Architectural Studies
International Journal about Architecture

Volume 11, No. 1

UDC 711.4:745:377.36
DOI: 10.56318/as/1.2025.22

Kaldybay Arynov*
Doctor of Architecture, Professor
L.N. Gumilyov Eurasian National University
010008, 2 Satpayev Str., Astana, Republic of Kazakhstan
https://orcid.org/0000-0003-0799-8574

Shaizkhan Surankulov
Doctor of Technical Sciences, Professor
S. Seifullin Kazakh Agrotechnical Research University
010011, 62 Zhenis Ave., Astana, Republic of Kazakhstan
https://orcid.org/0009-0006-6592-5815

Rakhima Chekaeva
PhD in Architecture, Professor
L.N. Gumilyov Eurasian National University
010008, 2 Satpayev Str., Astana, Republic of Kazakhstan
https://orcid.org/0000-0002-4991-2604

Ualikhan Kussebayev
PhD in Technical Sciences, Associate Professor
L.N. Gumilyov Eurasian National University
010008, 2 Satpayev Str., Astana, Republic of Kazakhstan
https://orcid.org/0000-0003-2281-5457

Aliya Temirova
Senior Lecturer
L.N. Gumilyov Eurasian National University
010008, 2 Satpayev Str., Astana, Republic of Kazakhstan
https://orcid.org/0000-0002-5900-5733

Urban planning foundations for the formation of training and production centres for folk art crafts

Abstract. The study aimed to substantiate architectural and planning solutions that facilitate the integration of training and production centres for folk arts and crafts into the modern urban environment of Kazakhstan. The study uses methods of urban planning concept, functional zoning, environmental sustainability and architectural solution analysis to develop design recommendations. The study substantiated urban planning approaches to the location and design of training and production centres of folk-art crafts in Kazakhstan. The study established that the best places for their creation are regions with a developed cultural and historical heritage and the presence of sustainable craft traditions. The author analysed the functional structure of craft centres, which demonstrated that their effectiveness depends on a clear zoning of the territory. It is recommended to distinguish the following zones: educational (workshops, lecture halls), industrial (workshops, laboratories), exhibition (museums, galleries, shops) and public (recreation and cultural

Suggested Citation:
Arynov, K., Surankulov, Sh., Chekaeva, R., Kussebayev, U., & Temirova, A. (2025). Urban planning foundations for the formation of training and production centres for folk art crafts. *Architectural Studies*, 11(1), 22-34. doi: 10.56318/as/1.2025.22.

Journal homepage: https://arch-studies.com.ua/en
Architectural Studies, 11(1), 22-34
Received: 29.07.2024 Revised: 30.11.2024 Accepted: 25.02.2025

*Corresponding author

events). The results of the study confirmed that the use of local natural materials (stone, wood, clay) in construction not only meets the requirements of environmental sustainability but also contributes to the preservation of the traditional appearance of architecture. The study determined that the integration of traditional Kazakh architectural elements into modern projects contributes to tourist and cultural attractiveness. As a practical conclusion, recommendations for the design of centres were developed, including the choice of locations, structural zoning and consideration of architectural features. An example of the successful application of the proposed solutions was the project of a centre in Turkestan, which demonstrated a significant contribution to the preservation of cultural heritage and the development of the local economy. Thus, the results of the study highlighted the importance of an integrated approach to the creation of training and production centres, ensuring their sustainable development and integration into the modern urban environment

Keywords: cultural heritage; functional zoning; environmental sustainability; architectural elements; tourist attraction; regional development

INTRODUCTION

Folk arts and crafts are an important component of the cultural heritage, contributing to the preservation of traditions, the formation of national identity and the development of regions. Interest in crafts is growing, which requires the creation of conditions for their preservation and promotion. Training and production centres for folk arts and crafts are central to the continuity of knowledge, training new generations of craftsmen and demonstrating products to a wide audience. The formation of such centres requires not only a competent approach to their organisational and economic component but also careful design of urban planning solutions. The architectural and planning features of these facilities should incorporate the cultural characteristics of the regions, harmoniously combine traditional and modern elements, and ensure functionality and sustainability.

Kazakhstan, with its rich cultural heritage, is a promising territory for the creation of training and production centres (Gamaliia & Artemenko, 2023). This is determined by the existence of stable traditions of folk crafts, such as carpet weaving, pottery, wood and metal artistic processing. However, in practice, their development faces several challenges, including the lack of specially equipped spaces and insufficient integration into the modern urban environment. The problem of the formation of training and production centres for folk art crafts is an important part of the study in the context of preserving cultural heritage and regional development. D. Arinaitwe (2021) analysed practices and strategies to improve learning through collaboration between teacher education institutions and workplaces. The author emphasised the importance of developing effective practices to improve the learning process, which contributed to the quality of teacher education. N. Tomaz & E. Caldeira (2021) considered the inclusion of traditional architectural elements in the design of such facilities as an important aspect of preserving cultural identity. The study argued that the use of national motifs in architecture maintained a connection with history and promoted the popularisation of folk crafts among young people.

A. Kalkanatov *et al*. (2023) studied the role of cultural centres and houses of culture in the Republic of Karakalpakstan, considering them important elements of the region's social and cultural infrastructure. The study emphasised the importance of these facilities for the preservation and development of local traditions, supporting the social cohesion and cultural identity of the population. J. Santamarta *et al.* (2021) emphasised the importance of introducing renewable energy technologies, such as geothermal heating, into tourism infrastructure. The study argued that this not only reduced operating costs but also contributed to the creation of environmentally friendly and energy-efficient facilities. N. Bencheva *et al*. (2024) studied the role of social infrastructure in agrarian tourism, emphasising the importance of having a developed social infrastructure for the successful functioning of craft communities. The study noted that regions with sustainable infrastructure and high potential for the development of craft clusters can create favourable conditions for agrarian tourism and craft development. A. Wondirad *et al.* (2022) emphasised that transport accessibility and the inclusion of craft communities in tourist routes were important factors for their successful functioning. The study argued that this contributed not only to attracting visitors but also to strengthening the link between cultural heritage and the modern labour market.

D. Kalfas *et al*. (2024) studied the contribution of training and production centres to job creation. The authors argued that the centres have become important economic and social hubs, providing new employment opportunities for residents and small business development. G. Attanasio *et al.* (2022) proposed a business model for the sustainable development of training and production centres by examining the most important contributions of stakeholders such as employees and managers. The study analysed the creation of conditions for effective interaction of all stakeholders, which would contribute to sustainable development and preservation of traditional crafts. N. Wu & Z. Liu (2021) studied the development of higher education, technological innovation and the modernisation of the industrial structure, emphasising how these processes influenced the development of the urban environment. The study highlighted that training and production centres could become important cultural and educational facilities that could attract residents and tourists, playing a key role in the transformation of urban infrastructure. S. Deb *et*

al. (2022) analysed the potential and characteristics of family craft businesses, highlighting the most important factors for their success, such as motivation and other key aspects. The study emphasised that successful examples included a comprehensive approach that incorporated not only architectural and engineering solutions, but also a strategy for integrating the business into the socio-economic environment of the region.

Despite considerable research, gaps were identified that require further study. These include the integration of centres into the urban environment, their impact on public spaces and long-term sustainability, as well as a deeper analysis of the impact of the educational function of centres on the preservation of craft traditions. The study aimed to identify the optimal urban planning solutions for the creation of training and production centres for folk art crafts that contribute to the preservation of cultural heritage and regional development. Research objectives:

1. To analyse the possibility of integrating traditional architectural elements into the design of such facilities to preserve cultural identity.

2. To evaluate the use of environmentally friendly materials such as wood and clay in the construction of training and production centres.

3. To study the impact of transport accessibility and inclusion of centres in tourist routes on their successful functioning and development.

MATERIALS AND METHODS

The study conducted a comprehensive analysis of approaches to the design of training and production centres for folk crafts, as well as investigated the requirements for such centres and the spatial organisations in which they operate. First, the urban planning principles that underlie the design of such facilities were studied. For this purpose, several concepts used in design were studied to identify those that can be used to create training and production centres that provide a harmonious combination of educational, cultural and production functions.

One of the key stages of the study was the analysis of the spatial organisation of such centres. The functional areas necessary for the successful functioning of a folk crafts training and production centre were studied. These included training workshops for artisans, production facilities for creating folk crafts, cultural and exhibition spaces for demonstrating works, and public areas for holding masterclasses and cultural events. For each of these areas, the best way to integrate with the other functions of the centre was considered to ensure efficient use of space and meet functional requirements.

The study addressed environmental integration in the design of such centres. Methods of using environmentally friendly materials, such as wood, stone and clay, were considered, which can not only ensure the sustainability and durability of the facilities but also create a comfortable atmosphere. The possibilities of using renewable energy sources such as solar panels and rainwater recycling systems were also analysed, which could reduce the ecological footprint of such facilities and improve their environmental sustainability.

An important aspect of the research was the study of architectural solutions that combine traditional elements of Kazakh architecture with modern approaches. The study analysed ways to integrate cultural symbols and ornaments into the architecture of buildings, which preserve the cultural identity of the region and meets modern requirements for functionality and aesthetics. Traditional shapes and colour schemes were also explored to maintain a connection with the historical context and create a unique atmosphere for residents and tourists. The study analysed the socio-economic aspect of the creation of training and production centres of traditional crafts, including their role in the development of regions. The possibility of creating new jobs, increasing tourism attractiveness and training of folk crafts masters was considered. Such centres are regarded as platforms for educational and cultural activities, which contribute to the improvement of the economic situation in the region.

The study also analysed successful examples of sustainable development in Turkestan, including examples of the integration of historical sites with modern architectural solutions. The analysis of these examples, including the role of the Azret-Sultan Museum-Reserve, demonstrated how such projects contribute to the preservation of cultural heritage, as well as to the development of the local economy and the attraction of tourists. The study developed recommendations for the design of training and production centres for folk arts and crafts. These recommendations include architectural, environmental, functional and socio-economic aspects, with a focus on preserving cultural heritage and developing crafts in regions with historically established craft traditions, such as Turkestan.

RESULTS

The urban design of training and production centres for folk crafts is key in the preservation and development of cultural heritage, and the creation of an effective educational and production environment. When designing such centres, it is important to consider several principles that ensure a harmonious combination of functionality and aesthetics, contribute to the psychological comfort of craftsmen, and create optimal conditions for the creative process (Arynov *et al.*, 2022). The main requirement that crafts training and production centres must meet is functionality. Spaces should be organised in such a way as to effectively combine the learning process with production activities. This implies the presence of different areas: for theoretical classes, practical workshops, and warehouses for materials and finished products. The project should include logistical solutions that facilitate convenient movement between areas and efficient labour organisation. In addition to functionality, aesthetics is an important aspect. The centres should be not only comfortable but also beautiful, harmoniously integrated into the natural or urban

landscape. Architectural solutions should be focused on preserving the traditions of folk art, which will create an atmosphere that inspires craftsmen and students to create.

An important factor in design is the psychological impact of the environment on the creative process of the artist. The workspace should create conditions for concentration and productivity. Light, space and colour schemes are important aspects. Natural light contributes to a more detailed perception of the material and improves the quality of architecture, while calm and pleasant colours in interiors help tune without overloading the psyche. Notably, the space stimulates creativity and ensures harmony between craftsmen, students and the surrounding world. Recreation areas where rest should also be present to contribute to a better psycho-emotional state.

The types of training and production centres for folk crafts depend on the age groups of students and their educational needs. For children and adolescents, it is necessary to design learning spaces that will facilitate easy learning of crafts, including play and creative areas where children can learn the basics of craftsmanship. In turn, for adult craftsmen, the design should be focused on specialised workshops where they can study craft techniques and technology in depth. This approach ensures not only the learning process but also the development of craftsmanship, which is an important part of the culture of folk crafts.

An important element of urban planning is the classification of buildings and their functional units. The main types of buildings are educational buildings, production workshops, and public and administrative premises. Educational buildings include lecture and practical classrooms, libraries and other resources for theoretical training. Production workshops should be equipped with the appropriate equipment to perform various types of work, from fabric processing to metal and woodworking. Notably, the production facilities provide sufficient space for craftsmen to work comfortably and safely. Administrative buildings include offices, employee areas, exhibition and sales areas where finished products can be displayed and sold.

The typology of training and production centres for folk crafts also depends on their location in the structure of settlements, from villages and small towns to regional centres. In rural areas, the design should incorporate compactness and functionality aimed at preserving local traditions and crafts. In regional centres and large cities, the design should be more ambitious, with the possibility of integrating cultural and tourist functions. Such centres can become important cultural and educational facilities that attract both residents and tourists. In large cities, it is also necessary to combine educational and production processes with exhibition and trade functions, which helps promote folk crafts and their wider distribution.

Thus, the principles of urban planning design for training and production centres for folk crafts include functionality, aesthetics, psychological comfort, and incorporate the age characteristics of students and the classification of buildings. These principles help create centres that not only meet the requirements of education and production, but also preserve cultural traditions, inspire creativity, and develop craft skills. The functional zoning of folk-art training and production centres are key in organisation of the effective operation of such institutions. Each centre should include several zones, each with a specific role. These zones form an integrated structure that facilitates successful training, production and cultural exchange (Zabulis *et al.*, 2023).

One of the most important areas is the training area. These are workshops, lecture halls and laboratories that provide the necessary conditions for acquiring knowledge and practical skills. The workshops should have all the necessary tools and materials for handling traditional crafts such as pottery, carpet weaving or wood carving. Lecture halls are designed for theoretical classes where students learn about the history of crafts, as well as technological aspects and design. Laboratories are needed for experimentation and development of new materials or technologies, which promotes innovation in crafts. All these rooms should be arranged in a logical sequence to ensure the optimal flow of people and materials, as well as to create comfortable working and learning conditions.

Production areas are important in the structure of a training and production centre. These are workshops where products created by both students and professional craftsmen are manufactured. The workshops should be equipped with the necessary tools and equipment to work with various materials such as wood, metal, clay and fabrics. The spaces should be spacious, and safe, with good ventilation and sufficient lighting for comfortable work and production.

Cultural and exhibition spaces are equally important. Museums, galleries and shops located in these areas are substantial in promoting folk arts and crafts and integrating them into the cultural space of the region. Museums and galleries not only showcase the works of craftsmen but also introduce the history of crafts, showing the evolution of technologies and styles. These spaces host exhibitions, masterclasses, lectures and other events that help to better understand the significance of folk crafts. The shops, in turn, are used as sales outlets for the products produced, which contributes to the financial sustainability of the centre and increases interest in folk art among both locals and tourists.

Public areas are substantial in the structure of the centre. These spaces, including recreation areas, and areas for workshops and events, ensure a comfortable stay for both nail technicians and visitors. Lounge areas, equipped with comfortable furniture and green spaces, serve as a place for socialising, sharing experiences and relaxing. Workshop areas can be used to organise meetings, presentations and cultural events, which helps to expand public interest in folk crafts and their modern development. These spaces are also a place to interact with a wide audience and promote traditional crafts.

The principles of designing a green space system are also important for the harmonious functioning of a training and production centre. Green spaces (gardens, green

areas) are decorations that create favourable conditions for rest and recuperation, and improve the microclimate and atmosphere in the centre, creating a comfortable environment for work and communication. An example of successful zoning is the layout concept with the main pedestrian alley as the central axis of symmetry (Fig. 1). The alley became the main link between the main craft workshops and cultural and exhibition areas. The main craft workshops and shops are located along the alley, creating a convenient and logical route for visitors and craftsmen.

Figure 1. Layout concept with a central symmetrical axis – the main pedestrian walkway
Source: compiled by the authors

The functional and planning framework for the design of the training and production centre involves a combination of several key functions. The demonstration and production function includes workshops for carpet weaving, and artistic processing of wood, metal, stone, bone and horn, as well as workshops for sewing, embroidery and knitting. The educational and production area includes drawing, painting, sculpture classes and lecture halls for theoretical training. The cultural and propaganda function includes exhibition halls, areas for entertainment and ethnographic festivals and a concert venue. The trade and fair function include shopping arcades, shops and a fairground. The tourist function is expressed in hotels and motels, as well as a water area with fountains and green spaces. It is necessary to provide for residential areas, including workshops for craftsmen. The facilities of such a centre can be placed in a group of free-standing and mobile (seasonal) buildings of small architectural form, which will ensure flexible adaptation of the structure and ensure the use of natural resources to create a harmonious and functional space.

Design of craft centres should incorporate not only functional and technical characteristics, but also the environmental component, which affects the psychological state of craftsmen and their creative process. One of the key factors is the architectural and spatial environment in which the craftsman works. Historically established architectural and natural elements of the environment are substantial in shaping the creative mood and perception of the working environment. The psychological impact of the environment on the artist is important, as creative activity is closely related to spatial and aesthetic conditions. The space in which the artist is located should contribute not only to physical comfort but also to the emotional state, creating an atmosphere that inspires the creation of new works. Architecture that uses natural elements and traditional forms can contribute to immersion in the atmosphere, creating harmony between humans and the world around them. Elements such as green spaces, natural light and the use of environmentally friendly materials create not only physical but also psychological comfort, which helps improve the mood of the craftsmen. Environmental integration in the design of folk art and craft training and production centres contributes to their harmony with nature and sustainability. It is important that the centres not only preserve traditional craft techniques but also incorporate environmental aspects, which reduces the negative impact on the environment (Table 1).

Table 1. Use of environmentally friendly materials in construction

Material	Usage	Environmental benefits
Wood	A natural renewable resource widely used in national construction	Excellent thermal insulation properties, harmony with nature, recyclable
Stone	A strong and durable material traditionally used in construction	High environmental performance, ability to regulate humidity and temperature
Clay	Natural material with a long history of use in construction (walls, bricks, decorative elements)	Environmentally friendly, regulates indoor climate and humidity
Straw	Insulation of buildings, construction of ecological buildings (adobe, pressed straw blocks), reconstruction of traditional buildings	Natural, biodegradable material with good thermal insulation properties, reduces the energy consumption of the building
Bamboo	A fast-growing plant used in the construction of residential buildings, public spaces, cafes, small warehouses	Environmentally friendly, easily renewable resource, high strength characteristics, mould resistance
Herbal materials	Use of local grasses and vegetation in construction and finishing works, planting on the roof, for insulation and protection against moisture	Environmental friendliness, use of local materials, minimisation of carbon footprint

Source: compiled by the authors based on Y. Nasr *et al.* (2023) and A. Almusaed *et al*. (2024)

One of the main aspects of ecological integration is the use of natural materials in construction. Materials such as wood, stone and clay are commonly used in vernacular construction and can be effectively used in the construction of training and production centres. Wood, as a natural and renewable resource, not only blends harmoniously into the natural environment but also has excellent thermal insulation properties, which contribute to a comfortable indoor climate. Stone and clay add strength and durability to buildings, and have high environmental characteristics, such as the ability to regulate humidity and temperature. The use of these materials in construction can be used to create environmentally friendly and energy-efficient facilities that preserve traditional technologies without harming the environment.

In addition, an important aspect of environmental integration is the use of renewable energy sources to ensure the sustainability of training and production centres. Solar panels, wind turbines and geothermal systems can significantly reduce the need for traditional energy sources, reduce the carbon footprint of facilities, and provide electricity for lighting, heating and equipment operation. Geothermal heating systems can effectively regulate indoor temperatures, reducing energy consumption and improving comfort for employees and visitors (Sayed *et al.*, 2021). The use of these technologies and materials helps to promote sustainable development among craftsmen and students studying at the centre.

The architectural solution for training and production centres for folk arts and crafts should be based on harmony between tradition and modernity. Such centres should not only fulfil their functional duties but also become cultural monuments reflecting the rich historical heritage and unique traditions of folk crafts. One of the key aspects is the preservation of elements of traditional Kazakh architecture, such as ornaments, national colours and shapes. By incorporating these elements into a modern architectural solution, it is possible to create objects that will blend seamlessly with the surrounding nature and cultural landscape (Table 2).

Table 2. Integration of traditional architectural elements into the design

Traditional architectural elements	Usage	Role in preserving cultural identity
Ornaments	Use of national ornaments on facades, doors, windows	Emphasises uniqueness and connection to local traditions
Domes and arches	Use of traditional forms of domes and arches in building construction	Visual identification with the historical architecture of the region
National colours and materials	Use of traditional colours (red, gold, blue) and materials such as clay and wood	Preservation of national identity and harmony with nature
Symbolism in the decor	Inclusion of symbols in the decor that reflect folk customs and beliefs (traditional ornaments, mythological and religious symbols, symbols of protection and well-being)	Supporting the cultural and religious traditions of the local population

Source: compiled by the authors based on A. Tanzharykova & G. Maulenova (2024)

Traditional Kazakh ornaments, often used in building decoration, have a deep symbolism and connection with nature. For instance, patterns resembling stylised images of animals, plants or geometric shapes are important symbols reflecting the spiritual values of the people. These ornaments can be used both in the façade and in the decorative elements of the interior of the training and production centre. National colours such as blue, gold, green and red are traditionally associated with various aspects of Kazakh culture, such as nature, nomadic life and historical events. The inclusion of these colours in architecture helps to preserve cultural identity and emphasises the uniqueness of the object (Zhubanova, 2021).

However, despite the importance of traditional elements, architectural solutions must be adapted to modern conditions. The combination of modern technology and historical style creates buildings that not only preserve cultural traditions but also meet current requirements for energy efficiency, safety and comfort. For instance, the use of modern building materials such as glass and steel can be organically combined with traditional wooden elements and stone coatings. Insulation, soundproofing and ventilation technologies suitable for folk arts and crafts training and production centres should combine functionality with respect for traditional architecture. For instance, natural materials such as eco-wool or linen insulation can be used for insulation, which provides thermal insulation and is environmentally friendly. For noise insulation, panels made of wood-fibre boards or natural cork effectively reduce the noise level in the premises without compromising their aesthetic appearance. Ventilation systems can be based on heat recuperators, which provide fresh air and energy savings, or on natural ventilation using ventilation shafts that are organically integrated into the architectural style of the building.

This combination of old and new achieves maximum functionality while preserving aesthetic value and historical identity. The use of innovative technologies in combination with traditional architecture makes it possible to create not only comfortable but also environmentally friendly buildings. For instance, solar panel systems or thermal insulation materials can be integrated into the roof without disturbing the architectural style, but at the same time significantly reducing energy costs (Jiang *et al.*, 2022).

The architectural design of a crafts training and production centre should combine the best traditions of Kazakh architecture, such as the use of yurt-shaped forms, national ornaments and elements reflecting the connection with nature (e.g. open courtyards or canopies with

traditional patterns), with modern requirements and technologies. Among modern requirements for the buildings of craft centres are ergonomic and safe premises, energy efficiency (including insulation and ventilation systems), convenient layout for the organisation of the educational process, the use of environmentally friendly and durable materials, and the possibility of adapting the buildings for different types of activities, including master classes, exhibitions and production. This will create functional and aesthetically pleasing facilities that not only meet the needs of modernity but also retain a deep connection to history and cultural heritage.

Craft training and production centres are versatile in support of traditional crafts, tourism development and improving social well-being through job creation and community involvement in sustainable economic activities (Nagorniuk *et al.*, 2022). One of the key aspects of the social importance of training and production centres is the preservation of cultural heritage. These centres become the main repositories of traditional knowledge and skills that are passed on to new generations of artisans and students. The learning process in such centres includes both theoretical and practical classes that help preserve and develop ancient craft techniques such as wood carving, pottery, carpet weaving and others. This not only preserves unique traditions but also helps to adapt them to modern requirements and markets. The transmission of knowledge by craftsmen and teachers is an important contribution to the development of cultural identity and the maintenance of historical heritage, thus strengthening the link between generations.

Folk craft centres are also significant in the tourism potential of the regions. The inclusion of these facilities in tourist routes popularises cultural heritage and creates new opportunities for tourism development. Craftsmen working in such centres can organise masterclasses, exhibitions and demonstrations, which becomes an additional attractive part of tourist programmes. The attraction of tourists not only promotes folk crafts but also increases the income of local communities, as sales of products and services related to cultural exchange become a source of economic growth. Thus, training and production centres for folk arts and crafts can be linked to the development of cultural tourism, which in turn leads to an increase in the number of jobs and support for the local economy.

In addition, the establishment of such centres leads to the creation of jobs in several areas. In the educational sector, jobs are created for teachers and craftsmen who teach students and train new generations in the skills of traditional crafts. In the manufacturing sector, jobs emerge for craftsmen, equipment operators, and those who manage and sell products. The cultural sector also requires the involvement of workers to organise exhibitions, cultural events and other activities to promote folk crafts and raise public awareness. These jobs not only employ local people but also contribute to the development of professional skills and improve living standards. Thus, training and production centres of folk arts and crafts play an important role in the socio-economic development of the regions. The preservation of cultural heritage, development of tourism and creation of jobs all these aspects create a multifaceted impact on the local economy, the well-being of residents and the development of the region.

Turkestan, as one of the most important historical and cultural centres of Kazakhstan, has become an example of successful projects that harmoniously combine traditions and modern approaches in architecture and urban planning. The preservation of cultural heritage, the use of innovative technologies and environmental integration have transformed Turkestan, making it a model of sustainable development in a region that is growing rapidly. One of the most impressive examples is the reconstruction of the Azret-Sultan complex (Fig. 2). The centrepiece of this complex is the mausoleum of Khoja Ahmed Yasawi, the first monument of Kazakhstan included in the UNESCO World Heritage List. The modern building of the mausoleum was built on the burial place of the famous Sufi poet, who had a great influence on the development of Islam in Central Asia (Makhanov *et al.*, 2023).

Figure 2. Museum-reserve "Khazret Sultan"

Source: B. Makhanov (2021)

In addition to the mausoleum, the territory of the museum reserve includes many objects of historical and cultural value. These include the Kultobe settlement, the underground Hilvet mosque, the Shildekhan ritual structure, a medieval citadel and shahristan, as well as fragments of fortresses, ruins of ancient mausoleums and an oriental bath. The Azret-Sultan Museum-Reserve covers more than 100 historical and archaeological monuments and includes about 25,000 unique written, architectural and numismatic exhibits. The museum reserve is the spiritual centre of the Turkic-speaking peoples and the most popular tourist attraction in the region, receiving over 350,000 visitors annually. Its infrastructure successfully combines elements of traditional architecture with modern comfort and functionality requirements, making it a unique example of preserving and promoting cultural heritage.

Turkmenistan can become a centre for the development of crafts, as evidenced by the event held on 29 September 2024, when craftsmen and experts from 20 countries, including Australia, the USA, Iran and China, as well as the President of the International Organisation of World Craft Cities Saad Al Qaddoumi, gathered in the city. This event was an important step in the process of granting Turkmenistan the status of an international city of artisans. As part of this initiative, the City of Artisans tourist complex is being built in the city, which includes exhibition areas, an oriental market, restaurants and hotels. The complex is scheduled to be completed by the end of the year and will make a significant contribution to the development of craft traditions and increase the tourist attractiveness of the region (Craftsmen from 20…, 2024).

Examples of successful craft centres in Kazakhstan have demonstrated how traditional art can be organically integrated into modern life. The fine arts of Kazakhstan, which have incorporated various elements of national traditions, have created a unique style that has become part of the national cultural brand. Decorative and applied arts, represented by carpets, embroidery and jewellery, preserved the symbolism of the ancient steppe culture, while ethnic design was actively used in fashion and architecture, contributing to the revival of crafts. Cultural centres, such as the Qazaq-Oner Art Centre (Almaty) and the Crafts Centre (Astana), offered master classes and training sessions on crafts, combining traditional crafts with modern trends, and therefore became interesting to both locals and tourists.

Thus, the transformation of Turkestan, Astana and Almaty demonstrated how to preserve the rich historical and cultural heritage by integrating modern technologies and sustainable development principles. This approach transformed cities into models of successful implementation of major projects and inspiration for other cities in Kazakhstan and Central Asia. The design of training and production centres for folk arts and crafts requires a comprehensive approach that includes several key aspects: location selection, structural zoning and consideration of architectural features. All these factors are substantial in the successful implementation of such facilities, ensuring not only functionality but also harmonious interaction with the culture and nature of the region.

The location is one of the most important stages of design. The centre should be in historically developed craft tradition locations, such as Turkestan, thus preserving and developing traditional craft technologies in a natural cultural environment. Furthermore, the centre should be in close proximity to transport hubs, such as railway and bus stations or airports, to provide convenient access for craftsmen, students and visitors, as well as to promote tourism and increase the number of visitors interested in traditional crafts. One of the key aspects of the design is structural zoning. The internal space of the centre should be divided into several functional zones. Each craft has specific characteristics, and effective training and production requires the creation of specialised areas, with specialised equipment to enable craftsmen to create high quality products. It is also necessary to provide space for storing the finished products and for displaying them, e.g. at fairs or exhibitions, which further promotes the crafts.

Carpet weaving requires a workshop with spacious workspaces for traditional handlooms, a place to prepare and dye yarns, and storage for materials. It is necessary to provide good lighting and ventilation, as weaving is labour-intensive and requires attention to detail. Embroidery requires separate areas with adjustable lighting and comfortable tables where craftsmen can work on complex and small stitches. In such workshops, it is necessary to provide storage space for fabrics, threads and other materials, as well as ensure the availability of modern embroidery machines, which will combine traditional and modern embroidery methods.

Pottery workshops should be equipped specifically for handling and firing clay. Space for shaping and firing, including traditional kilns or electric or gas-fired kilns, should be present. These workshops should be equipped with tools for finishing products and sanding machines. Furthermore, a workshop with an area for wood carving, sanding and coating should be set up for woodworking, including the production of wooden utensils and musical instruments. The woodworking area should be equipped with both traditional tools (chisels, saws, chisels) and modern equipment (sanders and routers). It is also necessary to provide safe areas for tool handling and specialised woodworking areas.

For the manufacture of yurts, spacious rooms should be allocated for working with wood and fabrics. There should be areas for creating wooden yurt elements and areas for preparing fabrics and felts. It is necessary to provide space for training in traditional yurt-making methods, as well as in the use of innovative materials and improved assembly and construction techniques. Cultural and exhibition spaces, such as galleries and museums, should be an integral part of the centres. These areas will be used for showcasing the works, exhibitions and masterclasses, and attracting tourists and folk-art enjoyers. Public areas, including cafes, recreation and lecture areas, should also be considered.

They will create a comfortable atmosphere for communication and, the exchange of experience and knowledge between craftsmen and visitors.

The architectural features of the designed centre should be given special attention. Architectural forms and styles should combine traditional elements with modern building techniques to create a unique atmosphere reflecting the cultural identity of the region. The use of traditional Kazakh architectural elements such as ornaments, national colours and shapes will reinforce the relationship between the centre and its cultural heritage. At the same time, the use of modern building materials and technologies will ensure the durability and sustainability of the building, as well as improve its energy efficiency. The use of eco-friendly materials and renewable energy sources, such as solar panels or geothermal systems, will help to create a sustainable building that will have minimal impact on the environment. Thus, the design of training and production centres for folk arts and crafts requires careful consideration of all aspects, from the choice of location to architectural solutions. It is important that these centres should not only provide comfortable conditions for training and production but also become cultural centres that contribute to the preservation of folk traditions and the development of crafts.

DISCUSSION

Urban design of training and production centres for folk arts and crafts requires an integrated approach that incorporates both the preservation of cultural traditions and modern requirements for sustainability and accessibility. The study of examples such as the Turkestan Training and Production Centre has shown that the integration of traditional architectural elements into the design can not only preserve but also highlight the uniqueness of the region's cultural heritage. This is particularly important in a globalised world where traditional crafts risk being forgotten. W. Zhou *et al.* (2022) confirmed that the integration of traditional architectural elements can create harmony between historical heritage and modern trends. Such elements maintain visual continuity, which is especially relevant for regions with a rich cultural history. This solution also increases tourist attractiveness by emphasising the uniqueness of each locality.

D. Giannakopoulos *et al.* (2022) also demonstrated that culturally sensitive urban design builds a sense of community among residents. The incorporation of national symbols and traditional motifs into architecture and landscaping preserves the unique character of the city. Such design also contributes to the transmission of cultural values to future generations by ensuring their visual and spatial presence. The successful integration of traditional elements into modern design requires a balance between functionality and aesthetics (Maznichenko & Moskalenko, 2024). It is necessary to incorporate the context in which these elements are used to avoid mechanical copying or loss of meaning. In addition, such solutions must be adapted to modern environmental and sustainability requirements, which increases their relevance in the context of global change. Environmental integration in the design process is key to the sustainability of the centres. The use of environmentally friendly materials such as clay and other natural materials, as well as the use of renewable energy sources, have become important aspects of conserving natural resources and minimising the negative impact on the environment (Kunakh *et al.*, 2021). This solution is particularly relevant for training and production centres, which could be used as an example in the field of ecology and sustainable development.

F. Fan *et al.* (2021) highlighted that the use of environmentally friendly materials (bamboo, recycled wood, low-carbon concrete) reduces emissions at all stages of construction. Such materials are not only safe for health but also easily recyclable, reducing the burden on the ecosystem. Moreover, their use stimulates the development of innovative technologies in the construction industry, making this approach economically viable in the long term. F. Fan *et al.* confirmed the results of the study, demonstrating the practical effectiveness of sustainable solutions. The use of environmentally friendly materials and energy-efficient technologies reduces the cost of operating buildings and reduces the carbon footprint. In addition, the results highlight the importance of integrating such approaches into mass construction, which contributes to the development of the green economy and strengthening global environmental initiatives.

The design of a training and production centre requires a clear division of zones according to their purpose. The inclusion of training workshops, production workshops, and cultural and exhibition spaces helps to create comfortable conditions for both learning and production of traditional crafts (Dyomin *et al.*, 2020). It is important that such centres become not only educational institutions but also cultural centres that attract not only craftsmen but also tourists who want to get acquainted with traditional crafts. B. Liu *et al.* (2021) also highlighted that functional zoning organises space to ensure that each part of the space meets specific objectives. This is especially relevant in modern projects where a combination of different functions is required in a limited area. Proper zoning not only improves usability but also contributes to better ergonomics and work efficiency.

S. Krajewski & M. Khoury (2021) concluded that comfortable and multifunctional spaces provide the conditions for creativity and productivity, combining areas for individual and group activities. Modern technologies can be used to create adaptive spaces that can be transformed to meet current needs. This solution is ideal for educational institutions and manufacturing companies where flexibility and functionality are important. These findings by S. Krajewski & M. Khoury are consistent with the results of the study, as they demonstrate the key role of zoning in creating comfortable and efficient spaces. Well-divided zones ensure the rational use of available space, minimising time and resource losses. Furthermore, the combination of functionality and comfort in design contributes to

improved working and learning conditions, which directly affects productivity and user satisfaction. Selection of the location of the centres should be given special attention. The study emphasises that linking to regions with historically developed craft traditions, such as Turkestan, is of key importance for the successful implementation of project solutions. Such an approach maintains and develops traditional crafts and promotes economic growth by creating jobs and improving infrastructure. However, other regions may have unique crafts that also require the establishment of specialised training centres.

J. Block *et al*. (2021) confirmed that the choice of locations for project implementation plays a key role in the development of the region, influencing economic and social processes. Locating production and cultural facilities in historically established areas helps to attract investment and develop infrastructure. During investment evaluation of social enterprises, such criteria as social impact, business sustainability and its contribution to the development of the local community are analysed. K. Jones *et al.* (2021) also determined that historically developed craft regions play a key role in design success, as their rich cultural heritage serves as a source of inspiration for creating unique and sought-after products. The use of traditional techniques and materials in modern design preserves the uniqueness of local cultures and popularises the region (Wang & Shmelova-Nesterenko, 2023). Such regions often become centres of attraction for tourists, which contributes to additional economic and cultural development.

Thus, the choice of locations has an impact on regional development. Notably, not only the economic factor but also the cultural heritage of the territory is crucial for the successful implementation of projects (Ivashko *et al*., 2020). The correct use of historically established craft traditions can be the key to creating unique and sought-after solutions that contribute to the sustainable development of the region. Another important finding was an understanding of the role of centres in the social and economic life of the region. The education and development of new craftsmen contributes to the preservation of cultural heritage and creates jobs in such areas as manufacturing, education and culture. The tourism potential of these centres can become an important source of income for local communities, drawing attention to folk crafts and traditions. This, in turn, creates new opportunities for regional economic development.

S. Rajabi *et al*. (2022) studied the improvement of the sustainability performance of construction projects during the construction phase and concluded that design in construction has a significant impact on socio-economic development. Well-designed buildings and infrastructure not only improve the quality of life but also become the basis for business growth. Successful construction projects contribute to job creation, improve the economic situation in the region and increase sustainability both at the regional level and in the broader context of countries and global markets. A. Ausat *et al.* (2023) determined that cultural initiatives integrated into the construction process develop local economies by supporting craftspeople, artists and other creative professions. The creation of cultural facilities or the development of cultural tourism not only generates income but also promotes social inclusion and improves the quality of life. It stimulates the growth of small and medium-sized enterprises and increases the attractiveness of the region for investors.

The socio-economic significance of design in construction extends beyond infrastructure improvements. Projects that incorporate cultural initiatives can significantly stimulate the local economy by creating new jobs and supporting small businesses. This, in turn, improves the social atmosphere and attracts additional investment, reinforcing the sustainable development of the region. Thus, the successful functioning of training and production centres depends on a harmonious combination of traditional and modern elements in architecture. The design of such facilities should incorporate both the historical features of the region and modern construction technologies, which can be used to create unique architectural solutions that reflect the cultural identity, but at the same time meet modern safety and comfort requirements.

CONCLUSIONS

The urban planning framework for the formation of training and production centres for folk arts and crafts should incorporate several key factors that influence their successful functioning and development. One of the most important aspects is the preservation of cultural identity through architectural solutions that reflect national traditions and craft techniques. The integration of elements of traditional Kazakh architecture into the design of such centres contributes not only to the preservation of unique crafts but also to strengthening the cultural identity of the population. These centres become a place where craft practices are not only preserved but also passed on to new generations.

The study also demonstrated that environmental sustainability is important in the design of training and production centres. The use of environmentally friendly materials, such as wood and clay, helps to minimise the environmental impact, which is an important aspect of sustainable development. In addition, the use of renewable energy sources, such as solar panels or geothermal energy, not only reduces energy costs but also reduces the carbon footprint of the centres. These steps correlate with current global trends in sustainable construction and ensure long-term environmental sustainability.

The functional zoning of training and production centres is also important and should include a clear separation of different types of spaces, such as workshops, classrooms, production halls and cultural and exhibition spaces. This approach contributes to the creation of a comfortable learning and working environment and improves the organisation and interaction between masters and apprentices. Linking the centres to regions with historically devel-

oped craft traditions, such as Turkestan, demonstrated that the appropriate location is crucial in attracting students and craftsmen, as well as contributing to the development of the local economy and job creation. However, other regions may also have unique crafts for which it is advisable to build specialised training centres focused on local traditions and needs.

Training and production centres should be actively included in tourist routes, as this can significantly increase their economic attractiveness. Tourism becomes not only a source of income for the centres but also contributes to the promotion of folk crafts in the international arena. This creates additional opportunities for the professional growth of craftsmen and expands markets for their products. Thus, the urban planning approach to the design of training and production centres of folk arts and crafts should be comprehensive, including both architectural and functional, environmental and socio-economic aspects. Importantly, such centres should combine traditions and modern approaches, ensuring not only the preservation of cultural heritage but also contributing to the sustainable development of regions. Future research could focus on analysing the experience of craft centres in other countries.

ACKNOWLEDGEMENTS

None.

FUNDING

None.

CONFLICT OF INTEREST

None.

REFERENCES

[1] Almusaed, A., Yitmen, I., Myhren, J.A., & Almssad, A. (2024). Assessing the impact of recycled building materials on environmental sustainability and energy efficiency: A comprehensive framework for reducing greenhouse gas emissions. *Buildings*, 14(6), article number 1566. doi: 10.3390/buildings14061566.

[2] Arinaitwe, D. (2021). Practices and strategies for enhancing learning through collaboration between vocational teacher training institutions and workplaces. *Empirical Research in Vocational Education and Training*, 13, article number 13. doi: 10.1186/s40461-021-00117-z.

[3] Arynov, K., Zhaksylykova, L., Chernysh, N., Chekayeva, R., & Khvan, Y. (2022). A basis for creating educational and production centers and folk applied craft centers in the settlements of Kazakhstan. *International Society for the Study of Vernacular Settlements*, 9(5), 291-302.

[4] Attanasio, G., Preghenella, N., De Toni, A.F., & Battistella, C. (2022). Stakeholder engagement in business models for sustainability: The stakeholder value flow model for sustainable development. *Business Strategy and the Environment*, 31(3), 860-874. doi: 10.1002/bse.2922.

[5] Ausat, A.M., Al Bana, T., & Gadzali, S.S. (2023). Basic capital of creative economy: The role of intellectual, social, cultural, and institutional capital. *Apollo: Journal of Tourism and Business*, 1(2), 42-54. doi: 10.58905/apollo.v1i2.21.

[6] Bencheva, N.A., Kosymbaeva, Sh.I., & Karzhaubaeva, A.K. (2024). The role of social infrastructure in agricultural tourism. *Yessenov Science Journal*, 48(3), 196-202. doi: 10.56525/PJEF7549.

[7] Block, J.H., Hirschmann, M., & Fisch, C. (2021). Which criteria matter when impact investors screen social enterprises? *Journal of Corporate Finance*, 66, article number 101813. doi: 10.1016/j.jcorpfin.2020.101813.

[8] Craftsmen from 20 countries gathered in Turkestan. (2024). Retrieved from https://tengrinews.kz/kazakhstan_news/v-turkestane-sobralis-remeslenniki-iz-20-stran-549436/.

[9] Deb, S.K., Mohanty, P.P., & Valeri, M. (2022). Promoting family business in handicrafts through local tradition and culture: An innovative approach. *Journal of Family Business Management*. doi: 10.1108/JFBM-10-2021-0131.

[10] Dyomin, M., Dmytrenko, A., Chernyshev, D., & Ivashko, O. (2020). Big cities industrial territories revitalization problems and ways of their solution. In V. Onyshchenko, G. Mammadova, S. Sivitska & A. Gasimov (Eds.), *Proceedings of the 2nd international conference on building innovations* (pp. 365-373). Cham: Springer. doi: 10.1007/978-3-030-42939-3_37.

[11] Fan, F., Lian, H., Liu, X., & Wang, X. (2021). Can environmental regulation promote urban green innovation Efficiency? An empirical study based on Chinese cities. *Journal of Cleaner Production*, 287, article number 125060. doi: 10.1016/j.jclepro.2020.125060.

[12] Gamaliia, K., & Artemenko, Ye. (2023). Features of cultural nationalism in museum and gallery activities of decolonised countries of Asia. *Notes on Art Criticism*, 23(2), 40-46. doi: 10.32461/2226-2180.44.2023.293911.

[13] Giannakopoulos, D., Karekou, Z., Menegaki, E., Tsilimantou, E., Ioannidis, C., Maistrou, E., Giannikouris, A., & Moropoulou, A. (2022). Reuse of historic buildings in the medieval city of Rhodes to comply with the needs of sustainable urban development. *Land*, 11(8), article number 1214. doi: 10.3390/land11081214.

[14] Ivashko, Y., Kuzmenko, T., Shuan, L., & Peng, C. (2020). The influence of the natural environment on the transformation of architectural style. *Landscape Architecture and Art*, 15(15), 98-105. doi: 10.22616/J.LANDARCHART.2019.15.11.

[15] Jiang, J., Zhou, T., Han, Y., & Ikebe, K. (2022). Urban heritage conservation and modern urban development from the perspective of the historic urban landscape approach: A case study of Suzhou. *Land*, 11(8), article number 1251. doi: 10.3390/land11081251.

[16] Jones, K.E., Van Assche, K., & Parkins, J.R. (2021). Reimagining craft for community development. *Local Environment*, 26(7), 908-920. doi: 10.1080/13549839.2021.1939289.
[17] Kalfas, D., Kalogiannidis, S., Ambas, V., & Chatzitheodoridis, F. (2024). Contribution of the cultural and creative industries to regional development and revitalization: A European perspective. *Urban Science*, 8(2), article number 39. doi: 10.3390/urbansci8020039.
[18] Kalkanatov, A., Makhamatdinov, S., & Urazbaev, I. (2023). Activities of new Karakalpakstan cultural centers: Reform and analysis. *Art and Design: Social Science*, 3(1), 1-4.
[19] Krajewski, S., & Khoury, M. (2021). Daring spaces: Creating multi-sensory learning environments. *Learning and Teaching*, 14(1), 89-113. doi: 10.3167/latiss.2021.140105.
[20] Kunakh, O.M., Yorkina, N.V., Turovtseva, N.M., Bredikhina, J.L., Balyuk, J.O., & Golovnya, A.V. (2021). Effect of urban park reconstruction on physical soil properties. *Ecologia Balkanica*, 13(2), 57-73.
[21] Liu, B., Deng, Y., Li, M., Yang, J., & Liu, T. (2021). Classification schemes and identification methods for urban functional zone: A review of recent papers. *Applied Sciences*, 11(21), article number 9968. doi: 10.3390/app11219968.
[22] Makhanov, B. (2021). *"Azret Sultan": Both history, spirituality and tourism*. Retrieved from https://qmonitor.kz/society/2128.
[23] Makhanov, M., Adilbaeva, A.S., & Akhmetova, D.M. (2023). Historical development of the state historical and cultural reserve-museum "Azret-Sultan": Modern social and spiritual activities. *Journal of Abay Kaznpu, Series "Historical and Social-Political Sciences"*, 77(1). doi: 10.51889/2959-6017.2023.78.3.032.
[24] Maznichenko, O., & Moskalenko, A. (2024). Design of exhibition halls in historical buildings of the 20th century. *Culture and Contemporaneity*, 26(1), 6-14. doi: 10.63009/cac/1.2024.06.
[25] Nagorniuk, A., Jackson, Z., & Schwartz, J. (2022). *Arts and crafts center industry overview*. Retrieved from https://vtechworks.lib.vt.edu/items/c51aee09-ebd4-4cf7-bee3-1a7f9d22d656.
[26] Nasr, Y., El Zakhem, H., Hamami, A.E., El Bachawati, M., & Belarbi, R. (2023). Comprehensive review of innovative materials for sustainable buildings' energy performance. *Energies*, 16(21), article number 7440. doi: 10.3390/en16217440.
[27] Rajabi, S., El-Sayegh, S., & Romdhane, L. (2022). Identification and assessment of sustainability performance indicators for construction projects. *Environmental and Sustainability Indicators*, 15, article number 100193. doi: 10.1016/j.indic.2022.100193.
[28] Santamarta, J.C., García-Gil, A., del Cristo Expósito, M., Casañas, E., Cruz-Pérez, N., Rodríguez-Martín, J., Mejías-Moreno, M., Götzl, G., & Gemeni, V. (2021). The clean energy transition of heating and cooling in touristic infrastructures using shallow geothermal energy in the Canary Islands. *Renewable Energy*, 171, 505-515. doi: 10.1016/j.renene.2021.02.105.
[29] Sayed, E.T., Wilberforce, T., Elsaid, K., Rabaia, M.K., Abdelkareem, M.A., Chae, K.J., & Olabi, A.G. (2021). A critical review on environmental impacts of renewable energy systems and mitigation strategies: Wind, hydro, biomass and geothermal. *Science of the Total Environment*, 766, article number 144505. doi: 10.1016/j.scitotenv.2020.144505.
[30] Tanzharykova, A., & Maulenova, G. (2024). The influence of cultural and ethnic factors on the modern architecture of western Kazakhstan. *Central Asian Journal of Art Studies*, 9(3), 73-86. doi: 10.47940/cajas.v9i3.917.
[31] Tomaz, N., & Caldeira, E. (2021). The interplay between culture, creativity, and tourism in the sustainable development of smaller urban centres. In K. Scherf (Ed.), *Creative tourism in smaller communities: Place, culture, and local representation* (pp. 61-78). Calgary: University of Calgary. doi: 10.1515/9781773851907-004.
[32] Wang, K., & Shmelova-Nesterenko, O. (2023). Exploring urban streetscape design: Comprehensive review of scientific research. *Art and Design*, 6(4), 70-79. doi: 10.30857/2617-0272.2023.4.6.
[33] Wondirad, A., Bogale, D., & Li, Y. (2022). Practices and challenges of developing handicrafts as a core tourism product in Chencha and Konso, southern Ethiopia. *International Journal of Cultural Policy*, 28(3), 306-326. doi: 10.1080/10286632.2021.1938560.
[34] Wu, N., & Liu, Z. (2021). Higher education development, technological innovation and industrial structure upgrade. *Technological Forecasting and Social Change*, 162, article number 120400. doi: 10.1016/j.techfore.2020.120400.
[35] Zabulis, X., *et al*. (2023). A roadmap for craft understanding, education, training, and preservation. *Heritage*, 6(7), 5305-5328. doi: 10.3390/heritage6070280.
[36] Zhou, W., Song, S., & Feng, K. (2022). The sustainability cycle of historic houses and cultural memory: Controversy between historic preservation and heritage conservation. *Frontiers of Architectural Research*, 11(6), 1030-1046. doi: 10.1016/j.foar.2022.04.006.
[37] Zhubanova, Z. (2021). Kazakh ornament: From traditions to the new combinations of shapes in contemporary art. *Pedagogy and Psychology*, 46(1), 195-203. doi: 10.51889/2021-1.2077-6861.26.

Қалдибай Аринов
Доктор архітектури, професор
Євразійський університет імені Л. Н. Гумільова
010008, вул. Сатпаєва, 2, м. Астана, Республіка Казахстан
https://orcid.org/0000-0003-0799-8574

Шаїзхан Суранкулов
Доктор технічних наук, професор
Казахський агротехнічний дослідницький університет ім. С. Сейфулліна
010011, просп. Женіса, 62, м. Астана, Республіка Казахстан
https://orcid.org/0009-0006-6592-5815

Рахіма Чекаєва
Кандидат архітектури, професор
Євразійський університет імені Л. Н. Гумільова
010008, вул. Сатпаєва, 2, м. Астана, Республіка Казахстан
https://orcid.org/0000-0002-4991-2604

Уаліхан Кусебаєв
Кандидат технічних наук, доцент
Євразійський університет імені Л. Н. Гумільова
010008, вул. Сатпаєва, 2, м. Астана, Республіка Казахстан
https://orcid.org/0000-0003-2281-5457

Алія Темірова
Старший викладач
Євразійський університет імені Л. Н. Гумільова
010008, вул. Сатпаєва, 2, м. Астана, Республіка Казахстан
https://orcid.org/0000-0002-5900-5733

Містобудівні засади формування навчально-виробничих центрів народних художніх промислів

Анотація. Проведене дослідження було спрямоване на обґрунтування архітектурно-планувальних рішень, що сприяють інтеграції навчально-виробничих центрів народних художніх промислів у сучасне міське середовище Казахстану. У дослідженні використано методи аналізу містобудівних концепцій, функціонального зонування, екологічної стійкості та архітектурних рішень для розроблення рекомендацій щодо проектування. Під час дослідження обґрунтовано містобудівні підходи до розміщення і проектування навчально-виробничих центрів народних художніх промислів Казахстану. Встановлено, що оптимальними місцями для їх створення є регіони з розвиненою культурно-історичною спадщиною і наявністю стійких ремісничих традицій. Проведено аналіз функціональної структури центрів ремесел, який показав, що її ефективність залежить від чіткого зонування території. Рекомендовано виокремлювати такі зони: навчальні (майстерні, лекційні аудиторії), виробничі (цехи, лабораторії), виставкові (музеї, галереї, магазини) та громадські (зони відпочинку та проведення культурних заходів). Результати досліджень підтвердили, що використання місцевих природних матеріалів (камінь, дерево, глина) у будівництві не тільки відповідає вимогам екологічної стійкості, а й сприяє збереженню традиційного вигляду архітектури. Виявлено, що інтеграція традиційних казахських архітектурних елементів у сучасні проєкти сприяє підвищенню їхньої туристичної та культурної привабливості. Як практичний висновок розроблено рекомендації з проєктування центрів, що включають вибір локацій, структурне зонування та врахування архітектурних особливостей. Прикладом успішного застосування запропонованих рішень став проєкт центру в Туркестані, який продемонстрував значний внесок у збереження культурної спадщини та розвиток місцевої економіки. Таким чином, результати дослідження підкреслили важливість комплексного підходу до створення навчально-виробничих центрів, що забезпечує їхній сталий розвиток та інтеграцію в сучасне міське середовище

Ключові слова: культурна спадщина; функціональне зонування; екологічна стійкість; архітектурні елементи; туристична привабливість; регіональний розвиток