

### **Public management and administration in the context of rural social and economic development**

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The interpretation and evolution of the concept of "public management and administration" and their role in socio-economic development of the village are studied. The preconditions for reformation of public administration system and the emergence of a "new public administration" are established.

The generalization of various approaches to the definition of the concept of "public administration" provides grounds for establishing the phenomenon of publicity, which is explained through a state dependence on its society (the public), The management, based on such dependence, is associated not only with the interests of the state, but also with satisfaction of the needs of society, its social groups, and individuals; it is based on a horizontal rather than vertical links between state institutions, business and civil society. At the same time, transparency is the fundamental principle of the organization and implementation of public authority.

The organization and functioning of state power and local self-government on the basis of this principle expands the possibilities of their interaction with the civil society through the transparency of the adoption and implementation of political and economic decisions, as well as the activation of public control over the activities of state authorities and local self-government.

As far as public management of rural development is concerned, it is a form of executive authorities and local self-government bodies activity, which is manifested in the adoption of relevant legislation, concepts, strategies and programs aimed at solving socio-economic problems in rural areas and improving the living conditions of rural residents.

It is established that the system of public management and administration of rural development should be based on demoesocial democracy, which ensures social rights of the population (to work, education, treatment, housing, recreation, pensions), provides conditions for the free self-realization of an individual.

The necessity of establishing regional centers for the development of territorial communities at higher educational establishments in the organizational and consulting support of the process of their voluntary association and socio-economic development is proved.

Training management staff able to realize the community potential and bring it to a new quality level due to having a good understanding of the specifics of Ukrainian agribusiness is rather pertinent for rural areas. Only high-level specialists can develop a strategy for community development, outline specific tasks and provide the necessary conditions for their implementation.

**Key words:** public management and administration, transparency, local government, public authorities, communities.

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### **STRUCTURAL MONITORING OF SUSTAINABLE DEVELOPMENT IN THE REGION**

Доведена необхідність здійснення систематичного аналізу соціально-економічного розвитку регіону як складової моніторингу сталого розвитку. Обґрунтовані пропозиції щодо удосконалення процесу моніторингу шляхом формування оптимального набору показників, аналіз динаміки яких сприятиме ранньому виявленню відхилень від збалансованого розвитку та швидкій реалізації комплексу заходів щодо запобігання розвитку негативних процесів. Показники, дослідження яких дає можливість досить швидко та без зайвих трудових витрат визначати відхилення від збалансованого розвитку регіону, запропоновано згрупувати наступним чином: показники економічного розвитку регіону; показники, що характеризують демографічну ситуацію в регіоні; показники матеріальної забезпеченості населення; показники соціальної напруженості; показники тиску на навколишнє природне середовище.

**Ключові слова:** сталий регіональний розвиток, моніторинг, індикатор сталого розвитку, відхилення від збалансованого розвитку.

**Problem statement.** Analysis of the fundamentals of the "Strategy for Sustainable Development "Ukraine – 2020" [1] points to the fact that almost all 62 reforms and state development programs, implementation of which is suggested within four movement vectors (of "Development", "Safety", "Responsibility" and "Pride"), are directed at overcoming the compound crisis phenomena in the state's development process. Therefore, the search for efficient methods of overcoming the crisis and eliminating its consequences, as well as anticipating and preventing internal and external threats, are topical issues of economic science.

The emphasis on the need for applying mechanisms that will facilitate the sustainable development of the regions is made in the "State Strategy of the Regional Development up to 2020" where, specifically, it is noted that formation and realization of the state policy of the regional development should be based on the principles of the system implementation of steady monitoring, analysis and rating of exogenous (external) and endogenous (internal) factors of influence on the regional development [2].

All the above considered, it is reasonable to suppose that the state anti-crisis management concept which should be based on the monitoring results of the socioeconomic development of the state and its regions is set to become the methodological grounds for effective implementation of the reforms' primary objective – implementation of European living standards in Ukraine and taking by Ukraine the dominant positions in the world.

All the above considered, it is reasonable to suppose that the concept of sustainable development, which should be based on the results of monitoring of sustainable development at the state and regional levels, should be the basis for the effective implementation of the main goal of reforms – the introduction of European standards of life in Ukraine and Ukraine's emergence of leading positions in the world. Regional levels, the main task of which is the collection, analysis and synthesis of information on indicators of sustainable development.

**Actual scientific researches and issues analysis.** To the development of a system for sustainable development monitoring are devoted the researches of N.V. Karaeva, L.O. Levchenko and Ya.M. Trokhimenko [3]. The current state of monitoring of the crisis phenomena of the socioeconomic character in the Ukrainian society has been researched by S. V. Bielai [4].

The analysis of scientific works on the subject has shown that there are currently two approaches to the formation of sustainable development indicators: the development of a single integral indicator and the construction of a individual indicators system.

To calculate the integral indicators of sustainable development, scientists use different methods. Thus, M. Z. Zgurovsky calculates the index of sustainable development as the sum of indices for three dimensions: economic, ecological and social with the corresponding weight coefficients [5]. S.A. Nesterenko defines the index of sustainable development as a geometric mean of the indices of economic, ecological and social development [6], and I.V. Goryana addsto the already mentioned indicators generalized infrastructure and innovation indicators [7]. Sh. A. Omarov estimates the sustainable development of the regions in Ukraine with the help of an integral indicator constructed based on the rank method (additive convolution of the social, economic and ecological components of the regions' development) [8]. U. S. Savkiv calculates the integral indicator of sustainable development based on the taxonomy method [9]. Kathy Winter, Mullie, defines indicators of sustainable development in the regions of Slovenia as an arithmetic average of three dimensions: economic, social and environmental [10]. It should be noted that the use of integral indicators is convenient when comparing the level of sustainable development of individual regions, but not sufficiently effective in determining the problems of sustainable development of a particular region. To this end, it is more appropriate to compare individual indicators.

Regarding the construction of the system of individual indicators, O. Yu. Churikanova and K. A. Zagorulko analyzed the system of indicators used for modeling and assessing the sustainable development of Kyiv, Kharkiv, Nikolaev, Donetsk, as well as Donetsk, Kharkiv, Rivne and Ivano-Frankivsk regions [11]. The most developed system of sustainable development indicators developed in accordance with the Sustainable Development Goals (CSRs), which were approved at the United Nations Summit on Sustainable Development in 2015, is presented in the National Report "The Objectives of Sustainable Development: Ukraine". This report highlights the national system of the CSR (86 national development goals and 172 indicators for their monitoring) [12]. It should be emphasized that there is currently no methodology and methodology for calculating a number of proposed indicators at the national level; there is no normative act that determines which central executive body is responsible for developing a monitoring procedure for the achievement of the goals of sustainable development that the executive authorities are responsible for providing the necessary information. Domestic information base is insufficient for the calculation of such number of indicators, which requires the organization and implementation of new special surveys [12, p. 173-174]. A large number of indicators also complicates the assessment of the sustainable development of the country and its regions in the dynamics, requiring significant human and material resources.

Consequently, there is an objective need for further research into the peculiarities of monitoring the sustainable development of regions in order to create an optimal system of indicators, which, on the basis of available statistical information, can determine the problems of sustainable development of a specific region of the country and make appropriate management decisions in a timely manner without unnecessary time and money costs.

**Research objective** – analysis of the socioeconomic activity of Kyiv region and development of scientifically based proposals for the improvement of the monitoring process of balanced development by formation of the optimum set of indicators, dynamical analysis of which will promote the early detection of deviations from balanced development and substantiation of managerial decisions on improving the quality of life of the population of the region.

**Research findings and discussion.** The Article 1 of the Law of Ukraine “About Fundamentals of the State Regional Policy” dated February 05, 2015 No. 156-VIII defines the term “region” as “a territory of the Autonomous Republic of Crimea, a region, cities of Kyiv and Sevastopol” [13].

Sustainable (balanced) development, as defined by C. Winter Mellie, requires finding opportunities for socio-economic progress within the existing environmental constraints or taking into account the environmental potential [10].

Sustainable Development Monitoring is a system for monitoring, analyzing and forecasting changes in the indicators of sustainable development in order to prevent the occurrence of negative consequences for the life of the population [12, p. 15-16]. The monitoring is carried out in order to investigate the real changes in the socio-economic sphere and the state of the environment in order to correct management decisions to ensure the transition of the country and its regions to sustainable development [12, p. 39].

One of the most important tasks in the process of organizing monitoring of the sustainable development of the region is the formation of an optimal set of indicator indicators, the deviation of which indicates a violation of sustainable development, which, in turn, makes it possible to quickly implement a complex of corrective measures.

Analyzing the current state of monitoring of the crisis phenomena of the socioeconomic character in the Ukrainian society, S. V. Bielai researches the indicators being used for that purpose by the State Statistics Service and the Ministry of Economic Development and Trade of Ukraine and notes that “the question related to the list of indicators defining the crisis phenomena of the socioeconomic character and to the selection of mathematical tools of forecasting deserves to be asked” [4, p.139].

It should be noted that according to the Order of the Cabinet of Ministers of Ukraine dated October 21, 2015 No.856, monitoring of the socioeconomic development of regions provide evaluation of efficiency of the state regional policy realization is carried out by calculation of the general rating score (ranking) of regions on the ground of a complex of indicators [14]. However, it is our opinion that for the purpose of the early detection of divergences from balanced development will suffice to explore a much narrower range of indicators.

The generalizing indicator characterizing the development level of the region’s economy is the Gross Regional Product (GRP). The Gross Regional Product’s dynamics of Kyiv region is contained in Fig. 1.

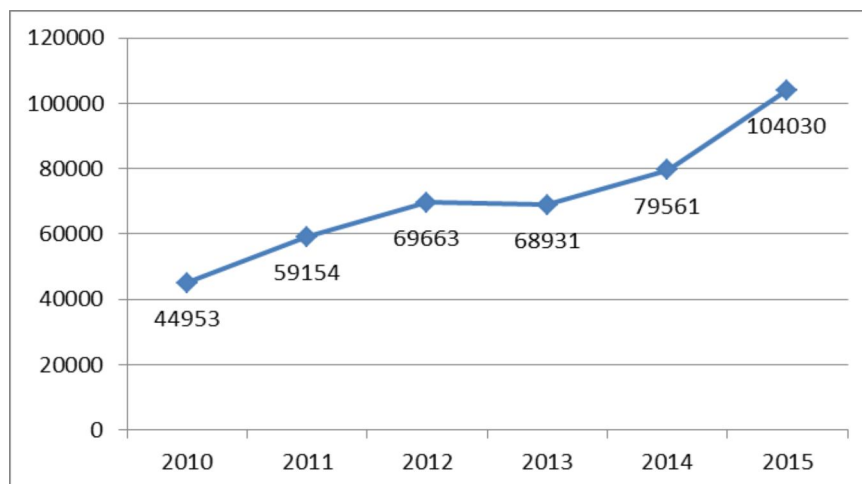


Fig. 1. Gross Regional Product’s dynamics of Kyiv region, million UAH

As Fig. 1 shows, the Gross Regional Product of Kyiv region (valuated in actual prices) increased in 2015 in comparison with 2013 by 50.92% from 68931 million UAH to 104030 million UAH. The GRP (valuated in actual prices) per capita also increased by 20121 UAH or by 50.32% from 39988 UAH in 2013 to 60109 UAH in 2015. However, that growth of the GRP is explained by a notable inflation.

As opposed to the GRP positive dynamics valuated in actual prices, change in the index of the GRP physical volume (in prices of the previous year) suggests a substantial loss of the GRP volumes (Fig. 2). Specifically, the Gross Regional Product of Kyiv region decreased in 2014 in comparison with 2013 – by 0.6%, in 2015 in comparison with 2014 – by 6%, increased in 2016 in comparison with 2015 – by 1.8%. Using the index method of calculating let the index variation for three years be defined:  $I_{grp}=0.994 \times 0.94 \times 1.018=0.95$ . Thus, the GRP decreased for 2014-2016 by 5%.

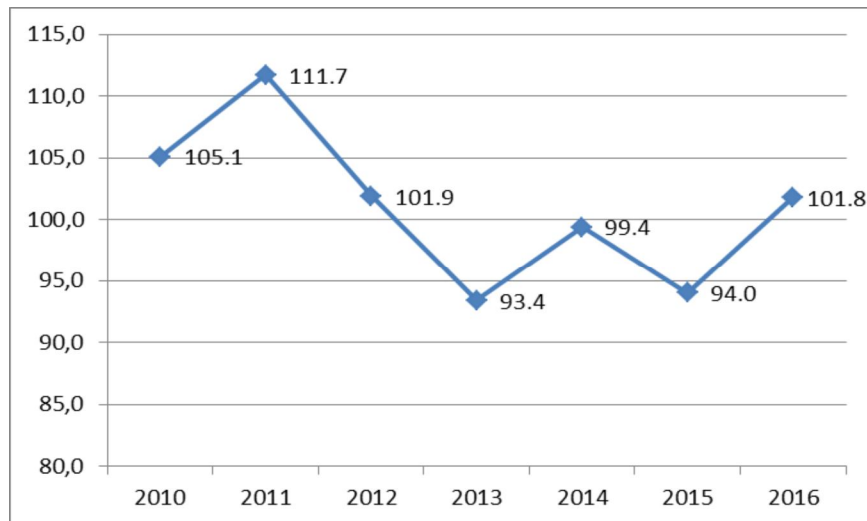


Fig. 2. Dynamics of the index of physical volume of the Gross Regional Product of Kyiv region (in prices of the previous year), %

The dynamics of key indicators of the socioeconomic development of Kyiv region is contained in Table 1. As shown in the Table data, the volume of sold industrial products (goods, services) valuated in actual prices increased in 2016 in comparison with 2013 by 35727.2 million UAH or by 54.6%. However, the index of industrial products over the period from 2014 to 2016 amounted to 100.3% ( $I_{ip}=1.016 \times 0.93 \times 1.062=1.003$ ), in other words, the real output of industrial products changed little, if at all in comparison with 2013.

The volume of executed construction works valuated in actual prices increased in 2016 in comparison with 2013 by 740.6millionUAH or by23%. The index of construction products for the period of 2014-2016 was equal to 83.9% ( $I_{cp}=0.633 \times 0.997 \times 1.33=0.839$ ), which is evidence of decreasing of volumes of construction products by 16.1% as compared with 2013.

The freight turnover increased in 2016 in comparison with 2013 by 177.5 million ton-kilometres, or by 11.4%, but it should be noted that in 2016 in comparison with 2015 the freight turnover decreased by 922.7 million ton-kilometres or by 34.7%. The passenger turnover increased in 2016 as compared with 2014 by 271.5 million passenger-kilometres or by 11.3%.

The export of goods decreased during the research period by 268.6 million USD or by 13.6%, import – by1784.6million USD or by 37.7%. The balance of foreign trade stayed negative during the whole research period and at the end of 2016 was equal to -1246.5million USD.

It is noteworthy that in 2016 the volume of goods export from Kyiv region to the countries of the European Union was equal to 523.4million USD or 30.7% of total export of the region, export ratio to the EU was increased as compared with2013 p. by 9 percentage points that is a positive trend. However, it should be noted that basic commodity composition of the export of the region was consist of plant products, animal or vegetable fats and oils, live animals; animal products, finished food products, pulp of wood or other fibrous cellulosic materials, mechanical and electrical machines, polymer materials, plastic materials and plastic products, basic metals and metal products, namely, low value-added products.

Table 1 – Key indicators of socioeconomic development of Kyiv region

Indicators	2013	2014	2015	2016	Deviationsof 2016 to 2013	
					+, -	in %
Volume of sold industrial products (goods, services), million UAH	65481.3	67533.9	84202.9	101208.5	35727.2	154.6
Index of industrial products	99.1	101.6	93.0	106.2	7.1	-
Agricultural production index	101.3	105.8	89.2	109.8	8.5	-
Volume of executed construction works, million UAH	3219.0	2234.7	2875.2	3959.6	740.6	123.0
Index of construction products	102.7	63.3	99.7	133.0	30.3	-
Freight turnover, million ton-kilometres	1558.0	1460.4	2658.2	1735.5	177.5	111.4
Passenger turnover, million passenger-kilometres	2393.8	2381.6	2339.7	2665.3	271.5	111.3
Export of goods, million USD	1973.7	1852.3	1690.4	1705.1	-268.6	86.4
Import of goods, million USD	4736.2	3759.1	2587.0	2951.6	-1784.6	62.3
Balance (+, -)	-2762.5	-1906.8	-896.6	-1246.5	1516.0	45.1
Retail turnover including turnover of individual entrepreneurs, milliard UAH	37.0	43.6	55.0	59.1	22.1	159.6
Enterprises incurred losses, as a percentage of total number of enterprises (including microenterprises)	34.1	33.7	26.3	23.6	-10.5	-
Capital investment, million UAH	19462.7	18264.1	22936.1	31057.7	11595.0	159.6
Index of capital investment at comparative prices	96.0	80.0	99.0	-	-	-
Direct investment of non-residents (stock capital and debt instruments) as of 31.12, million USD	2456.6	2129.3	2037.1	1912.3	-544.3	77.8
Consumer price index (from December till December of previous year, %)	99.9	124.7	144.3	112.2	12.3	-

Good import from the countries of the European Union amounted in 2016 to 1552.8 million USD or 52.6% of total import of the region, its ratio increased in comparison with 2013 p. only by 1.1 pct. The basic commodity composition of the import of the region was consist of mechanical and electrical machines, chemical products and related industries products, land transport vehicles, aircraft, floating craft, polymer materials, plastic materials and plastic products, that is mainly high value-added products.

Retail turnover grown during the research period by 22.08 milliard or by 59.6%.

A share of loss-making enterprises decreased during research period by 10.5 pct. from 34.1% in 2013 to 23.6% in 2016 that presents a positive trend.

Economic development is largely due to the volume of investment. The indicators characterizing investment activity at the regional level are, in particular, the volumes of capital and foreign investment. The innovative component of investment activity is extremely important.

The volume of capital investment (in actual prices) in 2016 increased in comparison with 2013 by 11595 million UAH or by 59.6%. Nevertheless, the dynamics of capital investment indices shows a decrease in capital investment in comparative prices. The main sources of financing of capital investments are the own funds of enterprises and organizations (47.9% in 2016) and funds of foreign investors (24.7%). The funds of local budgets in the total volume of capital investment of Kyiv region in 2016 amounted to 2.5%, which is 1.9. pct. more compared to 2013, that means that the share of local budgets in capital investment financing has increased.

The volume of direct investment of non-residents (stock capital and debt instruments) decreased in 2016 in comparison with 2013 by 544.3 million USD or by 22.2%. It should be noted that such a decrease occurs both by means of reducing the amount of debt instruments, and also by capital withdrawal, appraisal, losses and differences in rates.

Due to changes in the organization and conduct of state statistical observation of the innovation activity of industrial enterprises, direct comparison of data for 2015 with similar data of previous years is incorrect. Therefore, it is to be noted that the share of enterprises of Kyiv region engaged in innovations in 2015 was only 13.3% of the total number of enterprises, and the share of sold innovative products in the total volume of sales of industrial enterprises is 0.8%. For comparison: among the countries of the European Union, Portugal (26%) and Greece (29%) have the minimum indicators of innovation activity, and the countries leading in innovation activity are the Netherlands (62%), Austria (67%), Germany (69%), Denmark (71%) and Ireland (74%) [15]. Consequently, the development of

world economy indicates that it is the innovation activity that is the main factor of economic growth. And low indicator of innovation activity shows low competitiveness of both a region and a country.

The consumer price index in 2016 amounted to 112.2%, compared with 2015 it decreased by 32.1% pct., it means that the inflation rate has slowed down.

The index of agricultural production also fluctuated during the research period, but growth for 2014-2016 was 3.6% ( $I_{acp}=1.058 \times 0.892 \times 1.098=1,036$ ). At the same time, the volume of crop production increased by 11% ( $I_{cp}=1.095 \times 0.854 \times 1.187=1.11$ ), while the volume of livestock production decreased by 8.3% ( $I_{lsp}=0,998 \times 0,962 \times 0,955=0.917$ ).

The dynamics of agricultural output in 2013-2016 in Kyiv region is shown in Table 2.

Table 2 – The dynamics of production of the main types of agricultural products in Kyiv region during 2013-2016

Indicators	2013	2014	2015	2016	2016 in % to 2013
Agricultural production index	101.3	105.8	89.2	109.8	-
Crop production index	101.1	109.5	85.4	118.7	-
Livestock production index	101.8	99.8	96.2	95.5	-
Agricultural crop production, thousand centners					
- cereals and leguminous crops	33429.6	33615.5	28200.0	33275.4	99.54
- sunflower seeds	2970.7	3009.1	2921.3	4526.3	152.36
- sugar beets	7026.6	13287.4	8821.3	11238.2	159.94
- potato	14922.6	17948.0	14335.9	17031.1	114.13
- vegetables	5463.0	5683.5	5111.9	6310.6	115.52
- fruits and berries	876.3	778.8	714.5	692.7	79.05
Livestock production					
- meat (in slaughter weight), thousand tones	240.9	235.3	216.1	198.7	82.48
- milk, thousand tones	475.9	467.0	446.3	438.0	92.04
- eggs, million pcs.	2545.3	2712.0	2743.2	2839.7	111.57

The analysis of the table shows that in 2016, compared with 2013, sugar beet production (by 59.94%), sunflower seeds (by 52.36%) increased the most, and the volumes of cereals and leguminous crops were almost unchanged, the volumes of fruits and berries production decreased (by 20.95%).

The production of meat (in slaughter weight) decreased by 17.52%, of milk – by 7.96%. This is because of reduction of cattle and pigs during the research period (Table 3). In particular, the cattle population reduced in 2016 in comparison with 2013 by 13.03%, including the number of cows – by 15.6%. The number of pigs declined by 6.28%. The number of sheep and goats increased by 13.75% and the number of poultry – by 6.74%.

Within the scope of the monitoring of socioeconomic development of the region as a component of the anti-crisis management, it is appropriate to consider more thoroughly the indicators of the material security of the population and indicators of social strain.

Table 3 – Number of farm animals in all categories of farms of Kyiv region at the end of the year, thousand heads

Indicators	2013	2014	2015	2016	2016 in % to 2014
Cattle	146.6	135.8	134.3	127.5	86.97
including cows	76.9	73.2	68.6	64.9	84.40
Pigs	485.3	527.7	466.9	454.8	93.72
Sheep and goats	29.1	28.1	30.6	33.1	113.75
Poultry	25779.2	27336.1	28148.6	27517.9	106.74

As part of monitoring sustainable development of the region should be more thoroughly considered indicators of financial performance and availability of social tension.

We will analyze the indicators of the material security of the population of Kyiv region (Table 4). As Table 4 shows, the total household resources of Kyiv region on average per month per household at current prices increased in 2016 compared to 2013 by 1552.35 UAH or by 34.8%. At the same time, total income increased during the research period by 1558.84 UAH. or by 35.4%.

In the structure of total resources, the share of money income decreased by 2.8 pct. while the share of non-cash benefits and subsidies for the payment of housing and communal services, electricity, and fuel increased by 3.4 pct. These trends are negative, as in the structure of incomes the share of social component has increased and the share of income forming as a result of economic activity has decreased.

Table 4 – Total household resources of Kyiv region

Indicators	2013	2014	2015	2016	2016 p. +, – to 2013
<b>Total resources on average per month per household, UAH</b>	4461.18	4689.07	5505.96	6013.53	1552.35
<b>Structure of total household resources</b>	Per cents				
Money income	92.3	92.4	91.8	89.5	-2.8
- remuneration of labour	54.6	54.6	57.8	53.9	-0.7
- income from entrepreneurship and self-employment	4.2	3.6	1.3	4.8	0.6
- proceeds from the sale of agricultural products	3.6	2.9	2.9	2.1	-1.5
- pensions, scholarships, social assistance provided in cash	25.8	27.7	25.7	24.5	-1.3
- cash assistance from relatives, other persons and other cash income	4.1	3.6	4.1	4.2	0.1
Cost of consumed products received from personal auxiliary farms and from self-procurements	4.4	4.6	4.7	4.5	0.1
Non-cash benefits and subsidies for payment for housing and communal services, electricity, and fuel	0.5	0.4	1.4	3.9	3.4
Non-cash benefits for payment for goods and health care services, tourist services, vouchers for recreation centres, etc., for payment for transport services, communications	0.4	0.2	0.2	0.2	-0.2
Other proceeds	2.4	2.4	1.9	1.9	-0.5
For reference: total revenues, UAH	4409.12	4630.11	5450.29	5967.96	1558.84
Average monthly wage of one employee					
- nominal, UAH	3351	3489	4153	5229	1878
- real, % to the previous year	107.2	91.8	78.0	112.1	4.9
Arrears in wages, million UAH	147.8	126.6	122.8	121.4	-26.4
Real disposable income (in% to the previous year)	104.2	92.3	77.8	104.6	0.4

As for the real total household resources, we will calculate their change using the formula:

$$I_{r.t.h.r.} = \frac{I_{n.t.h.r.}}{I_{c.p.}}, \quad (1)$$

where  $I_{r.t.h.r.}$  – index of real total households resources;  
 $I_{n.t.h.r.}$  – index of nominal total households resources;  
 $I_{c.p.}$  – index of consumer prices.

In 2016 in comparison with 2013 nominal total household resources increased by 1.348 times.  
 Calculate the consumer price index for 2014-2016:

$$I_{c.p.} = 1.247 \times 1.443 \times 1.122 = 2.019$$

Calculate the index of real total household resources:

$$I_{r.t.h.r.} = \frac{1.348}{2.019} = 0.668$$

That is, the real total household resources decreased in 2016 in comparison with 2013 by 33.2%.

Among the households' money incomes the largest share falls on wages. The nominal average monthly wage of one staff member increased during the research period by 1878 UAH or by 56%, while the real wage, according to the data of the Main Department of Statistics in Kyiv region in 2016, decreased by 19.7% compared to 2013, as the real wage index for three years was ( $I_w = 0.918 \times 0.78 \times 1.121 = 0.803$ ).

The arrears in wages decreased by 26.4 million UAH or by 17.9% during the research period. The main share of the debt fell on transport enterprises (more than 90%). At the beginning of December

2016, the number of employees who were not paid their wages was 3.2 thousand people, or 0.9% of the total number of staff members employed in economics of the region. It was not paid to each of them at an average of 2666 UAH.

It should be emphasized that the decrease in real incomes leads to a deterioration in the quality of life of the population and increases the protest attitudes in the society.

To the indicators of social strain, besides the arrears in wages, S. V. Bielai refers the number of unemployed people (according to the ILO methodology), the unemployment rate (according to the ILO methodology), registered unemployed people in accordance with the current legislation, the rate of registered unemployment, discharge of employees for economic reasons, the indebtedness of the population for payment of housing and communal services; the number of staff members in compulsory part-time employment [4].

Before analyzing the indicators of social strain, we will analyze the demographic situation in Kyiv region (Table 5).

Table 5 – Demographic situation in Kyiv region

Indicators	2013	2014	2015	2016	2016 in % to 2013
Number of available population (as assessed) at the end of the year, thousand persons, including:	1725.5	1729.2	1732.2	1734.5	100.52
- urban	1070.2	1075.2	1078.0	1077.9	100.72
- rural	655.3	654.0	654.2	656.6	100.20
Number of resident population (as assessed) at the end of the year, thousand persons, including:	1719.7	1723.5	1726.5	1728.7	100.52
- men	795.7	797.0	797.2	797.2	100.19
- women	924.0	926.5	929.3	931.5	100.81
Distribution of resident population by separate age groups, thousand persons:					
- 0-15 years old	278.4	286.0	293.6	300.5	107.94
- 16-59 years old	1078.1	1072.4	1065.9	1058.2	98.15
- 60 and older	363.2	365.1	367.0	370.0	101.87
Total growth, reduction (-) of population, persons	3426	3756	3001	2236	65.27
Natural growth, reduction (-) of population, persons	-6687	-7364	-8224	-9166	137.07
Migration growth, reduction (-) of population, persons	10113	11120	11225	11402	112.75

As the tables show, the average number of available and resident population of Kyiv region during the research period increased by 0.52%. However, the indicated growth has only been achieved due to migration growth of the population, which increased in 2016 in comparison with 2013 by 12.75%. As we see, the natural reduction of the population (due to excess of deaths over births) during the research period increased by 37.07%. A positive trend is the suspension in 2015, and then the gradual growth in 2016 of the number of rural population of the region (by 2.4 thousand persons). It's worth paying attention to the reduction of the number of able-bodied population of the region aged 16-59 years old by 1.85% or by 19.9 thousand persons during the research period and the growth of the number of population aged 60 and over by 1.87% or by 6,8 thousand persons.

The economic activity of the population is presented in Table 6.

Table 6 – Economic activity of the population of Kyiv region (at the age of 15-70 years old, thousand persons)

Indicators	2013	2014	2015	2016	2016 in % to 2013
Economically active	807.8	786.9	790.6	789.8	97.77
incl. engaged in economic activity	758.4	724.3	739.9	736.3	97.09
the unemployed (according to the ILO methodology)	49.4	62.6	50.7	53.5	108.30
Unemployment rate in% (according to the ILO methodology)					
at the age of 15-70 years old	6.1	8.0	6.4	6.8	-
of able-bodied age	6.4	8.1	6.5	6.9	-



As shown in the table, the number of unemployed people in Kyiv region (according to the ILO methodology) grew, during the research period, by 4.1 thousand persons or by 8.3%, unemployment rate – by 0.7%. pct.

The registered unemployment rate in Kyiv region by the place of residence and gender is shown in Table 7. Comparing the data of tables 6 and 7, we can see that the registered unemployment rate in Kyiv region is significantly lower than the unemployment rate, determined by the ILO methodology. Thus, the rate of registered unemployment in 2016 amounted to 1.5% of the total population of able-bodied age. The number of registered unemployed people decreased during the research period by 500 persons or by 3.1% (from 16.1 thousand persons at the end of December 2013 to 15.6 thousand persons at the end of December 2016).

During 2013-2015, the majority of registered unemployed people were women (at the end of 2015 – 58.3%), however, in 2016 the share of unemployed women decreased by 8.6 pct. The anxiety is caused by the fact that about 40% of the unemployed during the research period were young people under the age of 35. It should also be noted that 83.0% of unemployed people received unemployment benefits, the average amount of assistance in December 2016 was 2452 UAH, which is equal to 153.3% of the statutory minimum wage (1600 UAH) during this period. Among the registered unemployed who sought employment through a state employment service in 2016, 47.6% had previously held positions of office employees, 41.2% were workers, 11.2% were persons without a profession or those who occupied work places not requiring special training. According to the enterprises, the number of vacancies and vacant posts at the end of December 2016 amounted to 2.3 thousand. The largest number of vacancies was observed in Bila Tserkva district – 559 posts. The load of the registered unemployed in state employment service for one vacancy in the region in December 2016 was 7 persons. By professional groups, the highest demand for labour force was observed for skilled workers with a tool (22.6% of the number of vacancies at the end of December 2016).

Table 7 – The registered unemployment rate in Kyiv region by the place of residence and gender (at the end of December)

Indicators	2013.	2014	2015	2016	2016 +, - to 2013
Number of the registered unemployed, thousand persons	16.1	19.7	20.1	15.6	-0.5
of the total number of the unemployed					
- women,%	55.7	56.3	58.3	49.7	-6.0
- youth under the age of 35,%	43.2	43.9	41.6	39.0	-4.2
Rate of registered unemployment (to the population of able-bodied age)	1.5	1.9	1.9	1.5	0.0
- urban settlements	1.4	1.8	1.7	1.3	-0.1
- rural area	1.8	2.1	2.1	1.8	0.0

As for the staff members of Kyiv region who were in forced underemployment, the number of workers on unpaid leaves (for the period of termination of work) decreased from 5.1 thousand persons in 2013 to 3.1 thousand in 2015, but the number of staff members under a part-time working day (week) because of economic reasons increased by 18.8% from 18.1 thousand persons to 21.5 thousand persons, respectively, their share in the average number of staff members in 2015 was 6.2%.

The indebtedness of the population for the payment of housing and communal services is shown in Table 8.

Table 8 – Payment for housing and communal services by the population of Kyiv region

Indicators	2013	2014	2015	2016	2016 in % to 2013
Accrued to the population to be paid for housing and communal services from the beginning of the year, million UAH	2039.2	2195.5	3190.3	4820.5	236.39
Paid by the population, million UAH	2008.9	2092.2	3149.5	4095.3	203.86
Level of payment (including payment of indebtedness for the previous period), %	98.5	95.3	98.7	85.0	-
Indebtedness of the population for payment for housing and communal services in December, million UAH	566.5	651.1	551.1	1446.4	255.32

According to the data of Table 8, the indebtedness of the population for payment of housing and communal services during the research period increased by 2.55 times and was 1446.4 million UAH by the end of 2016. The level of payment by the population for housing and communal services in 2016 amounted to 85.0% of the accrued amounts in the current year (including payment of indebtedness for previous periods) or 76.7% of the total amount of accruals (taking into account the debts of past years). The largest share of the indebtedness is 68.8% or 995.2 million UAH. This is the indebtedness of the population for gas supply.

In our opinion, it should also pay attention to the aggravation of the criminal situation in Kyiv region. Thus, in 2013, the number of registered criminal offences in the cities and districts of the region (according to the Prosecutor's Office of Kyiv region) amounted to 17.5 thousand, of which the grave and especially grave offences were 37.1%, in 2016 – 29.1 thousand and 45.7% respectively. That means that the number of registered criminal offences increased during the research period by 66.3%, and the grave and especially grave offences – by 2.05 times. It should be noted that crimes against property in 2016 amounted to 65.6% of the total number of registered criminal offences, while in 2013 – 55.3%. The share of able-bodied persons, suspected of committing crimes, who at the time of the crime did not work and did not study, in 2016 was 57.8%, of the unemployed – 16.7%.

As part of sustainable region development monitoring it is also necessary to consider indicators that characterize the pressure on the natural environment caused by the population and its economic activity (Table 9).

Table 9 – Impact on the environment of economic activity

Indexes	2013	2014	2015	2016	2016 in % to 2013
<b>Pollution of atmospheric air</b>					
Emissions of pollutants into the atmosphere, total, thousand tons	277,3	252,1	203,6	...	-
including stationary sources	111,9	96,2	78,1	98,2	87,76
mobile sources	165,4	155,9	125,5	...	-
Emissions of pollutants into the air from stationary sources of pollution in the calculation					
- 1 km2 (t)	4	3,4	2,8	3,5	87,50
- per person (kg)	64,9	55,7	45,1	56,7	87,37
Emissions of carbon dioxide, total, million tons	8,7	7,7	6,2	...	-
including stationary sources	6,5	5,7	4,6	5,0	76,92
mobile sources	2,2	2,0	1,6	...	-
<b>Formation and management of waste, ths. t</b>					
Waste is generated	2427,8	1272,1	1660,5	1561,3	64,31
Recycled	536,5	94,4	127,3	53,9	10,05
Burned	18,7	22,0	20,5	19,9	106,42
Wheeled in specially assigned places or objects	1578,2	1417,7	1283,6	1393,2	88,28
Total amount of waste accumulated during operation in specially designated places or sites (waste disposal sites)	41702,5	41502,9	44171,5	45429,3	108,94
<b>Use of water resources</b>					
Water collection from natural water bodies, million m3	1008	911	722	680	67,46
per person, m3	584,8	527,4	417,2	392,3	67,08
Water losses during transportation, million m3	8	8	10	10	125,00
Reduced return water in surface water objects, million m3	771	724	667	624	80,93
Discharged contaminated return water in surface water objects, million m3	3	2	4	5	166,67

The analysis of the table shows that in 2016, compared with 2013, emissions of pollutants into the air from stationary sources decreased by 12.24%, carbon dioxide emissions – by 23.08%, 35.69% less waste was generated, on 32.54% decrease in water intake from natural water bodies, but this is due, first of all, to a decrease in production volumes. For one inhabitant of the Kyiv region in 2016 there were 56.7 kg of pollutant emissions into the air, which is 11.6 kg more than in 2015; the total amount of waste accumulated during operation in specially designated places or facilities increased during the period under investigation by 3726.8 thousand tons or 8.94%; the volume of discharged polluted return water in surface water objects

has increased by 2 million m<sup>3</sup> or by 66.67%. The given data convincingly testify to the deterioration of the ecological situation in the Kyiv region during the investigated period. It should also be remembered that the revival of economic activity will certainly increase the pressure on the environment.

Thus, the analysis of the socioeconomic development of Kyiv region as a component of the monitoring of the sustainable development, gives an opportunity to make the following conclusions:

- in 2013-2016, the economic development of the region was characterized by a decline in industrial production; decrease in the volume of goods export, executed construction works; reduction of investment resources; rise in prices;
- the real total household resources of Kyiv region decreased in 2016 compared to 2013 by 33.2%. Reduction of real incomes, including real wages, leads to a deterioration in the quality of life of the population and increases protest attitudes in the society;
- during the research period, the number of the unemployed in Kyiv region (according to the ILO methodology) grew by 4.1 thousand persons or by 8.3%, the unemployment rate – by 0.7% pct. from 6.1% in 2013 to 6.8% at the end of 2016. Of particular concern is the fact that about 40% of the registered unemployed during the entire research period were young people under the age of 35;
- decline in the economy, rise in unemployment, and decrease in the real total household resources leads to an increase in indebtedness of the population for payment for housing and communal services and aggravation of the crime situation;
- the ecological situation in the region during the investigated period has deteriorated, in particular, the total amount of waste accumulated during operation in specially designated places or objects has increased by 3726.8 thousand tons or 8.94%; the volume of discharged polluted return water in surface water objects has increased by 2 million m<sup>3</sup> or by 66.67%. With the recovery of the economic situation, the pressure on the environment will increase.

The generalized results of the analysis of the socio-economic development of the Kiev region make it possible to conclude that deviations from balanced development, deepening of crisis phenomena and the growth of social tensions in the region.

**Conclusions.** To monitor the socioeconomic development of the region for the purpose of early detection of the deviations from balanced development, it is necessary to have simple but effective mechanisms that would allow to assess changes in the level of socioeconomic development of the region and the quality of life of the population, as well as social strain in the society and the environmental situation on the basis of statistical data.

The number of indicators should be minimal, but sufficiently reflect the processes that occur in the region. The main requirements for indicators of sustainable development are simplicity of interpretation, quantitative certainty, and sensitivity to changes.

Such indicators are to be appropriately grouped as follows:

1) indicators of the economic development of the region: the index of physical volume of the Gross Regional Product in the prices of the previous year; the index of industrial products; the index of agricultural production; the export and import of the goods in millions of USD; the share of loss-making enterprises; the index of capital investment at comparative prices; the volume of direct investment of non-residents in millions of USD; the consumer price index; the share of enterprises engaged in innovations;

2) the indicators characterizing the demographic situation in the region: the number of available population at the end of the year, including urban and rural one; total and natural growth (reduction) of the population; distribution of resident population by separate age groups (0-15 years old, 16-59 years old, 60 years and older);

3) the indicators of material security of the population: the index of real wages; the arrears in wages; consumer price index;

4) the indicators of social strain: the unemployment rate (according to the ILO methodology); the number of staff members who were in forced underemployment; the level of payment by the population for housing and communal services; the number of registered criminal offences, including grave and especially grave ones.

5) indicators of pressure on the environment: emissions of pollutants into the atmosphere; total amount of waste accumulated during operation in specially designated places or objects (places of waste disposal); volume of dumped contaminated return water in surface water objects.

The conducted research shows that the analysis of the dynamics of the above indicators allows to determine the trends of the region's development rather quickly and without unnecessary labor costs,

to make predictions on the basis of which to make informed management decisions regarding correction of detected deviations from balanced development.

#### СПИСОК ЛІТЕРАТУРИ

1. Про Стратегію сталого розвитку «Україна – 2020»: Указ Президента України від 12.01.2015 р. № 5/2015 [Електронний ресурс]. – Режим доступу : <http://zakon5.rada.gov.ua/laws/show/5/2015>
2. Про затвердження Державної стратегії регіонального розвитку на період до 2020 року: Постанова Кабінету Міністрів України від 6 серпня 2014 р. № 385 [Електронний ресурс]. – Режим доступу : <http://zakon4.rada.gov.ua/laws/show/385-2014-%D0%BF>
3. Караєва Н. В. Методологія розробки системи моніторингу рівня сталого розвитку та економічної безпеки України / Н. В. Караєва, Л. О. Левченко, Я. М. Трохименко // Управління розвитком складних систем : 36. наук. праць. – 2011. – Вип. 5. – С. 111-116.
4. Белай С. В. Механізми державного врегулювання кризових явищ соціально-економічного характеру в Україні : дис. на здобуття наук. ступеня доктора наук з державного управління за спеціальністю 25.00.02 «Механізми державного управління» / С. В. Белай. – Харків, 2015. – 492 с.
5. Згуровський М. З. Україна в глобальних вимірах сталого розвитку / М. З. Згуровський // Дзеркало тижня. – 2006. – № 19(598). – С. 46-49.
6. Нестеренко С. А. Оцінка сталого розвитку Запорізької області / С. А. Нестеренко // Науковий вісник Херсонського державного університету. Серія «Економічні науки». – 2015. – Вип. 10 (Ч. 3). – С. 78-80.
7. Горяна І. В. Формування методики оцінювання сталості розвитку регіонів / І. В. Горяна // Економічний аналіз : зб. наук. праць / Тернопільський національний економічний університет; редкол. : С. І. Шкарабан (голов. ред.) та ін. – Тернопіль : Видавничо-поліграфічний центр Тернопільського національного економічного університету «Економічна думка», 2013. – Том 14. – №1. – С. 59-63.
8. Омаров Ш. А. Огли Оцінка сталого розвитку регіонів / Ш. А. Омаров // Проблеми економіки. – 2014. – №3. – С. 139-150.
9. Савків У. С. Інтегральна оцінка сталого розвитку регіону / У. С. Савків // БІЗНЕСІНФОРМ. – 2012. – №1. – С. 45-50.
10. Katja Vintar Mally Regional differences in Slovenia from the viewpoint of achieving Europe's sustainable development // Acta geographica Slovenica, 58-2, 2018, 31-46.
11. Чуріканова О. Ю. Аналіз індикаторів сталого розвитку / О. Ю. Чуріканова, К. А. Загорюлько // Економіка та держава. – 2017. – №2. – С. 56-60.
12. Цілі сталого розвитку: Україна: національна доповідь / Міністерство економічного розвитку і торгівлі України, 2017. – 176 с.
13. Про засади державної регіональної політики: Закон України від 05.02.2015 р. № 156-VIII [Електронний ресурс]. – Режим доступу : <http://zakon3.rada.gov.ua/laws/show/156-19/paran6#n14>
14. Про затвердження Порядку та Методики проведення моніторингу та оцінки результативності реалізації державної регіональної політики: Постанова Кабінету Міністрів України від 21.10.2015 № 856 [Електронний ресурс]. – Режим доступу : <http://zakon2.rada.gov.ua/laws/show/856-2015-%D0%BF/page>
15. Про рекомендації парламентських слухань на тему: «Стратегія інноваційного розвитку України на 2010-2020 роки в умовах глобалізаційних викликів»: Постанова Верховної Ради України від 21 жовтня 2010 р. № 2632-VI [Електронний ресурс]. – Режим доступу: [www.zakon.rada.gov.ua/cgi-bin/laws/main.cgi?nreg=2632-17](http://www.zakon.rada.gov.ua/cgi-bin/laws/main.cgi?nreg=2632-17)

#### REFERENCES

1. Ukaz Prezidenta Ukrainy "Pro Stratehiiu staloho rozvytku "Ukraina – 2020" [The Decree of the President of Ukraine "On the Strategy for Sustainable Development "Ukraine – 2020"]. (n.d.). zakon.rada.gov.ua Retrieved from <http://zakon5.rada.gov.ua/laws/show/5/2015> [in Ukrainian].
2. Postanova Kabinetu Ministriv Ukrainy "Pro zatverdzhennia Derzhavnoi stratehii rehional'noho rozvytku na period do 2020 roku" [Resolution of the Cabinet of Ministers of Ukraine "On adoption of the State Strategy of Regional Development up to 2020"]. (n.d.). zakon.rada.gov.ua Retrieved from <http://zakon4.rada.gov.ua/laws/show/385-2014-%D0%BF> [in Ukrainian].
3. Karaeva, N. V., Levchenko, L. O. & Trochymenko, Ya. M. (2011). Metodolohiia rozrobky systemy monitorynhu rivnia staloho rozvytku ta ekonomichnoi bezpeky Ukrainy [Methodology for developing a system for monitoring the level of sustainable development and economic security of Ukraine]. Upravlinnia rozvytkom skladnykh system – Management of complex systems development: Zb. sciences works, 5, 111-116 [in Ukrainian].
4. Bielaj, S. V. (2015). Mekhanizmy derzhavnoho vrehuliuвання kryzovykh iyavsch sotsial'no-ekonomichnoho kharakteru v Ukraini [Mechanism of state regulation of crisis phenomena of socioeconomic nature in Ukraine]. Doctor's thesis. Kharkiv: NANGU [in Ukrainian].
5. Zgurovsky, M. Z. (2006). Ukraina v hlobal'nykh vymirakh staloho rozvytku [Ukraine in the Global Dimensions of Sustainable Development]. Dzerkalo tyzhnia – Dzerkalo Tyzhnya, 19 (598), 46-49 [in Ukrainian].
6. Nesterenko, S. A. (2015). Otsinka staloho rozvytku Zaporiz'koi oblasti [Assessment of Sustainable Development of Zaporizhzhya Oblast]. Naukovyj visnyk Khersonskoho derzhavnoho universytetu. Serii «Ekonomiczni nauky». – Scientific Bulletin of Kherson State University. Series "Economic Sciences", 10 (Ch.3), 78-80 [in Ukrainian].
7. Goryana, I. V. (2013). Formuvannia metodyky otsiniuvannia stalosti rozvytku rehioniv [Formation of a Methodology for Assessing the Sustainability of Regions Development]. Ekonomichnyj analiz – Economic Analysis: Sb. sciences works, Vol. 14 (No. 1), 59-63 [in Ukrainian].
8. Omarov, S. A. Ogly (2014). Otsinka staloho rozvytku rehioniv [Assessment of Sustainable Development of Regions]. Problemy ekonomiky – Problems of Economics, 3, 139-150 [in Ukrainian].
9. Savikov, U. S. (2012). Intehral'na otsinka staloho rozvytku rehionu [Integral assessment of sustainable development of the region]. BIZNESINFORM – BUSINESSINFORM, 1, 45-50 [in Ukrainian].

10. Vintar Mally, K. (2018). Regional differences in Slovenia from the perspective of achieving sustainable development. *Acta geographica Slovenica*, 58-2, 31-46.

11. Churikanova, O. Yu. & Zagorulko, K. A. (2017). Analiz indyktoriv staloho rozvytku [Analysis of indicators of sustainable development]. *Ekonomika ta derzhava – Economy and the state*, 2, 56-60 [in Ukrainian].

12. Tsili staloho rozvytku: Ukraina : natsional'na dopovid' [Sustainable Development Goals: Ukraine: National Report]. (2017). Kyiv: Ministry of Economic Development and Trade of Ukraine [in Ukrainian].

13. Zakon Ukrainy "Pro zasady derzhavnoi rehional'noi polityky" [The Law of Ukraine "On Principles of the State Regional Policy"]. (n.d.). zakon.rada.gov.ua Retrieved from <http://zakon3.rada.gov.ua/laws/show/156-19/paran6#n14> [in Ukrainian].

14. Postanova Kabinetu Ministriv Ukrainy "Pro zatverdzhennia Poriadku ta Metodyky provedennia monitorynha ta otsinky rezul'tatyvnosti realizatsii derzhavnoi rehional'noi polityky" [Resolution of the Cabinet of Ministers of Ukraine "On approval of the Procedure and Technique of Carrying out Monitoring and Assessment of Effectiveness of Realization of the State Regional Policy"]. (n.d.). zakon.rada.gov.ua Retrieved from <http://zakon2.rada.gov.ua/laws/show/856-2015-%D0%BF/page> [in Ukrainian].

15. Postanova Verkhovnoi Rady Ukrainy "Pro rekomendatsii parlaments'kykh slukhan' na temu: "Stratehiia innovatsijnoho rozvytku Ukrainy na 2010-2020 roky v umovakh hlobalizatsijnykh vyklykiv" [Resolution of the Verkhovna Rada of Ukraine "On recommendations of the parliamentary hearings on the topic: "Strategy of Innovative Development of Ukraine for 2010-2020 in the Context of Globalization Challenges"]. (n.d.). zakon.rada.gov.ua Retrieved from <http://zakon.rada.gov.ua/cgi-bin/laws/main.cgi?nreg=2632-17> [in Ukrainian].

#### **Составляющие мониторинга устойчивого развития региона**

**Гринчук Ю. С., Коваль Н. В.**

В статье доказана необходимость осуществления систематического анализа социально-экономического развития региона как составляющей мониторинга устойчивого развития. Обоснованы предложения по усовершенствованию процесса мониторинга путём формирования оптимального набора показателей, анализ динамики которых будет способствовать раннему выявлению отклонений от сбалансированного развития и быстрой реализации комплекса мероприятий по предотвращению развития негативных процессов. Показатели, исследование которых даёт возможность достаточно быстро и без лишних трудовых усилий определить отклонения от сбалансированного развития региона, предложено сгруппировать следующим образом: показатели экономического развития региона; показатели, которые характеризуют демографическую ситуацию в регионе; показатели материального обеспечения населения; показатели социальной напряжённости; показатели давления на окружающую природную среду.

**Ключевые слова:** устойчивое региональное развитие, мониторинг, индикатор устойчивого развития, отклонения от сбалансированного развития.

#### **Structural monitoring of sustainable development in the region**

**Hrynychuk Y. S., Koval N.**

The article proves the necessity of carrying out a systematic analysis of the socio-economic development of the region as a component of monitoring sustainable development and justifies the proposals for improving the monitoring process by forming an optimal set of indicators, the analysis of dynamics of which will facilitate the early detection of deviations from balanced development and the rapid implementation of a set of measures to prevent the development of negative processes. Indicators, the study of which allows a fairly rapid and unnecessary labor cost to determine deviations from the balanced development of the region, is proposed to group as follows: indicators of economic development of the region; indicators characterizing the demographic situation in the region; indicators of material security of the population; indicators of social tension; indicators of pressure on the environment.

**Key words:** sustainable regional development, monitoring, indicator of sustainable development, deviation from balanced development.

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#### **FEATURES OF REPRODUCTION AND USE OF HUMAN CAPITAL IN THE AGRICULTURAL SECTOR**

Розглянуто основні чинники формування та відтворення людського капіталу на основі теоретичних досліджень представників різних економічних шкіл. Наведено наукове обґрунтування елементів теорії людського капіталу, що відображає соціально-економічні елементи формування здібностей людини до праці.

З урахуванням досвіду минулих епох та опрацьованих наукових робіт вітчизняних і зарубіжних учених з цієї тематики, було досліджено сутність категорії людського капіталу у вузькому та широкому змісті, а також проведено її порівняльний аналіз. Сформульовано визначення даної категорії, з можливістю використання її в практиці оціню-