Implementation of Social Tenure Domain Model in Okpoko, Anambra State, Nigeria.

Onwuzuligbo C. U.[1], Nnam V. C.[2], Alozie P. O.[1], Ejezie E. V.[1]
1. Department of Surveying and Geoinformatics,
Nnamdi Azikiwe University, Awka Nigeria
2. Geo-Synergy Services LTD

SUMMARY

Everyone has a relationship to land as it is one of the greatest resources in human existence that is limited globally and its adequate administration will lead to optimal utilization. Most interests on land deserve to be protected, although studies have shown that informal interests (rights) are not adequately protected especially in slums like Okpoko. Social Tenure Domain Model (STDM), a pro-poor based land administration model developed by UN-Habitat through Global Land Tool Network (GLTN) and supported by FIG, targets the protection of these informal rights as well as the formal. This study targets the use of Okpoko as a sample for the implementation of STDM in Nigeria. To achieve this, the Google Earth image was sourced, imported into Quantum GIS and vectorized. A questionnaire was used to acquire attribute data and the database of the study was developed on the STDM plug-in of Q-GIS. It was discovered amongst others that a lot of temporary structures exist in the study area, basic infrastructure like roads and water are lacking in the area. After the database was created queries such as owners' name, tenure system practiced, purpose of the building, were ran amongst others. The study successfully developed the STDM for Okpoko and the settlement map was produced. It was recommended that this model be adopted by the Land Ministry of the state for efficient administration of the area. Also other developers in the country are encouraged to adopt STDM in the management of their estates and housing projects, because it gives access to digital, fast and reliable means of Land Administration that accommodates all and sundry.

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1. INTRODUCTION

Land is a delineable area of the earth's terrestrial surface, encompassing all attributes of the biosphere immediately above or below this surface (Food and Agricultural Organization FAO, 1995). In fact, it is the ultimate resource, for without it life on earth cannot be sustained; it is both a physical commodity and an abstract concept in that the rights to own or use it are as much a part of the land as the objects rooted in its soil. Land affects human activities in every sphere of life, but is a finite resource and competition for it is intensifying because of rapid urbanization, growing populations, economic developments amongst many factors. According to United Nations Human Settlement Programme UN-Habitat (2012), millions of people around the world face difficulties related to land even though they or their families may have lived on the land for many years. It is a growing concern; most times the greatest hurt is that they have no formal relationship to it. Therefore, good stewardship of the land is essential for present and future generations.

The abstract concept of land which deals with ownership affects human activities a great deal. Land is a scarce resource and the greatest threat is that whereas the interest in land is growing in size, land does not increase. Because of this threat, the proper management of land and its administration is very important. The types of interest and rights exercised over land are referred to as Land Tenure. The type of land tenure varies from place to place, and is greatly dependent on socio-cultural and demographic factors (UN-HABITAT, 2006). Some tenure types, such as freehold, leasehold, tenancy and others are formal, documented and titled. However, other types such as squatting, reversal, remainder and temporary structures (batchers) are informal, non-documented and not titled. Most of these informal rights exist in slums and the inhabitants are mostly the very poor in the society. These poor individuals, because of the fact that their rights are not formal, are at the mercies of the wealthy ones and land grabbers oppress them at will, since it is very easy to eject them because they posses no official documents linking them to the land. UN-HABITAT (2012) indicates that there is no security of tenure for the people living in Okpoko.

It is therefore important that a functional Land Management and Administration system be put on ground to help save the situation. This research seeks to test the Social Tenure Domain Model (STDM), which is a pro-poor land administration tool, on the study area for its management. STDM was chosen because other land administration methods like Land Administration Domain Model (LADM) are very formal and hardly accommodates the non-formal or social rights.

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2. OKPOKO

Okpoko is located in Ogbaru local government area of Anambra state Nigeria. It lies between latitudes 6°06'34''N and 6°07'49''N and longitudes 6°46'38''N and 6°47'41''E. The area is about 3,063 square kilometres. It shares its boundaries with Onitsha South Local Government Area of Anambra state, Nigeria. The vegetation of the study area is a sub-climax of the original rain forest. According to UN-HABITAT (2012), Okpoko is the largest suburban slum in Onitsha Metropolis and remains one of the most densely populated slums in Nigeria. Its population grew very fast from 31,000 in 1978 to 128,417 in 1998 and as of 2007, the population of Okpoko was estimated at 177,608 (The World Gazetteer, 2009). Most of the undeveloped properties and incomplete buildings within Okpoko are occupied by squatters in temporary structures. The roads are majorly un-tarred, there is no pipe borne water in the area. Save for the privately owned boreholes, the only source of water in the area is water vendors who sell water off their tankers. Their major economic activities are street trading and hawking. Figures 1 and 2. indicate the location of Okpoko and a digitized map of the area.
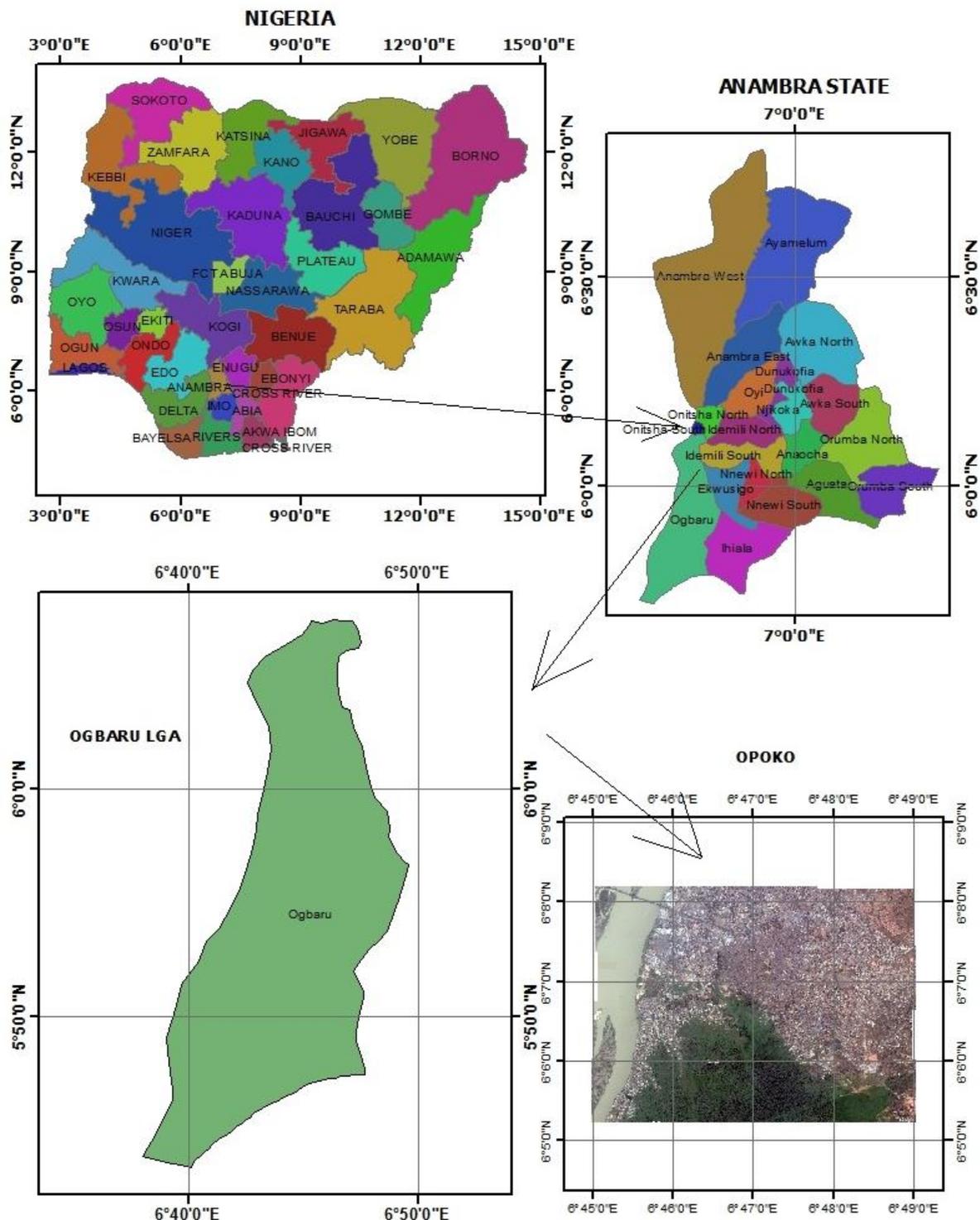
Okpoko has a huge number of inhabitants who are mostly squatters, batcher dwellers, overpopulated public yards and a few decent apartment houses inhabited by tenants. Access to land ownership is difficult in the area owing to the tussle between Onitsha and Obosi communities. UN-HABITAT (2012) shows that there is no master plan for Okpoko which makes it difficult to actually model the area, nor manage the influx of people into the slum. Furthermore, the average number of individuals per household in Anambra State according to National Population Commission (2006) is 4.663 but the average for Okpoko is 5.874.

3.TENURE SECURITY

Slum dwellers are living in constant fear of losing the land upon which they lead their lives. They lack the security of their tenures and by extension; lack the confidence to adequately invest on land and the eagerness to make their abode better. Tenure Security is defined by the Federation of International Surveyors (FIG) and the United Nations Centre for Human Settlement(UNCHS) as:
  i.   Protection against eviction;
  ii.   The possibility of selling, and transferring rights through inheritance;
  iii.   The possibility (of having a) mortgage; and
  iv.   Access to credit under certain conditions.

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## MAP NIGERIA SHOWING ANAMBRA STATE, LOCAL GOVERNMENT AREAS AND THE PROJECT SITE (OKPOKO)

Fig 1: Map of Nigeria, Anambra State and Ogbaru Local Government Area.

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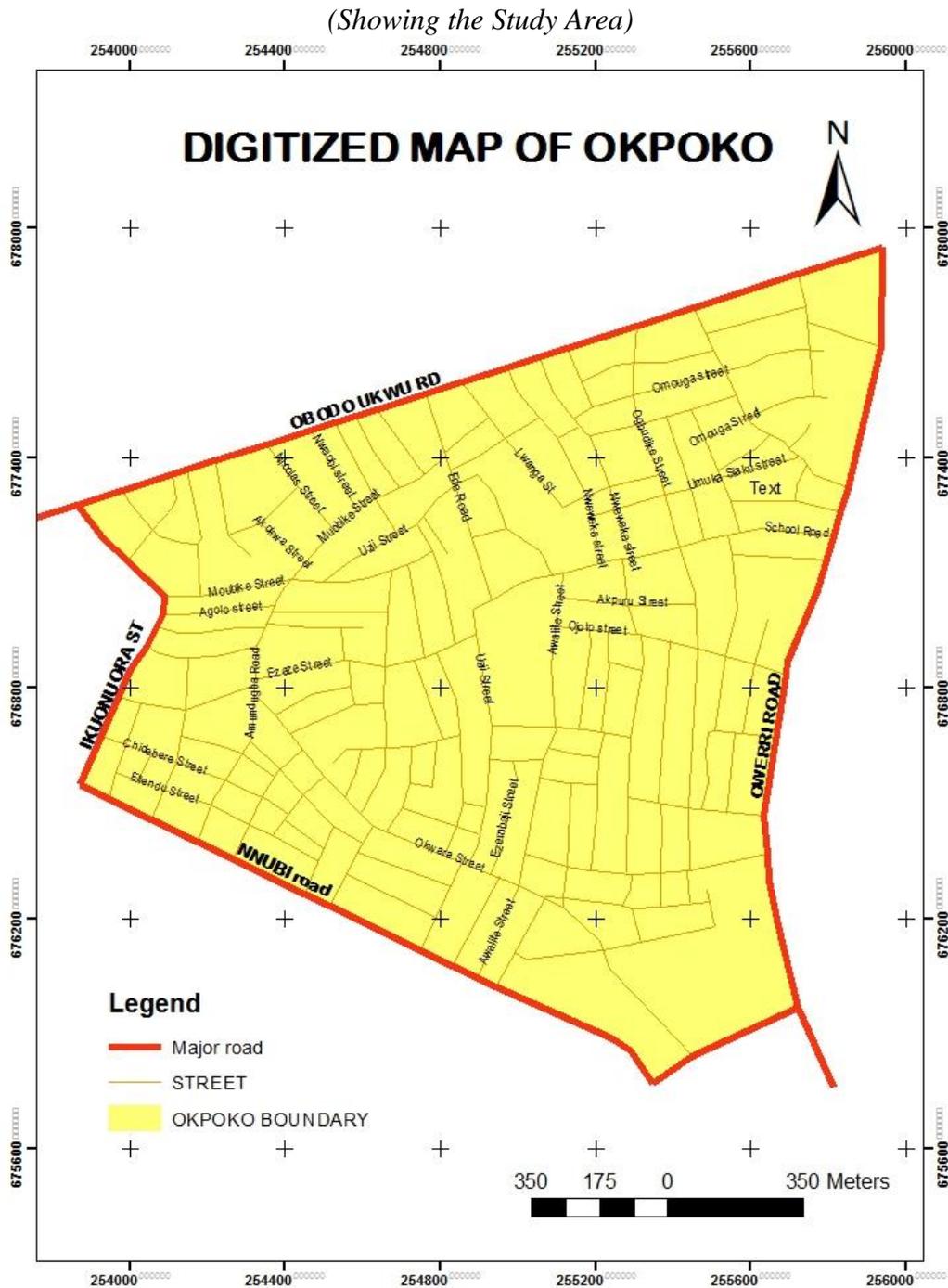
Fig 2: Map of Okpoko (Study Area)

FAO (2003) and UN-HABITAT, (2003) Land tenure security can be as the degree of confidence that land users will not be arbitrarily deprived of the rights they enjoy over land and the economic benefits that flow from it. Palmer *et.al.* (2009) indicated that security of tenure refers to the degree of certainty that one's land rights will be recognized by others and protected in case of specific

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challenges. One major component of security is thus effective protection against the arbitrary curtailment of land rights with enforceable guarantees and effective remedies against the loss of these rights. The lack of this component affords confidence. A second component is a reasonable duration of rights appropriate to the use to which the land is being put. A right to use land for a six month growing season may give a person sufficient security to invest in vegetable production, but the tenure is unlikely to be secure enough to encourage long term investments such as planting trees or building irrigation systems. Slum dwellers do not get this leisure.

4.LAND ADMINISTRATION

Because there is a dire need to adequately manage land and control its use in order to optimize its utility and ensure the protection of peoples' rights to it, the land is managed and administered by different authorities at different stages and areas. According to United Nations Economic Commission for Europe (UNECE, 1996) land administration refers to the process of recording and disseminating information about the ownership value and the use of land and its associate resources. Also Williamson *et.al.* (2010) described land administration as the process run by government using the public agencies to administer and manage land tenure, land value, land use and land development. In the view of Williamson *et.al.* (2010), land administration is an infrastructure for implementing land policies and land management strategies in support of sustainable developments. It includes the infrastructural arrangement, a legal framework process, standard land information management and disseminating system and technologies required to. From this perspective, the term land administration is used to refer to the process of regulating land and property development and the use and conservation of land, the gathering of revenue from the land through sales, leasing and taxation and resolving of conflict concerning ownership and use of land as described by Dale and Mc Laughling (1999).

Land administration includes the systems for land registration, land use planning, land management and property taxation (Palmer *et.al.* 2009). It involves the processes of determining, recording and disseminating information about the ownership, value and use of land and its associated resources. Such processes include the determination (sometimes known as the "adjudication") of rights and other attributes of the land, the survey and description of these, their detailed documentation and the provision of relevant information in support of land markets.

Despite the enormous efforts made in this regards in many countries, land administration often serve only a small proportion of the population, usually the more wealthy. This chiefly depends on the fact that most methods of administration in used in many countries only recognize the formal rights. Therefore, huge numbers of people are still to have their relationship to land documented and protected (UN-Habitat, 2012). In order to solve this problem, it is important to accommodate the informal rights in the administration of land. To achieve this, the administrator has to gear towards the formalization of the informal rights. This formalization of rights is what UN-Habitat, (2008) described as Continuum of Rights.

Each continuum provides different sets of rights and degrees of security and responsibility UN-Habitat, (2008). Each enables different degrees of enforcement. Across a continuum, different tenure systems may operate and the right of one person starts where another person's end. Most
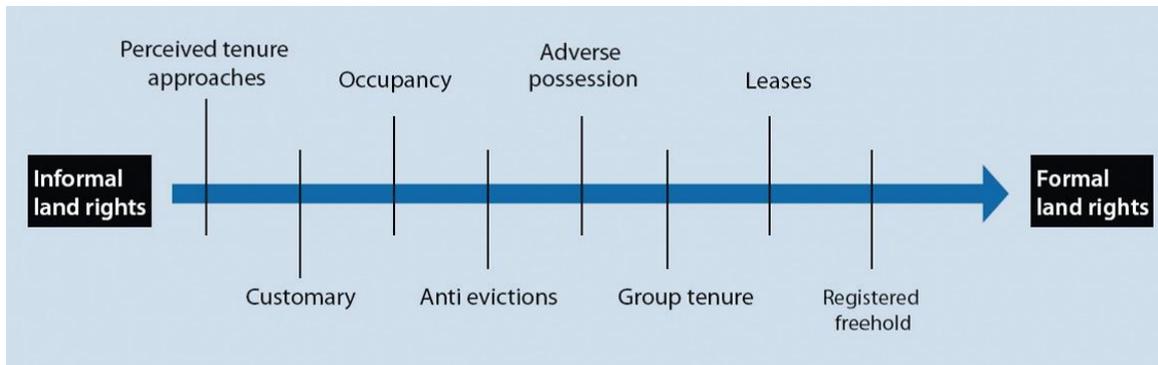
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importantly as can be seen in figure 3, all rights would be accommodated and protected. This idea is the underlying principle that lead the UN-Habitat through GLTN to develop the land administration model known as Social Tenure Domain Model (STDM).

Fig 3: Continuum of land rights
Source: (UN-Habitat, 2008).

5.STDM

The Social Tenure Domain Model commonly known as STDM is a pro-poor land information system developed by UN-Habitat through GLTN, with the International Federation of Surveyors (FIG), and the Faculty of Geo-Information Science and Earth Observation at the University of Twente as partners. It is basically about people-land relationships and is intended to broaden the traditional scope of land administration by providing a land information management framework that would integrate formal, informal, and customary land systems, as well as integrate administrative and spatial components. It is developed to run as an extension on Quantum GIS, a widely used and open-source software package, to record information about land regardless of the level of formality.

Lemmen (2013) extensively explained that in STDM, land rights may be formal ownership, apartment right, usufruct, freehold, leasehold, or state land. It can also be social tenure relationships like occupation, tenancy, non-formal and informal rights, customary rights (which can be of many different types with specific names), indigenous rights, and possession. STDM seeks to close the gap created by other forms of land administrations by being social in nature. It looks beyond the rights to the people. It is about all people and all types of 'people – land' relationships.
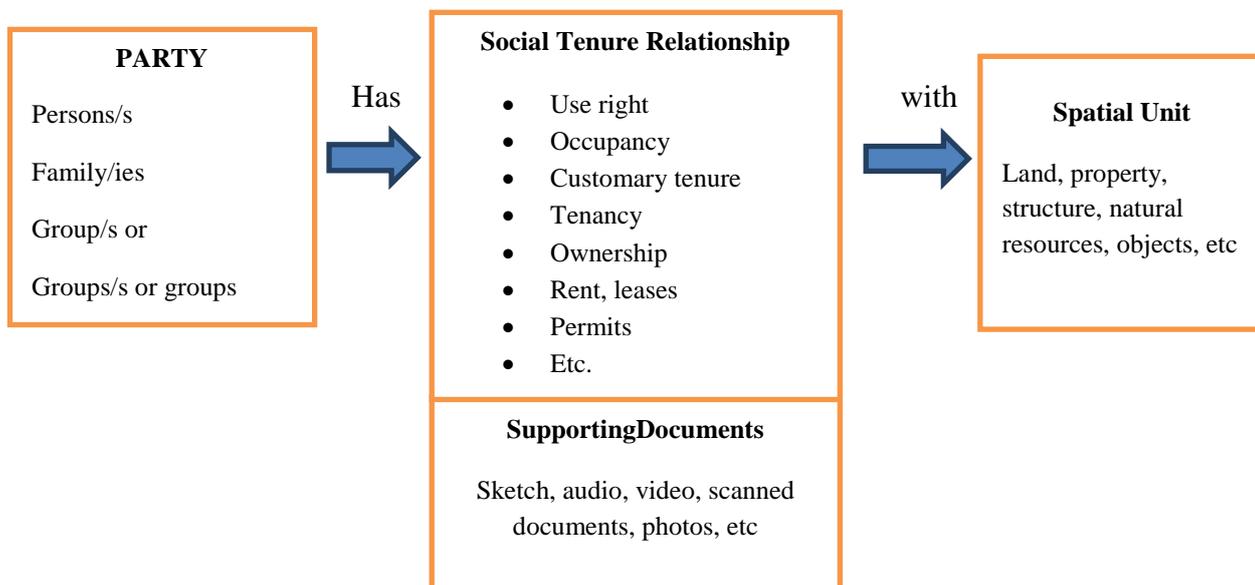
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PARTY		Social Tenure Relationship		Spatial Unit
Persons/s	Has	• Use right	with	Land, property, structure, natural resources, objects, etc
Family/ies		• Occupancy		
Group/s or		• Customary tenure		
Groups/s or groups		• Tenancy		
		• Ownership		
		• Rent, leases		
		• Permits		
		• Etc.		

SupportingDocuments

Sketch, audio, video, scanned documents, photos, etc

Fig. 4: STDM The conceptual model.
Source: Augustinus. (2013)

People–land relationships can be expressed in terms of persons (or parties) having social tenure relationships to spatial units. Instead of *owners*, it thinks in terms of *parties* that can take many forms: a group without an immediately clear set of members, a group with listed members, a company, a family or household, or even an individual person. A party maybe part of a broader group, making up a group of groups, with different, overlapping, land areas associated with them. Instead of *ownership*, the model thinks in terms of *social tenure*. This may be any form of relationship between a person (people) and the land: formal, informal and customary. It need not be exclusive to one piece of land, but may include "secondary" rights (such as the right of way over another's field, the right to collect fruit, use a common toilet or water point). Parties are persons, or groups of persons, or non-natural persons, that compose an identifiable single entity. A non-natural person may be a tribe, a family, a village, a company, a municipality, the state, farmers´ cooperation, or a church community. This list may be extended, and it can be adapted to local situations, based on community needs (Lemmen, 2013).

6.STDM IMPLEMENTATION IN OKPOKO

The Model was implemented in the slum by first acquiring the Google Earth Image of Okpoko. The image was saved in .kml (Keyhole Markup Language) format and added as a vector in Q-GIS and then converted to shape file (making it a Raster Layer). The image was then digitized on-screen by tracing the features in the image in order to convert them to vector format and organize the information into discrete units of data that can be separately addressed. In the process of digitizing

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the map, buildings were represented with polygons and roads with lines. The buildings were apportioned special codes (id numbers) in order to help link them to individuals during the database creation.

Having used questionnaires to generate attribute data in the study area, the database was set to be created. The STDM plug-in comes with a default setup profile which has Party, Spatial unit, Supporting document, Social Tenure Relation and social tenure supporting documents (str_relations) tables. Figure 5 shows the configuration path window.
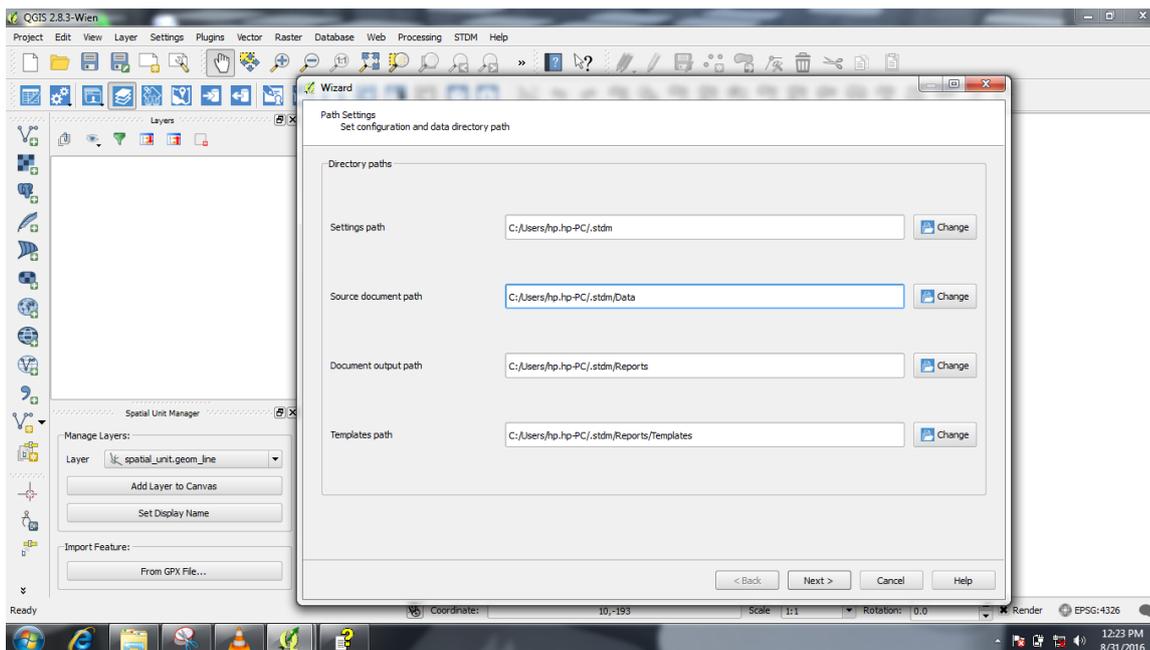
Fig 5: STDM configuration and directory path

The acquired attribute data were organized in Microsoft Excel (.csv) format and imported into the STDM. The Destination Table columns were then matched with the data source. In a similar manner, the spatial data was imported and matched. The party module was then managed by adding data in party record manager, defining New Social Tenure Relationship (STR) and viewing the Social Tenure Relationship. The platform has the capability to view the social tenure relationship, add new spatial data, and generating reports of different types.

Several Querries were run to test the Model such as Party Records (fig 6) and Social tenure relationship (fig. 7). Dummy Resident Documents (fig. 8) were generated and issued to some of the residents. Dummy certificates were used because the researchers are not in charge of the actual land administration of the area. In the real sense, it is expected that real title documents be given to the residents/occupants.
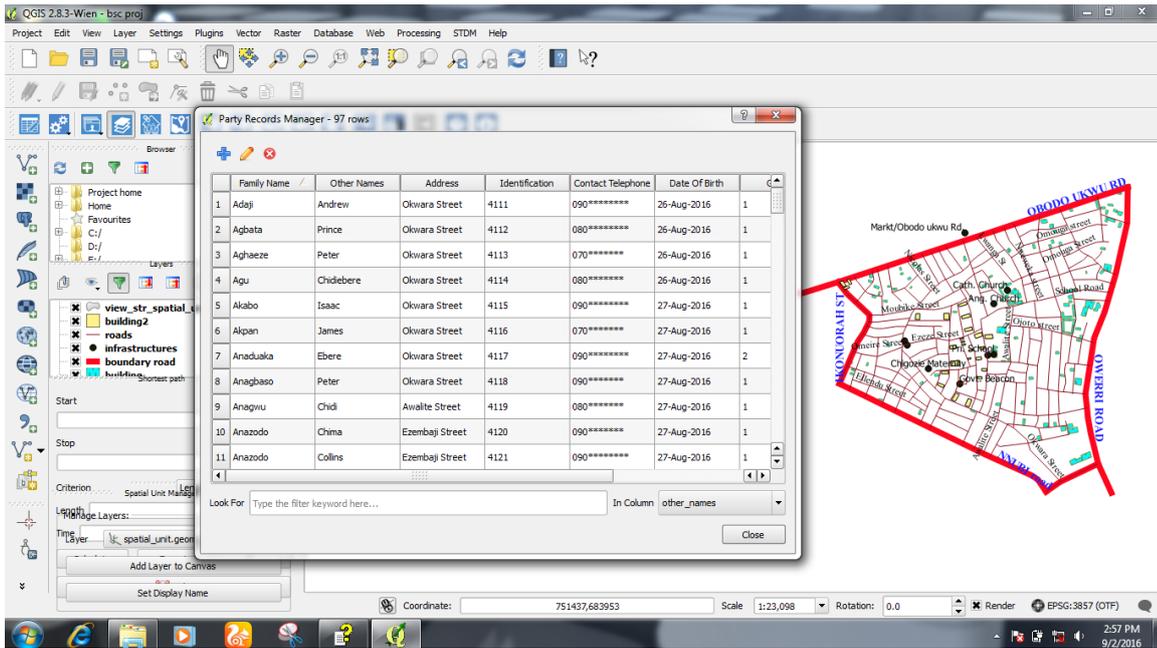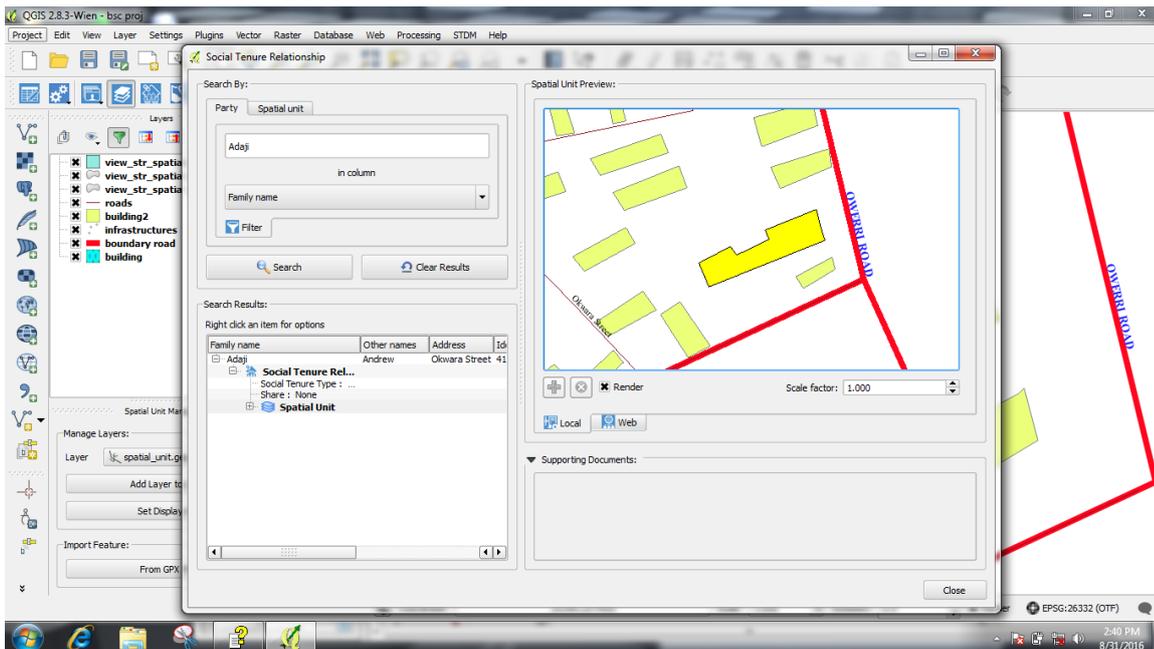
Fig 6: Querying Party Records

Fig 7: Querying Social Tenure Relationship

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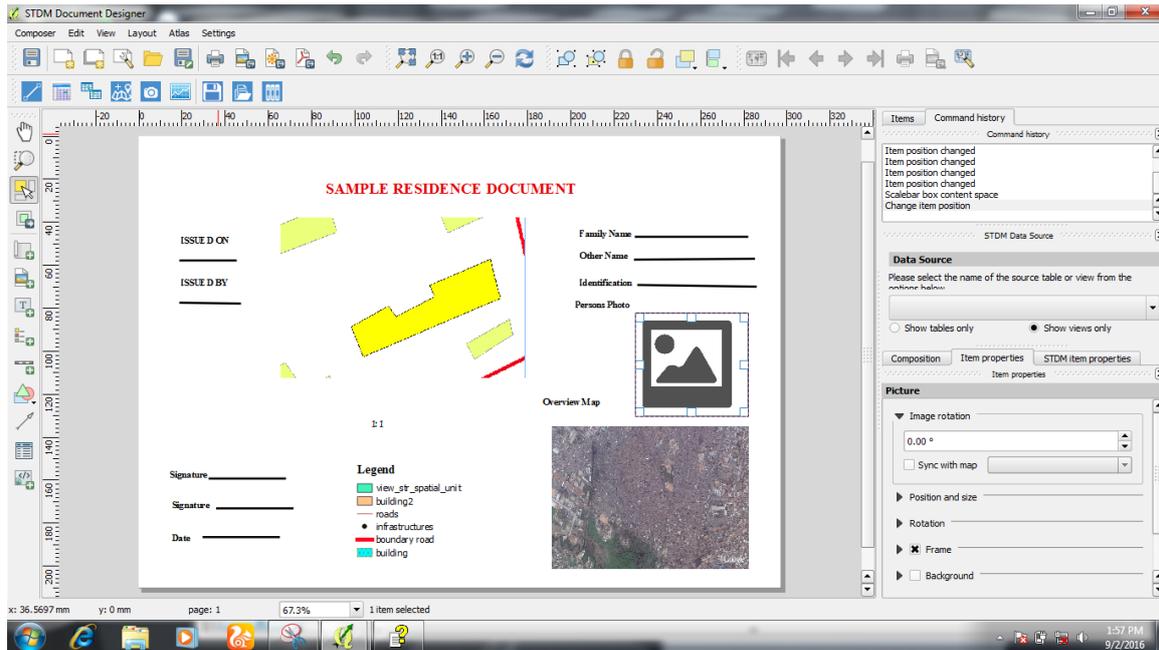
Fig 8: Dummy Residence Document

7.Conclusion/Recommendations

The Social Tenure Domain Model of Okpoko has been developed. The model provides information on the individuals that participated and their properties. It is important to note, that this model could be developed to cover Anambra State as a whole, even though it will require some backing from the government. Notwithstanding the challenges involved in this research, the model proved to be successfully developed. More so, most of the respondents asked the researchers to inform government and appropriate authorities to implement STDM in order to give them some amount of tenure security.

The following were recommended at the end of the study that:
1. This model should be adopted by the Land Ministry of the state for efficient administration of the area and other parts of the state.
2. Developers in Anambra State and Nigeria at large, are encouraged to adopt STDM in the management of their estates and housing projects, since it affords them the digital, fast and reliable means of Land Administration that accommodates all and sundry.
3. STDM should be given a serious attention, since it accommodates parties as opposed to owners; it affords land managers the ability to deal directly with every household which in turn will yield greater security in the area.
4. UN-Habitat should consider partnering with the Nigerian government in this regards. Creating awareness and encouraging implementation will go a long way in alleviating the tenure insecurity suffered by the poor whose rights are not titled at the moment.
5. More work should be done in educating students and lecturers alike on the usage of the STDM. If possible, it should be added to the Cadastral Surveying Curriculum of Universities

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BIOGRAPHICAL NOTES

Surv. Chukwubueze Uzochukwu Onwuzuligbo is an Academic Staff of Nnamdi Azikiwe University, Awka, Nigeria. He is the National Coordinator for FIG Young Surveyors Network Nigeria. He was one of the participants at the GLTN, UN-Habitat and FIG joint Training the Trainers Program for Young Surveyors on STDM in 2013. Since then, he has been makinf efforts to educate students on STDM. This paper is a product of that desire to use the potentials of STDM to solve the problems of slums in Nigeria. He is a Registered Surveyor and a corporate member of the Nigerian Institution of Surveyors.

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CONTACTS

Surv. Chukwubueze Uzochukwu Onwuzuligbo
Department of Surveying and Geoinformatics,
Nnamdi Azikiwe University,
P.M.B. 5025, Awka.
Anambra Nigeria.
+2348067837942
cu.onwuzuligbo@unizik.edu.ng, chukonvilla@yahoo.com

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