Journal of Environment and Earth Science
ISSN 2224-3216 (Paper) ISSN 2225-0948 (Online)
Vol.4, No.17, 2014

Customary Land Tenure for Spatial Information Management: The Case of Mumuye Tribe, Taraba State, Nigeria

Anthony G. Tumba Konla David Mashi
Department of Surveying and Geoinformatics Modibbo Adama University of Technology
P. M. B. 2076, Yola, Nigeria
anthonytumba13@yahoo.com

Abstract
This study focuses on the importance of the customary land tenure system and its relevance to the modern spatial information system, the study deals with how documenting traditional facts which occupies space can be linked to modern spatial information technology to solve contending issues pertaining traditional lands. The Mumuye customary land tenure system was used as a case study. Sampled opinions from 16 selected villages of historical importance were used for the study. Personal and interposal interviews were carried out in the selected settlements, the results obtained served as the attributes of the location, whereas, the locations which constitutes the x, y coordinates formed the spatial data. The results were harmonized to give a clear merger of the spatial and attribute information in a geodatabase. The geodatabase was tested by querying to see its workability. The result shows how traditional lands can be documented for decision-support and planning issues, especially for litigation in the case of contenting land disputes.
Keywords: Customary land, spatial information, Management, Mumuye Tribe

Introduction

1.1 Background

The land is the surface of the earth we live on. The definition of land also covers all other resources attached to it, these include, rivers, mountains, minerals and other earth endowed resources given by the creator. The first natural form of land acquisition is by inheritance, this is what we call traditional land, and is handed down from one generation to the other. Traditional land tenure therefore entails the mechanism or method of holding land according to the tradition of the people for the common benefits of its members. In Nigeria, like in several other African countries, the issue of customary land tenure has been one of the contending issues between the statutory governments and the traditional institutions that still operate some aspects of their customary laws, among which is the right to their traditional land. Customary land tenure, according to Dashe is a method of holding land based on the customary law of the affected community or group of people established by long usage (Dashe, 1984). Tumba and Ono in their investigation of the Higgi land tenure, described the traditional land tenure as a mode or process of holding or owning land as dictated by tradition (Tumba and Ono, 2003). Land is static and is not subject to increase in volume or size which is in great contrast to humans whose population continues to increase against its static natural habitat, the land.

Thus, with the increase in population and the equal increase in pressure on land, the necessity for proper documentation and the management of land and its related attributes become imperative. Information on any portion of the earth can accurately be described or defined by its reference coordinates, that is, its locational axis (x, y, z), which means it occupies space. Spatial information consists of the spatial data (location) and its characteristics (attributes) which describes the location.

Traditional land tenure for spatial information as relates to the case of the Mumuye tribe of Taraba state of Nigeria intends to document processes of how traditional land and its tenurial characteristics can be digitally documented in the modern spatial information management useful for land administration purposes, since it was handed over to the younger generation by oral tradition.

2. Problem Statement

The precolonial era in Africa, witnessed the era of absolute traditional land tenure system where lands were either owned by individuals, communities and in some areas by the traditional chiefs. However the period from 1890s to the early 1900s witnessed the partitioning of Africa by the European colonial masters into smaller territories for the purpose of exploitation and easy control for governance (Kofele-Kale, 2010). This did not make things easy for the indigenous population as most of their ancestral homes were lost to the colonial masters, who became the custodian of the land on behalf of their individual governments. Some of these lands were awarded on concessionaries to private individuals for development purposes. The intent was to exploit Africa's mineral and other natural resources to service the growing Western industries. In Nigeria, the footprints left by the colonial masters were occupied by the colonial masters' representatives who took over the mantle of

leadership after they were granted loose sovereignty through the award of political independence. The former crown land held in trust for and on behalf of the Queen now became federal lands. Subsequently, the lands were handed to the various states, where the state governor is the custodian of the land for and on behalf of the people of the state. These rights given to the governors were called 'statutory rights', at the local levels; traditional 'stools' were given the customary rights. Over the years, there have been constant clashes of interest between the government statutory rights and the traditional customary rights over control of community lands owned by the tribal entities as a result of improper documentation, also lands expropriated by the colonial masters is now greatly contested by traditional or customary institutions, there is also the awareness attached to the control of resources by the local communities who suffer from environmental degradation as a result of the exploitation of these resources. The quest for spatial documentation of traditional land tenure therefore becomes imperative as a result of the stated problems above.

The main objective of this study is to harness the traditional land tenure for spatial information management, using the case of the Mumuye tribe of Taraba state, Nigeria. The expected derived benefits would be;

- Spatial information on traditional lands would by this measure, be made available for the management of spatially referenced rights with minimum ease.
- This is would reduce the unnecessary conflicts between the traditional institutions and the government's statutory rights.
- Conflicts between adjacent tribes would be reduced to the minimal level due to the availability of shared information.

This study believes that the above problems could be mitigated if traditional lands are spatially documented for the management of information in the customary communities.

3. Customary Land in Nigeria

The traditional land tenure in Nigeria witnessed a dramatic change in the later part of the 19th century, with the coming of the European colonial masters. Prior to this, the control of land was in the hands of the traditional institutions, known as the traditional 'stool'. Northern and Southern Nigeria at that time operated a separate government with diverse traditional land tenure systems, the colonialists however, declared these customary lands as 'crown' lands vested with the authority of the British crown, and so, all traditional lands were held in trust for the British Queen. The difference in customary land tenure systems in Nigeria can be attributed to the differences in region, culture, customs, religions and modes of life of the communities. This entails that similarities and differences in customary land tenure systems are nothing but a manifestation of the affinity of their culture and can be attributed to the closeness of their traditional boundaries. Traditionally, it is believed that the first method of traditional land acquisition, acquired through 'first come, first serve' happened during the period of minor migration. Other forms of land acquisition evolved as a result of the settlement and complexity in the size of the community or society. Thus, traditional or customary lands were subsequently acquired through, inheritance, gift, lease, trust, pledge, etc. depending on the culture and tradition. The types of land tenure or land holding available in Nigeria depending on the studied community or tradition can be categorized into three, these are, communal holding, family holding and individual holding.

3.1 Land Tenure System of Northern Nigeria

The Northern and Southern protectorates were amalgamated in 1914 to form what is known today as Nigeria, with its headquarters located at the confluence of rivers Benue and Niger in Lokoja. Northern Nigeria again appeared as Northern region under a loosely-knit federation. The traditional land tenure in Northern Nigeria, which was thought to be under the custody and control of the Chiefs and Emirs, was reduced by the colonial masters to crown land under the right of 'conquest'. In 1900, Lord Lugard, the governor general of the Northern region, promulgated the land Proclamation Act, which briefly checked the wholesale acquisition by the Europeans who had established companies for natural resources exploitation, like the Royal Niger Company. The successor to Lugard, in 1906 investigated the existing customary law in the North and made recommendations for a law to overcome the already serious problems being experienced in Lagos and other areas. This resulted in the native rights proclamation in 1910; this law marked a significant turning point in the land laws operated in Northern Nigeria. The law nationalizes all lands in the North and vested the control of the land in the governor to be held on behalf of the indigenous population of the North, it was no longer possible for individuals, to hold the customary 'title' to land. Under this law non-natives, that is, non-Northerners can hold title to land with the consent of the governor for a certain period of time after proper survey and compensation have been made, this was the beginning of the 'statutory right of occupancy' which was granted for a certain number of years. The 1910 law was subsequently updated to the native rights ordinance of 1916, with no major

changes. After the independence in 1960, the premier of the Northern region carried out several land reforms with no major significant changes. In 1957, the Premier of the Northern region seeing the growing importance and agitation for land created a ministry of land and survey for the administration of the land tenure system. The administration of this system was handed over to the cadastral survey section of the Northern Nigeria land survey department. This changes made later brought about racketeering and abuses of privately owned lands and communal lands, where friends and political associates benefited tremendously (Oshio, 1990).

3.2 Land Tenure System of the Mumuye Tribe

In order to understand the land tenure system of the Mumuye people, it is imperative that their historical trajectory is discussed.

The Mumuye tribe is said to have migrated from Kam and has affiliation to the Kwarafa kingdom (Nyameh, 2005), they were said to have first settled on the plains and hills of Yorro, some group, however, was said to have continued their movement southwards to the Benue valley in search of fertile land for agriculture. The principal occupation of the early settlers was farming and hunting, prior to the domestication and rearing of animals. The Mumuye tribe, today, occupies local governments like, Yorro, Zing, Ardo Kola and Jalingo, they are also found in other local governments like Lau, Bali and Wukari, all in Taraba state. This study however, will be concerned with the traditional headquarters of the Mumuye people in Yorro local government of Taraba state (Figure 1).

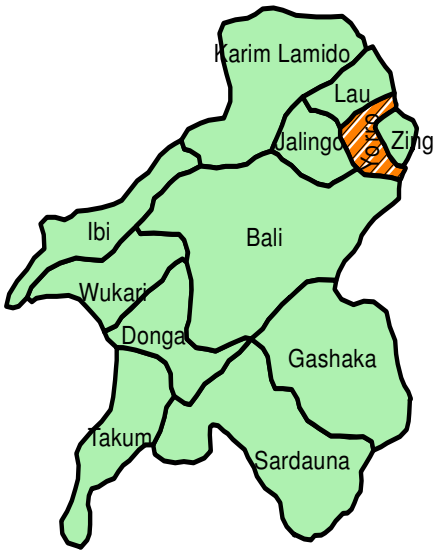

Figure 1: Map of Taraba state showing the study area

In section 3 above, it was mentioned that the method of land holding can be categorized into three sections, in the form of individual holding, family holding and communal holding. Individual holdings are lands acquired by individuals through the processes of gift, outright sale and inheritance. Family holding on the other hand, is acquired through the above processes, but is acquired on behalf of the entire family members. Communal land is a land acquired by the entire community through the early process of first come first serve or forcefully acquired through inter-tribal war. The Mumuye traditional land tenure for spatial information management would be discussed from the formal processes of acquiring land stated above, these are gifts, lease, outright sale, trust, pledge and so on.

3.3 Spatial Information

Spatial information is information on the earth surface objects, defined by their location parameters, that is, the spatial data (the location) and their characteristics (the attributes). This information is vital for modern decision making and planning for sustainable growth and development (Musinguzi *et al.*, 2012; Nyerges *et al.*, 2013). Contemporary spatial information issues deal with the bottom-up approach as result of the weaknesses experienced in the top down approach through the volunteered geographic information system (Smit *et al.*, 2013; Tulloch, 2014), although some authors have expressed difficulties in such data because of quality, temporal and interoperability problems, this however is very vital at the lower levels of spatial information (Goodchild and Glennon, 2010), more so as cadastral survey interest and documentation is being encouraged, with the creation

of new model and functions (Bennett *et al.*, 2011). Thus, spatial information provided at whatever level, provided it has quality is very vital for solving long contending issues, like the traditional land tenure systems which hitherto had been abandoned to perpetual analogue.

4. Methodology

The methods adopted were those that took into consideration the kind of information required to see how traditional land tenure can be harmonized with spatial technology for the management of spatial information with respect to the Mumuye traditional land tenure. Two methods were applied in sourcing of data;

1. The field technique which involved a field survey using the instrument of personal oral interviews with the elders. The choice of these elders was based on two factors, the first is, the closeness of the individual with the tradition and culture of the people, and secondly the age of the individual involved.

2. The second technique is the preparation of the spatial data, which involves producing the digital information about the study area from the relevant analogue information.

3. The third technique is the harmonization of the field technique in 1 and the spatial information in 2

The analogue map of Taraba state obtained from the ministry of land and survey was scanned, and georeferenced. A geodatabase was created, under it a feature dataset was created, with feature classes as its subsection, depicting the various spatial information sets that form the parameter for documentation. The spatial data were now digitized against their classes. The characteristics of the various classes were documented in the attribute table as added information in a database. These classes depict information; necessary for management on how customary land tenure can be synthesized to tackle issues in contemporary spatial information. The instruments used were Pixma E510 scanner and the ArcGIS 10.1 desktop.

5. Result

The study carried out personal and interpersonal interviews in sixteen villages and towns of the Mumuye kingdom. The towns and villages and the road network are shown in figure 2 below. The villages were digitized as point map, while the different classes of roads were digitized as lines. The entire Mumuye kingdom was digitized as polygon.

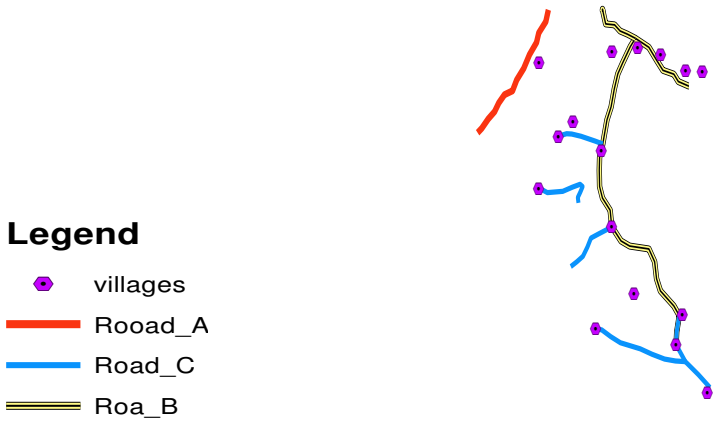

Figure 2: Selected sampled villages and towns

The result of the sampled views was documented under the headings, village, terrain, tenure system and occupation (table 1). Any required additional field may be added depending on the needs

Table 1: Attributes of studied Villages

OBJECTID *	SHAPE *	Village	Terrain	Tenure_System	Occupation
1	Point	Donkin	hills	inheritance/ FCS	hunting/ GF
6	Point	Lapu	low land	inheritance/ others	hunting/ GF
8	Point	Dasso	low land	inheritance/ others	farming/DA
10	Point	Old Kwaji	low land	inheritance/ others	farming
12	Point	Pupule	low land	inheritance/ others	farming
13	Point	Pantisawa	hills	inheritance/ FCS	farming
14	Point	Nyaja	hills	inheritance/ FCS	hunting
18	Point	Dimba	low land	inhertance/ others	farming
20	Point	B/Sabo	low land	inheritance & others	farming
21	Point	Mika	low land	inheritance/ others	farming
25	Point	Mbakinya	hills	inheritance/ FCS	hunting/GF
26	Point	Lankaviri	low land	inheritancs/ others	farming
29	Point	Nsoreng	hills	inheritance/ FCS	hunting/GF
41	Point	Kassa	hills	inheritance/ FCS	GF
42	Point	Kayya	hills	inheritance & others	hunting/GF
43	Point	Old Yorro	hills	inheritance/ FCS	GF

GF > gathering of fruits,
FCS > first come, first serve,
DA > Domestication of Animals

6. Discussion

6.1 Mumuye Land Tenure and Spatial Information

The result of the sampled land tenure system of the Mumuye tribe shows that both data and information obtained can be linked using the GIS as a tool, in the sense; all earth surface objects are geo-referenced to the globe (earth), and each object has its description, that is, its attribute. The traditional or customary land tenure of the Mumuye showcases a historical evolution of the Mumuye tribe from the early settlers who actively involved in hunting and gathering fruit (GF) whose inheritance system was on the basis of 'first come, first serve' (FCS). These characteristics were prominent among the early mountain dwellers. Growth in population and the scramble for fertile land forced the people to the plains (low lands) to farm and domesticate animals (DA) (Lowe, 1986). Methods of land tenure also changed as a result of these growths, the early mountain dwellers acquired land, through the 'first come first serve' system and later, through inheritance as generations passed away (Dong and Ganong, 1992). Due to complexity of the growing society with time, others forms of acquisition grew stronger (Table 1). These traditional complexities is what had been neglected for so long by successive administrations, thereby generating conflict between the customary way of holding land and the white man's statutory law. However, these conflicting issues would have been avoided if it was properly documented. The issue is even if it was done, it must have been in an analogue form. The contemporary information age has however placed a demand on issues of traditional land for proper automated documentation. Thus, the meeting point is the information in (figure 3 and table 2); which is information communication technology (ICT) friendly, and are stored in a geodatabase that can be easily queried, stored, shared and exchanged in line with AL' Gore's digital earth (Craglia *et al.*, 2008). The digital earth's vision 2020 places emphasis on information at glance through improved web services for maximum utilization and monitoring of all surface objects (Craglia *et al.*, 2012). For instance, the database was queried for all tenure systems that of inheritance and others (figure 3); this query is also reflected in the attribute table (table 2).

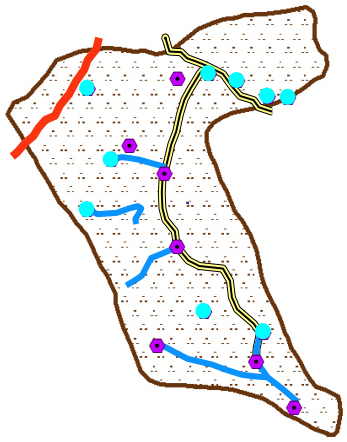

Figure 3: Areas where inheritance/others are systems of Land Tenure

Table 2: Attributes of the queried Villages

Table

villages

OBJECTID *	SHAPE *	Village	Terrain	Tenure_System	Occupation	Clan
1	Point	Donkin	hills	inheritance/ FCS	hunting/ GF	yorro
6	Point	Lapu	low land	inheritance/others	hunting/ GF	shobon
8	Point	Dasso	low land	inheritance/others	farming/DA	nyavo
10	Point	Old Kwaji	low land	inheritance/others	farming/DA	kwaji
12	Point	Pupule	low land	inheritance/others	farming	miikaa zuban
13	Point	Pantisawa	hills	inheritance/ FCS	farming	shonbon
14	Point	Nyaja	hills	inheritance/ FCS	hunting	nyapo
18	Point	Dimba	low land	inheritance/others	farming	shon wanga
20	Point	B/Sabo	low land	inheritance/others	farming	miikaa zabon
21	Point	Mika	low land	inheritance/others	farming	kwaji
25	Point	Mbakinya	hills	inheritance/ FCS	hunting/GF	shon danvo
26	Point	Lankaviri	low land	inheritance/others	farming	shon danvo
29	Point	Nsoreng	hills	inheritance/ FCS	hunting/GF	lazeh
41	Point	Kassa	hills	inheritance/ FCS	GF	yorro
42	Point	Kayya	hills	inheritance/others	hunting/GF	kayya yorro
43	Point	Old Yorro	hills	inheritance/ FCS	GF	yorro

0 (9 out of 16 Selected)

villages

7. Conclusion

This study highlights the importance of customary land tenure system and it relevance to modern spatial information system, the study deals with how documenting traditional facts about a group of people's culture can be linked to modern spatial information technology to solve contending issues. The Mumuye customary land tenure system was used as a case study. Sampled opinions from selected villages of historical origin were used for the study. Personal and interpersonal interviews were carried out in the selected settlements, the results obtained served as the attributes of the location, whereas, the locations which constitutes the x, y coordinates formed the spatial data. The results as shown in section 5 give a clear merger between the spatial and attribute information in a geodatabase. In summary, the result shows how traditional lands can be documented for decision-support and planning issues, especially for litigation in the case of contenting land disputes.

REFERENCES

Bennett, R., Rajabifard, A., Kalantari, M., Wallace, J. & Williamson, I. (2011). Cadastral Futures: Building a New Vision for the Nature and Role of Cadastres *International Federation of Surveyors Article of the Month – June 2011.*

Craglia, M., De Bie, K., Jackson, D., Pesaresi, M., Remetey-Fülöpp, G., Wang, C., Annoni, A., Bian, L., Campbell, F., Ehlers, M., Van Genderen, J., Goodchild, M., Guo, H., Lewis, A., Simpson, R.,

Skidmore, A. & Woodgate, P. (2012). Digital Earth 2020: Towards the Vision for the Next Decade. *International Journal of Digital Earth.* 5(1), 4-21.

Craglia, M., Goodchild, M. F., Annoni, A., Camara, G., Gould, M., Kuhn, W., Mark, D., Masser, I., Maguire, D., Liang, S. & Parsons, E. (2008). Next-Generation Digital Earth∗ a Position Paper from the Vespucci Initiative for the Advancement of Geographic Information Science. . *International Journal of Spatial Data Infrastructures Research.* 3 146-167.

Dashe, J. D. J. (1984). *Cadastral Surveying Practice in Nigeria, Preliminary Copy.* Kaduna Polytechnic Publishers Ltd.

Dong, P. M. & Ganong, J. K. (1992). *The Mumuye Contemporary History and Culture: Yorro Cultural Patterns and Socialization.*

Goodchild, M. F. & Glennon, J. A. (2010). Crowdsourcing Geographic Information for Disaster Response: A Research Frontier. *International Journal of Digital Earth.* 3(3), 231-241.

Kofele-Kale, N. (2010). Asserting Permanent Sovereignty over Ancestral Lands: The Bakweri Land Litigation against Cameroon. *Annual Survey of International and Comparative Law.* 13(1).

Lowe, R. G. (1986). *Agricultural Revolution in Nigeria, Africa.* Ibadan: University Press (third Edition).

Musinguzi, M., Stevens, T.-T. S. & Bax, G. (2012). Gis Data Interoperability in Uganda. *International Journal of Spatial Data Infrastructures Research.* 7 488-507.

Nyameh, J. K. (2005). *Excavating the Mumuye Heritage on Family Building and Ethics.*

Nyerges, T., Roderick, M., Prager, S., Bennett, D. & Lam, N. (2013). Foundations of Sustainability Information Representation Theory: Spatial–Temporal Dynamics of Sustainable Systems. *International Journal of Geographical Information Science.* 1-21.

Oshio, P. E. (1990). The Indigenous Land Tenure and Nationalization of Land in Nigeria. *Boston College Third World Law Journal.* 10(1).

Smit, J., Makanga, P., Lance, K. T. & De Vries, W. T. 2013. *Exploring Relationships between Municipal and Provincial Government Sdi Implementers in South Africa* [Online]. Available: http://www.gsdi.org/gsdiconf/gsdi11/papers/pdf/477.pdf [November 30, 2013].

Tulloch, D. (2014). Crowdsourcing Geographic Knowledge: Volunteered Geographic Information (Vgi) in Theory and Practice. *International Journal of Geographical Information Science.* 28(4), 847-849.

Tumba, A. G. & Ono, M. N. (2003). Historical Evolution of Land Tenure System of the Higgi Tribe of Adamawa State. *Nigeria Journal of Education and Technology.* 4(1&2), 33-36.

The IISTE is a pioneer in the Open-Access hosting service and academic event management. The aim of the firm is Accelerating Global Knowledge Sharing.

More information about the firm can be found on the homepage:
http://www.iiste.org

CALL FOR JOURNAL PAPERS

There are more than 30 peer-reviewed academic journals hosted under the hosting platform.

Prospective authors of journals can find the submission instruction on the following page: http://www.iiste.org/journals/ All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Paper version of the journals is also available upon request of readers and authors.

MORE RESOURCES

Book publication information: http://www.iiste.org/book/

IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digtial Library , NewJour, Google Scholar