PRIORITY DIRECTIONS FOR INNOVATIVE DEVELOPMENT OF THE CONSTRUCTION MATERIALS INDUSTRY IN THE REPUBLIC OF KARAKALPAKSTAN

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Abstract. *This article analyzes the current state of the construction materials industry in the Republic of Karakalpakstan. During the research process, production volumes in the region, the mineral raw material base, investment projects, as well as export and import indicators were examined based on statistical data. The results of the analysis indicate that the production volume of construction materials in the region has been increasing annually. However, there remains significant potential to enhance the level of deep processing of raw materials, increase the share of high value-added products, and strengthen export capacity. The article proposes scientific and practical recommendations aimed at further developing the construction materials industry, including the introduction of modern technologies, increasing investment activity, expanding localization processes, and promoting the production of export-oriented products.*

Keywords*: construction materials industry, mineral raw material base, industrial development, investment projects, export potential, localization, innovative technologies.*

Introduction. In recent years, in the Republic of Uzbekistan, the development of industrial sectors across regions, the efficient utilization of local raw material resources, and the expansion of import-substituting production have been considered among the priority areas of state policy [1]. In particular, the Resolution of the President of the Republic of Uzbekistan dated January 28, 2022, No. PQ–60 defines key issues related to regional industrial development, the commissioning of new production capacities, and the attraction of investments [2]. In accordance with this document, specific tasks have been set to attract foreign investment, expand domestic production, and not only meet the needs of the internal market but also further increase export potential.

Furthermore, in the Industrial Development Strategy for 2023–2026, modernization of the construction materials industry, enhancement of localization levels, and expansion of export capacity are identified as key priorities [3]. These documents serve as the regulatory and legal framework for accelerating the development of regional industries, including the construction materials industry in the Republic of Karakalpakstan [4]. In accordance with the Resolution of the Head of State dated December 1, 2025 [1], modern management methods, digitalization, and artificial intelligence technologies are being widely introduced in the industry, along with environmentally friendly and energy-efficient materials, and strengthened integration with science. In addition, customs privileges and credit compensation mechanisms have been introduced for enterprises in the sector.

At present, despite the availability of rich mineral and raw material resources, the share of the construction materials industry in the overall industrial structure of the Republic of Karakalpakstan remains relatively low [5]. At the same time, the issues of broad implementation

of innovative technologies in the utilization of regional raw materials, their deep processing, and the expansion of the product range remain highly relevant [6].

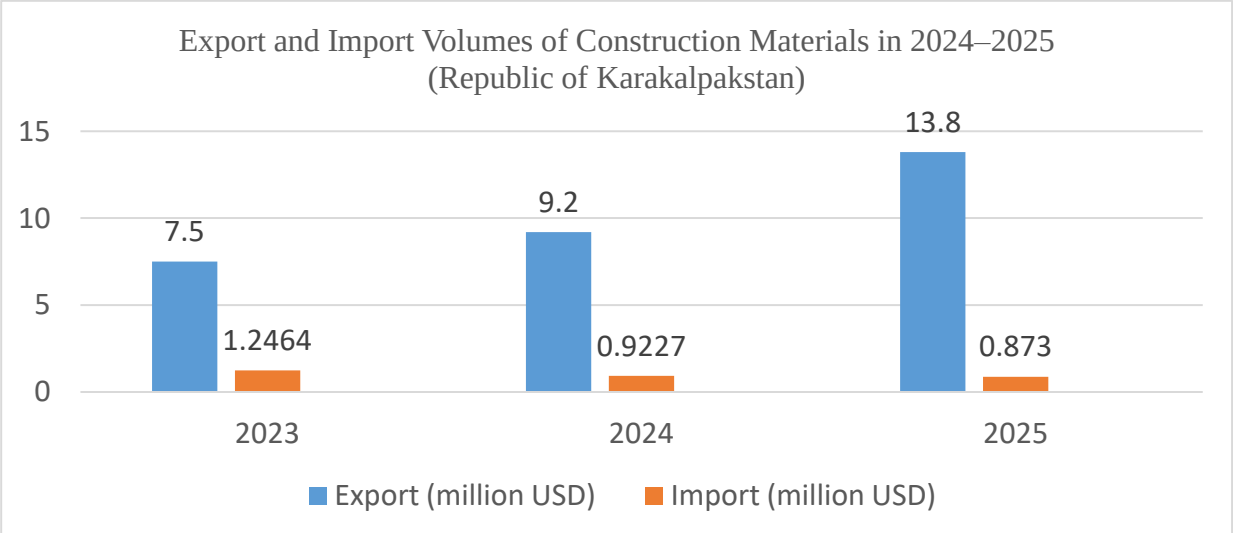
Methods. In this article, in order to comprehensively assess the current state of the construction materials industry in the Republic of Karakalpakstan, official statistical data, regional industrial reports, and the register of investment projects were widely used [7]. In particular, a database for 2023–2025 was compiled, including data on production volumes, the number of industrial entities, mineral resource reserves, investment flows, as well as export and import indicators.

During the research process, the main economic indicators of the construction materials industry were evaluated using statistical analysis methods, while time-series analysis was applied to identify trends in production and export volumes over time [8]. In addition, through comparison and grouping methods, the indicators of the Republic of Karakalpakstan were compared with national average values, which made it possible to determine the region's relative advantages and weaknesses. Based on these sources, effective mechanisms for deep raw material processing, the introduction of innovative technologies, and the expansion of export-oriented production were examined.

To increase the accuracy and reliability of the research results, trends in production, export, and investment indicators were analyzed using graphs and charts [11]. This approach made it possible to identify key patterns in the industry's development, reveal existing problems, and formulate scientific and practical conclusions.

Results. According to statistical data, in 2024 the volume of industrial production in the Republic of Karakalpakstan amounted to 24.6 trillion soums, of which 872 billion soums accounted for the production of construction materials [7]. In 2026, through the expansion of existing production capacities and the commissioning of new projects, it is planned to increase production to 1 trillion soums.

Figure-1



The analysis of export and import volumes of construction materials in 2024–2025, shown in Figure 1, indicates the emergence of positive trends aimed at improving the sector's foreign trade balance. In particular, in 2024, the export of construction materials amounted to 9.2 million USD, representing an increase of 123% compared to 2023. In 2025, this figure is planned to reach 13.8 million USD, corresponding to a growth rate of 150%.

At the same time, import volumes show an opposite trend — a decrease. In 2024, imports of construction materials amounted to 922.7 thousand USD, a reduction of 26% compared to 2023. In 2025, this figure is expected to decline further to 873 thousand USD. This situation reflects the expansion of local production capacities, an increase in the share of import-substituting products, and a growing satisfaction of domestic market demand through locally produced goods. Overall, the steady growth in exports and reduction in imports indicate an increase in the competitiveness of the construction materials sector, improved production efficiency, and a shift toward an export-oriented development model. These processes are expected to further improve the foreign trade balance and strengthen the resilience of the national economy in the long term.

Currently, despite the fact that export volumes in the sector exceed import figures, several challenges in its development remain. The mineral resource base of the Republic of Karakalpakstan comprises 199 deposits of non-metallic minerals, of which 149 are currently in operation [5]. The majority of these raw materials consist of cement raw materials, limestone, building stone, sand, and silicate materials [6]. However, a significant portion of these resources is limited to the stage of primary processing, which reduces production efficiency and leads to a high cost of finished products.

Regarding investment and export indicators for 2024–2026, the Republic of Karakalpakstan plans to implement 17 investment projects with a total value of 93 million USD. The implementation of these projects is aimed at increasing industrial capacity and creating new jobs [4]. In 2024, the export of construction materials amounted to 9.2 million USD, and by 2026, this figure is expected to reach 13.8 million USD [11]. At the same time, according to international experience, the development of industries based on deep processing of raw materials allows export volumes to increase severalfold [9][10].

Discussion. The results of the analysis indicate that a number of systemic problems persist in the development of the construction materials industry in the Republic of Karakalpakstan. In particular, slow technological modernization, a low share of foreign capital in the investment structure, and insufficient development of logistics infrastructure significantly affect the sector’s efficiency [8][10]. These factors reduce the competitiveness of production processes and constrain regional economic development.

International experience shows that the development of industrial sectors based on a cluster approach and the extensive introduction of advanced innovative technologies can significantly enhance production efficiency. This approach not only optimizes production processes but also improves product quality, promotes more rational use of resources, and increases investment attractiveness. In this context, applying an innovation-cluster approach in the construction materials industry of the Republic of Karakalpakstan is crucial for enhancing the competitiveness of regional industry and shaping a sustainable development strategy.

Conclusion. For the further development of the construction materials industry, it is advisable to implement modern technologies focused on the deep processing of local raw materials, which will increase the added value of products and improve production efficiency [6][11]. At the same time, it is important to create additional incentives for foreign investors within special industrial zones, facilitating the attraction of capital and advanced management solutions [2][4]. Equally significant is the expansion of export-oriented production and diversification of foreign markets, which will reduce dependence on specific export directions and enhance the sector’s resilience [9][11]. In parallel, expanding localization programs and increasing the share of import-substituting products through the use of domestic resources will strengthen the domestic

market and boost the competitiveness of national industry [3]. Implementing these proposals will contribute to ensuring the sustainable development of the region's industrial sector.

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