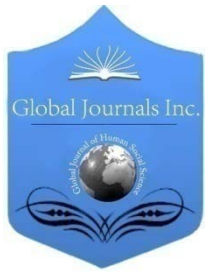
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Spatial Analysis of Household Size as a Determinant of Health Status of Rural Areas of Federal Capital Territory, Nigeria

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Abstract- This research was an attempt to study the consequences of dam construction in Nigeria. This was expedient because such projects are known to be characterised by array of disasters that ensued their construction. Satellite images captured before and after the dam in 1976 and 2014 respectively were subjected to image processing techniques so as to assess the likely changes in environmental variables of the area. This was supplemented by 250 questionnaires administered in settlements along the riverbank to elicit information on the socioeconomic characteristics of the people. Additionally, field observations and informal interviews were conducted to probe further into details of information required. Results show that natural vegetation has decreased by 63%. This has led to chains of environmental problems including soil erosion, loss of biodiversity and pollution. The other land use/cover types experienced increase, with water body accounting for the highest value of 54.7% owing to dam in the reservoir. The hitherto common crops of the area such as maize, guinea corn have been replaced with cash crops like cotton and potato etc., some of which are foreign to the area.

Keywords: *household size; healthstatus, rural areas.*

GJHSS-B Classification : *FOR Code: 050299*



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Spatial Analysis of Household Size as a Determinant of Health Status of Rural Areas of Federal Capital Territory, Nigeria

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Abstract- Household size is one of the determinants of socio-economic development of any country. It is the total number of people living in a house, sharing certain things in common and may contain more than a family: it includes the fathers, mothers, children and other dependents that live under the same roof and having certain things in common. Household size varies in size in space as a result of diverse reasons. In the light of this, the present study is conceived, in order to establish the relationship between household size and health status of rural areas of Federal Capital Territory, Nigeria. The study involved 172 household heads across the six area councils of the study area. Random sampling technique was adopted to obtain all the relevant data. In all, in-depth-interviews (IDI), Focus Group Discussions (FGDs) were conducted and questionnaires were also administered in the randomly selected settlements of the wards on the subject matter. Data from all these sources were subjected to correlation analysis. The study concludes that, there is high proportion of household size in the study area with its attendance effects on the health status of the rural populace. In the face of this finding, the study recommends manageable household size as one of the conditions for healthy living upon which economic growth can evolve. This can be achieved through adequate family education.

Keywords: household size; healthstatus, rural areas.

I. Introduction

Household size is a central to planning of socio-economic sector of any country. Policies relating to housing, health, education and other aspect of governance are planned with data from households. Household is not same thing as family and according to America Heritage Idioms Dictionary (2005), family is a basic social unit, consisting of parents and their children considered as a group whether dwelling together or not. However, NPC (2013) described household as a person or group of persons, related or unrelated who usually live together in the same dwelling unit, have common cooking and eating arrangement. Similarly, Havilland (2003) also defined household as a situation where one or more people live in same dwelling and also share at meals or living accommodation, and may consist of a single family or some other grouping people.

Household is relevant for many purposes and this according to United Nations (1973) includes: it's in housing analysis, because household is made up of single houses. Additionally, household is the unit of census and survey enumeration, thus it is statistically relevant. Household assists in having understanding of family size, household headship, needed in formulating population based policies (NPC, 2014).

According to Hurtubia, Gallay and Bierlaie (2010) a household size is determined by age, ethnic group (culture), sex, education, marital status among others. This explains its geographical variation in space: in some places, there is marked high proportion in the number of households, while reverse is the case in others (Mohammed, Andreal, Barrere, Ekalevi and Otto, 2010).

Household heads are in most cases males in many African traditional societies, but in a few other cases, females may head: female headship is not common in many African cultures (Varga, 2001). In Nigeria, National Bureau of Statistics (2012) in a survey carried out in the period 2006-2010, submitted that, male-headed household constituted 84.8%, while female headed was 15.2%. All these have their effects on economic status of the people and on health status. World Bank, (2014) affirmed that, in Nigeria, poverty level remains at 33.1% and majority of people live on less than 2 dollars per day. However the incidence of poverty is high in the rural than urban area, however the fact remains that, slum dwellers that are also part of urban setting are not free (Akanbi, 2014). This among other reasons may have explained why poverty level is high among Nigerians.

On the other hand, WHO (1946) definedhealth as a state of complete physical, mental and social well-being and not merely the absence of health according disease or infirmity. It follows therefore that, a healthy person must be of sound health. This definition has been criticized, because it is considered to be flexible and unreasonable. For instance according to the critics, it is not possible for a human being to be in complete state of health. Aboriginal and Health and Medical Research Council (2015) also referred to health as the social, emotional, and cultural well-being of the whole common in which each individual is able to achieve their full potentials as a human being, through the total well-being is extended to their communities. Central to all

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these definitions is that, health is a resource of life, upon which socio-economic activities lies.

Studies have confirmed the links between household size and poverty level (Lajouw and Ravallion, 1994 and Anyanwu, 2013).

Large household size has impoverished the rural areas, because of the poor economic base that has manifested in diseases and poor economic growth, which has further aggravated the poverty level of the rural people (Ki-moon, 2011; WHO, 2014 and Olawuyi and Adetunji, 2015). WHO (2014) identified income (which also determine the poverty level) as one of the determinants to health, which is peculiar to many developing countries.

According to MDG's report (2015), the most common diseases in FCT are malaria, typhoid, cholera, abdominal pain, dysentery, chicken pox, diarrhea and diabetes. Thus, Adesina (2015) in an online post estimated that about 75% of Nigerians particularly those living in the rural area prefer to solve their health problems consulting traditional healers. This may not be unconnected with low disposable income among other reasons (Srvastava, 2011).

It is in the light of this that this work is conceived and therefore, the aim of this study is to look at the relationship between household size and health status, using the rural areas of Federal Capital Territory as a case study. This aim is achieved through the following objectives: evaluate the household size and examine the relationship between household size and health status of rural areas of Federal Capital Territory, Nigeria.

II. The Study Area

a) Location and Size

The Federal Capital of Nigeria is located in the northern part of confluence of Rivers Niger and Benue. It is bordered in the West and North by Niger State; bordered in North-East by Kaduna State; Nasarawa State in the East and Kogi State in the South-West. Federal Capital Territory occupies a land area of about 7,315 SqKms. It is located between latitude 8^0 30' and $9^0$00' north of the equator and longitudes $7^0$00' and $7^0$30' east of Greenwich Meriden. According to United Nation Fund for Population Activities-UNFPA (2015), FCT is estimated to have a population of 3,324,000people.

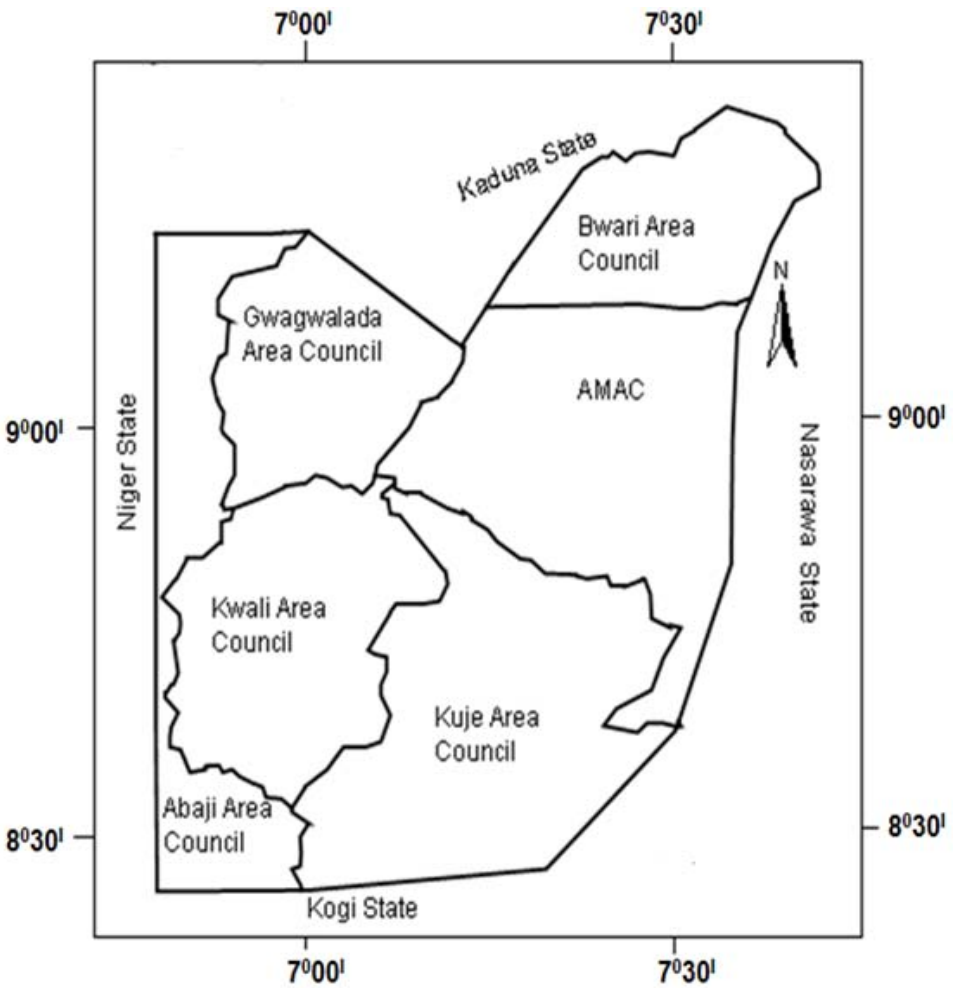


Figure 1 : Map of Federal Capital Territory

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II. Material and Method

The data used in this study were obtained from primary and secondary sources. The secondary source included National Population Commission (NPC) publications and maps while the primary sources involved were Focus Group Discussions (FGDs), questionnaire and in-depth-interview (IDI). In obtaining relevant data for the study, multi-stage sampling technique was adopted. Three stage sampling method was adopted in the selection of household. The first stage in sampling process is the identification of wards from each local area councils (Table 1).

Table 1 : Local Area Councils and Wards in Federal Capital Territory

Local Area Council	Wards	Local Area Council	Wards	Local Area Council	Wards
Kuje	i.Kuje Central ii.Chibiri iii.Gaube iv.Kabivi. v.Kwaku vi.Rubochi vii.Gwargwada viii.GudunKarya ixKujekwe x.Yenche	Kwali.	i.Pai ii.Kilankwa iii.Kundu iv.Kwali Central v.Wako vi.Yabu vii.Dafpa viii.Yangoji ix.Ashara x.Gunbwo	Gwagwalada	i.Paiko-Kore ii.Ibwa iii.Dobi iv.Ikwa v.Tunga-Maje vi.Gwako vii.Quarters(Phasei,ii&iii) viii.Kutunku ix.Zuba x.Dagiri
Abaji	i.Agyana/Padangi ii.Gawu iii Rimba/Ebagi iv.Nukun/sabongari v.Alu/Mawopi vi.Yaba vii.Gurdi viii.Abaji Central ix.Abaji North-East x.Abaji South-East	Bwari	i.Shere ii.Igu iii.Kawu iv.Ushafa v.Usuma vi.Kubwa vii.Byazhi viii.Bwari Central ix.Kuduru x.Dutse	AMAC	i.CityCenter ii.Garki iii.Wuse iv.Kabusa v.Kuyi vi.Gwarinpa vii.Karu viii.Orozo ix.Nyanya x.Gwagwa xi.Jiwa xii.Karsi

Source: Field Survey, February, 2015.

The second stage in involved, picking of 10.0% of all the settlements in each area council, constituting the sampled settlements.

The uniformity in the choice of 10.0% is as a result of variation in the number of settlements per ward so as to ensure total coverage of the study area (Table 2).

Table 2 : Sampled households and Distribution of Questionnaire in the Study Area

Local Area Council	No. of Settlements	Sampled Settlements (SS)	Estimated Household= (SS × Mean HH (4.2*)	Number of Questionnaire
Kuje	60	6	25	58
Kwali	60	6	25	58
Gwagwalada	54	6	25	58
Bwari	108	11	46	107
AMAC	40	4	17	40
Abaji	82	8	34	79
TOTAL	404	41	172	400

Source: Field Survey, February, 2015.

The third stage is the selection of households purposively in the settlements that make up the study area. Household (HH) is a group of people living together and maintaining unique eating arrangement (NBS, 2010). The respondents (Households) were estimated using National Population Commission (1991) estimated mean household for each settlement in Federal Capital Territory (as at 1991) put at 4.2. The use

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of 1991 census data is informed by the fact that, there is no current population data that disaggregate into localities.

In carrying out the analysis of data collected, regression analysis test was used and is of form:

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon$$

Where Y=Dependent Variable

X_1 =Independent Variables

β_0 and β_1 = Coefficients

ε =Error

III. Results

a) Socio-Economic Characteristics of Respondents

This part of the study explains the socio-economic characteristics of the respondents in relation to sex, marital status, occupation, educational attainment, religion and income.

Table 3 : Distribution of Respondents by Socio-Economic Characteristics

	Frequency	Percentage
Sex	Male(146)	Male (85)
	Female(26)	Female(15)
Marital Status	Married(163)	Married (95)
	Spinster(9)	Spinster (5)
Occupation	Farming(90)	Farming (52.5)
	Artisan (26)	Artisan (15)
	Professionals(23)	Professionals(13.5)
	Trading(20)	Trading(11.5)
	Civil Service (13)	Civil Service(7.5)
Education	Non-formal (30)	Non-formal (17.5)
	Primary(52)	Primary(30)
	Secondary(34)	Secondary(20)
	Tertiary(17)	Tertiary(10)
	None (39)	None (22.5)
Religion	Christianity(52)	Christianity(30)
	Muslim (47)	Muslim (27.5)
	ATR (73)	ATR (42.5)
Income	Less ₦5,000 (90)	Less ₦5,000 (52.5)
	₦5,000-₦10,000(39)	₦5,000-₦10,000(22.5)
	₦11,000-₦16,000(22)	₦11,000-₦16,000(12.5)
	₦17,000-₦22,000(13)	₦17,000-₦22,000(7.5)
	₦23,000-₦28,000(6)	₦23,000-₦28,000(3.7)
	More than ₦29,000(2)	More than ₦29,000(1.3)

Source: Field Survey, 2015.

The profile of respondents in Table 3 shows that, 85.0% are male, while the remaining 15.0% are female. In Africa society, discussions that has to with family lies with heads, who are mostly men. Furthermore, 95.0% of the respondents are married, while 5.0% are spinsters. The married are able to give detail knowledge of what they understand as traditional medicine, and whether it should be encouraged or not. In the same vein, majority of the respondents are farmers. Farmers and artisans constitute 52.5% and 15% of the respondents respectively, while professionals and traders are 13.5% and 11.5% in that order whiles the unemployed is 7.5%. About 17.50 % of the respondents have non-formal education, and 30.0% have primary education. Similarly, 20% and 10% of respondents have secondary and tertiary education respectively. Respondents without formal education constitute 22.5%.

Christians and Muslims constitute 30% and 27.5% respectively, while African Traditional Religion is 42.5%. Similarly, Table 3 reveals that, 52.5% of respondents earn less than ₦5, 000 per month, while 22.5% earns between ₦5, 000 and 10,000. In the same vein 12.5% of respondents earn between ₦11, 000 and ₦16, 000 and 7.5% earns between #17,000 and ₦22, 000 monthly. Suffice to add that 3.7% and 1.3% earn between ₦23, 000 and ₦28, 000 and above respectivelyN29, 000

b) Household Size in Study Area

The number of children born into human society is a social activity, which can be used to measure the socio-economic status of a people. In any society where more children are born in addition to the existing population without corresponding increase in economic activities, would always create a worse scenario. Although, the number of wives doesn't determine the number of children, but it adds to household size.

Among the rural populace in Africa, the study area inclusive marrying a wife is seen as a sign of

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laziness, in fact, people with a wife are not considered to be relevant in decision making. This assertion is without considering the socio-economic consequences, which are manifested in high poverty level.

Table 4 : Distribution of Respondents by Household Size

Number of Children	Frequency	Percentage (%)
1-2	25	6.3
3-4	30	7.5
5-6	90	22.5
7-8	110	27.5
9 and Above	133	33.2
Never had a child	12	3.0
Total	400	100.0

Source: Field Survey, 2015.

Table 4 reveals that, 6.3% of respondents have had between 1-2children. Additionally, 7.5% have between 3-4 children, while 22.5% have between 5-6children. Similarly, 27.5% and 33.2% of respondents have between 7-8 and 9 and above children. Lastly, 3.0% have never had children. In an FGD discussion, a discussant who has many children averred that:

> *"As a Muslim, Islam encourages Islamic adherents to bear many children, so that horizon of Islam can be broadened. So if we bear few children, how do we achieve this tenet''* (FGD, Paikok-ore, Gwagwalada LAC, 2015).

There is controversy as to what is an ideal household size: NPC (2013) in a survey of Nigeria estimated that 49.5% of the respondents agreed that more than six (6) children are ideal for a household. However, National Bureau of Statistics (2012) submitted that the mean household size of Federal Capital Territory was 4.5.

Without to the prejudice to volume of household in the study area, the pattern of size of household is determined by occupational and cultural factors. All of which are considered relevant in explanations on education, food and health status.

In an interview, a retired nurse is of the opinion that:

> "*Too many children can further aggravate the already existing poverty with its negative effects on the system. From experience, uncontrolled child bearing has led to inability to meet the necessities of life".* (IDI, Kwakwu village, Kuje LAC, 2015).

The bulk of people of respondents who believes in large household size are confined in the rural areas: this is informed by the nature of occupation and cultural reasons.

A discussant during one of FGDs, who has traversed nooks and crannies of the study area averred that:

> *"My experience in the study area reveals that, high proportion of household in FCT rural is determined by nature of our occupation. We need hands to work on the farm since we can't afford modern farming technique'. (FGD, Karshi AMAC, 2015).*

Central to all these submissions is that, household size in the study area is a major social issue that has effects on health of the rural areas.

c) Null Hypothesis

H_0: There is no significant relationship between household size and health status of rural areas of Federal Capital Territory, Nigeria.

Table 5 : Result of Correlation Analysis

	Health Status
Pearson Correlation	.530**
Sig. (2-tailed)	.008
Df	22

***. Correlation is significant at the 0.05 level (2-tailed).*

The correlation co-efficient on Table 5 revealed that there is an average relationship between household size and economic status of people of Federal Capital Territory. This is because the p-value of .008 < 0.05 level of significance at a correlation level of 0.530 at 22 df. The null hypothesis which states that, ''there is no significant relationship between household size and health status of people area council is being rejected.

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IV. Discussion

From the foregoing, the rural areas of study area have high proportion of household size. This trend has been associated to a number of factors including social, cultural and economic. The study area is known for peasant farming, as they constituted 52.5% of the respondents and with majority earning less than N5, 000 per month.

Additionally, an ideal household should be based on income, occupation and state of health. An ideal household should be a type that income cannot sustain.

In the study area, 1.3% of the respondents earn more than N29, 000 per month, which is not adequate for a household size of 12 (highest in the area).

No matter, how available essentials of life are (including health facilities), they may not be accessible because poor disposable income. The overall effects is that socio-economic sector will continue to be retarded.

V. Conclusion and Recommendation

Household is the smallest unit of the social unit, upon which development evolve. It varies from one area to another as a result of social, cultural and economic differences. This study reveals that there are links between household size and poverty with its attendance effects on the study area: the higher the household size, the higher the poverty

Bearing in mind the above relationship between the duos, the study recommends that, affordable household size is ideal, for sustainable development which cannot be achieved in the absence of healthy living. This can be achieved with the aid of adequate family planning education.

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