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## **ORGANIZATION AND PLANNING IN COSTRUCTION**

### Mutalova Barno Irgashevna

Tashkent University Of Architecture And Civil Engineering, Uzbekistan

Abdullaeva Kamilla Djavdatovna

Tashkent University Of Architecture And Civil Engineering, Uzbekistan

### **ABOUT ARTICLE**

Abstract: This article discusses the main aspects Key words: Construction, organization, planning, minimization. feasibility studv. investor, of organization, planning and management in developer. construction. History. founders of development of science and practice Received: 11.10.2023 construction organization. Accepted: 16.10.2023

#### INTRODUCTION

Organization - translated from Latin "organizo" - means the arrangement of something, a harmonious appearance. From the point of view of production, organization is the creation of an orderly system of interaction between all parts and elements of the production process. Organization in construction consists of three components: 1. Organization of construction as a branch of the national economy; 2. Organization of the construction process in regions, cities, towns, residential areas, etc.; 3. Organization of direct construction production. When organizing construction as a branch of the national economy, they consider: the methods used for carrying out construction (contracting and economic), study and analyze the existing system and network of survey, design, construction and installation and other construction organizations in the country; the presence and location of industrial enterprises specializing in the production of building structures, materials, products and semi-finished products; the presence of transport organizations with specialized construction equipment and vehicles. The organization of the construction process in regions, cities, towns, and residential areas includes: the presence and territorial location of construction organizations and enterprises that make up the infrastructure of the construction industry; cooperation between construction and industrial enterprises in the process of production activities; engineering survey; organization of logistics and much more.

The organization of construction production is understood as: preparation during the construction of individual objects; establishing and ensuring the execution of the sequence of work; performing various types of construction and installation work; supplying construction sites with various types of resources; ensuring compliance with safety regulations at construction sites; establishing compliance of the quality of work performed with the established requirements. With the correct organization of all the above components, the effective functioning of the construction industry is possible.

Historical aspects of the development of science and practice of construction organization show that the founder of the creation of a system of organization and management of an enterprise is considered to be the English textile manufacturer Richard Arkwright, who at the end of the 18th century developed the "factory code", which determined that workers must work strictly in accordance with the schedule, a penalty system was introduced, applied in cases of workers deviating from the work schedule, and a barracks regime was introduced for workers. The more complex production became, the more attention was paid to the organization of production processes. The subject of science and practice of construction organization is the development and implementation of methods for the scientific organization of construction and construction production, in order to ensure the best production results in the process of construction or reconstruction, modernization or major repairs of buildings and structures. The subject of science and practice of construction organization and technological preparation for construction, organization of labor and labor processes of construction production.

The principles and provisions for organizational and technological preparation for construction include: methods and practices for organizing the design of individual objects, complexes and processes for organizing their construction; organization of construction and construction and installation works using the in-line method; methods and practices of planning and managing the production of construction and installation works; methods for designing the organization of construction sites and assessing the effectiveness of their organization; methods for planning the logistics of construction projects, creating optimal transport schemes for the delivery of building materials and structures, as well as the placement of construction materials; forms and methods of organizing the operation of construction mechanisms and vehicles; dispatching of supply and construction processes.

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The organization of labor and labor processes in construction production includes the process of forming teams and units, providing them with construction tools, equipment and other means of technical and organizational equipment. In the process of developing regulations and practical guidelines for organizing construction, it is necessary to take into account industry specifics:

unlike industrial production, with the exception of enterprises producing building structures, materials, etc., jobs and the nature of work on a construction site are constantly changing as construction and installation work is carried out at sites;

- in industrial enterprises the product of labor is mobile, i.e. it moves from one workplace to another, then in construction the product of labor is stationary, but the nature and condition of workplaces changes, as well as the composition and nature of the work performed at the site and construction equipment; the process of constructing buildings and structures is variable over time; in most cases, construction products are diverse, with the exception of residential buildings, which are built according to the same type of projects; the duration of bringing the finished product to the final state; mobility of construction production (relocation of production facilities from one construction site to another); natural and climatic conditions that influence the performance of preparatory, construction and installation work depending on the time of year and weather conditions.

The goal of the construction organization is to achieve the best results in the construction and delivery of construction products to customers and the rational use of production resources, obtaining maximum financial results with minimal production costs, while fulfilling the requirements for safe work and health protection of workers. The tasks of organizing construction include: compliance with contractual construction deadlines specified in contract contracts; eliminating downtime of equipment and labor, thereby ensuring continuity of production processes at construction sites; timely logistics support for facilities and construction teams and units:

- minimizing transportation costs when delivering building materials and structures to warehouses and the installation area;

- minimizing the costs of creating temporary infrastructure at a construction site (temporary roads, temporary fences, temporary energy and water supplies) through rational organization of the construction site; creating an optimal supply of building materials and structures; ensuring high-quality sanitary and living conditions for workers and safe working conditions at the construction site in compliance with labor protection and production environmental requirements.

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The efficiency of construction organization means the following: reducing the construction time of objects in relation to the contractual one without reducing the quality of the final product; minimizing the level of labor costs and operating time of machines and construction mechanisms by eliminating downtime of equipment and crews; reducing costs for the construction of temporary buildings, structures and roads. In most cases, the final indicator of construction efficiency is the share of costs for organizing construction in the total cost of production costs during construction or reconstruction, major repairs of construction projects, or overhead costs for them.

To create a modern construction project, it is necessary to solve a large number of complex problems, including the following areas of activity: pre-investment studies - include the preparation of initial permitting documentation, development of investment justifications, feasibility study (TES) of the construction project, collection of initial data and preparation design assignments; engineering-geological surveys; design work development of design documentation, performing the functions of a general designer, development of special sections of the project, examination and support of projects; technological justification - provision to the customer of construction and operational technologies with licenses for their use, technological design, formation of custom specifications for structures and equipment; construction cost assessment - calculation of budgets and estimates for the project;

Production stage - preparation of tender documentation for the supply of structures, materials, construction equipment; preparation of production and organization of work; supervision of manufacturing, supply and performance of work; organization of quality control; organization of commissioning works. The main participants in construction are individuals and legal entities (citizens, state, public and private organizations). Investor - (depositor) a legal entity or individual who makes a long-term investment of capital in a project, enterprise or economy in order to make a profit on the invested capital. In construction, the investor may also be the developer. Developer is an investor who invests capital in the development or development of territories, infrastructure development for the purpose of subsequent sale of built-up and undeveloped sites. Developer is a legal entity or individual who has declared their intention to construct a specific facility and has received permission to do so. He orders design and estimate documentation, obtains permission to carry out construction and installation work, and organizes all types of supervision during the entire construction period. Can carry out construction work on its own or with the involvement of contractors. Upon completion of construction, it accepts the facility into operation and registers ownership with the local government. The developer can perform the functions of a customer, or engage a specialized company (capital construction management, management company, etc.). Customer is a legal entity or individual who

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has entered into a contract or government contract for the construction of a real estate property, places orders for the construction of this facility, finances and controls during the period of work, and accepts completed construction projects. The investor, customer and developer can be one person. User - a legal or natural person who uses a property as an owner or who has received the right to use from the owner of the property. Operating organization is a legal entity or individual that carries out the technical operation of an object on the rights of the owner or on behalf of the owner. A designer is a legal entity or individual who, under an agreement with the customer, develops design and estimate documentation for a construction, reconstruction or technical re-equipment project. Designers include organizations that carry out engineering-geological, geodetic and other surveys for construction. Contractor is a legal or natural person carrying out a complex of works on the construction of objects. The contractor must have licenses for all types of work where required by law. The customer enters into an agreement with the general contractor, who is responsible for the timely and high-quality construction of the facility. The general contractor for certain types of work (electrical, plumbing, etc.) may enter into agreements with subcontractors.

The general contractor is responsible to the customer both for work carried out in-house and for the work of subcontractors. Supplier - a legal or natural person who supplies products necessary for construction (building structures, materials, semi-finished products), produced in-house or purchased from third parties. Transport organization - a legal entity or individual that carries out external and internal transportation of material and technical assets, under an agreement with contractors. Bank is a legal entity or individual that carries out various financial transactions. There are specialized investment banks that finance long-term investment projects, including in construction.

Any construction production, be it the construction of a new facility; reconstruction, modernization, technical re-equipment, major repairs of existing buildings and structures are always associated with the consumption of large costs of various types of resources (material, machine, labor). The construction process, as a rule, is lengthy, and for this reason the invested funds seem to be deadened. Therefore, the main objectives of organizing construction production are to reduce resource costs and speed up construction time. Therefore, in order to solve the assigned problems, preparation for construction of high quality in content and timely deadlines is necessary. Preparation for construction is a system of interrelated activities (organizational, technical, technological, economic and others) aimed at creating conditions for the timely deployment of construction and installation works, ensuring the timely commissioning of construction projects and achieving high technical and economic

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indicators of construction and construction production. Carrying out high-quality and timely preparation for construction and construction production leads to: a reduction in construction time, a reduction in the labor intensity of construction and installation work, a reduction in the costs of organizing construction sites, transport, logistics, etc.

Preparation of production is carried out in all sectors of material production. Construction is a specific branch of production, characterized by the fact that the final product of the industry, the organization and methods of its creation, with certain exceptions, are unique. There are practically no identical construction sites, no identical enterprises, no identical roads, other communications, etc. Therefore, the importance of preparing for construction work is significantly higher compared to other sectors of the economy. The duration of the preparatory period for construction is about 20% of the total duration of construction industry, production preparation is divided into the following components: general organizational and technical preparation for construction; technical (engineering) preparation for the construction of facilities and their complexes; - technical and technological preparation of construction production.

Technical and technological preparation for construction production represents the specified preparation for performing construction and installation work at sites. It is carried out both during the preparatory period for the construction of objects and during the entire period of their construction by construction and installation organizations. The task of technical and technological training is to ensure a high organizational and technical level of construction production, ensuring the implementation of construction and installation work in effective ways with the lowest production costs.

Technical and technological preparation for construction production includes the following activities: geodetic layout of buildings and structures and their parts; selection of technologies and methods for performing construction and installation work; providing construction with material and human resources; determination of the main means of mechanization for construction and installation work, their installation locations at the site (installation cranes, crane runways); providing construction with technological equipment, devices and other means for performing work in accordance with accepted methods and methods of their production; organization of labor when performing construction, installation and other types of work, formation or determination of existing teams, units, determination of shifts of their work; formation of sets of construction and installation, control measuring instruments and other means of technical equipment for workers to perform construction and installation work;

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formation of sets of luring equipment, temporary fencing of workplaces and other organizational equipment for the safe conduct of work; organization of temporary lighting of workplaces; organization at construction sites of facilities for storing structures, products, assembly units, semi-finished products, materials, sites and premises for enlarged assembly and pre-installation preparation; creation of a standard technological stock of building structures, products and materials. The organizational basis of technological preparation for construction and installation work at sites is the development or use of: maps of labor processes in construction production, reflecting the methods of their implementation, an indication of the composition of the working units, the technical, technological preparation for constructional basis of technological operations and work in general); the organizational basis of technological preparation, the technical basis of technological operations and work at sites is the development or use of: maps of labor processes in construction production, and means quality control of technological operations and work in general); the organizational basis of technological preparation for construction and installation work at sites is the development or use of: maps of labor processes in construction for construction and installation work at sites is the development or use of: maps of labor processes in construction and installation work at sites is the development or use of: maps of labor processes in construction production, reflecting the methods of their implementation, an indication of the composition of their implementation, an indication of the composition of the working units, the technical, technological and organizational equipment used, techniques and methods of labor, methods and means quality control of technological operations and work in general);

Also, the technological maps contain data on the need for construction materials and means of mechanization of work in accordance with the technology and organization of their implementation); - work project (WPP) at the site, which determines the organization of construction, installation and other work as a whole at the site and its preparation for delivery to the customer; - a construction organization project (POS) for a complex of objects and the development of a residential microdistrict determines the organization of construction of a complex of objects that make up the enterprise, the development of a residential area, microdistrict, etc.

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