Current trends in the development of the national land market and issues of ensuring its sustainability and harmonization

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Abstract. The analysis focuses on current trends in the development of the national land market within the framework of sustainable development projects. It also addresses the challenges related to ensuring the market's long-term sustainability and harmonization. This study examines the national land market and its ongoing structural changes in terms of both land ownership entities and categories, with an emphasis on sustainable and harmonious development. Attention is focused on the problematic aspects of stability, which become obvious when studying the current situation on the land market. These problems affect the economy, ecology, construction market, public and legal areas. The researchers also consider the unique characteristics of the land market that influence investment activity, emphasizing that these characteristics make the process of investing in the development of the land market complex and multifaceted. This process requires active advanced preparation for the harmonious development of the land market, which precedes sustainable construction. The paper also provides information about the system of state land registration in Russia, which is based on their categorization. This study focuses on the characteristics of the dynamic structural transformation of the national land market from 2005 to 2022, specifically examining the changes in ownership entities and categories. The analysis takes into account the market's harmonization as a distinct commodity market with stringent requirements for sustainable development. In conclusion, the paper draws attention to the need for further research in the field of the land market, as a unique type of commodity market with special requirements for its sustainable and harmonious development.

1 Introduction

Land markets are a unique type of commodity market for any economy, and its effective use is important both for ensuring sustainable and harmonious development of any territory. In the context of globalization and increasing environmental requirements, the land market

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is becoming increasingly complex and multifaceted. Many factors, such as economic, environmental, social and legal aspects, are responsible for this.

This paper examines current trends in the development of the land market in the Russian Federation, taking into account the requirements of sustainable development and environmental legislation. The specific and unique features of the land market that affect the development of investment and construction activities are also analyzed.

The main obstacle to introducing the idea of sustainable development of the land market in certain territories is associated with the contradiction of two trends (see Figure 1):

- the first is the desire of the state and municipalities to obtain maximum profit from the sale of land plots to citizens and legal entities (V1);
- the second is a decrease in the investment attractiveness (V2) of land plots and projects that require increasing green standards, environmental safety, energy efficiency, innovative technical and engineering solutions, as well as the use of digital technologies. This leads to a significant increase in the cost of capital investments and risks when implementing such investment projects and programs (IP).

![Fig. 1. Graphic interpretation of the problem area of research on the implementation of the concept of sustainable development of the land market (compiled by the authors)](image)

To assess the current state and prospects for the development of the land market, official data from Rosreestr (Federal Service for State Registration, Cadastre and Cartography), published in government reports on the state and use of land in the Russian Federation for the period from 2005 to 2022, were used.

The results of this study can be useful for developing land management strategies, as well as for making decisions in the field of investments in the land market.

The relevance of the research topic is caused by the need to study and analyze the structure and dynamics of distribution of the land fund of the Russian Federation in order to predict the sustainable development of territories. Land resources are one of the key factors in the economic and social development of a country, so their effective use and management is of paramount importance.

The importance of studying this topic is also caused by the need to take into account the peculiarities of the development of land relations in the regions of the country, which will make it possible to develop more effective government policy measures in the field of land relations, ensuring the sustainable and harmonious development of the land market.

The author's hypothesis of the study is that the solution to the research problem of modeling the concept of sustainable development of the land market is possible and advisable through the optimization of public administration in the field of changing the structure of land ownership and distribution of land resources on the principles of harmonizing the influence of economic, environmental, social and legal factors on
investment and construction projects and programs for sustainable development of territories.

The purpose of this study is to analyze structural changes in subjects and objects of ownership in the national land market of the Russian Federation for the period from 2005 to 2022, including an assessment of the dynamics of land ownership by citizens, legal entities, the state and municipalities. Particular attention is paid to the study of the distribution of land by category and forecasting trends in the development of the sustainable and harmonious land market.

The object of the study is the national land market in the process of its structural dynamic changes in the subjects and objects of land ownership in the context of land categories, taking into account the priority of its sustainable and harmonious development.

The subject of the study: characteristics of the dynamic structural transformation of the national land market from 2005 to 2022, specifically examining the changes in ownership entities and categories. The analysis takes into account the market's harmonization as a distinct commodity market with stringent requirements for sustainable development.

2 Materials and Methods

The study is based on an analysis of scientific literature, statistical data, official documents and legislative acts of the Russian Federation regulating the issues of sustainable development of the land market. The study used a set of methods, including comparative analysis, systems approach, statistical analysis, and economic modeling methods. This allowed us to assess the current state of the land market, identify and analyze the main problems and trends in its development. The main research tool was a comparative analysis, which made it possible to identify the features of the Russian land market in comparison with foreign countries, as well as to identify key problems and obstacles to its sustainable development.

A systematic approach was used to assess the impact of various factors on the development of the land market, including economic, social, environmental and legal aspects. Statistical analysis was used to process and analyze data on the state of the land market, its structure and dynamics. Economic modeling methods made it possible to simulate various scenarios for the development of the land market and assess their possible consequences for the sustainable development of the land market and the harmonization of the interests of all participants in land relations.

In addition, the study used qualitative and quantitative analysis methods to assess the effectiveness of the current land accounting and valuation system, as well as to identify potential for its improvement.

All material collected during the study was systematized and analyzed in order to identify the main trends in the development of the land market and determine areas for further research.

3 Results

The subsequent analysis will focus on current areas of land market progress within the framework of sustainable development projects. Land resources are closely interconnected with the application of measures aimed at their efficient use, taking into account environmental laws and related areas. This gives rise to a complex system of problems that includes economic, environmental, social and legal factors. The next part of the study focuses on the unique characteristics of the land market that influence investment progress.
These characteristics make investing in land market progress a complex and multifaceted process that requires careful planning and active methodological development.

According to the authors, the national land market is understood as a set of economic relations that arise during the purchase, sale, lease and other forms of turnover of land plots within one country. This is a system of existing mechanisms, institutions and procedures that regulate the circulation of land at the state level. The national land market is formed under the influence of various factors: legislation, economic situation, state policy in the field of land relations, etc.

The Russian Federation has a system of state registration of land plots, which is based on their categories. It is important to note that lands located under the territorial sea and internal sea waters are not included in the land fund.

At the beginning of 2022, 133.0 million hectares of land were privately owned, accounting for 7.8% of the country's total land fund. Of this amount, 110.1 million hectares belonged to individuals (6.4%), and 22.9 million hectares belonged to legal entities (1.4%). Land in state and municipal ownership occupied 1,579.6 million hectares, which accounted for 92.2% of the total land fund of Russia.

The part of the country's land fund owned by citizens (including the right to common joint property) amounted to 4.6% (78,596.6 thousand hectares), or 60.3% of the total number of private land plots in the country.

In 2021, there have been changes in the distribution of land ownership in Russia. Land plots owned by citizens decreased by 1,047.4 thousand hectares, while plots owned by legal entities increased by 999 thousand hectares. The area of land in state and municipal ownership also increased by 100 thousand hectares. This mainly affected land plots owned by citizens under the right of common ownership, where there was a reduction in area by 1,783.5 thousand hectares.

As part of the study, an analysis of the distribution of land by category from 2005 to 2022 was carried out on the basis of Rosreestr data presented in government reports on the state and use of land in Russia for this period. [9].

![Fig. 2. Analysis of changes in the distribution of the land fund of the Russian Federation by land category compared to the previous year, % (compiled by the authors)](image-url)
Most of the territory is traditionally occupied by areas belonging to the forest fund. From 2005 to 2022, their growth was noticed both in absolute values (from 1104.9 million hectares in 2005 to 1127.6 million hectares in 2022) and as a percentage of the total land area of the Russian Federation (from 64.6% to 65.8%).

Also an important part (at least 20%) is land intended for agriculture, which during this period decreased from 401.6 million hectares in 2005 to 380.8 million hectares in 2022, i.e., by 5.2%.

At the same time, there is a slight increase in land classified as populated areas, from 19.1 million hectares in 2005 to 20.6 million hectares in 2022, and this increase is evenly distributed between cities and rural settlements.

It is especially important to study changes in the distribution of Russian lands by category as a percentage of the previous year. The most significant changes occurred in the category of lands of specially protected areas and objects, reaching a peak of 26.3% in 2012. According to the law, these areas are of particular value from the point of view of nature conservation, science, history, culture, aesthetics, recreation, health, etc. These include various natural areas, reserves, natural monuments, parks, gardens, health and recreation areas, resorts, physical education and sports facilities, historical and cultural monuments. These lands are subject to special protection and may be partially or completely excluded from exploitation. The largest increase in the land area in this category in 2012 was recorded in the Republic of Sakha (Yakutia), the Astrakhan region and the Trans-Baikal Territory. The largest reduction in the land area in this category over the entire study period also occurred in 2012 and amounted to 8% for reserve lands.

Subsequently, the total land area of specially protected areas and sites increased again in 2018 by 4.08% compared to the previous year, while reserve land decreased by 0.93% and agricultural land by 0.19%. These changes are presented in Figure 5. However, for better clarity, the values of changes for lands of specially protected areas and objects and reserve lands were shown in Figure 6.

An analysis of the land market of the Russian Federation by type of property from 2005 to 2022 was also carried out.
From 2005 to 2022, the Penza region experienced a noteworthy decline in land ownership among citizens, whereas there was a corresponding rise in land ownership among legal entities (Figure 4).

While the consolidation of lands into private ownership of citizens and legal entities is taking place, their number still remains smaller compared to lands in state and municipal ownership. This confirms the current trend in Russia. It is important to note the dynamics of changes in the ratio between private and state ownership of land: if in 2005, the share of private property was only 82.83% of state property, then by 2022, this figure increased to 98.94% (while the growth was relatively stable, except for the deviation in 2015).

This trend reflects the transition of some part of the land market from state ownership to the ownership of individuals and legal entities. However, state and municipally owned lands continue to occupy a larger area compared to other segments, and a balance between them is expected to be established no earlier than 2028 (see Figure 6).
Thus, the paper points to the importance of rational use of land resources and the need for detailed planning and elaboration of investments in the development of the land market in the context of sustainable development. It also provides information on the structure of land ownership in Russia and changes in this structure in recent years.

4 Conclusions

1. The development of the national land market in the context of sustainable development projects requires the rational use of land resources, taking into account environmental requirements and legislation, as well as the implementation of the principle of harmonizing the influence of economic, environmental, social and legal factors on investment and construction projects and programs for sustainable development of territories.

2. The Russian Federation has a system of state registration of land plots, based on their categories, which requires its development from the standpoint of priority of ensuring the harmonious use of the land fund.

3. It was established that at the beginning of 2022, 7.8% of the total area of the country’s land fund was privately owned, and most of the land plots belonged to the state and municipalities. Further changes to this structure must be carried out on the principles of compliance of land owners with their maximum socio-economic efficiency and harmonious use.

4. It was revealed that in 2021, there were changes in the national land market in the structure of ownership of land plots, as a result of which the area of land owned by citizens decreased, and the area of land owned by legal entities and the state increased.

5. Analysis of the distribution of land by category for the period from 2005 to 2022 shows the presence of certain changes in the structure of the land fund in Russia. The most significant changes include an increase in the share of land category in specially protected...
areas. These areas are of particular value from the point of view of nature conservation, science, history, culture, aesthetics, recreation, health, etc. According to the law, they are subject to special protection and may be partially or completely excluded from use.

6. Investments in the development of the national land market and institutional mechanisms for its state regulation are complex and multifaceted, requiring sustainable and harmonious development of territories through sustainable investment programs for territorial development and optimization of state regulation.

5 Discussion

As a result of the analysis, problems were discovered that exist in the country's land market, including economic, environmental, social and legal aspects. Such problems can hinder the stable development and harmonization of the land market, as well as negatively affect investment activity.

The uniqueness and specific features of the land market make investments in its development a complex and multifaceted process that requires careful planning and the development of an active strategy. The current state land registration system in Russia, which categorizes plots, may not accurately represent the actual market conditions. Therefore, it is necessary to enhance the system by granting lands additional status based on the degree of harmonious land use.

It should be noted that effective, rational and harmonious use of land resources are key elements to ensure sustainable development of the land market. In this context, it is important to consider environmental regulations and other legal requirements that may affect the efficiency of land use.

The authors of the paper emphasize the need to continue research in the field of sustainable and harmonious development of the national land market. This includes the development of new strategies and methods that will help improve the system of accounting and valuation of land plots, as well as ensure a more efficient and harmonious use of land resources in investment and construction activities.

The authors also call for active optimization of state institutions and mechanisms of state participation in regulating the land market on the principles of harmonizing the influence of economic, environmental, social and legal factors on investment and construction projects and programs for sustainable development of territories. This can contribute to its stable development and harmonization of the interests of all participants in land relations.

6 Conclusion

Thus, the research has shown that the identified modern trends in the development of the national land market in the context of sustainable development projects indicate the need for a more rational and harmonious use of land resources, taking into account the requirements of environmental legislation.

It has been established that the uniqueness and specific features of the land market predetermine the need to optimize the current system of state land accounting in Russia, based on the categorization of plots from the standpoint of giving lands additional status according to the degree of harmonious and sustainable use of land plots.

The peculiarities of the land market make investment in its development a complex process that requires detailed planning and elaboration. In Russia, most of the land plots are in state and municipal ownership, but there is a change in the ownership structure, a reduction in the area of land plots owned by citizens, and an increase in the area of land
plots owned by legal entities. Further research and development of effective land management strategies will contribute to the sustainable development of the land market and the achievement of the goals of sustainable development projects.

Research has confirmed the high relevance of this issue of development of the national land market. The identified trends in the transition of part of the land market segment from state ownership to private ownership show the prerequisites for the transformation of the land market into a market for sustainable harmonious development.

The analysis shows that the land market in the Russian Federation continues to develop, but at the same time, there remains a tendency to increase the share of land in private ownership. This may indicate a gradual shift from public to private land management, which may lead to more efficient use of these resources.

It is also worth noting that despite the increase in the share of land in private ownership, state and municipal property still occupy a significant share in the land market, which indicates the continued important role of the state in managing the national land market.

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