administration, but without a detailed link to the budget structure at the territorial level. M. Preziuso *et al.* analysed open banking as a tool for expanding financial inclusion, focusing on institutional interaction and access to financial services, but without detailing its influence on the formation and distribution of budget resources. A.F. Vatamanu & M. Tofan investigated the introduction of artificial intelligence into public administration, emphasising risks and vulnerabilities of digital systems, while quantitative analysis of financial autonomy or stability was overlooked. The present study establishes a relationship between the amount of revenue, the share of own-source resources, and integral financial stability, which enables a shift from general digital concepts to structural analysis of the financial system. This approach combines institutional and financial characteristics, which was not reflected in the publications considered, and forms a holistic understanding of the functioning of management under transformations.

In the context of the development of digital financial ecosystems and innovation processes, the works of S. Mashetty *et al.* (2024) and A.A. Vărzaru & C.G. Bocean (2024) addressed the influence of digital technologies on financial processes and innovation activity, but without linking them to the territorial organisation of management. S. Mashetty *et al.* considered the use of intelligent technologies in financial systems, focusing on analytical and cloud solutions but without addressing spatial disproportions in resource provision. A.A. Vărzaru & C.G. Bocean analysed the influence of digital transformation on innovation activity mainly through macroeconomic indicators, so the organisational level of territorial management remained outside detailed consideration. Unlike that approach, the presented study combines financial characteristics with organisational parameters: the number of administrative units, the spread of strategic planning, and institutional capacity, which enables management differences at the level of territorial communities to be explained. This provides a more comprehensive approach than papers oriented mainly towards technological aspects without consideration of management structure.

In the field of sustainable development and innovation in rural areas, the papers of T. Varzakas &

S. Smaoui (2024) and G. Cascone *et al.* (2024) addressed food security and the implementation of innovative development models, but without integrating financial-management indicators. T. Varzakas & S. Smaoui analysed global challenges of the food system, focusing on sustainable development and food security, but without assessing financial management mechanisms. G. Cascone *et al.* considered the role of innovation platforms, in particular, living labs, in rural development, emphasising stakeholder involvement but without quantitative analysis of the resource base. The current study establishes a link between financial resources, organisational structure, and institutional capacity, which enables the management system to be assessed as an integrated model. This level of combining quantitative and structural parameters provides a deeper understanding of the functioning of the system compared with studies focused mainly on separate aspects of development.

In the field of agroecological resilience and digital constraints, S. Hackfort (2023) and B. Adoyo *et al.* (2025) considered different models for adapting rural development to contemporary transformations. B. Adoyo *et al.* examined the multidimensional performance of agroecology in several African countries and confirmed a positive relationship between the level of agroecological integration, productivity, and farm income, but the focus was shifted to production-economic characteristics of agrosystems rather than budgetary management mechanisms. S. Hackfort analysed corporate “lock-ins” in the digital agriculture of Germany, where it was shown that digitalisation did not remove dependencies and, in some cases, reproduced structural inequality in access to technology. Unlike those papers, the present study traces not only the influence of the innovation environment on development but also the relationship between the amount of revenue, the share of the special fund, the programme orientation of the budget, and stabilisation expenditure in Mykolaiv Oblast. This linking of financial architecture with the organisational capacities of management specified how the resource base and the structure of budget flows determined the adaptive potential of the system.

In the context of the digital economy and innovation infrastructure, Y. Xu *et al.* (2022) and S. Stojanova *et al.* (2022) focused on institutional and technological prerequisites for modernisation. Y. Xu *et al.* generalised directions of research on the digital economy of China using a bibliometric approach and outlined digitalisation as an intersectoral factor of transformation, but without addressing specific parameters of budget stability or organisational capacity in local management. S. Stojanova *et al.* considered

rural digital innovation hubs as the basis of sustainable business models in rural areas of Europe and demonstrated the significance of innovation hubs for territorial development, but the analysis remained focused mainly on infrastructure-network logic. In the present study, the digital or institutional-innovation component is not isolated from the financial system but is related to the number of communities, the spread of strategic planning, the institutional capacity index, and the parameters of budget configuration. This enabled a shift from a general description of digital modernisation to an evaluation of the extent to which the organisational system actually ensured consistency of management decisions and maintained functioning under external pressure, distinguishing this paper from more conceptual generalisations.

Within the analysis of production transformations and structural challenges, B. Losch (2022) and K. Pilarski *et al.* (2025) addressed different aspects of contemporary agricultural development. K. Pilarski *et al.* systematised technological, environmental, and socio-economic aspects of biogas production in agriculture and stressed the potential of energy solutions for increasing resource efficiency, but without detailing a regional budgetary management model. B. Losch discussed dominant narratives concerning the future of the agricultural sector and demonstrated that they did not allow the deeper structural problems of employment and development to be fully presented, although the main focus remained on macro-level disproportions. In the presented study, the comparative analysis is shifted to the level of a specific management system, where community budget revenues, the general-fund surplus, the share of stabilisation expenditure, and the programme orientation of the budget of Mykolaiv Oblast are reviewed simultaneously. This construction describes the transformational context and demonstrates how budget equilibrium, financing structure, and institutional consistency determined the possibility of maintaining management processes and development under security threats, providing a higher level of applied specification compared with the works of other researchers.

In the field of integration of digital technologies and spatial transformations, S. Seifollahi-Aghmiuni *et al.* (2022) and G. Gebresenbet *et al.* (2023) addressed the influence of technological and urbanisation factors on the development of rural systems. G. Gebresenbet *et al.* proposed a concept for integrating digital solutions into smart agricultural systems, where the significance of complex technological interaction for increasing the efficiency of production processes was substantiated, but without detailing budgetary mech-

anisms for supporting such transformations. S. Seifollahi-Aghmiuni *et al.* analysed the influence of urbanisation on land degradation and socio-economic challenges in peripheral territories, where growing development disproportions under spatial changes were defined. In the conducted study, unlike these approaches, financial parameters (budget revenues, the share of the special fund, and the surplus) are integrated with characteristics of the organisational structure of management, which enables assessment of both the external factors of influence and internal mechanisms through which the management system adapts to transformational processes.

In the context of digitalisation of the agricultural sector and preservation of cultural heritage, Q. Mu & F. Aimar (2022) and C.G. Bocean (2024) paid attention to different aspects of rural development. C.G. Bocean investigated the relationship between the use of digital technologies and agricultural productivity in EU countries, where the positive influence of digitalisation on production performance was confirmed, but without considering organisational and financial parameters of management. Q. Mu & F. Aimar systematised practices for preserving historic rural settlements, where the significance of cultural heritage as an element of territorial development was defined, but the analysis remained outside financial-management models. In the current study, the approach is expanded by combining the financial configuration of the budget, institutional capacity, and strategic planning, which enables the management system to be assessed as an integral structure capable of ensuring both functioning and development in a changing environment.

In the field of socio-economic disproportions and institutional networks, M.H. Laskar (2023) and J. Blesh *et al.* (2023) addressed development inequality and mechanisms for diversifying the agricultural sector. M.H. Laskar analysed the formation of a digital society and the digital divide between urban and rural areas, where uneven access to technologies was established as a factor limiting development, but without linking it to budgetary management tools. J. Blesh *et al.* investigated institutional networks that support diversification of agricultural production, where the significance of interaction between actors for forming sustainable development models was demonstrated. Unlike the papers, this study combines analysis of financial indicators (budget expenditure, the share of stabilisation expenditure, and the surplus) with organisational characteristics of the management system, which allowed for a shift from describing separate factors to assessing their interaction and influence on the capacity of the system to ensure continuity of management processes

and adaptation to external challenges. Therefore, the results of the study demonstrate that, unlike existing approaches, the effectiveness of the management system is determined by the integrated interaction of financial, organisational, and institutional parameters, which ensures its capacity for adaptation and functioning under transformations.

In the field of technological transformation of agricultural production, X. Luo *et al.* (2022) considered the transition from mechanised to intelligent systems, with an emphasis on the phased introduction of digital technologies into production processes. X. Luo *et al.* analysed changes in the structure of agricultural production under the influence of automation and digitalisation, presenting that increased efficiency was achieved through optimisation of production operations and use of data, but leaving budgetary constraints and mechanisms for financing these changes out of the scope of the study. Unlike that approach, the present study focuses not on technological parameters of production but on the characteristics of financial support for management, specifically, the structure of expenditure, the share of stabilisation financing, and parameters of budget equilibrium. This enabled transformational processes to be viewed not as the result of technological changes but as a consequence of resource distribution and financing priorities within the management system. This provided for the assessment of the influence of the budget structure on the capacity of the system to maintain continuity of functioning under external challenges. Therefore, unlike papers concentrated on technological modernisation, the results of this study demonstrate the expediency of analysing financial parameters as a separate dimension of management, which helps explain differences in system functioning even under similar development conditions.

### CONCLUSIONS

The study provided a comprehensive assessment of the rural development management system based on a combination of financial, organisational, and institutional characteristics, which formed an integral understanding of its functioning, structural organisation, and adaptive capacities under transformations. The financial base was shown to have formed as a multicomponent system in which the amount of resources was combined with the structure of their distribution, determining the capacity to ensure continuity of management processes and implement strategic directions of development. Local budget revenues of UAH 679.5 billion, combined with the dominance of own-source revenues at 72.3%, reflected a sufficient level of financial autonomy, while the integral coefficient of 0.64 summarised the capacity

of the system to maintain balance and counteract external and internal risks.

The organisational component was characterised by a complex territorial configuration that ensured broad spatial coverage and formed an environment for implementing management functions at different levels. A large number of territorial communities, combined with the spread of strategic planning at approximately 91.4%, characterised the presence of formalised management approaches and the coordination of separate management decisions within the system. However, the institutional capacity index of 0.54 reflected internal disproportions that limited the level of functional consistency of the system and its capacity for effective interaction between elements. This also covered management of land resources, agricultural infrastructure, and inclusion of agricultural priorities in the strategic documents of communities. This was confirmed by capital expenditure of UAH 145.8 billion and the integral index of 0.59, which summarised the effectiveness of management influences.

Capital expenditure and investment created a basis for developing agricultural infrastructure, while the development index did not contain separately identified agricultural indicators. At the regional level, budget revenues of UAH 4.36 billion formed the basis for the functioning of management, while the limited share of the special fund reflected the specific distribution of financial flows and financing priorities. The coefficient of programme orientation of 0.83 showed a high level of consistency between resources and management goals. The conditions of functioning were characterised by changes in the expenditure structure, where the amount of UAH 4.23 billion, combined with a surplus of UAH 687.7 million and growth in the share of stabilisation expenditure to approximately 50%, reflected adaptation of the system to external challenges. Under these conditions, the priority of stabilisation expenditure narrowed the budgetary space for supporting agricultural production, while recovery expenditure and grant financing only partly covered the needs of agricultural infrastructure. The limitations of the study lay in the use of aggregated financial-statistical data without separate identification of agricultural production indicators, which narrowed the possibility of directly assessing the influence of the management system on agricultural development. Further research should focus on an in-depth analysis of the micro-level of management, dynamic changes in indicators, and expansion of the list of indicators for assessing system effectiveness in different regions.

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## Формування механізмів управління розвитком сільських територій в умовах воєнного стану та європейської інтеграції

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**Анотація.** Метою дослідження було оцінювання фінансових, організаційних та інституційних параметрів управління з урахуванням зовнішніх викликів для визначення їх адаптаційного потенціалу. У дослідженні застосовано методи структурного та функціонального аналізу бюджетних показників, коефіцієнтного та відносного аналізу, агрегування і групування статистичних даних, нормалізації та інтегрального індексування, а також методи описової статистики. Оцінювання фінансової основи показало, що доходи місцевих бюджетів у 679,5 млрд грн сформували базову ресурсну платформу, тоді як структура надходжень із домінуванням власних доходів на рівні 72,3 % забезпечила підвищення автономності прийняття рішень. Водночас коефіцієнт фінансової стійкості 0,64 узагальнив здатність системи підтримувати стабільність у змінному середовищі. Організаційний компонент управління охарактеризовано через кількість територіальних громад, що характеризувало масштаб просторового охоплення системи та розподіл управлінських функцій між адміністративними одиницями. Встановлено поширення стратегічного планування на рівні  $\approx 91,4$  %, тоді як індекс інституційної спроможності 0,54 відобразив середній рівень узгодженості структурних елементів. Організаційні параметри одночасно охоплювали управління земельними ресурсами та аграрною інфраструктурою. Аналіз розвитку засвідчив наявність значних капітальних видатків у 145,8 млрд грн, що характеризували спрямованість на формування матеріальної бази. Структура бюджетних витрат виявила пріоритетність соціальної складової та підтримки економічної діяльності, що сформувало умови для забезпечення базових потреб і розвитку. Інтегральний індекс 0,59 узагальнив результативність управлінських впливів. На регіональному рівні доходи бюджету 4,36 млрд грн сформували основу функціонування системи, тоді як частка спеціального фонду 1,6 % відобразила обмеженість цільового фінансування. Для Миколаївської області це поєднувалося з вагомістю аграрного сектору в дохідній базі. Практична цінність дослідження полягає у можливості використання отриманих результатів органами місцевого самоврядування, державними установами та регіональними органами влади для вдосконалення бюджетного планування, підвищення ефективності розподілу фінансових ресурсів і посилення інституційної спроможності управління

**Ключові слова:** розвиток сільських територій; управління; фінансова стійкість; європейська інтеграція; безпекові умови; воєнний стан