

Consequences of undemarcated Land Boundaries: Case of Lake Chad Area Boundary

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Abstract: This research paper examines the consequences of undemarcated land boundaries. The paper examines the nature of Nigeria-Cameroon boundary along Lake Chad area through field observations which includes GPS survey and administering of Questionnaires. The methodology adopted here is Coordinates of Ground control points were observed by means of GPS survey covering about 75 Kilometers along Nigeria-Cameroon boundary and questionnaires survey was administered on the 33 village's inhabitants of the area. ArcGIS Arc Map 10.2, CorelDraw, SPSS 2.0 version soft ware's and micro soft excel 2007 spread sheet were employed for the data analysis. The results shows that despite the ruling of the case between Nigeria-Cameroon boundary disputes by the International Court of Justice the Lake Chad land boundary is still having boundary issues that are not clearly understood by the inhabitants, especially making many of them into confusion as to which country they belong to which resulted to new boundary dispute.

Key words: Boundary, Dispute, Demarcation

1.0 Introduction

A boundary dispute is the disagreement or misunderstanding between two or more parties. These boundaries are different in natures; it may be a vegetation boundary, parcel boundary, administrative boundary, census boundary, and state boundary, national or international boundary. The vegetation boundary is usually an imaginary line between the vegetation where the vegetation can be examined but the actual boundary cannot be seen, unlike a parcel boundary where all the coordinates of a piece of property are in precise position which at times overlaid on top of a satellite image which show an image mapped at the plot exact boundary.

However, an administrative boundary is the Subdivisions of territories, areas or jurisdictions as documented by governments or other organisations, groups or associations for the purpose of administration. An administrative boundaries variety is in hierarchy of large groups, associations of nations, states descending down to smaller

administrative regions, districts and suburbs, showing indicating level of significance, given by the different level administration.

A census boundary is a geographic boundary that defined by longitudes and latitude for the purpose of heads count. The boundary is visible on the ground. This type of boundary demarcation can aid in achieving easy population count since all the points were already defined and marked at each wards, locals, states and national levels. Similarly a state boundary is a boundary line within a country; these boundaries usually are not demarcated considering there are all from the same country. Since the state boundary originated from same source, one can proceed across to other border without a passport or visa as the case may be.

A national boundary is a line demarcating documented and acknowledged extents of recognized political bodies. They are frequently totally controlled and may be go across legally at designated border check points. Furthermore, a national boundaries are boundaries which show the farthest extents of an area particularly for bodies which are internationally recognised like states, governments and independent states or countries. Hence, international borders may be closed or open legitimately conditional on the relationship exist between two neighbouring countries. While an international boundary is the boundary between the countries.

Evidence of boundary disputes usually turned to conflict as a result of that fatalities may occur, other consequences of the disputes include fight and war more especially when it's of territorial disputes and the aftermath of it both the social, cultural and economic activities will be affected (Palmer, 2008). Nigeria and Cameroon International boundary is good example of boundary dispute fatalities resulted of losing lives of many Nigeria Militaries and Cameroonians Gendarmes (Agbemelo and Ibbasebhor, 2006; Chech, 2011; McEwen., 1971).

2.0 Study Area

The study area is the portion of Lake Chad land boundary between Nigeria and Cameroon. The land boundary passes through five states of Nigeria that is Borno state, Adamawa state, Taraba state, Benue state and Cross rivers state (Figure 1). The Lake is in the sahelian zone of West Africa between the four countries namely: Nigeria,

Cameroon, Niger and Chad. Generally this lake is found between latitudes 12° 30' 00" N – 14° 00' 00" N and longitudes 13° 00' 00" E -15° 30' 00" E (Mabogunje, 1971).



Legend:
 Lake Chad
 Nigeria-Cameroon Boundary

Figure 1: Land boundary along Lake Chad area
 Source: Field work 2015

Lake Chad is the Africa’s fourth largest lake by the surface area and for many years is the centre of commercial and cultural interchange within the people living in north and south of the Sahara (Odada et al., 2006). Lake Chad basin drainage basin covers an area of about 2, 4000,000 Km² (Cretauxt and Birket, 2006). Approximately 20 million people inhabiting the region bring their fresh water from the lake (Leblanc *et al.*, 2011). Agriculture is the major economy of the area and continues to engage about 65% of the inhabitant’s population, which include rainy season, dry season and fishing (Odada *et al.*, 2006).

3.0 Methodology

In this methodology two types of data were observed, that is the observation of ground control points using Germiné 12 hand held GPS and administering questionnaire in the 33 villages of the study area. 180 ground control points are observed, which started

from the mouth of Lake Chad downward covering a distance of about 75 kilometers. The researcher considered and observed these points for the reason of covering as many villages as possible. At each of these 180 point three horizontal ground coordinates of X, Y and Z are picked and recorded directly into the field book till all the points are covered. The observed ground control points are processed and plotted and superimposed using ArcGIS Arc map version 10.2 Software CorelDraw and Micro soft word excel 2007 series as below.

a. Data input/Scanning

The observed coordinates of GCPs, along the Nigeria-Cameroon boundary were type on Microsoft excel spread sheet and saved in the project folder located in the computer hard disk (drive E). While the hard copy map showing the existing Nigeria- Cameroon boundary scanned using HP 2135 DeskJet printer and Corel draw X₃ software after which it was exported to the project folder as Tag Image File Format (TIFF) for georeferncing.

b. Geo-referencing the scanned map

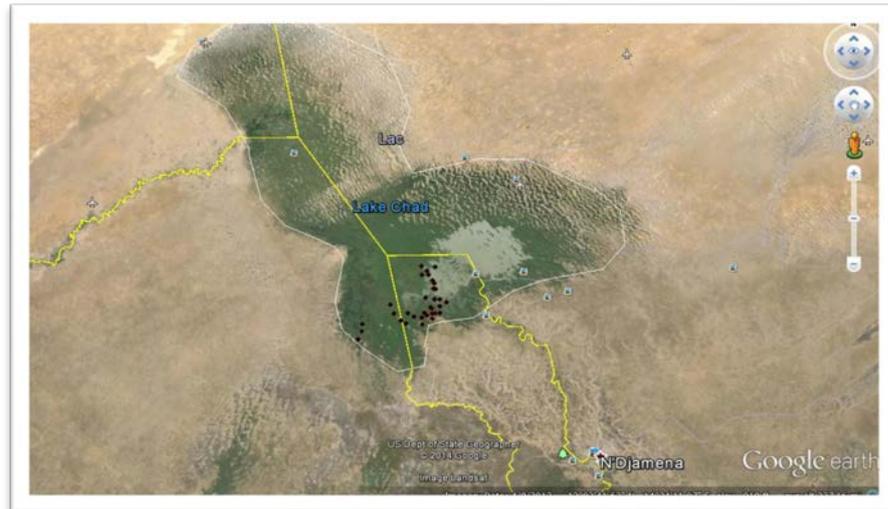
The scanned map was imported into Arc Map 10.2 environment after which the UTM coordinates and datum (UTM zone 33 and WGS 1984) was obtained from the file that defined the positions of some prominent points used to geo-reference the map.

c. Digitizing of features

The digitizing was done using on-screen method (using computer cursor to trace the features from scanned map and geo-reference map). Two features Nigeria-Cameroon boundary and Lake Chad) were digitised. Each of these two features was digitised in the Arc map software as independent thematic layer.

d. Generation of composite Map

The composite map was created by superimposing the observed and the existing Nigeria-Cameroon boundaries' the thematic layers on one another in the Arc map soft ware. Appropriate annotations such as grids, north arrow and scale bar were added to the map in order to give it cartographic outlook.



Legend:

- International Boundaries
- Boundary of Lake Chad
- The 33 Villages

Figure 2: 33 villages as Plotted within the Lake Chad area

Source: Google earth pro. 4.2 Versions

With respect to the questionnaire aspect 198 households are considered for among the 33 villages of the study area with 6 questionnaires randomly administered in each village as described below. The questionnaires are administered across a group of people within residential. These consultations are being simple and direct, that is, through application of Schein’ s (1983) clinical interview technique which requires a sequence of combine serious interaction between researcher and the interviewee. The interviews were simple and flexible, with prepared questions written and obtaining the real information’s from the inhabitants of the area.

These interviews in other hand also offered chances to support and correct other factors linked to the boundary disputes evidence. The interviews used short and simple letters and no audio or visual were recorded due to the reason that some of the respondents mentioned it is risky in self involvement in government issues of this type. So to obtain good result from the communities’ idea of visual and audio was not considered. In this questionnaire administration a sampling technique was considered in selecting the group of the respondents because the data cannot obtain from all the inhabitants of the area, as some of them are under age among others. So a stratified-

random sampling technique was adopted as a means of choosing the individual for responding to the questions.

The questionnaires responses were processed in form of simple descriptive statistics consisting of percentages and diagrams consisting of pie charts, bar charts, histograms and line graphs using SPSS soft ware 2.0 version. The outcome these processed was analysed and discussed in results and discussion below.

4.0 Results and Discussions

The result of this work is also presented in two phases as in the methodology. Firstly, the plotted observed coordinates of ground control points that obtained through GPS observation when superimposed on the scanned and referenced Nigeria-Cameroon along Lake Chad boundary in figure 3 revealed that there is gap between the two boundaries.

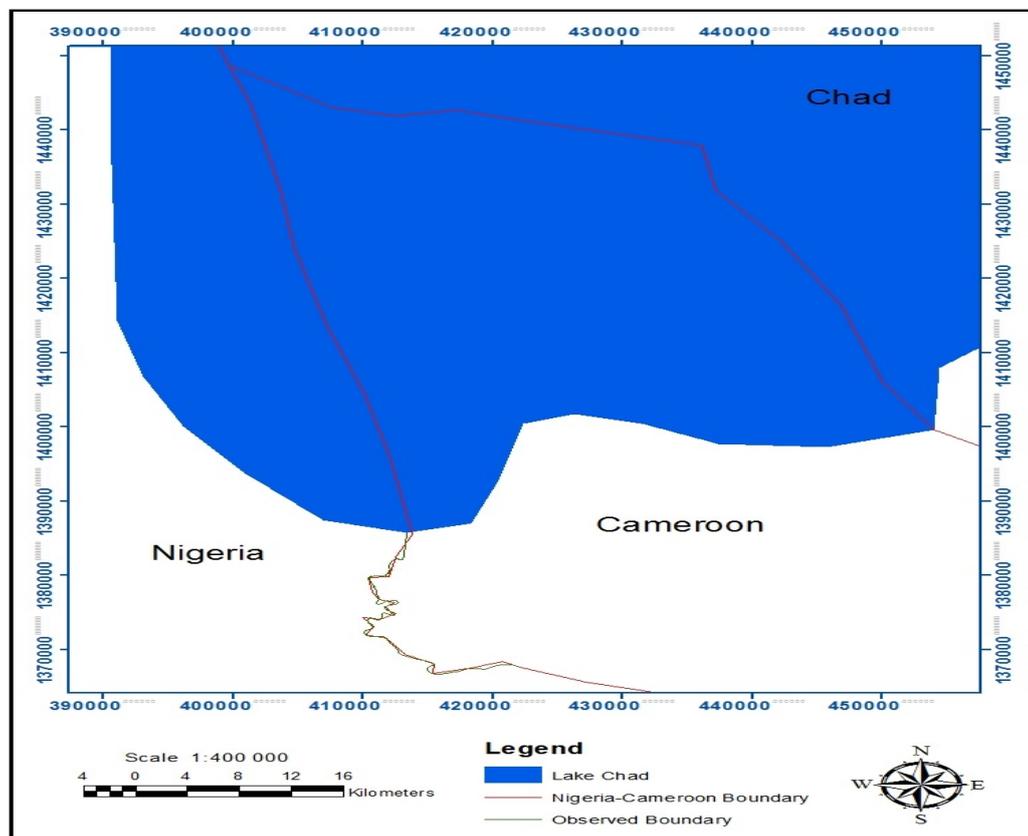


Figure 3: Imposed plotted GCPs points on Nigeria-Cameroon boundary
Source: Field work 2015

The gap between the two boundaries proved that the evidence of boundary dispute between Nigeria and Cameroon along Lake Chad area which may results to conflicts and war if it is not fully address.

Related to the administered questionnaires the items considered most in providing boundary dispute evidence include age of respondents, marital status of the respondents, number of dependents of respondents, respondents' occupation and country of respondents among others.

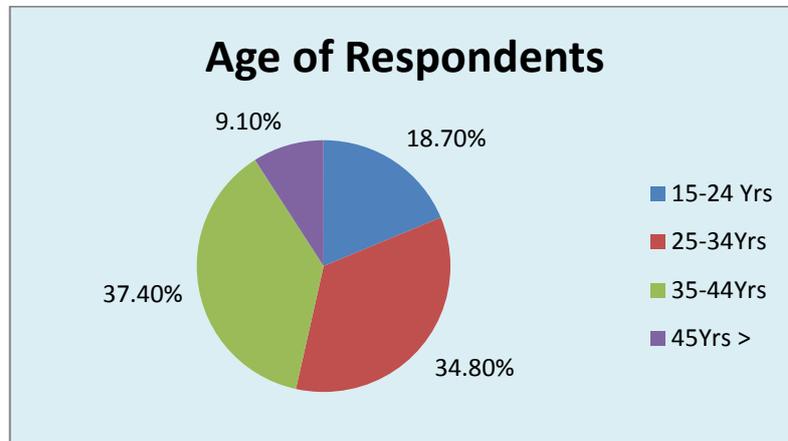


Figure 1: Age of Respondents
Source: Field work 2015

Age of respondents in the study area as in figure1 revealed that 34.8% are between 25-34years and 37.4% are between 35-44years that is a total of 72.2%. This shows that most of them are youths and are struggling for survival such as seeking any work for a living such as roaming around with their animals within any direction of the area for greener pasture in terms of their animals fed without considering the boundaries, which may led to trespass. With time as they settle for long in any of this place there is a chance for them to claim them area.

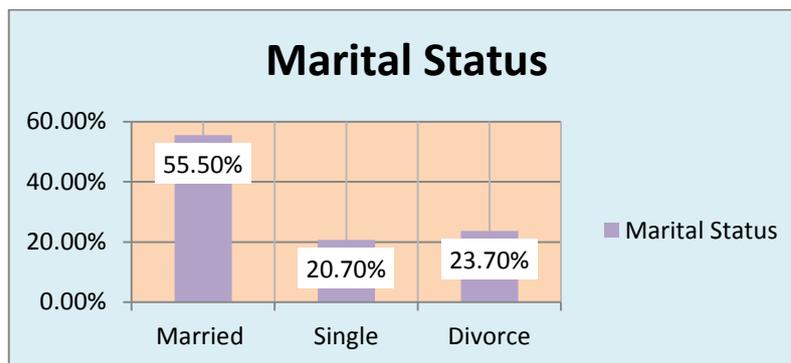


Figure 2: Marital status of Respondents
Source: Field work 2015

Most of the respondents are male and married, as in figure 2 which revealed that 55.5% of them are married with 20.7% and 23.7% as single and divorce. As a married person

one must have to feed his family provide them with other basic needs, as a result of that searching of how get them arises which may results to acquiring of more lands by all means which may results boundary dispute. Additionally marriage joined people with different background and culture living together. So, as couple occupied space not within their country due to the marriage at the end they may claim the place without considering the boundary which country is.

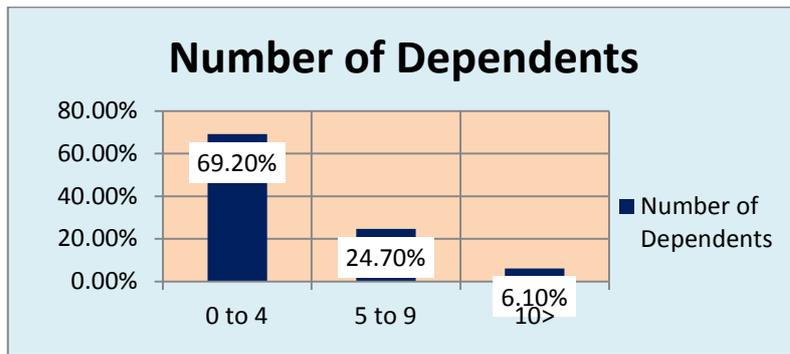


Figure 3: Number of Dependents

Source: Field work 2015

Figure 3 shows that 69.2% of the respondents are 0-4 dependents with only 6.1% having 10 and above dependents this means that almost every family are having dependent this may attributed to the marital status as shown in figure 2. Here it is indicated that each family must work hard for their sustenance due to their household size or dependents, so struggle of how to make it is paramount. Possibility of making it is through farming or fishing among others, here land struggle may surface by any means such as buying; gift and leasing among others. As time take long and government need to demarcate her international boundary dispute may occur.

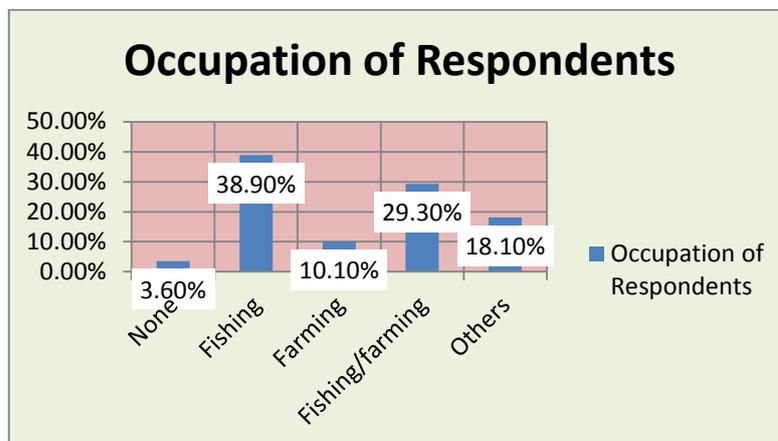


Figure 4: Occupation of Respondents

Source: Field work 2015

Occupation of respondents plays an important role in any land boundary dispute especially of this type since the study area comprises fertile land and water which can be good for dry season farming and fishing. Considering figure4 Majority of respondents are fishers with population of 38.9% and those combined fishing and farming 29.3% with only 3.6% that lacks work to do.

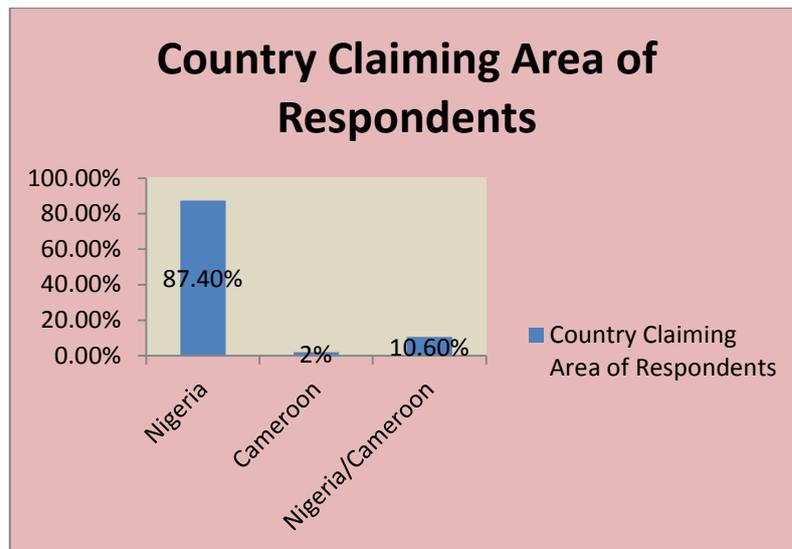


Figure 5: Country claiming Area of Respondents
Source: Field work 2015

Related to figure 4 many literatures indicate that Lake Chad land is fertile, the water is always diminishing and the course is changing with time due to many factors such as climate people. As a result of that people follows the water boundary without considering the country having the space. This type of issues usually bring land dispute especially present situation of the study area.

Since the study is along Nigeria-Cameroon boundary especially prior international court of Justice ruling the case on 10th October, 2002 (ICJ, 2002) as both the two countries claiming the area, still the area is under dispute for the inhabitants since the is not yet completed. Figure 5 revealed that the respondents showed that their settlement is in Nigeria with 87.4% with 10.6% indicating there are in both Nigeria/Cameroon and only 2% claiming Cameroon. This shows that the area for long is in dilemma as where they belong, and directly revealing that boundary dispute is still in existence since no nation that can easily agree to surrender her area.

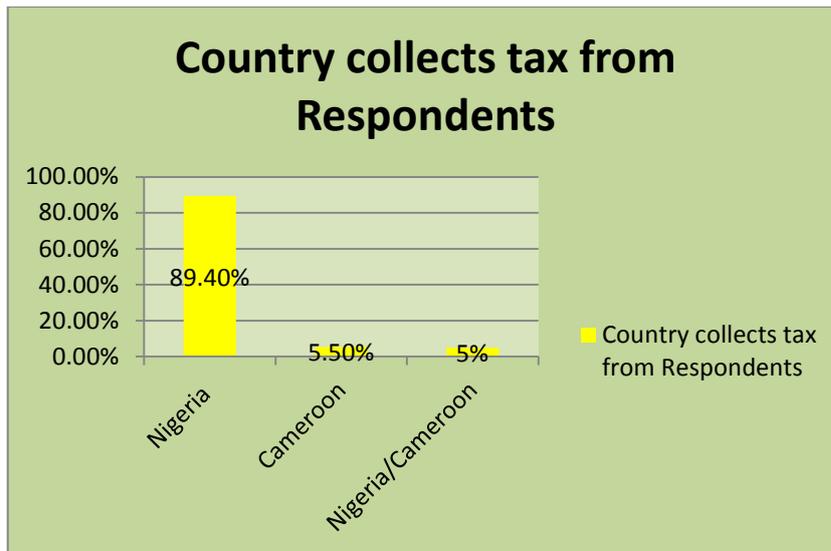


Figure 6: Country collects tax from Respondents
Source: Field work 2015

Related to country claiming the area of respondents is the Country collects tax from the respondents as shows in figure 6 above. The figure shows that 89.4% of respondents responded that Nigeria collects tax from them with only 5.5% and 5% of respondents from Cameroon and Cameroon/Nigeria collecting tax from them. From figure 5 and figure 6 it is revealed that Nigeria is the one that’s administering the area because is the one with the highest percentage of respondents.

5.0 Conclusion

Most of the international boundaries are not demarcated; some countries especially in Africa such as Nigeria and Cameroon started and abandoned the work due to many factors such as United Nation intervention by giving too much specification for demarcation among others. The outcome of any international boundary that not demarcated is boundary dispute which results to conflicts and fatalities. This paper revealed that the study area experiencing a serious boundary dispute with all the ICJ ruling, because majority of the respondents not agreed with the ruling claiming that there are still belong to where there are prior the ruling.

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