

Data and Cybersecurity Governance Frameworks for Enhancing Land Registry Performance and Strengthening Data Security Posture: Case Study: Uganda Land Information System and National Valuation Information System

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Key words: Land management; Risk management; Valuation; Cybersecurity; Data Governance; Data Privacy; Land Administration; Regulatory Frameworks

SUMMARY

Uganda is currently undertaking significant reforms in its land administration systems through the operationalisation of the Uganda National Land Information System (UgNLIS) and the development of the National Valuation Information System (NVIS). These digital platforms are designed to improve land registration, streamline valuation processes, and extend services closer to communities at lower administrative levels. However, the rapid digitisation of land services presents new challenges in data governance and cybersecurity. Land administration data, whether in transit, at rest, or in use, remains vulnerable to threats that compromise confidentiality, integrity, and availability, thereby undermining trust in digital land services.

This study applies a qualitative methodology, combining expert interviews, focus group discussions, regulatory gap analysis, and case study assessment, to interrogate the governance and security challenges of Uganda's land data ecosystem. The findings reveal persistent gaps in compliance with both national and international standards, including Uganda's Data Protection and Privacy Act (2019) and global benchmarks such as ISO/IEC 27018 on the protection of personally identifiable information in cloud environments. The absence of robust data classification, labelling, and categorisation frameworks further complicates interoperability and integration across stakeholders in the land sector.

To address these gaps, the paper proposes a Data and Cybersecurity Governance Toolbox tailored to the Ugandan context but benchmarked against global practices. The toolbox emphasises the alignment of policies, procedures, and technical protocols with international conventions, regional strategies, and domestic laws. It also underscores the integration of cybersecurity maturity frameworks to protect sensitive cadastral and valuation data across tenure systems—freehold, leasehold, mailo, and

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The analysis positions Uganda's reforms within broader African and global discourses on digital governance, land rights protection, and secure spatial data infrastructures. By strengthening its cybersecurity posture and data governance frameworks, Uganda not only enhances the efficiency and resilience of its land registry systems but also contributes to continental and global lessons on securing land administration data in the era of digital transformation. The findings have wider relevance for other African states modernizing land services, and for global stakeholders pursuing interoperability, data sovereignty, and trust in land information systems.

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FIG Congress 2026
The Future We Want - The SDGs and Beyond
Cape Town, South Africa, 24–29 May 2026