**AN ASSESSMENT OF CADASTRAL PRACTICE IN NIGER STATE FOR EFFECTIVE LAND TITLING SYSTEM**

**BY**

**SHEHU, Sani Mamman MTech/SET/2017/7127**

**DEPARTMENT OF SURVEYING AND GEOINFORMATICS FEDERAL UNIVERSITY OF TECHNOLOGY MINNA NIGER STATE**

**AUGUST, 2021**

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**SHEHU, Sani Mamman MTech/SET/2017/7127**

**A THESIS SUBMITTED TO THE POSTGRADUATE SCHOOL, FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA, NIGERIA, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTERS OF TECHNOLOGY IN SURVEYING AND GEOINFORMATICS.**

**AUGUST, 2021**

# DECLARATION

I hereby declare that this thesis “**An assessment of cadastral practice in Niger State for effective land titling system**” is a collection of my original research work and it has not been presented for any other qualification anywhere. Information from other sources (published or unpublished) has been duly acknowledge.

SHEHU, Sani Mamman ------------------------------------

M.TECH/SET/2017/7127 Signature & Date FEDERAL UNIVERSITY OF TECHNOLOGY

MINNA, NIGERIA

# CERTIFICATION

The thesis titled **“An Assessment of Cadastral Practice in Niger State for Effective Land Titling System”** by: SHEHU, Sani Mamman (MTech/SET/2017/7127) meets the regulations governing the award of the degree of MTech of the Federal University of Technology, Minna and it is approved for its contribution to scientific and literary presentation.

Dr. J. O. Odumosu

SUPERVISOR Signature & Date

Prof. Ahmed Musa

HEAD OF DEPARTMENT Signature & Date

Prof. R. E. Olagunju

DEAN, SCHOOL OF ENVIRONMENTAL Signature & Date TECHNOLOGY

Prof. O. K. Abubakre

DEAN OF POSTGRADUATE SCHOOL Signature & Date

# ACKNOWLEDGEMENTS

I give praise to the Almighty Allah (SWT) that gives me life, strength and wisdom to embark on this academic pursuit.

I appreciate my humbly and able supervisor Surv. Dr. J. O. Odumosu who despite his tight schedules took his time to guide me all through and scrutinize this research work in making sure it met the standard of the Postgraduate School, Federal University of Technology Minna, Nigeria.

I am delighted to show my appreciation to the Head of Department; Prof. Ahmed Musa for his fatherly advice and professional knowledge accorded me all through the program.

I sincerely acknowledged my mentor Surv. Dr. Y. D. Opaluwa for the knowledge, generosity, support, guidance and encouragement exacted on me throughout this program. In fact, the whole idea that spurred my interest to embark on this work originated from him.

I appreciated other lecturers of the department; Prof. I. J. Nwadialor, Prof. I. C. Onuigbo, Prof. T. O. Idowu, Surv. Dr. O. G. Ajayi, Dr. E. E. Etim, Dr. K. U. Orisakwe for impacting survey and moral knowledge, including advices, kindness and support all through the program.

I cannot but thanked Surv. G. Adeniyi and Surv. P. Ibrahim who also help.

I also appreciate my Parents, lovely and hardworking wife (Halimatu Sa’adiyat) who has remained patient and supportive in prayers throughout this program. Thanks to my (Children; Abdulgaffar, Aishatu, Maryam, Balkisu and Saratu) and the entire Shehu’s family who have being supportive in prayers for the fulfillment of my academic dreams.

I salute the team spirit and working relationship exhibited by the MTech Class 2017 whom despite the rigor deployed much effort, hard work, dedication, kindness and courage in ensuring that the program is a success. The Class 2017 include; Mr. James Ibrahim (late), Mal. Bala Mohammed, Surv. Abubakar Wanthanafa., Surv. Danlami Dantani, Mr. Banji Ishola and Miss Fatima Ogunlese.

May Allah (SWT) continue to guide and make it easy for all of us (Amin). I sincerely appreciate my brothers in progress; Mr. Oluwatobi Adetunji, Mr. Emmanuel and Adulkadir (programmer) for their generosity and support throughout this research work, May Allah (SWT) continue to uplift all of us in knowledge, health, wealth, kindness and humanitarian services (Amin).

# DEDICATION

This Thesis is dedicated to Allah, to my Parents (Alhaji Shehu and Hajiya Aishatu), who has interest in education and to everyone in pursuit of knowledge.

# ABSTRACT

The product of a Cadastral Surveys is an essential subset for effective land titling. Land titling procedure in Niger State has been an age-long concern among geo-spatial experts. This study presents a revalidation survey of 20 selected Title Deed Plans (TDPs) with a view to identify possible positional, dimensional, orientational and locational errors in them. The V30 Pro GNSS DGPS receiver unit was used to conduct the revalidation survey and compared with existing TDPs. Fifteen (15) out of the twenty (20) resurveyed land titles does not met the required accuracy for Third Order cadastral surveys as prescribed in the cadastral law. The deviation in orientation between the existing and resurveyed TDPs range between 04032’28’’ and 10015’56’’ while the difference in distances range between

0.86 and 1.64 respectively. Based on the obtained result, the observational and procedural standards were recommended. The study therefore developed a web-based application. The developed web-based application used the Google Earth Imagery as base map. In order to ensure datum/positional consistency between the existing cadastral system and the Google Earth, the seven (7) parameters transformation model developed by OSGOF (2018) was embedded into the program to automatically transform all coordinates from Clarke 1880 to WGS84. The web-based application was developed with HTML, CSS, JavaScript and PHP, and is capable of aiding land verification improving accuracy of land measurements for effective cadastral practice in Niger State. The study recommends that revalidation survey should be embarked upon on all the existing titles in the State.

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# LIST OF ABBREVIATIONS

|  |  |
| --- | --- |
| **Abbreviation** | **Meaning** |
| AGM | Annual General Meeting |
| CSP | Cadastral Survey Policy |
| CSPP | Cadastral Survey Practicing Policy |
| CIS | Cadastral Information System |
| C of O | Certificate of Occupancy |
| DSG | Deputy Surveyor General |
| DGPS | Differential Global Positioning System |
| DLTRS | Digital Land Titling Registration System |
| EDM | Electronic Distance Measurement |
| FCT | Federal Capital Territory |
| FGDC | Federal Geographic Data Committee |
| GIS | Geographic Information System |
| GNSS | Global Navigation Satellite System |
| GPS | Global Positioning System |
| HGPS | Handheld Global Positioning System |
| HOD | Head of Department |
| I to S | Instruction to Survey |
| LIS | Land Information System |
| LGAs | Local Government Areas |
| MLH | Ministry of Land and Housing |
| NSDI | National Spatial Data Infrastructure |

|  |  |
| --- | --- |
| NSRS | National Spatial Reference System |
| NIGIS | Niger State Geographic Information System |
| NIS | Nigeria Institution of Surveyors |
| PS | Practicing Surveyor |
| PIDS | Preliminary Index Diagrams |
| PTCLR | Presidential Technical Committee on Land Reform |
| PLSS | Public Land Survey System |
| RAM | Read Access Memory |
| RTK | Real Time Kinematics |
| RS | Revalidation Survey |
| SFML | Sourced From Ministry of Land |
| SEC | State Ethics Committees |
| SURCON | Surveyors Council of Nigeria |
| SG | Surveyor General |
| TDP | Title Deed Plan |
| TS | Total Station |
| US DoD | United State Department of Defense |
| USDA FS | United State Department of Agriculture Forest Service |
| USDI BLM | United State Department of the Interior Bureau of Land Management |
| WAAS | Wide Area Augmentation System |
| WGS84 | World Geodetic System 84 |

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