

Surveyors' Journal

AUGUST 2026

A PUBLICATION OF THE INSTITUTION OF SURVEYORS OF KENYA ON LAND AND BUILT ENVIRONMENT



**Institution of
Surveyors of
Kenya**

Smart Planning, Secure Housing: A Surveyor's Guide to De-risking Kenya's Infrastructure Growth



**Advancing Women's Access to
Land and Property Rights in
Kenya: A Pathway to Inclusive
Development**

**Application of Geographic Information
Systems (GIS) in Tana Water Works
Development Agency (TWWDA): Transforming
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Ensuring equitable access to land requires accurate surveys, proper documentation, transparent processes and greater public awareness, particularly in advancing women's property rights.

Welcome to the August 2026 edition of the Surveyors' Journal.

The surveying profession continues to evolve in response to technological advancement, changing legislation, emerging development priorities and the growing demand for reliable land and property information. As these changes reshape the profession, knowledge-sharing, innovation and meaningful professional dialogue remain essential.

This edition brings together diverse perspectives on the changing realities of Kenya's land, property and built environment sectors. The articles explore issues including women's land and property rights, community land governance, sectional titles, land fraud, digital cadastres, geospatial technologies and the automation of survey services. Together, they demonstrate that modern surveying extends beyond measurement and mapping to encompass information management, governance, security, technology and public value.

Technology emerges as a particularly important theme. The Vihiga Digital Land Cadastre illustrates how digital systems can improve land-record management, accelerate service delivery, enhance revenue collection and strengthen confidence in land ownership. However, successful digital transformation requires more than technology. It depends on strong technical leadership, institutional

collaboration, appropriate policies and continuous skills development.

The growing application of GIS, GNSS, remote sensing, drones and digital mapping further highlights the expanding role of geospatial professionals in sectors such as agriculture, transport, disaster management, healthcare, environmental protection and urban development.

At the same time, this edition highlights the human dimension of land. Ensuring equitable access to land requires accurate surveys, proper documentation, transparent processes and greater public awareness, particularly in advancing women's property rights.

As an Institution, the Surveyors' Journal remains committed to providing a platform for professional knowledge, public education and constructive debate. I encourage members, researchers, policymakers, partners and readers to engage with the ideas shared in this edition.

The future of surveying will be defined not only by the instruments we use, but by the value we create through knowledge, innovation and professional excellence.

Dorice Angote

Happy reading.

Dorice Angote
Editor, Surveyors' Journal



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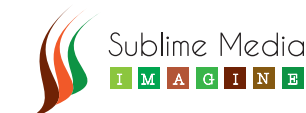
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Message from the Chief Executive Officer

We must ensure that technology strengthens—not replaces—the professional values of accuracy, integrity, accountability and public service.

It is my pleasure to welcome you to this edition of the Surveyors' Journal, a platform that continues to document the ideas, innovations and professional conversations shaping Kenya's land and real estate or built environment.

The articles featured in this edition come at an important moment for our profession and our Country. Kenya is experiencing rapid urbanization, infrastructure development, technological advancement and increasing demand for secure and efficient land administration. These developments require us to rethink how professional services are delivered and how land information is collected, managed, shared and used.

A particularly important message emerging from this edition is that digital transformation must move from aspiration to actualization so as to realize higher plan achievement for the sector and its auxiliary sectors.

The article on the Vihiga Digital Land Cadastre demonstrates that County-level digitization of land records is achievable when supported by technical leadership, inter-directorate cooperation and a structured methodology. The pilot addresses some of the persistent challenges associated with fragmented and outdated land records while creating opportunities for improved service delivery, revenue collection, transparency and investment confidence.

However, transformation cannot be achieved through technology alone. The experience highlighted in the article points to challenges including institutional resistance, technical capacity gaps, infrastructure limitations, incomplete historical records and the need for clearer national-county integration protocols. These are precisely the kinds of challenges that require collaboration among National and County governments, professional institutions, technology providers, academia and other stakeholders.

The discussion on automation of land survey services reinforces this need. Manual processes create delays, administrative burdens, increase costs and make information

management more difficult thus curtails progress. A more efficient digital workflow has the potential to improve how citizens and professionals interact with survey offices and track services.

For ISK, this transformation presents both an opportunity and a responsibility. We must ensure that our members are equipped with the skills required for a technology-driven profession. Continuous professional development, research, innovation and collaboration must therefore remain central to our institutional agenda.

At the same time, we must ensure that technology strengthens—not replaces—the professional values of accuracy, integrity, accountability and public service.

Even as we come up with long term plan for Kenya, the future land administration system must be one that citizens can trust, professionals can efficiently operate within, Government can rely upon, and investors can confidently engage with.

As the Vihiga case demonstrates, the question is no longer whether digital transformation is possible. The opportunity now lies in learning from practical experiences, strengthening institutional frameworks and scaling solutions that work.

As ISK, we remain committed to supporting a profession that is responsive to technological change, committed to excellence and positioned to contribute meaningfully to Kenya's development.

I encourage you to engage with the articles in this edition and, more importantly, to consider how the ideas presented can inform practice within your own organizations and areas of expertise.

Peter Kibet, gwp Biwott
Chief Executive Officer

Institution of Surveyors of Kenya



Message from Editorial and Public Relations Committee Chairperson

The surveying profession occupies a unique position in society. Every day, surveyors contribute to decisions involving land ownership, development, infrastructure, investment and the use of natural resources. Behind every accurate boundary, cadastral plan, development project and spatial dataset is a professional responsibility that carries consequences for individuals, communities and the nation.

This edition of the **Surveyors' Journal** provides an important reminder of that responsibility.

The article examining emerging forms of land fraud illustrates how sophisticated property scams continue to evolve alongside changes in technology and land administration. Fraudsters increasingly exploit identity theft, gaps in digital transition, fraudulent subdivision information and weaknesses in due diligence. The article consequently emphasises the importance of cadastral verification, root-of-title investigations, physical site inspections and the engagement of licensed surveyors.

This is more than a technical issue. It is fundamentally an issue of public trust.

When citizens engage a surveyor, they are entrusting the professional with information that can affect their lifetime investment. Accuracy, independence, professional competence and ethical conduct must therefore remain at the heart of our practice.

The same principle applies to the transition from long-term sub-leases to sectional titles. While the reform promises clearer ownership structures, stronger rights and greater transparency, its implementation requires professional guidance, stakeholder engagement and effective communication. Surveyors are among the professionals positioned at the centre of this transition.

Our responsibility extends beyond individual transactions. We must contribute to public education.

The article on women's access to land and property rights demonstrates how surveyors can contribute to more equitable land ownership through accurate cadastral surveys, boundary verification, proper documentation and public awareness. Similarly, the discussion on community land in Turkana reminds us that development must recognise communities as rights holders and active participants, while using modern geospatial tools alongside indigenous knowledge.

These perspectives reinforce the importance of professional communication. Knowledge that remains within professional circles cannot create its full public value.

As the Editorial and Public Relations Committee, we see the *Surveyors' Journal* as an important vehicle for connecting professional knowledge with society. It gives our members a platform to share research, experiences and practical solutions while helping the public understand the contribution surveyors make to Kenya's development.

I encourage our members to continue contributing articles, research, professional experiences and constructive perspectives.

Let us build a profession that is not only technically competent, but also trusted, ethical, accessible and responsive to society's needs.

Anthony Maina Wangu

Chairperson, Editorial & Public Relations Committee
Institution of Surveyors of Kenya



Message from the President

Our greatest asset as a profession is not simply the technology we use. It is the trust placed in our expertise and the quality of decisions that our work enables.

Kenya's development is fundamentally connected to how we manage land, property, infrastructure and natural resources. As our cities expand, infrastructure networks grow, technology transforms the economy and investment continues to move into new areas, the role of the surveying profession becomes increasingly strategic.

The August edition of the Surveyors' Journal provides a timely reflection on this responsibility.

Across the articles, one message is clear: **secure land, reliable information and responsible development are inseparable.**

The discussion on community land in Turkana illustrates the importance of balancing development with the rights and interests of communities. Investment in oil, renewable energy, infrastructure and urban development can create significant opportunities, but sustainable development requires meaningful participation, transparent benefit-sharing and protection of environmental and community interests.

Similarly, the article on women's land and property rights reminds us that development must be inclusive. Secure land rights contribute to economic independence, household welfare, agricultural productivity and resilience. Surveyors therefore have a role in

ensuring that professional practice contributes to equitable access to land and protects legitimate property rights.

Technology presents another major opportunity.

Digital cadastres, GIS, remote sensing, GNSS, drones and other geospatial technologies are changing the way land and infrastructure are planned and managed. The Vihiga Digital Land Cadastre demonstrates how reliable digital land information can improve land administration, strengthen investment confidence and support more efficient public services.

The application of GIS to water and sanitation infrastructure further demonstrates that surveying and geospatial expertise are increasingly integral to national infrastructure development. Spatial information supports infrastructure planning, asset management, climate resilience and service delivery.

As Kenya pursues digital transformation and the aspirations of Vision 2030, our profession must therefore position itself not merely as a participant in development, but as a leader and strategic partner.

This requires us to continuously strengthen professional competence, embrace emerging technologies, uphold ethical standards and contribute

evidence-based perspectives to policy.

It also requires collaboration. No single profession or institution can address the complexities of land administration, housing, infrastructure, climate resilience and sustainable development alone. Surveyors must work alongside planners, engineers, valuers, lawyers, environmental professionals, government institutions, communities, academia and the private sector.

Our greatest asset as a profession is not simply the technology we use. It is the trust placed in our expertise and the quality of decisions that our work enables.

As the Institution of Surveyors of Kenya, we remain committed to advancing a profession that serves the public interest, supports sustainable investment and contributes to a more secure, inclusive and prosperous Kenya.

I invite you to read this edition with an open mind and a commitment to action. Let us continue to transform knowledge into solutions and professional expertise into national impact.

Eric Nyadimo

Eric A. Nyadimo, MISK, LS(K)

President, Institution of Surveyors of Kenya

Advancing Women's Access to Land and Property Rights in Kenya: A Pathway to Inclusive Development

By Antony Mugendi Njagi
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One major challenge is customary inheritance practices. In many communities, land continues to pass primarily through male family members despite legal provisions guaranteeing equal inheritance rights. Widows and daughters may encounter resistance when claiming family land, leading to prolonged disputes or loss of property.

Introduction

Land is one of Kenya's most valuable economic and social assets. It provides shelter, supports agriculture, enables investment, and serves as a source of livelihood for millions of households. Secure land ownership contributes to financial security, access to credit, food production, and sustainable development. Despite progressive legal reforms, many women in Kenya continue to face significant barriers in acquiring, owning, inheriting, and controlling land. These barriers are often rooted in cultural practices, limited awareness of legal rights, administrative challenges, and unequal access to financial resources.

Advancing women's access to land and property rights is not only a matter of gender equality but also a national development priority. When women have secure land rights, families experience improved food security, children's welfare

improves, agricultural productivity increases, and communities become more resilient. This article explores the legal framework governing women's land rights in Kenya, the challenges limiting their realization, and practical solutions that can help citizens, professionals, policymakers, and institutions promote equitable land ownership.

The Importance of Women's Land Ownership

Land ownership provides more than physical possession of property. It offers economic independence, social recognition, and protection against poverty. Women who own land are better positioned to invest in agriculture, establish businesses, access formal credit, and make long-term investments in housing and education.

Research has consistently shown that secure land rights encourage better land management and higher agricultural

productivity. Since women contribute significantly to Kenya's agricultural workforce, strengthening their land rights has direct implications for national food security and rural economic growth.

Kenya's Legal Framework

Kenya has made considerable progress in protecting women's property rights through constitutional and legislative reforms.

The Constitution of Kenya (2010) guarantees equality before the law and prohibits discrimination based on gender. It recognizes equal rights in property ownership and affirms that women and men should enjoy equal protection of the law.

Several statutes reinforce these constitutional protections, including the Land Act (2012), the Land Registration Act (2012), the Matrimonial Property Act (2013), and the Law of Succession Act. Together, these laws provide safeguards

The Constitution of Kenya (2010) guarantees equality before the law and prohibits discrimination based on gender. It recognizes equal rights in property ownership and affirms that women and men should enjoy equal protection of the law.

for inheritance, matrimonial property, registration of ownership, and dispute resolution.

However, legal protection alone does not automatically translate into equal access. Effective implementation remains a significant challenge.

Although Kenya's legal framework is progressive, many women continue to experience obstacles that prevent them from enjoying secure land rights.

One major challenge is customary inheritance practices. In many communities, land continues to pass primarily through male family members despite legal provisions guaranteeing equal inheritance rights. Widows and daughters may encounter resistance when claiming family land, leading to prolonged disputes or loss of property.

Limited awareness of legal rights is another obstacle. Many women, particularly in rural areas, are unaware of the legal protections available to them. This lack of knowledge makes them vulnerable to exploitation and unlawful dispossession.

Financial constraints also affect women's ability to purchase land, pay survey fees, process titles, or obtain legal representation. Access to affordable financing remains limited, especially for women operating small-scale enterprises or informal businesses.

Administrative delays, land fraud, and lengthy dispute resolution processes further discourage many women from pursuing formal ownership or registration.

The Role of Surveyors and Land Professionals

Surveyors have a unique responsibility

in promoting equitable access to land. Their work extends beyond measuring boundaries and preparing survey plans. As trusted professionals, surveyors help safeguard property rights through accurate cadastral surveys, boundary verification, subdivision planning, and proper documentation.

Surveyors can contribute by:

- Explaining land registration procedures to clients.

- Encouraging joint registration of matrimonial property where appropriate. Ensuring survey records accurately reflect lawful ownership.

- Supporting transparent boundary identification and dispute prevention. Participating in public awareness programmes on land rights.

Collaboration between surveyors, advocates, valuers, planners, registrars, and community leaders can significantly reduce conflicts affecting women seeking secure land ownership.

Digital Transformation and Women's Access to Land

Digital land administration systems offer new opportunities for improving transparency and accessibility. Kenya's ongoing digitization of land services has the potential to reduce opportunities for fraud, improve record management, shorten processing times, and enhance public confidence in land transactions.

Digital platforms can also simplify access to information, allowing women to verify ownership records, monitor applications, and obtain services more efficiently. However, digital transformation must be accompanied by digital literacy programmes and accessible support services to ensure

that women in rural and underserved communities are not left behind.

Practical Solutions

Improving women's access to land requires coordinated action from government, professionals, financial institutions, civil society, and communities.

Key interventions include:

- Strengthening public education on women's constitutional and statutory land rights. Promoting legal awareness campaigns in rural and urban communities.

- Encouraging joint spousal registration of matrimonial property. Expanding access to affordable legal aid and land advisory services.

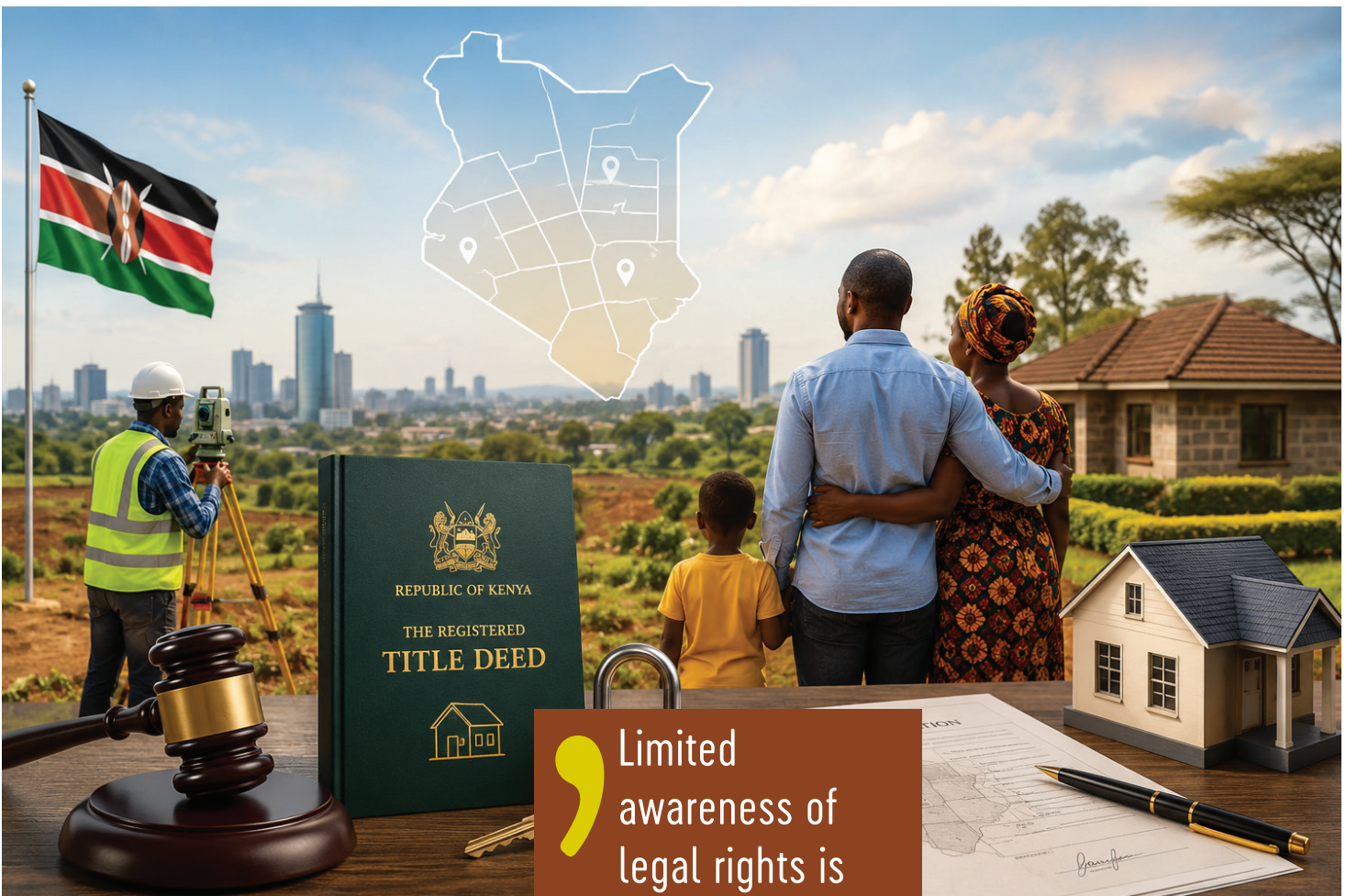
- Simplifying land registration procedures and reducing administrative delays. Increasing women's participation in land governance institutions.

- Enhancing professional ethics and accountability among land sector practitioners. Supporting financial products that enable women to acquire and develop land.

Educational institutions also have a role to play by integrating land rights education into training programmes for surveyors, planners, valuers, and other built environment professionals.

Why This Matters for Kenya's Development

Secure land rights for women contribute directly to national development priorities. They promote inclusive economic growth, reduce poverty, strengthen household resilience, improve agricultural investment, and support sustainable land management.



Women's secure ownership also advances several Sustainable Development Goals, including gender equality, poverty reduction, food security, sustainable cities, and strong institutions.

A land administration system that provides equal opportunities for women and men is more transparent, equitable, and capable of supporting Kenya's long-term development aspirations.

Conclusion

Women's access to land and property rights is no longer solely a legal issue; it is a social, economic, and development imperative. Kenya has established a strong legal framework protecting women's rights, but greater efforts are required to ensure these rights are fully realized in practice.

Surveyors, land administrators, policymakers, financial institutions, community leaders, and citizens all have important roles in promoting equitable

Limited awareness of legal rights is another obstacle. Many women, particularly in rural areas, are unaware of the legal protections available to them. This lack of knowledge makes them vulnerable to exploitation and unlawful dispossession.

access to land. Through professional integrity, public awareness, effective implementation of the law, and continued modernization of land administration systems, Kenya can build a future where women enjoy secure land rights as equal partners in national development.

Advancing women's land ownership is an investment in stronger families, more productive communities, and a more inclusive and prosperous Kenya.

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Application of Geographic Information Systems (GIS) in Tana Water Works Development Agency (TWWDA): Transforming Planning, Design and Service Delivery



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Introduction

Access to reliable water supply and sustainable sanitation services remains a fundamental requirement for public health, economic development, and improved livelihoods. However, achieving universal and equitable access to these services requires effective planning approaches supported by

accurate, timely, and reliable spatial information. The increasing complexity of water infrastructure development, coupled with rapid population growth, climate variability, and changing settlement patterns, has created a need for innovative technologies that support evidence-based decision-making.

Tana Water Works Development Agency (TWWDA) is a State Corporation

established under Section 51 of the Water Act, 2002, with the core mandate of developing water supply and sanitation infrastructure within its area of jurisdiction. The Agency serves five counties, namely Nyeri, Kirinyaga, Embu, Tharaka Nithi, and Meru, covering an approximate geographical area of 19,169 km² with a population of approximately 4.67 million people.



Figure 1 Location of project Area

In delivering its mandate, TWWDA continues to prioritize the development of sustainable water and sanitation infrastructure that responds to the needs of communities within its jurisdiction. A key requirement in achieving this objective is the identification and mapping of existing service coverage gaps to clearly define areas with inadequate or no access to water supply and sanitation services. This spatial understanding enables the Agency to prioritize investments, optimize infrastructure planning, and direct interventions towards communities with the greatest need.

Geographic Information Systems (GIS) have emerged as a critical technology in supporting this process by enabling the collection, management, analysis, and visualization of

spatial and non-spatial data. Through GIS, water infrastructure planners and decision-makers can integrate information on existing water sources, pipelines, treatment facilities, sanitation systems, population distribution, terrain characteristics, environmental conditions, and socio-economic factors to develop comprehensive infrastructure strategies.

Within the water and sanitation sector, GIS has transformed traditional approaches to project planning and implementation by improving feasibility studies, engineering surveys, infrastructure design, construction monitoring, asset management, and service delivery assessment. For Water Works Development Agencies such as TWWDA, GIS provides an institutional platform for understanding infrastructure networks, identifying underserved areas, supporting climate-resilient planning, and ensuring that investments deliver maximum impact to communities.

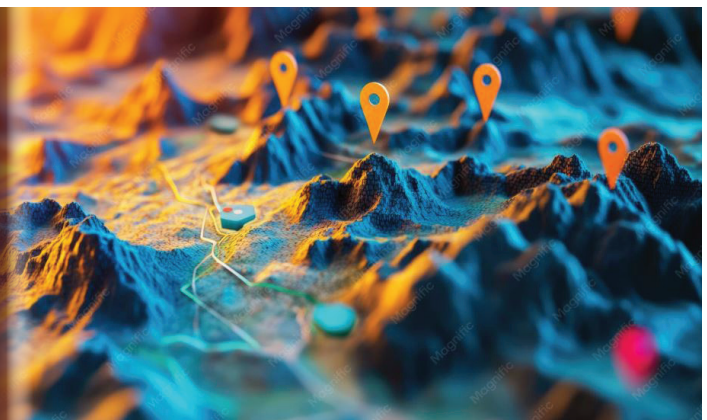
This article explores the application of GIS in water and sanitation works development, highlighting its role in supporting planning, design, monitoring, and sustainable management of water infrastructure. It further demonstrates how the integration of GIS with surveying technologies, remote sensing, Global Navigation Satellite Systems (GNSS), and emerging digital solutions is shaping the future of infrastructure development and enhancing the ability of institutions to deliver reliable water and sanitation services.

GIS in Water Resources Planning and Assessment

Water infrastructure projects require a detailed understanding of terrain, hydrology, land use, population distribution, and environmental conditions. GIS provides a platform for integrating these datasets to support informed planning decisions. Digital Elevation Models (DEMs), satellite imagery, rainfall data, and watershed boundaries can be analysed to determine catchment characteristics, drainage patterns, flood risks, and suitable locations for water infrastructure development.

For dam development, GIS supports catchment delineation, reservoir analysis, sedimentation assessment, and identification of potential project impacts. By combining topographic information with hydrological models, engineers can estimate storage capacities, analyse water flow patterns, and identify areas that may be affected by project implementation.

GIS Water infrastructure projects require a detailed understanding of terrain, hydrology, land use, population distribution, and environmental conditions. GIS provides a platform for integrating these datasets to support informed planning decisions.



PROPOSED TELESWAN DAM SITE WATERSHED CATCHMENT AREA MAP

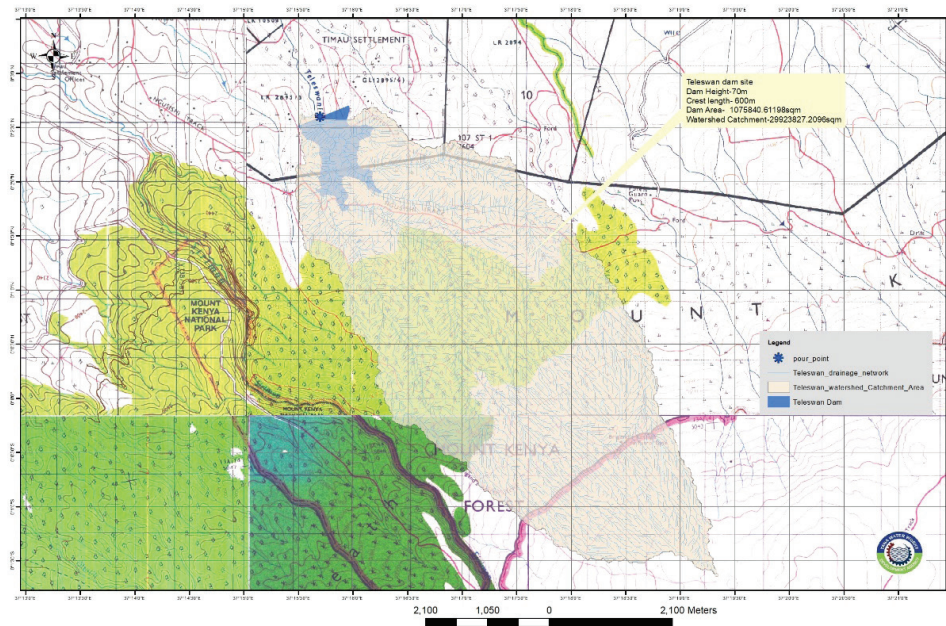


Figure 2 Proposed Teleswani Dam watershed catchment Area map

GIS also supports groundwater exploration by integrating geological information, borehole records, aquifer characteristics, and remote sensing data. This improves the identification of suitable areas for groundwater development and reduces risks associated with unsuccessful drilling.

TWDA HYDROGEOLOGY MAP LAYOUT

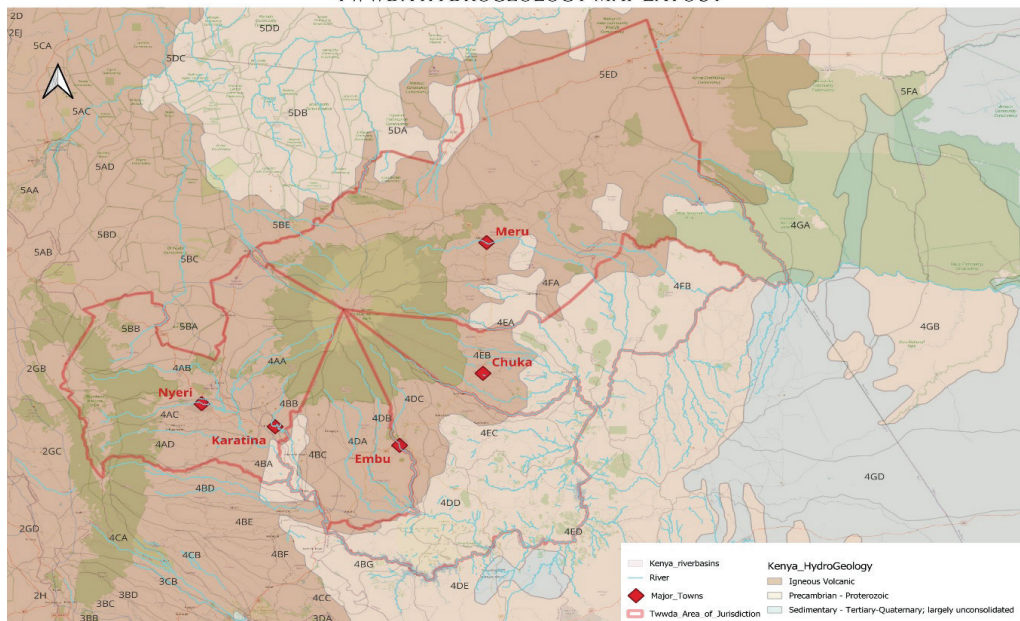


Figure 3 TWDA Hydrogeology map Layout

Supporting Water Supply Infrastructure Design

The design and expansion of water supply systems require accurate spatial information on existing infrastructure, population needs, and future development patterns. GIS enables engineers and planners to map water

sources, treatment facilities, pipelines, storage tanks, and distribution networks.

Through network analysis, GIS can support pipeline routing, pressure zone analysis, and optimization of water

distribution systems. Spatial analysis helps identify underserved areas and prioritize infrastructure investments based on population growth, accessibility, and demand patterns.

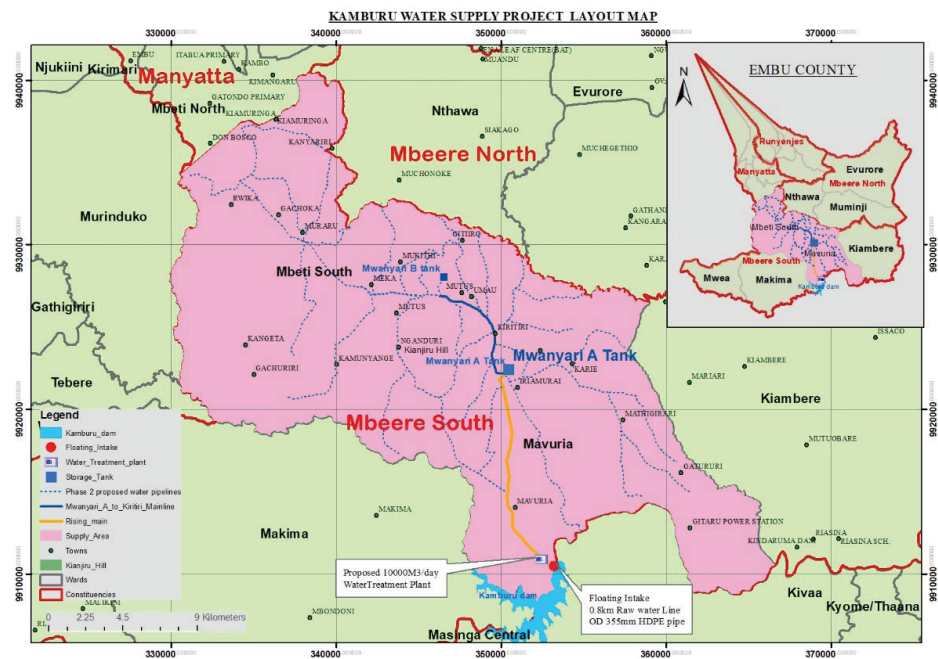


Figure 4 Ongoing Kamburu Water Supply Project

Remote sensing and GIS also provide valuable information for monitoring land development trends, enabling water utilities to plan infrastructure expansion in rapidly growing urban and rural settlements.

GIS Applications in Sanitation Development

Sanitation planning requires an understanding of population density, settlement patterns, environmental conditions, and existing sanitation facilities. GIS supports the mapping and analysis of sanitation systems including sewer networks, wastewater treatment plants, septic systems, and drainage infrastructure.

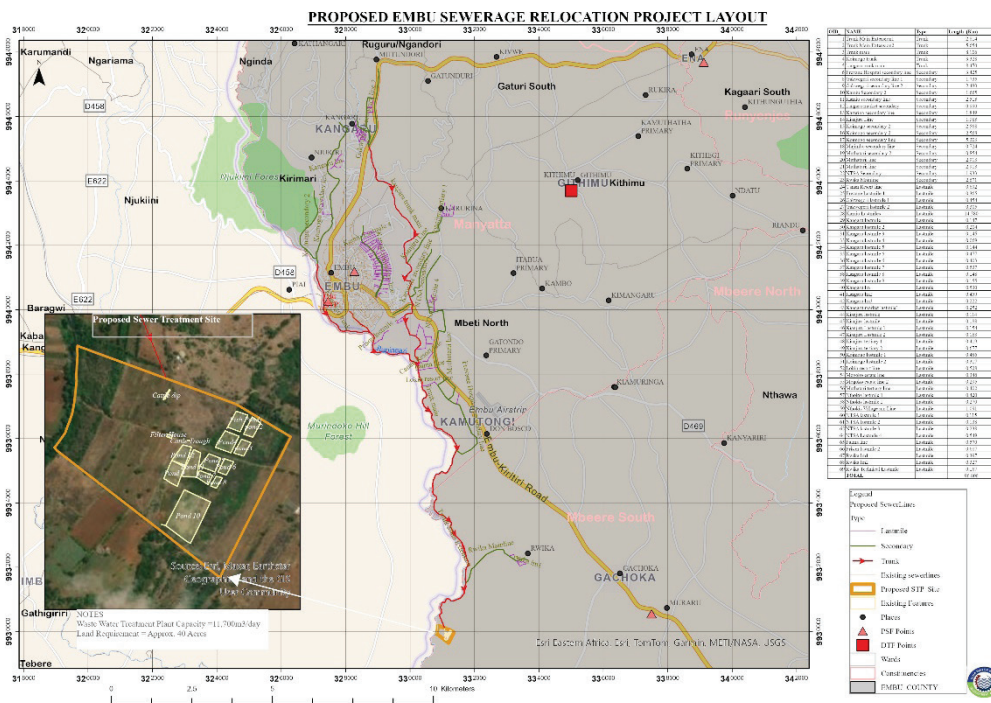


Figure 5 Proposed Embu Sewerage Project

For sewer development projects, GIS assists in route selection, profile analysis, wayleave planning, and identification of potential conflicts with existing infrastructure. The technology enables engineers to visualize terrain conditions, assess gravity flow possibilities, and optimize sewer alignment.



interventions. This is particularly important in informal settlements where spatial data helps reveal gaps in service provision.

Water and sanitation utilities manage thousands of infrastructure assets including pipelines, valves, pumps, reservoirs, treatment plants, and sewer networks. GIS-based asset management systems provide a centralized database

By linking asset locations with maintenance records, inspection data, and operational information, GIS

improves maintenance planning and reduces infrastructure failure risks. Utilities can identify aging infrastructure, prioritize rehabilitation works, and improve emergency response during service disruptions.

Figure 7 Land asset register data collection template

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
Other Infrastructure Register																			
	Asset Description	Financed by/ source of funds	Length (if applicable)	Size (e.g. area, production capacity etc.)	Make & Model	Date installation/ Commissioning	PV number	Original Location	Current Location	Installation amount	Depreciation rate	Annual depreciation	Accumulated depreciation	Net Book Value	Date of disposal	Disposal value	Responsible officer	Asset condition	Notes
1																			
2																			
3																			
4																			
5																			
6																			
7																			
Prepared by: _____					Designation: _____					Date: _____									
Checked by: _____					Designation: _____					Date: _____									
Authorized by: _____					Designation: _____					Date: _____									

Figure 8 Other Infrastructure data collection tool

Mobile GIS applications such as QField from QGIS and KoboCollect have further enhanced field data collection by allowing survey teams to capture accurate locations, photographs, and condition assessments directly from the field. This improves data accuracy and reduces delays associated with traditional paper-based approaches.

GIS and Climate Resilience in Water Infrastructure

Climate change has increased pressure on water resources through changing rainfall patterns, droughts, floods, and extreme weather events. GIS provides important tools for climate adaptation

by supporting vulnerability assessments and risk mapping.

Flood hazard mapping, drought monitoring, and watershed analysis enable decision-makers to design infrastructure that is more resilient to environmental changes. By analysing historical and current spatial datasets, GIS helps identify high-risk areas and supports the development of sustainable water management strategies.

The Role of Remote Sensing and Emerging Technologies

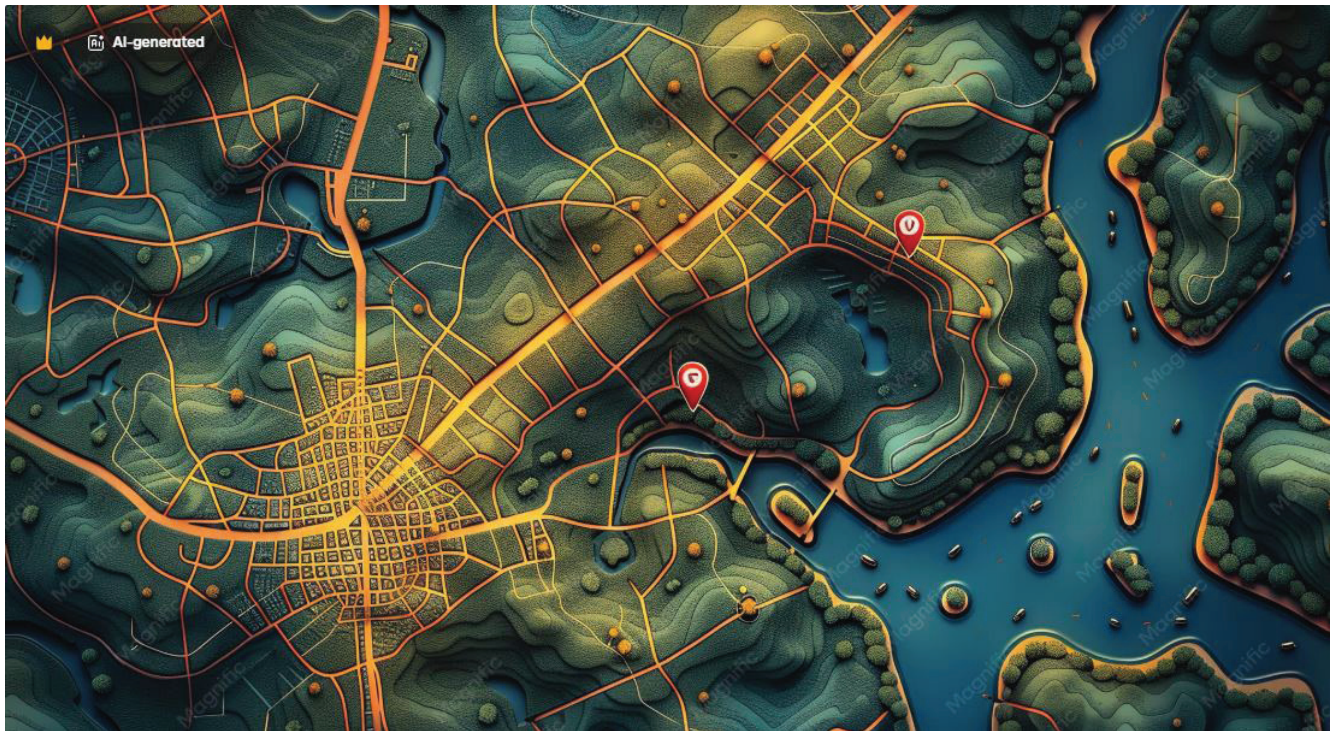
The integration of GIS with remote sensing, drones, Global Navigation

Satellite Systems (GNSS), and artificial intelligence is creating new opportunities in water and sanitation development. High-resolution satellite imagery provides updated information on land cover, water bodies, and settlement expansion.

Drone surveys offer detailed terrain information for project sites, supporting accurate engineering surveys and construction monitoring. GNSS technologies improve the accuracy of infrastructure mapping, while artificial intelligence enhances spatial analysis and predictive modelling.



Figure 9 GNSS Survey equipment for Innovative surveying



Challenges and Future Opportunities

Despite the benefits of GIS, several challenges affect its full adoption within the water and sanitation sector. These include limited access to quality spatial data, inadequate technical capacity, data sharing challenges, and limited investment in GIS infrastructure.

To maximize the benefits of GIS, institutions should invest in capacity building, establish reliable spatial databases, and promote collaboration between engineers, surveyors, planners, environmental experts, and decision-makers. Open data initiatives and cloud-based GIS platforms also provide opportunities for improved accessibility and collaboration.

Conclusion

GIS has become an essential tool in modern water and sanitation development by improving planning, design, monitoring, and management of infrastructure. Its ability to integrate spatial and non-spatial information provides a comprehensive understanding of water systems and community needs.

As Kenya continues to expand water and sanitation infrastructure, survey professionals remain central to this transformation by providing the accurate spatial information required for informed decisions. The future of sustainable water development will depend on effective integration of geospatial technologies, engineering solutions and evidence-based planning.

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Challenges and Opportunities in the Mandatory Conversion of Long-Term Sub-Leases to Sectional Titles in Kenya (Perspective)

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By Dennis M. Ngunu

Kenya's decision to push the conversion of long-term sub-leases to sectional titles marks one of the most consequential shifts in urban property ownership since the introduction of registered leasehold interests for apartments. Anchored primarily in the Sectional Properties Act, 2020, the reform seeks to correct long-standing structural weaknesses in how multi-unit developments are owned, financed, and managed. While the policy intent is sound, its implementation has exposed significant legal, administrative, and economic tensions that deserve careful public discussion.

For decades, long-term sub-leases were the default mechanism for selling apartments and units in mixed-use developments. Under this model, a developer or head lessor would hold a single leasehold title over the entire parcel, often for 99 years, and then grant individual

subleases to purchasers for comparable terms. The arrangement was expedient in a system that lacked a comprehensive legal framework for true condominium ownership. However, it created layered interests that blurred ownership, complicated management, and tied unit owners' rights to the fortunes and conduct of the head lessor.

Sectional titles, by contrast, recognise individual units as distinct registrable properties, together with an undivided share in common property. They are supported by management corporations responsible for governance, service charges, and maintenance. The policy rationale behind mandatory conversion is therefore clear. It seeks to align Kenya's urban housing market with modern condominium systems, strengthen security of tenure for unit owners, and reduce disputes arising from opaque head lease structures.

The transition, however, has not been smooth. One of the most immediate challenges is resistance and low awareness among property owners. Many unit owners are unfamiliar with sectional titles and view conversion as an unnecessary administrative burden rather than a protection of their rights. In some developments, developers or head lessors have little incentive to cooperate, particularly where control over common areas or service charges has been financially advantageous.

Cost is another significant barrier. Conversion requires re-surveying to sectional plans, legal documentation, registration fees, and professional input from surveyors and conveyancing advocates. For individual unit owners, especially in middle-income or older developments, these costs can be prohibitive. The absence of clear

guidance on cost-sharing mechanisms has fuelled disputes and stalled conversions.

Legal and commercial complications also arise where properties are charged to financial institutions. Banks are understandably cautious when the underlying title structure is being altered. Issues such as partial discharges, re-registration of charges, and preservation of lenders' security interests can delay or derail transactions. Without streamlined protocols between land registries and financial institutions, mandatory conversion risks creating temporary insecurity rather than certainty.

Administrative capacity remains a critical constraint. Land registries in major urban centres are already overstretched. The additional workload of reviewing sectional plans, cancelling sub-leases, and issuing new titles has led to delays and inconsistent practices. In older developments, missing records, informal alterations to buildings, or deviations from approved plans further complicate the process. These realities underscore the gap between legislative ambition and institutional readiness.

Governance under sectional title regimes also presents risks. Management corporations are central to the system, yet many unit owners have limited experience with corporate governance, financial accountability, or dispute resolution. Poorly run management corporations can replicate or even worsen the problems associated with developer-controlled regimes. Without oversight and capacity-building, sectional titles alone will not guarantee better management.

The implications of the reform vary across stakeholders. Individual unit

owners stand to gain stronger, more direct property rights but face short-term costs and uncertainty. Developers and original lessors may lose control and revenue streams linked to head leases, altering the economics of development. Financial institutions must adjust their lending and security practices. Conveyancing lawyers and surveyors are at the centre of the transition, navigating evolving procedures while managing client expectations. County governments and national land administration bodies bear the burden of implementation, public education, and enforcement.

Despite these challenges, the long-term opportunities are substantial. Sectional titles offer a clearer ownership structure that reduces ambiguity and disputes. They enhance transparency in the management of common areas and service charges, as decisions are vested in collective bodies rather than single lessors. For lenders and investors, sectional titles provide a more familiar and bankable asset class, improving confidence in Kenya's apartment market. Over time, the reform can support better-maintained buildings, more accountable governance, and a healthier urban housing sector.

There are, however, notable policy and implementation gaps. Government communication has often emphasised compliance without adequately explaining benefits or providing practical guidance. Enforcement appears uneven, with uncertainty over timelines and consequences for non-conversion. Transitional support mechanisms, such as simplified procedures for older developments or guidance on handling charged properties, remain underdeveloped.

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The way forward lies not in retreating from the reform but in implementing it more thoughtfully. A phased approach that prioritises new developments while giving existing schemes realistic timelines would reduce disruption. Targeted public awareness campaigns, tailored to unit owners and developers, can demystify sectional titles and build buy-in. Standardised conversion procedures and clear inter-agency protocols would improve efficiency and predictability. Accelerated digitisation of land records can reduce delays and enhance transparency. Finally, consideration should be given to incentives or cost-reduction measures, particularly for owner-driven

conversions in older buildings.

Mandatory conversion to sectional titles is ultimately a necessary evolution of Kenya's property ownership system. It promises stronger rights, better governance, and greater market confidence. Yet its success will depend less on legal compulsion than on administrative competence, stakeholder engagement, and pragmatic policy design. If implemented with sensitivity to Kenya's diverse urban realities, the reform can move from being a source of anxiety to a foundation for more orderly and equitable urban development.

Community Land Management: Balancing Development and Traditional Land Rights: A Turkana Community Perspective

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Community land is central to the identity, livelihoods and culture of the Turkana people. Pastoralism, customary governance and shared access to grazing areas, water points and migration corridors have sustained communities for generations in one of Kenya's driest regions. However, growing investment in oil, renewable energy, infrastructure and urban expansion has intensified

competition over land, making effective community land management more important than ever.

The Constitution of Kenya (2010) and the Community Land Act (2016) recognize community land rights and provide a framework for registration and governance. These legal reforms marked a significant shift from historical marginalization by recognizing

customary tenure as equal to other forms of land ownership. Nevertheless, implementation remains uneven. Many community lands remain unregistered, exposing communities to tenure insecurity, conflict and exclusion from development decisions.

Turkana County illustrates both the opportunities and tensions associated with development. Investments

in oil exploration, roads, irrigation, conservation initiatives and energy projects have created expectations of employment, infrastructure and improved services. At the same time, concerns persist regarding displacement, inadequate consultation, environmental degradation and limited benefit-sharing. Development should therefore complement rather than undermine customary systems that have enabled resilience in arid and semi-arid lands.

Traditional governance institutions continue to play an important role in allocating grazing resources, resolving disputes and protecting communal resources. Elders, women, PWDs and youth each contribute unique knowledge that supports sustainable management. Strengthening these institutions alongside formal county structures promotes inclusive governance and improves legitimacy.

Geospatial technologies including GIS, remote sensing and participatory mapping offer practical tools for community land governance. Participatory mapping documents customary boundaries, migration

routes, cultural heritage sites and shared resources. Accurate spatial data reduces boundary disputes, supports land registration and enables informed planning. Integrating indigenous knowledge with modern geospatial information creates more equitable and evidence-based decision-making.

Balancing development and traditional land rights requires four priorities. First, accelerate community land registration and strengthen community land management committees. Second, ensure Free, Prior and Informed Consent before major investments affecting community land. Third, establish transparent benefit-sharing mechanisms so local communities receive meaningful social and economic returns. Fourth, integrate environmental safeguards that protect grazing ecosystems, water resources and biodiversity while supporting climate resilience.

Women and young people should participate meaningfully in land governance. Although customary systems have historically been male-dominated, inclusive decision-making improves accountability and ensures that development reflects broader

community needs. Capacity building, civic education and digital mapping skills can empower communities to engage effectively with investors and government agencies.

Ultimately, sustainable development in Turkana depends on secure land rights. Development projects succeed when communities are respected as rights holders and active partners rather than passive beneficiaries. Protecting customary tenure while embracing responsible investment is not a contradiction; it is the foundation for lasting peace, economic growth and environmental sustainability

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ABSTRACT

Land is Kenya's most contested resource, yet the systems governing its administration remain largely paper-based, fragmented, and opaque. This article makes the professional case for digitising the land cadastre at the county level, using Vihiga County as a pilot study. It outlines the rationale, the approach taken, the benefits realised, and the challenges encountered. The findings demonstrate that county-level digital cadastre implementation is achievable with constrained resources when guided by sound technical leadership, inter-directorate cooperation, and a structured methodology. The article is intended to inform the public, county and national governments, investors, and fellow professionals – and to advocate for the scaling of this model across Kenya's 47 counties.

1. The Problem: Outdated Land records cost Kenya dearly

Across Kenya, land disputes, fraudulent titles, unresolved boundary conflicts, and inefficient revenue collection from land rates are symptoms of a single, deeper failure: the absence of a reliable, up-to-date, and accessible record of who owns what land and where. Paper-based Preliminary Index Diagrams (PID), Registry Index Maps (RIMs), and physical green cards – stored in government offices and vulnerable to loss, tampering, and decay – cannot meet the demands of a modern economy or a growing population. Counties are losing revenue, citizens are losing land,

and investors are losing confidence.

This is not a new observation. Kenya's Vision 2030, the Land Registration Act (Cap. 300, 2012), and the Ministry of Lands' own Ardhisasa digital land administration initiative all acknowledge that digital land records are essential (GoK, 2012; Ministry of Lands, 2021). The harder question is how to get there – especially at the county level, where most land transactions and disputes actually occur.

Globally, countries that have transitioned to digital cadastral systems report measurable improvements in land tenure security, revenue collection, and investor confidence. Studies from Rwanda's

land tenure regularisation programme and the United Kingdom's HM Land Registry digitalisation demonstrate that structured, phased approaches at the administrative unit level yield the most sustainable outcomes (UN-Habitat, 2012; HM Land Registry, 2019).

2. The Solution: A digital land cadastre

A digital land cadastre is an electronic, georeferenced system that records each parcel of land – its boundaries, ownership, use, value, and encumbrances – in a unified spatial database supported by Geographic Information System (GIS) and Global Positioning System (GPS) technologies. Unlike a paper registry, a digital cadastre

The United Nations Economic Commission for Africa (UNECA) identifies the digital land cadastre as a critical infrastructure for achieving Sustainable Development Goal (SDG) 1.4 – ensuring equal rights to economic resources and land ownership – and SDG 11.1, which targets access to adequate housing and basic services (UNECA, 2017).

can be queried instantly, updated in real time, shared across departments, and made accessible to the public through a web portal. It is the foundation upon which transparent, efficient, and corruption-resistant land governance is built (Dale & McLaughlin, 1988; Williamson et al., 2010).

The United Nations Economic Commission for Africa (UNECA) identifies the digital land cadastre as a critical infrastructure for achieving Sustainable Development Goal (SDG) 1.4 – ensuring equal rights to economic resources and land ownership – and SDG 11.1, which targets access to adequate housing and basic services (UNECA, 2017). In the Kenyan context, a functional digital cadastre directly supports the goals of the National Land Commission, the Land Registration Act, and the overarching framework of Kenya's National Spatial Data Infrastructure (NSDI).

3. Vihiga County: The pilot case

Vihiga County in Western Kenya was selected as the pilot for the Vihiga Digital Land Cadastre (VDLC) initiative, which commenced in September 2024 under the County Integrated Development Plan (CIDP 2023–2027). The county presents conditions common to much of rural Kenya: high population density (approximately 1,000 persons per km²), fragmented land holdings, informal settlements, pervasive boundary disputes, and outdated multi-directorate land records spread across Survey, Registry, Housing, and Physical Planning offices.

3.1 Methodology

The VDLC followed a structured, phased methodology comprising the following sequential steps:

- Phase 1 – Record Audit: Identification, cataloguing, and capture of all existing non-spatial land records across county directorates.
- Phase 2 – Digitisation: Scanning, georeferencing, and vectorisation of legacy paper records, including PIDs and RIMs.
- Phase 3 – Geodatabase Development: Construction of a unified geodatabase linking spatial parcel data to attribute records (ownership, area, value, encumbrances).
- Phase 4 – CAD Integration: Creation of an AutoCAD-compatible cadastral file enabling real-time cadastral updates and transaction recording by the County Surveyor.
- Phase 5 – Cloud Hosting: Secure hosting of the geodatabase on a cloud platform for controlled access across county directorates and authorised public queries.
- Phase 6 – Registry Integration: Ongoing integration of Housing, Physical Planning, and Urban Development registries into a single unified platform.

The system is currently operational for the Survey Directorate, with the County Surveyor now recording all transactions in the centralised cadastral database. Full registry integration remains in progress, pending a formal Ministerial directive from the Ministry of Lands and Physical Planning.

3.2 Technology Stack

The VDLC leverages ESRI ArcGIS for spatial data management, AutoCAD for cadastral drafting and parcel updates,

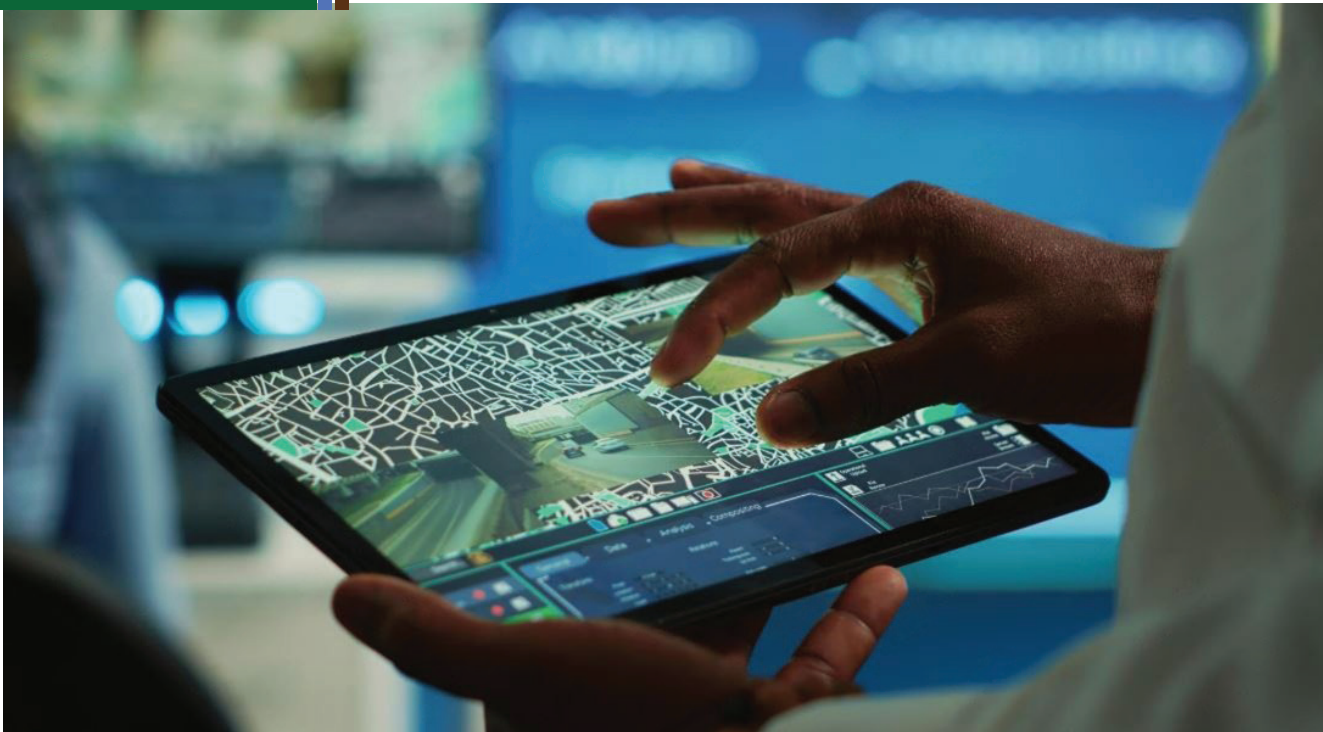
and a secure cloud database environment for multi-user access and data integrity. Parcel boundary data conforms to the Survey of Kenya coordinate system and the Kenya Geodetic Datum (KGD), ensuring interoperability with national spatial data standards.

4. Benefits Observed and Anticipated

The VDLC has produced or is expected to produce the following tangible outcomes:

Key Benefits of the Vihiga Digital Land Cadastre

- Accurate, tamper-proof parcel records that support fair and conclusive boundary dispute resolution.
- Faster processing of title deeds, survey approvals, and building permits through streamlined digital workflows.
- Enhanced county revenue through improved property valuation accuracy and land rate collection efficiency.
- A single integrated platform for land, housing, and planning records – eliminating inter-directorate data silos.
- Foundation for a public land transaction portal, enabling citizens to verify ownership and land status online.
- Identification of encroachments on riparian land, government forests, and protected wetlands.
- A stronger investment climate through verifiable, accessible, and legally recognised land rights documentation.
- Alignment with national digital



governance priorities under the Ardhisa platform and Kenya's NSDI framework.

5. Challenges

The VDLC has encountered structural challenges — not merely technical ones — and honest reporting of these is essential for counties considering replication:

Structural Challenges Encountered

- Jurisdictional ambiguity: The formal land registry remains under national government control, creating delays in updating legal records through a county-developed system.
- Institutional resistance: Some registry staff defer adoption pending formal Ministry of Lands directives, slowing system-wide integration.
- Technical capacity gaps: Sustained GIS and database management skills are scarce within county land offices, requiring ongoing external technical support.
- Infrastructure constraints: Reliable connectivity and adequate hardware are prerequisites that cannot be assumed across all areas of the county.
- Historical record gaps: Incomplete,

damaged, or missing legacy records limit the completeness of the digital database and require additional verification processes.

6. The way forward

Vihiga County's experience demonstrates that county-level digital cadastre implementation is achievable, even with constrained resources, when there is technical leadership, inter-directorate cooperation, and a structured methodology. The model is now ready for peer review, replication, and scaling across Kenya's remaining 46 counties.

What is urgently required is:

- A clear national policy directive from the Ministry of Lands and Physical Planning on county-national registry integration protocols and data sovereignty.
- Sustained, ring-fenced investment in GIS and cadastral database technical training for county land office staff.
- Structured collaboration frameworks between county governments, the Ministry of Lands, the Survey of Kenya, and the National Land Commission.
- Formal recognition of county-

developed digital cadastral systems as legally valid inputs into the national land registry.

- Piloting of a public-facing parcel verification portal in Vihiga County as a proof-of-concept for national rollout.

This journal calls on fellow professionals, county executives, and national policymakers to treat the digital land cadastre not as a future aspiration but as an immediate governance priority. The technology exists, the methodology has been proven, and the action case is unambiguous.

Conclusion

The digitisation of Kenya's land cadastre is simultaneously a professional, legal, and economic imperative. Vihiga County has demonstrated a practical, replicable, and resource-efficient pathway to achieving this transformation at the county level. The model addresses the full spectrum of land administration requirements — spatial accuracy, attribute completeness, multi-directorate integration, and public accessibility — in a manner consistent with national policy frameworks and international best practice.

The question for every county



Vihiga County's experience demonstrates that county-level digital cadastre implementation is achievable, even with constrained resources, when there is technical leadership, inter-directorate cooperation, and a structured methodology

government, every land professional, and every national policymaker is no longer whether to act. It is whether to lead.

For further information on the Vihiga Digital Land Cadastre methodology, implementation approach, dataset access, or collaboration and replication opportunities, the author welcomes direct professional enquiry.

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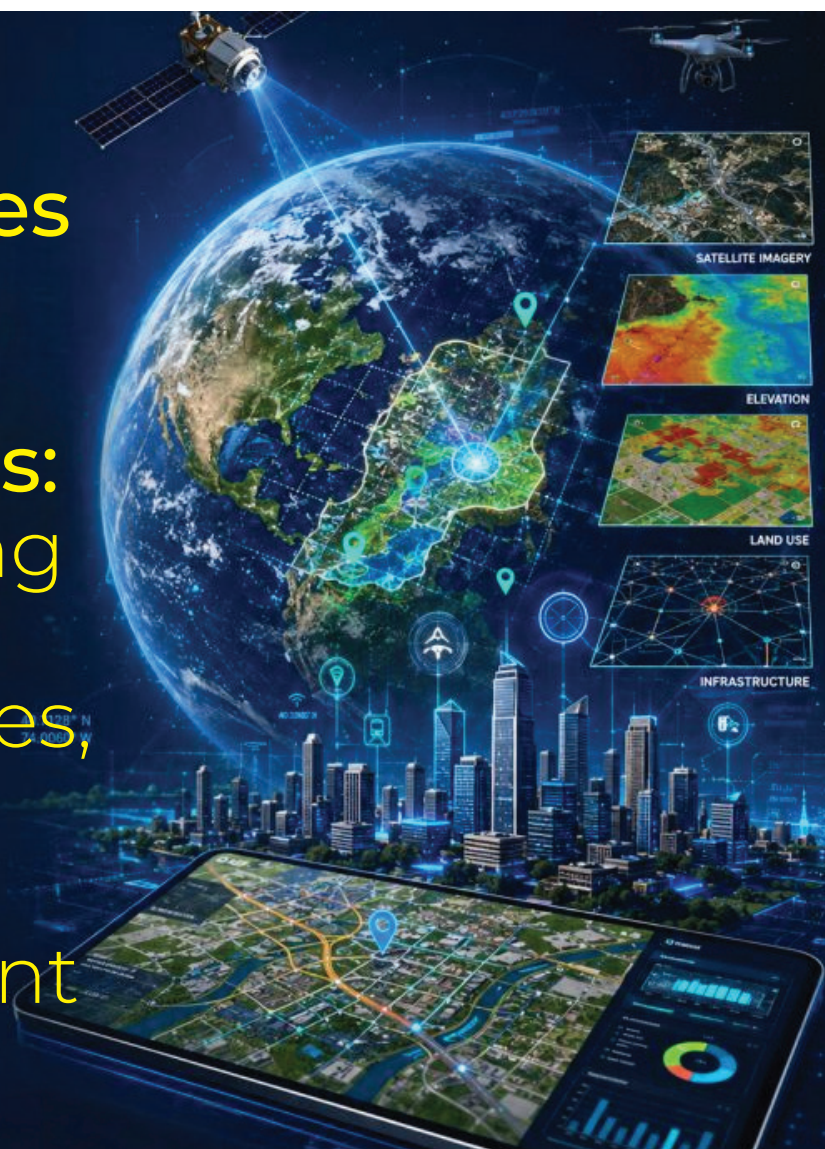
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Geospatial Technologies and Their Everyday Applications: Transforming Lives, Communities, and Sustainable Development in Kenya



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Introduction

Imagine checking your phone to find the quickest route home during heavy Nairobi traffic, or a farmer in Kitale using satellite images on a tablet to decide exactly when and where to irrigate crops. Or picture county officials tracking a new road project in real time to ensure public money is spent wisely. These are not futuristic scenarios, they are happening today, thanks to geospatial technologies.

What started as specialized tools for scientists and surveyors have quietly become part of our daily lives. From

navigation apps to disaster response, land management to climate monitoring, geospatial technologies are helping Kenyans make better decisions, solve practical problems, and build a more sustainable future.

In Kenya, with our rapid urban growth, ambitious infrastructure projects, and pressing needs in agriculture and environmental protection, these technologies are more relevant than ever. Yet many people still don't fully understand how they work or how powerfully they can improve everyday life. This article breaks it down in simple

terms, explores real-world applications, discusses what lies ahead, and offers practical ways forward.

Understanding Geospatial Technologies

At their heart, geospatial technologies are about location; they help us collect, analyze, and visualize information tied to specific places on the Earth's surface. They combine "where" something is with "what" it is, turning raw data into useful knowledge.

The main building blocks include:

- Geographic Information Systems (GIS) - powerful software for

mapping and analyzing spatial data.

- Global Navigation Satellite Systems (GNSS/GPS) - for precise positioning.
- Remote sensing -gathering information from satellites, drones, or aircraft without being on the ground.
- Mobile apps, digital maps, and spatial databases that bring everything together.

Together, these tools answer questions like: Where are the most vulnerable communities during a flood? Which farms need urgent help due to drought? Or where should we build the next school or hospital for maximum impact?

Everyday Applications That Touch Kenyan Lives

1. Getting Around: Navigation and Transportation

For most Kenyans, the most familiar face of geospatial technology is Google Maps or similar apps. These tools do far more than show directions they help avoid traffic jams, estimate arrival times, locate hospitals, fuel stations, or the nearest matatu stage.

Public transport operators use GPS tracking to manage fleets better, while delivery businesses cut costs by optimizing routes. The result? Safer journeys, less time wasted in traffic, and lower transport expenses for families and businesses alike.

2. Securing Land and Property

Land is one of Kenya's most valuable and most contested resources. Geospatial technologies are transforming how we manage it.

Accurate surveys, digital boundary mapping, and secure title registration reduce confusion and conflict. Digital cadastral systems make it much harder for land to be grabbed or allocated twice.

How GIS Strengthens Land Governance and Public Accountability

- Secures Clear Land Ownership and Curbs Grabbing: GIS creates reliable, geo-referenced digital records that remove guesswork from boundaries. This helps prevent double allocations, illegal encroachments,

and the quiet seizure of public or community lands that often slip through the cracks.

- Improves Financial Transparency and Reduces Revenue Losses: When land records are digital and transparent, opportunities for bribery and manipulation shrink. Counties and the national government can collect land rates, taxes, and fees more effectively.
- Enables Real-Time Project Tracking and Ends "Ghost Projects": GIS dashboards let both officials and citizens follow infrastructure projects live - tracking budgets, timelines, and actual progress on the ground. Payments can be tied to verifiable work, and problems are flagged early rather than after millions have been lost.
- Empowers Citizens to Participate in Oversight: Public GIS portals turn ordinary residents into watchdogs. Communities can upload geo-tagged photos of construction sites, report shoddy work, and confirm that projects are being built where promised. This builds trust and encourages collaborative governance.
- Supports Smarter, Evidence-Based Resource Allocation: Instead of decisions driven by politics, spatial analysis helps direct funds to the areas that need them most. Planners can spot bottlenecks, predict risks, and make choices based on solid evidence.

Professional surveyors remain central to this process, ensuring the spatial data is accurate, reliable, and legally sound.

3. Agriculture and Food Security

Kenya's farmers are embracing these tools. Satellite imagery and drones help monitor crop health, detect pests early, and guide precise irrigation and fertilizer use. This "precision agriculture" boosts yields while protecting the environment and cutting costs vital for smallholder farmers facing climate challenges.

4. Managing Disasters

From floods in Budalangi to droughts in arid counties, geospatial technologies are lifelines. Satellite data helps predict

and monitor hazards, while GIS maps vulnerable populations and plans evacuation routes. After a disaster, rapid damage assessments speed up relief and recovery.

5. Improving Healthcare Access

GIS helps health officials identify underserved areas, map disease outbreaks, and optimize ambulance routes. During pandemics or cholera outbreaks, it supports targeted interventions that save lives and resources.

6. Protecting Our Environment

Remote sensing allows continuous monitoring of forests, wetlands, and wildlife. County planners use this data to balance development with conservation, protecting Kenya's rich natural heritage for future generations.

7. Building Better Cities

As towns and cities grow rapidly, geospatial tools help planners design roads, drainage, schools, and markets where they are truly needed. Smart city initiatives rely on accurate spatial data for everything from traffic management to waste collection.

Emerging Technologies Shaping Tomorrow

The future looks even brighter. Artificial Intelligence is speeding up the analysis of satellite images. Drones provide affordable, high-detail surveys for farms, roads, and buildings. Cloud platforms and open-source tools are making advanced geospatial capabilities accessible even to smaller counties and community groups.

Challenges We Must Address

Despite the progress, barriers remain. Many people still don't realize the full power of these tools. Data quality and sharing between institutions can be inconsistent due to lack of integration and GIS software. Rural areas often face connectivity challenges, and there is a shortage of skilled professionals. Data privacy and security also need careful attention.

Practical Recommendations

To unlock the full potential:

- Launch public awareness campaigns showing how geospatial



tools affect daily life.

- Strengthen Kenya's National Spatial Data Infrastructure for better data sharing.
- Integrate geospatial education in schools, colleges, and professional training.
- Encourage counties to adopt GIS for planning and service delivery.
- Promote open data initiatives with strong privacy protections.
- Foster partnerships between government, surveyors, universities,

NGO and the private sector.

Conclusion

Geospatial technologies have moved out of specialist offices and into the fabric of everyday Kenyan life. They support better travel, secure land rights, smarter farming, faster disaster response, healthier communities, and more sustainable cities.

As Kenya pursues digital transformation and Vision 2030 goals, these tools will be indispensable for good governance, economic growth, and improving quality of life. The surveying profession

has a vital leadership role not only in producing accurate data but also in educating the public and ensuring these powerful technologies are used ethically and inclusively.

By working together, professionals, government, communities, and innovators, we can harness geospatial technologies to build a more transparent, resilient, and prosperous Kenya for all.

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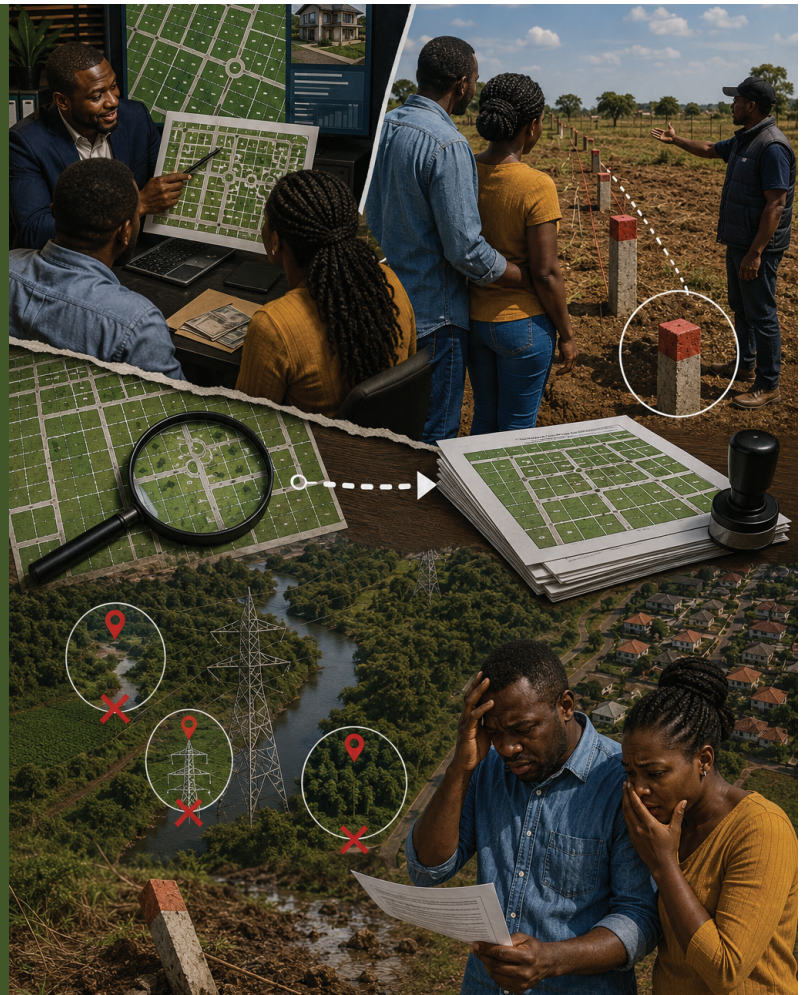
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Declaration of Originality; I declare that this article is my original work and has not been previously published in any form.

Statement of Consent; I hereby consent to the publication of this work by the Institution of Surveyors of Kenya (ISK) in the Surveyors Journal, 2nd Edition.

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Despite the rollout of the digital land management system Ardhisasa to enhance transparency, land fraudsters have evolved their tactics. They exploit technological gaps, systemic delays, and the public's lack of due diligence. For surveying professionals and investors alike, staying ahead of these schemes is no longer optional—it is a mandatory

DUE DILIGENCE PROTOCOL FLOW



3. Ghost Subdivisions and Virtual Site Staging

With the rise of affordable digital design tools, fraudulent land-buying companies create immaculate, entirely fictional subdivision maps (mutation forms). Unsuspecting buyers are shown a “ghost plot” using staged on-site visits to an unrelated piece of land, complete with forged beacons. The buyer pays for a specific block, only to discover later that the actual coordinates sit on public utilities, riparian reserves, or forest zones.

4. The “Innocent Purchaser” Legal Myth

A critical emerging risk involves the legal interpretation of title validity. In recent jurisprudence, Kenyan courts have firmly upheld the principle that “fraud vitiates title” (frauds Omnia corrumpit). Relying on Article 40(6) of the Constitution of Kenya, the judiciary has ruled that constitutional protection of property does not extend to unlawfully acquired land. Crucially, the law no longer fully protects an “innocent purchaser for value without notice” if the root title of the property was fraudulent or illegal

from the beginning. If you buy land whose original subdivision or allocation decades ago was flawed, your modern “clean” title deed is legally worthless.

[Root Title Fraudulent] > [Subsequent Purchases Void] > [Innocent Buyer Loses Property]

Proactive Protection Strategies

To navigate this risky landscape, property owners and buyers must move beyond basic official registry searches. Safeguarding land requires a multi-layered, aggressive due diligence protocol.

DUE DILIGENCE PROTOCOL FLOW

1. Digital Registry Search (Arghisasa / eCitizen)
2. Cadastral Verification (Licensed Surveyor Boundary Check)
3. Root of Title Auditing (Historical Deed File Review)
4. On-Site Physical Inspection & Local Inquiry
5. Secure Financial Settlement (Controlled Escrow Accounts)

Conduct Exhaustive Registry and Digital Searches

An official search remains your first line of defense. For properties in Nairobi and digitized zones, utilize Arghisasa to confirm ownership status, acreage, and any registered encumbrances, such as active bank charges or court caveats. For non-digitized registries, an official manual search must be conducted via the eCitizen portal or physical registry counters. Always verify that the land rent and county rates accounts are fully paid and match the seller's identity.

Mandate Cadastral and Boundary Verification

Never buy land based solely on a paper document or a smooth sales pitch. Retain an independent, practicing surveyor registered under the Surveyors Act (Cap 299). The surveyor must physically visit the ground, pick up the coordinates using global navigation satellite systems (GNSS), and cross-match them with the official cadastral maps at the Survey of Kenya. This process confirms that the physical plot matches the registry's records, validates boundary beacons, and exposes unauthorized or

overlapping subdivisions.

Investigate the Root of Title

Because subsequent buyers are not protected from historical fraud, you must audit the background of the property. Work with an experienced conveyancing advocate to pull the “green card” (for registered land) or the historical registry files. Trace the chain of ownership backward for at least 30 years or to the first allocation. Ensure that the original transfer from public or community status to private ownership followed the strict legal provisions of the Land Act, 2012.

Execute Rigorous Physical and Social Scouting

A physical visit to the site is mandatory. Talk directly to neighboring landowners, local village elders, and area chiefs. Inquire about the true ownership history, potential family succession disputes, or boundary wrangles that may not yet appear on the official registry files. If the land features unauthorized structures or active farming by third parties, treat it as an immediate red flag.

Utilize Controlled Escrow Payment Structures

Fraudsters frequently pressure buyers to close deals quickly by offering deep discounts. Avoid paying cash or transferring funds directly to the seller's personal account before registration. Instead, utilize professional legal escrow accounts held by trusted advocates. Under an escrow agreement, the funds are securely held by a neutral third party and are only released to the vendor after the formal transfer of the title is fully completed, stamped, and registered in the buyer's name at the land registry.

The Imperative for Active Landownership

Protection does not end once the title is registered in your name; land maintenance requires active, ongoing management.

Regularly Audit Property Records: Landowners should routinely log into their Ardhisa accounts and check physical registry files to confirm that their property data has not been altered or targeted for fraudulent transfer.

Maintain a Physical Presence: Leave the land occupied or secure. Erecting clear

LAND FRAUD IN KENYA: EMERGING SCHEMES AND HOW TO PROTECT IT

- 1 ADVANCED IDENTITY THEFT AND IMPERSONATION**
Fraudsters steal personal information to impersonate landowners and execute fraudulent transactions.
HOW TO PROTECT IT:
 - Keep your ID and documents secure
 - Regularly check your land records
 - Enable alerts on your title
 - Report identity theft immediately
- 2 EXPLOITATION OF THE DIGITAL TRANSITION GAPS**
Fraudsters exploit system weaknesses, slow updates, and data gaps in the land digitalization process.
HOW TO PROTECT IT:
 - Verify records through official channels
 - Use e-citizen and official portals only
 - Stay informed on system updates
 - Report system issues and anomalies
- 3 THE “INNOCENT PURCHASER” LEGAL MYTH**
Buyers believe they are protected by law, but can still lose property bought fraudulently.
HOW TO PROTECT IT:
 - Conduct thorough due diligence
 - Verify ownership and search records
 - Engage a qualified lawyer
 - Understand that “innocent buyer” is not absolute protection
- 4 GHOST SUBDIVISIONS AND VIRTUAL SITE STAGING**
Fraudsters create fake subdivisions and use virtual images to sell non-existent or unapproved plots.
HOW TO PROTECT IT:
 - Confirm subdivision approvals
 - Visit and physically inspect the land
 - Verify survey plans and bearings
 - Beware of deals that are too good to be true
- 5 SECURE FINANCIAL SETTLEMENT (CONTROLLED ESCROW ACCOUNTS)**
Fraud occurs when payments are made directly to sellers. Escrow accounts ensure safe, controlled transactions.
HOW TO PROTECT IT:
 - Use licensed escrow services
 - Ensure conditions are met before funds are released
 - Avoid cash transactions
 - Get professional legal guidance

GENERAL PROTECTION TIPS

- Know the owner, know the land
- Use professionals (lawyers, surveyors)
- Keep all documents safe and original
- Report fraud to relevant authorities

Relying on Article 40(6) of the Constitution of Kenya, the judiciary has ruled that constitutional protection of property does not extend to unlawfully acquired land. Crucially, the law no longer fully protects an “innocent purchaser for value without notice”

physical boundaries, fences, or retaining a trusted caretaker makes it significantly harder for cartels to stage unauthorized site viewings or trespass.

Utilize Preventive Cautions: If you suspect your title documents have been compromised, or if a property is locked in a succession dispute, file a formal caution or restriction at the relevant land registry immediately. This legal freeze blocks any subsequent attempts to transfer, charge, or subdivide the parcel until the issue is formally resolved.

Conclusion

As Kenya drives forward with land digitization and legislative updates, the nature of property crimes will continue to shift. Fraudsters rely entirely on shortcuts, emotional haste, and the buyer's willingness to bypass statutory procedures. By demanding precise root-of-title audits, engaging licensed surveyors, and leveraging secure escrow systems, investors can effectively insulate themselves from financial loss. In the Kenyan real estate ecosystem, structural caution is the only true guarantee of absolute ownership.

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Position Paper On The Automation Of Land Survey Services Delivery: A Case Study of District Survey Offices



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i. Introduction

Majority of land survey offices in Kenya operates using a manual system for their services. This existing manual way of processing the registration of survey tasks is slow, inefficient and could lose information because of wear and tear. Sharing and validating data is incredibly hard and time-consuming using this analogue approach. Global references demonstrate that

information technology has the ability to assist in this regard through the automation of processes, thus reducing the inefficiencies of manually driven processes and lowering transaction costs (Cline, G.B., Luiz, J.M., 2013). Therefore, the Ministry of Lands and Physical Planning should adopt a new technology of file tracking and cadastral survey workflow in the cadastral division (Anne M. Mwangi et. al, 2017).

This position paper aims to provide an

automated workflow and file tracking system for land survey services in district offices that now rely on manual filing methods. The implementation of this will facilitate all survey workflows and file management systems, hence mitigating the delays encountered in the land survey division.

Using the internet and mobile technologies, it will make use of information technology to disseminate the information to the end users. This will

be accomplished through the inspection of files and the monitoring of letters for action by the officers who are concerned.

ii. Background Information

Good records management boosts efficient and effective public service delivery in that it minimizes litigation risks, promotes accountability and transparency, ensures compliance with regulatory requirements and supports informed decision-making (Abuzawayda, Yusof & Aziz, 2017).

Automation is the process that involves taking a physical object and essentially making an 'electronic photograph' of it. An image of the physical object is captured – using a scanner or digital camera – and converted to digital format that can be stored electronically and accessed via a computer (Lee, 2001). Digitising a document allows the access needs of the majority of users to be met by use of the digitised access copy (Hirtle, 2002).

This position paper seeks to look how

the automation of land survey services can be executed from the perspective of a file or a letter received in the district survey office, action taken and later archived.

iii. Analysis of the problem.

Stakeholders visiting the District survey offices experienced prolonged wait times for land survey services. Numerous individuals interested in land survey services throughout the districts express concerns regarding problems in service delivery. Physically visiting the office is both time-consuming and costly, resulting in overcrowding in the limited space available. Stakeholders from remote areas, including the fourth estate, are hindered by distance and experience insecurity when manually exchanging information with family to facilitate visits to the survey office for assistance.

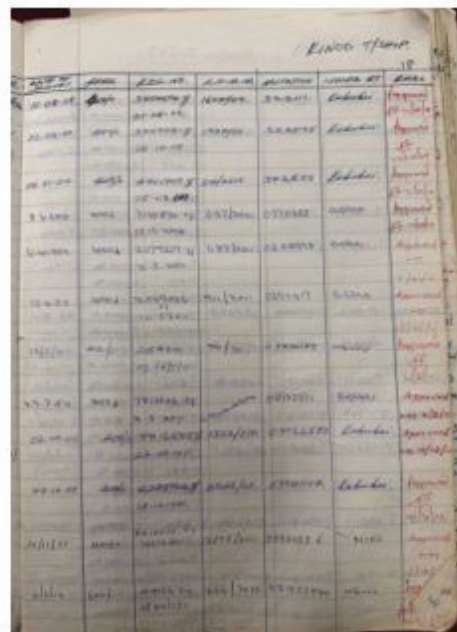
Nonetheless, there has been insufficient research to determine how the current

method in the districts have impacted service delivery; hence, this position paper seeks to advocate for the automation of land survey services that interested parties can use to access information to enhance service delivery.

- Kenya's 2010 Constitution provided a legal foundation, leading to enactment of key laws: the Land Act, Land Registration Act, Environment and Land Court Act, and the National Land Commission.

Challenges in Implementation

- Institutional resistance, capacity constraints, limited political goodwill, inadequate monitoring, and public awareness hinder progress.
- Technological advances, including satellite systems, UAVs, GIS, and cloud computing, are transforming land data acquisition and management, requiring policies to incorporate these innovations (Wayumba G., 2023)



The pictures show how the files are manually arranged. They also show how the data is entered manually in books and recorded. Some of the files are also kept on the floor due to space unavailability.

iv. Options on the way forward.

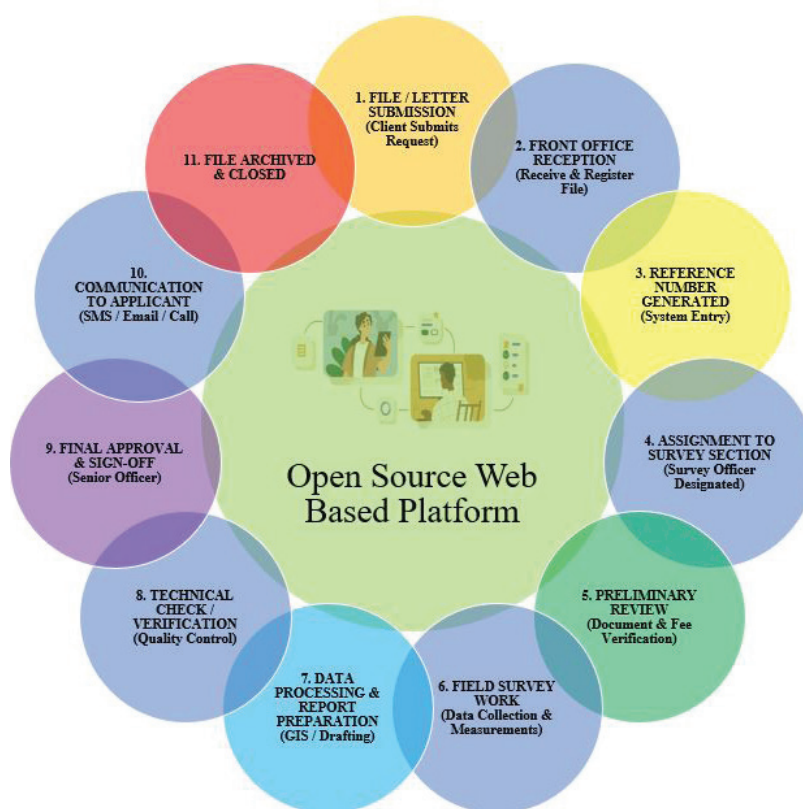
Good land information management

should ensure that information can easily be accessed by the users, at the same time, it should be easily shared from the producer to the users and between the users (Mulaku, 1997)

Based on the stated problem, an open-source-based web platform can be tailored. This platform examines the entire procedure of file, work, and letter

submissions, including the actions taken by individuals, and the status until the file, letter, or work is archived and closed. Figure 1 illustrates the procedures implemented in this single-based platform.

Figure 1: Proposed Open-Source Web Based Platform Work flow



As a way forward for this option model the following should also be taken into consideration;

a) Staff training, development and recruitment

Personnel in the Land survey services and administration in districts need further training. Systems/technologies always evolve hence technicians and managers should be trained. Staff can be trained through seminars, conferences, workshops, and short and long courses. This will make the staff competent and informed.

b) Public Involvement and sensitization

Any invention needs public involvement to flourish because it addresses consumer needs. Public involvement educates the public and evaluates the created or used system. It also helps the community feel important, so they will work together to carry out any proposed development. Since they may have solutions, it improves innovation.

c) Strong Institutional Linkage

Embrace strong institution linkages to

prevent data duplication and overlap. This will streamline data. Linking institutions will allow for data sharing among those using the same data. This linkage will allow institutions to create information for internal use and for external use by other institutions. This reduces the time and cost for institutions to create similar data sets.

v. Implications

According to (Roy, A.) freedom is the essence of open source. Leveraging an open-source application development platform ensures that the application does not become a victim of vendor lock-in. One of the heaviest burdens of an application development is the need for proprietary licenses and tools required for the development process.

The open-source Web based platform if adopted can be implemented nationwide for political development.

The open-source platform can stimulate economic growth by enhancing consumer expenditure, resulting in increased demand for services.

The social growth of the open-

source platform services examines stakeholders' potential adoption in a certain market.

Technological factors will include the utilization of mobile phones and the internet to monitor services.

Environmental factors will lead to a reduction in paperwork and waste.

The legal framework is where policies and legal entities can establish this system to be grounded in law.

By adopting open source, enterprises may guarantee scalability and integration irrespective of the development platform. The advantageous implication is that the program will be free of charge, so no significant financial obligations will be incurred.

Nonetheless, while open source provides a degree of autonomy in program development, its transparent nature renders it vulnerable to dangers.

vi. Recommendations to the cabinet.

This position paper has shown that a well-designed web-based platform System can transform how land services



The Ministry of Lands and Physical Planning ought to implement a web-based system for file tracking and survey workflow in district survey offices nationwide, since it enhances service delivery by enabling online tracking of services at any time and from any location

are recorded, accessed, and managed. By improving data accessibility, the system supports access to files, reduces conflicts, and fosters sustainable development. Future enhancements should focus on scalability, user accessibility, and integration with emerging geospatial technologies.

It is recommended that the problem of land information inefficiency should be dealt with using a multiple approach dimension. The approaches include human resource training and development, consistent availability of financial resources, introduction of IT technologies, use of the integrated approach, public involvement and sensitization. These approaches could be carried out simultaneously or

concurrently if tangible results are to be realized (Oryema, Lillian & Musinguzi et al, 2011).

The Ministry of Lands and Physical Planning ought to implement a web-based system for file tracking and survey workflow in district survey offices nationwide, since it enhances service delivery by enabling online tracking of services at any time and from any location.

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Valuers Professional Negligence: Gaps, Traps and Hacks



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Introduction

Property valuers contribute greatly to the financial sector by providing valuations, which lenders use to assess the risk, determine how much to lend and to sell the property in the event of default. For sustainable valuation practices and for a healthy financial sector, valuation practice must attract and retain the necessary talent, expertise and investment. Yet, valuers professional negligence (VPN) cases now pose an existential threat to individual valuers, valuation firms and valuation practice generally in Kenya.

This article is a summary of the author's presentation in the Valuers' Workshop at

KCB Karen Leadership Centre on 27th March 2026. The video is available at <https://ngothon.co.ke/videos>. This is not a detailed analysis of the cited cases or a discussion of the underlying legal principles in professional negligence. It is a very brief summary of the pertinent principles and exploration of the suitability of alternative dispute resolution procedures (ADR) in the resolution of such disputes.

Several recent court decisions have attracted attention to VPN among valuers, lawyers, banks and insurance companies because of several reasons. First, the sums awarded are quite high. Second is the quick succession in which the cases have come. Third, in

nearly all the cases, the valuers have lost. Fourth, the insurance companies have somehow managed to avoid liability under the professional indemnity policies. Fifth, industry sources say that there are numerous cases in court pending determination.

A professional negligence case is very disruptive. In addition to financial consequences and reputational risks, the resources which such cases demand lead to loss of strategic focus. The consequences like removal from bank panels, payment of damages, legal costs etc can be catastrophic. A valuer's personal and company assets are at risk. VPN cases exert immense pressure on the valuer concerned and

ultimately becomes a health issue due to uncertainty and exhaustion over a long period.

Unique Features

The underlying issue is usually over-valuation of a mortgaged security above the allowable margin of error due to the valuer mis-identifying the property, ignoring important considerations or considering irrelevant factors. The same dynamics could lead to undervaluation, but such rarely lead to VPN cases.

VPN cases have some unique features. One is that the disputes are of a specialised technical nature. The cases are not purely about the law. They are very fact specific, with each scenario differing from the next one. Furthermore, a different valuation opinion is not necessarily negligence. Drawing the line requires expertise in valuation and knowledge of the law. Reading the recently decided cases leaves one doubtful as to whether Kenyan courts apply their minds to this important and delicate aspect.

Usually, it takes 2-5 years after the property valuation for the borrower to default. It is the recovery process which triggers the VPN cases. From the discovery of the problem to the arbitration or litigation and appeals could take 5-7 years. Then the enforcement or recovery against the valuer might take up to 3 years. The entire process takes about 15 years.

Margin of Error

Valuers who have gone to court defending their own valuations or supporting the banks have all agreed that the margin of error is 10% to 15%. That range is from text-books, which are based on markets in Europe and the United States. Many, recent, reliable and certified comparables are readily available there.

The situation is different in Kenya, where even sales data from the Lands Office is unreliable because of under-declarations for tax evasion. The information which is published in locally produced indices and reports gives the trends but the methodology renders the data unsuitable for adoption in valuations.

The second question about the margin of error is: 15% of what? Is it 15% of the

bank valuation of the auction sale or 15% of what? Courts are taking 15% margin of the bank's valuation.

Guaranty Bank case1

The court judgment dated 1st September 2025 found that the valuer was negligent, but the awarded damages were discounted to 30% because the court considered that the valuation was not the only factor which the bank took into account when lending the money. There were other factors and there were other failures in the system, not just the valuation so the valuer should not be blamed alone.

The NCBA Case

In NCBA Bank Kenya PLC v NW Realite Ltd Valuers and Property Consultants Limited [2026] eKLR, the outstanding feature of the ruling is the damages awarded: Ksh. 534 million plus interest at 14% p.a. backdated from 2019. That makes the total just over a billion Ksh, even at simple interest as at the date of the judgment.

The second feature is that the subject property was on the sea front and partly under mangroves, which enjoy statutory protection. Part of the land has potential for salt mining. A good understanding of the valuation methodology and assumptions should have been critical in the determination of the case.

The Stanbic Case2

The arbitrator was a lawyer appointed by the Chartered Institute of Arbitrators Kenya Branch. There was nothing in the arbitration agreement stopping the appointment of a lawyer. Parties which want the arbitrator to have certain skills must specify that in their contract.

The arbitrator and the High Court apparently disregarded several glaring irregularities. The bank's employee sent the valuation instructions to the specific valuer's email and not the company's email which as stipulated in the service level agreement. The valuation firm had no record of having carried out the valuation or receiving a valuation fee. The fraud, was under police investigation following an report filed by the valuation company. Yet the arbitrator and the court

¹ <https://new.kenyalaw.org/akn/ke/judgment/kehc/2025/12495/eng@2025-09-01>

² <https://kenyalaw.org/akn/ke/judgment/kehc/2023/2447/eng@2023-03-17>

ordered the valuation firm to pay the entire loss, without any discount for the bank's contributory negligence.

One of the lessons from this matter is that lawyers are lawyers. Sometimes they understand the law, other times they don't. But whatever the case, ordinary lawyers have difficulties understanding the practical aspects and nuances of property valuation. They will decide VPN cases the best way they know, but might miss something important.

Negotiation and Mediation

ADR procedures are used to resolve various types of commercial disputes out of court. They present varying levels of flexibility, party control, confidentiality, judicial intervention, timelines and costs. Confidentiality is important because reputation is the valuer's greatest asset. Indeed, valuers survive on their reputation.

Negotiation and mediation are popular because of the informality and amicability. Negotiation is the oldest, best and most commonly used method of dispute resolution. It involves the amicable settlement of disputes by the parties without the intervention of a third party. It is cost effective and maintains relationships. The parties resolve the dispute on their own terms.

Banks are generally open to negotiating VPN disputes. However, the power imbalance works to the detriment of valuers, who are sometimes coerced into taking over loans which from borrowers. Such loan takeovers are viable in low-value disputes (under Ksh. 1.0m), especially if the subject property is transferred to the valuer in exchange.

The dynamics are different in mediation, which has all the benefits of negotiation. The mediator ensures that the ground is level. That way the parties can negotiate whatever terms are mutually beneficial.

Even cases which are already in court can be mediated under the court annexed mediation scheme, under which the mediation fee is, at the moment, borne by the judiciary making the process very cost-effective for the parties.

Arbitration

This is a thorough process, the outcome of which is enforceable by the courts.

A professional negligence case is very disruptive. In addition to financial consequences and reputational risks, the resources which such cases demand lead to loss of strategic focus. The consequences like removal from bank panels, payment of damages, legal costs etc can be catastrophic.

An independent and impartial arbitrator hears the parties and determines the dispute taking into account the evidence, facts and the law. The process is very much like court, especially when the arbitrator and both party representatives are lawyers. In fact, if the arbitrator is a lawyer, in terms of the merits of the case, the parties might as well have gone to court.

During the arbitration, nobody other than the bank and the valuer knows about the dispute. However, the benefit of confidentiality is lost when parties have their applications to enforce or set aside the award heard in open court.

The other advantage is that the dispute can be determined by a valuer sitting as an arbitrator because he or she understands the practical issues, nuances and the context.

Another advantage is the finality of the arbitration award. It saves time and costs. Once a case is decided, that's it. Parties move on. There are very limited grounds on which it can be set aside or appealed against.

However, the finality of arbitration is a double-edged sword. To err is human. If the arbitrator gets it wrong, then there is no chance of a proper appeal. Unfortunately, parties learn this too late. Parties could mitigate the risk by reserving their rights of appeal as stipulated in s. 39 of the Arbitration Act 1995.

The other disadvantage is costs. Arbitration can be quite costly and because of that reason, it is unsuitable for low-value disputes. If the dispute in a professional negligent involves under

Ksh. 5.0 million, then, the costs become disproportionate.

Representation in Arbitration

As noted earlier, the valuer can be represented by a lawyer. Self-representation is allowed if someone understands the arbitration process and particularly basics of the law of evidence. Even then, one must be sufficiently emotionally detached to be objective. Otherwise, it helps to be represented either by a lawyer or by a valuer.

A different valuer is suitable for the role because of an understanding of the valuation methodology and pertinent issues. A valuer or lawyer appointed for the role must be conversant with arbitration law and practice. The assumption that every lawyer understands the arbitration process is a myth.

There is a possibility of the insurer bearing the representation costs and the arbitrator's fees if the insurer is involved early. Under the doctrine of subrogation, the insurer in fact steps into the shoes of the valuer in defending the claim.

Representation by the insurer's representative comes with its own challenges. First, there is a possible conflict of interest since the insurer's and the valuer's interests might not be fully aligned. Second, the representative is bound to be a lawyer and not a valuer. Third, the insurer does not consult the valuer when choosing the representative. That compromises both the feedback to the valuer and the spirit of cooperation. Fourth, the representative receives instructions from the insurer and not from the valuer. This disenfranchises

the valuer especially in the raising of interlocutory applications and the presentation of technical aspects of the defence. A know-it-all lawyer becomes obstructive and unhelpful and could undermine the valuer's position.

Making best use of Arbitration

Not every dispute is suitable for reference to arbitration. The choice of whether to agree to an arbitration agreement is a tradeoff, which is informed by various factors. Whatever the case, ideally, the contract should provide for mediation prior to arbitration as mediation is faster, more amicable, preserves relationships and is much less costly.

The first key to arbitrating VPN cases lies in naming the Institution of Surveyors of Kenya as the arbitrator appointing authority and specifying the arbitrator's qualifications in the arbitration agreement. Representation by a valuer who is knowledgeable in arbitration is the second key.

Conclusion

Courts have been inconsistent in their approach to VPN cases. Their application of the margin of error is attributed to valuers' unanimity on the allowable range without consideration of the Kenyan context. There is need for capacity building among valuers to enable them represent themselves and their colleagues in arbitration and to act as arbitrators. ISK should assert itself in the arbitration arena by developing an arbitration clause for use in valuation contracts between valuers and their clients.

Smart Planning, Secure Housing: A Surveyor's Guide to De-risking Kenya's Infrastructure Growth



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Introduction

When citizens discuss Kenya's transformative infrastructure projects such as the expanding multi-lane bypasses, regional water networks, or grand affordable housing initiatives the conversation naturally gravitates toward architectural renderings, heavy earth-moving machinery, and financial investments. Seldom does the public consider the solitary figure peer through a total station telescope or adjusting a GNSS receiver on a roadside tripod.

Yet, every single physical asset that underpins modern society begins and ends with geospatial data. In Kenya's rapidly accelerating urban centres and rural corridors, ignoring the foundational rules of land surveying and spatial

planning does not merely cause project delays; it collapses high-rise buildings, triggers lifelong community land disputes, and drains billions of shillings in public and private capital.

As both a practicing land surveyor and a professional trainer, I believe it is time to demystify the critical role of geomatics in national development. True economy in housing and infrastructure development begins with precise measurement, strict adherence to zoning laws, and an unwavering respect for spatial boundaries.

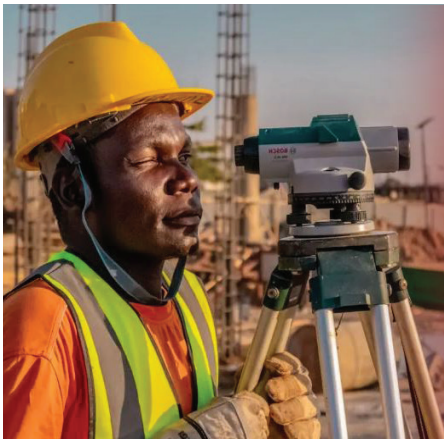
1. The Invisible Foundation: Structural Integrity Begins on the Map

A recurring tragedy in our urban areas most notably in expanding hubs like Nairobi, Kiambu, Kisumu, Eldoret and Mombasa is the catastrophic structural

failure of multi-story residential buildings. While the public and the media are quick to point fingers at corrupt contractors, counterfeit cement, or poor concrete mixing ratios, a significant, understated culprit lies buried at the very beginning of the project life cycle: inadequate engineering surveying and poor site characterization.

Before a single shovel of earth is turned for a high-density housing development, two distinct surveying phases must be meticulously executed:

- ❑ **Topographic and Geotechnical Surveys:** This involves mapping the exact elevations, slope dynamics, and surface features of the parcel, alongside soil profile sampling. Constructing a heavy, multi-story structure on unmapped, highly



When survey trainers are actively engaged in resolving complex boundary disputes or adjusting primary geodetic frameworks out in the field, they teach students how to solve practical, contemporary problems rather than outdated, historical textbook scenarios.

expansive black cotton soil, or directly over a hidden subterranean fault line or old quarry site, is an engineering disaster waiting to happen. Without accurate topographic models, structural engineers cannot accurately calculate load distribution or design appropriate drainage systems.

- ☒ As Built and Engineering Control Surveys: As a building rises, it must remain perfectly vertical and structurally aligned with its design parameters. Surveyors establish precise vertical and horizontal control frameworks inside the construction site. If these controls are absent or poorly monitored, structural deviations creep into the columns and slabs. Over several floors, these minor misalignments compound, creating uneven stress distributions that can cause the entire building to buckle under its own weight.

Professional Insight for the Public: Property developers must stop viewing a comprehensive engineering survey as a costly administrative hurdle. Spending a fraction of a percent of your total budget on a licensed/ professional surveyor to establish high-accuracy control points protects your multi-million-shilling investment from total physical failure.

2. The Corridor Crisis: De-risking Public Infrastructure and Land Acquisition

Kenya is currently navigating an unprecedented infrastructure expansion. Linear projects such as highways, standard gauge railway extensions, electrical transmission grids, and major

water pipelines are cutting across thousands of kilometres of varied terrain. However, these vital public utilities consistently run into a massive, expensive roadblock:

Land Acquisition and Right-of-Way disputes.

When infrastructure corridors are planned and mapped using weak or non-densified geodetic control networks, spatial errors propagate rapidly over long distances. This breakdown in precision manifests in two devastating ways:

- ☒ Inadvertent Public Encroachment: Because existing legacy boundaries are often poorly monumented or inconsistently linked to a unified national coordinate system, citizens frequently purchase land and construct homes on reserves unknowingly earmarked for future roads or railway corridors.
- ☒ Taxpayer-Funded Litigation and Demolitions: When the state eventually moves to reclaim its right-of-way, the public suffers immediate financial ruin through forced demolitions. Concurrently, taxpayers are saddled with the staggering bill of prolonged court injunctions, project variations, and inflated compensation claims driven by overlapping or fraudulent title deeds.

Professional Insight for Decision-Makers: Infrastructure planning must shift from a reactive scramble to a proactive strategy. The state must heavily invest in establishing a dense, modern National Spatial Cyber-Infrastructure specifically, continuously operating reference stations (CORS) and validated primary

control marks across all 47 counties. When infrastructure boundaries are digitally locked, physically monumented, and accessible before development begins, encroachment is neutralized at the source.

3. Protecting the Citizen: Navigating the Minefield of Land Buying

From a public welfare perspective, the ultimate benchmark of a successful housing policy is secure tenure. Yet, thousands of everyday Kenyans lose their hard-earned life savings annually buying parcels of land that exist only on paper, overlap completely with public utility land, or sit entirely within legally protected riparian reserves.

In the training lecture halls, we emphasize to our students that a title deed is only as secure as the physical mutation form or Registry Index Map (RIM) that anchors it to the earth. If a subdivision or layout plan was poorly surveyed, computed, or intentionally falsified, the consequences for the buyer are severe:

- ☒ Spatial Displacement: Your actual physical plot on the ground could be shifted tens of meters away from where your paper title deed indicates it should be, sparking immediate, hostile boundary wars with neighbouring landowners.
- ☒ Structural Encroachment: You may inadvertently construct your dream home inside an adjacent private property, a planned public-school playground, or an ecological wetland, leaving you highly vulnerable to future evictions without compensation.

Professional Insight for the Public: Never purchase a piece of land based solely on

a “site visit” organized by a land-selling company or real estate agent. Before signing any contract or transferring funds, hire an independent, licensed/professional land surveyor to conduct a rigorous physical ground verification (picking the beacons). The surveyor will capture the exact coordinates of the property and cross-reference them with the official survey records held at the Ministry of Lands. If the physical math on the ground does not match the official registry maps, walk away immediately.

4. Bridging Academia and Industry: The Future of Spatial Planning

To permanently de-risk our housing and infrastructure growth, we must evaluate how we train the professionals tasked with mapping our country's future. For decades, geospatial education suffered from an academic-industry disconnect. University curricula frequently favoured theoretical research over hands-on competency with modern, high-precision instruments like LiDAR, drone photogrammetry, and automated

Geographic Information Systems (GIS).

Fortunately, the introduction of modern educational policy frameworks such as the recent Draft Universities (General) Regulations, 2026 promises a profound structural shift. By explicitly awarding academic weighting points for professional field practice and consulting work, the regulations encourage active, licensed surveyors to bring their invaluable field experience back into the lecture room.

When survey trainers are actively engaged in resolving complex boundary disputes or adjusting primary geodetic frameworks out in the field, they teach students how to solve practical, contemporary problems rather than outdated, historical textbook scenarios. This ensures that the next generation of geomatics graduates enters the workforce fully equipped to handle the rigorous demands of Kenya's evolving-built environment.

Conclusion: Shifting from Chaos to

Spatial Order

Sustainable national development cannot occur within a vacuum of chaotic spatial data. If Kenya is to successfully deliver safe, affordable housing and resilient, world-class infrastructure, we must collectively elevate the status of the geospatial professional. The land surveyor must no longer be viewed as an afterthought or a mere “beacon planter” called in to satisfy a bureaucratic requirement; they must be integrated as a core strategic advisor at the absolute inception of the planning phase.

For the everyday citizen, the overarching takeaway is clear: skip the land surveyor during your project's planning and acquisition phase, and you will undoubtedly have to pay for one during your litigation, structural failure, or demolition phase. Real economy, safety, and peace of mind in housing and infrastructure development begin with a single, undeniable truth: precise measurement.



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To be a global leader in provision of quality services in ICT, Engineering, Geomatics, Physical Planning & Environmental Consultancy.

OUR VISION

To provide the highest quality of consultancy services in the most timely and economical way globally, while observing highest professional standards.

20+
YEARS
OF EXCELLENCE
SINCE 2002

OUR SERVICES & KEY ACTIVITIES



LAND & ENGINEERING SURVEYING

- Cadastral & Title Surveys
- Topographical Surveys
- Engineering & Construction Surveys
- Geodetic Control (GNSS/RTK)
- Hydrographic & Bathymetric Surveys
- Road Reserve & Wayleave Surveys
- Drone & Aerial Mapping



GIS & REMOTE SENSING

- Spatial Data Capture & Processing
- Digital Terrain Models (DTM)
- Orthophotos & Thematic Mapping
- GIS Database Development
- LiDAR & High-Resolution Mapping
- Utility Mapping
- Web-Based GIS Solutions



PHYSICAL & URBAN PLANNING

- Local & Regional Plans
- Master & Development Plans
- Zoning & Land Use Planning
- Subdivision Schemes
- Settlement Upgrading
- Feasibility & Socio-economic Studies
- Land Administration Support



ENVIRONMENT & SOCIAL SAFEGUARDS

- Environmental Impact Assessments (EIA)
- Environmental Audits (EA)
- Strategic Environmental Assessments (SEA)
- Resettlement Action Plans (RAPs)
- Environmental & Social Management Plans
- Climate Change & Sustainability Advisory
- NEMA Compliance Support



PPPs & TRANSACTION ADVISORY SERVICES

- Project Concept Development
- Feasibility Studies
- PPP Structuring & Procurement Support
- Financial & Economic Analysis
- Risk Assessment & Mitigation
- Operation & Maintenance Advisory
- Project Monitoring & Evaluation

OUR SURVEYING & MAPPING EQUIPMENT



DJI Matrice 400 RTK
(LiDAR, mmWave Radar, High-Resolution Mapping)



DJI Matrice 300 RTK
(Aerial Mapping & Inspection)



KOLIDA K20S
(Static & RTK GNSS)



Trimble TDC600
(Handheld Survey Controller)



Leica Total Station
(High Precision Surveying)



Sokkia Auto Level
(Levelling & Setting Out)

OUR PROFESSIONAL TEAM

- Land & Engineering Surveyors
- GIS & Remote Sensing Specialists
- Urban & Regional Planners
- Civil & Environmental Engineers
- Architects & IT Specialists
- Environmental Experts

Registered with PPRB, ISK, NEMA, EIK, AAK, KIP

KEY PROJECTS & EXPERIENCE

- 1 Provision of Consultancy Services for Physical Planning, Cadastral Surveying, Valuation, GIS and Remote Sensing, Titling and Environmental and Social Safeguards Services by the Affordable Housing Board.
- 2 Consultancy services for Undertaking of Physical Planning, Cadastral Survey and Detailed Topographical Survey of Various Selected Informal Settlements in Various Counties (Cluster 4 & 1).
- 3 Consultancy Services for Design Review and Construction Supervision of Section of A104 Highway from James Gichuru Road Junction to Rironi.
- 4 Consultancy services to undertake a countrywide Road Inventory and Condition Survey: National Trunk Roads in 2016 and 2021.
- 5 Consultancy Services to provide Transaction Advisory Services for the development and operation and maintenance of Rironi-Mau Summit (A104) PPP Project.
- 6 Consultancy to provide Transaction Advisory Services for the operation and maintenance of Nairobi-Thika (A2) Highway PPP Project.

OUR MANAGEMENT



Mr. David Kuira Gichuki Founder & Managing Director

A seasoned professional with over 30 years' experience in surveying, GIS, planning, environmental management and infrastructure development, providing strategic leadership and technical direction.



M/s Rosetta Muthoni Kuira Director

Leads strategic management, organizational development and operational efficiency, driving the firm's growth and commitment to excellence.

GET IN TOUCH

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Sustainable Development

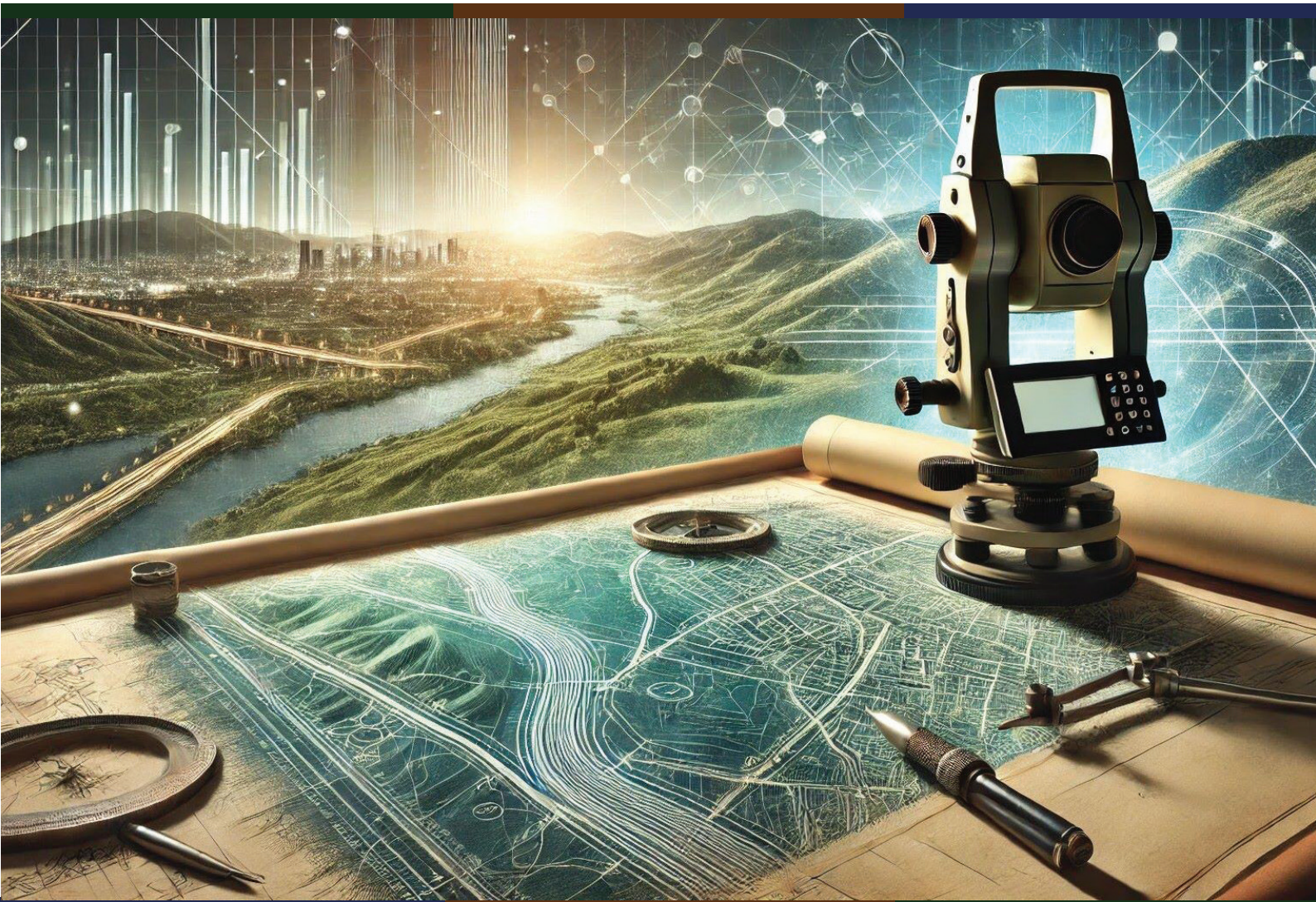


SCAN TO VISIT
OUR WEBSITE

ACCURATE DATA | INFORMED PLANNING | VIABLE INVESTMENTS | SUSTAINABLE COMMUNITIES



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Kenya**



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