



The Effects of Household Sizes on the Living Standard in Uyo Municipality, Akwa Ibom State, Nigeria

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Authors' contributions

This work was carried out in collaboration between all authors. The corresponding author NNF designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Author DIA managed the analyses of the study. Author UO managed the literature searches. All authors read and approved the final manuscript.

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ABSTRACT

Nigeria sector policies on birth control and child spacing are all aimed at household size reduction and enhanced better standard of living. This is because increased household sizes in most cases progressively increases poverty, thus lowering the household living standard. This study examines the effect of household size, among other correlates, on the standard of living of the sampled respondents in Uyo, metropolis using income and basic needs approach. The results revealed an inverse relationship between household sizes and monthly income per capita, housing density, availability of medical facilities as well as for pipe borne water. Larger household sizes were found to live in rented apartment within densely populated area and the housing type was composite. Majority of the categorized household sizes lived in concrete wall and zinc roof type of building and were all connected to the national grid for power supply. However, irrespective of household sizes, respondents complained of irregular electric power supply in the study area. The study concluded that increase household size had negative effect on the living conditions of the respondents. It recommended for an "all inclusive" vigorous house hold size reduction policy for the country and an aggressive cultural campaign with an effective enforcement strategy.

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1. INTRODUCTION

Most developing economic households especially in the Sub-Saharan Africa regions are characterized by extended families system or rather with a high dependency ratio. These economies are mostly agrarian and the large household sizes according to extant literature offer free and cheap farm labour or better still are used as security and safety nets. Traditionally, some cultures consider having more number of children per household as a device for "consumption smoothing" – an economic concept which refers to balancing out spending and saving (life insurance) to attain and maintain the highest living standard throughout an individual's life time Nickel [1]. Though, this cognitive appreciation of large household sizes could be used as a sub-dimension of assessment of individual's life satisfaction in Africa, hitherto, it has an obvious implication on the household and a far reaching implication on their living standard.

Global rural/urban dweller's ratio has been reported to be on the increase. This high rural/urban ratio has not only been underpinned by the rapid growth in the world economy, the proportion of gross world product and of the economically active population working in industry and services which are mostly in the urban areas Satterthwaite, McGranahan and Tacoli, [2], it has brought and continues to bring major challenges on demands and consequently the standard of living of the people.

Nigeria as a developing country with a population of about 160 million people NPC estimates [3] out of which 75% are in agriculture cannot be absolved from the above described rural/urban phenomenon. It ever increasing population which dovetail to large household sizes/high dependency ratio is a source of concern to successive government. This is evidenced by the vigorous campaigns mounted by the federal, state, local government on birth control, child spacing, advocacy from NGOs on gender inequality and agitations from labour organisations for already over-due wage/salary review. International Agencies such as USAID, UNESCO etc. are not left out in these campaigns. The adduced reason for these campaigns is simply because; Nigeria has not been able to meet the United Nations benchmarked living standard.

Of course, there are good socio-economic and political reasons to be concerned about the household sizes and growing population in the nation. Its nutritional, societal and infrastructural development impacts couple with rising inflation are but enough challenges for the nation. Large household sizes seems to lead to general developmental dysfunction, engender less income per head, incapacitate savings and the societies tend to be worse off when it comes to health, education, productivity and general standard of living. Household size was also found to be a determinant of poverty. A one person household negatively and significantly reduces poverty while addition of members to the household, progressively increased the probability of being poor and lowers standard of living; Szekely, [4], Maitra, [5], Anyanwu, [6].

Standard of living, which generally refers to the level of wealth, comfort, material goods and necessities available to a certain socio-economic class in a certain geographic area Fontillelle [7], is evaluated commonly using the following factors: income, quality and availability of employment, class disparity, poverty rate, quality and affordability of housing, affordable access to quality health care, quality and availability of education, cost of goods and services, infrastructure, environmental quality etc. Fontillelle [7]. However, no single research work has used all the enumerated factors at a time Montgomery, Grangaloti, Burke and Paredes [8], Morris, Calogero, Hoddinot and Christiaensen [9]. This research work will benchmark household sizes against household income, type of building structure, availability of pipe-borne water and electricity, housing density, availability of medical facilities, housing type, housing tenure and house rent per month.

Household size which is a measure of the number of family members in the household is said to determine the labour force available to cultivate dry and wetlands. This relationship is said to be positive. Maitra [5] and Anyanwu, [6] among others corroborated this positive correlation finding in their studies. However, in the event of pressure of household size on income, type of building structure, availability of pipe-borne water and electricity, housing density, availability of medical facilities, housing type, housing tenure and house rent per month, it is expected to be lesser than the labour benefits

likely to be enjoyed by large household sizes thus, a negative relationship is expected.

Household sizes related indicators are very important for assessing standard of living in general. This is because policies and programs to check the household sizes by the Nigerian Government and International Agencies have not been able to stem the tide. Equally, government infrastructural development efforts have yielded no tangible result and, social and safety nets policies are fallacies. To worsen the situation is the current challenges of Boko Haram, Fulani cattle rustlers, activities of militants and other communal crises. These cases have created millions of internally displaced persons (IDPs) which the government has to provide for even with the dwindling crude oil prices. The study will be of immense benefit to policy makers as a guide on the provision of the essential infrastructures considering the prevalent household sizes for a better standard of living. According to Kinnon, Steele, Temesgen [10], living standard surveys are one instrument that Governments can, and do use to better understand the causes of observed outcomes as well as the impact of their policies. They reiterated that living standard surveys goes beyond simply measuring outcomes to allowing connections to be made among the myriad factors that affect or cause these outcomes.

One reason that empirical studies of household size effects have been historically rare is that they confront a significant identification challenge due to the reflection problem. The reflection problems occur because under most circumstances, the study area is made up of people on the same pedestrian thus, it is not possible to determine if two households are on the job or because the households are merely similar or face similar conditions and constraints. Not only are our economic arguments intended to account for variations within as well as between households, they will prove confirmable or falsifiable by data within household sizes and between classes of population (workers in public, private institutions, firms, traders, artisans, craft makers and transportation businessmen). Our method of comparison is thus exemplary in the simple sense of being a way to approach explanation of household sizes on socio-economic similarities and differences in living standard of the present that can also apply to predicting future living standard viz-a-vis household's sizes.

2. METHODOLOGY

2.1 The Study Area

The study was conducted in Uyo Metropolis, Akwa Ibom State. Uyo is the capital of Akwa Ibom State. It is located on latitude 05°3'N and longitude 07°57'E. It is bordered on the south by Ekpe Atai and Nsit Ibom Local Government Areas, on the West by Abak Local Government, on the North by Ikono and Itu Local Government Areas and on the East by Uruan Local Government Area respectively. It has an estimated population of 309,573 (National Population Commission, NPC [11]). It is a commercial nerve centre of the entire Akwa Ibom State. Inhabitants of Uyo Metropolis are workers in public and private institutions and firms. Others are engaged in trading, craft making and transportation business.

2.2 Sampling Procedure

Stratified sampling method was employed in the study. The study area was stratified into cells based on features/characteristics usually associated with low, medium and high density settlements. Due to non-availability of sampling frame, selection of compounds from which households were chosen was done through "random-walk" method. One household was selected in each compound for detailed study. A total of 60 respondents were selected from high, medium and low income earners areas of Uyo metropolis respectively. This gave a total sample size of one hundred and eighty (180). Out of 180 households, 179 supplied complete data that were used in the analysis while the remaining one (1) was discarded because of incomplete information.

2.3 Methods of Data Analysis

To assess the size of households and living standard, simply descriptive statistics viz: means, percentages, frequencies, were used. Standard of life in the respondents was assessed using eight (8) living standard indicators namely: Income, Nature of dwelling place, Availability of pipe borne water and electricity, Housing density, Availability of medical facilities, Housing type(s), Household housing tenure, Rent per month. These indicators have been used by various authors such as Ogu and Ogbuozobe [12], Page [13], Phillips [14], Okello [15], World Bank [16], Zaid and Popoola [17].

3. RESULTS AND DISCUSSION

The important living standard indicators are here analyzed and discussed based on the theoretical underpinnings with implications and lesson drawn especially as they relate to effect on living standard.

Household sizes is noted and believed to vary directly with both income and expenditure. The Table shows that average household size of 4 persons have 46.93% of the households' sampled persons while only 2.23% have average household size of 17 persons. The result reveals a tendency towards small family size in the study area. This seems to be in line with result of Obayelu, Okoruwa, and Oni [18] study of urban households in Kogi and Kwara State as well as Usharani and Reddy [19] in Hyderabad, India. These studies also found small household sizes in their study areas. The current trend can be attributed to awareness created by government and such non state actors like Society for Family Health in controlling birth rate. Another reason could be high rate of inflation in the State. This may have made keeping and maintaining large family size rather hard and difficult. Average household size in the study area is about six (6) persons. This, therefore, implies that there is an inverse relationship between household size and the per caput income. This result confirms Ayantoye [20], Ibrahim, Uba-Eze, Oyewole and Onuk [21], assertion that economic efficiency of household management is greater in larger households than in smaller ones. This, therefore, reveals that there is an inverse relationship between household size and the per caput income.

3.1 Household Size and Type of Building Structure

The number of household members may, to some extent, influence the type of building structure and vice versa. The distribution of

household by household size and type of building structure in Uyo Metropolis are contained in Table 2. The Table shows that the household sizes range from 1-5, 6-10, 11-15, 15 and above respectively. The table further shows that the households with 6-10 persons dominate in the study area. Majority of these households live in houses with concrete wall and zinc roofs. While most households in other household size groups have some of them lived in buildings with mud and wood wall and zinc roofs, 100 percent of those with 15 persons and above live in these buildings. The result obtained in this study seems to show that Uyo Metropolis residents lives in predominantly modern buildings.

In Table 3, the distribution of households by size and availability of pipe-borne water and electricity is presented. The Table reveals that 88% of households with 1-5 persons have pipe borne water. This group is followed in ranking by those with household sizes of 6-10 persons, larger households seem not to have pipe borne water in their dwelling as 69% of the respondents said this was "not available". However, 71% of all the sampled households in Uyo Metropolis have pipe borne water in their dwellings. This therefore points to the fact that lack of pipe borne water increases with household size. Contrary to pipe borne water, all households in the study area have electricity. This is irrespective of household size. However, respondents complained of irregularity of power supply.

The distribution of household by size and housing density is presented in Table 4. The result shows that all the households with a size of 15 persons and above have 4 persons per room. Similarly, more than 50% of households with 6-10 and 11-15 persons per room have 4 and more persons in one room. The percentage of households in this category decreases with household size of 1-5. Thus, the number of occupants per room tends to increase with household size and vice versa.

Table 1. Distributions of households by size and income

Household size	Percent of total household	Average household size	Monthly income per household (₦)	Monthly Per caput income (₦)
1 – 5	46.93	4.00	117,126.19	26,977.59
6 – 10	41.89	7.00	193,159.57	27,559.11
11 – 15	8.95	13.00	126,662.50	9,559.24
Over 15	2.23	17.00	16,638.53	1,279.89
All groups	100.00	6.00	147,537	22,825.52

Source: Field survey, 2014

Table 2. Distribution of households by household size and type of building structure

type of building structure	All household		1 - 5		6 – 10		11- 15		15 and above	
	freq.	%	freq.	%	freq.	%	freq.	%	freq.	%
mud and wood wall thatch roof	0	0	0	0	0	0	0	0	0	0
wood wall and zinc roof	11	6	2	2	8	11	1	6	0	0
concrete wall and zinc roof	168	94	82	98	67	89	15	94	4	100
total	179	100	84	100	75	100	16	100	4	100

Source: Field survey, 2014

Table 3. Distribution of households by household size and availability of pipe borne water and electricity

Specified items/ facilities	All household		1 - 5		6 – 10		11- 15		15 & above	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
(i) Pipe borne water										
(a) Available	126	71	74	88	46	61	5	31	1	25
(b) Not available	53	29	10	12	29	39	11	69	3	75
Total	179	100	84	100	75	100	16	100	4	100
(ii) Electricity										
(a) Available	179	100	84	100	75	100	15	100	4	100
(b) Not available	0	0	0	0	0	0	0	0	0	0
Total	179	100	84	100	75	100	15	100	4	100

Source: Field survey, 2014

Table 4. Distribution of household by household size and housing density

Number of persons per room	All group		1 - 5		6 - 10		11- 15		15 & above	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Upto 2	57	32	32	37	23	31	2	13	0	0
3 – 4	53	29	35	42	13	17	5	31	0	0
4 and above	69	39	17	20	39	52	9	56	4	100
Total	179	100	84	100	75	100	16	100	4	100

Source: Field survey, 2014

Table 5. Distribution of households by household size and availability of medical facilities

Response	All group		1 - 5		6 - 10		11- 15		15 & above	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Readily available	50	28	44	52	5	7	1	6	0	0
Rarely available	123	69	40	48	70	93	13	81	0	0
Not available at all	6	3	0	0	0	0	2	13	4	100
Total	179	100	84	100	75	100	16	100	4	100

Source: Field Survey, 2014

In Table 5, the distribution of households by size and availability of medical facilities is presented. The table reveals that household with 1-5 persons have medical facilities readily available,

93% of households with size of 6-10 persons responded 'rarely available' while much larger households claimed not available at all. This shows that larger households lack access to

medical facilities probably due to the heavy burden of catering for other equally important needs of the households.

In Table 6, the distribution of households by size and housing type is presented. The table reveals that household size of 11-15, 15 and above has 100 percent composite housing type respectively. This therefore shows that larger household sizes are made up of composite housing type. Field observation reveals that most of these housing types accommodate people who may be in-laws, relatives and kinsmen in order to shelter them while searching for what to do in the metropolis.

The distribution of households by size and housing tenure is presented in Table 7. The table reveals that household with 1-5 persons live in their own houses, 19% of households with size of 11-15 persons live in rent free apartment while much larger households claimed to live in rented houses. This portray the fact that, the larger the

household size, the higher the amount expend especially on food. The implication here is that, the savings that could have been made from having small family size is expended virtually on food consumption which leaves the household with no option but to occupy a rented apartment as their small savings could not afford them a land or building in the metropolis.

Table 8 present the distribution of households by size and house rent per month. The table reveals that household size of 1-5, 6-10, 11-15, 15 and above persons have 16%, 35%, 45% and 75% house rent of up to ₦2500 per month respectively. 15% of households with size of 6-10 persons paid above ₦20,000 per month. This therefore indicates that larger households could not afford to live in expensive houses. The research findings further revealed that most of these larger households live in compacted buildings and also in a densely populated area in the metropolis.

Table 6. Distribution of households by household size and housing type

Housing type	All group		1 - 5		6 -10		11- 15		15 and above	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Single member	1	1	1	1	0	0	0	0	0	0
Nuclear	104	58	64	76	40	53	0	0	0	0
Composite	74	41	19	22	35	47	16	100	4	100
Total	179	100	84	100	75	10	16	100	4	100

Source: Field Survey, 2014

Table 7. Distribution of households by household size and housing tenure

Housing tenure	All group		1 - 5		6 – 10		11- 15		15 & above	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Owners occupied	58	33	33	39	21	28	4	25	0	0
Rent free	15	8	6	8	6	8	3	19	0	0
Rent paying	106	59	45	54	48	64	9	56	4	100
Total	179	100	84	100	75	100	16	100	4	100

Source: Field Survey, 2014

Table 8. Distribution of households by household size and house rent per month

House Rent ₦	All group		1 - 5		6 – 10		11- 15		15 and above	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Up to 2,500	31	29	7	16	17	35	4	45	3	75
2,510– 10,000	42	40	21	47	18	38	2	22	1	25
10,100-15,000	20	19	12	27	6	12	2	22	0	0
15,100 -20,000	3	3	2	4	0	0	1	11	0	0
> 20,000	10	9	3	7	7	15	0	0	0	0
Total	106	100	45	100	48	100	9	100	4	100

Source: Field Survey, 2014

4. CONCLUSION AND RECOMMENDATIONS

This study examined food consumption as well as income distribution patterns in households in Uyo Metropolis, Akwa Ibom State, Nigeria. The main objective was to employ both the income and basic needs approach in assessing the effect of household sizes on the living conditions of the respondents in the area of study and to make policy recommendations based on the findings of the study.

The result revealed an inverse relationship between household sizes and monthly income per caput, availability of medical facilities and housing density (number of persons per room) of the respondents. The distribution between household size and type of building reveals that majority of the categories household sizes lived in Concrete wall and Zinc roof type of building. This is not unconnected with the status of Uyo as a metropolis full of modern buildings. Larger household sizes were found to live in rented apartment within densely populated area, the housing type was composite (i.e. accommodated people who may be in-laws, relatives and kinsmen in order to shelter them while searching for what to do in the metropolis) and they paid as low as two thousand five hundred Naira (N2500/=) per month as rent. Household size distribution and availability of pipe borne water and electricity reveals that 88%, 61%, 31% and 25% of 1-5 persons, 6-10 persons, 11-15 persons, 16 and above persons have pipe borne water in their dwelling. However, 71% of all the sampled households in Uyo Metropolis have pipe borne water in their households. It shows an inverse relationship between pipe-borne water with household size. Contrary to pipe borne water, all households in the study area have electricity. This is irrespective of household size. However, respondents complained of irregularity of power supply.

The study recommended for better policies on education, birth control and child spacing advocacy for the nation as these will streamline the household sizes in the study area in particular and the nation in general.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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