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## EDUCATION-BASED SOLUTIONS FOR DEVELOPMENT OF PHYSICAL CULTURE AND SPORT ACROSS RUSSIAN REGIONS

### SOLUCIONES BASADAS EN LA EDUCACIÓN PARA EL DESARROLLO DE LA CULTURA FÍSICA Y EL DEPORTE EN LAS REGIONES RUSAS

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#### ABSTRACT

The article reviews the methods for assessing the development of physical culture and sport in different countries. The study was carried out using the author's methodology of comprehensive assessment of this sphere in Russian regions. The purpose of this study is to conduct a comprehensive integral assessment of the state of physical culture and sport in the regions according to the proposed indicators. The results of the study are presented by federal districts of Russia. Leading and outsider regions in the state and development of physical culture and sports are identified. The problems of the sphere of physical culture and sport at the regional level and recommendations for their solution are formulated.

#### Keywords:

Physical culture and sports management, methods for assessing the sphere of physical culture and sports, integral indices, high-performance sports, development of Russian regions.

#### RESUMEN

El artículo revisa los métodos para evaluar el desarrollo de la cultura física y el deporte en diferentes países. El estudio se llevó a cabo utilizando la metodología del autor de evaluación integral de este ámbito en las regiones rusas. El propósito de este estudio es realizar una evaluación integral integral del estado de la cultura física y el deporte en las regiones de acuerdo con los indicadores propuestos. Los resultados del estudio se presentan por distritos federales de Rusia. Se identifican regiones líderes y ajenas al estado y desarrollo de la cultura física y el deporte. Se formulan los problemas del ámbito de la cultura física y el deporte a nivel regional y recomendaciones para su solución.

#### Palabras clave:

Gestión de la Cultura física y el deporte, métodos de evaluación del ámbito de la cultura física y el deporte, índices integrales, deportes de alto rendimiento, desarrollo de las regiones rusas.

## INTRODUCTION

The issues of assessing the state and conditions of development of the sphere of physical culture and sport in the state have been and remain very relevant at present. This is due to the influence of physical culture and sport on all spheres of society. In the social and spiritual spheres, through physical culture and sport, positive moral and volitional qualities are formed, such as willpower, determination, and ideas about the equality of chances for success. A spirit of patriotism and an orientation towards a healthy lifestyle are instilled, and the health of the population is strengthened. A physically healthy population is the most employable, requires less spending on state social security, which in turn affects the economic sphere of life. High achievements of athletes also testify to the economic development of the state, which is able to finance the formation of sports infrastructure and create conditions for the education of athletes. In the political sphere, high sports achievements become a confirmation of the authority of the state in the international arena, its strength as a sovereign state.

In this regard, an objective assessment of the development of the sphere of physical culture and sport is a prerequisite for making managerial decisions to improve the development of both the sphere of physical culture and sport and the main spheres of society.

Let us review the methods of assessing the development of physical culture and sport in different countries. Thus, in China the index of physical culture and sport development is calculated. To calculate it, we use the indicators of provision of the population with sports facilities, the presence of professional and amateur sports teams, the share of the population engaged in physical culture and sports, the level of development of the physical culture and sports industry (Wang & Kuzmenko, 2018).

China also uses a methodology to assess the development of national teams and their results in the international arena. It assesses the performance of teams, team activity, the level of training and professionalism of coaches and athletes (Gao et al., 2019).

Another direction is the assessment of the development of individual sports in China and their level of popularity. Researchers study the share of fans of a particular sport among the total population of the country, the contribution of this sport to the formation of the country's GDP (Wang & Kuzmenko, 2018).

China is actively developing a system of sports schools and centers that are engaged in training young athletes. To assess the effectiveness of these institutions, the

methodology of evaluating the results of their graduates at international tournaments, as well as the level of training and professionalism of coaches is used (Wang & Kuzmenko, 2018).

Let us consider the experience of the USA in assessing the level of development of the sphere of physical culture and sport. These methods emphasize the assessment of the level of physical fitness of the population, as well as the effectiveness of investments in sports infrastructure.

One of the main methodologies for assessing the sphere of physical education and sport is the National Physical Activity Survey (National Physical Activity Survey)<sup>1</sup> (Bann et al., 2019). This methodology allows to determine the level of physical activity of the population and makes it possible to compare this indicator with other countries. The questionnaire contains questions about the amount of time people spend on physical activity and the types of sports they prefer. The survey collects information on the number of people who meet physical activity recommendations and the distribution of that activity across different population groups.

In addition, there are various criteria for evaluating sports infrastructure development in the United States. For example, the National Recreation and Park Association has developed a system of Park and Recreation Certification (Park and Recreation Certification) (Dolmatova et al., 2020), which allows assessing the quality and accessibility of sports facilities and services. The certification system includes 151 criteria that evaluate different aspects of sports facilities such as accessibility, safety and comfort. The assessment is based on a formula that determines the number of points scored for each criterion and provides a final score.

Also used in the United States is a method of assessing the physical fitness of students known as Physical Education in America's Schools (Physical Education in America's Schools) (Wenner et al., 2019). This methodology determines the level of physical fitness of schoolchildren and assesses the quality of physical education in schools. The assessment is based on a number of criteria, such as the duration of physical education sessions, the number of sessions per week and the qualifications of teachers. In addition, the methodology includes physical fitness testing of schoolchildren, which is conducted according to established standards.

Another methodology for assessing the development of sports infrastructure in the United States is the Green Sports Facility Certification system (Green Sports Facility Certification) (Kamakhina, 2019). This system makes it

possible to assess the environmental efficiency of sports facilities and determine how well they comply with the principles of sustainable development.

Russia has also accumulated extensive experience in assessing the development of physical culture and sports. One of the main methods is the calculation of the index of physical culture and sports development. This methodology was developed by the Ministry of Sports of the Russian Federation and allows to assess the level of physical culture and sports development in Russian regions according to the following criteria:

- Availability of sports facilities and their accessibility for the population;
- the level of school sports development;
- quantity and quality of competitions;
- quantity and quality of education and training;
- the level of public health (Ministry of Sports of the Russian Federation, 2023).

For each criterion, certain indicators are set, which are then summarized and divided by the total number of indicators. Thus, the index of physical culture and sports development in the region is obtained.

Another methodology is related to the formation of the rating of regions by the level of physical culture and sports development (Brykova, 2023). The number of sports facilities per 100 thousand people, the number of sports events per 100 thousand people, the number of people engaged in physical culture and sports per 100 thousand people, the number of sports public organizations per 100 thousand people, the number of victories of national teams of the region in international competitions are taken into account when forming the rating. Each indicator has a certain weight. Thus, it is possible to compare the level of physical culture and sports development in different regions and identify best practices for further replication.

Russia also uses the methodology of assessing the level of physical culture and sports development based on the population survey (Kudinova, 2008). Respondents are asked how often they engage in physical culture and sports, how they assess the quality of education and training, the number and quality of competitions, the availability of sports facilities and their accessibility to the population, the level of school sports development. The results obtained are analyzed and used to determine the level of physical culture and sports development in the region.

The medical perspective on the development of physical education and sport is reflected in the methodology of population health monitoring (Kovalenko & Bykov, 2016). This methodology involves analyzing the level of morbidity of the population, measuring health indicators such as blood pressure, cholesterol level, body mass index and others, and determining the level of physical activity of the population.

Some researchers in their works offer author's expert methods for assessing the development of physical culture and sport (Savenkova et al., 2010), the common feature of which is that they reflect certain target indicators of the Strategy for the development of physical culture and sport in the Russian Federation.

From the above, we can conclude that there are many similarities in the approaches to assessing the development of physical culture and sport in Russia and foreign countries. Both quantitative and qualitative methods of assessment are actively used.

## MATERIALS AND METHODS

Based on the study of foreign and domestic experience, we have proposed an author's methodology for assessing the development of physical culture and sports. Its peculiarity is a comprehensive approach to the analysis of both mass and high-performance sports, taking into account the infrastructural component, financing, and the health of the population. The methodology takes into account all the main directions affecting the development of physical culture and sport. We propose to analyze statistical data in six blocks:

1. Block 1 "Physical Education and Mass Sports";
2. Block 2 "Children's and Youth Sports Schools and training of sports reserve";
3. Block 3 "Sport of Highest Achievements";
4. Block 4 "Adaptive Physical Education";

- 5. Block 5 “Material and technical equipment”;
- 6. Block 6 “Financing”.

The Table 1 presents the indicators included in the above blocks.

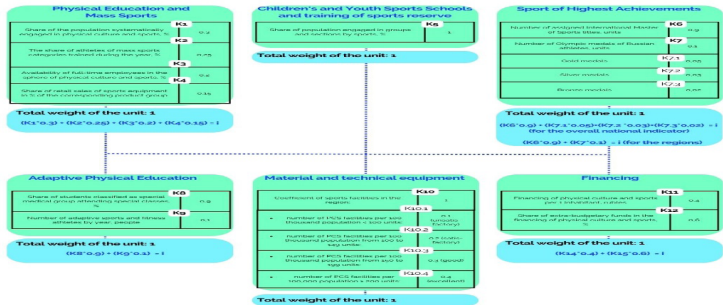
Table 1: Indicators for Analyzing the Development of the PCS Sphere by Blocks.

Blocks	Indicators
Block 1 «Physical Education and Mass Sports»	Share of the population systematically engaged in physical culture and sports, % The share of athletes of mass sports categories trained during the year, % Availability of full-time employees in the sphere of physical culture and sports, % Share of retail sales of sports equipment in % of the corresponding product group
Block 2 «Children's and Youth Sports Schools and training of sports reserve»	Share of population engaged in groups and sections by sports, %
Block 3 «Sport of Highest Achievements»	6. Number of assigned International Master of Sports titles, units. 7. Number of Olympic medals of Russian athletes, units.
Block 4 «Adaptive Physical Education»	8. Share of students classified as special medical group attending special classes, % 9. Number of adaptive sports and fitness athletes by year, people.
Block 5 «Material and technical equipment»	10. Coefficient of sports facilities in the region: – number of PCS facilities per 100 thousand population < 100 units - “unsatisfactory”; – number of PCS facilities per 100 thousand population from 100 to 149 units - “satisfactory”; – number of PCS facilities per 100 thousand population from 150 to 199 units - “good”; – – number of PCS facilities per 100 thousand population from 150 to 199 units - “good”; – number of PCS facilities per 100,000 population ≥ 200 units - «excellent».
Block 6 «Financing»	Financing of physical culture and sports per 1 inhabitant, rubles. Share of extra-budgetary funds in the financing of physical culture and sports, %

Source: Elaboration of authors

A five-year period is recommended for the analysis due to the Olympic cycle and the availability of comparative data. Some indicators included in the methodology should be calculated in advance. Most of the indicators are taken ready-made from the databases of state statistics bodies and relevant ministries. Based on these indicators, the integral value for each of the six blocks is found. For complex integral assessment of the blocks, the weighted sum methodology is used, in which each indicator of the block receives a certain weight reflecting its importance for the overall assessment. The weights are determined on the basis of expert assessments. In our methodology the weight of each block is equal to one. A simplified scheme of analysis with recommended weights is presented in Figure 1.

Fig. 1: Scheme of integral assessment of the development of the sphere of PCS by the selected blocks according to the method of weighted sum.



Source: Elaboration of authors

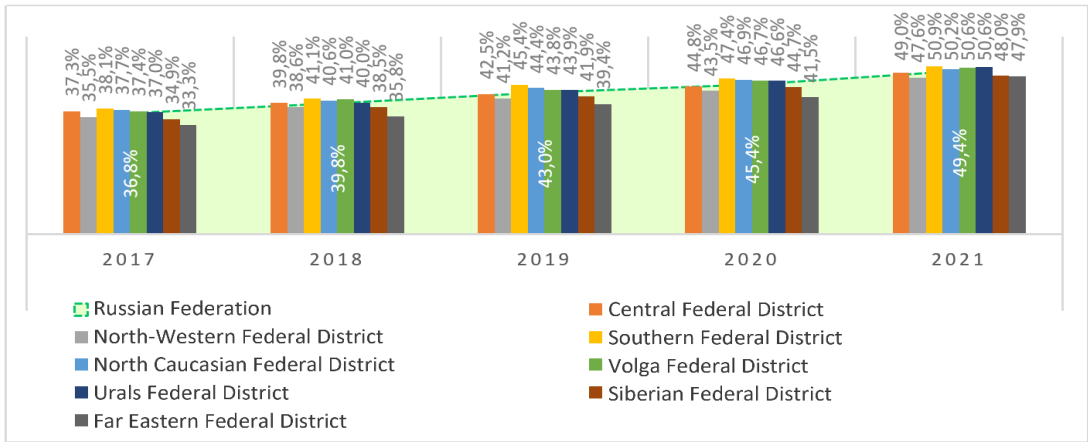
The scores of each block will be summarized and added up to a comprehensive score in points. Based on the number of these scores, a certain place will be assigned to each territorial unit, i.e. the regions will be ranked by federal districts. This ranking and comprehensive assessment will make it possible to form a holistic picture of the state of physical culture and sports in all six areas. This, in turn, will allow to identify the best practices of physical culture and sports management, and for lagging regions to identify problem areas and ways to solve them.

RESULTS AND DISCUSSION

We analyzed 85 regions of the Russian Federation according to the methodology described above. For clarity, the data are presented in the context of federal districts of Russia.

Let us take a closer look at the first block “Physical Culture and Mass Sports”. Figure 2 presents data on the share of the population systematically engaged in physical culture and sports.

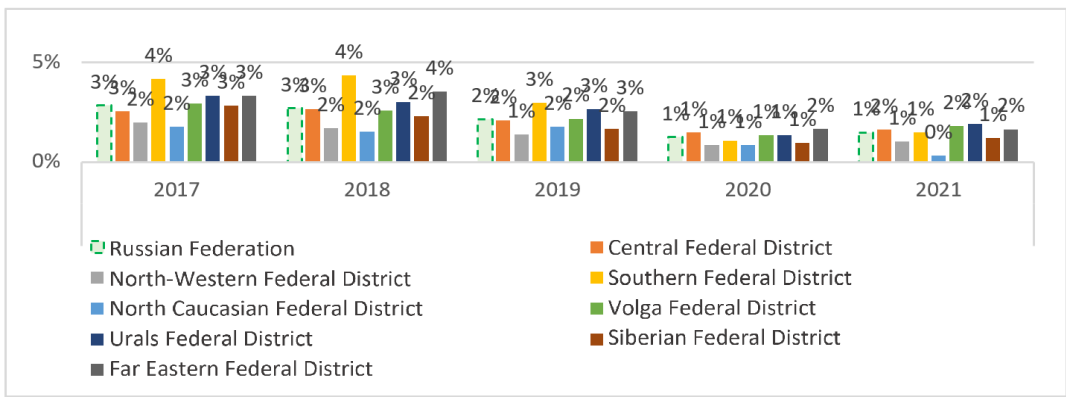
Fig. 2: Share of the population systematically engaged in physical culture and sports



Source: Elaboration of authors

According to the diagram, throughout the territory of the Russian Federation during the period under review the indicator is growing, it increases on average by 12.9%. This indicates the growing interest of the population in sports and physical culture, possibly as a means of improving health and maintaining physical fitness. The second indicator of this block is the share of athletes of mass sports categories trained during the year (Figure 3).

Fig. 3: Share of trained athletes of mass sports categories during the year.

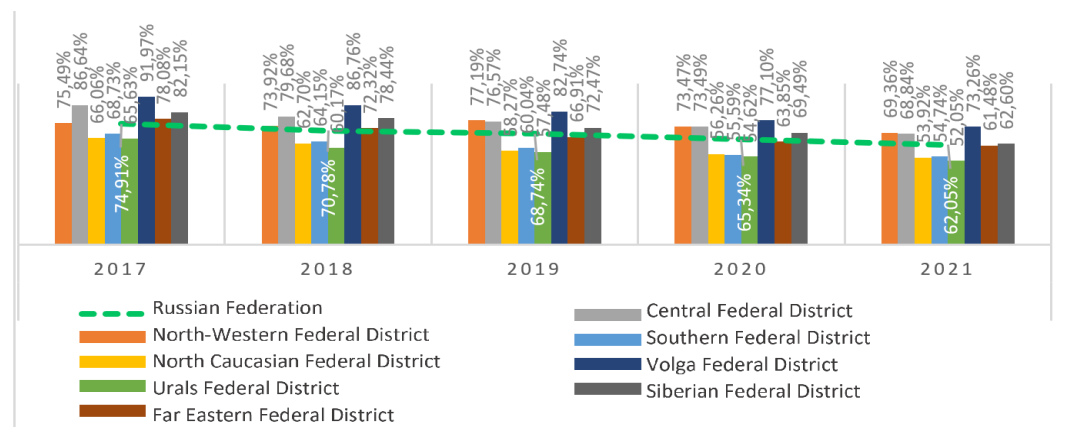


Source: Elaboration of authors

The sharp decrease in the number of level-players from 2020 in all regions of Russia can be associated with a decrease in the opportunities for realization in sports on the international arena. Since 2018, athletes were forced to compete under a neutral flag at international competitions and mass doping scandals began, many strongest Russian athletes were suspended from competitions even if they were not found to be doping.

Next, let us consider the number of full-time employees in the sphere of sports and recreation (Figure 4).

Fig. 4. Provision of the sphere of PCS with full-time employees, %.

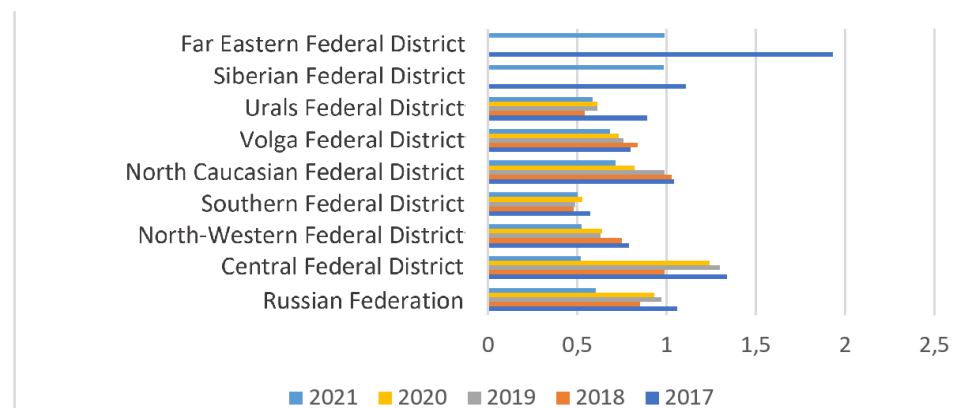


Source: Elaboration of authors

Analyzing this indicator, we can draw conclusions about the quality of service and the level of accessibility of services in the field of physical culture and sports. According to the diagram, there is a decrease in the number of full-time employees in the sphere of physical culture and sports in all regions of the Russian Federation. Thus, the conditional leader - the Urals Federal District - has the lowest level of decline in the indicator. From 2017 to 2021, the percentage of provision with full-time employees decreased in the regions of this federal district from 91.97% to 73.26%, which is almost a 20% decrease. In the rest of Russia, the decrease was even more significant. It means that there is a threat of staff shortage in the sphere of physical culture and sports. In this regard, the regional policy should be aimed, among other things, at reducing the shortage of personnel.

Next, let us consider the dynamics of changes in the coefficient of sports equipment consumption (Figure 5).

Fig. 5. Share of retail sales of sports equipment in % of the respective product group



Source: Elaboration of authors

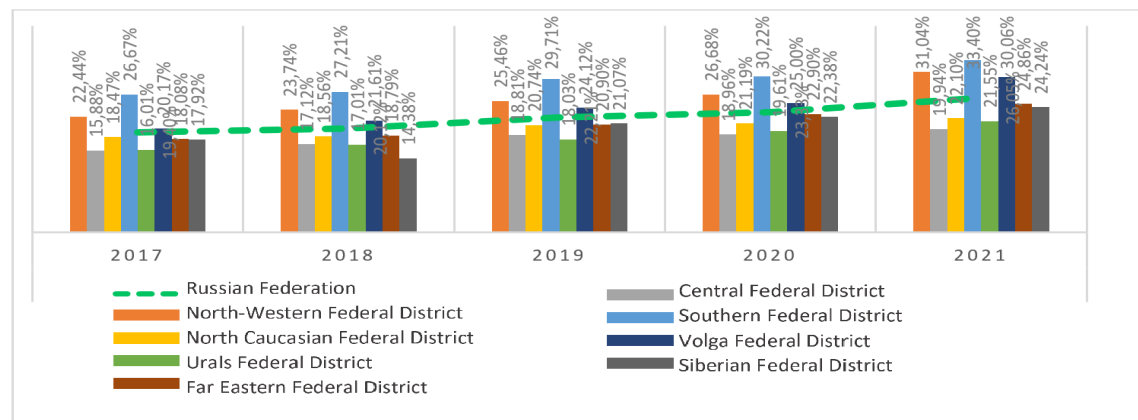
The average Russian coefficient of consumption of sporting goods in 2017 was higher than in other years, and in 2021 it was the lowest in all Russian regions. In the regions of the Siberian and Far Eastern Federal Districts there is a significant excess of the researched indicator over the average level in Russia. This is probably due to the lack of sports



infrastructure and program budget. The population compensates for the insufficiency or inaccessibility of sports infrastructure by buying sports equipment. Also in these regions statistical data are not provided for all the years under study.

The next block “Children’s and Youth Sports Schools and training of sports reserve” contains only one indicator. Let us consider the dynamics of the share of the population engaged in groups and sections by sports (Figure 6).

Fig. 6. Share of population practicing in groups and sections by sports, %.



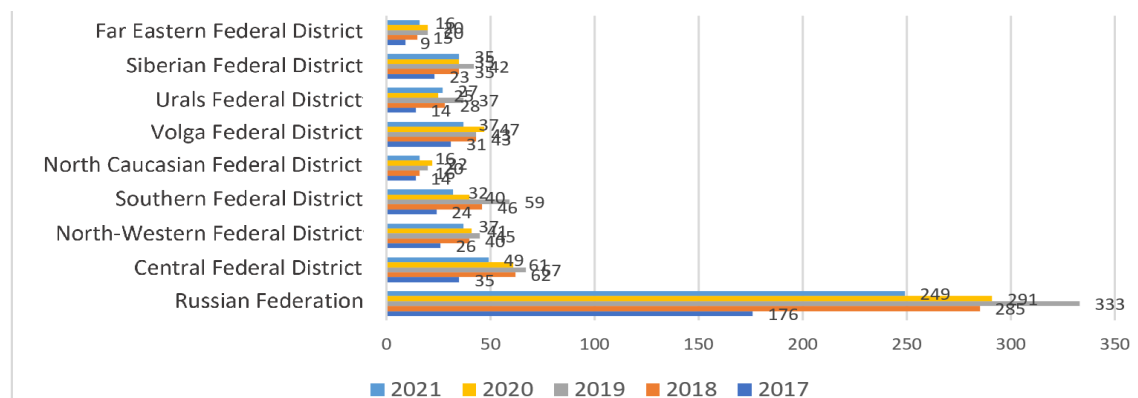
Source: Elaboration of authors

The share of the population engaged in groups and sections of sports is an indicator of the popularity of the sports movement in the region and the country as a whole. The higher the value of the indicator, the higher the probability that sport plays an important role in the life of the population. According to the diagram, the leader is the North Caucasus Federal District. The regions of this district are developing a sports culture, which is based on ancient traditions and rituals related to physical training and martial arts.

For example, such sports as Greco-Roman wrestling, combat sambo, kickboxing, karate and others are widespread in the North Caucasus, both among professional athletes and in amateur sports. High indicators are also observed in the regions of the Central Federal District. From year to year this indicator is also growing in the regions of the Ural Federal District. Stably the lowest indicators are observed in the regions of the North-Western and Volga federal districts. The government authorities of these regions should develop appropriate development programs to increase the level of the population’s interest in sports.

Next, let us consider the indicators of the “High Achievement Sports” block. Figure 7 shows the number of Master of Sports International Class titles awarded.

Fig. 7: Number of assigned International Master of Sports titles, units

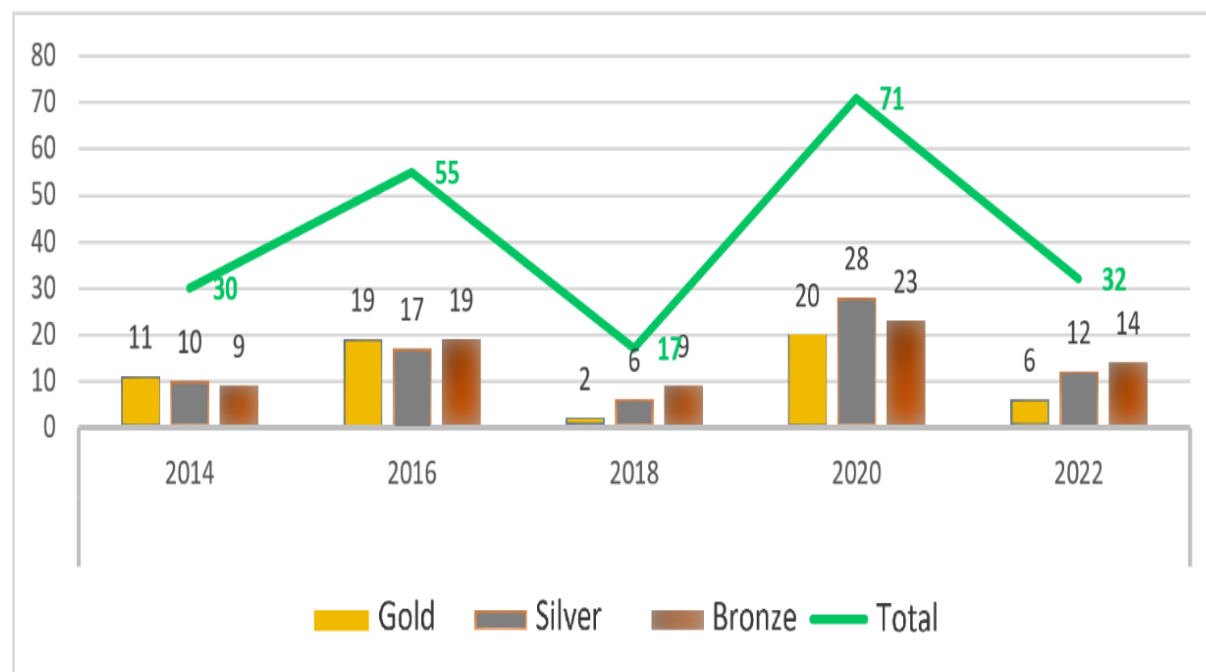


Source: Elaboration of authors

Over the five-year period, 1,334 athletes were trained, who defended the titles of Master of Sports of the International Category. The Central Federal District is the leader here. This is due to the large number of professional sports bases located in the territory of the regions of this federal district, such as the leading training center “Novogorsk”, which is the training base for the Russian national teams, as well as many other professional sports bases and training centers. In 2021, the indicators are significantly decreasing in all regions of Russia.

The results of international competitions are an important indicator of the level of sports development in the country and can serve as an indicator of the effectiveness of the state policy of physical culture and sports development. If the results of teams or individual athletes significantly deteriorate, it may indicate the ineffectiveness of ongoing activities and programs. Figure 8 presents data on the number of medals at the Winter (2014, 2018, 2022) and Summer (2016, 2020) Olympic Games.

Fig. 8. Number of Olympic medals of Russian athletes.



Source: Elaboration of authors

According to the diagram, most of the Olympic medals in the Russian Federation's piggy bank come from summer sports. Among the most successful sports in the Summer Olympics for Russia are track and field athletics, canoeing, shooting, freestyle wrestling, judo, rhythmic gymnastics and synchronized swimming. However, the results in other sports such as swimming, boxing, tennis and others are not always as successful.

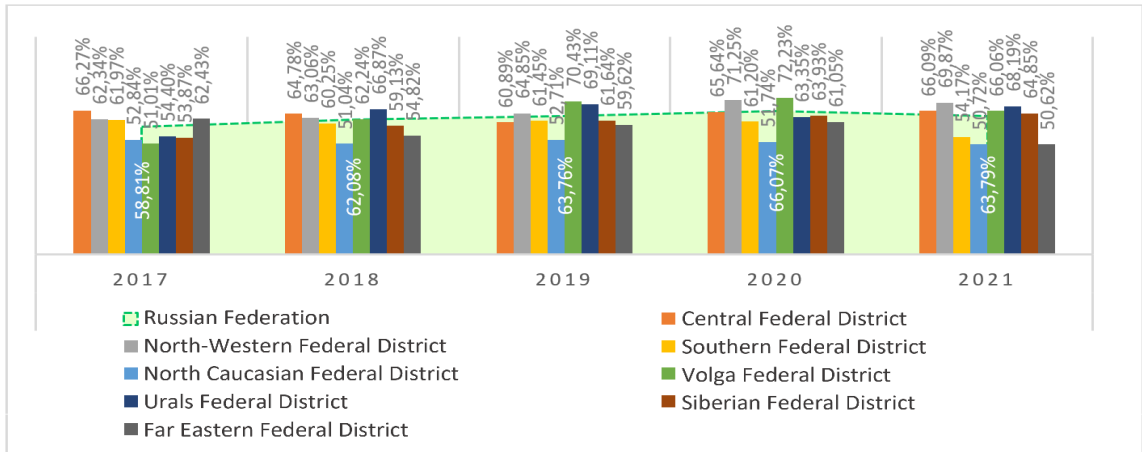
The 2018 PyeongChang Winter Olympics in 2018 were difficult for Russian athletes. Only 17 medals were won. The most medals were won at the 2020 Summer Olympics, which were held in 2021 in Tokyo. It is noticeable that the results of athletes in winter sports are inferior to those of athletes in summer sports.

Since the data on Olympic medals are presented for Russia as a whole, a single average value is taken for each region to calculate the integral index. This index is necessary to take into account the trend of development of sports and fitness in general.

Next, let us analyze Block 4 “Adaptive Physical Education”. Figure 9 shows the share of pupils classified in the special medical group and attending special classes over the last 5 years.



Fig. 9: Share of pupils classified as special medical group attending special classes, %

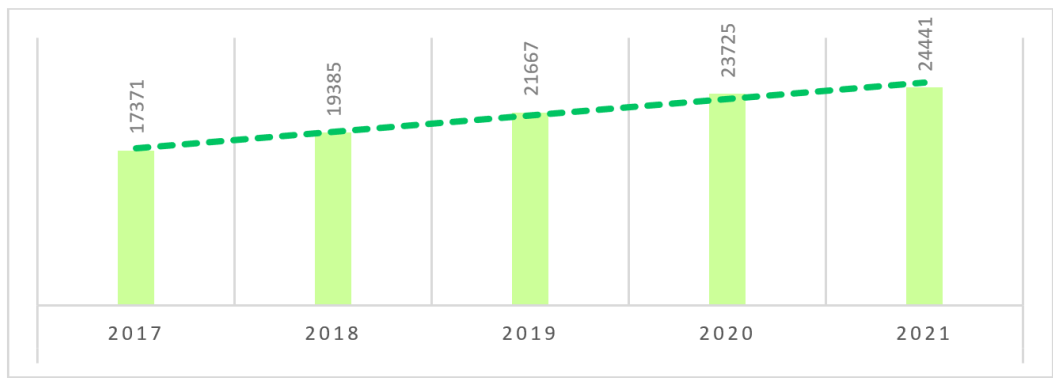


Source: Elaboration of authors

According to the diagram, the share of pupils classified in the special medical group attending special classes is increasing in the regions of the Northwestern, Volga, Urals and Siberian Federal Districts. The highest values were recorded in the regions of the Northwestern and Volga federal districts - 71.25% and 72.23%, respectively. On the one hand, this indicator testifies to the deteriorating physical health of students and indicates the presence of a complex problem, the causes of which may include inefficient functioning of the health care sector, poor environmental conditions, sedentary lifestyle of students themselves and many others. However, for the sphere of physical culture and sports it is also a challenge associated with the need to develop new programs of training, rehabilitation of students, training of relevant personnel, material and technical base. In this regard, regions with an increased indicator of the share of students classified in the special medical group will receive maximum points in their ranking due to the fact that the physical training and sports system copes with this task.

The next indicator of this block is the number of adaptive physical culture and sports athletes (Figure 10).

Fig. 10: Number of adaptive physical culture and sports athletes in Russia, units



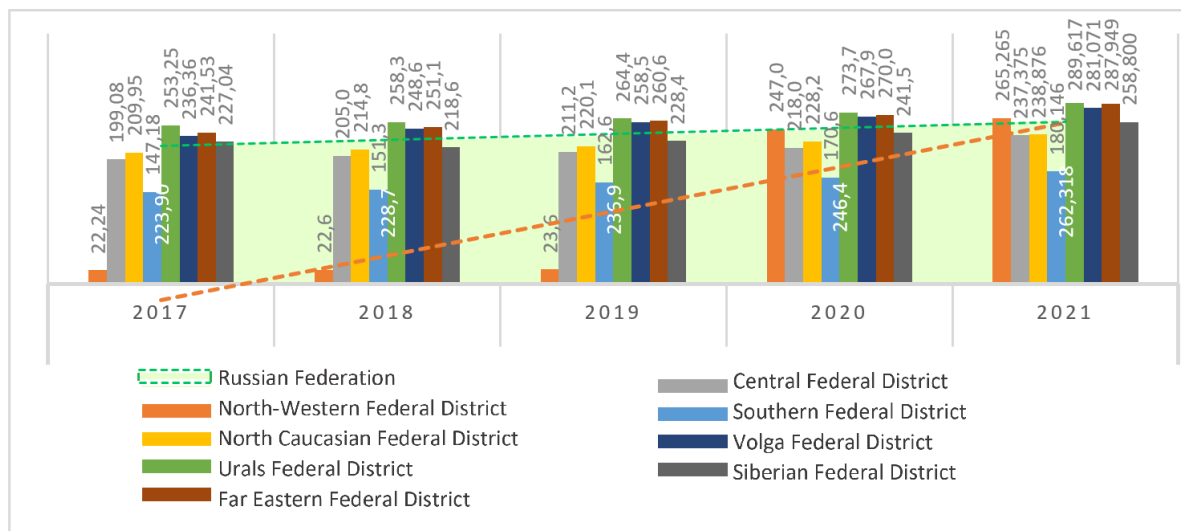
Source: Elaboration of authors

This indicator is available only for Russia as a whole; regional data are not available. Therefore, in our calculations for each region a single average value is taken to calculate the integral index. This indicator is necessary to take into account the trend in the development of physical culture and sports in general. However, regional level physical culture and sports authorities that have access to the database can use the actual values of their region when applying this methodology and improve the accuracy of calculations.

The diagram shows that the number of adaptive physical education and sport athletes in Russia is growing. This indicates that effective work is being done to rehabilitate and motivate the participants of adaptive groups.

Next, let us consider the indicator of the block “Material and technical equipment”. The analysis of material and technical equipment allows us to assess the availability of necessary infrastructure facilities (sports halls, stadiums, swimming pools, gyms, ski bases, etc.), their technical condition, availability of necessary equipment and its compliance with modern requirements and standards. Figure 11 shows the number of physical culture and sports facilities per 100,000 population by federal districts of Russia.

Fig. 11: Number of physical culture and sports facilities per 100 thousand population



Source: Elaboration of authors

The regions of the Volga, Urals and Siberian Federal Districts are in the lead. The number of sports infrastructure is almost two times less for residents of the regions of the North Caucasus Federal District. The number of physical culture and sports facilities per 100 thousand population in the Central Federal District increased slightly more than 11 times. This jump can be connected, on the one hand, with the preparation for major sporting events, such as the World Greco-Roman Wrestling Championship-2021, International Figure Skating Competitions, International Rhythmic Gymnastics Competitions, World Basketball Championship, etc. On the other hand, the growing demand for commercial sports services. As a result, businesses began to invest in the construction of new fitness clubs and reconstruction of old facilities for fitness centers.

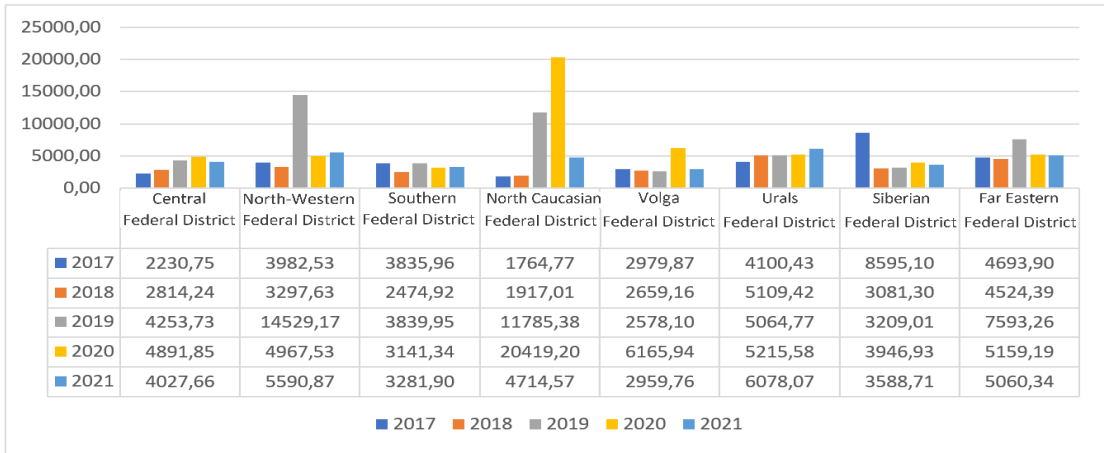
However, it is worth assessing not only the number of sports facilities, but also their condition. In 2019, the Russian Chamber of Auditors conducted an audit of the use of budget funds for the construction and reconstruction of sports infrastructure facilities in Russia. During the audit it was found that there are about 40 thousand sports infrastructure facilities in Russia, of which 20% are in a state of disrepair, and 30% are in need of major repairs (Russia. Federal Center for Organizational and Methodological Support of Physical Education, 2021).

In 2020, the ANO “Center for Strategic Research” also conducted a survey among the Russian population, during which it was found that more than 50% of respondents stated that there are problems with the availability and condition of sports infrastructure facilities in their regions. That is, there is an infrastructural problem of quality rather than quantity (Ministry of Sports of the Russian Federation, 2020).

Next, let us consider two indicators from Block 6 “Financing”. These are financing of physical culture and sport per 1 inhabitant and the share of extra-budgetary funds in the financing of physical culture and sport. The first indicator allows us to assess the level of state support for sport and physical culture in different regions and countries, as well as to conduct a comparative analysis between them. The higher the financing of physical culture and sports per 1 inhabitant, the

more funds are available for the development of sports infrastructure, support of athletes, organization of sports events, etc. Also, this indicator may indicate a high level of awareness of the importance of healthy lifestyles and sports in the society. The dynamics of this indicator for 5 years by federal districts is presented in Figure 12.

Fig. 12: Financing of physical culture and sports per 1 inhabitant, rubles

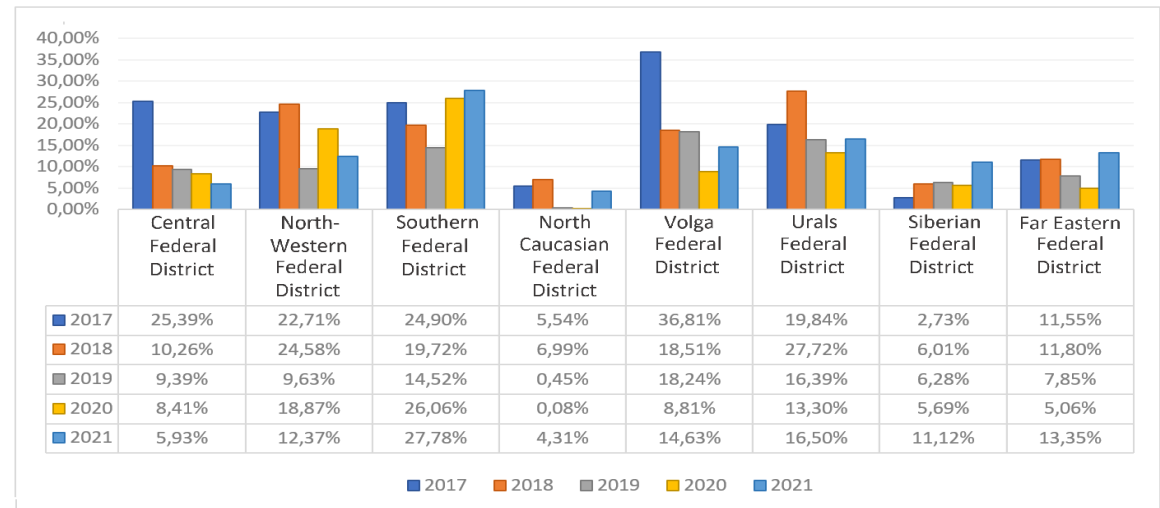


Source: Elaboration of authors

According to the diagram, the average financing of the sphere of physical culture and sports does not exceed 5000 rubles per 1 inhabitant. The stable level of financing over the period under study is observed in the regions of the Urals Federal District with a tendency of slow growth of the indicator. Funding of physical culture and sports does not exceed 4,000 rubles in the regions of the Southern Federal District. Sharp drops in financing are observed in the regions of the North Caucasus Federal District, where in 2019 the financing of physical culture and sports amounted to more than 11 thousand rubles per person, and in 2020 - more than 20 thousand rubles. Similar funding jumps, but in smaller values, are observed in the regions of the Northwestern, Volga, Siberian, and Far Eastern federal districts.

The second indicator of the block “Financing” is the share of extrabudgetary funds in the financing of physical culture and sports. The dynamics of this indicator for 5 years by federal districts of Russia is presented in Figure 13.

Fig. 13. Share of extra-budgetary funds in the financing of physical culture and sports, %.



Source: Elaboration of authors

According to the diagram, in the regions of the Central, North-Western, Volga and part of the Ural Federal Districts, the share of extra-budgetary funds in the financing of physical culture and sports is gradually decreasing. The growth of this indicator compared to 2017 is observed only in the regions of the Southern, Siberian and Far Eastern federal districts. The outsider by this indicator is the North Caucasus Federal District.

Extrabudgetary funds can come from sponsors, donations from individuals or companies, revenues from the sale of tickets for sporting events and other sources. A high percentage of extra-budgetary funds may indicate a well-developed sports infrastructure and sponsorship culture in a region or country. It may also indicate a strong interest on the part of the population and businesses in the development of physical education and sport. However, too high a percentage of extra-budgetary funds may indicate insufficient public funding and low priority of physical culture and sport development in public policy.

Thus, we considered all the indicators included in our proposed methodology in the context of federal districts of the Russian Federation as a generalization of regional data. Based on these data, we conducted a comprehensive integral assessment of the sphere of physical culture and sport according to the methodology described above and ranked the federal districts (Figure 14).

Fig. 14. Ranking of federal districts by the level of development of the sphere of physical culture and sports based on the integral assessment of indicators.

FEDERAL DISTRICTS	PHYSICAL EDUCATION AND MASS SPORTS	CHILDREN'S AND YOUTH SPORTS SCHOOLS AND TRAINING OF SPORTS RESERVE	SPORT OF HIGHEST ACHIEVEMENTS	ADAPTIVE PHYSICAL EDUCATION	MATERIAL AND TECHNICAL EQUIPMENT	FINANCING	COMPREHENSIVE INTEGRATED ASSESSMENT	FINAL PLACEMENT
Central Federal District	44	32	30	65	18	16	205	4
North-Western Federal District	38	18	25	66	34	25	206	3
Southern Federal District	34	20	24	61	45	13	197	7
North Caucasian Federal District	39	28	23	52	25	33	200	6
Volga Federal District	37	18	25	64	58	14	216	2
Urals Federal District	40	24	23	64	49	21	221	1
Siberian Federal District	32	19	20	61	54	18	204	5
Far Eastern Federal District	36	20	14	58	46	22	196	8

Source: Elaboration of authors

Moreover, in each federal district the leading and outsider regions have been identified (Figure 15).

Fig. 15. Results of the comprehensive assessment of physical culture and sports work in the regions of the Russian Federation.



Source: Elaboration of authors

Based on the presented results of the integral assessment, the following conclusions can be drawn:

1. The Urals Federal District confidently holds the first position in the comprehensive integral assessment of the development of physical culture and sports and the organization of physical culture and sports work (221 points). Its leading region is the Sverdlovsk Oblast. It is centered in Yekaterinburg and is one of the largest and most developed regions of the Urals Federal District.

In the city and the region there are many high-level sports facilities, including stadiums, sports complexes and training centers. International and national competitions in various sports are held here. The city of Yekaterinburg is also home to professional sports teams. In addition to the Sverdlovsk Region, the Tyumen and Chelyabinsk Regions also have good indicators in this federal district. The region has a number of modern sports facilities and actively supports the development of mass sports. The outsider region is the Khanty-Mansiysk Autonomous Okrug. It, as well as the Yamalo-Nenets Autonomous Okrug, is known for its rich natural resources, including oil and gas. Both regions also have significant economic

potential and are implementing major investment projects. But they have not yet achieved high positions in the sphere of physical culture and sports.

2. The Volga Federal District (216 points) ranks second in terms of the development of physical culture and sports and the organization of physical culture and sports work. Its leading region is the Republic of Tatarstan. This is a region with a developed sports infrastructure and active sports life. Tatarstan hosts many sports competitions in such sports as soccer, hockey, basketball, swimming and other sports. There are major sports facilities such as Kazan Arena and Tatneft Arena, as well as sports schools and academies. In addition to the Republic of Tatarstan, the Samara and Nizhny Novgorod regions also have good indicators in this federal district. They also have a diverse sports infrastructure, where



regional and national level competitions are held. There are sports complexes, stadiums and other facilities, as well as a developed sports base for training athletes.

The region-outsider is the Udmurt Republic. Although the Udmurt Republic also has sports facilities and holds competitions, but the development of sports in the region is relatively less intensive compared to other regions of the Volga Federal District.

3. The Northwestern Federal District (206 points) came in third place. St. Petersburg, as the largest city in the Northwestern Federal District, has a developed sports infrastructure and hosts many international level competitions. Also, the Leningrad and Kaliningrad Regions have some advantages in sports development due to the availability of sports facilities and events. The outsider region in this federal district is the Komi Republic. The Nenets Autonomous Okrug also has less attractive indicators.

4. The Central Federal District (205 points) is in fourth place with a slight gap of one point, and Moscow is the leader - the city of federal significance. Moscow has a highly developed sports infrastructure, including numerous sports complexes, stadiums, arenas and training facilities. The city actively attracts major sporting events and has professional teams in various sports. So based on the general idea about the development of physical culture and sports in the regions of the Central Federal District, the Kostroma region is considered as a region with less developed in comparison with other indicators.

5. The Siberian Federal District (204 points), whose leading region is the Novosibirsk Oblast, rounds out the top five. Krasnoyarsk Krai and Irkutsk Oblast are also close to it. They also have well-developed sports infrastructure, including stadiums, sports complexes and training facilities. The regions are known for their achievements in winter sports and actively support sports programs and events. The outsiders here are the Republic of Tyva and the Republic of Buryatia.

6. The remaining federal districts and their regions have lower indicators, and the state management of physical culture and sports requires improvement. These are three federal districts - the North Caucasian, Southern and Far Eastern. Analysis of the situation in them reveals significant differences in the level of development of the sphere of physical culture and sports. These differences are manifested at the level of specific subjects of these federal districts.

In the North Caucasus Federal District, the Republic of Dagestan holds the lead. While the Republic of Ingushetia has low indicators. These differences indicate the need for additional efforts and resources to ensure uniform development of sports infrastructure and activity of the population.

The Southern Federal District occupies the penultimate place in the rating. The Krasnodar Territory demonstrates relatively high performance here, while the Republic of Crimea occupies the bottom position. This may be due to both the geopolitical situation and the lack of strategic planning for the development of the territory and the sphere of sports and recreation in general.

The Far Eastern Federal District demonstrates similar trends, where Primorsky Krai stands out against the background of other regions. While the Jewish Autonomous Region ranks last in the rating, indicating serious problems in the sphere of sports infrastructure and physical culture and sports management.

The main difficulty in managing these federal districts is insufficient funding from the state and a limited amount of extra-budgetary funds. This limitation affects the opportunities for the development of sports facilities, programs and initiatives. There is also a lack of investment projects in the field of physical culture and sport, which limits the potential for growth and improved performance.

Thus, the management of the development of physical culture and sports in these federal districts requires a systematic approach, including a more effective allocation of financial resources, stimulation of extra-budgetary investments, as well as the development and implementation of investment projects aimed at improving the availability and quality of sports facilities and services.

Based on our analysis, we have identified the problems of physical culture and sports development at the regional level in the Russian Federation (Figure 16).



Fig. 16: Problems of physical culture and sport development at the regional level in the Russian Federation.



## CONCLUSIONS

To solve the identified problems of physical culture and sport development at the regional and national levels, we propose a number of recommendations.

First, it is to strengthen interagency cooperation in the field of sport. In Russia, it is necessary to strengthen cooperation between the Ministry of Sport, the Ministry of Education, the Ministry of Health and other relevant agencies. This will reduce the costs of sport management and increase the efficiency of resource utilization.

Secondly, it is strategic planning for the use of sports infrastructure at the project development stage. This will increase the efficiency of further utilization of the potential of the created sports facilities and increase their profitability.

Third, it is the development of partnerships between public and private organizations on the creation and use of sports infrastructure, as well as competitive, patriotic and other physical culture and sports projects.

Fourth, it is the creation of an effective system of monitoring and control over doping in sport. It is necessary to introduce a comprehensive system of medical examination, starting with very young athletes.

Fifthly, it is the development of the scientific base in the field of sport (increasing state funding for scientific research in the field of sport, reducing bureaucratic processes and simplifying procedures for obtaining grants for researchers, creating scientific centers and laboratories for conducting research in the field of sport, attracting highly qualified specialists from other countries to exchange experience and knowledge, increasing the availability and transparency of scientific information for the scientific community and sports organizations).

The implementation of these recommendations will contribute to the development of physical culture and sport in Russia's regions and in the country as a whole.

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