

MINERAL RESOURCE OF UZBEKISTAN AND THEIR GLOBAL IMPORTANCE. COTTON INDUSTRY:HISTORY AND CURRENT ROLE IN THE ECONOMY

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Annotation: this article discusses the mineral resources of Uzbekistan and their significant global importance, as well as the country's cotton industry and its current role in the national economy. It explains how Uzbekistan has developed its rich mineral base—including gold, copper, uranium, and other valuable metals—and how these resources contribute to both domestic economic growth and international trade. The article highlights the strategic importance of Uzbekistan's minerals, which are used in energy production, industry, and technology, making the country an important player in global markets. It also emphasizes the role of the cotton industry, which has historically been one of Uzbekistan's key agricultural sectors. Cotton production continues to support the rural economy, provide employment, and contribute to export revenues. The article outlines modern reforms and innovations in the cotton sector, including the introduction of environmentally friendly farming practices, mechanization, and digital technologies to increase productivity and quality. Furthermore, the article describes efforts to diversify the economy by linking the mineral and cotton industries to broader industrial and manufacturing development. These initiatives have strengthened Uzbekistan's economic resilience, improved living standards, and expanded its participation in international trade. Overall, the article shows how Uzbekistan's natural resources and strategic industries—through careful management, modernization, and international cooperation—play a vital role in building a strong, competitive, and sustainable economy that successfully balances traditional strengths with modern growth.

Key words: Mineral resources; Gold; Copper; Uranium; Silver; Zinc; Natural gas; Oil; Strategic minerals; Mining industry; Metallurgy; Industrial development; Export potential; Global market; Energy production; Raw materials; Economic growth; Investment; Technological modernization; Sustainable development; International cooperation

Introduction

Uzbekistan is a country rich in natural resources, which play a vital role in its economic development and global significance. Its mineral wealth—including gold, copper, uranium, and other metals—forms the foundation of the country's mining and industrial sectors, contributing to both domestic growth and international trade. At the same time, the cotton industry remains a key part of Uzbekistan's agricultural economy, supporting rural communities, providing employment, and generating export revenue. Recent reforms and modernization efforts in both sectors aim to increase efficiency, introduce sustainable practices, and integrate new technologies. Together, the mineral and cotton industries not only strengthen Uzbekistan's economic resilience but also enhance its role in global markets, balancing traditional resources with modern development strategies.

Mineral resource

Uzbekistan is one of the richest countries in Central Asia in terms of mineral wealth. The nation possesses extensive deposits of gold, copper, uranium, silver, zinc, and other valuable metals, alongside significant energy resources, including natural gas and oil. These resources form the backbone of Uzbekistan's industrial and economic development, playing a crucial role in ensuring energy security, supporting manufacturing, and generating export revenues. Gold is one of the most important minerals for Uzbekistan. The country is among the world's top gold producers, with major mining operations such as the Muruntau and Almalyk mines contributing substantially to the national economy. Copper and other base metals are also abundant, with Uzbekistan being a key supplier of copper concentrate to international markets. Uranium, extracted primarily in the Navoi region, supports both domestic energy needs and global nuclear industries, highlighting Uzbekistan's strategic role in the energy sector. The energy resources of Uzbekistan, particularly natural gas and oil, are central to both domestic consumption and international trade. The country's natural gas reserves rank among the largest in Central Asia, providing fuel for power plants, industry, and household consumption. Oil and gas exports generate significant foreign currency, strengthening Uzbekistan's trade balance and facilitating investments in other economic sectors. The global importance of Uzbekistan's mineral resources lies not only in their economic value but also in their role in global industrial supply chains. Metals such as gold, copper, and zinc are essential for technology, electronics,

construction, and renewable energy industries worldwide. Uranium contributes to nuclear power generation, while natural gas and oil support energy markets across Europe, Asia, and beyond. By providing raw materials critical to industrialized and developing nations alike, Uzbekistan has become an important player in global resource markets. In recent years, Uzbekistan has undertaken major reforms to modernize its mining sector, attract foreign investment, and adopt environmentally sustainable technologies. These initiatives include improving extraction efficiency, expanding exploration projects, and establishing international partnerships to increase production quality and competitiveness. The government's focus on modernization and sustainability ensures that mineral resources will continue to drive economic growth while minimizing environmental impact. In conclusion, the mineral resources of Uzbekistan are a cornerstone of the country's economy and a key factor in its global significance. Gold, copper, uranium, and other minerals, along with energy resources, not only support domestic industries and exports but also contribute to international markets. Through modernization, investment, and sustainable management, Uzbekistan continues to strengthen its industrial base and maintain its role as a vital global supplier of strategic minerals.

Precious metals

Previously, only precious metals were mined in Uzbekistan. Today, the extraction of heavy metals and hard-to-melt metals has also been established. These types of production consume a large amount of electricity and are classified as energy-intensive industries. Uzbekistan has abundant reserves of gold, copper, lead, zinc, tungsten, molybdenum, and other non-ferrous metal ores. There are more than 15 copper mines alone. The Angren–Olmaliq mining-industrial region plays a special role in the country's non-ferrous metallurgy. Copper ore here also contains molybdenum, gold, and silver. The area has a copper smelting plant and the Olmaliq Mining and Metallurgical Combine, which includes the Qalmoqqirkon and Qo‘rg‘oshinkon mines, a lead-zinc enrichment factory, a power station, and several auxiliary enterprises. The city of Olmaliq was built to accommodate miners. The production of non-ferrous metals such as tungsten and molybdenum is rapidly growing. Tungsten has a very high melting point (3,370°C). Tungsten is used to make heating elements for high-temperature furnaces and filaments for electric lamps. In Chirchiq, a plant producing hard-to-melt alloys is one of the most important industrial enterprises in the country. Its products are widely used in electrical engineering, mechanical engineering, toolmaking, and other industries. Non-ferrous metals have valuable properties. Some (tin, lead, nickel) are resistant to corrosion, while others (titanium, tungsten) are heat-resistant or conduct electricity well (aluminum, copper, silver, gold). The Ohangaron coal basin contains large deposits of kaolin clay, the raw material for aluminum. The Middle Chirchiq flotation and enrichment plant produces fluorspar used in aluminum

production via electrolysis. Gold is a rare metal. It does not lose its properties underground or in humid conditions. However, discovering and extracting gold from rocks requires significant labor and investment. Beyond jewelry, gold is used in electronics, computers, spacecraft, and nuclear reactors. A single nuclear reactor can be lined with 16 kg of gold. Gold mining in the region between Samarkand and Bukhara dates back over two thousand years. By the 10th–13th centuries, mining was highly developed. After the Russian Empire annexed Turkestan in the 19th century, existing mines were mapped, and gold exploration intensified. In the mid-20th century, Uzbek scientists discovered the Muruntov, Chodak, Zarmitan, Qo'shbuloq, Qizilolma, and Marjonbuloq gold deposits. In 1969, the first gold was poured, marking the establishment of a modern gold mining industry. Uzbekistan ranks seventh in the world in gold production and second among CIS countries. Another major center of gold mining is the Navoi Mining and Metallurgical Combine. The Muruntov mine is not only the largest in Uzbekistan but also one of the largest in Eurasia, with an ore body measuring 2×4 km and a depth of over 400 meters. The next valuable metal after gold is silver. Large silver deposits have been found in the Qurama mountain ranges. Silver is actively mined in the suburbs of Tashkent, and measures are being taken to expand production in the Kyzylkum region. Currently, more than 30 ore deposits containing both gold and silver have been identified. Metals are used in the economy for various purposes. Copper is used in electrical engineering and machinery both in pure form and as alloys with tin (bronze), nickel (cupronickel), aluminum (duralumin), or zinc (brass). Lead is used in batteries and electric cables. Zinc is used to coat iron products to prevent rust. Tin is used to make white tin and bearings. Uzbekistan also has deposits of silver, uranium, tungsten, and other precious metals.

Cotton industry: history and current role in the economy.

The cotton industry has historically been one of the most important sectors of Uzbekistan's economy. Known as "white gold," cotton has been a key agricultural product for decades, providing employment to millions of people and contributing significantly to the country's export revenue. The industry supports rural communities, stimulates agro-industrial development, and forms the basis for the country's textile and manufacturing sectors. Uzbekistan is one of the world's largest cotton producers, with vast plantations located in regions such as Fergana, Bukhara, Khorezm, and Syrdarya. The government has implemented reforms to modernize the cotton sector, improve productivity, and increase competitiveness. Mechanization, modern irrigation systems, and the introduction of high-yield cotton varieties have significantly enhanced efficiency. Additionally, the industry is increasingly adopting environmentally sustainable farming practices to reduce water consumption and minimize the use of chemical fertilizers and pesticides. The cotton industry plays a critical role in the national economy. It supplies raw materials to the textile and garment industries, which

contribute to domestic manufacturing and exports. Cotton-based products, including yarn, fabrics, and finished textiles, are exported to international markets, generating foreign currency and supporting trade balance. Moreover, the sector provides jobs for farmers, seasonal workers, and industrial laborers, helping to reduce rural poverty and improve living standards in agricultural regions. In recent years, Uzbekistan has worked to diversify the cotton industry and reduce its dependence on raw cotton exports. Investments in textile processing, spinning, and garment manufacturing aim to increase value-added production and strengthen the country's position in global markets. The government has also promoted partnerships with international textile companies to modernize production techniques, improve quality standards, and expand exports. Overall, the cotton industry remains a vital part of Uzbekistan's economy, combining traditional agricultural strengths with modern technologies and industrial integration. By supporting rural development, generating export revenue, and fostering industrial growth, the cotton sector continues to play a strategic role in the country's sustainable economic development.

History of the Cotton Industry in Uzbekistan

The cotton industry in Uzbekistan has a long and significant history, shaping both the country's economy and its social structure. Cotton cultivation in Central Asia dates back several centuries, but it became a major economic sector during the Soviet era. Under Soviet rule, Uzbekistan was transformed into one of the largest cotton-producing regions in the world, often referred to as "white gold" due to its economic importance. Large-scale irrigation projects, state-controlled farms (kolkhozes and sovkhozes), and mandatory production quotas were introduced to maximize cotton output for the Soviet textile industry. During this period, cotton became the dominant crop in Uzbekistan, often at the expense of food crops and environmental sustainability. Extensive irrigation from the Amu Darya and Syr Darya rivers led to ecological problems, most notably the shrinking of the Aral Sea, which became a global environmental issue. Despite these challenges, cotton cultivation contributed to the industrialization of the region and provided employment for a significant portion of the population. After Uzbekistan gained independence in 1991, the country inherited the Soviet-era cotton infrastructure, which required modernization. The government gradually reformed the industry to balance economic benefits with environmental and social considerations. Efforts were made to improve irrigation systems, introduce mechanized farming, and reduce forced labor practices that had been common under Soviet rule. In recent decades, Uzbekistan has focused on diversifying its cotton sector. This includes developing textile processing and garment manufacturing, promoting high-yield and disease-resistant cotton varieties, and adopting sustainable farming practices. International cooperation with foreign companies and investment in modern technologies have further strengthened the industry's efficiency and global

competitiveness. Today, the cotton industry in Uzbekistan is a modernized and strategically important sector. It continues to support rural communities, generate export revenue, and feed the textile and manufacturing industries, while the lessons of history have encouraged a more sustainable and balanced approach to cotton cultivation.

References

1. Teshaboyeva, N., & O'ngarova, O. (2024). The role of vocabulary knowledge in listening comprehension. *ACUMEN: International journal of multidisciplinary research*, 1(4), 255-257.
2. Nafisa, T. (2023). THE EDUCATION SYSTEM OF THE USA: PRESCHOOL EDUCATION, SECONDARY AND HIGHER EDUCATION, SCHOOL FORMS. *The Role of Exact Sciences in the Era of Modern Development*, 1(6), 53-57.
3. Teshaboyeva, N., & Erkaboyeva, S. (2025). SPEECH ACTS AND THEIR FUNCTIONS IN COMMUNICATION. *ACUMEN: International journal of multidisciplinary research*, 2(5), 272-279.
4. Nafisa, T. (2023). THE EDUCATION SYSTEM OF THE USA: PRESCHOOL EDUCATION, SECONDARY AND HIGHER EDUCATION, SCHOOL FORMS. *The Role of Exact Sciences in the Era of Modern Development*, 1(6), 53-57.
5. Teshaboyeva, N., & Pardayeva, R. (2025). THE ROLE OF FLUENCY AND ACCURACY IN SPEAKING. *ACUMEN: International journal of multidisciplinary research*, 2(5), 280-286.
6. Teshaboyeva, N., & Amirova, X. (2024). THE ROLE OF VOCABULARY KNOWLEDGE IN LISTENING COMPREHENSION. *Молодые ученые*, 2(32), 14-17.
7. Teshaboyeva, N., & Xakimbekova, M. (2024). Teaching listening for specific purpose. *ACUMEN: International journal of multidisciplinary research*, 1(4), 148-153.
8. Nafisa, T. (2023). NOUNS AND THEIR GRAMMATICAL CATEGORIES. *Новости образования: исследование в XXI веке*, 2(16), 292-297.
9. Nafisa, T., & Marina, S. (2023). TEACHING AND LEARNING OF ENGLISH VOCABULARY IN TESL AND TEFL CLASSROOMS. *International Journal of Contemporary Scientific and Technical Research*, 465-469.
10. Nafisa, T. (2023). THE USA ECONOMY, INDUSTRY, MANUFACTURING AND NATURAL RESOURCES OF GREAT BRITAIN. *INTERNATIONAL JOURNAL OF RECENTLY SCIENTIFIC RESEARCHER'S THEORY*, 1(9), 94-97.
11. Nafisa, T. (2023). Secondary ways of word formation. In Conference on Universal Science Research (Vol. 1, No. 12, pp. 109-112).
12. Teshaboyeva, N. (2023). Compound sentences in the English language. *Yangi O'zbekiston taraqqiyotida tadqiqotlarni o'rni va rivojlanish omillari*, 2(2), 68-70.
13. Teshaboyeva, N. Z. (2023). Modifications of Consonants in Connected speech. In Conference on Universal Science Research (Vol. 1, No. 11, pp. 7-9).

13. Teshaboyeva, N. Z., & Niyatova, M. N. (2021). General meanings of the category of tenses. International Journal of Development and Public Policy, 1(6), 70-72.
14. Zubaydulla, T. N. (2023). THE CLASSIFICATION OF SYNONYMS AND THEIR SPECIFIC FEATURES.". XXI ASRDA INNOVATSION TEXNOLOGIYALAR, FAN VA TA'LIM TARAQQIYOTIDAGI DOLZARB MUAMMOLAR" nomli respublika ilmiy-amaliy konferensiyasi, 1(12), 126-131.
15. Nafisa, T. (2023). NOUNS AND THEIR GRAMMATICAL CATEGORIES. Новости образования: исследование в XXI веке, 2(16), 292-297.
16. Nafisa, T., & Marina, S. (2023). TEACHING AND LEARNING OF ENGLISH VOCABULARY IN TESL AND TEFL CLASSROOMS. International Journal of Contemporary Scientific and Technical Research, 465-469.
17. Nafisa, T. (2023). THE USA ECONOMY, INDUSTRY, MANUFACTURING AND NATURAL RESOURCES OF GREAT BRITAIN. INTERNATIONAL JOURNAL OF RECENTLY SCIENTIFIC RESEARCHER'S THEORY, 1(9), 94-97.
18. Nafisa, T. (2023). Secondary ways of word formation. In Conference on Universal Science Research (Vol. 1, No. 12, pp. 109-112).
19. Teshaboyeva, N. (2023). Compound sentences in the English language. Yangi O'zbekiston taraqqiyotida tadqiqotlarni o'rni va rivojlanish omillari, 2(2), 68-70.
20. Teshaboyeva, N. Z. (2023). Modifications of Consonants in Connected speech. In Conference on Universal Science Research (Vol. 1, No. 11, pp. 7-9).
21. Teshaboyeva, N. Z., & Niyatova, M. N. (2021). General meanings of the category of tenses. International Journal of Development and Public Policy, 1(6), 70-72.
22. Zubaydulla, T. N. (2023). THE CLASSIFICATION OF SYNONYMS AND THEIR SPECIFIC FEATURES.". XXI ASRDA INNOVATSION TEXNOLOGIYALAR, FAN VA TA'LIM TARAQQIYOTIDAGI DOLZARB MUAMMOLAR" nomli respublika ilmiy-amaliy konferensiyasi, 1(12), 126-131.
23. Teshaboyeva, N., & Yakubova, N. (2023). CHANGES OF MEANING OF WORDS. Центральноазиатский журнал образования и инноваций, 2(12), 126-129.
24. Teshaboyeva, N., & Erkaboyeva, S. (2024). TEACHING LISTENING WITH TECHNOLOGY. Молодые ученые, 2(35), 46-49.