

ANALYSIS OF THE STRUCTURE AND FUNCTIONS OF PARTICIPANTS IN THE CONSTRUCTION PROCESS

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Annotation

In article stages of life cycle of building objects are considered, structures participating in this cycle are defined, their functions, system of interaction, interrelations and mutual relations are characterized. The advanced foreign experience in the relation of construction of structure of participants of building (on an example of the Russian Federation) and the structure operating in Republic Uzbekistan is characterized. Offers on perfection of structure and system of mutual relations of participants of process of building for the purpose of introduction in conditions Uzbeks are given.

Key words: life cycle, stages, the concept, researches, designing, building, operation, dismantle (pulling down), recycling, the customer, the designer, the contractor, the self-adjustable organization, the technical customer.

Introduction

As you know, the life cycle of any building or structure includes the following stages: concept; surveys; design; building; exploitation; dismantling (demolition); recycling.

At the same time, the noted stages involve the participation of various structures, which are defined as participants in the construction process and each of which is endowed with the corresponding functions inherent in it.

Ensuring the quality of construction and reliable operation of any construction object for the entire period of the above life cycle is inextricably linked with the high-quality performance

of each of the participants in their direct responsibilities, compliance with the relevant advanced technologies and rational organization of construction, which is an extremely urgent problem.

At the same time, an important and decisive role is played by the principle of constructing the noted structure of participants, endowing them with certain functions, their interaction, interconnection and relationship.

In this regard, it seems appropriate to analyze the principles of building the structure of the main participants in the construction process, to characterize their functions, the range of tasks they solve, to study the mechanisms and forms of their interaction, interconnections and relationships. Due to the fact that in each specific country, the solution of the noted issues has its own specific specifics and features (due to differences in legislation, construction policy, established traditions, etc.), such a comparative analysis is of great practical value, since it will reveal the most advanced experience and determine the possibilities and ways of its adaptation, improvement and implementation in construction practice. The abovementioned determines the scientific novelty and practical significance of the research carried out. At the same time, the methods of scientific knowledge used in conducting research consist in carrying out the noted comparative analysis within the framework of advanced world and existing domestic experience, identifying features and differences in order to improve, adapt and implement in relation to local conditions.

An analysis of the best world and domestic experience shows that the construction of the structure of the participants in the construction process, including their number, the allocation of appropriate functions, etc., is within the competence of the Ministry of Construction and its subordinate structures.

Analysis of the structure of participants in the construction process and their functions in the framework of advanced foreign experience.

In terms of the set task, the analysis of the best foreign experience in relation to the construction of the structure of construction participants is carried out on the example of the Russian Federation, as the closest for the CIS countries (including Uzbekistan) in relation to the hier-

archy of construction of various state and administrative structures since the times the former Soviet Union.

The analysis shows that in the Russian Federation the noted structure includes the following participants, each of which is endowed with corresponding functions [1] :

1. Developer - an individual or legal entity that provides on the site belonging to him or on the site of another copyright holder, to whom, when making budget investments in capital construction objects of state (or municipal) property, state authorities, governing bodies of state extra-budgetary funds or local self-government bodies transferred to in accordance with the established procedure (on the basis of agreements), its powers of the state (or municipal) customer for construction, reconstruction, overhaul, demolition, engineering surveys and the development of appropriate project documentation.

The developer has the right to transfer his functions (determined by the legislation on urban planning) to the Technical Customer;

2. Technical customer - a legal entity authorized by the Developer and on his behalf concluding contracts for engineering surveys, development of project documentation, construction, reconstruction, overhaul or demolition of construction projects.

In addition, the functions of the Technical Customer include:

- preparation of technical specifications for the performance of the specified types of work;
- providing organizations performing engineering surveys and (or) developing design documentation, construction, reconstruction, overhaul or demolition of construction objects, materials and documents necessary to perform the indicated types of work;
- approval of project documentation and other documents required to obtain a permit to commission the facility.

In particular, in the Russian Federation [1], the functions of a Technical Customer can be performed only by a member of a so-called “self-regulatory organization” in the field of engineering surveys, design, construction, reconstruction, overhaul or demolition of construction objects;

3. Engineering surveys - are carried out by specialized organizations in order to prepare

project documentation, construction or reconstruction of construction objects.

The preparation of project documentation, as well as the construction or reconstruction of facilities without performing the relevant engineering surveys is not allowed.

The need for certain types of engineering surveys, the composition, scope and method of their implementation are established taking into account the requirements of technical regulations by the Engineering Survey Program developed on the basis of the assignment of the Developer or the Technical Customer, depending on the type and purpose of the object, its design features, technical complexity and potential danger, as well as the complexity of topographic, geotechnical, hydrological, meteorological, climatic, ecological and other conditions of the territory and construction site [1];

4. The designer carries out the development of design and estimate documentation, which is documentation containing materials for the construction, reconstruction or overhaul of objects (or their parts) in text and graphic forms, and defining the architectural, functional, technological, design and engineering and technical solutions.

Work under contracts for the preparation of project documentation concluded with the Developer, the Technical Customer or the Person responsible for the operation of the facility should be performed by individual entrepreneurs or legal entities that are members of the above-mentioned self-regulatory organizations in the field of architectural and construction design.

The person preparing the project documentation may be the Developer, or an individual entrepreneur or a legal entity that has entered into a contract for the preparation of project documentation.

The person preparing the project documentation is responsible for its quality and compliance with the requirements of regulatory documents.

The developer has the right to carry out the preparation of project documentation independently, provided that he is a member of a self-regulatory organization in the field of architectural and construction design [1];

5. Expertise

Design documentation and engineering survey results are subject to expertise, with the exception of some cases stipulated by law.

Examination of design documentation and (or) examination of the results of engineering surveys are carried out in the form of a state or non-state examination.

The Developer or the Technical Customer (at its own discretion) sends the project documentation and the results of engineering surveys for state or non-state expertise (if the state expertise is not provided for the project documentation and the results of engineering surveys) [1-6];

6. Scientific and technical support for design and construction (NTSPS) consists in carrying out a set of works of scientific and analytical, methodological, informational, expert control and organizational nature. NTSPS is carried out by specialized organizations in the process of research, design and construction of facilities to ensure the quality of construction and their reliability (safety, functional suitability and durability), taking into account the applied non-standard design and technical solutions, materials, structures, etc. [4-6];

7. The contractor carries out the actual construction, reconstruction, capital repairs, or demolition of construction objects - buildings, structures and structures.

The concept of "reconstruction" of construction objects (or their parts) includes:

- changing their height, number of floors, area and (or) volume, including superstructure, reconstruction and (or) expansion;
- replacement and (or) restoration of the load-bearing structures of the object, except for the replacement of individual elements of such structures with similar or other elements that improve the performance of such structures.

The concept of "overhaul" of construction objects includes:

- Replacement and (or) restoration of building structures of objects or elements of such structures, with the exception of load-bearing structures;
- Replacement and (or) restoration of systems, networks or elements of engineering and technical support of facilities;

- Replacement of individual elements of supporting building structures with similar or other elements that improve the performance of such structures.

Works under contracts for the construction, reconstruction or overhaul of construction projects concluded with the Developer, Technical Customer or the Person responsible for the operation of the facility can only be performed by legal entities (or individual entrepreneurs) that are members of self-regulatory organizations in the area of construction, reconstruction or overhaul of facilities [1];

8. Construction control is carried out by the person carrying out the construction, ie. Contractor, and is implemented during the construction, reconstruction or overhaul of facilities. Construction control is carried out in order to verify the compliance of the work performed with the design documentation, the requirements of regulatory documents and the results of engineering surveys.

In the event that construction, reconstruction or major repairs are carried out on the basis of relevant contracts, construction control can also be carried out by the Developer or the Technical Customer, or by another individual or legal entity engaged by them on the basis of the contract.

The Developer or the Technical Customer, on their own initiative, to carry out construction control, may involve the person who develops the design documentation, i.e. Designer [1];

9. State construction supervision is carried out in the following cases:

- During the construction of facilities, the design documentation of which is subject to expertise;
- During the reconstruction of objects, including when carrying out work to preserve cultural heritage objects, if the design documentation for the implementation of such work is subject to examination.

When carrying out state construction supervision, a check is made of the availability of a construction or reconstruction permit, the compliance of the work performed and the building materials used, as well as the results of such work with the provisions of the design documentation [1];

10. An operating organization is a legal entity or an individual who, as an owner (investor) or on his behalf, operates an object. The ex-operating organization can be a state or municipal unitary enterprise, or an organization of another organizational and legal form, on the balance sheet of which this facility is located, or an organization that has permission from the regulatory body to operate this facility;

Stages of the life cycle of a construction object

Participants in the construction process

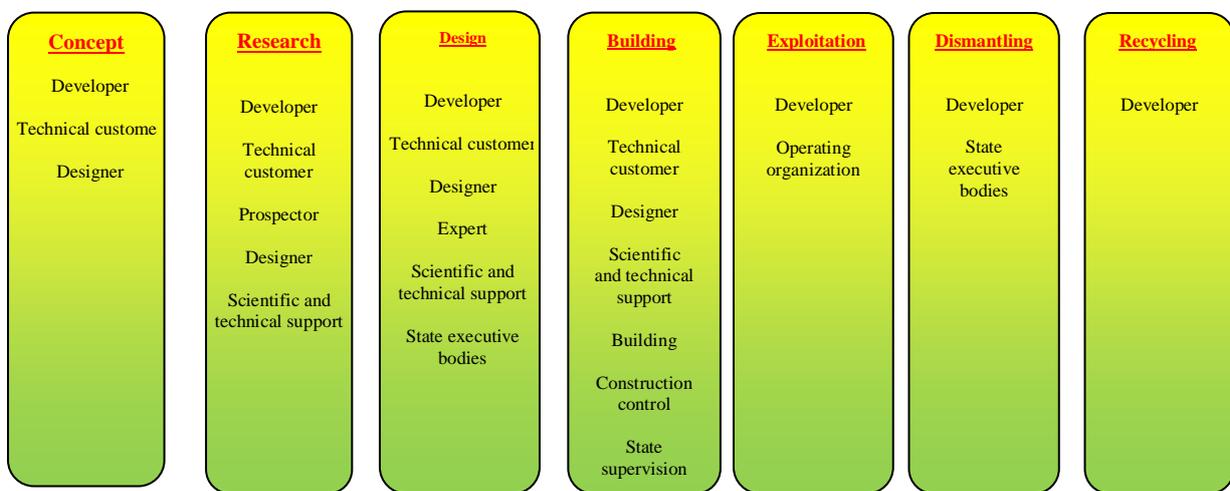


Fig. 1 - Participants of process of building

and their function at various stages of life cycle of building object.

11. State executive bodies, as participants in the construction process, issue the appropriate permits for the construction of the facility and its commissioning.

A permit for the construction of an object is issued by the local government at the location of the land plot (construction site).

To obtain permission to put the facility into operation, the Developer applies with a corresponding application to the Federal executive body, executive body of a constituent entity of the Russian Federation, local government body or other authorized bodies that issued a construction permit, directly or through a multifunctional center [1].

In Figure 1, for a visual display of the above, a diagram is presented that reflects the stages

of the life cycle of a construction object and the functions of participants in the construction process at the corresponding stages of this cycle.

The structure of the participants in the construction process and their functions in domestic practice.

In the conditions of the Republic of Uzbekistan, the structure of the main participants in the construction process includes: a customer, a surveyor, a designer, examination bodies, a contractor (subcontractor), supervisory, control and state acceptance bodies and an operating organization.

At the same time, the noted main participants in the construction process are endowed with the following functions [7-10]:

- **customer organizations** - planning and financing the design and construction (reconstruction or overhaul) of facilities, supplying (in some cases) devices, equipment, a number of special materials and products, as well as performing technical supervision [10]. At the same time, in relation to capital construction projects, the role of the state customer is played by the Engineering companies of the regional khokimiyats;
- **design organizations** - carrying out the development of design and estimate documentation and supervision over the course of construction [10]. The rights to develop design and estimate documentation by design organizations of various forms of ownership are determined by the relevant licenses issued in accordance with the established procedure by the Ministry of Construction;
- **contractor organizations** - carrying out the whole range of works on the construction of the facility on the basis of the relevant agreements with the Customer and performing general construction works (general contractors), as well as special and installation work under contracts with subcontractors. In this case, a specific Contractor is determined in accordance with the established procedure on the basis of competitive (tender) tenders.

Figure 2 shows diagrams showing the structure of the participants in the construction process operating in the Russian Federation and Uzbekistan.

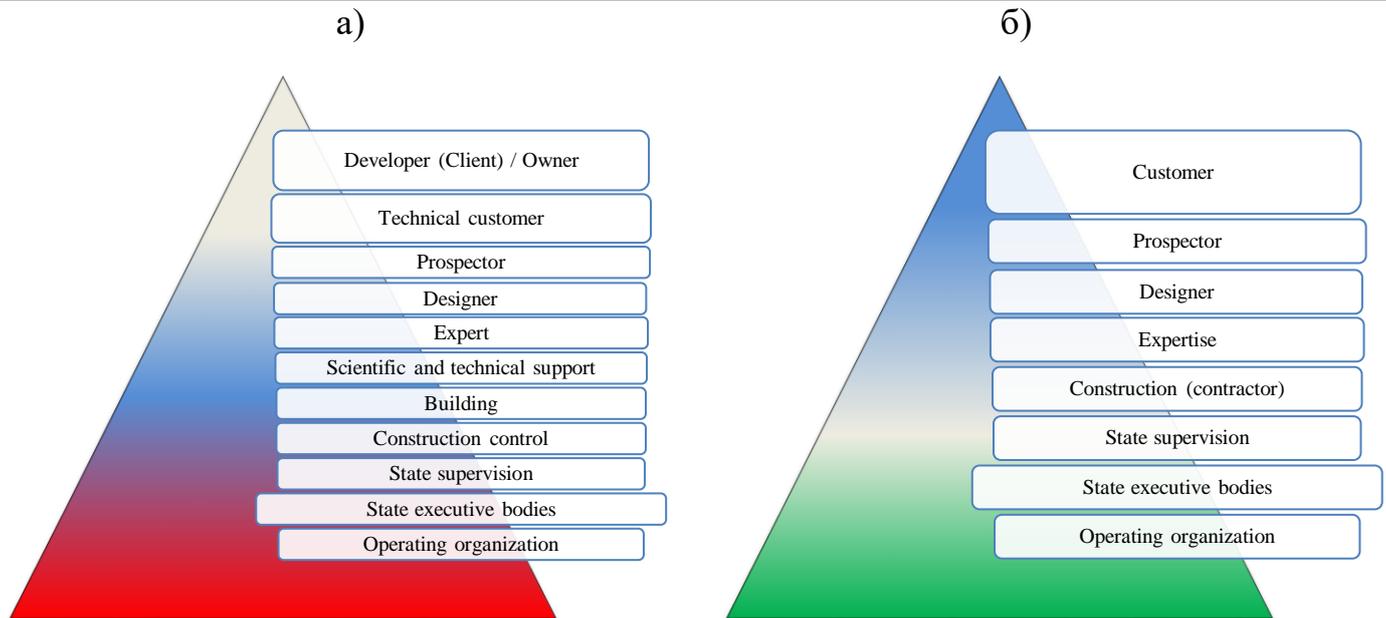


Fig. 2 - Structure of participants of process of building:

A) - in the Russian Federation; b - in Uzbekistan.

Conclusions and offers

1. The life cycle of any construction object includes a number of successive stages, during each of which the functioning of various structures, defined as participants in the construction process, is assumed.

Ensuring the quality of construction and reliable operation of the facility for the entire period of the noted life cycle is inextricably linked with the high-quality performance of each of the participants in their direct responsibilities.

At the same time, an important and decisive role is played by the principle of constructing the noted structure of participants, their interaction, interconnections and relationships.

2. The analysis of advanced foreign experience in relation to the construction and features of the functioning of the structure of construction participants, as well as the principles of construction and functioning of such a structure that exist in domestic practice.

3. It has been established that the main fundamental differences between the currently existing foreign (operating in the Russian Federation) system of participants in the construction

process from the domestic (operating in Uzbekistan) is a more complex hierarchical structure, including a larger number of participants, in particular the structure of the "Technical order -chik ", as well as certain differences in relation to the functions performed by the participants (for example, related to scientific and technical support of design and construction) and some other differences associated with the provisions of the relevant legislation.

The system of Construction control operating in the Russian Federation is also noteworthy.

In addition, the peculiarity and difference also lies in the fact that the main participants in the construction process in the Russian Federation (such as a developer, designer, contractor, etc.) are members of the so-called "self-regulatory organizations" in the field of engineering surveys, architectural construction design, construction, reconstruction, capital repairs, demolition of capital construction projects.

4. It seems appropriate and relevant to study in more detail the noted advanced experience, including the issues of its adaptation, improvement of the structure and system of relationships between participants in the construction process, with the aim of introducing it into construction practice in Uzbekistan.

The solution of the noted tasks and the implementation of relevant research is planned within the framework of the planned master's thesis on the topic "Development of organizational and methodological foundations and justification for creating a structure of a technical customer in the conditions of Uzbekistan."

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