

**THE EVOLUTION, FUTURE AND SIGNIFICANCE OF LAND CADASTRE IN
UZBEKISTAN**

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Abstract. Land cadastre systems are fundamental to efficient land management, legal certainty, and economic development. Uzbekistan has undergone a significant transformation in its land cadastre system, evolving from traditional and Soviet-era models to a modern, digitalized framework. This article explores the historical context, legal and institutional framework, modernization efforts, and challenges faced by Uzbekistan in developing its land cadastre system. Additionally, it highlights the future prospects, focusing on advanced technologies, sustainability, capacity building, and international cooperation. The article concludes by emphasizing the importance of a robust land cadastre system for Uzbekistan's sustainable development and economic growth.

Keywords. Land cadastre, Uzbekistan, land management, land registration, digital cadastre, GIS, remote sensing, legal framework, institutional reforms, sustainability, economic development, blockchain, 3D cadastre, artificial intelligence, capacity building, international cooperation.

Introduction. Land cadastre, a comprehensive record of land ownership, value, and use, is a critical element in the management and administration of land resources. In Uzbekistan, a country with a rich history and evolving economy, the development of an efficient land cadastre system plays a pivotal role in ensuring sustainable land management, legal certainty, and economic development. The concept of land cadastre in Uzbekistan dates back to the pre-Soviet era, where traditional systems of land tenure existed. These early systems were primarily based on customary laws and practices, with local leaders or elders overseeing land allocation and use. The system was informal and varied across different regions and communities, reflecting the diverse cultural and geographic landscape of the country.

During the Soviet period, a more formalized cadastre system began to take shape. The Soviet land administration system was centrally controlled and aimed primarily at supporting

collective farming and state ownership of land. Land was categorized based on its use, such as agricultural, industrial, and residential, and managed by state institutions. This system emphasized centralized planning and control, with little room for private ownership or individual land rights.

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

Post-independence, Uzbekistan embarked on significant reforms to develop its land cadastre system. The Land Code of 1998 laid the foundation for land administration and introduced principles of private land ownership, which were a departure from the Soviet model. The Land Code provided a legal framework for land registration, property rights, and land use planning, establishing a more transparent and efficient land management system.

Several institutions were established to oversee land management, including the State Committee on Land Resources, Geodesy, Cartography, and State Cadastre (Goskomzemgeodezkadastr). This institution was tasked with implementing land reforms, conducting cadastral surveys, and maintaining land records. Over the years, the institutional framework has evolved to include various agencies and departments responsible for different aspects of land administration, from surveying and mapping to registration and dispute resolution. The legal framework was further strengthened with the introduction of laws and regulations aimed at improving land registration, property rights, and land use planning. For instance, the Law on State Cadastre, introduced in the early 2000s, mandated the creation and maintenance of a comprehensive and unified land cadastre system. This law also emphasized the importance of accurate and up-to-date land information for effective land management and planning.

One of the most significant strides in the modernization of Uzbekistan's land cadastre system has been the adoption of digital technologies. The government recognized the importance of creating a digital cadastre to enhance efficiency, reduce corruption, and provide accurate land information to stakeholders.

In recent years, Uzbekistan has implemented various projects to digitize land records, create geospatial databases, and develop online platforms for land registration and information dissemination. These initiatives have not only streamlined the land administration process but also made it more accessible to the public. For instance, the introduction of electronic land

registration systems has reduced the time and cost associated with registering property, making it easier for citizens and businesses to engage in land transactions.

The 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, providing detailed information on land use, topography, and infrastructure. The integration of GIS with cadastral data has improved land use planning and management, allowing for better decision-making and resource allocation. Despite the progress, Uzbekistan's land cadastre system faces several challenges. One of the primary issues is the incomplete coverage of cadastral surveys, particularly in rural areas. Ensuring that all land parcels are accurately surveyed and registered remains a significant task. This challenge is compounded by the need to update existing records and address discrepancies in land boundaries and ownership.

Additionally, the integration of various land-related data systems and improving inter-agency coordination are areas that require attention. The government is working on enhancing capacity building and training for professionals involved in land administration to address these challenges. This includes developing standardized procedures and protocols for data collection, processing, and dissemination, as well as fostering collaboration between different agencies and stakeholders. The opportunities, however, are substantial. A well-functioning land cadastre system can contribute to economic development by providing a secure basis for land transactions, facilitating access to credit, and promoting investment. It also plays a crucial role in urban planning, infrastructure development, and environmental management. For instance, accurate and up-to-date land information can support sustainable land use practices, protect natural resources, and mitigate the impacts of climate change.

Furthermore, a robust land cadastre system can enhance social equity by ensuring that all citizens have equal access to land and property rights. This is particularly important in rural areas, where land is a critical asset for livelihoods and economic activities. By providing a transparent and efficient system for land registration and dispute resolution, the cadastre system can help to prevent land conflicts and promote social stability.

Looking forward, the future of land cadastre in Uzbekistan is poised to be shaped by several key trends and initiatives aimed at further modernizing and enhancing the system. The integration of advanced technologies, continued legal and institutional reforms, and international cooperation are expected to play crucial roles in this evolution.

Advanced Technologies:

The use of cutting-edge technologies such as blockchain, artificial intelligence (AI), and machine learning is anticipated to revolutionize the land cadastre system in Uzbekistan. Blockchain technology, for instance, can provide a tamper-proof and transparent ledger for land transactions, significantly reducing the risk of fraud and enhancing the security of property rights. AI and machine learning can be utilized to analyze large datasets, identify patterns, and predict land use changes, thereby improving land management and planning.

3D Cadastre:

The development of a 3D cadastre system represents a significant step forward. Unlike traditional 2D systems that only capture land parcel boundaries on the surface, a 3D cadastre includes information about the vertical dimension, capturing data about buildings, underground structures, and utilities. This comprehensive approach can facilitate more efficient 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 information access will continue to be a priority. These platforms can provide real-time access to cadastral data, enabling citizens, businesses, and government agencies to conduct land transactions and obtain land-related information more efficiently. Enhancing the user experience and ensuring data security will be critical to the success of these platforms.

Sustainability and Environmental Management:

Future developments in the land cadastre system will increasingly focus on sustainability and environmental management. Integrating environmental data with cadastral information can support the monitoring and management of natural resources, land conservation, and climate change mitigation efforts. This approach can also promote sustainable land use practices and help to balance economic development with environmental protection.

Capacity Building and Education:

Investing in capacity building and education for land administration professionals will be essential to support the continued modernization of the cadastre system. This includes providing training on new technologies, data management, and legal frameworks, as well as fostering a culture of innovation and continuous improvement within land administration institutions.

International Cooperation:

Engaging in international cooperation and partnerships can provide valuable opportunities for knowledge exchange, technical assistance, and funding. Uzbekistan can benefit from the experiences and best practices of other countries that have successfully modernized

their land cadastre systems. Participation in international initiatives and organizations can also enhance the country's capacity to implement global standards and innovations in land administration.

Conclusion. The evolution of the land cadastre system in Uzbekistan reflects the country's broader transition from a centrally planned economy to a market-oriented one. The legal and institutional reforms, coupled with the adoption of digital technologies, have significantly improved land administration. While challenges remain, the ongoing efforts to modernize and enhance the land cadastre system hold great promise for Uzbekistan's sustainable development and economic growth. A robust and efficient land cadastre system will be indispensable in supporting Uzbekistan's aspirations for a prosperous and equitable future. The successful implementation of these reforms will require continued commitment from the government, active participation from stakeholders, and the effective use of technology and innovation. Through these efforts, Uzbekistan can build a land cadastre system that not only supports economic development but also promotes social equity and environmental sustainability.

Specifically, the modernization of the land cadastre system can stimulate economic activities by providing secure land tenure, which in turn can increase land market activities and attract foreign and domestic investments. Accurate land records facilitate better urban planning and infrastructure development, reducing the risks associated with land disputes and ensuring more efficient land use. Furthermore, integrating environmental data into the land cadastre system can enhance efforts to combat climate change, protect biodiversity, and manage natural resources sustainably.

Additionally, a modernized land cadastre system can empower local communities by ensuring their land rights are recognized and protected. This can lead to more inclusive growth, as marginalized groups, including women and rural populations, gain secure access to land, thereby improving their economic prospects and quality of life.

Looking ahead, Uzbekistan's commitment to continuous improvement and adaptation in its land cadastre system is crucial. By addressing current challenges and seizing new opportunities through technological advancements, legal reforms, and international cooperation, Uzbekistan can establish a land cadastre system that is resilient, efficient, and capable of supporting the country's long-term development goals. The future holds great promise for Uzbekistan, with a modern, efficient, and inclusive land cadastre system at the heart of its development journey, ensuring sustainable growth, enhanced economic opportunities, and

improved quality of life for all its citizens.

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