

# **DIGITIZATION OF CADASTRAL MAPS AS PART OF THE CADASTRAL INDEX IN ZAMBIA**

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## **Abstract**

The Government of the Republic of Zambia, with the support of the World Bank, is implementing the Zambia Integrated Forest Landscape Project (ZIFLP) in Eastern province of Zambia. Given that legally secure land rights are essential for sustainable land management and increases in productivity of land use, ZIFLP includes a land component towards the regularization of land and resource rights. This sub-component aims to provide analytical and Technical Assistance to carefully pilot, evaluate, and where necessary, expand past any on-going efforts to strengthen tenure security by documenting land rights in support of the National Land Titling Project (NLTP) and enhance title-based revenue collection. The National Land Titling Project, which is implemented by the Ministry of Lands and Natural Resources (MLNR) aims at bringing all land in Zambia into the national land registration systems and ensuring security of tenure.

As a custodian of all cadastral maps in Zambia, the Ministry of Lands and Natural Resources has huge volumes of hard copy cadastral maps filed in shelves and old file cabinets. Hard copy maps pose a challenge in the data management tasks such as storage, retrieval, and data sharing. This inadequacy affects the cost of doing business in light of the ambitious National Land Titling Project.

A digital cadastral database of parcels of land and scanned maps will ease data management as information will be easy to store, search for particular parcels, retrieve, update, and share, among other needs of the Titling project, National Spatial Data Infrastructure (NSDI), landuse and physical planning. Property records in the Zambia Integrated Land Management Information System (ZILMIS) will be enhanced by way of providing all parcels with accurate attribute data such as parcel area sizes, parcel location, land type and land use. This is expected to result into enhanced revenue collection by improved compliance due to accurate billing and fair charges of ground rent.

The Ministry embarked on the digitisation of all paper based cadastral maps as part of the cadastral indexing exercise. To achieve this, the cadastral map digitisation project has devised methodologies for countrywide data collection, scanning, georeferencing, and vectorisation of land parcels. In this project the Ministry stands to have an opportunity to convert the entire paper-based cadastral layers into digital format, which will be integrated in the MLNR's cadastral geodatabase, and subsequently serve the NLTP. The estimated numbers of parcels of land to be digitized are 200,250 parcels.

**Keywords:** Georeferencing, digitisation, vectorisation, cadastral database, tenure security