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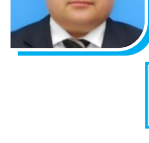
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APPLICATION OF CLUSTER METHODS IN THE DEVELOPMENT OF TOURISM INFRASTRUCTURE AND IMPROVEMENT OF ECONOMIC MECHANISMS IN SAMARKAND CITY

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Abstract: One of the main problems facing the tourism sector of our republic today is the issue of studying what should be the primary focus in developing tourism infrastructure in the regions and determining development directions. Based on this, our research shows that in recent times, the emergence of concepts such as the digital economy, innovation, and innovative technologies in our lives has become increasingly important. At the same time, one of the concepts that is becoming more widely recognized in scientific revolution in economic geography is the concept of a cluster as a specific form of organizing production under market economy conditions. In this article, the author proposes the application of cluster methods in the development of tourism infrastructure and improvement of economic mechanisms in Samarkand city.

Key words: tourism, strategy, cluster, economy, currency, income, transport, hotel, management, marketing, konsepsiya, hudud, erkin turistik zona, turistik-rekreasion.

Аннотация: В настоящее время одной из основных проблем, стоящих перед туризмом нашей республики, является развитие туристической инфраструктуры в регионах и изучение того, на что следует обращать основное внимание при разработке направлений развития. Исходя из этого, наши исследования показывают, что в последнее время такие понятия, как цифровая экономика, инновации и инновационные технологии, всё активнее входят в нашу жизнь. Одним из таких понятий, которое всё шире распространяется в рамках научной революции в экономической географии, является кластер — особая форма организации производства в условиях рыночной экономики. В статье автор предлагает применение кластерных методов в развитии туристической инфраструктуры города Самарканда и совершенствовании экономических механизмов.

Ключевые слова: туризм, стратегия, кластер, экономика, валюта, доход, транспорт, гостиница, менеджмент, маркетинг, концепция, территория, свободная туристическая зона, туристско-рекреационный.

INTRODUCTION

A territorial tourism cluster is a system characterized by a number of specific features. An important condition for the formation of a territorial cluster is the geographical proximity of economic entities. In key sectors, a concentration of manufacturing and supporting industries, as well as several firms and organizations, is emerging, ensuring economies of scale and diversity in production, as well as savings in information and resources. Due to the “intensification” of relations among them, regional clusters achieve a very high level of competitiveness. The geographical scope of clusters may vary from a single city or region to an entire country or even neighboring countries.

LITERATURE REVIEW ON THE TOPIC

The specificity of a tourism cluster lies in the complex nature of the tourism product it produces and delivers. While in industrial clusters a final product is typically created within enterprises, in tourism clusters the final product is designed and developed only by a special group of tourism enterprises—tour operators—and is later sold to end consumers through travel agencies. In this context, special approaches are required to identify the tourism potential of individual territories and organizations, as well as the potential of specific tourism clusters, and to design and form tourism clusters using marketing methodology.

According to T.V. Sikhan, three features of cluster formation can be distinguished:

- Spatially limited forms and directions of economic activity of interconnected sectors, usually associated with science and educational institutions;
- Vertical production-economic chains;
- Narrow-sector production stages that form the core of the cluster within closely related industries [1].

This approach essentially reflects all key aspects of an economic cluster: territorial-geographical, innovative, integrational, sectoral, production-related, and others. However, it does not fully address the key issue—namely, the advantages of clustering, its main outcomes, and its application in the tourism industry. The question therefore remains open: what can be achieved through clustering and what is its main objective? Moreover, the above approach is strongly production-oriented, whereas in our view, economic clustering in the tourism sector of our country should be considered the main object of research.

According to the scientific approach of E.S. Kusenko, “enterprises included in a cluster significantly stimulate innovation activity at a high level. However, due to its ambiguity, it is difficult to fully agree with this view” [2].

According to N.A. Pelevina’s view on tourism clusters, “such a cluster is not a typical vertical structure, but rather a large independent inter-sectoral production and service complex that includes a horizontal space and organizations from various sectors. A tourism cluster is a system of interrelations between production and sectors of the tourism economy, whose unified functional purpose is to meet the needs of consumers of tourism products and services in the country and its individual regions through the rational use of tourism resources and tourism infrastructure” [3].

The task of distinguishing tourism clusters from other structures primarily lies in their extraterritorial nature, their resource base, and their focus on satisfying demand and increasing competitiveness [4].

In this regard, the approach of T.E. Kurmaev is particularly noteworthy. According to him, “the main purpose of creating tourism-recreational clusters in a region is, first and foremost, to increase its economic stability and level of development, achieve synergetic effects, and develop infrastructure, including: improving the efficiency of organizations within the tourism cluster; stimulating innovative activity and the diffusion of innovations; and developing new directions in tourism activities” [5].

According to V.A. Vasilev, “economic clusters are an organizational form that unites the efforts of all stakeholders aimed at quickly achieving competitive advantages under conditions of increasing globalization of the economy” [6]. In addition, the “strong absorb the weak” model suggests a tendency toward monopolistic regional market structures, where the dominant position may ultimately be occupied by the most active tourism cluster associated with smaller territorial production units.

In today’s global practice of regional economics, the most effective integration model is the cluster model. According to CIS scholars T.V. Sakhno and N.N. Volkova, “one of the main differences between cluster production-cooperation models and other forms of cooperation is the principle of territorial localization” [7]. However, it should be noted that the geography of clusters is broad; it can extend from a specific city or region to the national level and even to neighboring countries, which is one of the characteristics of territorial cluster models.

According to M.T. Alimova, “the establishment of a promising tourism cluster within regional public administration bodies, coordination of socio-economic relations within the cluster, development of measures to eliminate barriers to its development, and monitoring of their implementation through a special working group contribute to improving the effectiveness of these processes” [8].

According to B.D. Ollanazarov, “the concept of developing a regional tourism cluster should include measures aimed at developing all sectors of the regional economy that determine the investment attractiveness of the tourism complex. This concept should be aimed at ensuring the competitiveness and high efficiency of the tourism sector in the region and creating a favorable investment climate for attracting external financial resources” [9].

RESEARCH METHODOLOGY

The study analyzed the current state of attracting investments for tourism development in regions and the methodology of economic efficiency indicators. In order to conduct an in-depth analysis of the issues within the topic and to develop scientifically grounded conclusions and recommendations, methods such as induction and deduction, comparative analysis, and the study and analysis of scientific research conducted both in foreign countries and in Uzbekistan were used. Data obtained from these sources were also utilized.

ANALYSIS AND RESULTS

International experience shows that the establishment of regional clusters based on the principles of public–private partnership contributes to their faster development. The state plays an important role in the

formation and development process of regional tourism clusters, especially in the initial stage; however, it also acts as a close strategic partner of the tourism business.

In practice, there are various forms, models, and mechanisms of interaction between the public and private sectors that demonstrate effectiveness. The state supports cluster development by creating platforms for various cluster-related factors, improving the qualifications of the local workforce through additional education and retraining programs, and contributing to the creation of a regional brand aimed at attracting it is advisable to create clusters not only in the medium term, but also from a long-term, strategic, and global competitiveness perspective. For the development of regions, it is appropriate to establish clusters in priority sectors not only in the medium term, but also with a long-term strategic outlook, taking into account globalization processes and the development of international competition. Therefore, in order to achieve the strategic goals of regional development—such as forming a competitive economic structure—within the framework of a cluster-based approach, the above-mentioned principles can be implemented.

Based on our research and taking into account the administrative division of the Republic of Uzbekistan as well as the opportunities for integrated regional development, it is appropriate to divide specialized tourism clusters into the following tourism regions:

- Tashkent region (Tashkent region and Tashkent city)
- Fergana region (Fergana, Andijan, and Namangan regions)
- Jizzakh–Syrdarya region (Jizzakh and Syrdarya regions)
- Samarkand region (Samarkand region and Samarkand city)
- Bukhara–Navoi region (Bukhara and Navoi regions)
- Southern tourism region (Kashkadarya and Surkhandarya regions)
- Khorezm region (Khorezm region)
- Lower Amudarya region (Republic of Karakalpakstan)

We propose dividing tourism regions into clusters based on their level of attractiveness.

The first cluster includes regions with medium tourism attractiveness. We propose including four regions in this group. These regions are characterized by underdeveloped infrastructure, and the proportion of foreign tourists and tourism load is below the average level compared to domestic tourists. This cluster includes Jizzakh–Syrdarya, Fergana, Lower Amudarya, and Southern tourism regions, which are rich in recreational and health-improving resources.

The second group includes Tashkent and Samarkand regions. These areas receive foreign tourists not only for tourism purposes but also for business and service-related activities. Therefore, they are considered regions rich in mixed tourism resources, including historical-cultural and recreational assets.

The third group includes Bukhara–Navoi and Khorezm regions. In these regions, tourism infrastructure is relatively well developed from the perspective of cultural and historical attractiveness (Figure 1).

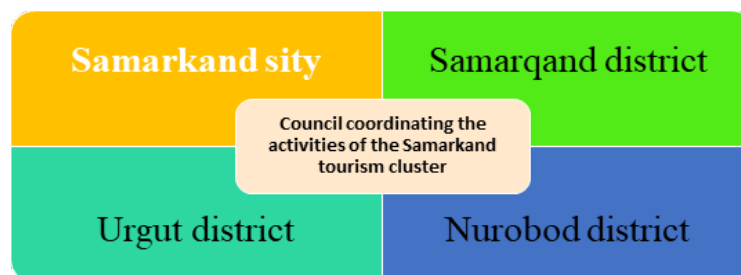


Figure 1. Proposed structure of the “Samarkand Tourism Cluster”

In the tourism regions of our republic, due to the absence of a special department and specialists that evaluate the development of tourism, it is appropriate to use the principle of “self-development.” This approach focuses on designing development strategies for areas with tourism potential and identifying and utilizing the region’s own resources as the main sources of economic growth.

From this perspective, in order to attract international tourism experts to our republic and, with their participation, further develop the tourism potential of the city of Samarkand, increase the efficiency of its use, create favorable conditions for attracting both foreign and domestic tourists to the regions, ensure rapid development of modern infrastructure, and expand and improve the quality of tourism, hotel, and transport services, our research has developed the establishment of a “Samarkand Sustainable Tourism City” free tourism zone cluster within the boundaries of the Samarkand city area. Until now, such a practice of a “Samarkand Sustainable Tourism City” free tourism zone cluster had not been implemented in our republic. Through the establishment of this free tourism zone cluster and the application of the latest innovative technologies in

tourism, the aim is to actively support the development of the regional tourism industry and contribute to the development of the Samarkand regional economy, and subsequently to the growth of the entire national economy.

During the research, the concept of the “Samarkand Sustainable Tourism City” free tourism zone cluster was developed. The essence of the concept is described as follows:

The purpose and importance of the roadmap of the “Samarkand Sustainable Tourism City” free tourism zone cluster: Historically, Samarkand has been one of the most important crossroads of the Silk Road and a center of cultural, economic, and social exchange between the East and the West. The city’s rich architectural heritage, its cultural diversity shaped by the contributions of various communities, and its strong commercial traditions have preserved its unique identity for centuries. Today, however, Samarkand is once again opening its unique heritage to the world through tourism and continues to strengthen its position as an internationally attractive destination.

The economic opportunities created by tourism also include important responsibilities from the perspective of urban development and spatial planning. Rapid urbanization, increasing visitor flows, and global tourism trends may threaten the city’s uniqueness as well as its ecological and social balance. In this context, the principles of sustainable urban development not only support economic growth but also ensure a development approach that protects collective memory, spatial continuity, and natural resources.

The purpose of the “Samarkand Sustainable Tourism City” free tourism zone cluster is to view Samarkand’s tourism potential from the perspective of sustainable urban development and to develop a roadmap that ensures a balanced preservation of economic development together with cultural and environmental values. The roadmap not only defines strategic goals but also indicates the principles on which these goals will be based, who will be involved in their implementation, and how they will be carried out. In this way, it creates a framework that serves as a strategic bridge between sustainable development and the preservation of the city’s identity for Samarkand (Figure 2).

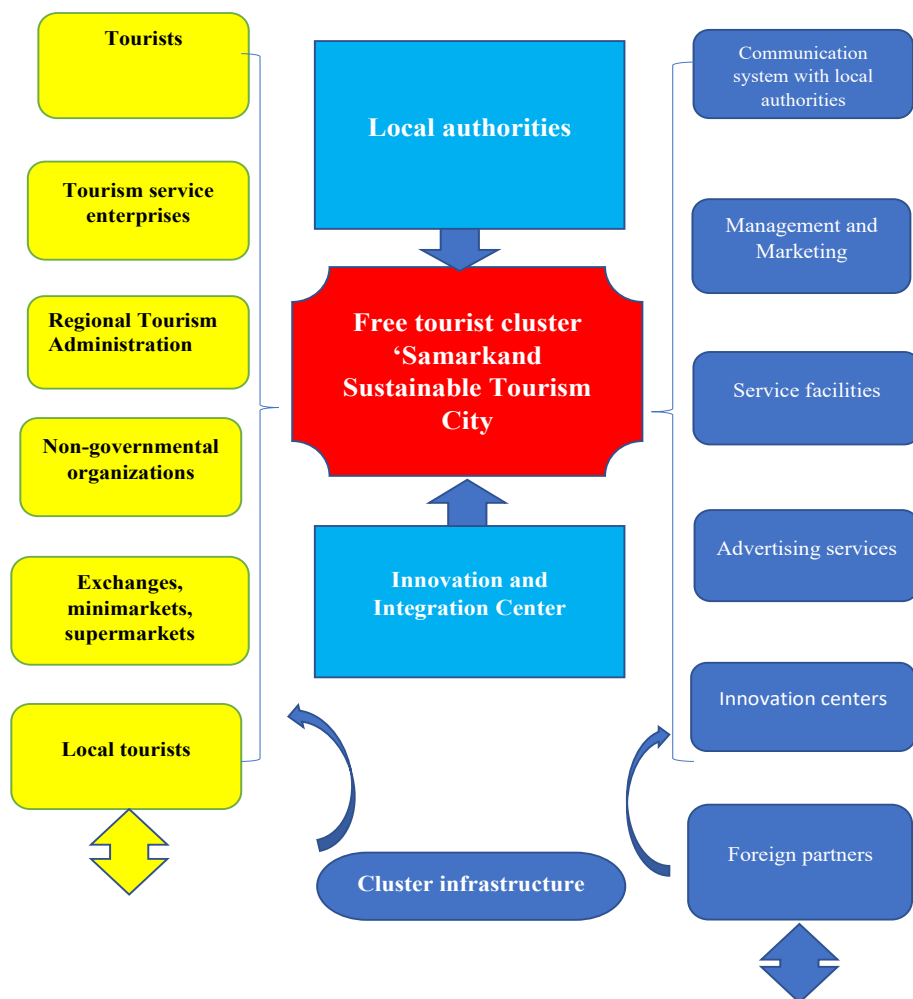


Figure 2. Structural composition of the “Samarkand Sustainable Tourism City” free tourism zone cluster

Especially, it is important to develop tourism and urban planning policies through a “bottom-up” approach rather than a “top-down” one. The active participation of local residents, entrepreneurs, tourism stakeholders, non-governmental organizations, and the academic community increases the social acceptability of decisions and helps develop policies aligned with urban needs. This approach strengthens the social dimension of sustainable urban development and enhances resilience not only in spatial relations but also in social interactions.

In addition, involving the international community and organizations in the process is a strategic tool for increasing Samarkand’s brand value. Through global tourism networks, sustainable urban development funds, and international partnerships, the city can become not only a tourist destination but also a model center for sustainability policies. This, in turn, helps diversify financial resources and increase Samarkand’s global recognition.

The institutionalization of participatory processes within the “Samarkand Sustainable Tourism City” free tourism zone cluster creates changes that directly impact the urban environment. Active participation of city residents in decision-making mechanisms ensures the development of inclusive, accessible spatial solutions that strengthen social integration. In this way, Samarkand becomes not only an attractive destination for tourists but also a city that ensures a high quality of life for its residents.

The main principles and directions of the roadmap of the “Samarkand Sustainable Tourism City” free tourism zone cluster are as follows:

1. Governance and participation: Active participation of local authorities, NGOs, academics, and the population in decision-making processes. Creation of transparent, inclusive, and accountable governance models.
2. Cultural heritage and tourism diversification: Preservation of historical heritage and support for cultural continuity. Development of alternative tourism types such as ecotourism, cultural tourism, and creative tourism.
3. International cooperation and financing: Development of projects in cooperation with global organizations and funds. Enhancing Samarkand’s international brand value in the field of sustainable tourism.
4. Future strategies and urban design: Planning inclusive, accessible, and environmentally sensitive urban objects. Improving tourism service quality through the development of green infrastructure, transport, and public facilities.
5. Cooperation in implementing the roadmap: Strategy and management group: develops the strategic framework and sets priorities together with local authorities, academic advisors, and NGOs. Public participation group: involves local residents, community partners, entrepreneurs, and NGOs in the process.
6. Cultural heritage and tourism group: responsible for preserving historical and cultural values, developing alternative tourism types, and diversifying tourism processes.
7. Tourism route planning and design group: creates inclusive, accessible, and environmentally sensitive spaces and integrates them into the master plan.
8. International cooperation and financing group: increases Samarkand’s brand value through global funds and international projects.
9. Monitoring and evaluation group: continuously monitors the implementation of the roadmap, measures the effectiveness of strategies, and introduces necessary adjustments. This cluster structure ensures that the roadmap is implemented in a comprehensive and coordinated manner not only by local but also international tourism stakeholders (Table 1).

Table 1. Proposals and implementation schedule of measures related to the developed roadmap of the “Samarkand Sustainable Tourism City” free tourism zone cluster

Implementation Team	participants / Stakeholders (Actors)	Tasks and Responsibilities
Strategy and Policy Development	Local government bodies (city administration, urban planning departments), academic advisors, and NGOs.	Defining the strategic framework of the roadmap, identifying policies and priorities, and assessing social and environmental impacts.
Public Participation and Engagement	Local residents’ representatives, NGOs, community cooperatives, and tourism entrepreneurs.	Implementing bottom-up processes, identifying local needs and priorities, and facilitating decision-making processes.
Cultural Heritage and Tourism	Culture and tourism agencies, museum/archaeology specialists, cultural entrepreneurs	Preservation of historical and cultural heritage, development of alternative tourism projects, diversification and improvement of tourism experiences and quality

Spatial Planning and Design	Urban planners, landscape architects, transportation specialists, environmental engineers	Creating inclusive, accessible, and environmentally sensitive spaces; planning green infrastructure and public areas; integrating them into the master plan
International Cooperation and Financing	Representatives of international organizations and foundations, foreign investors, international consultants	Ensuring and planning financial resources, coordinating international standards and partnerships, and enhancing the brand value of Samarkand
Monitoring and Evaluation	“Academic institutions, research centers, data analysis teams”	“Monitoring the implementation of the roadmap, measuring and reporting the effectiveness of strategies, and recommending necessary adjustments in practice”

10. Through this integrated approach, Samarkand aims to become not only an attractive tourism destination for visitors but also a resilient and sustainable city that ensures a high quality of life for its local residents. The roadmap is designed as a tool for implementing strategic objectives, institutionalizing social participation, and preserving the city’s cultural and environmental values.

11. As a result, this roadmap: Provides practical strategic directions for cluster developers, makes the city competitive at both local and global levels, institutionalizes social participation, and promotes the sustainable development of tourism in Samarkand.

In order to effectively implement the roadmap of the “Samarkand Sustainable Tourism City” free tourism zone cluster, it is important to plan strategic goals and projects according to a forecast period. The forecasting schedule clearly defines at which stage, by which stakeholders, and when each objective will be implemented, ensuring that the process is transparent, monitorable, and effective (Figure 3).

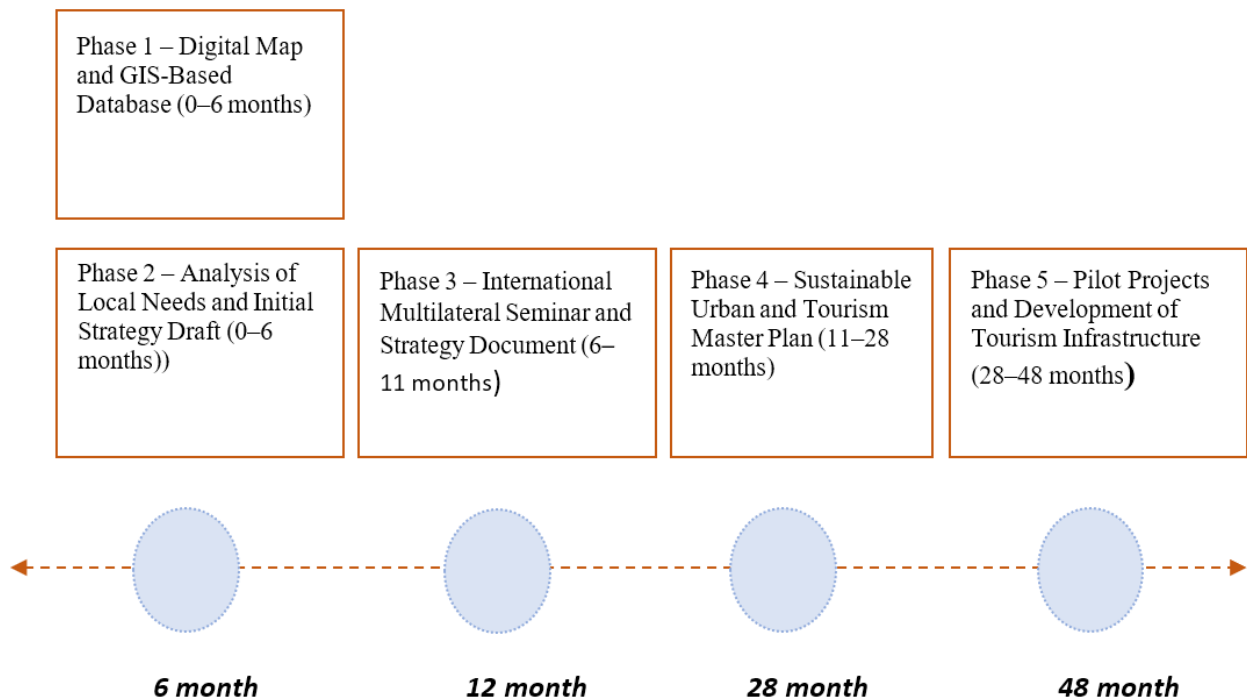


Figure 3. Forecast period (2026–2030) of the “Samarkand Sustainable Tourism City” free tourism zone cluster and its roadmap

In addition, the forecasting schedule makes it possible to define short-, medium-, and long-term outcomes, thereby improving the efficient use of tourism resources and strengthening coordination in implementation. In Samarkand, a city rich in cultural and historical heritage, the forecasting schedule also ensures the preservation of cultural heritage, the integration of social participation processes, and the planned development of international cooperation.

From this perspective, the roadmap is considered not only a strategic guide but also a practical framework for sustainable and coordinated urban development and tourism management.

The phased implementation of the “Samarkand Sustainable Tourism City” free tourism zone cluster and its roadmap requires a defined timeline. The roadmap should be supported by a forecasting period that indicates the sequence, duration, and responsible stakeholders and economic entities for each strategic objective and project. The proposed timeline includes the following stages:

First period (1–6 months): creation of a digital map and a GIS-based database, as well as analysis of the needs of local and international tourists and development of an initial strategic draft.

Second period (6–12 months): organization of various thematic entrepreneurial seminars within the framework of MICE and SMART tourism with the participation of international tourism stakeholders, and development of a platform program for the strategy.

Third period (12–28 months): development of the roadmap and master plan of the “Samarkand Sustainable Tourism City” free tourism zone cluster; (28–48 months): implementation of pilot projects and development of tourism infrastructure.

This step-by-step planning ensures efficient use of resources, stronger coordination, and coherence among different actors. At the same time, it is an important tool for timely preservation of cultural heritage, integration of social participation processes, and development of international cooperation. This roadmap guarantees that Samarkand systematically and practically achieves its sustainable urban and tourism objectives.

Phase 1 – Digital Map and GIS-Based Database (0–6 months). Phase 1 forms the fundamental basis of the roadmap. The data collected during the first 0–6 months—such as satellite imagery, cadastral and topographic data, historical heritage inventories, and natural ecosystems—not only serves to create a digital map but also enables all urban projects, including the master plan, sustainable transport projects, cultural routes, public spaces, and green infrastructure designs, to be developed in a data-driven and integrated manner.

The selection of low-cost and low-carbon cloud technologies not only strengthens technical sustainability but also supports environmental sensitivity. Through GIS layers, visualizing land use, infrastructure, biodiversity corridors, public spaces, green networks, and heritage-related data enables future strategy and planning stages to be carried out on a scientific and precise basis.

Ground verification ensures the accuracy of the data, and the information is shared with local universities and the public, thereby creating a transparent, participatory, and reliable data process. The success of this stage is crucial for the effective implementation of all subsequent phases of the roadmap.

Phase 2 – Analysis of Local Needs and Initial Strategy Draft (0–6 months). Phase 2 is essential for developing inclusive strategies aligned with local needs. During the first 0–6 months, focus group meetings and surveys are to be conducted with local residents, entrepreneurs, tourism businesses, guides, architects, and environmental groups. The priorities of women and youth are considered in separate sessions, and an inclusive and universal database is created.

This process contributes to ensuring access for all individuals to urban spaces and tourism experiences based on universal design principles. The collected data is analyzed according to the principles of sustainable urban development (compact city, green infrastructure, social inclusion) and slow tourism (local production, heritage preservation, low-density tourism) and transformed into initial strategies.

Concrete recommendations such as carbon-neutral transport systems (bike-sharing networks, electric minibuses) and traditional craft markets are discussed within participatory models. Inclusiveness and participatory approaches play a central role in strategy development, strengthening urban planning not only spatially but also socially.

At month 6, the analyses and initial strategies are shared with international organizations such as UNESCO, UNWTO, and ICCROM, and multilateral seminars are held. These seminars bring together local and international experts, academics, tourism, and cultural heritage organizations. This process serves as an important tool for increasing Samarkand’s brand value in sustainable tourism and urban development.

Phase 4 – Sustainable Urban and Tourism Master Plan (12–28 months). This phase envisions the creation of a master plan that integrates the city’s long-term development goals with cultural and environmental values. The data collected in previous stages, along with local needs and strategic drafts, form the foundation of this plan.

During 12–20 months, sustainable spaces such as ecological routes, urban parks, and public gardens are planned; eco-friendly systems reducing traffic in the historic center are developed; and strategies supporting the local economy are integrated into the physical plan.

During 20–28 months, the master plan is shared with local residents, the tourism sector, and NGOs; it is revised based on feedback; and green building standards and energy efficiency criteria are made mandatory. Finally, an implementation guide is prepared.

This process strengthens the bottom-up principle, enhances local participation, and ensures social acceptance of urban planning. As a result, Samarkand will develop in the future as a resilient, environmentally sensitive, inclusive, and sustainable city.

Phase 5 – Pilot Projects and Development of Tourism Infrastructure (28–48 months). In this phase, strategies are transformed into real spatial and economic practices. During 28–36 months, pedestrian and cycling routes are created in historic areas, eco-friendly hotel designs are implemented, and local producers and cultural routes are activated.

36–48 months, visitor centers, a city museum, library, archive, and renewable energy systems will be installed. In addition, environmental management systems will be introduced, old factories will be converted into art and handicraft centers, and digital route and reservation platforms will be implemented.

This stage requires the development of a city design guideline. The guideline defines the design standards for all physical interventions, environmental and social criteria, and ensures their alignment with the master plan.

Pilot projects in Samarkand enable the integration of sustainable urban development and tourism, transforming the city into a resilient, inclusive, and environmentally sensitive center.

CONCLUSIONS AND SUGGESTIONS

In conclusion, the “Samarkand Sustainable Tourism City” free tourism zone cluster roadmap presents a comprehensive strategic framework aimed at achieving long-term sustainability goals by supporting economic development while preserving the city’s cultural and historical values. The roadmap is developed through a five-stage process: starting from a digital database, continuing with local needs analysis, interdisciplinary master planning, and ending with pilot project implementation. Each stage ensures the integration of urban planning, tourism, and social participation.

Data-driven and inclusive approaches have strengthened the implementation of the master plan and its acceptance by society. The participation of local residents, NGOs, and international actors has increased the effectiveness of the strategies not only at the local but also at the global level. Pilot projects and tourism infrastructure were implemented in accordance with sustainable architecture and urban design guidelines, ensuring a balance between environmental, economic, and cultural aspects. In this way, Samarkand preserves its identity while guaranteeing visitors sustainable and rich experiences.

The roadmap emphasizes the importance of inclusive and bottom-up approaches, showing that urban planning is not only about physical spatial design but also about strengthening social relations and developing solutions adapted to local dynamics. International cooperation and multilateral participatory processes have increased Samarkand’s brand value, turning the city into a model for sustainable tourism.

For the successful functioning of the proposed cluster, the Coordination Council of Cluster Activities should play a key role. The decisions and conclusions of the Coordination Council determine the effectiveness of the management company. Therefore, the greatest responsibility falls on the Coordination Council.

As a result of coordinated operation among tourism enterprises within the cluster, internal linkages will be strengthened and opportunities for business development will expand. Another advantage of establishing the cluster is its location: the major Tashkent–Termez highway and the main railway line connecting the eastern and western parts of Uzbekistan pass through the region.

Overall, the cluster represents a real opportunity to ensure the region’s competitiveness by creating a long-term development strategy for tourism enterprises over the next ten, twenty years or more. The key success factors include the active role of business leaders and positive cooperation among various organizational groups in the region. Thus, the success of the cluster depends on strong competition, effective management orientation, and support from regional authorities.

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