Revolutionizing Land Governance: Re-engineering the Cadastral Survey Examination System through Digitalization – The Case of Zimbabwe

Charlene Zengeni, Sydney Togarepi and Tarirai Masarira (Zimbabwe)

Key words: Cadastre; Digital cadastre; e-Governance; Geoinformation/GI; GNSS/GPS; Land management; Legislation; Security of tenure; Spatial planning; Young surveyor; Sustainable Development Goals

SUMMARY

Title: Revolutionizing Land Governance: Re-engineering the Cadastral Survey Examination System through Digitalization—The Case of Zimbabwe

Land is more than boundaries on a map; it is the foundation for cities to grow, communities to flourish, and institutions to earn public trust. Yet, Zimbabwe's cadastral survey examination system has long been constrained by a paper-based model that breeds inefficiency, inaccuracies, and bureaucratic delays. These challenges weaken institutions, limit transparency, and stall sustainable urban development at a time when demand for reliable land information has never been greater.

This project set out to reimagine that system by harnessing digital innovation. The result is a prototype web-based cadastral survey examination platform designed to eliminate inefficiencies and create an environment where accountability, accessibility, and accuracy thrive. Surveyors can lodge plans online, track their status in real time, and receive automated notifications—transforming a slow, rigid process into one that is dynamic and transparent. The platform integrates Geographic Information System (GIS) tools to enable spatial data visualization, anomaly detection such as boundary encroachments, and real-time analysis. A secure digital database ensures robust storage, seamless sharing, and reduced opportunities for data manipulation.

What makes the system transformative is not only its technological backbone but also its collaborative development. Input from land surveyors and the Department of the Surveyor General shaped its design, while legislative reviews ensured compliance. Rigorous testing and peer reviews validated its ability to shorten processing timelines, improve decision-making, and strengthen institutional capacity. Key features such as real-time dashboards, automated diagram numbering, and digital signatures reinforce transparency and reduce the risks of

corruption.

In doing so, the project speaks directly to SDG 16: Peace, Justice, and Strong Institutions by fostering effective, transparent, and accountable governance systems. Institutions are strengthened through efficiency, accuracy, and trust. At the same time, it advances SDG 11: Sustainable Cities and Communities by providing reliable, timely, and accessible land information crucial for urban planning, equitable land use, and sustainable resource management.

Ultimately, this project demonstrates that re-engineering land governance is not just about digitizing old processes—it is about rewriting the story of how institutions serve their citizens and how communities plan their future. By bridging technology with governance, it shows how digital transformation can build stronger institutions and more sustainable cities in Zimbabwe and beyond.

Keywords: Digital Cadastral System, Land Governance, Land Management Transparency, Accountability, Sustainable Development Goals, GIS Integration, Institutional Innovation, Sustainable Urban Development