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

**BY**

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

**AUGUST, 2021**

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 Information from other sources (published or unpublished) has been duly acknowledge.

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.

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# 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.

# TABLE OF CONTENTS

**Content Page**

Cover page i

Title page ii

[Declaration iii](#_TOC_250006)

[Certification iv](#_TOC_250005)

Acknowledgement v

[Dedication vii](#_TOC_250004)

[Abstract viii](#_TOC_250003)

[Table of contents ix](#_TOC_250002)

List of Tables xiv

List of Figures xv

List of Plates xvi

[List of Abbreviations xvii](#_TOC_250001)

[List of Appendices xix](#_TOC_250000)

CHAPTER ONE 1

* 1. INTRODUCTION 1
	2. Background to the study 1
	3. Cadastral survey practice in Nigeria 3
	4. Improvement in cadastral surveying practice 4
	5. The Niger State scenario 4
	6. Consideration for a reliable TDP 6
	7. Statement of the Research problem 7
	8. Justification of the study 7
	9. Aim and objectives of the study 7
	10. Limitation of the study 8
	11. Scope of work 8
	12. Study area 9

CHAPTER TWO 10

* 1. LITERATURE REVIEW 10
	2. Review of Theoretical Concept 10
		1. Pre-colonial era 10
		2. Colonial era 10
		3. Current land tenure system 12
	3. Land administration 13
	4. Land governance 16
	5. Land titling 18
	6. Cadastral surveying 19
	7. Review concept and related works 20
		1. Theoretical legal aspects 22
		2. South east 23
		3. South west 24
		4. North central 24
	8. Procedure (laws and regulations) 26
		1. Administrative processes for obtaining C of O registration (statutory)

in Niger State 27

* + 1. Administrative processes for first registration (customary) in Niger State 28
	1. Overview of land titling in Niger State 29
	2. Roles of cadastral survey practicing in land titling 33
	3. Review of related literatures 33
	4. Accuracy test of real time kinematics (RTK) DGPS 37
		1. Standard for positional accuracy 38

CHAPTER THREE 41

* 1. MATERIALS AND METHODS/RESEARCH METHODOLOGY 41
	2. Project planning 41
	3. Materials and Method 41
		1. Materials 41
		2. Method 41
		3. Office reconnaissance 44
		4. Field reconnaissance 44
		5. Integrity test of instrument 45
		6. Integrity check of the control used 45
		7. Project specification 46
	4. Data acquisition 46
		1. Geometric data 46
		2. Data processing 47
		3. Graphical presentation 47
		4. Accuracy Analysis 48
	5. Overlaying operation 48
		1. Intelligent sheet history 49
	6. Development of web-based application 49
		1. Transformation parameters use to achieve the web-based application 54
		2. The existing two (2) coordinate transformation parameters use for

cadastral survey practice in Niger State. 55

CHAPTER FOUR 56

* 1. RESULTS AND DISCUSSION 56
	2. Results 56
		1. Geo-reference IS 56
		2. The implication of the resurvey operations of the TDPs 56
		3. Identifying some possible causes of the discrepancies between selected

TDPs and the resurveyed TDPs 57

* 1. Analysis of results 58
	2. Result of the web-based application 60
		1. The landing page 60
		2. The login page 61
		3. Surveyor registration page 61
		4. Surveyor display page 62
		5. Add title deed plan (TDP) page 62
		6. Add chart page 63
		7. TDP status page 63
		8. Pending TDP page 64
		9. Accept or reject TDP page 64
		10. The land Google imagery page 65
	3. The validation of the resurveyed TDPs 65

CHAPTER FIVE 67

* 1. CONCLUSION AND RECOMMENDATIONS 67
	2. Conclusion 67
	3. Recommendations 68
	4. Suggestions for further study 69

REFERENCES 70

|  |  |  |
| --- | --- | --- |
|  | **LIST OF TABLES** |  |
| **Table** |  | **Page** |
| 2.1 | Local accuracy standards | 38 |
| 2.2 | Network accuracy standards | 39 |
| 2.3 | Nigeria and GPS survey parameters | 40 |
| 3.1 | Hi-Target V30 Pro GNSS-DGPS accuracy specification | 43 |
| 3.2 | Coordinates and height of control Pillars used for the research work | 44 |
| 3.3 | Integrity check of the control used | 46 |
| 3.4 | Hi-Target GNSS-DGPS receiver setting | 48 |
| 3.5 | Use case description | 53 |
| 3.6 | The seven (7) transformation parameters | 54 |
| 3.7 | The existing two (2) coordinate transformation parameters use by cadastral survey practitioners in Niger State | 55 |
| 4.1 | Statistics of 10No. TDP’s revalidation survey result for Chanchaga Local Government Area Minna. | 59 |
| 4.2 | Statistics of 10No. TDP’s revalidation survey result for Bosso Local Government Area Bosso | 59 |

|  |  |  |
| --- | --- | --- |
|  | **LIST OF FIGURES** |  |
| **Figure** |  | **Page** |
| 1.1 | Map of Nigeria showing the boundaries of each State, Niger State verged in gray and study area in pink and white | 9 |
| 3.1 | Work flow diagram showing the steps involve in the study | 42 |
| 3.2 | System Design | 50 |
| 3.3 | Preliminary structure diagram of the system | 52 |
| 4.1 | Screen shot showing the geo-reference IS with gridded lines | 56 |
| 4.2 | Overlay plot of revalidation survey (red) and existing TDP (blue) | 57 |
| 4.3 | Chart shows the percentage of fit and misfit of orientational accuracy | 59 |
| 4.4 | Chart shows the percentage of fit and misfit of orientational accuracy | 60 |
| 4.5 | Screen shot showing the landing page | 60 |
| 4.6 | Screen shot showing the login page | 61 |
| 4.7 | Screen shot showing the registered surveyors page | 61 |
| 4.8 | Screen shot showing the display of registered Surveyor’s page | 62 |
| 4.9 | Screen shot showing the page were titleholders data are inputted, upload TDPs and submitted by Surveyors for further processes | 62 |
| 4.10 | Screen shot showing the page to add chart (TDPs) by the surveyors | 63 |
| 4.11 | Screen shot showing the TDPs status page as Submitted by the surveyors | 63 |
| 4.12 | Screen shot showing the pending TDPs page with the Deputy Surveyor General in (yellow) and approved TDPs in (green) | 64 |
| 4.13 | Screen shot showing the Surveyor General approved TDP’s page | 64 |
| 4.14 | Screen shot showing the position of the resurveyed TDPs coordinates (Clarke 1880) plotted on WEB-Base application base map (Google Earth) after transforming the coordinates to WGS84 | 65 |

|  |  |  |
| --- | --- | --- |
|  | **LIST OF PLATES** |  |
| **Plate**I | A set of V30 Pro GNSS-DGPS Receivers | **page**44 |

# 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 |

# LIST OF APPENDICES

**Appendix Page**

1. Secondary data of land properties sourced from the Ministry of Land And Housing Minna, used for the production of TDPS and processing

C. of Os within Minna Metropolis, Niger State. 79

1. Field data (primary data) of TDPs revalidation survey of land properties issued C of Os within Minna Metropolis, Niger State. 82
2. The discrepancies on the deviation and distances of the existing TDPs

data (coordinates) SMLH and the revalidation Surveys 85

1. Accuracy of the revalidation survey at each point of observation 90
2. Extracted raw data 93
3. Programming steps 97