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THE SIGNIFICANCE, DEVELOPMENT AND FUTURE OF LAND CASTRASY IN UZBEKISTAN

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Abstract. Land cadastral systems are essential for effective land management, legal certainty and economic development. Uzbekistan has undergone significant changes in the land cadastre system, moving from the traditional models of the Soviet era to the modern digital system. This article examines the historical context, legal and institutional frameworks, modernization efforts, and challenges faced in the development of Uzbekistan's land cadastral system. In addition, the article highlights future prospects, special attention is paid to advanced technologies, sustainable development, capacity building, and international cooperation. In conclusion, the article emphasizes the importance of a reliable land cadastre system for the sustainable development and economic growth of Uzbekistan.

Key words. Land cadastre, Uzbekistan, land resource management, land registration, digital cadastre, GIS, remote sensing, legal framework, institutional reforms, sustainable development, economic development, blockchain, 3D cadastre, artificial intelligence, capacity building, international cooperation**.**

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The land cadastre, which contains comprehensive information on land ownership, value and use, is an important element of land management. In Uzbekistan, a country with a rich history and a developing economy, the development of an effective system of land cadastre plays an important role in ensuring sustainable management of land resources, legal certainty and economic development. The concept of land cadastre in Uzbekistan dates back to the pre-Soviet era, when there were traditional systems of land ownership. These early systems were largely based on customary law and practice, with local leaders or elders controlling the distribution and use of land. The system was informal and varied in different regions and communities, reflecting the diversity of the country's cultural and geographic landscape.

During the Soviet period, the cadastral system began to be formalized. The Soviet land

management system was centralized and focused primarily on supporting collective farming and state ownership of land. Land was categorized according to its use, such as agriculture, industry, and residential, and managed by government agencies. This system emphasized centralized planning and control, while leaving little room for private property or private land rights.

After gaining independence in 1991, Uzbekistan faced the challenge of transforming its Soviet legacy into a modern, market-oriented land management system. The transition required significant legal, institutional and technological reforms to adapt the cadastral system to the needs of a developing market economy.

After independence, Uzbekistan began to implement important reforms for the development of the land cadastre system. The 1998 Land Code established the framework for land management and introduced principles of private land ownership that differed from the Soviet model. The Land Code provided a legal framework for land registration, property rights, and land use planning, creating a more transparent and efficient land administration system.

Several institutions were established to oversee the management of land resources, including the Cadastre Agency under the Ministry of Economy and Finance. This Agency was assigned the task of carrying out land reforms, conducting cadastral surveys and land registration. Over the years, the institutional structure has evolved to include various agencies and departments responsible for various aspects of land administration, from surveying and mapping to registration and dispute resolution. The legal framework has been further strengthened thanks to the adoption of laws and regulations aimed at improving land registration, property rights and land use planning. For example, the law on state cadastre adopted in the early 2000s provided for the creation and maintenance of a comprehensive and unified system of land cadastre. This law also emphasized the importance of accurate and up-to-date land information for effective land management and planning.

One of the most important steps in the modernization of the land cadastre system of Uzbekistan was the introduction of digital technologies. The government has recognized the importance of creating a digital cadastre to improve efficiency, reduce corruption and provide stakeholders with accurate land information.

In recent years, various projects have been implemented in Uzbekistan to digitize land documents, create geospatial databases, and develop online platforms for land registration and information dissemination. These initiatives have not only simplified the land management process but also made it more accessible to the public. For example, the introduction of electronic land registration systems has reduced the time and costs associated with property

registration, making it easier for citizens and businesses to conduct land transactions.

Digital transformation also includes the use of geographic information systems (GIS) and remote sensing technologies to conduct accurate and comprehensive cadastral surveys. These technologies enable the collection and analysis of spatial data by providing detailed information about land use, topography, and infrastructure. The integration of GAT with cadastral data has improved land use planning and management, enabling more efficient decision-making and resource allocation. Despite the achievements, the land cadastre system of Uzbekistan faces a number of problems. One of the main problems is lack of complete coverage of cadastral surveys, especially in rural areas. Ensuring that all land plots are accurately surveyed and registered remains an important task. This problem is exacerbated by the need to update existing records and address discrepancies in land boundaries and ownership rights.

In addition, the integration of various land-related information systems and improvement of interagency coordination are areas that require attention. The government is working to build capacity and train land management professionals to address these challenges. This includes developing standardized procedures and protocols for data collection, processing and dissemination, and strengthening collaboration between different institutions and stakeholders. However, there are great opportunities for this. A well-functioning land cadastre system can contribute to economic development by creating a solid basis for land transactions, facilitating access to credit, and encouraging investment. It also plays a crucial role in urban planning, infrastructure development and environmental management. For example, accurate and up-to-date information on land resources can facilitate sustainable land use, natural resource protection, and climate change mitigation.

In addition, a reliable land cadastre system can enhance social justice by guaranteeing equal access to land and property rights to all citizens. This is especially important in rural areas where land is the most important asset for livelihood and economic activity. By providing a transparent and efficient system of land registration and dispute resolution, the cadastral system helps prevent land conflicts and ensure social stability.

Looking to the future, the future of land cadastre in Uzbekistan is determined by a number of key trends and initiatives aimed at further modernization and improvement of the system. In this process, it is expected that the integration of advanced technologies, the continuation of legal and institutional reforms, and international cooperation will play a decisive role.

Advanced technologies:

The use of advanced technologies such as blockchain, artificial intelligence (AI) and machine learning is expected to revolutionize the land cadastre system of Uzbekistan. For example, blockchain technology can provide an unauthorized and transparent registry of land transactions that significantly reduces the risk of fraud and increases the security of property rights. Artificial intelligence and machine learning can be used to analyze large volumes of data, identify patterns and predict changes in land use, thereby improving land management and planning.

3D cadastre:

The development of a 3D cadastral system is an important step forward. In contrast to traditional 2D systems, which establish boundaries of land parcels only on the surface, 3D cadastre includes vertical measurement data, including buildings, underground structures and engineering data. Such a comprehensive approach will contribute to more effective urban planning, infrastructure development and resource management.

Mobile and online platforms:

Expanding the availability and functionality of mobile and online platforms for land registration and data access remains a priority. These platforms can provide real-time access to cadastral data, enabling citizens, businesses and government agencies to conduct land-related transactions and obtain land-related information more efficiently. Improving user experience and ensuring data security is critical to the success of these platforms.

Sustainable Development and Environmental Management:

Future changes in the land cadastre system will be aimed at ensuring greater stability and rational use of nature. Integrating environmental data with cadastral data can help monitor and manage natural resources, conserve land, and mitigate climate change. This approach also promotes sustainable land use practices and helps balance economic development with environmental protection.

Capacity building and education:

Investments in capacity building and training of land management professionals will be essential to support further modernization of the cadastral system. This includes training in new technologies, data management and regulatory frameworks, as well as fostering a culture of innovation and continuous improvement in land management institutions.

International cooperation:

Participating in international collaborations and partnerships can provide valuable opportunities for knowledge sharing, technical assistance and funding. Uzbekistan can use the

experience and best practices of other countries that have successfully modernized the land cadastre system. Participation in international initiatives and organizations can also strengthen a country's capacity to implement global standards and innovations in land management.

Summary.

The evolution of the land cadastre system in Uzbekistan reflects the country's broader transition from a centrally planned economy to a market one. Legal and institutional reforms combined with the introduction of digital technologies have significantly improved land governance. Despite the ongoing problems, ongoing efforts to modernize and improve the land cadastre system open great prospects for sustainable development and economic growth of Uzbekistan. A reliable and efficient land cadastre system will be indispensable to support Uzbekistan's pursuit of a prosperous and just future. Successful implementation of these reforms will require sustained government commitment, active stakeholder engagement, and effective use of technology and innovation. Through these efforts, Uzbekistan can create a land cadastral system that not only supports economic development, but also ensures social justice and environmental stability.

In particular, modernization of the land cadastral system can stimulate economic activity by providing guaranteed land tenure, which in turn can increase activity in the land market and attract foreign and domestic investment. Accurate accounting of land plots helps to improve urban planning and infrastructure development, reduce risks related to land disputes and ensure more efficient use of land.

In addition, a modernized land cadastral system can empower local communities by ensuring the recognition and protection of land rights. This can lead to more inclusive growth as marginalized groups, including women and rural people, gain secure access to land, improving their economic prospects and quality of life.

Looking ahead, we emphasize that Uzbekistan's commitment to continuous improvement and adaptation of the land cadastre system is crucial. By solving existing problems and using new opportunities through technological development, legal reforms and international cooperation, Uzbekistan can create a land cadastral system that is stable, effective and capable of supporting the long-term goals of the country's development. The future opens up great prospects for Uzbekistan, because a modern, efficient and comprehensive system of land cadastre is the basis of its development, ensures sustainable growth, expands economic opportunities and improves the quality of life of all its citizens.

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