



Examination of Mechanisms of Regional Sustainable Development Strategy as Exemplified by the Leningrad Region

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Abstract: Sustainable regional development can be achieved through balanced use and development of the region's industrial potential, improvement of its socioeconomic performance and drawing up a logical and prudent list of priorities and regional development indicators in strategy papers to ensure consistency with the actual economic situation in the region and maximum utilisation of the available development potential.

The above highlights the importance of analysing the region's socioeconomic conditions, identifying the weaknesses in development at the national level in general and priority industries in the region in particular and drawing up regional development scenarios to chart the optimum balanced path during the transition toward the digital interaction environment. The aim of the research is to analyse the content of strategy papers in order to identify priority development directions for the region in question, favourable territories at the microlevel for maximum fulfilment of the regional strategy (i.e. municipalities) and priority industries to support the region's balanced development in the long term. For that, the ranking scoring method is proposed for municipalities, which is based on the parametric analysis. The normative inferences are drawn from quantitative comparisons of statistical data for the region and municipalities, i.e. an aggregate score of a municipality is determined based on the selected criteria, according to which the municipality is assigned its rank. Simultaneously, the values for the Leningrad region as a whole are also presented. The method of calculating the indicators of the basic type of economic activity (an integrated set of indicators) is then used to identify the region's priority industry. As a result, municipalities with high socioeconomic profile are identified in the Leningrad region, which are the Vsevolozhsky municipal district, Sosnovoborsky urban district, Lomonosovsky municipal district and Gatchinsky municipal district. These territories show the strongest potential for implementing the mechanisms of sustainable development strategies. The analysis indicated the following priority industries for sustainable development of the Leningrad region: manufacturing, transport and communications, wholesale and retail trade, real estate transactions and construction. Accordingly, targeted financing of modernisation in these industries would lead to sustainable long-term development in the Leningrad region.

Keywords: region, sustainable development, mechanism of regional development strategy.

I. INTRODUCTION

Sustainable development is now frequently addressed in research; both Russian and foreign studies point at the high significance of government engagement. However, an important factor is maintaining a balance between the indicated priorities of a regional development strategy, the actual conditions of the region and its development potential. There is no uniform solution to this challenge yet, which is a reason for conducting this research.

It is also worth noting that, according to our findings, the drafting of a regional sustainable development strategy should be accompanied by a complex analysis of legal regulations providing insight into the specific development priorities of the region as indicated by the state and its objectives on the way to sustainable development [1-3]. Another step is the assessment of the region's socioeconomic development profile, which helps to identify the region's available resources and calculate financing requirements for strategy implementation based on its specific needs and opportunities [4]. Finally, the need is indicated for conducting an assessment and selecting priority industries with the potential to stabilise financial inflows in the regional budget and to ensure local life standards at the levels close to those of the leading regions.

II. LITERATURE REVIEW

An analysis of a regional sustainable development strategy should begin with focusing on the interpretation of the term "strategy" and its implications for coordinating regional operations for the attainment of sustainable development [5].

Generally, strategy refers to "an action plan under uncertainty" [5, 6]. Official terminology describes strategy as "activities aimed at the intended result taking into account the long-term development outlook" [7]. According to RF Government Order No. 207-p dated 13.02.2019, "a strategy constitutes a strategic planning document developed as part of goal-setting in line with the territorial principle" [8].

The Strategy of Spatial Development until 2025 further emphasises the term "spatial development", indicating "the enhancement of the territorial organisation of the economy, particularly by implementing an efficient state policy of regional development" [8].

Revised Manuscript Received on October 30, 2019.

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Such term being introduced as part of the regional strategy development indicates the need to combine a number of factors influencing the region's potential of attaining sustainable development and that ensuring the achieved progress would be sustained in the long term.

There is also a point to state, as part of the theoretical industry analysis approach, that theories studying economic space and spatial processes aim to discover the reasons for uneven spatial distribution of production structures [9] and other types of activities and demographic processes [10, 11]. A majority of models is based on studies of the interaction of transport costs, time spent and financial expenses. However, changes in the global world have concerned not just the above factors but also a number of other modern aspects as well (communications, virtual environment, integration in the global economy) [12, 13].

With markets expanding globally and with the contrasting growing unevenness in the development of individual regions, there is a growing body of research calling for a reorientation of inclusive social development of territories and building linking infrastructure [14], which is important for implementing the strategy of any region. When the regional infrastructure development potential is concerned, the analysis should be accompanied by studies of the conditions of priority industries, as well as the scope for targeted development and infrastructure potential in connection with priority industries appearing as potential growth points of the regional economy.

The paper "Regional Strategies for Global Leadership" by Pankaj Ghemawat also emphasises the importance of simultaneous engagement of three components (three levels) in the implementation of any strategy, namely, the global, regional and local levels. The regional level is key for strategy implementation in a global environment [14].

Apart from the assessment of priorities and targets indicated as priorities for the regional strategy, models for the

assessment of the region's socioeconomic conditions are also useful [15].

In this research, we stick to the definition proposed by A. Granberg, A. Egorshin and D. Lvov [16], that is, "strategic planning is the process of developing a strategic plan through establishing the goals and criteria of management, analysing challenges and environment, identifying strategic ideas and competitive advantages, selecting scenarios and base development strategies and forecasting socioeconomic development". The above definition allows highlighting the importance of analysing the region's socioeconomic conditions, identifying the weaknesses in development at the national level in general and priority industries in the region in particular and drawing up regional development scenarios to chart the optimum balanced path.

The aspects of strategy development are widely covered in papers by Russian and foreign authors, such as A. Chandler, M. Porter, M. Fulmer, D. Lvov, A. Granberg, A. Egorshin, S. Plaksin, A. Shastiko, E. Tiutiukina, L. Karpova, T. Sedash and others.

III. METHODS

The starting point in the analysis of mechanisms of a sustainable regional development strategy as exemplified by the Leningrad region was the analysis of strategy papers to identify priority development directions for the Leningrad region. Then next step was the selection of socially and economically sustainable municipalities with available necessary infrastructure for the implementation of the identified strategic directions in the Leningrad region by promoting the priority activity type through targeted investment support of the region's priority industry [17]. Large-scale implementation of the priority directions at the national level may rely on industry modernisation in the whole and the national GDP diversification (Figures 1, 2).



Fig. 1: Algorithm of implementation of a sustainable development strategy [18]

Attainment of sustainable and balanced development of municipalities

(integration of the development strategy of the municipality with the business strategies of "growth pole" companies + targeted financing of the priority directions of companies through priority direction development programs in the regional industry strategy):

1. Ranking municipalities by socioeconomic indicators according to Rosstat (dynamically)
2. Assessment of regional development based on building the dynamic normals



Development of the mechanism of interaction for leading regional enterprises with the government and local authorities

(establishment of regional stability poles around the leading enterprises of the growth poles and sustaining socioeconomic indicators through them + bringing down administrative barriers + engaging instruments for targeted investment influences for the growth poles)

1. selecting the regional activity type in accordance with the research methodology
2. analysis of industrial enterprises of the selected priority industry in the set municipality
3. recommendations on financing tools for "growth pole" companies
4. drawing up recommendations on industrial enterprise strategy formulation taking into account its interiorisation with the region's priority directions of industry development

Fig. 2: Detailed algorithm for selecting the industrial "growth pole" territories of the Leningrad region [18].

At the microlevel, the analysis of the development strategy of the Leningrad region included the ranking scoring method for municipalities, based on the parametric analysis, though with normative inferences drawn from quantitative comparisons, i.e. an aggregate score of a municipality was determined based on the selected criteria, according to which the municipality was assigned its conclusive rank. The analysis was based on statistical data on socioeconomic conditions of the region and municipalities. The method is described in more detail in the dissertation by A. A. Chaikovskii "Reitingovoye otsenki i ikh formirovanie v otraslevoi ekonomike" [Ranking scores and their calculation

in industry economy], where it is cited as a universal method [19].

The identification of a priority industry in the region for its implementation via targeted financing of industry modernisation [20] as part of the development strategy mechanism was conducted in accordance with the method of E. B. Tiutiukina, L. D. Kapranova and T. N. Sedash [3].

Accordingly, the notion of "basic industries" is introduced and their respective indicators (an integrated set of indicators) are proposed. Sixteen types of economic activities are identified on the basis of the Russian national classifier with further breakdown by the industries (Table 1).

Table 1: Mutual relation between the types of economic activity and Russian economic industries

Type of economic activity	Industry
Agriculture, hunting and forestry	Agriculture
Fishing and fish farming	
Mining	Oil and gas industry
	Coal industry
Manufacturing	Food industry
	Chemical industry
	Petrochemical industry
	Pharmaceutical industry
	Power machine building
	Agricultural machine building
	Machine tool construction
	Construction materials industry
	Iron and steel industry
	Radioelectronics
	Transport machine building
	Auto industry



	Aircraft industry
	Shipbuilding
	Engine building
	Rocket and space industry
Production and distribution of electricity, gas and water	Energy industry
Public administration and defence	Defence industry complex
Construction	Construction
Transport and communications	Transport
	Communications

Source: [3]

The above study sets forth several major criteria for selecting priority industries (Table 2).

Table 2: Criteria of crucial (basic) industries

Criterion No.	Criterion	Indicator
1	2	3
1	Contribution to GDP	Industry share of products and services in the GDP
2	Budget-forming	Share of tax revenues generated by the enterprises of the industry in the consolidated national budget
3	Facilities	Industry share of fixed assets
4	Competitiveness	Industry share in exports
5	Investment	Industry share in fixed capital investment
6	Social significance	Share of the average annual employment in the industry
7	Life support	Industry share in life support capabilities
8	Systemic importance	Industry share of systemically important entities
9	Strategic importance	Industry share of strategically important entities (enterprises)

Source: developed by the authors based on [3]

For the purposes of this research, indicators 7-9 were replaced due to the complexities of their statistical identification (items 7-9 in Table 2 show the indicators as replaced by us).

In line with the method [3], the criteria shown in Table 2, columns 2 and 3, form an integral complex indicator of industry significance. The integral complex indicator is derived from the calculation of ranking scores of the industry in each of the nine criteria using the following equation:

$$Q_{ij} = \frac{Q_{ij} - Q_{j \min}}{Q_{j \max} - Q_{j \min}} 100;$$

$$Q_{i \min} = \min_j \{Q_{ij}\};$$

$$Q_{i \max} = \max_j \{Q_{ij}\},$$

where

Q_{ij} is the share of the i-th industry for the j-th criterion

(indicator);

min and max correspond to the minimum and maximum values for each criterion, respectively.

Given the difference of absolute values and significantly varying ranges, the ranking score calculation allows for the normalisation of the relative weights for the values of each criterion.

The following equation Q_{ij} is used:

$$Q_{ij} = \frac{V_{ij}}{P_j} 100\%;$$

$$P_j = \sum_{i=1}^n V_{ij},$$

where

V_{ij} is the absolute value for the j-th criterion of the i-th industry for the period;

P_j is the absolute value for the j-th criterion of all industries for the period;

n is the number of industries.

IV. RESULTS

The following key factors for the Russian Federation until 2030 were identified as part of the analysis of the Long-Term Socioeconomic Development Forecast for the Russian Federation until 2030 [21]:

- implementation and development of Russia's main comparative advantages in the energy industry, science and education, high technologies and other fields;
- innovative renovation of manufacturing and productivity trends;
- modernisation of transport and energy infrastructure;
- institutional development sustaining entrepreneurial activity, investment activity and efficiency of state institutions;
- confidence and justice in society;
- human capital quality improvement and formation of the middle class;
- integration of the Eurasian economic area.

The following aggregate directions can be identified as part of the developed long-term development scenarios (Table 3).

Table 3: Long-term development scenarios of the Leningrad region

	Directions of long-term development scenarios
Social development	Modernisation of the social services system at the federal and regional levels Mitigating spending differentiation Monitoring the dynamics of the middle class
Additional spending on labour	Sustaining the achieved parity in pay levels
Transport infrastructure	Modernisation of the transport system and construction of high-speed lines
Competitive advantages	Improvement of technological competitiveness and energy intensity, productivity growth
Structural change	Increasing the share of high-tech industries and knowledge economy, diversification of the economy and exports
Budget	Additional budget allocation requirements
Pension reform	Bringing down the burden on the federal budget
Financing the economy	Capital inflow
Regional aspect	Mitigating regional inequality, establishment of new innovation development centres
Position in the global economy	Specialisation on highly-processed commodity and high-tech product markets Creation of a strong Eurasian regional union

Spending is planned in the following directions: scientific research, education, healthcare, human capital and export restructuring [22, 23].

The strategy of territorial development of the RF for the Northwestern Federal District envisages the following directions:

- industrial production;
- transportation services and logistics, freight transport;
- services sector, including tourism.

A considerable role is assumed for oil production and related industries. Another point is the agglomeration effect from territorial proximity to Saint Petersburg and EU countries. The major factors influencing the development will be the modernisation of transport infrastructure, creation of alternative international routes (pipelines, seaports with connecting railroads and motorways, as well as auxiliary and support facilities).

The main directions of the socioeconomic development of the Northwestern Federal District are as follows:

- modernisation and innovation of the basic industries to speed up productivity growth;
- economic reinforcement of depressed territories, job

creation, reemployment and business reengineering, small and medium business development, agricultural recovery, development of social services and tourism;

- development of a support base system in upstream and downstream hydrocarbon operations;
- accelerated development of an innovative machinery building complex;
- development of a regional innovation system and a training system for the innovation economy.

The centre of innovation development, with high-tech operations, technology, innovation zones and science cities, remains in Saint Petersburg and the Leningrad region [13]. The Leningrad region appears in project references of the nuclear technology cluster and the agricultural science cluster. Formation of a transport hub zone (approved development of port complexes, capacity extension at seaports, tourism infrastructure development and promotion international integration). GRP growth is assumed to be achieved via regional specialisations in transport and logistics, innovation, finance and coordination. The targets of the regional policy are laid out below (Figure 3).

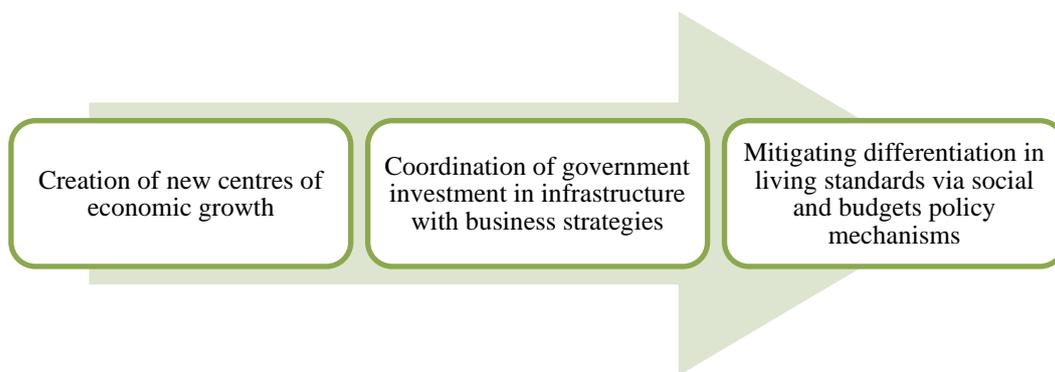


Fig. 3: Regional policy targets

Based on the conducted study of strategy papers [8], the following priority industries are identified for industry development (in the Northwestern Federal District and the Leningrad region):

- 1st place: manufacturing;
- 2nd place: transport and communications;
- 3rd place: wholesale and retail trade;
- 4th place: real estate transactions, construction.

Further rankings by other indicators are required to determine the region's sustainable development potential [24]. The respective indicators are laid out in several tables, however, ranks are based on the aggregate set of statistical data.



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As a result, the most favourable and the most unfavourable regions are determined [25] (Tables 4, 5). Accordingly, based on the analysed data, Tables 4 and 5 present the resulting ranking as per socioeconomic indicators and Table 6 lays out a conclusive ranking.

Table 4: Socioeconomic indicators of the municipalities of the Leningrad region, part 1

Municipalities	Population (as at the beginning of the year), thousand people	Registered unemployment level, %	Average monthly nominal gross salary per 1 employee, total, rubles	Housing commissioned, total floor area, per 1000 population, sq. m.	Housing commissioned, total floor (usable) area, thousand sq. m.	Fixed capital investment by enterprises, total, million rubles	Dynamic work volumes for the activity type "Construction", million rubles
Leningrad region	1,775.50	0.38	36,235.30	912.15	1,603.10	143,660.40	53,209.30
Boksitogorsky municipal district	51.30	1.15	28,366.40	245.68	12.80	814.20	x
Volosovsky municipal district	51.90	0.60	29,448.00	585.13	29.90	1,045.80	x
Volkhovsky municipal district	93.30	0.61	29,572.30	305.26	29.00	3,244.00	1,196.20
Vsevolozhsky municipal district	296.4	0.11	40,219.00	2,668.81	747.8	12,396	3,467
Vyborgsky district	204.8	0.2	35,996.50	497.57	102.2	5,541.6	1,130.7
Gatchinsky municipal district	246.2	0.31	32,674.70	509.47	123.8	4,558.6	3,280.9
Kingiseppsky municipal district	79.7	0.39	40,541.30	473.55	37.6	11,744.9	8,482.8
Kirishsky municipal district	64.5	0.4	41,770.40	521.6	33.8	18,119.2	5,684.3
Kirovsky municipal district	105.2	0.14	37,736.40	807.66	84.4	6,175.9	809.2
Lodeynopolsky municipal district	29.9	0.84	26,137.60	386.67	11.6	1,677.2	23.8
Lomonosovsky municipal district	69.3	0.23	46,546.50	2,345.71	164.2	4,911.4	967.7
Luzhsky municipal district	75.8	0.83	26,478.40	229.77	17.6	1,399.2	x
Podporozhsky municipal district	30.5	0.88	27,749.90	174.76	5.4	640.4	x
Priozersky municipal district	63	0.29	25,943.40	880.95	55.5	1,488.2	x
Slantsevsky municipal district	43.9	1.26	26,439.80	57.57	2.5	850.6	x
Sosnovoborsky urban district	67.4	0.32	50,991.20	122.39	8.2	32,975.1	19,787.6
Tikhvinsky municipal district	70.5	0.59	31,412.50	185.03	13.1	3,908.4	750
Tosnensky district	131.9	0.25	32,932.50	950.81	123.7	4,609.6	461.4

Table 5: Socioeconomic indicators of the municipalities of the Leningrad region, part 2

Municipalities	Total retail turnover, million rubles	Volume of shipped own produced goods, works performed and services rendered, million rubles	Volume of paid services, total, million rubles	Share of profitable enterprises, %	Total turnover for enterprises, million rubles	Total profit of enterprises, million rubles
Leningrad region	157,962.00	964,766.80	31,874.20	67.87	1,396,635.30	125,875.61
Boksitogorsky municipal district	967.60	18,453.80	305.20	66.67	19,320.30	1,241.72
Volosovsky municipal district	981.80	5,324.60	411.60	68.18	6,413.70	376.40
Volkhovskiy municipal district	2852.20	32,617.70	1,144.60	67.44	35,724.60	1,903.08
Vsevolozhskiy municipal district	50,524	132,981.5	2911	66.95	283,178.9	28,600.61
Vyborgskiy district	10,819.4	78,373	2,923.7	69.79	96,432.5	13,304.08
Gatchinskiy municipal district	10,145.8	51,858.8	3,408.6	77.36	80,468	4,636.55
Kingiseppskiy municipal district	5,422.9	14,0931.6	1,249.2	64.91	148,959.8	18,753.6
Kirishskiy municipal district	7,186	88,667.5	1,163.7	68.75	102,491.3	480.03
Kirovskiy municipal district	3,430.3	59,377.7	2,824.3	64.71	71,215.7	8,752
Lodeynopolskiy municipal district	368.5	1,441.5	137.3	60	1,957.5	71.37
Lomonosovskiy municipal district	3,720.6	120,425.4	482.4	64.81	140,965.1	40,283.94
Luzhskiy municipal district	1,811.6	11,202.3	316.6	66.67	56,390.2	1,597.55
Podporozhskiy municipal district	404.6	4,885.1	151.2	42.86	6,228.9	179.64
Priozerskiy municipal district	1,240	6,026.1	324.1	71.43	7,115.5	423.94
Slantsevskiy municipal district	370.6	9,734.3	538.5	68.75	18,387.1	249.15
Sosnovoborskiy urban district	9,436.4	66,553	1,309.6	77.5	77,948.1	2,598.35
Tikhvinskiy municipal district	1,365.2	32,282.2	1,181.1	50	33,998.5	146.5
Tosnenskiy district	6,587.7	31,361.5	1,840.6	68.25	56,636	2,277.11

Based on the above, the municipalities may be ranked based on their development profile by socioeconomic indicators as follows:

1st place: Vsevolozhskiy municipal district, Kingiseppskiy municipal district, Gatchinskiy municipal district, Sosnovoborskiy urban district, Lomonosovskiy municipal district;

2nd place: Vyborgskiy municipal district, Vsevolozhskiy municipal district, Gatchinskiy municipal district, Kingiseppskiy municipal district;

3rd place: Gatchinskiy municipal district, Lomonosovskiy municipal district, Vsevolozhskiy municipal district, Priozerskiy municipal district, Kingiseppskiy municipal district.

Outsiders:

16th place – Podporozhskiy municipal district, Boksitogorskiy municipal district, Lodeynopolskiy municipal district, Volosovskiy municipal district;

17th place – Slantsevskiy municipal district, Podporozhskiy municipal district, Tikhvinskiy municipal district;

18th place – Lodeynopolskiy municipal district, Podporozhskiy municipal district.

Next, Table 6 lays out the ranking results by indicators for

municipalities overall. The conclusive results are laid out in Annex 1, Tables 1 and 2.

A confirmation of the rank assessment findings can be found in the insights concerning differentiated levels of investment attractiveness in the Leningrad region compiled by the "Center for Strategic Research "Nord-West" and FCG Finnish Consulting Group Ltd [26].

There is a visible agglomeration effect around Saint Petersburg, which reinforces the development of nearby areas since, in accordance with detailed analysis, the territories around Saint Petersburg registered higher levels compared to more remote municipalities.

Another point is that this research was meant to identify the conclusive top three municipalities and industries of the region in accordance with the aggregate results under all described rankings.

Table 6: Ranking results by indicators for municipalities

Municipalities	Population (as at the beginning of the year)	Registered unemployment level	Average monthly nominal gross salary per 1 employee	Housing commissioned, total floor area, per 1000 population	Housing commissioned, total floor (usable) area	Fixed capital investment by enterprises	Dynamic work volumes for the activity type "Construction"	Retail turnover	Volume of shipped own produced goods, works performed and services rendered	Volume of paid services	Share of profitable enterprises	Turnover of enterprises	Profit of enterprises
Boksitogorsky municipal district	15	17	13	13	14	17	x	15	12	16	11	13	11
Volosovsky municipal district	14	12	12	6	10	15	x	14	16	13	8	16	14
Volkhovskiy municipal district	6	13	11	12	11	11	6	10	9	10	9	11	9
Vsevolozhskiy municipal district	1	1	5	1	1	3	4	1	2	3	10	1	2
Vyborgskiy district	3	3	7	9	5	6	7	2	5	2	4	5	4
Gatchinskiy municipal district	2	7	9	8	3	9	5	3	8	1	2	6	6
Kingiseppskiy municipal district	7	9	4	10	8	4	2	7	1	7	13	2	3
Kirishskiy municipal district	12	10	3	7	9	2	3	5	4	9	5	4	12
Kirovskiy municipal district	5	2	6	5	6	5	9	9	7	4	15	8	5
Lodeynopolskiy municipal district	18	15	17	11	15	12	12	18	18	18	16	18	18
Lomonosovskiy municipal district	10	4	2	2	2	7	8	8	3	12	14	3	1
Luzhskiy municipal district	8	14	15	14	12	14	x	11	13	15	11	10	10
Podporozhskiy municipal district	17	16	14	16	17	18	x	16	17	17	18	17	16
Priozerskiy municipal district	13	6	18	4	7	13	x	13	15	14	3	15	13
Slantsevskiy municipal district	16	18	16	18	18	16	x	17	14	11	5	14	15

Table 6 continued

Sosnovoborskiy urban district	11	8	1	17	16	1	1	4	6	6	1	7	7
Tikhvinskiy municipal district	9	11	10	15	13	10	10	12	10	8	17	12	17
Tosnenskiy district	4	5	8	3	4	8	11	6	11	5	7	9	8

Next, the method for determining the priorities of regional industrial development is applied in accordance with the approach proposed by E. B. Tiutiukina, L. D. Kapranova and T. N. Sedash [3]. For that, the notion of "basic industries" is introduced and their respective indicators (an integrated set

of indicators) are proposed. Sixteen types of economic activities are identified on the basis of the Russian national classifier with further breakdown by the industries. The above study sets forth several major criteria for selecting priority industries (Table 7).

Table 7: Criteria of crucial (basic) industries

Criterion No.	Criterion	Indicator
1	Contribution to GDP	Industry share of products and services in the GDP

2	Budget-forming	Share of tax revenues generated by the enterprises of the industry in the consolidated national budget
3	Facilities	Industry share of fixed assets
4	Competitiveness	Industry share in exports
5	Investment	Industry share in fixed capital investment
6	Social significance	Share of the average annual employment in the industry
7	Systemic importance	Distribution of enterprise numbers by the types of economic activity in 2015
8	Potential growth of business activity	Share of small enterprises and sole entrepreneurs by industries
9	Productivity	Productivity index for Russia and major industries of the economy (according to the sections of the Russian national classifier, OKVED)

For the purposes of this study, indicators 7-9 are replaced due to the complexities of their statistical identification. The indicators laid out in the table are used to compile a ranking of economic activity types based on their share in the gross value added. The ranking results are laid out in Table 8.

Table 8: Ranking of economic activity types

Rank	Industry share in the GDP, %	Tax revenues	Dynamic change in fixed assets	Coefficients of renewal and retirement of fixed assets	Coefficient of retirement of fixed assets, %	Exports by industries	Fixed capital investment	Average annual employment	Distribution of enterprise numbers by the types of economic activity	Number of small enterprises (excluding microbusiness)	Major performance indicators of sole entrepreneurs	Productivity index
1	Wholesale and retail trade;	Mining	Mining	Financial operations	Agriculture, hunting and forestry	Fuel and energy products	Transport and communications	Wholesale and retail trade;	Wholesale and retail trade;	Wholesale and retail trade;	Wholesale and retail trade;	Agriculture, hunting and forestry
2	Manufacturing	Manufacturing	Financial operations	Mining	Financial operations	Metals and metal products	Mining	Manufacturing	Real estate transactions, rent and services	Real estate transactions, rent and services	Transport and communications	Construction
3	Real estate operations	Wholesale and retail trade;	Public administration and defense	Manufacturing	Real estate transactions	Machinery and equipment	Real estate transactions	Agriculture, hunting and forestry;	Construction	Manufacturing	Real estate transactions	Production and distribution of electricity, gas and water

Under the proposed method, equal ranks can be assigned to several industries. Thus, a ranking of priority industries can be compiled:

- Wholesale and retail trade;
- Mining;
- Financial operations;

- Agriculture, hunting and forestry;
- Fuel and energy products;

- Transport and communications;
- Wholesale and retail trade.

V. DISCUSSION

The strategy of the spatial development of the Russian Federation identifies the following priority directions for the Northwestern Federal District:

- industrial production;
- transportation services and logistics, freight transport;
- service sector, including tourism.

A considerable role is still associated with oil production and related industries. There is also an agglomeration effect as a result of territorial proximity to Saint Petersburg and EU countries.

In terms of the national economy, the accumulating industries include wholesale and retail trade, manufacturing, agriculture, construction and real estate transactions, education, transport and communications.

In a high-level analysis of the indicators of the Northwestern Federal District and the Leningrad region, activity types can be ranked as follows:

- 1st place: manufacturing;
- 2nd place: transport and communications;
- 3rd place: wholesale and retail trade;
- 4th place: real estate transactions, construction.

The immediate objectives for the industry are as follows:

- expanding high-tech production;
- stimulating scientific research and development;
- innovative infrastructure.

The proposed method may serve as the foundation (initial stage) in the formulation of a regional development policy to attain sustainable development and will help to identify priority industries capable of becoming a catalyst of sustainable regional development. Accordingly, financial resources may be concentrated at specific growth points and

promote the more efficient implementation of regional innovation development directions [27]. Moreover, this would lead to the development and expansion of qualified human capital, which is an important factor of sustainable regional development [28].

According to the described findings, the most promising directions are manufacturing, mining, real estate transactions and rent, transport and communications, wholesale and retail trade. Undoubtedly, the greatest potential to apply investment instruments exists in these fields.

VI. CONCLUSION

The presented methods of selecting priority industries with the development of a system of criteria and ranking municipalities according to their socioeconomic profile may serve as the basis for specifying the selection of the region's priority directions taking into account the feasibility of the proposed development scenarios.

As to leveraging the regional socioeconomic potential, the focus should be on the position of the Leningrad region in the national regional context, with a further detailed assessment of the sustainable development potential of the region's municipalities.

The selected priority industries with the biggest potential of economic growth would make the foundation for attaining sustainable regional development and their modernisation would facilitate its steady development in the long term. The method can be applied for analysing the potential of other Russian regions, including the most remote locations in the periphery.

APPENDIX

Appendix 1. Ranking results for municipalities

Table 1: Ranking of leading and lagging regions by the industrial development potential, part 1.

Ranking	Population (as at the beginning of the year)	Registered unemployment level	Average monthly nominal gross salary per employee	Housing commissioned, total floor area, per 1000 population	Housing commissioned, total floor (usable) area	Fixed capital investment by enterprises	Dynamic work volumes for the activity type "Construction"
1	Vsevolozhsky municipal district	Vsevolozhsky municipal district	Sosnovoborsky urban district	Vsevolozhsky municipal district	Vsevolozhsky municipal district	Sosnovoborsky urban district	Sosnovoborsky urban district
2	Gatchinsky municipal district	Kirovsky municipal district	Lomonosovsky municipal district	Lomonosovsky municipal district	Lomonosovsky municipal district	Kirishsky municipal district	Kingiseppsky municipal district
3	Vyborgsky municipal district	Vyborgsky municipal district	Kirishsky municipal district	Tosnensky municipal district	Gatchinsky municipal district	Vsevolozhsky municipal district	Kirishsky municipal district
4	Tosnensky municipal district	Lomonosovsky municipal district	Kingiseppsky municipal district	Priozersky municipal district	Tosnensky municipal district	Kingiseppsky municipal district	Vsevolozhsky municipal district



5	Kirovsky municipal district	Tosnensky municipal district	Vsevolozhskiy municipal district	Kirovsky municipal district	Vyborgsky municipal district	Kirovsky municipal district	Gatchinsky municipal district
16	Slantsevsky municipal district	Podporozhsky municipal district	Slantsevsky municipal district	Podporozhsky municipal district	Sosnovoborsky urban district	Slantsevsky municipal district	
17	Podporozhsky municipal district	Boksitogorsky municipal district	Lodeynopolskiy municipal district	Sosnovoborsky urban district	Podporozhskiy municipal district	Boksitogorsky municipal district	
18	Lodeynopolsky municipal district	Slantsevsky municipal district	Priozersky municipal district	Slantsevsky municipal district	Slantsevsky municipal district	Podporozhsky municipal district	

Table 2: Ranking of leading and lagging regions by socioeconomic development, part 2

Ranking	Retail turnover	Volume of shipped own produced goods, works performed and services rendered	Volume of paid services	Share of profitable enterprises	Turnover of enterprises	Profit of enterprises
1	Vsevolozhskiy municipal district	Kingiseppskiy municipal district	Gatchinsky municipal district	Sosnovoborsky urban district	Vsevolozhskiy municipal district	Lomonosovskiy municipal district
2	Vyborgskiy municipal district	Vsevolozhskiy municipal district	Vyborgskiy municipal district	Gatchinsky municipal district	Kingiseppskiy municipal district	Vsevolozhskiy municipal district
3	Gatchinsky municipal district	Lomonosovskiy municipal district	Vsevolozhskiy municipal district	Priozersky municipal district	Lomonosovskiy municipal district	Kingiseppskiy municipal district
4	Sosnovoborsky urban district	Kirishskiy municipal district	Kirovskiy municipal district	Vyborgskiy municipal district	Kirishskiy municipal district	Vyborgskiy municipal district
5	Kirishskiy municipal district	Vyborgskiy district	Tosnensky municipal district	Kirishskiy municipal district	Vyborgskiy municipal district	Kirovskiy municipal district
16	Podporozhskiy municipal district	Volosovskiy municipal district	Boksitogorsky municipal district	Lodeynopolskiy municipal district	Volosovskiy municipal district	Podporozhskiy municipal district
17	Slantsevskiy municipal district	Podporozhskiy municipal district	Podporozhskiy municipal district	Tikhvinskiy municipal district	Podporozhskiy municipal district	Tikhvinskiy municipal district
18	Lodeynopolskiy municipal district	Lodeynopolskiy municipal district	Lodeynopolskiy municipal district	Podporozhskiy municipal district	Lodeynopolskiy municipal district	Lodeynopolskiy municipal district

ACKNOWLEDGMENT

The article is prepared with the support of Ministry of Science and Education of Russian Federation (project No. 26.6446.2017/ БЧ).

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