

# Analysis of Indicators of Sustainable Development Goals for Rural Areas of Russia

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## ABSTRACT

Sustainable rural development is a global problem. The importance of this issue lies in the fact that economically sustainable and socially developed rural territories guarantee stability, independence and food security of the state, therefore the direction of their development becomes a national policy priority. The solution to this scientific problem is the emergence of a new area in scientific research of sustainable rural development by substantiating the necessary conceptual framework and determining the indicators of rural development in accordance with the goals of sustainable development.

**Keywords:** *sustainable development of rural areas, sustainable development goals, non-economic factors, indicators of sustainable development of rural areas*

## 1. INTRODUCTION

Sustainable development issues were first presented at a United Nations session through the «Brundtland commission» (World Commission on Environment and Development) in 1987. Subsequently, the issues of sustainable development were repeatedly reviewed, for instance, such issues as rational use of natural resources and improving the well-being of living people without harming future generations were voiced at the UN Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992, where the necessity for the entire world community to move to the path of sustainable development was proclaimed [1]. It is obvious that the world's regenerative potential is overburdened, and natural capital becomes a limiting factor for current and future human activities. In 2012, the UN Conference decided to create a Working Party and in 2015 this team presented recommendations with the view of determining 17 Sustainable Development Goals and reflected them in the final document «Transforming our world: the 2030 Agenda for Sustainable Development».

The term «sustainable development» was first used in the report «Our common future» at a session of the UN World Commission on Environment and Development headed by Gro Harlem Brundtland. According to the report, sustainable development is «not a fixed state of harmony, but rather a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are made consistent with future as well as present needs» [2]. At the same time the concept of «sustainable

development» emerged as an economic category, but scientists and researchers did not agree on this term. However, most of them understand the basic principle of sustainable development as the movement of society to the future on the basis of reasonable compromises in the interactions between society and nature, as well as among individuals. A more specific definition of the term «sustainable development» is given by O. Dreyer and V. Los, who note that «this is economic growth ensuring meeting the material and spiritual needs of both present and future generations, while maintaining a balance of historically formed ecosystems; a base of a «sustainable civilization» [3]. The World Bank experts suggested a practical meaning of the sustainable development as «managing the total capital of society in the interests of preserving and enriching human capabilities» [4]. The main controversy in the global economic science regarding the concept of «sustainable development» is mainly dedicated to the search of means to attain the objective (to ensure sustainable development of society while preserving existing resources). The scientific research into sustainable development is mainly based on scientific papers of some scientists, both Russian (Agafonov N. T., Belov A. A., Gorshkov V. G., Golubev V. S., Danilov-Danilyan V. I., Islyayev R. A., Kondratiev K. Ya., Kostyaev A. I., Lukyanchikov N. N., Makarov S. V., Merzlov A.V., Myagkov S. M., Tarasov V. V., Sokolov O. A., Ursul A.D., Chernikov V. A., Shanovalova N. P., etc.) and foreign (Bryson T., Meadows D. H., Meadows D. L., North K., Randers I.).

## 2. GOALS AND OBJECTIVES

The goal of the work is to determine indicators of sustainable development of rural areas in accordance with the requirements of the Sustainable Development Goals. The implementation of this goal involves achieving the following objectives:

- to define the objectives of sustainable development of rural territories;
- analyze the formation of indicators for sustainable rural development goals;
- analyze the contribution of agricultural production to the gross regional product.

## 3. BACKGROUND

Russia is working hard to implement the Sustainable Development Goals adopted by the UN General Assembly in 2015. In particular, the country cooperates with international organizations of the UN system, works on projects to ensure food security, modernize infrastructure and solve the economic problems of developing countries [5].

The most important country's resource in the framework of sustainable development is the rural territories of the Russian Federation, which importance is rapidly growing in the context of deepening globalization and increasing role of the natural and territorial resources. However, the current social and economic situation in Russian rural areas is characterized by accumulated problems that hinder its transition to sustainable development. The crisis in rural areas caused by the beginning of the current reforms has not been overcome yet. The pre-reform level of production in the agricultural sector has not been reached yet, there is still a downward tendency in the resource potential of agriculture, and the process of forming economically active rural business entities has not been completed. The demographic and environmental situation is deteriorating, and the social infrastructure is being destroyed. Low-quality living environment, limited work opportunities and lower (compared to urban) income levels in rural areas have significantly affected the labour outflow processes in rural areas which in turn caused the growth of social and economic imbalance as well as the emergence of depressed rural areas, where many economic, social and environmental problems are exacerbating, leading to overall volatility and disintegration of the Russian economy [6]. Meanwhile, every region follows its own approaches to rural development often not taking into account the current social and economic situation at the district level and features of rural settlements, which slows down the development process, reduces the effectiveness of territory management at all levels. Despite the dynamic growth of agro-based industries, the living standards and life quality of the rural population are significantly behind the living standards in cities, the access of the population to the services of social organizations is narrowing, the information and innovation gap between urban and rural

areas is deepening, which results in the increasing migration outflow of the rural population, in the loss of land development. Today the development of rural areas is extremely uneven [7]. The assessment of social and economic development of Russian regions for 2018, shown in Table 1, confirms this assertion. Based on Rosstat data on gross regional product and agricultural output, you can rate regions on agricultural output in all kinds of farms (Table 1) [8]. It should be noted that the first 20 regions of Russia produce 66,6% of agricultural output, which is 4,1% of the total gross regional product. If we compare this indicator for all regions, it makes 6,9%. Table 2 shows the rating of regions on the agricultural output share in the gross regional product [8]. The calculations confirm that the agricultural output accounts a large part of the gross regional product that is why any decisions in the field of social and economic development of rural areas will be relevant both for agriculture and for the region. A comprehensive economic literature review confirms that these indicators are used to form various ratings to assess sustainable development of regions [7, 9, 10].

**Table 1** the Top twenty regions of the Russian Federation, leading in agricultural output in 2018.

Region	Agricultural products - total, million rubles	Rank
Krasnodar territory	382468	1
Belgorod region	257038	2
Rostov region	255129	3
Republic of Tatarstan	226034	4
Voronezh region	219151	5
Stavropol territory	195858	6
Republic of Bashkortostan	157486	7
Kursk region	146703	8
Altai territory	131825	9
Saratov region	129175	10
Volgograd region	128275	11
Tambov region	127308	12
Republic of Dagestan	124371	13
Chelyabinsk region	119417	14
Lipetsk region	119304	15
Moscow region	108423	16
Orenburg region	107971	17
Omsk region	94097	18
Leningrad region	91717	19
Samara region	88976	20

**Table 2** Rating of regions of the Russian Federation, leading in the agricultural output share in the gross regional product in 2018

Region	Agricultural output share in the gross regional product, %	Rank
Tambov region	42	1
Republic of Kalmykia	40	2
Karachaevo-Cherchessian Republic	40	3
Kursk region	38	4
Kabardino-Balkarian Republic	36	5
Oryol region	34	6
Belgorod region	33	7
Republic of Mordovia	30	8
Stavropol territory	29	9
Bryansk Region	28	10
Republic of Altai	26	11
Altai territory	26	12
Republic of MarijEl	26	13
Voronezh region	25	14
Pskov region	24	15
Lipetzk region	24	16
Penza region	23	17
Republic of Adygeya	22	18
Republic of Dagestan	20	19
Saratov region	19	20

According to the research on the issues of sustainable development of rural areas in Russia in the scientific environment there are two following areas:

- sustainable development with a strong environmental focus;
- rural development associated with the social orientation and complexity of rural development.

The first area is represented mainly by ecologists, who focus their research on resource constraints associated not only with the limitations of mineral resources, but also with the interaction between the anthroposystem and the biosphere and their mutual influence. According to these scientists, «sustainable development is a development in which environmental impacts remain within the economic capacity of the biosphere, therefore the natural basis for human life reproduction is not destroyed» [11].

Within the second area, the social development of the village is considered as an important element of its sustainable development, on the one hand, and on the other hand — as a significant factor determining the sustainable development of rural areas. The importance of the issues

raised is expounded in tarticles of Tretyakova L. A. [12], Merenkova I. N., Pertseva V. N. [13], Dronova M. V. [14], etc. All the opinions of scientists on the concept of «sustainable development of rural areas» more or less affect the concepts of «sustainable development», «regularity and continuity of changes», «efficiency gains», «maintaining of growth», etc. The scientific research of Merzlov A.V. [15], Ovchintseva L. A. and Nikonov A. A. and some other scientists allow to elaborate on «The Strategy of Sustainable Development of Rural areas of the Russian Federation for the Period till 2030».At present according to the Strategy, rural territories, being a social and territorial subsystem of society, perform the following important national functions: production; demographic; labor resources; housing; spatial communication; social control over a rural territory.

Despite the considerable elaboration of the issues indicated above, some of them have not been sufficiently studied, which means that many theoretical and methodological problems of sustainable rural development require further consideration.Unexplored aspects are stipulated by the methodology of research on sustainable rural development, insufficient knowledge of factors, features, models and mechanisms, as well as the characteristics and conditions of rural development.So far experts haven't agreed on the meaning of sustainable rural development, and the existing views on this category do not fully meet its interpretation by international institutions.Criteria and indicators that correspond to the sustainable rural development goals have not yet been identified to determine the level and intensity of fluctuation in sustainable development.An assessment technique taking into account integrated influence of all rural development factors has not been developed.

Existing methods of assessment of rural development sustainability are focused on macro -, at best, meso-levels, and are not applied at the level of rural settlements, which does not allow identifying the socio-economic potential necessary to support the process of adaptation of rural areas to the changes that meet the principles and concepts of the sustainable development paradigm.

To guarantee the socio-economic potential and stable improvement of living standards for the rural population in Russia the Russian state adopted a number of documents: «Strategy of sustainable rural development in the Russian Federation for the period up to 2030», Conception of sustainable rural development in the Russian Federation for the period up to 2020, approved by decree of the Russian Federation government from November 30, 2010 N 2136-p, a state program of the Russian Federation «Complex development of rural territories», approved by Russian Federation Government Resolution from may 31, 2019 No. 696.

The sustainable development of rural areas is determined by the rural development indicators gained as a result of the implementation of program activities, which by their characteristics are poorly related to the sustainable development goals. The uniqueness of these goals is that they call on all countries – developed and developing – to promote welfare while protecting the planet. They recognize that poverty eradication must be inextricably

linked with the implementation of strategies that promote economic growth and are aimed at a range of social needs, including education, health, social welfare and employment opportunities, while protecting the environment and solving problems caused by climate change.

Currently, Rosstat is conducting a number of activities to collect and present official statistical information on sustainable development goals indicators in the Russian Federation in accordance with international standards. The territorial department of Rosstat in Rostov region in cooperation with Ministries and Agencies has developed a

draft list of national sustainable development goals indicators. To implement 167 objectives of all sustainable development goals 364 indicators, including 70 (19%) indicators with the level of aggregation of official statistical information on constituent entities of the Russian Federation have been formulated [16]. Table 3 provides the information on the number of developed indicators used to assess the sustainable development of regions, which are to include the target indicators of the state program of the Russian Federation «Integrated development of rural areas».

**Table 3** National SDG indicators proposed for assessing sustainable rural development

Name of Sustainable Development Goals	Number of indicators registered by Rosstat	State program of the Russian Federation «Integrated development of rural territories» dated May 31, 2019 No. 696	
		Number of indicators	Names of indicators and their serial numbers
<b>Goal 1.</b> Reduce global poverty in all its forms	32		
<b>Goal 2.</b> End hunger, achieve food security and improve nutrition and promote sustainable agriculture.	21	5	2.The area of reclaimed land put into operation due to reconstruction, technical re-equipment and construction of new reclamation systems for General and individual use. 4. Involvement in the turnover of retired agricultural land through cultural and technical measures. 6. Prevention of the retirement of reclaimed land from agricultural turnover due to the reconstruction, technical re-equipment and construction of objects of the reclamation complex of state property of the Russian Federation (increasing total by 2018). 7. Protection of land from water erosion, flooding due to reconstruction, technical re-equipment and construction of land reclamation facilities of the state property of the Russian Federation (cumulative total by 2018). 30. Number of local initiatives implemented by citizens living in rural areas who received grant support.
<b>Goal 3.</b> Ensure healthy lives and promote well-being for all at all ages.	47	6	18. Commissioning of paramedic and midwifery centers and (or) offices of General practitioners. 19. Increase in the rural population provided by paramedic and midwifery centers (offices of General practitioners) (cumulative total). 20. Commissioning of flat sports facilities. 21. Increase in the rural population provided with flat sports facilities (cumulative total). 22. Commissioning of cultural and leisure institutions. 23. Increase in the rural population provided by cultural and leisure institutions (cumulative).
<b>Goal 4.</b> Ensure inclusive and quality education for all and promote lifelong learning.	43	3	16. Commissioning of General education organizations. 17. Reduction in the number of students in General education organizations that are in an emergency state in rural areas (increasing total). 31. Number of implemented measures to promote and popularize achievements in the field of rural development.
<b>Goal 5.</b> Ensure gender equality and empower all women and girls.	5		
<b>Goal 6.</b> Ensure access to water and sanitation for all.	12	7	9. Bringing state hydraulic structures into safe operating condition. 11. Reduction of the share of state property of the Russian Federation in the total volume of reclamation systems and separately located hydraulic structures (decreasing total). 12. Commissioning of state-owned land reclamation facilities in the Russian Federation. 24. Commissioning of gas distribution networks. 25. The level of gasification of residential buildings (apartments) with network gas in rural areas. 26. The commissioning of the local water supply. 27. The level of provision of rural population with drinking water.
<b>Goal 7.</b> Ensure access to affordable, reliable, sustainable and modern energy sources for all.	5		

Name of Sustainable Development Goals	Number of indicators registered by Rosstat	State program of the Russian Federation «Integrated development of rural territories» dated May 31, 2019 No. 696	
		Number of indicators	Names of indicators and their serial numbers
<b>Goal 8.</b> Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.	34	2	1. Increase in crop production on agricultural land (on a cumulative total). 32. Number of jobs created in rural areas.
<b>Goal 9.</b> Create a robust infrastructure, promote inclusive and sustainable industrialization and foster innovation.	21	2	28. Commissioning of paved public roads leading from the network of public roads to the nearest socially significant objects of rural localities, as well as to objects of production and processing of agricultural products. 29. The number of localities located in rural areas where projects have been implemented for the integrated development of sites for housing development.
<b>Goal 10.</b> Reduce inequality within and between countries.	14		
<b>Goal 11.</b> Ensure the openness, security, resilience and sustainability of cities and localities.	49	3	13. Introduction (purchase) of housing for citizens living in rural areas (annually). 14. Reduction of the total number of families in need of improved housing conditions in rural areas (cumulative total). 15. Reduction in the number of young families and young professionals in need of better housing conditions in rural areas (cumulative).
<b>Goal 12.</b> Ensure rational consumption and production models.	13		
<b>Goal 13.</b> Take urgent action to combat climate change and its consequences.	4		
<b>Goal 14</b> Conserve and sustainably use the oceans, seas and marine resources.	4		
<b>Goal 15.</b> Protect, restore and promote sustainable use of land ecosystems , manage forests, combat desertification, halt and reverse land degradation, and halt the loss of biological diversity.	22	2	3. Protection and conservation of agricultural land from wind erosion and desertification through agro forestry and phytomelioration activities. 5. Protection of land from water erosion, flooding through flood control measures, clearing of reclamation channels, major repairs of reclamation facilities and technical equipment of operational organizations.
<b>Goal 16.</b> Promote peaceful and open societies for sustainable development , ensure access to justice for all, and create effective, accountable and participatory institutions at all levels.	19		
<b>Goal 17.</b> Strengthen the means to achieve sustainable development and enhance the global partnership for sustainable development.	19	2	8. The number of results of research and development and experimental works of an innovative nature in the reclamation complex. 10. Preserving existing and creating new high- tech jobs for agricultural producers by increasing the productivity of existing ones and involving new agricultural land in turnover.

#### 4. CONCLUSION

Thus, the socio-economic development of the Russian Federation is impossible without taking into account regional features, in particular, the strengths and weaknesses of regional economic system, favorable and negative trends in regional development. This is due to the significant differentiation in economic and social resources support observed in different regions. At the regional level the main socio-economic development projects are implemented, the key social needs of the population are supplied. Regional economic development indicators are the main sustainable development criteria of the region in accordance with sustainable development goals. Immediacy of the problem is the absence of indicators for some sustainable development goals that can significantly characterize the current situation in the region to achieve the sustainable development goals.

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