

# Regional mechanism for sustainable development

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**Abstract.** Technologization and resource consumption of modern regional production complexes actualizes the paradigm of their sustainable development. Ecosystem development of mesoterritoriums requires the use of integrated approaches, the creation of conditions and incentives. The concept of using an integrated mechanism to achieve sustainable development of the region as a technology for managing the territorial economy, focused on improving the efficiency of territorial production complexes, the implementation of priority areas in science, technology and critical technologies is put forward. The components of the management tools for the sustainable development of mesosystems are proposed, representing the internal structure and sequence of stages of interrelated directions of movement of the territorial economy to the desired state. This mechanism can be considered as a set of actions, the implementation of which will lead to socio-economic progress at a new level. A comprehensive regional mechanism of sustainable development is substantiated, which activates the process of economic and social changes in five directions: economic, spatial, social, digital and environmental, ensuring the implementation of the strategy of transformational processes. The proposed integrated regional mechanism of sustainable development can be applied at different levels of territorial management. In the conditions of modern realities of the implementation of the new regionalism, it is advisable to ensure stable trends in territorial development on the basis of platform and ecosystem approaches. Keywords: Sustainable Development of the region, Regional Mechanism, Territorial Mechanisms, Economic Platform, Spatial Architecture, Integrated Mechanism, Sustainable Development interests.

## 1 Introduction

The objective needs of improving economic relations in the regions require more careful attention to the problems of sustainable development as a promising model for the development of modern society [1]. In crisis conditions, the need to gain genuine stability of regional systems with the preservation and development of competitive industrial potential in domestic and foreign markets increases [2, 3].

The imbalance of economic and environmental interests of the territories actualizes the issue of revising strategic approaches to the development of socio-economic systems and the transition to sustainable vectors of the regional mechanism [4-6].

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To activate the development of priority areas in science, technology and critical technologies proposed by the government of the country, to increase the efficiency of their financing, it is necessary to form a sustainable development mechanism as a technology for managing the territorial economy [7, 8].

The purpose of the article is to formulate the concept of applying an integrated mechanism to achieve sustainable development of the region, activating the process of economic and social changes in five areas: economic, spatial, social, digital and environmental, ensuring the implementation of the strategy of transformational processes. The proposed integrated regional mechanism for sustainable development can be applied at different levels of territorial management.

The need to improve socio-economic well-being and the increasing impact of civilization on the environment determine the relevance of studying the mechanism of sustainable development, which allows achieving a balance in solving these two problems.

The leadership of the territory and society as a whole need tools to assess the costs of achieving improved economic well-being in order to coordinate the impact of production activities on the environment.

To achieve the goals of sustainable development, production programs and strategies for the development of regions need scientific justification, including specification of such important parameters as the type of movement, the nature of ongoing changes, the transformation of the states of the regional system, methods of managing the sustainable development of the region.

The meaning of sustainable development lies in the expediency of exploitation and involvement in the production of a resource only if it is preserved for future generations.

## 2 Material and methods

According to Podprugin M.O., the paradigm of sustainable development should be considered as a priority tool for transformations in the regions, since sustainability contributes to the dynamic process of positive transformations of the territorial industrial and life-supporting complexes and the environment [9].

Vdovin S.M., Guskova N.D., Krakovskaya I.N. they believe that the concept of sustainable development at the regional level balances the needs of society with the capabilities of the resource complex, adheres to the goals of achieving efficiency and reproduction of the spent factors and the principle of neutralizing the impact on the environment [10].

Sustainable development in the regions is mediated by the efficiency of placement, the degree and level of use of the productive forces of society.

Economists Kuznetsov V.P., Kozlova E.P. emphasize that the policy of sustainable development of the territory implies the implementation of a portfolio of projects of socio-economic and environmental transformations on the terms of return on investment [11].

The basis for economic progress can be a reasonable and logical model of sustainable economic development through the prism of generalizing regional mechanisms for its provision.

The scientist Gibadullin A.A., considering the mechanism of sustainable development, highlights its ability to accumulate in a single environment of means and points of support for the modernization of the economic system in the areas of increasing productivity, greening the use of production factors, improving technologies and product quality [12].

According to Grekov A.N., Grekova N.S. consideration of the mechanism of sustainable development of territories requires a conjugated approach, taking into account the improvement of living conditions and the production complex of territories, together with environmental factors [13].

## 3 Results

### 3.1 Components of the regional mechanism for sustainable development

The development and application of a regional mechanism for sustainable development is focused on stabilizing socio-economic processes, improving the environmental situation, rationalizing environmental policy, scientific, technical and innovative transformations to increase the level of satisfaction of the needs of people living in a given territory at present and in the future.

Coordination of the process of sustainable development of the territorial socio-economic system can be effectively carried out only on the basis of a strictly observed mechanism.

The mechanism of sustainable development of the region is considered by us as a system of elements that influence each other and consistently bring the meso-economy to a state of balance based on the economic growth of natural and ecological preservation.

The imperative of the mechanism of sustainable development of the region is the established and legislatively fixed strategic documents in the field of its priorities and methods of achievement, elements of the legal approach to ensure the balance of the subsystems of the territorial system.

The study and management of the processes of achieving sustainability, as noted above, should take place on the platform of predetermined components of the regional mechanism for sustainable development.

The regional mechanism for sustainable development should combine the rules of production and economic functioning, taking into account the motive for reducing the anthropogenic load and ensuring the preservation of natural wealth, and indicators for measuring the environmental, socio-economic parameters of the territorial system in order to prevent environmental pollution, resource depletion, extinction of biological species, reaching the limit development, social and economic degradation.

A number of authors note the importance of correlating the paradigm of sustainability of territorial development with the category of security of the socio-economic system. The territorial production complex should not create an excessive burden on society and nature, in the regions it is advisable to regulate the parameters of the normal state of development of the production system and nature consumption.

Let us consider the characteristic features of the components of the regional mechanism for sustainable development (Table 1).

**Table 1.** Characteristics of the components of the regional mechanism for sustainable development. Compiled by the authors.

<b>Type of movement</b>	<b>Ongoing changes</b>	<b>The state of the regional socio-economic system</b>	<b>Methods of managing the sustainable development of the region</b>
Planned socio-economic progress in compliance with the principle of environmental safety and conservation of natural resources.	Transition from economic growth based on thoughtless consumption of natural resources to environmentally sustainable models of economic development.	Economic, social and environmental balance.	Indicative management of sustainable development of the region, monitoring of results

As can be seen, the type of movement along the trajectory of sustainable development can be considered one of the components of the regional mechanism that needs operationalization and fixation of a direct description of the nature of the trajectory to achieve balance.

Specification of the ongoing changes as an element of the regional mechanism of sustainable development implies the design of specific states of the socio-economic system and their changes.

The regional mechanism of sustainable development changes the state of the regional socio-economic system to the target equilibrium value, the development and application of methods for managing the sustainable development of the region is required.

The components of the device for positive transformations of the socio-economic system of the region with the condition of reducing the anthropogenic load are indicators that allow you to control and manage sustainable changes in the territory in the monitoring mode.

Following the mechanism of sustainable development in the region changes the ideology, the model of economic behavior and the nature of goal-setting of both representatives of the business community and citizens towards a responsible attitude towards the environment and natural resources. Now many Russian companies are developing and implementing their own sustainable strategies aimed at green consumption and compensation for environmental damage, achieving a high level of social responsibility towards customers and employees.

The system of goals of the regional mechanism for sustainable development includes the following desired goals: increasing the income of the population and the degree of satisfaction of their needs, food security for all citizens, compliance with drinking water standards, improving people's health, increasing the availability and quality of educational services, scientific, technical and innovative development, conservation natural resources, improved working conditions and career prospects.

In accordance with the goals of the UN, the priority of the regional mechanism is the creation of sustainable territories with sustainable settlements and sustainable infrastructure, which requires the cooperation and involvement of all economic agents in the economic space and beyond.

The platform for sustainable regional development is based on the obligatory desire for social, human, cultural, civilizational, innovative progress, the fight against climate and natural changes.

In general, the regional mechanism of sustainable development can be considered a conceptual tool for transformations in the economic, social, industrial, scientific, technical, cultural, environmental subsystems, which allows modeling the desired results and achieving them.

The components of the regional mechanism for sustainable development should be thought out so precisely and in detail to ensure the fulfillment of their functionality in structuring economic and industrial relations on the principles of environmental friendliness.

### **3.2 Integrated regional mechanism for sustainable development**

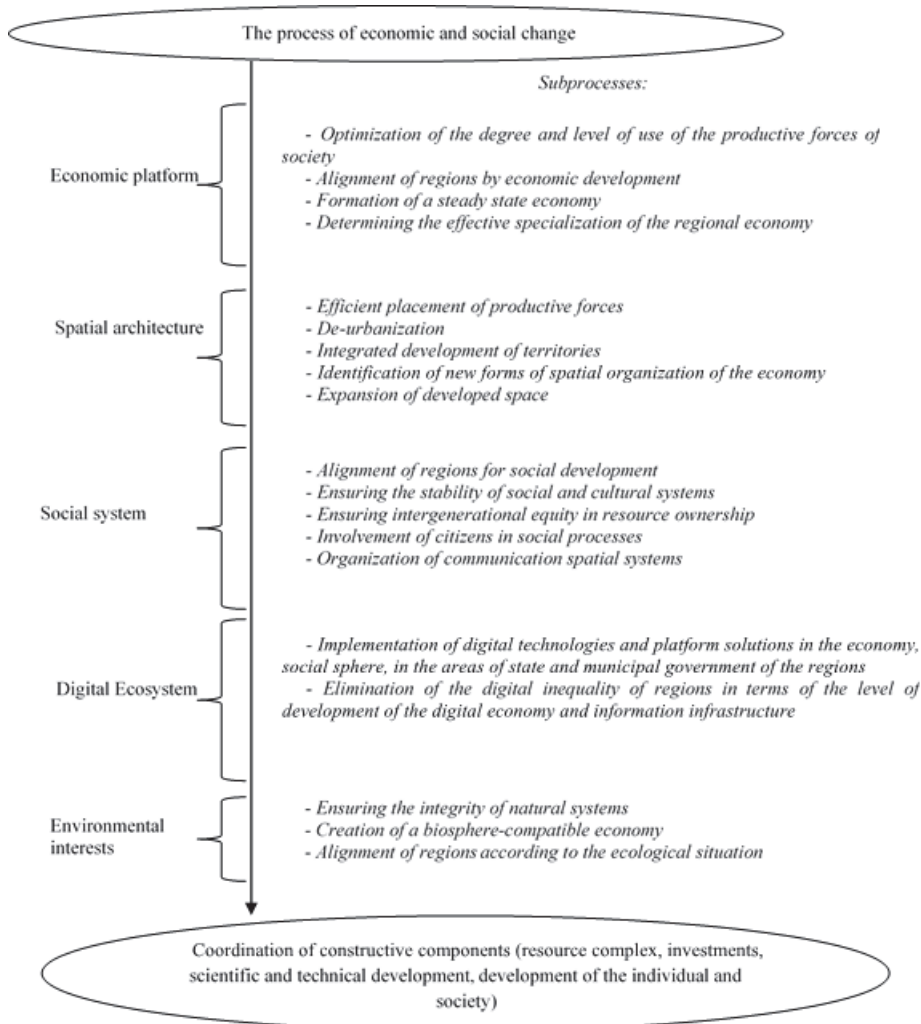
In our opinion, the regional mechanism of sustainable development can be considered as an internal structure and a sequence of stages of interrelated directions of movement of the territorial economy to the desired state. This mechanism can be viewed as a set of actions, the implementation of which will lead to socio-economic progress at a new level.

The constructive components of the mechanism of sustainable development of the territory have the power of the processes necessary to launch for economic progress, the successful functioning of the region, optimization of its spatial structure, expansion of specialization and diversification of the production and economic complex [14].

Undoubtedly, sustainable development is generated under the influence of a number of regional mechanisms, however, we will make an attempt to form a complex mechanism as a way to generalize all the driving forces for the transformation of the socio-economic system along the trajectory of sustainability in specific regional conditions (Figure 1).

A comprehensive regional mechanism for sustainable development activates the process of economic and social changes in five areas: economic, spatial, social, digital and environmental, ensuring the implementation of the strategy of transformational processes.

The economic sub-processes of the integrated regional mechanism are aimed at increasing the productivity of the territorial production and economic complex, optimizing the use of productive forces, developing entrepreneurship, leveling the territories in terms of economic development, transitioning to a sustainable economy, and determining the effective specialization of the regional economy.



**Fig. 1.** Comprehensive regional framework for sustainable development. Compiled by the authors.

The transformational impact on the spatial frame of the region in order to achieve sustainable development should be based on the effective deployment of productive forces, deurbanization as a reduction in the congestion of individual territories with production

facilities, the integrated development of territories, the identification of new forms of spatial organization of the economy, the expansion of developed space and the optimization of territorial proportions.

A spatial problem that requires a priority solution is overcoming infrastructural limitations, including the development of transport networks linking territorial entities.

The economic platform and spatial architecture of the integrated regional mechanism for sustainable development improve the territorial organization of the national economy of the region, while the remaining blocks play a supporting function of maintaining the socio-economic system.

The social vectors of the sustainable development mechanism provide for active actions to ensure the stability of social and cultural systems, intergenerational justice in the possession of resources, the formation of spatial communication systems and increasing the involvement of citizens in social processes to align regions in social development.

Since sustainable development involves a stable improvement of the economic situation while maintaining existing resources, the social system plays a key role in ensuring it. The main resource of the regional complex is the labor force.

Therefore, the strategic management of the social sector creates windows of opportunity to increase the attractiveness and competitiveness of the territory in the struggle for labor resources.

Within the framework of the territorial entity, it is important to develop and comply with the standard of an effective socio-economic infrastructure, to implement measures for the accelerated and comprehensive improvement of the life system.

The digital wave of the sustainable development mechanism is aimed at expanding e-business and commerce, network structures, eliminating the digital inequality of regions in terms of the level of development of the digital economy and information infrastructure.

A digital transformation system is necessary for the conceptual development of the manufacturing sector, increasing the digital maturity of enterprises, social and municipal services, the educational market, and security elements.

A supporting system for ensuring economic efficiency can be the creation and application of a digital information model for managing the development of a region, which generates and visualizes management decisions based on a database of territorial data, taking into account the wishes of the population.

The ecological block for stimulating sustainable development is ensured by maintaining the integrity of natural systems, creating a biosphere-compatible economy to align the regions according to the ecological situation. An environmentally balanced territorial production complex provides for the harmonization of high living standards of the population, economic performance and prevention of environmental degradation. Ensuring the balance of the three named components is created by the movement of the mechanism of sustainable development.

The socio-economic resonance from the action of the integrated regional mechanism for sustainable development will be obtained in the form of strengthening the national security of territorial systems, stimulating the growth of geostrategic regions, and improving the comfort of the life support environment.

## 4 Discussion

In the conditions of modern realities of the implementation of new regionalism, it is advisable to ensure sustainable trends in territorial development on the basis of platform and ecosystem approaches.

The platform regional economy catalyzes the effects of the multidimensionality of economic relations and the intensification of economic activity [15].

With the functioning of the regional socio-economic system as a platform for the population, a new digital reality of life is being created.

The platform approach to managing the economy of a territory contributes to leveling the managerial crisis in regional systems by generating and identifying strategic advantages, exercising systemic control and automating decision-making algorithms based on the principles of multiprojectivity.

The ecosystem at the regional level involves the involvement of a large number of participants in dynamic and effective cooperation, as a result of which new values are created from such interaction.

The ecosystem and platform paradigms of sustainable development imply the achievement of goals and the realization of the interests of all stakeholders in the region while creating business and user space, a fundamentally new quality of territorial management.

Platformization and systematization of management mechanisms contributes to increasing the level of satisfaction of all stakeholders as super services for the provision of regional services, contributes to the development of existing and the emergence of new branches of the territorial economic complex, generating a spatial resonance of sustainable development.

## 5 Conclusion

In the face of increasing challenges to regional governance, it is necessary to revise the tools for ensuring sustainable development using the concepts of platform and ecosystem approaches to the formation of a reliable information base, planning and monitoring the impact of decisions on the parameters of the social economic system.

The proposed integrated regional mechanism for sustainable development can be used at different levels of territorial management for integration with programs and strategies, concretization, scientific justification and conceptualization of transformational measures.

Increasing the level of economic development involves the use of modern management solutions to achieve sustainability and rationality of territorial systems.

In order to structure the vectors of influence and provide scenarios for the transformation of the economy towards sustainable development, it is necessary to consider regional mechanisms in their interconnection.

The modern system of territorial mechanisms is able to achieve the sustainability of the development of intra-regional economic units based on a conceptual tool in the form of a complex mechanism for the regulation of economic, spatial, social, digital and environmental platforms. The proposed integrated regional mechanism for sustainable development systematizes the trajectories of movement of territorial socio-economic objects in order to realize the possibilities of their strategic development.

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