TERRITORIAL TOURISM-RECREATIONAL SYSTEMS: CONCEPT, ESSENCE, AND THE INTEGRATION OF GEOGRAPHIC, ECOLOGICAL AND ECONOMIC APPROACHES
HUDUDIY TURISTIK-REKREATSION TIZIMLAR TUSHUNCHASI, MOHIYATI VA GEOGRAFIK-EKOLOGIK-IQTISODIY YONDASHUVLAR INTEGRATSIYASI

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Abstract. Tourism-recreational activity, by its inherent geographic nature, manifests through the spatial integration of diverse natural, social, and economic elements. This conceptual review paper analyzes the genesis, theoretical-methodological foundations, and interdisciplinary integration underlying the Territorial Tourism-Recreational System (TTRS) concept, which has emerged as a central category at the intersection of recreational geography, tourism geography, and geoecology. Through comparative analysis of two parallel scientific traditions-the Soviet-era Territorial Recreational System (TRS) framework with its ecological-rehabilitative emphasis and the Western Tourism Territorial System (TTS) framework with its market-economic orientation-the paper traces the conceptual evolution leading to the contemporary TTRS paradigm. Drawing on General Systems Theory (von Bertalanffy), the geosystem concept (Sochava), and Social-Ecological Systems theory (Ostrom, Folke, Holling), this paper demonstrates how TTRS synthesizes ecological, economic, and social dimensions into a unified analytical framework. The differentiation of TTRS from adjacent concepts-tourism complex and Porter's tourism cluster-is critically examined. The analysis reveals that TTRS's principal methodological advantage lies in treating natural-geographic landscapes and socio-economic infrastructure as equal-status components, integrated through principles of ecological, economic, and social sustainability. This conceptual positioning makes TTRS particularly suitable for research within the specialization of environmental protection and the rational use of natural resources. The findings contribute to the theoretical foundation of sustainable tourism planning in transitional economies and provide a coherent analytical framework for territorial assessment of tourism-recreational potential.

Keywords: territorial tourism-recreational system, recreational geography, geosystem, social-ecological systems, sustainability, tourism cluster, geoecology, Fergana Valley.

Annotatsiya. Turistik-rekreatsion faoliyat o‘zining tabiatan geografik mohiyatiga ko‘ra rang-barang tabiiy, ijtimoiy va iqtisodiy unsurlarning fazoviy integratsiyasi orqali namoyon bo‘ladi. Mazkur konseptual-tahliliy maqolada rekreatsion geografiya, turizm geografiyasi va geoekologiyaning kesishuvida markaziy kategoriya sifatida shakllangan hududiy turistik-rekreatsion tizim (HTRT) konsepsiyasining genezisi, nazariy-metodologik asoslari hamda fanlararo integratsiyasi tahlil etiladi. Ikki parallel ilmiy an’ana - ekologik-reabilitatsion yo‘nalishga urg‘u beruvchi sovet davri hududiy rekreatsion tizim (HRT) yondashuvi hamda bozor-iqtisodiy yo‘nalishga ega bo‘lgan g‘arb turistik hududiy tizim (THT) yondashuvining qiyosiy tahlili orqali maqolada zamonaviy HTRT paradigmasiga olib kelgan konseptual evolyutsiya kuzatib boriladi. Umumiy tizimlar nazariyasi (L. fon Bertalanfi), geotizim konsepsiyasi (V. Sochava) hamda ijtimoiy-ekologik tizimlar nazariyasiga (E.Ostrom, K.Folke, K.Holling) tayangan holda, ushbu maqolada HTRT ekologik, iqtisodiy va ijtimoiy o‘lchovlarni yagona analitik doirada qanday sintezlashtirishi

ko‘rsatib beriladi. HTRTning yondosh tushunchalar - turistik kompleks va Porterning turistik klasteridan farqlanishi tanqidiy nuqtai nazardan ko‘rib chiqiladi. Tahlil natijalari shuni ko‘rsatadiki, HTRTning asosiy metodologik ustunligi tabiiy-geografik landshaftlar va ijtimoiy-iqtisodiy infratuzilmani teng maqomli komponentlar sifatida ko‘rib chiqib, ularni ekologik, iqtisodiy va ijtimoiy barqarorlik prinsiplari asosida birlashtirishida namoyon bo‘ladi. Mazkur konseptual asos HTRTni atrof-muhitni muhofaza qilish va tabiiy resurslardan oqilona foydalanish mutaxassisligi doirasidagi tadqiqotlar uchun ayniqsa qulay metodologik vositaga aylantiradi. Olingan natijalar o‘tish davri iqtisodiyotiga ega mamlakatlarda barqaror turizmni rejalashtirishning nazariy asoslarini boyitishga xizmat qiladi hamda turistik-rekreatsion salohiyatni hududiy baholash uchun izchil analitik doira taqdim etadi.

Kalit so‘zlar: hududiy turistik-rekreatsion tizim, rekreatsion geografiya, geotizim, ijtimoiy-ekologik tizimlar, barqarorlik, turistik klaster, geoekologiya, Farg‘ona vodiysi.

1. Introduction

Contemporary tourism research increasingly recognizes that tourism-recreational activity cannot be adequately analyzed as a collection of isolated objects or services. Rather, it manifests through the spatial integration of diverse natural, social, and economic elements whose interaction generates emergent properties that cannot be reduced to the sum of their parts. The methodological necessity of analyzing such phenomena holistically has driven the formation of the Territorial Tourism-Recreational System (hereafter TTRS) concept within geographic science.

At present, TTRS constitutes a central category situated at the intersection of recreational geography, tourism geography, and geoecology. It serves as the theoretical core for territorial development strategies and ecological-recreational management. Nevertheless, the concept's interdisciplinary status has generated definitional ambiguity, with researchers from different scientific traditions emphasizing distinct components and operational meanings. The Soviet-era recreational geography tradition prioritized ecological-rehabilitative functions, whereas the Western tourism management tradition foregrounded market-economic mechanisms. The conceptual integration of these perspectives represents both an ongoing theoretical challenge and a methodological opportunity for sustainable tourism research.

The relevance of this conceptual clarification is heightened in transitional economies and rapidly urbanizing regions, where intensive tourism development frequently outpaces the establishment of ecological safeguards. In such contexts, an analytical framework that treats environmental quality as a constitutive system property-rather than as an external constraint upon economic optimization-becomes a prerequisite for sustainable territorial planning. The TTRS concept, as developed in this paper, is argued to provide precisely such a framework.

This paper aims to (1) systematically examine the conceptual genesis of TTRS; (2) clarify its theoretical-methodological foundations drawing upon General Systems Theory and Social-Ecological Systems frameworks; (3) compare and integrate the parallel traditions of Territorial Recreational System (TRS) and Tourism Territorial System (TTS); and (4) differentiate TTRS from adjacent concepts such as tourism complex and tourism cluster. The analysis is positioned within the disciplinary framework of environmental protection and the rational use of natural resources (geoecology), with particular relevance for sustainable tourism development in Central Asia.

2. Materials and Methods

This study employs a comparative conceptual analysis methodology to trace the theoretical evolution and current understanding of the Territorial Tourism-Recreational System. Three categories of source materials were systematically examined:

(1) Foundational systems theory literature, including von Bertalanffy's General Systems Theory [2], Sochava's geosystem concept [18], Isachenko's landscape geography framework [7], Holling's resilience theory [6], and Ostrom's [12] and Folke's [4] Social-Ecological Systems works.

(2) Soviet-era and post-Soviet recreational geography literature, comprising the works of Preobrazhenskiy [15], Mironenko and Tverdokhlebov [10], Vedenin [19], Zorin and Kvartalnov [20], Birzhakov and Senin [3], Safiullin [16], and Sarancha [17], which collectively established the Territorial Recreational System framework and its subsequent extensions.

(3) Western tourism systems literature, including the seminal contributions of Leiper [8], Gunn [5], Mill and Morrison [9], Murphy [11], and Porter [13, 14], which articulated the Tourism Territorial System and tourism cluster frameworks.

The analytical procedure involved four sequential stages: (a) identifying the core conceptual elements of each tradition; (b) systematically comparing their methodological strengths and limitations; (c) examining points of convergence and divergence; and (d) synthesizing an integrated TTRS framework. Special attention was given to the ontological status of ecological versus economic components in each tradition, as this dimension proved central to differentiating contemporary approaches.

The comparative analysis was guided by four evaluation criteria: theoretical coherence (internal consistency of the framework), ecological substantiveness (treatment of environmental components), economic operationality (applicability to market and

management contexts), and sustainability orientation (alignment with the United Nations Sustainable Development Goals).

3. Results

The methodological foundation of TTRS rests upon principles articulated by General Systems Theory. Bertalanffy [2], in his mid-twentieth-century formulation, established that any complex object must be examined not as a mere aggregation of parts but as an integrated whole of interacting components. The fundamental characteristics of systems within this framework include: holism (the emergence of properties exceeding the sum of components), hierarchical organization (the embeddedness of any system within higher- and lower-order systems), openness (exchange of matter, energy, and information with the environment), self-organization (internal dynamic ordering), and adaptive behavior (responsiveness to environmental change).

These principles found distinctive geographic interpretation through Sochava's [18] geosystem concept and Isachenko's [7] landscape-geographic framework. Sochava's geosystem concept directed attention to the territorial unity of natural and social components, establishing the fundamental basis for systems thinking in geography. TTRS subsequently developed precisely upon this systemic-geosystemic foundation, inheriting both its methodological rigor and its emphasis on territorial-component integration.

In modern scientific literature, the Social-Ecological Systems (SES) framework offers the most proximate theoretical scaffolding for TTRS. Developed during the 1990s and 2000s through the works of Ostrom [12] (recipient of the 2009 Nobel Memorial Prize in Economic Sciences) and Folke [4], the SES paradigm has become central to sustainability research. Within this framework, any natural system entangled with human activity exists in a bidirectional relationship: human action influences natural systems, and natural systems generate feedback that influences human behavior.

Holling's [6] resilience theory contributes a complementary dimension: resilience denotes a system's capacity to absorb external shocks and disturbances while maintaining essential functional properties. Interpreting TTRS through the SES lens implies that tourism-recreational systems are neither purely economic nor purely ecological constructs, but rather unified social-ecological entities whose development is driven by interlinked human and natural dynamics. This integrative ontology is particularly significant for tourism research because it precludes the analytical reduction of either ecological degradation or economic underperformance to single-cause explanations.

The genesis of TTRS traces back to the Territorial Recreational System (TRS) concept developed within the Soviet geographic school during the 1960s and 1970s. The most prominent contributors include Preobrazhenskiy [15], Vedenin [19], Mironenko and Tverdokhlebov [10], and others. Preobrazhenskiy [15], in his foundational monograph on the theoretical foundations of recreational geography, established the categories of territorial recreational complex and recreational zoning, providing the basis for recreational geography as an autonomous scientific direction.

Preobrazhenskiy's TRS model comprises five interrelated subsystems: (1) recreational participants (recreants), (2) the natural and cultural-historical complex, (3) infrastructure, (4) service personnel, and (5) management bodies. Mironenko and Tverdokhlebov [10], in Recreational Geography (1981), defined the territorial recreational system as "the spatial unit where complexly interlinked recreational resources and the corresponding infrastructure of their utilization are located," and classified TRS hierarchically into micro-, meso-, and macro-recreational systems. Vedenin [19] further developed cultural-landscape theory and recreational zonation within the recreational geography framework.

The Soviet school's methodological strength lay in its integrated employment of field expeditions, landscape-ecological analysis, cartographic methods, and statistical assessment. A defining feature of the TRS approach is that recreational activity is examined within the balance between human and nature, with economic-market considerations remaining secondary. This emphasis constitutes both the school's principal strength-its high ecological substantiveness-and its constraint, given the inadequate attention to market dynamics characteristic of post-Soviet transitional economies.

The Tourism Territorial System (TTS) concept emerged primarily within Western scholarly literature and subsequently entered Russian-language geographic discourse. Leiper [8], in his 1979 article, presented the tourism system as a model of five fundamental components: tourists, the tourist generating region, transit routes, the tourist destination region, and the tourism industry. This model has remained one of the principal theoretical frameworks of tourism geography and constitutes the leading methodological instrument for analyzing the spatial movement of tourist flows.

Gunn [5] in Tourism Planning: Basics, Concepts, Cases (1988, 1994) developed the "functioning tourism system" model, in which demand (tourism market) and supply (attractions, transport, services, information, and promotion) elements operate in mutual equilibrium. Mill and Morrison [9] in The Tourism System (1985) decomposed the tourism system into four principal components: market (demand), travel (flow), destination (supply),

and marketing. Murphy [11] in Tourism: A Community Approach (1985) emphasized the necessity of analyzing tourism destinations from the perspective of host communities, thereby introducing a socio-communal dimension to TTS theory. In Russian tourism geography, Zorin and Kvartalnov [20] in their Tourism Encyclopedia highlighted that the tourism system constitutes an integral structure that also encompasses management institutions.

In the TTS approach, economic and market mechanisms, the management of tourist flows, and destination competitiveness occupy central analytical positions. However, the framework's notable weakness lies in its tendency to treat ecological considerations as an "additional criterion" rather than a structural component. Geoecological principles-including the finite character of natural resources and the carrying capacity of landscapes-are typically positioned as external constraints rather than as core analytical axes of the model.

The conceptual gap between the ecologically-grounded TRS approach and the economically-grounded TTS approach generated the need for an integrative framework, leading to the formation of the Territorial Tourism-Recreational System concept. The term "territorial tourism-recreational system" first appears in Russian-language literature in the works of Birzhakov and Senin [3] (1989), although their emphasis remained primarily on the recreational dimension. Mironenko and Trift in the 1990s subsequently expanded the interpretation, conceptualizing TTRS as a territorial space accommodating not merely health and leisure functions but all categories of tourist flows.

A contemporary formulation by Safiullin [16] presents TTRS as an integration of natural-geographic landscapes and socio-economic infrastructure-essentially as the intersection of TRS and TTS, where tourism and recreation achieve seamless integration on a unified territorial basis. Sarancha [17] defines TTRS as a complex social-natural geosystem in which societal and natural factors are organically interconnected, oriented toward satisfying human tourism-recreational needs while generating economic, social, cultural, ecological, and political outcomes.

Sarancha's approach proposes a multidimensional analysis of TTRS structured in four layers: (1) natural-resource base, (2) socio-demographic components, (3) economic infrastructure, and (4) management-institutional system. Building on this multilayered foundation, the textbook by Ahmadaliyev and Maxkamov [1] defines TTRS as "the territorial-organizational and functional integration of natural, cultural, and recreational resources, service infrastructure, management and economic mechanisms, as well as socio-economic actors engaged in the tourism sector."

The principal methodological advantage of TTRS lies in its treatment of natural-geographic landscapes and socio-economic infrastructure as equal-status components, integrated through the principles of ecological, economic, and social sustainability. This balanced ontological positioning makes TTRS particularly suitable for analysis within the framework of environmental protection and rational use of natural resources (geoecology).

For conceptual clarity, TTRS must be distinguished from related notions, particularly "tourism complex" and "tourism cluster."

A tourism complex is a concept that emphasizes primarily material-technical infrastructure-hotels, transport, catering, entertainment facilities-and indicates a functional unity. However, its degree of systemic management and integration with the natural environment is not always sufficient. The complex is typically understood as an artificially designed, infrastructurally centralized aggregation of objects.

A tourism cluster draws upon cluster theory developed by Porter [13, 14] during the 1990s. It refers to a networked alignment of tourism enterprises and related sectors located in geographic proximity, operating according to principles of cooperation and competition ("co-opetition") and pursuing primarily economic efficiency. Porter's principal contribution to TTRS theory lies in introducing the concepts of innovation, competitiveness, and network synergy to the tourism sector.

The Territorial Tourism-Recreational System neither rejects nor merely combines these concepts; rather, it provides a more comprehensive conceptual envelope. Within the TTRS framework, both complex elements (infrastructural unity) and cluster elements (economic-network relationships) are present, but-unlike them-TTRS incorporates the ecological component and landscape diversity as equal-status constitutive elements, not as background conditions or external constraints.

4. Discussion

The conceptual integration achieved through TTRS offers several methodological and practical advantages. First, by treating ecological, economic, and social dimensions as ontologically equivalent rather than hierarchically ordered, TTRS aligns with contemporary sustainability paradigms, including the United Nations Sustainable Development Goals (particularly SDG 8 on decent work and economic growth, SDG 11 on sustainable cities and communities, SDG 12 on responsible consumption and production, and SDG 15 on life on land). Second, the framework's grounding in General Systems Theory and geosystem theory provides analytical rigor that supports quantitative assessment methods such as Integrated

Sustainability Index calculations, Analytical Hierarchy Process (AHP) applications, and Geographic Information Systems-based spatial analysis.

The TTRS framework holds particular methodological promise for research within the specialization of environmental protection and the rational use of natural resources. Unlike the TTS framework, which positions ecological considerations as constraints upon economic optimization, TTRS treats environmental quality as a constitutive system property whose degradation undermines the system's long-term functional viability. This positioning is especially relevant for transitional economies and rapidly urbanizing regions-such as Central Asian valleys with high population density and intensive land use-where the temptation to prioritize short-term tourism revenues at the expense of natural-resource integrity poses persistent challenges.

The differentiation from tourism cluster concepts also carries important implications. While clusters effectively model competitive dynamics among tourism enterprises, they typically lack the territorial-ecological grounding necessary for sustainable resource management. By contrast, TTRS preserves Porter's [13, 14] insights regarding innovation and network synergy while embedding them within a geosystemic-ecological framework that maintains analytical attention to natural-resource boundaries and landscape carrying capacities. In practical terms, this means that a TTRS-based assessment of a tourism destination would integrate metrics of competitive advantage with indicators of ecological resilience, water-resource availability, biodiversity status, and landscape diversity.

Several methodological challenges remain. The operationalization of TTRS in empirical research requires harmonizing data of fundamentally different epistemic statuses: quantitative economic indicators, qualitative ecological assessments, and socio-cultural data. Furthermore, the spatial resolution at which TTRS analysis is conducted-from local destinations to regional systems-influences which components are foregrounded and which are treated as boundary conditions. Future research should address standardization of TTRS-based indicators, integration with remote-sensing-based landscape monitoring, and longitudinal assessment of TTRS resilience under climate-change and demographic-pressure scenarios.

5. Conclusion

This conceptual review traced the genesis, theoretical-methodological foundations, and interdisciplinary positioning of the Territorial Tourism-Recreational System (TTRS) concept. Three principal findings emerge from the analysis. First, TTRS represents a conceptual synthesis of two historically parallel research traditions-the Soviet-era TRS with its

ecological-rehabilitative emphasis and the Western TTS with its market-economic orientation. Second, the synthesis is theoretically grounded in General Systems Theory, the geosystem concept, and Social-Ecological Systems theory, providing TTRS with both methodological rigor and contemporary scientific legitimacy. Third, TTRS differs fundamentally from adjacent concepts such as tourism complex and tourism cluster by treating ecological dimensions as constitutive rather than secondary system properties.

The methodological advantage of TTRS-the equal-status treatment of natural-geographic landscapes and socio-economic infrastructure integrated through sustainability principles-makes the concept particularly suitable for research within environmental protection and the rational use of natural resources. For sustainable tourism planning in transitional economies, where rapid urbanization, demographic pressure, and ecological vulnerability coexist, the TTRS framework provides a coherent analytical foundation. Future research priorities include the operationalization of TTRS-based indicators, integration with geospatial analytical methods, and empirical testing of TTRS resilience under varying environmental and economic scenarios.

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