

# A Basis for Creating Educational and Production Centers and Folk Applied Craft Centers in the Settlements of Kazakhstan

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## Abstract

Under the current socio-economic conditions, there are serious challenges in producing qualitatively complete architectural environments for the development of craft centers to provide professional training to people in traditional crafts. While this is the case everywhere in the world, it is more so in Kazakhstan. In this context, this paper presents research on the operation of local and international folk-art and crafts centers in Kazakhstan.

The research employed qualitative research methods to gather data. It carried out field research and relied on the work of and information derived from leading experts in the development of craft centers.

In this paper, first, a general theoretical model for the creation of a functional and typological network of folk applied craft centers is presented. Afterwards, it presents the principles of architectural development necessary for the creation of such centers. The paper offers proposals for architectural, functional, and typological organization of educational and production centers for folk applied crafts (EPC-FAC).

The proposal is made within the general theoretical model at the intra-economic, economic and inter-economic, district, regional, and republican levels. This model can serve as a project proposal for architects and urban planners in the urban planning placement of various types of EPC-FAC.

**Keywords:** Training and production center, folk art & crafts, craft centers, functional zones, functionally typological networks.

## Introduction

Scientific research on the establishment of educational and production centers of folk applied crafts (EPC-FAC), done both in Kazakhstan and in post-Soviet countries has always focused on art history, dealing with historical, pedagogical, social, and economic concerns (Nekrasova, 2003; Maksimovich, 2016; 2000). In fact, architectural issues such as typological issues in the design of the EPC-FAC facilities have been mostly ignored. There are no special studies on the architectural arrangement of the EPC-FAC in the settlement structure of any

specific region of Kazakhstan. The topic has not been analyzed before as related to the circumstances of Kazakhstan and other post-Soviet countries' (Arynov, 2006; Musatov et al., 1990).

In Kazakhstan, Russia, Ukraine, Uzbekistan, Kyrgyzstan and other post-Soviet countries, the practice of operating various craft centers and educational and production facilities for folk applied arts and crafts in unsuitable, outdated schools and other buildings is spreading. The buildings and subdivisions for folk-art crafts is similarly unaffected by norms and theoretical advancements in the area of architectural typology, resulting in an unsociable choice of buildings and subdivisions of spaces without regard for specific urban planning conditions (Arynov, 2007;2018; Devyatova, 1989).

In fact, there is a lack of any special studies on the architectural and planning organization of educational and production facilities of folk applied crafts in Kazakhstan and some countries of the post-Soviet space, in particular. Similarly, there is a growing interest among the people in arts and crafts due to the development of market relations and tourism. These necessitate the solution of this important socio-economic task. Without doubt, this work compensates for these flaws.

This paper examines the complex criteria for the construction of new architectural environments that satisfy the requirements of EPC-FACs. It looks at how folk applied crafts can be well developed in the changing conditions of social life and the economics of Kazakhstan. The aim of the study is to form a functional and typological network, as well as an urban planning framework, for educational and production centers of folk applied crafts that could contribute to industrial growth, and artistic and cultural traditions and will be successful in youth and adult training. The research objectives are as follows.

- To study and analyze domestic and foreign experiences in the operation and design of existing centers and educational facilities of folk applied crafts.
- To analyze the current state of the organization of existing types of craft centers and professional educational institutions of applied crafts in the city and rural areas.
- To develop a general theoretical model for functioning and phased architectural and urban planning organization of craft centers of various levels in the context of Kazakhstan.
- To develop the principles of functional and planning organization of training, production and trade fair center with an expanded landscape and park area to be known as the "City of Masters".
- To provide guidelines to preserve, develop, and train personnel for folk art.
- To improve the system of training specialists in educational institutions of folk-art & crafts (FAC);
- To develop architectural networks and types of educational centers of the FAC.

## Research Methods

This paper proposes the most appropriate urban planning solutions and the corresponding organization of the FAC's network of educational and industrial buildings on the basis of the analysis of inter-settlement relations in Kazakhstan's settlement zones. Accordingly, the identified types of settlement formations fit into the settlement zones.

It identifies the basic functional and planning typologies of folk arts and crafts centers, based on a comprehensive urban analysis and field survey of a number of FAC centers in Kazakhstan, Russia, Kyrgyzstan and Uzbekistan. These types contribute to the basic city-forming structure that determines the direction and scope of the tasks of designing new facilities, reconstruction and reorganization of educational and production complexes and centers of FAC, including existing crafts (Arynov, 2006; Musatov et al., 1990). The following factors were considered in the development of the designated type of the FAC centers.

- National and artistic values and significance of the craft, its prospects.

- The main popular functions of the modern folk-art and crafts as related to educational, industrial, scientific, commercial, cultural and educational aspects.
- Urban planning conditions in which the objects of crafts are located and the specific situations of the placement of FAC centers at the level of regional settlement schemes and the master plans of settlements of various types.
- Changing conditions of the modern social environments.
- Various forms of production activities of FAC: the work of masters at a state or a joint-stock enterprise (workshops, factories, combines, small or medium-sized enterprises and associations); home-based work organized at these enterprises; auxiliary crafts; the work of individual masters in groups on a cooperative basis; individual activities; promising purpose of the FAC centers.

This research also relies on the work of leading experts in the development of craft centers in Kazakhstan, Russia, Ukraine, Belarus, Uzbekistan, Kyrgyzstan, and other countries (Maksimovich, 2000; Nekrasova, 2003; Maksimovich, 2016).

The scientific novelty of this study is that the construction of a functional and typological network of craft centers in relation to Kazakhstan's setting is studied for the first time in the near abroad, Central Asia and Kazakhstan. These include,

- Producing a general theoretical model of the functioning and step-by-step architectural and urban planning organization of various types of craft centers and the principles of their placement in the settling structure of Kazakhstan (Fig. 1 & 2)
- Developing the theoretical foundations for the functional and planning organization of educational, industrial and trade fair centers with an expanded landscape and park zone "City of Masters" (Fig. 3).

The practical significance of the work is that the studies carried out by the authors make it possible:

- To raise the level of development of the network of craft centers based on the developed models for the formation of a functional and typological network of FAC centers to modern socio-pedagogical requirements—qualitative improvement of aesthetic education, comprehensive harmonious and creative development of students, taking into account individual inclinations.
- To systematically solve the problems of further development of craft centers in combination with the educational institutions.
- To apply the most progressive types of buildings and complexes, including basic multifunctional, educational and production complexes of folk arts and crafts and cooperative types of extra-curricular institutions. They will allow achieving efficiency in the distribution of capital investments, saving land territories and quality in the development of the buildings.
- To develop design solutions for the construction of various types of craft centers, taking into account the age characteristics of the population and the structure of settling in Kazakhstan and in other regions of the near and far abroad countries.
- To propose prospects for the development of architecture of the craft centers on the basis for further development and deepening of scientific research in this area in the structure of setting in Kazakhstan and in other countries of the near and far abroad. This model can serve as an exemplary project proposal for the architects and urban planners on urban planning placement of various types and types of the EPC-FAC.

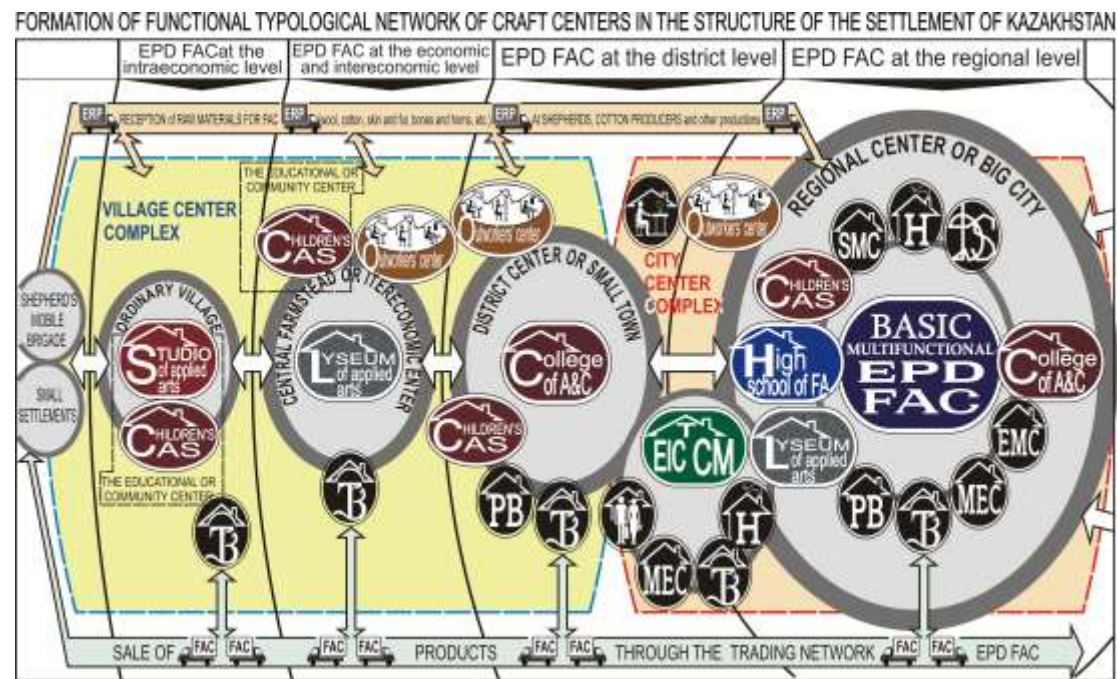
## Findings

A fundamental center-complex with a comprehensive set of zones and objects that guarantee the performance of all varied socio-economic, artistic, educational, and cognitive functions is recommended as a perfect and multi-purpose typological framework for design. The suggested

basic theoretical model for forming a functional and typological network of FAC centers, independent of their forms is separated into two major urban planning groups: rural and urban (Fig. 1).

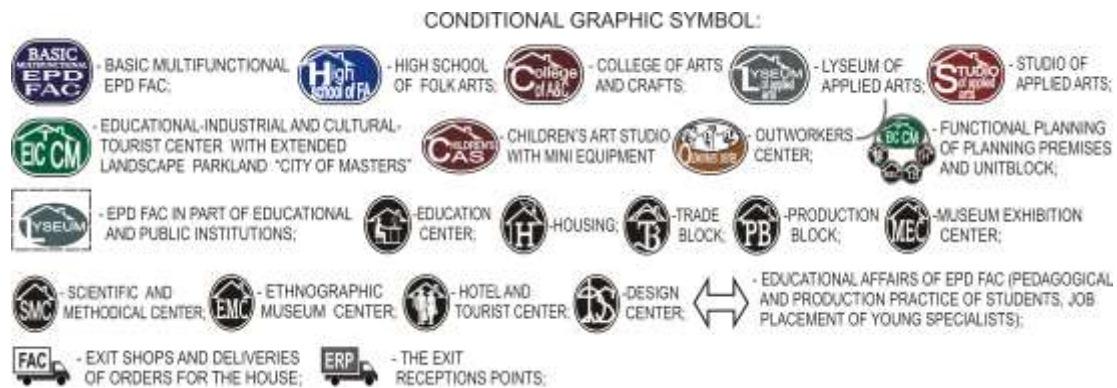
The full composition of the centers-complexes of the FAC includes the following functional zones: educational, industrial, residential, scientific and methodological, museum and ethnographic, spectacular and ethnographic, trade, trade fair, homemaker center, hotel and tourist, park, historical and architectural, natural – landscape and design centers (Fig. 1 &2).

The rural center – complex of FAC is a basic option, depending on the settlement features. It is organized at the economic, inter-economic and district level, the urban planning conditions of which allow including a partial or full composition of the proposed functional zones in the project. This is ensured by considerable freedom in solving general plans, a wide opportunity to use the historically developed architectural and spatial environment and natural landscape conditions (Fig. 1). The urban center-complex of FAC has the same functions as the rural one. It is possible to construct a FAC complex with a compact or scattered system of putting items in the city planning structure, based on the traditions and forms of production activities inherent in this urban craft, as well as the special urban-planning situation of the community. It is conceivable to exclude an autonomous hotel and tourism zone in the constrained conditions of the existing historical city (Arynov, 2018).



**Fig. 1.** Formation of functional typological network of craft centers in the structure of the settlement of Kazakhstan

Source: Authors



**Fig. 2.** Conditional graphic symbol

Source: Authors

It is advised to locate separate objects and zones of the complex inside the bounds of historical planning centers of settlements, within the walking distance when constructing centers-complexes in small and medium-sized cities. For major cities where the center-complex is located on a single plot of land, it is advisable to construct a compact form of urban center-complexes (Khreuvimova, 1995). Different variants of the spatial composition of this center are accepted, depending on the size of the territory allocated for the center, its specific characteristics and the urban scale of the surrounding urban environment: a single architectural volume, interlocked buildings, or free-standing buildings.

Other types of centers are derived from center-complexes and differ in a certain sets of zones and objects included in the project. This is due to the limitation of the functions performed by this center. Thus, taking into account the above functional qualities, the following main architectural and typological forms of FAC centers-complexes are proposed. The educational and production center of FAC-in addition to the production zone must contain an expanded educational zone (Table 1). Educational and production complexes of applied crafts act as centers for training young people and improving the skills of artisans, as well as coordination centers for quality control and search for new forms of handicraft products. The complex is designed to serve both tourists and residents of the surrounding villages and cities.

**Table 1:** The educational zone of the FAC training and production center

Source: Authors

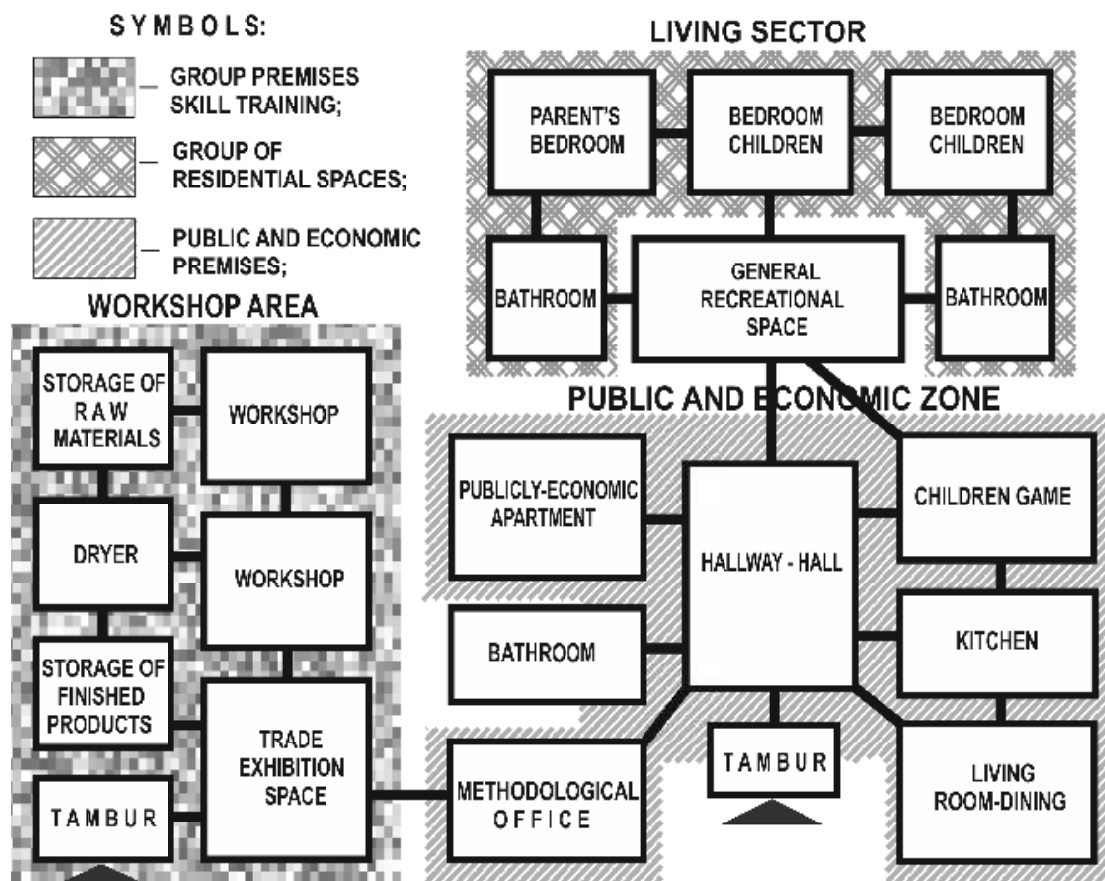
An expanded educational zone	Structure of educational buildings
<ul style="list-style-type: none"> <li>Professional schools.</li> <li>Professional lyceums.</li> <li>Colleges of applied arts and folk-art crafts; methodological centers or studios at extracurricular institutions.</li> </ul>	<ul style="list-style-type: none"> <li>Educational and production workshops with mechanized installations.</li> <li>Lecture halls and laboratories for the primary artistic processing of raw materials.</li> <li>Museum and exhibition halls and rooms of the general artistic cycle.</li> <li>Retail premises of finished products and demonstrations of handicrafts.</li> </ul>

The museum and production center assumes the main cultural and propaganda function. It includes museum and exhibition, production, production and demonstration, entertainment and exhibition, and shopping areas. It may include a small-area for shopping, a fair, a hotel and tourist zones. The trade and production center includes in addition to the production zone, an expanded trade zone for the wholesale and purchasing trade (including at fairs and exhibitions), and retail trade in various forms, such as FAC specialized stores, fairs, and small workshops with product demonstrations and sales. The center of homeworkers – (production-housing) is intended for the organization and coordination of the production and creative work of

homeworkers, the use of free creative workers, providing them with raw materials, "blanks", the simplest equipment and tools, assistance for the sale of products. Exhibits, fairs, scientific and methodological and practical seminars are all used to facilitate the exchange of expertise and experience.

The center should have adequate places and buildings to accomplish these activities, and minor retail facilities are possible to incorporate. When home-based labor is desirable for this sort of craft, it is advised that homemaker centers be established in locations where fisheries operate, both in urban and rural settings. Such facilities enable us to address various societal problems while taking into consideration the unique characteristics of each country. They can be stand-alone residential buildings with workshops, handicraft and residential complexes in the form of odd quarters, artisans' colonies "street or city of masters," traditional settlements, trade and craft streets, single structures, or integral planning components of rural or urban center-complexes. Exhibition and retail spaces, labor workshops, and courtyards may all be found in homeworkers' centers, which are sometimes coupled with the owners' own living quarters (Fig. 3).

### DIAGRAM OF THE FUNCTIONAL ORGANIZATION OF THE WORKSHOP HOUSE



**Fig. 3:** Diagram of the functional organization of the workshop house

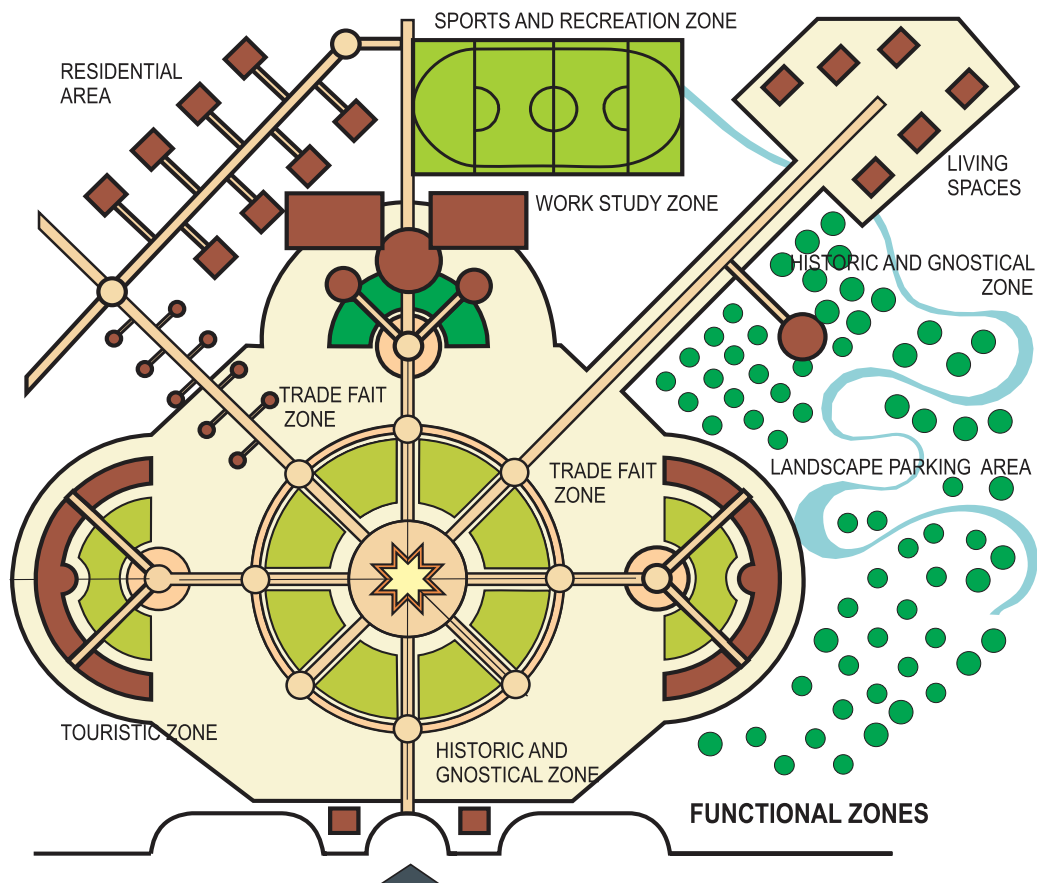
Source: Authors

Training, production, and fair trade, as well as a tourist center with a landscape gardening zone are all included. The term "city of masters" refers to the sort of training, production, and trade fairs that are distinctive of indigenous crafts, such as ceramic crafts, creative processing of wood, metal, carpet weaving, jewelry, and so on. Rich natural and landscape conditions, an abundance of water recreational places, a diverse plant assortment,

and numerous historical and architectural monuments all contribute to the formation of attractive urban-planning landscape and park structures, and the "City of Masters" artisans' center. The following roles will be combined in educational and production centers, trade and fair craft centers, and tourism centers (Fig. 4):

- Demonstration and production (workshops for carpet making, artistic processing of wood, metal (engraving and embossing workshops), stone, bone and horn; workshops of seamstresses-embroiderers, knitters);
- Educational and production (drawing, painting, sculpture, design classes, lecture halls);
- Cultural and propaganda (exhibition halls, areas of entertainment and ethnographic holidays);
- Trade fair (shopping and fair rows, shops, fairgrounds);
- Tourist (hotel, motel);
- The area of the reservoir and green spaces (a reservoir with a system of fountains, green spaces);
- Residential (residential building, house-workshop of the master of FAC).

#### EDUCATIONAL AND PRODUCTION AND TRADE AND FAIR TOURISTIC CENTER WITH EXPANDED LANDSCAPE AND PARKING ZONE "CITY OF ALL TRADES"



**Fig. 4:** Educational, production, trade, and fair touristic center with expanded landscape and parking zone "city of all trades"

Source: Authors

The "center's" objects can be housed in a collection of free-standing and transportable (seasonal) structures with a compact architectural form and natural resources. The city of masters planned structure is depicted as a central symmetrical axis – the main pedestrian lane

– along which the primary craft and trade fair zones are positioned in a synthesis of a plant landscape with a tiny building form of national color. It is planned to install a rhythmic sequence of diverse color compositions, rose gardens, and flower exhibitions on the neighboring street of the city of masters. A pond with beautiful and aesthetic design is also included in the object's architectural and planned structure.

When creating the "City of Masters," the basic principles of building a system of green spaces are chosen in accordance with urban landscape design principles, including a naturally connected set of both natural (relief, vegetation, water) and artificial (architectural and engineering structures) components organized in such a way as to create the best conditions for the population's outdoor recreation. A zone of entertainment and trade fairs is located in the heart of the "City of Craftsmen." The goal of building such a "City of Masters" is to maintain the historical architectural, spatial, and natural environment, repair and promote Kazakhstan's vanishing folk arts and crafts, develop tourism, and revive folk customs from the country's past. The production center consists mainly of production facilities, including a production zone, an area for receiving and preparing orders, an area for receiving and processing raw materials, a shopping area, and an area for exhibitions and demonstrations of finished products. They have a specialization or are multi-disciplinary. They involve homeworkers. Enterprises are located on separate sites; they can be part of public shopping centers; tourist bases or residential quarters.

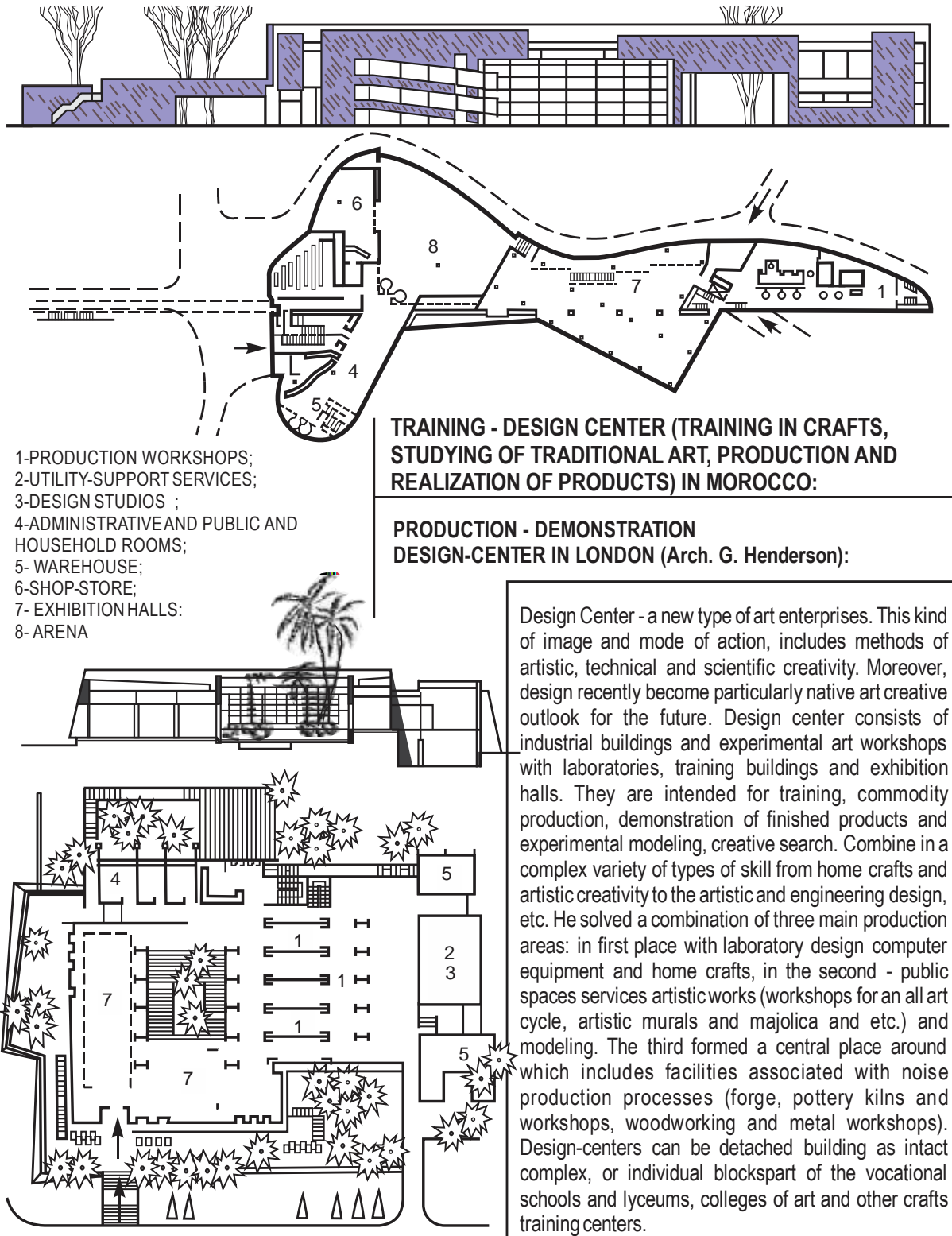
A multi-industry regional center is created in the area of concentration of crafts of different industries, as a rule, in one of the largest settlements of the district. Its main purpose is to promote the solution of the tasks of the production, educational, scientific, cultural and educational plan facing the crafts of the region. This center can be based on one of the urban centers-complexes or is an independent organism provided with all the facilities for the normal functioning of the center. It includes educational, scientific and methodological, museum and exhibition, small production, trade and facilities that provide a homemaker center.

The branch regional center is organized to solve similar tasks, but with only one type of crafts (industry), which, accordingly, reduces the need for areas of zones and objects. Such a center, as a rule, can become one of the centers-complexes, urban or rural. A cluster industry center is formed on the basis of a group of settlements whose residents are engaged in one trade, and is located in one of them. As a rule, such a center should be multi-functional and in terms of structural content should approach the center- FAC complex (Musatov et al., 1990; Arynov, 2007). The term "industry ..." centers primarily defines the functional essence and significance of the center. The previously listed typological terms also reflect the urban planning aspect of the center type (Arynov, 2006).

On the basis of the developed functional and planning typology and taking into account the vital activity of folk-art and crafts, a conceptual model of various types and types of craft centers in the structure of settling of Kazakhstan has been developed (Fig. 1). The design center is a new type of art enterprises (Fig. 2). This is a certain image and method of action, which includes methods of artistic, technical and scientific creativity. Moreover, design has recently become a special kind of artistic creative outlook for the future. The design center consists of production buildings and experimental art workshops with laboratories, educational buildings and exhibition halls. They are intended for training, commodity production, demonstration of finished products and experimental modeling, and creative search. They combine in one complex, various types of craftsmanship from home craft and art creativity to artistic and engineering design, etc.

The problem is handled by combining three primary production areas: the first houses the design laboratories with computer equipment and home crafts, while the second houses public services, art works (workshops for the general artistic cycle, art painting and majolica, etc.) and modeling. The third section establishes a central focus around which the facilities involved with noise generation activities (forges, ceramics and fire shops, woodworking and metalworking industries) are organized (Fig. 5).

## DESIGN CENTER



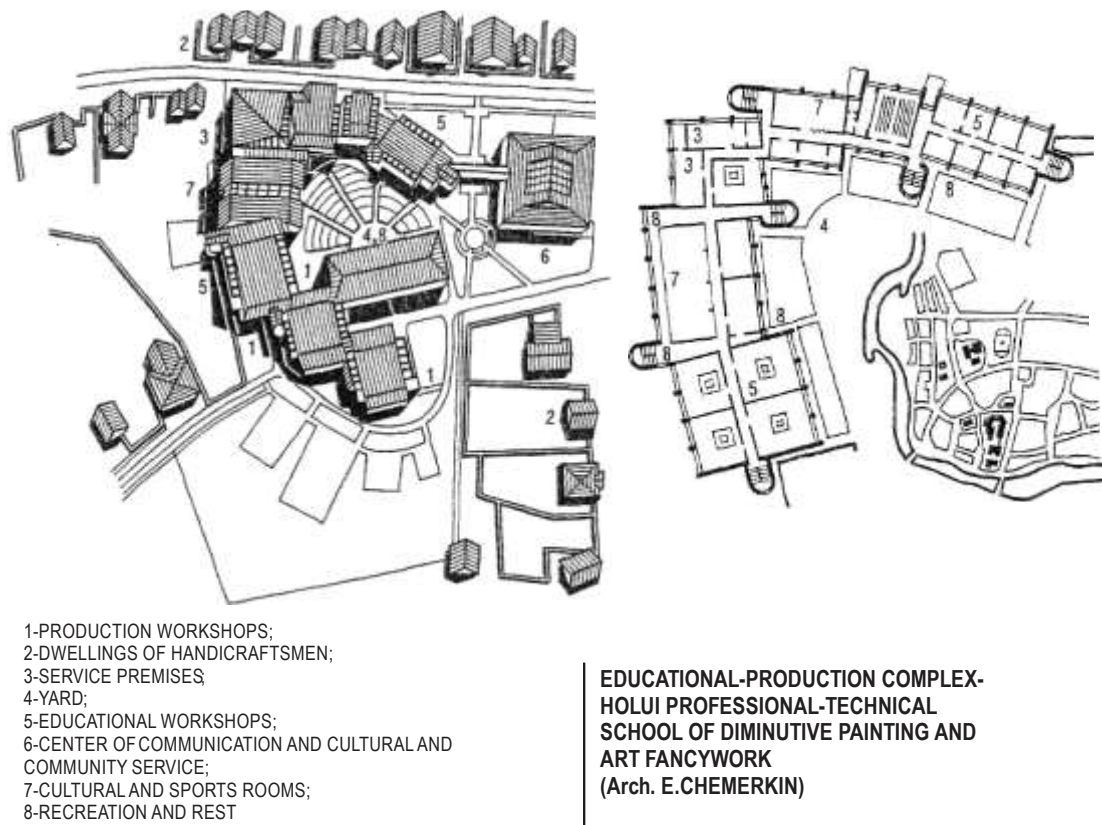
**Fig. 5:** Design center

Source: Authors

Design centers can be separate buildings in the form of a whole complex, or separate blocks that are part of professional schools and lyceums, art colleges and other craft training

centers. The basic multi-functional educational and production complex of FAC-depending on the capacity of enterprises and the complexity of technological processes, specialization and combination with other objects of urban planning receives the character of industrial and residential education and has a wide variety of architectural and planning solutions in the form of compact, quarterly-group, linear planning structures. According to the functional features, the complex is combined into two main zones: educational and industrial. In addition, the structure of the basic multi-functional residential and industrial complexes of folk applied crafts (hereinafter BMRIC FAC) allows one to establish not only a list of specific groups of premises and functional zones that are part of the complex, but also determines the functional and planning structure of BMRIC FAC (Fig. 6) (Musatov et al., 1990).

### MULTIFUNCTIONAL EDUCATIONAL-PRODUCTION COMPLEX



**Fig. 6:** Multifunctional educational-production complex

Source: Authors

At the same time, in connection with the development of tourism in Kazakhstan, BMRIC FAC includes an educational, production and trade fair center of artisans "City of Masters". This is proposed to be formed in the zone of active tourism, on the territory of the city park zone, on the banks of the river and lake, and at the foot of the mountain. In addition to the production functions, the complex provides educational and commercial activities: educational and production practice of students through the production enterprises of the complex, exhibition and sale of finished products through the retail network of the complex, reception and preparation of orders of the population through the production workshops of the complex.

Thus, the urban planning and architectural organization of educational and industrial buildings and enterprises of folk crafts and crafts has developed traditionally and is represented

as a single system that includes individual craftsmen, craft groups, and craft centers. Each of these levels has its own functional and technological features, spatial planning and artistic and compositional qualities. Single proposals for the development of a typology of FAC centers in published works are narrow or locally targeted.

The architect I. Devyatova (Devyatova, 1989) offers a scheme of architectural and typological organization of FAC enterprises. This scheme considers only the production and corresponding architectural forms. Planning aspects of the organization of FAC centers in the complex of all their inherent functions are not covered by this typology (Khreuvimova, 1995; Maksimovich, 2009; Jung & Lee, 2019; Tagliabue et al., 2021).

A general principled theoretical model of the formation of educational and industrial buildings of folk arts and crafts (EIB FAC) has been studied and developed, which allowing regulating general provisions on the creation of a network and types of buildings (Sriprasertpap & On-Ming, 2019; Saeverot & Kvam, 2019; Storvang & Nguyen, 2020). The structure of the model consists of the following node systems, which are necessary for the functioning of EIB FAC of various types as follows,

- Supply of raw materials and acceptance of orders from the population for the manufacture of handicrafts.
- Formation of personnel and ensuring the influx of students.
- Types and classification of EIB FAC and their placement in the structure of rural settling.
- Typology of buildings and blocks.
- Production and sale of manufactured products of applied crafts.
- Exhibition and sale of FAC products.

The model allows us to approach in more detail the solution of the task set for the architectural and planning organization of the EIB FAC.

## Conclusions

Rural settlements (RS) have a population of 0.3-3.5 thousand people, whereas bush settlements have a population of 0.3-2 thousand people. An applied art studio is placed in the settlements, depending on the number of people; RS with populations of 6-10 thousand people are located near urban-type villages. Applied art studios operate out of this own workshop.

Large residential formations – a district center or a city with a population of 30-200 thousand inhabitants and above are created where the production capacities of the agricultural association are concentrated. Here, it is advisable to place a network of a basic multi-functional educational and production complexes of FAC, which includes an applied art lyceum, a studio or a craft school, and special educational and production workshops for the adults.

The functional and typological structure of the basic multi-functional educational and production complex of folk-art and crafts has been developed. The complex consists of two main zones – "A" training and "B" production. The training area includes a studio, a craft school, a lyceum of applied art, and a workshop for adults. The zone consists of two groups of rooms: general education and humanities and general art cycle. The production zone of the complex – a factory, a combine, a company, a production workshop of FAC consists of two main functional subzones designed for the production of applied crafts and their commercial sale. Administrative and economic and social premises of the complex, simultaneously serve the educational and industrial zones.

The main directions of the landscape and natural zone of EIB FAC "City of Masters" have been developed, with functional zones proposed. The selection of vegetation and its location are provided taking into account not only natural and climatic conditions, but also ensuring compliance with the functions of the zones,

the disclosure of the landscape as a source of creative inspiration for craftsmen and the creation of recreational areas.

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