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EVALUATION OF EFFICIENCY OF REGIONAL PUBLIC GOVERNANCE IN THE CONTEXT OF ACHIEVING GOALS OF SUSTAINABLE DEVELOPMENT

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Abstract
The research is devoted to theoretical and applied organizational grounds for evaluating the effectiveness of public administration in the region in the context of the Sustainable Development Goals. The purpose of the article is to substantiate and improve methodological approaches to assessing the effectiveness of public administration in the region in the context of the Sustainable Development Goals. The article tests the authors' hypothesis on the adequacy of substantiation of methodological approaches to assessing the effectiveness of public administration in the region, which leads to the significant implementation of the Sustainable Development Goals. The dependence of the calculations on the selected system of indexes and indicators that determine the current profile of the region is confirmed, it illustrates the state of the economy, human development and environmental safety relative to the reference (average, target, maximum possible under these conditions) state and vector, and also characterizes the direction and speed of the region towards the implementation of the Sustainable Development Goals. It is determined that the largest vector length is in Kherson region, which indicates that in the region on a number of economic indicators achieved higher results during the study period than in other regions of the Black Sea region and on average in other regions of Ukraine.

Keywords: Public administration; methodological approaches; Sustainable Development Goals; region profile; human development, economic security, EU experience
JEL Codes: *L86, R10, R23.*

Introduction

In modern transformational conditions the organizational design, powers and, accordingly, requirements to bodies of public administration and local government change essentially. Prior to regions other than ensuring economic and social functioning at the proper level, there is a new range of tasks of promoting sustainable economic and social development areas, innovation and the transition to new models of resource use based on their effective reproduction, economical use and environmental safety.

At the stage of changing the administrative structure of territories, redistribution of fiscal and other powers, remain controversial question of assessing the efficiency of the newly created bodies of public administration. The problem is also complicated by the need for effective implementation of the Sustainable Development Goals and Strategies in the system of public administration and strategic planning at all levels.

Literature review

The scientific literature contains different approaches to assessing the effectiveness of public administration and a diverse set of evaluation criteria. In particular, the most widely used rating approaches to assessing the level of socio-economic development, the results of which indirectly reflect the efficiency and effectiveness of local government.

Rating approaches are easy to use and allow to identify a comparative level of development of regions using a different set of systemic criteria for assessing the economic and social situation. It is positive to determine the place of the regions in comparison with others both separately for the selected indicators and as a whole. Thus, at the level of the Ministry of Economic Development and Trade of Ukraine, the rating of socio-economic development is determined quarterly and by the end of the year, which includes the following criteria: industrial production, agricultural production, capital investment, foreign investment, foreign economic activity (export-import balance) and the level of consumer prices. As a basis for comparison at definition of a rating of development of areas are used growth rates of the defined criterion indicators (Ministry of Economic Development and Trade of Ukraine, 2021).

According to scientists (Khaustova, K. et al, 2019) important elements of assessing public administration at the level of regions, districts and local communities are the following aggregate indicators: indicators of economic efficiency of the region (profitability of enterprises, gross regional product per capita, the volume of capital and foreign investment per employee), indicators of social efficiency (employment rate, average wage), productivity indicators of regional socio-economic systems (productivity industrial complex, labor productivity, investment productivity) and indicators of implementation of strategic and tactical development plans of the region. To determine the scores for each indicator of the region, the authors propose to compare them with the average values, that reached on the country, and integral coefficient calculated on the basis of a weighted sum of aggregate indicators to determine the level of development of the region (its faster growth or lagging) than the average values. Positively assessing this approach, we want to note that the system of proposed indicators reveals the criteria of the ecological population of the region, which limits its use through assessments of the effectiveness of public administration with positional support for sustainable development [2].

The main imperatives of the strategic development of the national economy are the Sustainable Development Goals, which determine the main vectors on which the efforts of public administration bodies at all levels will be directed, and The main strategic imperatives of the national economy is the objective of sustainable development, defining the main vectors which directed the efforts of public administration at all levels, and which act as an important performance criteria authorities. Sustainable development goals that are adapted to the realities of the social, economic and environmental situation of Ukraine, approved by the Cabinet of Ministers of Ukraine in 2016 and the Presidential Decree of September 30, 2019 (Decree of the President of Ukraine, 2021).

Despite some positive changes being implemented in the context of SDG at the national level, an effective legal framework has not yet been created, which should serve as a primary basis for ensuring sustainable development of cities and communities. According to Tsiklauri O., the creation of: «Unified strategy of sustainable development of cities and communities in Ukraine, which should take into account all other mechanisms of sustainable development; The Model Plan for Sustainable Development of Cities and Communities until 2030 with the definition of clear indicators and criteria for such development as a guide for the creation of appropriate plans at the local level; adoption

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and amendment of legislation on local self-government» (Tsiklauri, 2018).

We agree with the opinion of scientists from the National Institute for Strategic Studies that «today in Ukraine there is no system in place to implement the commitments to achieve SDG at the regional and community levels. The delay in adopting an official document defining the place and role of SDG in national policy, as well as measures and mechanisms to ensure the comprehensive implementation of SDG at all levels, has led to the loss of opportunities to rationalize budget expenditures, promote investment and attract official development assistance from developed countries. countries to perform the tasks of the SDG.

Currently, the situation in the field of public management of sustainable development in Ukraine is characterized by:

- In the field of sustainable development at all levels, lack of coordination of public policy;
- inconsistency of regional and local development strategies with national SDGs;
- inability to measure the current situation, assess the problem for strategic planning of sustainable development of regions and communities, as well as progress;
- on the basis of agreed approaches to determining the strategic priorities of sustainable development of regions and communities to achieve the SDG at the regional and local levels» (Shevchenko et. al., 2020).

We agree with the opinion of Antonova S. and Korbutyak V. that «Effective management at the local level is impossible without informing citizens about the government activities. Ensuring the transparency and openness of public authorities contributes to the formation of the rule of law, increases the level of trust of the population, establishes interaction and improves cooperation between government and the public, introduces mechanisms of participation and control, decisive steps in combating corruption.» (Antonova &Korbutyak, 2020). These factors are the key to cohesion of society, trust in government and contribute to the more effective implementation of community and territorial development goals, in particular the Sustainable Development Goals.

Generally, it should be noted that under the effective implementation of decentralization reform, the implementation of sustainable development at lower (regional, local, regional) levels in the creation of an effective system of state planning, management and motivation tools is the key to accelerating achievement of sustainable development goals at the national level.

The predominance of targets for ensuring social justice and human development and solving environmental problems is due to general global trends and the fact that these factors have not yet received much attention. However, the implementation of these targets is impossible without the formation of a pragmatic policy in the economic sphere, which will create the basic conditions for the implementation of certain target programs.

The conducted research allowed to outline the main requirements for assessing the effectiveness of sustainable development of the region and public administration:

1) Availability and accessibility statistics to monitor the implementation of the Sustainable Development Goals at any time;

2) Limited number of key indicators for each criterion;

3) The use of relative indicators of assessment, which allows for a comparative analysis of different volumes, territorial differentiation and other factors of the regions, their comparison and determination of relevant ratings in terms of vectors of sustainable development;

4) Bringing indicators at each level of evaluation to commensurate units, which will allow to derive synthetic integrated indicators that characterize the effectiveness of public administration at different levels and stages of achieving goals.

The purpose of the article is to substantiate and improve methodological approaches to assessing the effectiveness of public administration in the region in the context of the Sustainable Development Goals.

Materials and Methods

An important step in assessing the effectiveness of sustainable development is the choice of mathematical tools for evaluation,that will simultaneously identify weaknesses in the region to ensure achievements in certain areas, assess progress in certain areas and ensure accessible interpretation of the data. To this end, we have proposed the following estimation algorithm:

1. Determine the direction and length of the vector of each target indicator for assessing the effectiveness of public administration in a particular area by formulas:

$$\overline{G}_1 = \frac{1}{n}\sum_{i=1.1}^{1.n}(I_s \times 100 - 100) \quad (1)$$

where, $\overline{G}_1$ - the overall target within the selected vector. Shows the overall progress (+) or lag (-) of the region on a particular aggregate;

I_s – standardized value of the indicator;

I_f – the actual value of a single indicator of goal achievement;

I_e – reference (target, comparative) value of the indicator;

n – number of indicators

Provided that the comparative indicators are expressed in absolute or relative terms, except for percentages or shares of the unit:

$I_s = \frac{I_f}{I_e}$ (for stimulants) або $I_s = \frac{I_e}{I_f}$ (for destimulators) (2)

Provided that comparative indicators are expressed as a percentage or fraction of a unit:

$I_s = I_f - I_e$(for stimulants) або $I_s = I_e - I_f$ (for destimulators)

2. Determine the total length of the vector of sustainable development:

$$\overline{V} = \frac{1}{m}\sum_{i=1}^{m}\overline{G}_i \quad (3)$$

Where, $\overline{V}$- vector of sustainable development of the region, points

m – number of aggregate indicators.

The length of the vector of sustainable development is defined as the sum of aggregated indicators in the chosen direction (economic, social, environmental).

3. Assessment of the general situation of the region in the context of achieving the goals of sustainable development is determined by the coordinates of the three-dimensional space: Vr (SEG; SHD; SES).

Where there is a steady positive growth of economic, social and environmental components. The larger is the obtained plane and, accordingly, the scalar length of the vector, the more effective is the public management of sustainable development in the region. Other variants of the wrong triangle indicate the existence of certain imbalances in development and require a review of economic, social or environmental policies, as well as the intensification of public administration.

Given the different starting conditions for sustainable development of the regions of Ukraine, it is proposed to carry out the analysis

At the first stage the position of the region in the base year is determined in comparison with the best achievements in the field of sustainable development among other regions $\overline{VT}$. That is, as a reference value selected the maximum (for progressor) or minimum (for regressors) values and compared with the corresponding actual data estimated the region.

The second stage is to determine the region's progress towards achieving the goals of sustainable development. For this purpose, the actual value of each indicator value is compared with that achieved in the previous period $\overline{GT}$.

An important stage of the evaluation is also the analysis of progress on the effectiveness of public administration in the region, carried out according to the proposed methodological approaches. At the same time, it is necessary to take into account a certain

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time lag, ie management results that are the consequences of the implementation of democratic and transparent procedures and decisions are manifested in the economy not immediately, but with a certain delay, i.e. 2-3 years.

Despite a fairly high level of display and informativeness, these indicators do not sufficiently reflect the influence of public authorities on human development. To evaluate the effectiveness and efficacy of public authorities in the context of ensuring the sustainable development of the region, we have proposed indicators that in some way depend on the decisions and activities of regional authorities and can be determined using analytical tools using available data from statistical observations. To assess the efficacy of public administration in the context of the implementation of the social vector of sustainable development, a system of indicators and relevant indicators listed in the table 1.

Thus, the proposed methodological approaches with a certain degree of adjustment in accordance with the objectives of monitoring can be used as a tool to assess the achievements of the region towards sustainable development, identify weaknesses and develop management decisions to optimize the functioning of certain areas of the economic complex.

Table 1. Indexes and indicators of the economic vector of sustainable development of the region

Indexes	Indicators	Marking of the indicator
Employment and decent working conditions (W)	The employment rate of the population aged 15-70 years,%	w_1
	Employment rate of registered unemployed,%	w_2
	Number of small business entities (including micro-entrepreneurship) per 10 thousand people of the current population	w_3
	The ratio of average wages to the minimum, times	w_4
	The amount of arrears of wages,% to the payroll for the last month	w_5
Income and social protection (I)	Disposable income per capita, UAH	i_1
	Gross savings per capita, thousand UAH	i_2
	The level of social services coverage of persons in difficult life circumstances, territorial centers of social services,%	i_3
	Social expenditures from the regional budget per capita, thousand UAH	i_4
Availability and quality of medical services (M)	Average life expectancy at birth, years	m_1
	The planned capacity of outpatient clinics per 10 thousand people	m_2
	Provision of the population with doctors of all specialties per 10 thousand people	m_3
	Provision of paramedics per 10 thousand people	m_4
Access to education (E)	The share of graduates of secondary schools who received according to the results of external independent evaluation of the Ukrainian language and literature 160 points and above,%	e_1
	The share of educational institutions that use computer equipment connected to the Internet in the educational process,%	e_2
	Net enrollment rate of preschool children aged three to five years,%	e_3
	The number of students, listeners of vocational schools per 10 thousand. people	e_4

**Source: Research results.*

Research results and discussion

Using the results of the calculation of development, normalized indicators and aggregated indicators of sustainable human development in the regions of the Black Sea region are identified, illustrating the achievements or shortcomings in some areas relative to the average value (Table 2).

The results of calculations showed a fairly wide differentiation of normalized values and general indicators of individual areas of human development in the Black Sea region. At the same time, most of the obtained indicators received a negative value, which determines the weakness of the region's position in ensuring decent human development compared to the average value achieved in the regions of Ukraine on the majority of indicators

Table 2. Aggregate indicators and standardized indicators of sustainable human development in the Black Sea region in 2018

Indexes	Indicators	Mykolaivska region	Odeska region	Khersonska region
Employment and decent working conditions (W)	w_1	2,1	0,6	0,9
	w_2	-7,2	1,4	-2,6
	w_3	12,0	26,8	2,9
	w_4	-8,0	-9,7	-20,2
	w_5	0,5	-3,3	-2,6
	$\overline{VT}$	**-0,1**	**3,2**	**-4,3**
Income and social protection (I)	i_1	-5,1	8,1	-14,1
	i_2	-71,9	-35,9	-69,3
	i_3	2,7	2,1	1,8
	i_4	41,4	11,6	46,9
	$\overline{VT}$	**-8,2**	**-3,5**	**-8,7**
Availability and quality of medical services (M)	$м_1$	4,2	-1,3	-1,7
	$м_2$	-4,1	-10,4	-0,5
	$м_3$	-24,3	7,7	-17,2
	$м_4$	-15,2	-8,1	-10,9
	$\overline{VT}$	**-9,8**	**-3,0**	**-7,6**
Access to education (E)	e_1	-4,1	-3,6	5,1
	e_2	4,6	-0,8	-15,6
	e_3	12,6	-7,1	6,4
	e_4	38,7	1,6	14,5
	$\overline{VT}$	**12,9**	**-2,5**	**2,6**

Source: Research results.

By analogy with the comparative assessment of the economic vector of development of the Black .

Sea region, the calculation of the vector achieved in the regions for the period 2015-2018 at the level of aggregate indicators and determined the coordinates of the vector of sustainable development by formulas:

$$У = -6 \times 0{,}25 + 29{,}7 \times 0{,}25 + 1 \times 0{,}25 - 13 \times 0{,}25 = 2{,}9$$

$$X\,(М) = = -7 \times 0{,}25 + 49{,}6 \times 0{,}25 - 3 \times 0{,}25 - 14{,}4 \times 0{,}25 = 6{,}3$$

$$X\,(О) = = -6{,}3 \times 0{,}25 + 30{,}1 \times 0{,}25 - 0{,}5 \times 0{,}25 - 17{,}5 \times 0{,}25 = 1{,}4$$

$$X\,(X) = = -5{,}1 \times 0{,}25 + 51{,}9 \times 0{,}25 + 1{,}6 \times 0{,}25 - 20 \times 0{,}25 = 7{,}1$$

The direction of the obtained vectors in all regions of the Black Sea region corresponds to the general tendencies achieved in Ukraine. Thus, we can talk about some, but little progress in human development in the region in general investigated by a number of studied indicators. The positive direction of the vector indicates that, in general, most of the

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indicators show positive changes. Maximum length vector in the Kherson region, indicating that the region in a number of economic indicators achieved higher results during the period studied than in other regions of the Black Sea region and the average in other regions of Ukraine.

The considered indicators in general reflect the achievements of the regions in the field of human development and indirectly determine the effectiveness of public administration in the region in comparison with the average indicators achieved in Ukraine as a whole. Of course, these indicators are not enough to fully reflect the effectiveness of management of social processes in the regions. Additional research is needed on culture and sports, landscaping, accessibility and quality of housing and communal services, security management, etc. In this regard, the methodological approaches proposed by the author provide for the possibility of introducing into the analysis and monitoring of any quantitative or qualitative indicators and indicators that allow for comparative analysis and determine the vector of development in any areas of responsibility of public authorities as levels of regions and individual territorial communities.

«Management of financial autonomy of the region should: ensure the achievement of the objectives of economic development of the region of the entire system; based on the principles of the democratization of management, which will allow the economic activity of the entire population of this area to direct the use of available reserves; organically fit into the economic, political and organizational structure of the state; be flexible, able to be rebuilt or completed, taking into account the specifics of the development of each city and district located in the region» [13].

The practice of regional governance in EU countries, where there is significant progress in the transition to sustainable development models has shown that important mechanisms that promote self-regulation of systems are mechanisms of competition, credit, social, environmental and legal regulation, productive clustering and others. The very definition of effective mechanisms of cooperation and mutual coordination of the interests of the subjects of the regional environment is an important key for launching mechanisms of self-organization.

Analyzing the experience of the EU in ensuring sustainable development of territories, it should be noted that currently for this purpose and solving certain tasks within sustainable development there are a number of specialized funds that support sustainable development projects in all territories. Among the most systemic formations can be identified:

- European Social Fund, established in 1958. The leading mission of the fund is financial program support for activities aimed at human capital development, reduction of unemployment and promotion of lifelong learning. Thus, the European Social Fund is an important instrument for investment in professional skills of European Union citizens for their adaptation to the new conditions and future needs in human capital as appropriate, it is necessary to implement the overall strategy of the EU.

- European Regional Development Fund, which finances regional infrastructure development projects to ensure transport, logistics, economic and information convergence of territories.

- The Cohesion Fund was set up in 1993 to further strengthen the Community's structural policy. The task of the fund is to finance the development of transport infrastructure and environmental projects. The Cohesion Fund aims to further converge socio-economic development indicators at the EU regional level, finance the development of transport infrastructure and environmental projects, and so on. Only those EU countries whose per capita GNP is less than 90% of the EU average are eligible for EU regional

funding from the Cohesion Fund. (Chuzhikov, 2016).

Most scientists consider the study of European best practices to improve the evaluation of the effectiveness of regional governance (Pryshchepa et al. 2020; Vyshnevska et al., 2019). and the use of economic and mathematical modeling (Popadynets et al., 2021; Melikh O. et al., 2019). Thus, ensuring synergy and balance in the processes of sustainable development of regions in developed economies is a managed and funded process that determines the goals, criteria and directions of interaction of all elements of regional systems.

Conclusion

Methodical approaches are substantiated and mathematical tools of estimation and monitoring of processes of transformation of regional social and economic systems to the model of sustainable development are offered. balanced model that combines the achievement of high achievements in the fields of economic, human development and environmental security. The result of the calculations on the selected system of indicators is to determine the current profile of the region, which illustrates the state of the economy, human development and environmental safety relative to the reference (average, target, maximum possible under these conditions) state and vector that characterize the direction and speed of the region to the implementation of the Sustainable Development Goals.

The general vector of sustainable human development is calculated for each of the regions of the Black Sea region, which illustrates the achievements in this field for the period 2015-2018. The direction of the obtained vectors in all regions of the Black Sea region corresponds to the general tendencies achieved in Ukraine. That is, we can talk about some but insignificant progress in the field of human development in the regions in general for a number of studied indicators. The positive direction of the vector indicates that in general there are positive changes in most indicators. The largest length of the vector in the Kherson region, which indicates that the region in a number of economic indicators achieved higher results during the study period than in other regions of the Black Sea region and on average in other regions of Ukraine.

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