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Cadastral Survey Practice in Nigeria: Challenges to Practicing Surveyors

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Abstract: Cadastral surveying is pivotal to Nigeria's land administration, supporting property rights, land registration, and economic development. However, surveyors face significant obstacles, including outdated legal frameworks, limited technological access, inadequate funding, public misconceptions, quackery, and ethical challenges like corruption. This article examines these issues through a review of secondary sources, analyzing their impact on professional practice and proposing solutions. Recommendations include regulatory reform, technological investment, and public awareness campaigns to strengthen cadastral surveying and enhance land governance in Nigeria.

Keywords: *Cadastral Surveying, Land Administration, Nigeria, Surveyors, Challenges, Technology, Ethics*.

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I. Introduction

Cadastral surveying, the process of defining and documenting property boundaries, is a cornerstone of land administration in Nigeria. It facilitates land titling, resolves boundary disputes, and supports urban planning and economic development. With Nigeria's population exceeding 220 million in 2025 and rapid urbanization driving land demand, cadastral surveys are more critical than ever (*Oyinloye, 2017*). However, practicing surveyors face numerous challenges that undermine their effectiveness and the credibility of the profession.

The Surveyors Council of Nigeria (SURCON) regulates the profession, while the Land Use Act of 1978 governs land tenure. Despite these frameworks, systemic inefficiencies persist, with less than 25% of Nigeria's land formally registered in many regions (*Anejionu et al., 2014*). This article explores the key challenges confronting cadastral surveyors, including legal, technological, financial, societal, and ethical barriers. Drawing on secondary data from journal articles, professional reports, and policy documents, it aims to provide a comprehensive analysis for stakeholders, including the Nigerian Institution of Surveyors (NIS), policymakers, and surveyors.

Objectives:

- To identify the primary challenges facing cadastral surveyors in Nigeria.
- To evaluate the impact of these challenges on professional practice and land administration.
- To propose evidence-based recommendations for improving cadastral survey practice.

The article is structured as follows: Section 2 provides an overview of cadastral surveying in Nigeria, Section 3 details the challenges, Section 4 assesses their impacts, Section 5 presents case studies, Section 6 offers recommendations, and Section 7 concludes with a call for reform.

II. Cadastral Surveying in Nigeria: An Overview

Cadastral surveying in Nigeria traces its origins to colonial land administration, with the establishment of the Survey Department in 1900 to formalize land records (*Okoronkwo, 2023*). Today, it involves fieldwork to measure property boundaries, data processing, and the preparation of survey plans for legal documentation, such as Certificates of Occupancy (*Oyinloye, 2017*). These plans are submitted to state Surveyor-General offices for verification, guided by SURCON standards and state policies, such as Lagos State's 2024 Reviewed Cadastral Survey Practice Policy (*NIS, 2024*).

Cadastral surveys serve multiple purposes:

- Establishing legal property boundaries for land titling.
- Supporting land transactions and infrastructure development.

- Resolving boundary disputes, a frequent issue in Nigeria's pluralistic land tenure system, which blends customary and statutory practices.

The process typically includes reconnaissance, boundary marking, field measurements using tools like total stations or GNSS, and the production of survey plans. Despite its importance, the cadastral system is fragmented. Nigeria lacks a comprehensive digital cadastral database, and manual processes dominate in many states (*Anejionu et al., 2014*). Rapid urbanization, particularly in cities like Lagos and Abuja, has increased demand for surveys, exposing systemic weaknesses. For example, Lagos processes over 10,000 survey plans annually, yet delays and disputes remain common (*NIS, 2024*). The following sections detail the challenges surveyors face in this context.

III. Challenges Facing Cadastral Surveyors

a. Outdated Legal and Regulatory Frameworks

Nigeria's cadastral surveying operates under outdated legal frameworks, many rooted in colonial-era laws like the Survey Ordinance of 1929 (*Okoronkwo, 2023*). The Land Use Act of 1978, which vests land ownership in state governors, lacks provisions for modern land administration practices, such as digital cadastral systems (*Babalola & Ogunlade, 2000*). This creates inefficiencies in survey plan approvals, with some states requiring multiple layers of bureaucratic review.

State-specific regulations exacerbate the problem. For example, Lagos State's 2024 policy standardizes survey fees based on land size and location, ensuring surveyors are fairly compensated (*NIS, 2024*). However, other states like Benue or Kano lack similar clarity, leading to arbitrary pricing and exploitation by clients or officials (*Okoronkwo, 2023*). The absence of a unified national cadastral map hinders systematic land registration, forcing surveyors to rely on fragmented, often inaccurate records (*Anejionu et al., 2014*).

These regulations result in:

- Prolonged approval processes, sometimes lasting six months or more.
- Inconsistent survey standards, undermining accuracy and reliability.

Limited legal support for adopting technologies like Global Navigation Satellite Systems (GNSS), which require updated geodetic frameworks (*Okoronkwo, 2023*).

b. Limited Access to Modern Technology

Technological advancements, such as GNSS, Geographic Information Systems (GIS), and drone mapping, have transformed cadastral surveying globally. In Nigeria, however, many surveyors rely on analogue tools or outdated equipment like total stations due to prohibitive costs (*Anejionu et al., 2014*). A modern GNSS receiver, for instance, can cost over N5 million (approximately $3,000 USD), far beyond the reach of small firms or individual practitioners (*Egbuh, 2018*).

Foreign software packages, such as AutoCAD or ArcGIS, are often unaffordable, with annual licenses costing thousands of dollars, or incompatible with Nigeria's cadastral needs, forcing surveyors to use manual computations (*Anejionu et al., 2014*). The national geodetic control network, essential for GNSS accuracy, is also inadequate, with many control points damaged, inaccessible, or outdated (*Kwak, 2019*). These technological limitations lead to:

- Reduced survey precision, increasing the risk of boundary disputes.
- Higher project costs due to time-intensive manual processes, often requiring days for tasks that GNSS could complete in hours.
- Inability to create digital cadastral databases for efficient land administration, critical for urban planning (*Geoinfotech, 2021*).

c. Inadequate Funding and Budgetary Constraints

State survey offices in Nigeria are chronically underfunded, limiting their ability to maintain equipment, train staff, or update cadastral records (*Babalola & Ogunlade, 2000*). Surveyors often finance fieldwork expenses, such as transportation, fuel, and logistics, out of pocket, with clients reluctant to pay competitive fees (*Egbuh, 2018*). For example, a survey in rural areas may require surveyors to travel long distances, incurring costs that exceed client payments.

While Lagos State's 2024 policy sets minimum fees (e.g., N400,000 per hectare in high-value areas), enforcement is inconsistent in other states, where surveyors may charge as low as N50,000 to secure contracts (NIS, 2024). Private surveyors also face financial challenges, as clients prioritize cost over quality, pressuring professionals to cut corners or use substandard equipment (*Oluwunmi & Alison, n.d.*). This funding shortfall contributes to:

- Compromised survey quality due to resource constraints.
- Delayed project delivery, eroding client confidence and professional reputation.
- Limited investment in professional development or equipment upgrades, perpetuating technological gaps (*Enemark, 2022*).

d. Poor Public Perception and Awareness

The public's limited understanding of cadastral surveying diminishes the profession's value. Many Nigerians perceive surveyors as mere "land measurers," unaware of their roles in engineering, hydrographic, or topographic surveys (*Okoronkwo, 2023*). This misconception stems from the absence of surveying education in secondary schools, leaving students uninformed about career opportunities (*Disciplines.ng, 2024*). Unlike medicine or law, surveying lacks visibility in popular discourse, further marginalizing the profession.

Low awareness leads to:

- Underutilization of surveyors' expertise in non-cadastral projects, such as infrastructure development.
- Preference for unqualified practitioners who offer cheaper services, undermining professional standards.
- Resistance to standardized fees, as clients undervalue surveyors' skills and expertise (*Charles, 2020*).

e. Quackery in the Profession

Quackery, the practice of unqualified individuals posing as surveyors, is a significant challenge in Nigeria (*Charles, 2020*). These "quacks" often collaborate with some registered surveyors, producing substandard survey plans that lead to boundary disputes and legal challenges (*Professions.ng, 2023*). SURCON classifies technicians and technologists as support staff, not licensed surveyors, but unregistered individuals exploit regulatory gaps to offer services illegally.

Despite efforts like the 2020 Federal Government Official Gazette to curb quackery, enforcement is weak due to:

- Public ignorance of SURCON's registration requirements, allowing quacks to operate unchecked.
- Collusion between quacks and some registered surveyors, who subcontract work for profit.
- Limited resources for monitoring and prosecuting offenders, with SURCON understaffed and underfunded (*Charles, 2020*).

Quackery undermines the profession's credibility and contributes to errors in cadastral records, which can escalate into costly disputes.

f. Ethical Challenges and Corruption

Ethical dilemmas, including bribery and fraudulent practices, undermine cadastral surveying's integrity (Professions.ng, 2023). Surveyors face pressure to manipulate survey plans or expedite approvals through unofficial payments, particularly in high-value areas like Lagos and Abuja, where land transactions involve millions of naira (*Ogunsina, 2018*). Corruption is systemic in Nigeria's built environment, with surveyors often caught between ethical standards and client demands for quick results (*Oluwunmi & Alison, n.d.*).

For example, a surveyor may be offered a bribe to adjust boundary coordinates, compromising accuracy for personal gain. Refusing such offers can lead to lost contracts or delays, placing ethical surveyors at a disadvantage (*Professions.ng, 2023*). These practices result in:

- Eroded public trust in surveyors' professionalism and objectivity.
- Inaccurate cadastral records, fueling land disputes and litigation.
- Disciplinary risks for ethical surveyors who resist corruption, as they may face ostracism or threats (*Ogunsina, 2018*).

IV. Impact of Challenges on Cadastral Survey Practice

The challenges outlined above have profound implications for surveyors and Nigeria's land administration system:

Professional Practice: Surveyors experience declining morale due to financial strain, public undervaluation, and ethical pressures. The inability to adopt modern technology reduces their competitiveness in a global market, where digital surveying is the norm (*Enemark, 2022*).

Land Administration: Inaccurate or incomplete cadastral data hinders land registration, perpetuating informal tenure and disputes. The absence of a digital cadastre impedes economic development, as secure titles are essential for investment and urban planning (*Geoinfotech, 2021*).

Economic Consequences: Boundary disputes and delayed projects cost Nigeria billions annually in litigation and lost productivity. Low registration rates (less than 25% in some areas) restrict access to credit, as untitled land cannot be used as collateral, limiting economic opportunities (*Anejionu et al., 2014*).

Social Impacts: Land disputes, often fueled by quackery and corruption, have escalated into communal conflicts in states like Enugu and Benue, causing loss of lives and property. For example, a 2022 dispute in Benue over inaccurate survey plans led to clashes, displacing hundreds (*Charles, 2020*).

These impacts highlight the urgency of addressing the challenges to strengthen cadastral surveying and land governance.

V. Case Studies and Comparative Insights

Lagos State's 2024 Cadastral Survey Policy

Lagos State, Nigeria's economic hub, introduced the 2024 Reviewed Cadastral Survey Practice Policy to address some challenges (NIS, 2024). The policy sets minimum fees based on land location and size (e.g., N1.5 million for a plot in Lekki Phase 1) and mandates digital submission of survey plans to the Surveyor-General's office. This enhances transparency, ensures fair compensation, and reduces delays in approvals. However, its applicability is limited to Lagos, underscoring the need for national standardization to benefit surveyors in other states.

The policy also encourages the use of GNSS and GIS, providing guidelines for digital plan formats. While a step forward, its success depends on enforcement and the availability of affordable technology, which remains a barrier for many surveyors (NIS, 2024).

This comparative insight highlight the potential for targeted reforms to address Nigeria's challenges, particularly in technology and regulation.

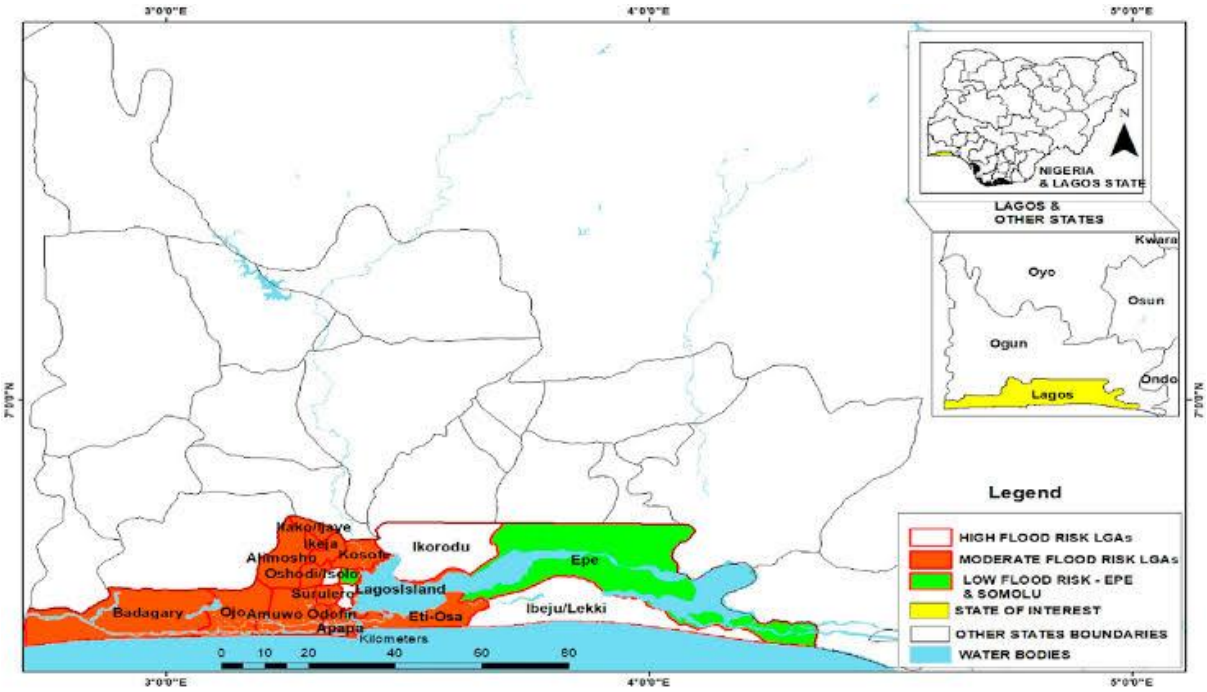

Fig 1 Location map of the study area

VI. Recommendations

To overcome the challenges facing cadastral surveyors, the following evidence-based recommendations are proposed:

1. Regulatory Reform: Revise the Land Use Act to incorporate provisions for digital cadastral systems and standardize regulations nationwide, reducing state-level inconsistencies (*Babalola & Ogunlade, 2000*).

   Enhance SURCON's enforcement powers to streamline survey plan approvals and combat quackery through stricter licensing and penalties (*Charles, 2020*).

2. Technological Investment: Subsidize GNSS and GIS equipment through government partnerships or low-interest loans to make modern tools accessible to small firms (*Anejionu et al., 2014*).

   Develop locally adapted software for cadastral computations, tailored to Nigeria's land tenure system, to reduce reliance on expensive foreign packages (*Geoinfotech, 2021*).
   Expand and maintain the national geodetic control network to improve GNSS accuracy, ensuring reliable reference points for surveyors (*Kwak, 2019*).

3. Funding and Capacity Building: Increase budgetary allocations for state survey offices to support equipment maintenance, staff training, and cadastral record updates (*Egbuh, 2018*).

   Implement mandatory continuous professional development (CPD) programs through NIS to enhance surveyors' skills in modern technologies and ethics (*Enemark, 2022*).

4. Public Awareness Campaigns: Launch NIS-led initiatives, such as media campaigns and community workshops, to educate the public on surveyors' roles and the dangers of quackery (*Okoronkwo, 2023*).

   Introduce surveying as an elective subject in secondary school curricula to attract young talent and raise awareness of the profession (*Disciplines.ng, 2024*).

5. Ethical Enforcement: Establish anonymous whistleblower mechanisms to report corruption and quackery, protecting ethical surveyors from retaliation (*Professions.ng, 2023*).

   Enforce NIS's code of conduct through regular audits and disciplinary sanctions for unethical practices, such as manipulating survey plans (*Ogunsina, 2018*).

6. Digital Cadastral Database: Initiate a nationwide cadastral mapping project to create a digital land registry, integrating data from all states for centralized access (*Geoinfotech, 2021*).

   Leverage GIS and drone technology for cost-effective data collection, particularly in rural and peri-urban areas (*Anejionu et al., 2014*).

These recommendations require collaboration among SURCON, NIS, state governments, and international partners to ensure sustainable implementation.

VII. Conclusion

Cadastral surveying in Nigeria is essential for secure land tenure, economic development, and social stability but is hindered by outdated regulations, technological deficiencies, and societal challenges. These issues undermine surveyors' professionalism and the effectiveness of land administration, with significant economic and social costs. For example, unresolved boundary disputes cost Nigeria an estimated N2 trillion annually in litigation and lost investment, while informal tenure limits access to credit for millions (*Anejionu et al., 2014*).

By implementing regulatory reforms, investing in technology, and addressing ethical concerns, Nigeria can strengthen its cadastral system. SURCON and NIS must lead efforts to empower surveyors through training, enforcement, and advocacy, while policymakers should prioritize a national digital cadastre. Collaboration with international organizations, such as the World Bank, could provide funding and technical expertise for these reforms (*Kwak, 2019*).

Future research should explore the feasibility of a national digital cadastre, including cost estimates and timelines, and evaluate the impact of emerging technologies like drones on cadastral surveying. By addressing these challenges, Nigeria can build a robust land governance framework that supports sustainable development and equitable access to land resources.

References

1. Anejionu, O., Ndukwu, R., & Elochukwu, A. (2014). Design and development of surveying computational software for land reform administration. Academia.edu.
2. Babalola, S. O., & Ogunlade, S. O. (2000). Strains on cadastral surveying in Nigeria. ResearchGate.
3. Charles, C. (2020). Fighting quackery in cadastral surveying is complicated, says Charles. The Guardian Nigeria.
4. Chileshe, R., & Mulenga, M. (2014). Examining the challenges of cadastral surveying practice in Zambia. South African Journal of Geomatics, 3(1), 1–15.
5. Disciplines.ng. (2024). Introduction to land surveying in Nigeria: Basics and scope. Disciplines.ng.
6. Egbuh, I. (2018). Costing of surveying, mapping and geoinformation projects in Nigeria. Academia.edu.
7. Enemark, S. (2022). Surveying education: Facing the challenges of the future. ResearchGate.
8. Geoinfotech. (2021). GIS, drone mapping, surveyor and remote sensing Nigeria. Geoinfotech.ng.
9. Kwak, D. K. (2019). How can we help surveyors in Tanzania understand the promise of new technology? World Bank Blogs.
10. Nigerian Institution of Surveyors (NIS). (2024). 2024 Reviewed Cadastral Survey Practice Policy in Lagos State. NIS Lagos.
11. Ogunsina, O. (2018). Factors confronting quantity surveying profession: A case of Nigeria. Academia.edu.
12. Okoronkwo, C. (2023). Surveying in Nigeria: Academic and professional challenges. MyCoordinates.org.
13. Oluwunmi, A., & Alison, B. (n.d.). Challenges facing sustainable real estate marketing and practice in emerging economy: Case study of Nigeria. Semantic Scholar.
14. Oyinloye, M. A. (2017). The importance of cadastral survey information for effective land administration in Nigeria. International Journal of Environment and Pollution Research, 5(1), 1–10.
15. Professions.ng. (2023). Nigeria's land surveying: Standards, ethics, and practice. Professions.ng.