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

BY

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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 Information from other sources (published or unpublished) has been duly acknowledge.

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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.

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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 $04^0$32'28'' and $10^0$15'56'' 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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