

## **Influence of Sports Constructions on the Urban Environment during Reconstruction and Updating of the Developed City Building**

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### **ABSTRACT**

Development of the urban environment assumes updating of the developed evaluation methods of working conditions and accommodation in settlement borders. Sports facilities are essential part of city and municipal infrastructure nowadays. This article presents an overview of approaches to evaluating the effectiveness of sports facilities as a tool for improving the quality of people's life. Moreover, this paper presents mechanisms that can improve the effectiveness of a sports facility. Achievement of the requirements to the level of accommodation of the population provided by the regulating documentation in the territory of the city demands timely updating of subjects of the residential real estate, subjects of industrial and cultural function as well as the city infrastructure. The author provides information about the integral indicator of living standard and about urban environment quality index, which are calculated using information about sports facilities. The paper provides a comparative analysis of sports registries of different countries, which provide access to information about sports infrastructure for the population; the criteria necessary for improving the Russian registry are identified.

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### **Introduction**

Nowadays special attention is paid to the issues of the development of sport and sports infrastructure in the Russian Federation. The state actively develops complex of actions for the involvement of the population in healthy lifestyle and also takes measures for the creation of conditions for inclusion of Russia in the global sports industry. The purposes of the Government of the Russian Federation within the implementation of data of the program are the following:

- the increase in the share of the population playing sports up to 55%;
- the increase in the indicator of healthy life of citizens up to 67 years [16].

During the last 10 years the programmes aimed at the development of sport and physical culture in regions of Russia have been offered, approved and implemented in the country. And most significant the most large-scale ones among them were:

- federal target programme "Development of Physical Culture and Sport in the Russian Federation";
- regional programmes "Development of Physical Culture and Sport";
- the use of mechanisms of public-and-private partnership (PPP) for the implementation of infrastructure projects in the field of physical culture and sport [17].

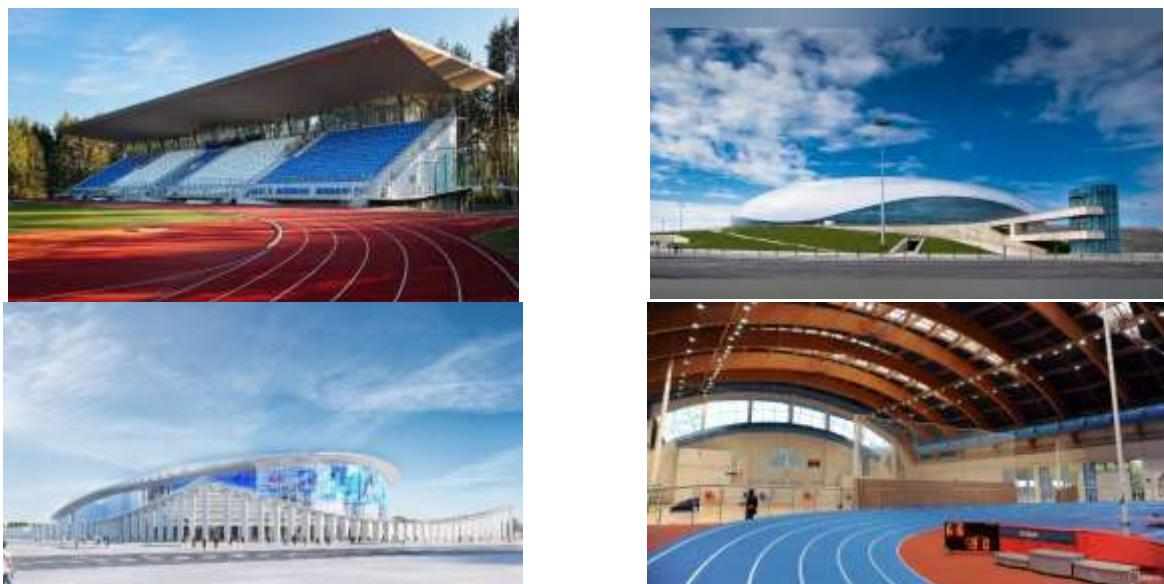
Such programmes solve the following problems:

- creation of the necessary conditions providing to citizens opportunity regularly to be engaged in grade and physical culture;
- increase in the level of training of athletes in elite sport;
- development of infrastructure of physical culture and sport, including within public-private partnership;
- reconstruction of the facilities located in step availability with the creation of comfortable conditions for the persons with limited opportunities;
- improvement of material and technical resources for training of athletes of the highest sport and trainers taking into account the climatic features in the regions of Russia;
- creation of necessary conditions for the preparation and preserving of sports reserve;
- the strengthened development of sports infrastructure in the North Caucasian Federal District, the Republic of Crimea and Sevastopol, the Kaliningrad region and the Arctic zone [18].

During the last 10 years great large sports competitions took place in the territory of the Russian Federation. The most significant of those events were:

1. The XXII Olympic winter Games and XI Paraolympic winter games in Sochi in 2014;
2. The XXVII World summer Universiade in Kazan in 2013;
3. The XXIX World winter Universiade in Krasnoyarsk in 2019;
4. FIFA World Cup 2018 [12].

The developed sports infrastructure [8, 9, 20], including both material infrastructure (sports constructions), and organizational infrastructure (sports schools, clubs, etc.) is necessary both for the involvement of the population in sports activities and for holding large sporting events [12]. In the beginning of 2010 there were 243,141 sports constructions in Russia, in the end of 2019 their quantity increased up to 311,905. Thus, the special attention to the problems of development of sport and physical culture in the Russian Federation has led to the construction of 68,764 new sporting facilities [17] (Fig. 1).



**Figure 1.** Examples of the modern sports facilities constructed in Russia

At the same time, it is important to understand that the development of sport and the construction of sports infrastructure is not the purpose itself. It serves only as a tool for the improvement of quality of life of the population [21]. Besides, such significant investment projects can promote the economic growth in those regions where they are performed.

## 2. Literature review

The carried out analysis of references has proved that theoretical-and-methodical research of problems of the innovative development of the industries and spheres of economy are studied in works by such scientists as Akmayeva R.I., Bukhonova S.M., Varnavskiy V.G., Viktorova T.S., Doroshenkov Uy.I., Zoidova K.X., Ivanova N.I., Komilova S.D., Retneva A.D., Smirnova M.O., Somina I.V., Snaplyan O.O., Fatkhutdinov R.A., Chernaya M.V., etc.

The research of problems of the economy development and the service industry development were considered in works by the leading domestic and foreign scientists: Agayevts V.U., Voskolovich N.A., Demidova L., Yerokhin L.I., Kangiz Haksever, Kiel M.Yu., Lifitsa I.M., Radzhabova R.K., Fakerova H.N., Habibova S.H., Hodzhayev P.D., Hlebovich D.I., Khusainov M.K., Sharopov F.R., Shinkevich A.I. and others.

The significant contribution on studying of the problems of economy, the organization and management of physical culture and sports, such scientists as Alyoshin V.V., Aristov L.V., Bannikov A.M., I. S. Barchukov, Bloodless VA., Vakalova L.G., Vilkin Ya.R., Gadzhiev A.A., Galkin V.V., Zhestyannikov L.V., Zholtak V.I., Zavadskaya Z.L., Zoidov K.H., Zolotov M.I., Zubarev Yu.A., Kosovo Yu.A., Kuzin V.V., Kuzmicheva E.V., Kutepov M.E., Mirsaidov A.B., Novokreshchenov V.V., Nogumanov, R.U., Pochinkin A.V., Radzhabov R.K., Saidov M.H., Samandarov I.H., Smirnov M.O. and others.

## 3. Methodological Approach

Special attention of modern scientific literature is paid to the issue of interaction of the service industry of physical culture and sport and national economy. It is connected with the expansion of scales of sports actions and increase in interest of society in individual and group sports occupations where the additional market supply and demand on the rendered sports services is formed. At the same time, there is fierce competition which induces the sports organizations to make and provide high-quality services, to introduce the innovation technologies and to the increase in the efficiency of the activity.

Besides, there is the commodity saturation, where two types of the market are allocated: the first appearance "The market of the seller - sellers have more rights, and buyers are more active; the second type "The market of the buyer - is more than power at the buyer, and sellers are more active".

At the same time, the nature of the market of services of physical culture and sports has communication with the features of territories (regions) of rendering these services. On the other hand, this market contributes much to the active development of the region and increase in its investment attractiveness.

## 4. Results

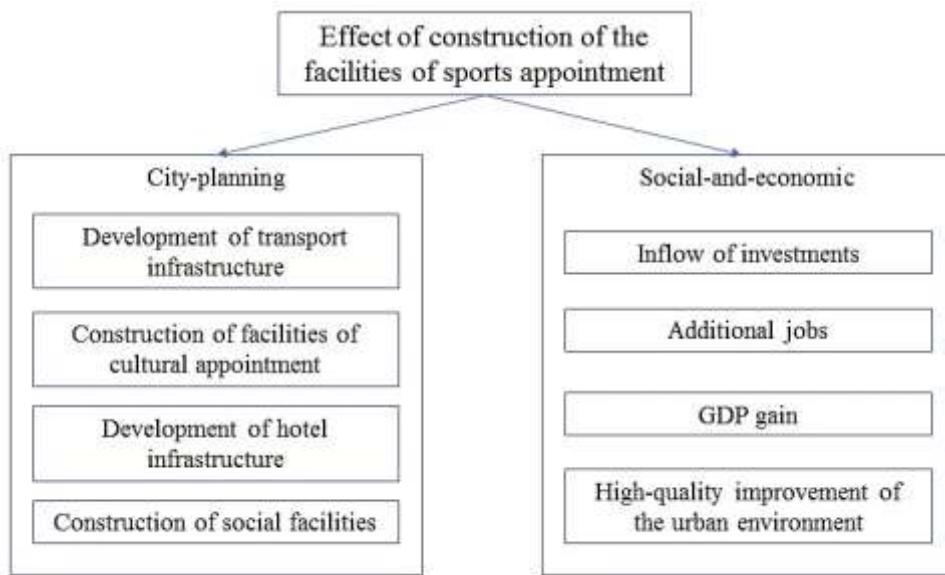
Construction of sporting facilities and holding large sports competitions renders long-term effect on the urban environment of municipal units where such events are held. On the example of the cities hosting large sporting events for the last 20 years it is possible to judge that the solution of city problems for the investment account in construction of sporting venues and infrastructure, necessary for competitions, is tended.

The rendered effect can be divided into the following groups:

- Town-planning;
- Social;



- Economic;
- Ecological. (Figure 2).



**Figure 2. Classification of influence of construction of sports facilities on the urban environment**

According to the existing legal acts, the state gives administrative support to municipalities in issues of development of infrastructure during the holding large-scale sporting events and construction of large sporting facilities.

In particular this support means:

- The accelerated terms of coordination of documentation and holding governmental activities on project appraisal,
- Simplification of approval process of the project documentation on planning of the territory,
- Possibility of change of regional regulatory legal acts for the needs of the infrastructure development.

It should be noted that when updating of the developed building of the city the great influence renders the integrated approach to placement of sports constructions on forming of the comfortable and qualitative urban environment. Development of sports infrastructure is the indicator of the quality level and comfort of life, both for the certain city, and for the state in general. With respect thereto, construction of sports constructions is one of priority tasks of federal and municipal authorities.

Facilities of sports appointment have to form the network having optimum indicator of availability to citizens. At the same time, it is necessary to consider that built sports construction have various functional focus and each separate sport requires the building corresponding on orientation.

Thus, design of placement of sports constructions is conducted at stage of development of the master plan and has significant effect on forming of the qualitative urban environment. Placement of sports constructions of the city has to provide availability to locals which is defined by transport and pedestrian radiiuses of service which expansion is possible due to improvement and development of transport infrastructure.

Thus, we have complex network of city constructions of various orientation with need of ensuring certain level of availability, that is in design process of network of sports constructions of the city there is the need for the development of transport infrastructure.

Nevertheless, the construction of sports infrastructure is not the purpose itself. It serves only as a tool for the improvement of quality of life of the population, which was estimated in this article.

Data on level of living and security with sports constructions of Russia, Germany and Finland are provided in

Table 1. On the basis of the table it is visible that the quantity of sports constructions on 100,000 people in Russia is 213 pieces while in Finland this indicator reaches 652, and total GDP of Russia is almost identical to GDP of Germany.

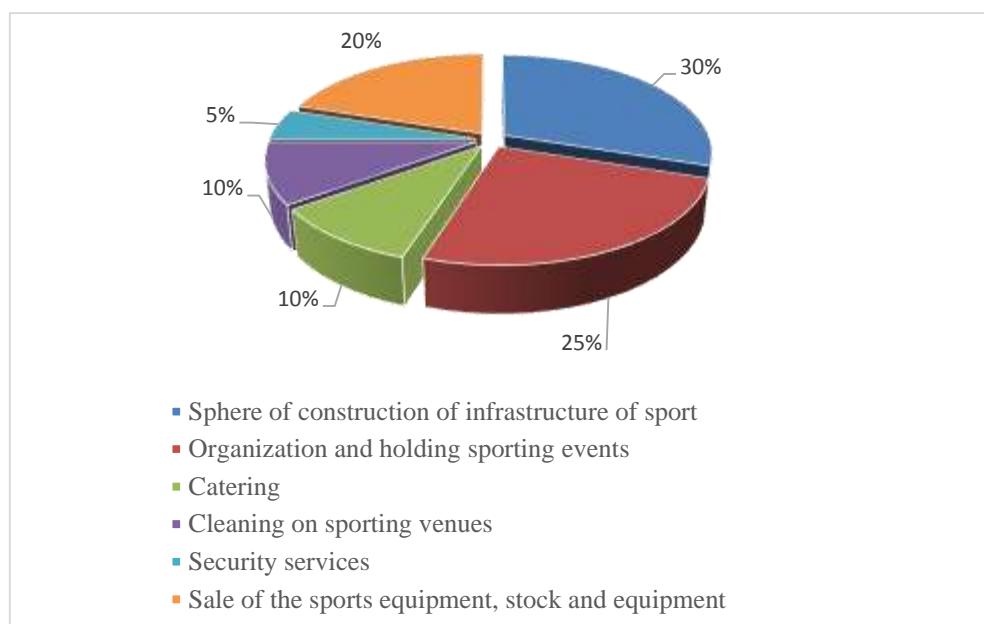
**Table 1.** Level of living in Germany, Finland and Russia

Indicators		Germany	France	Russia
Population size / persons		83,019,200	5,519,586	146,510,064
Quantity of sports constructions		231,441	36,000	311,905
Quantity of sports constructions on 100,000 people		279	652	213
GDP (at par consumer capability)	Total	4.356 trillion dollars	46,380 billion dollars	4,213 trillion dollars
	Per capita	52,470 dollars	46,380 dollars	28,755 dollars
Average salary / month	Per capita	3,979.22 euro (283,619 rubles)	3,560.59 euro (253,781 rubles)	46,509 rubles
Living minimum / month	Per capita	1,240 euro (88,381 rubles)	1,170 euro (83,392 rubles)	11,185 rubles
Minimum salary / month	Per capita	1,526 euro (108,757 rubles)	1,700 euro (121,167 rubles)	11,185 rubles

Comparing the provision of the population with sports facilities and GDP (according to the purchasing power) per capita it is possible to draw the conclusion that, nowadays the budget allocated for the development and maintenance of sports infrastructure in Russia is not sufficient [18].

In modern financial and economic conditions of the development of the infrastructure of sport in Russia the investment attraction is the key factor for the solution of many problems. There are fulfilled investment attraction methods thanks to which the investor is capable to find necessary financing sources for implementation of the business projects. However, starting this or that project, it is necessary to estimate in details all the risks, nuances and problems of its realization, including the investment climate, investment profitability, investment policy, the investment mechanism, investment strategy, investment process, the investment management, the investment budget, investment behavior and, at last, investment potential.

We have analyzed distribution of funds in the sports industry of Russia (Figure 3).



**Figure 3. Distribution of funds in the sports industry of Russia**

It is not a fact, that the level of provision of the population with sports facilities directly guarantees its commitment to active lifestyle. For example, the provision with sport objects in Dmitrov, which is situated near Moscow makes 24%, and the share of the citizens who are systematically going in for sports makes 29%. There is one more example, e.i.: in Sergiyev Posad the provision with sporting facilities makes only 8%, and the share of citizens athletes exceeds 17%. Possibly, in Sergiyev Posad organizers of sporting events work with the population more actively that emphasizes once again importance of human factor in promotion of active lifestyle.

Statistically, the Belgorod region takes the 1st place among the regions of the Russian Federation according to the provision with sport facilities. The Moscow region in this rating only the 79th, Moscow - the 80th, St. Petersburg - the 76th. Whether but everything in fact is so badly in the Russian capitals? More likely, it is the result of imperfection of statistics which not fully reflects the valid picture. Ratio of quantity of the facilities of sport and the population in various regions and municipal units variously. However, and the need for them varies. That means not only the sizes of water mirrors or the areas of gyms and plane structures, but the priorities, traditions and the needs for these or those sporting facilities as well as the financial opportunities of regions and their inhabitants. The needs of the population for the infrastructure of sport differ.

According to the information posted on the website of the Government of the Moscow region in Moscow area in the next 5 years are going to construct 103 sports and improving complexes. In spite of the fact that today in the Moscow region 7,485 sports-and-improving and sports facilities work, it make only 14% of standard requirement. By 2017 Moscow area needs to come to average values across the Russian Federation. The regional target programme "Development of Physical Culture and Sport in the Moscow Region for 2013-2015 Years" according to which 50 sports and improving complexes have to be constructed has been for this purpose adopted. More than 6.4 billion rubles, and from local authority budgets of 600 million rubles are allocated for the programme of implementation from the regional budget.

The ratio between II (integrated indicator) of level of living and the number of sporting facilities in the territory of each region is provided in Table 2 made on the basis of data on integrated indicator [10]. Integrated indicator of level of

living is the characteristic quality evaluation of life in the territory of the territorial subject of the Russian Federation made on the basis of the analysis of 72 indicators.

**Table 2. Integrated indicator of the level of living in the Russian regions**

##	Region of the Russian Federation	Quantity of sporting facilities	Quantity of population
1	Moscow	21,902	12,506,486
2	St.-Petersburg	7,697	5,351,935
3	Moscow region	10,721	7,503,385
4	Tatarstan	11,013	3,894,284
5	Belgorod region	5,892	1,549,876
6	Krasnodar region	10,396	5,603,420
7	Voronezh region	6,166	2,333,768
8	Khanty-Mansi Autonomous district	3,220	1,655,074
9	Lipetsk region	3,522	1,150,201
10	Kaliningrad region	2,029	994,599

According to the data provided in Table 2 it is obvious, that there are more sports constructions in regions with higher population. However, in the most inhabited territorial subjects of the Russian Federation (Moscow, Moscow region, St. Petersburg) more people are the share of each sports construction that speaks about quantitative lack of sports infrastructure. In less inhabited regions of Russia the population is provided with sports constructions [2, 12] better.

The following important characteristic of level of living is the index of quality of the urban environment. For the analysis of comfort of accommodation in the region are used 36 indicators among which:

- variety of cultural and leisure and sports infrastructure;
- availability of sports infrastructure.

The indicator of variety of cultural and leisure sports infrastructure pays off by means of coefficient of variation (variety) by the quantity of cultural and sports facilities in the city. The more in the city of different types of cultural sports facilities, the it is more than a coefficient and, respectively, the indicator is higher.

The indicator of availability of sports infrastructure pays off as follows: the first 50 percent of assessment on the indicator are calculated as share of the population living in radius of 2,020,800 meters from the sports grounds, in the total number of the population, the second 50 percent of assessment on the indicator are calculated as the relation of quantity of sports constructions to the population size of the city [3].

Turning on of these indicators in the system of forming of quality evaluation of the urban environment indicates the need of improvement of sports infrastructure for the cities of Russia on an equal basis with the level of illumination of streets and level of gardening.

On the basis of the above data we created Table 3 which proves the techniques of efficiency evaluation of activity of sports construction existing nowadays.

**Table 3. Current and offered criteria for the evaluation of the efficiency of sports facilities  
(according to the internal corporate documentation)**

Current criteria	Offered criteria
Assessment of the population which is regularly playing physical culture and sport in the region	Area of sports zone of object (for each sport)
Quantity of weeks, taken by sports activities of the people, regularly going in for sports	Operating costs
Actual load of sports facilities	Modern engineering systems equipment
Annual capacity of sports facilities	Sports equipment (level, type)
Calculation of the actual load of sports facilities	Regional features of location of sports facilities
Power of sports facilities depending on type	Typology of sporting facilities
Calculation of annual capacity of sports facilities	

Improvement of the criteria for evaluation of the efficiency of sports facilities construction is necessary for the improvement of quality of management of the subject. That in turn leads to the improvement of quality of the provided sports services.

## 5. Conclusion

At the moment the state gives rather great influence to questions of sport and its promoting in Russia. Demonstrates to it strategic objectives (to increase percent of the population playing sports up to 55%, to increase indicator of healthy life of citizens up to 67 years) the Ministries of dispute. Nevertheless, not enough attention is paid to efficiency evaluation of the sporting venue that reduces the speed of achievement of strategic objective. Thus, the change of the register of sports facilities will have the beneficial effect on promoting of sport in the territory of the Russian Federation as the citizens will be able to obtain all the necessary information on sports facilities and to choose the most suitable one quickly. On the other hand, the change of technique of efficiency evaluation of sporting venues will allow to optimize work of constructions that will allow them to increase quality and the quantity of the provided services, and accounting of regional specifics will provide to the population availability of the most demanded sports.

Thus, the competent management of the sporting venue and information on it will allow regions of Russia to popularize sports and healthy lifestyle more actively. That, undoubtedly, favorably influences successful development of each region and country in general as promotes improvement of quality of life of the population and preserving and accumulation of human capital.

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