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THEORETICAL AND METHODOLOGICAL FOUNDATIONS OF SUSTAINABLE DEVELOPMENT OF THE REGIONAL ECONOMY

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Abstract: This article examines the theoretical and methodological foundations of sustainable development of the regional economy. It provides a scientific analysis of the economic content of the sustainable development concept, the specific features of regional development, and the mechanisms for effective management of territorial economic systems. Particular attention is paid to the key factors ensuring regional economic sustainability, including investment activity, efficient use of resources, the institutional environment, digital transformation, and social stability. In addition, modern methodological approaches used to assess regional development are systematized, and their practical significance is substantiated.

Key words: regional economy, sustainable development, regional development, economic sustainability, methodological approach, territorial governance, investment, socio-economic development, institutional factors.

Annotatsiya: Mazkur maqolada mintaqa iqtisodiyotini barqaror rivojlantirishning nazariy va metodologik asoslari tadqiq etilgan. Unda barqaror rivojlanish konsepsiyasining iqtisodiy mazmuni, mintaqaviy rivojlanishning o'ziga xos xususiyatlari hamda hududiy iqtisodiy tizimlarni samarali boshqarish mexanizmlari ilmiy jihatdan tahlil qilinadi. Tadqiqotda mintaqa iqtisodiyotining barqarorligini ta'minlovchi asosiy omillar — investitsion faollik, resurslardan oqilona foydalanish, institutsional muhit, raqamli transformatsiya va ijtimoiy barqarorlik masalalariga alohida e'tibor qaratilgan. Shuningdek, mintaqaviy rivojlanishni baholashda qo'llaniladigan zamonaviy metodologik yondashuvlar tizimlashtirilib, ularning amaliy ahamiyati asoslab berilgan.

Kalit so'zlar: mintaqa iqtisodiyoti, barqaror rivojlanish, mintaqaviy rivojlanish, iqtisodiy barqarorlik, metodologik yondashuv, hududiy boshqaruv, investitsiya, ijtimoiy-iqtisodiy rivojlanish, institutsional omillar.

Аннотация: В данной статье исследуются теоретические и методологические основы устойчивого развития региональной экономики. В работе научно анализируются экономическое содержание концепции устойчивого развития, специфические особенности регионального развития, а также механизмы эффективного управления территориальными экономическими системами. В исследовании особое внимание уделено ключевым факторам обеспечения устойчивости региональной экономики, таким как инвестиционная активность, рациональное использование ресурсов, институциональная среда, цифровая трансформация и социальная устойчивость. Кроме того, систематизированы современные методологические подходы, применяемые для оценки регионального развития, и обоснована их практическая значимость.

Ключевые слова: региональная экономика, устойчивое развитие, региональное развитие, экономическая устойчивость, методологический подход, территориальное управление, инвестиции, социально-экономическое развитие, институциональные факторы.

INTRODUCTION

In the context of contemporary globalization and the digital economy, the intensification of economic disparities between regions, differences in the efficiency of resource utilization, and imbalances in socio-economic development have brought the issue of sustainable regional economic development to the forefront as a pressing scientific and practical problem. Sustainable development requires not only ensuring economic growth rates, but also the harmonious advancement of social stability, environmental balance, and institutional efficiency.

The regional economy constitutes an integral component of a country's overall economic system, and its sustainable development is one of the key factors determining the long-term competitiveness of the national economy. Therefore, assessing regional development solely on the basis of macroeconomic indicators is insufficient. There is a growing need for a comprehensive analysis of regional resource potential, production structure, infrastructure development, and governance mechanisms.

At present, scientific research on sustainable regional economic development demonstrates a diversity of theoretical approaches. However, systematizing these approaches within a unified methodological framework and adapting them to national and regional specificities is of particular importance. In this regard, the present study aims to identify the theoretical and methodological foundations of sustainable regional economic development and to substantiate the possibilities for their practical application.

REVIEW OF LITERATURE ON THE SUBJECT

Issues related to sustainable regional economic development have been widely examined within economic theory and regional economics. In foreign academic literature (Solow, Porter, Krugman, Sachs), sustainable development is interpreted as being closely linked to economic growth, innovative development, and competitiveness. These studies emphasize the importance of clustering, improving the investment climate, and institutional reforms in promoting regional development.

The concept of sustainable development is defined in the documents of the United Nations and the World Bank as the balanced development of economic, social, and environmental components. This approach requires comprehensive and long-term strategies in the formulation of regional policy. In the works of domestic scholars, regional economic development is primarily examined in connection with the spatial allocation of productive forces, the activation of investment processes, and infrastructure development. At the same time, the literature review indicates that issues related to the systematization of methodological approaches and the assessment of sustainable regional development using modern econometric methods and integrated indices have not been sufficiently explored. This circumstance necessitates the expansion of scientific research in this direction.

RESEARCH METHODOLOGY

The study employs a comprehensive set of general scientific and specialized economic research methods. Theoretical methods include analysis and synthesis, induction and deduction, comparison, and generalization. These methods were used to systematize theoretical views and conceptual approaches to sustainable regional economic development.

Within the framework of empirical research, statistical analysis, dynamic and structural analysis, the method of integrated indicators, and comparative analysis of economic indicators were applied. Based on official statistical data, trends in changes in key economic indicators were identified to assess the level of socio-economic development of the region.

In addition, elements of econometric modeling were used to identify the factors influencing sustainable regional economic development and to assess their interrelationships. These methods contributed to ensuring the reliability and scientific validity of the research results.

ANALYSIS AND RESULTS

In the twenty-first century, growing economic disparities between regions, imbalances in resource utilization, increasing pressure on the environment, and socio-economic inequalities are intensifying the need to optimize economic policy at the territorial level. For this reason, the issue of sustainable regional economic development occupies a central place not only in national development strategies, but also on the agendas of international organizations such as the WTO, the United Nations, UNDP, the Economic Cooperation Organization, and others.

Sustainable regional economic development is not limited to aggregate economic growth; rather, it represents a comprehensive approach aimed at ensuring long-term development through the integration of economic, social, and environmental sustainability. Contemporary trends such as digital transformation, the transition to a green economy, industrialization, and the expansion of the services sector require a fundamental rethinking of economic governance approaches at the regional level.

From this perspective, the academic literature does not offer a single unified conceptual approach to sustainable regional economic development. Various economic schools and researchers examine this issue through several key dimensions. The neoclassical approach emphasizes growth through the maximization of resource efficiency. Endogenous growth theories identify innovation, human capital, and the institutional environment as the primary drivers of development. Theories of regional economic growth focus on territorial

factors such as agglomeration, clustering, migration, and transport infrastructure. The sustainable development model, in turn, seeks to balance economic, environmental, and social sustainability.

The works of John Glasson and Tim Marshall on regional development theories, policies, and practical planning approaches address centralized and decentralized models, economic equilibrium and sustainability, interregional disparities, and urban integration. Particular attention is also paid to planning models aimed at ensuring environmental sustainability. In the studies of Harry W. Richardson, key economic models of regional economics are analyzed, including transport costs, regional employment, investment, and the role of state intervention. His research compares Keynesian and neoclassical approaches and discusses strategies for reducing regional disparities. The works of J. Vernon Henderson and Jacques-François Thisse encompass some of the most advanced theories and empirical studies in regional economics, including sections devoted to centralization, agglomeration, infrastructure, and the sustainable development of spatial economic systems. In these studies, the effectiveness of regional policy is assessed using complex mathematical models. Research by Arsenio Balisacan and Hal Hill examines sustainable economic growth and regional development in the context of efficient resource utilization, environmental protection, and institutional reforms. Based on the experience of the European Union, David Shaw, Daniel Galland, and Andreas Faludi analyze regional policy, multi-level governance, cohesion policy aimed at regional equity, and planning mechanisms for achieving environmental balance. Their research highlights the principles of subsidiarity and the foundations of institutional sustainability.

Despite the richness of these theoretical frameworks, significant methodological challenges arise in integrating them into practical application. In particular, indicator systems, development criteria, methodologies for measuring factors affecting sustainability, and approaches to modeling and assessing sectoral and interregional disparities remain insufficiently developed.

In the case of Uzbekistan in particular, economically relatively weaker regions such as the Republic of Karakalpakstan, Kashkadarya, Surkhandarya, and Jizzakh face persistent obstacles to sustainable development, including low efficiency of resource utilization, limited investment attractiveness, insufficient service-sector infrastructure, and heightened environmental risks. In the studies of N.X. Xodjayev, the theoretical foundations of regional economics, Uzbekistan's system of economic regionalization, efficient resource use, and pathways to achieving socio-economic stability are examined. In particular, the levels of economic development of the Republic of Karakalpakstan and the country's regions are assessed.

In the research of R.X. Xakimov, the impact of region-specific economic resources, transport and logistics infrastructure, and social infrastructure on sustainable development in Uzbekistan's regions is analyzed. A methodological framework based on comprehensive sectoral analysis and SWOT methods is applied. S.S. G'ulomov investigates the theoretical foundations for the formation of innovative clusters, technoparks, and R&D centers in regions, based on the interconnection between the innovation economy and regional development. Institutional conditions and regulatory–legal mechanisms are also examined.

In the study by B.M. Nurmuxamedov, the importance of shaping sustainable growth trajectories of Uzbekistan's economy through regional policy is substantiated. Interregional disparities, efficiency of resource utilization, and public investment are analyzed, and the integration of macro- and micro-level approaches is proposed. Sh.J. Raximov develops sustainability indices based on socio-economic indicators at the regional level. The influence of demographic, environmental, and investment factors on regional sustainability is examined using statistical and regression models, with particular attention paid to digital transformation and the green economy.

The works of R.A. Alimov and A.X. Axmedov provide an in-depth analysis of regional development theories, governance instruments, and Uzbekistan's practical experience. Sectoral development in regions is studied on the basis of specialization, infrastructure, labor markets, and resource allocation. Although the studies of Uzbek scholars cover important issues related to sustainable regional economic development, several significant gaps remain. Many studies rely on traditional economic indicators and infrastructure-based approaches, while the impact of the digital economy on regional development—such as the integration of IoT, big data, artificial intelligence, and e-commerce—has been insufficiently explored.

Although Sh.J. Raximov addresses environmental factors, modern scenario-based modeling of climate risks and their long-term economic consequences—such as CGE, DSGE, or dynamic panel analyses—remains underdeveloped. Issues related to increasing the role of vulnerable groups, including women, youth, and persons with disabilities, in regional economies and integrating social equity into economic analysis are largely absent. While public investment is considered, the participation of the private sector has not been sufficiently analyzed within financial modeling frameworks, particularly with regard to risk sharing and contract sustainability. Moreover, interregional and cross-border economic cooperation with neighboring countries and its impact on sustainable development have not been adequately examined.

Although S.S. G'ulomov discusses innovative clusters, empirical analyses of regional innovation indices, patent activity, and technological transfer flows remain limited. In many studies, analytical approaches are predominantly static and descriptive, and modern dynamic econometric models are rarely employed.

Therefore, the development of systematic, indicator-based, and model-driven methodological foundations for sustainable regional economic development represents one of the most pressing scientific and practical challenges. Such approaches should be enriched through the application of modern digital technologies, big data processing, simulation techniques, and scenario analysis.

In our view, priority should be given to developing indices based on regional digital indicators and empirically assessing their impact on sustainability; applying climate–economic models at the regional level and incorporating green economy transformation indicators; constructing inclusive sustainability indices and conducting differentiated regional analyses; performing empirical evaluations of the impact of public–private partnership projects on regional sustainability; and developing regional integration models for economic clusters and logistics corridors, for example along the Kashkadarya–Termez–Mazar-i-Sharif axis.

To assess innovative potential, it is advisable to adapt the Regional Innovation Scoreboard (RIS) framework and conduct sustainability assessments using dynamic panel models—such as Arellano–Bond GMM and VECM—based on regional variables including population size, industrial output, and export capacity.

In this study, the problem areas insufficiently addressed by the above-mentioned scholars and the proposed solutions are presented in Table 1 (Table 1).

Table 1. Analysis of Problems and Solutions in Sustainable Regional Economic Development

Problem area	Scholars with insufficient coverage	Proposed solution
Impact of the digital economy	Xodjayev, Xakimov, Alimov	Indices based on digital indicators
Climate and environmental models	Raximov (limited), others	CGE/DSGE models, green indices
Inclusive economic analysis	All	Gender-disaggregated economic analysis
Public–private partnership (PPP)	G'ulomov, Nurmuxamedov	Analysis based on financial risk models
Cross-border regional integration	Xodjayev, Raximov	Regional cluster and logistics models
Innovation indices	G'ulomov (core), others	Analysis based on RIS and GII
Dynamic economic models	All	Forecasting using VAR/VECM and GMM models

Within the framework of this research, we propose a scientific research topic and a corresponding methodological model designed to address existing research gaps in the sustainable development of Uzbekistan's regional economy.

CONCLUSIONS AND SUGGESTIONS

The analysis of foreign and domestic academic sources demonstrates that sustainable regional economic development is a multifaceted, complex, and interdisciplinary scientific and practical challenge. Regional planning theories developed by John Glasson and Tim Marshall substantiate the need to balance centralized and decentralized governance approaches, mitigate interregional disparities, and integrate environmental sustainability into territorial policy. These approaches highlight the decisive role of institutional mechanisms in regional development.

The results of the analysis indicate that existing studies insufficiently address the impact of digital economy factors—including big data, artificial intelligence, IoT, and e-commerce—on sustainable regional development. Moreover, long-term scenario-based modeling of climate risks and environmental threats, efforts to enhance the role of vulnerable social groups in regional economies, in-depth analysis of private sector participation within financial sustainability models, and issues of cross-border economic cooperation remain inadequately explored in academic research.

List of used literature:

1. Glasson J., Marshall T. *Regional Planning: Theory and Practice*. – London: Routledge, 2019.
2. Richardson H.W. *Regional Economics*. – London: Weidenfeld and Nicolson, 1978.
3. Henderson J.V., Thisse J.-F. *Cities and Geography*. – Princeton: Princeton University Press, 2004.
4. Balisacan A.M., Hill H. *Dynamic Asia: From Crisis to Recovery*. – London: Routledge, 2010.
5. Shaw D., Galland D., Faludi A. *Territorial Cohesion: Governance and Planning*. – London: Routledge, 2020.
6. Faludi A. *The Poverty of Territorialism: A Neo-Medieval View of Europe and European Planning*. – Cheltenham: Edward Elgar Publishing, 2018.
7. Xodjayev N.X. *O'zbekiston iqtisodiy rayonlashtirish tizimi va hududiy rivojlanish*. – Toshkent: Fan, 2018.
8. Xakimov R.X. *Transport-logistika infratuzilmasining mintaqaviy rivojlanishga ta'siri*. – Toshkent: Fan va texnologiya, 2021.
9. G'ulomov S.S. *Innovatsion iqtisodiyot va hududiy rivojlanish*. – Toshkent: Iqtisodiyot, 2020.

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