Prioritising the basic services and infrastructural needs of Okpoko urban slum settlement for a sustainable upgrading

Peter Uchenna Okoye [1*], Chukwuemeka Ngwu [2], John Ugochukwu Ezeokonkwo [1]

[1] *Department of Building, Nnamdi Azikiwe University, Awka, Nigeria*
[2] *Department of Quantity Surveying, Nnamdi Azikiwe University, Awka, Nigeria*

Abstract

This study examined and prioritised the basic services and infrastructural needs of Okpoko community based on the perceptions of the residents. The study made use of questionnaires, interviews, physical observations and photographs in collecting the data. Relative Importance Index (RII) was computed and used to rank the importance of the identified basic infrastructures and urban services needed in the area. The study found that all identified basic infrastructures and urban services are important to the community, but the five most needed and pressing basic infrastructures and services in Okpoko community are safe, affordable and decent houses (0.98); access road (0.94); improved water supply (0.93); waste disposal/sanitation system (0.92); and improved drainage system (0.90). On this ground, the study recommended a strict adherence to the priority needs of the community whenever any intervention project especially physical infrastructure is being proposed for the area. It also recommended a workable operational framework which will be in tandem with the current realities for implementation of all the proposed upgrading programmes in Okpoko community. Finally, it suggested that the federal government begin the process of implementing the results of its needs assessment on Okpoko urban slum as it is being done in some other areas.

Keywords: Infrastructural Needs; Okpoko, Slum Settlement; Sustainable Upgrading; Urban Services

---

* Corresponding author. *E-mail address:* pu.okoye@unizik.edu.ng

1. Introduction

Parry (2015) has observed that the world's population is already more urban than rural, but the social, economic and institutional capacity and infrastructure of urban areas and cities cannot keep up with the rapid rate of urbanisation. The increase in the prevalence of slum settlement around the urban centres of the world, Africa and Nigeria has been adequately acknowledged by various UN-Habitat reports (UN-Habitat, 2010; 2012a; 2016a). However, Izueke and Eme (2013) and Aduwo et al. (2016) attributed the proliferation of urban slums in core areas and periphery of Nigerian cities to rapid urban growth of cities without provision for adequate basic services to the citizenry.

According to the UN-Habitat (2003), slums are defined as residential areas in the urban areas that lack at least one of the following housing conditions: access to improved water, access to adequate sanitation, access to secured tenure, buildings/housing durability and structural quality, and sufficient living area. Enlarging this definition, the UN-HABITAT (2007) asserted that a slum represents a group of persons living under a single roof in an urban area and lack one or more of the following; a durable housing of a permanent nature that protects against extreme climate conditions; sufficient living space which means not more than three people sharing the same room; easy access to safe water in sufficient amounts at an affordable price; access to adequate sanitation in the form of a private or public toilet shared by a reasonable number of people and security of tenure that prevents forced evictions. Therefore, slums are characterised by housing that fails to meet people's basic needs for space, privacy, access to safe water and sanitation and secure tenure (Parry, 2015); and where access to water, electricity, sanitation and other basic services and infrastructure tends to be limited and insufficient.

Meanwhile, Arimah (2011) argued that one of the most enduring physical manifestations of social exclusion in African cities is the proliferation of slums and informal settlements. Arimah (2011) maintained that people living in these settlements experience the most deplorable living and environmental conditions, which are characterised by inadequate water supply, squalid conditions of environmental sanitation, breakdown or non-existence of waste disposal arrangements, overcrowded and dilapidated habitation, hazardous location, insecurity of tenure, and vulnerability to serious health risks. This perception is shared by Taher and Ibrahim (2014) who affirmed that the living condition in these settlements suffer from overcrowding, inadequate accommodation, limited access to clean water and sanitation, lack of proper waste disposal system and deteriorating air quality. For Rahman (2012) slums represent settlement for urban poor which in most cases are characterised by inadequate housing conditions; deficient urban services (water supply, sanitation, drainage, solid waste disposal, and roads and footpaths); unsanitary and dehumanising living conditions; extremely high densities (of both people and dwellings); and, frequently, long travel distances to job opportunities.

Based on the definition of slums with regard to structural fitness, accessibility by roads and good drainage and access to water and sanitation, large areas of slums are identifiable within Onitsha urban areas. Several commissioned reports (Foundation for Development and Environmental Initiatives (FDI), 2014; UN-Habitat, 2009) have equally identified and classified Okpoko as a classic slum in the South East of Nigeria that

possesses almost all the features of a slum. However, the under listed characteristics according to the UN-Habitat (2009) prevail in Okpoko slum community:

- Haphazard development,
- No provision for public facilities and amenities,
- Very high density living (439.78 persons per hectare),
- Mixed land uses with dysfunctional activities of mixed residential, commercial and small scale industrial uses,
- Residential buildings without provision for individual and community pipe water, sewage and electricity,
- 95% of the buildings have pit latrines,
- High room occupancy ratio of 4.7 per room (in 1988),
- One room apartments account for 55% of the houses whereas the average figure for Anambra state is 36%.
- Houses are sited on marginal lands and prone to severe flooding and sanitation problems, and
- Social problem of harbouring a large population of miscreants and law breakers.

Although past efforts by the World Bank introduced some roads into the slum, the community still has all the features and disadvantages of a slum community. The people demanded the provision of electricity, water, schools, health facilities, children playgrounds, postal services and pedestrian crossways. They also demanded access to loans and credit facilities (UN-Habitat, 2009). Furthermore, the Urban and Regional Development Department of the Federal Ministry of Power, Works and Housing claimed that it has concluded the collation of baseline data for some selected slum areas within the six geo-political zones; and completed Slum Identification and Needs Assessment Survey for selected settlements in Nigeria including Okpoko Layout, Onitsha -Anambra State (Federal Government of Nigeria, 2017). Unfortunately, while some slum improvement programmes are currently going on in some of these settlements, it is not the same for Okpoko settlement. This has therefore prompted more questions than answers regarding the priority public infrastructure and service needs of the residents of Okpoko.

From the foregoing, it is obvious that Okpoko as an urban slum settlement lacks almost all the basic services for a better living. But the issue remains that all the lacking basic infrastructures and urban services cannot be attended to at the same time owing to the limited and scare resource at the disposal of both the federal and state governments. Despite the misplaced government priorities and policies including the so called social services programmes, the question is then on what the most critical infrastructure and basic urban services requirements for Okpoko urban slum are? Since there is dearth of information in this area and the area is characteristically referred to as a place for urban poor, the ability to profile and categorise these needs will be a starting point to solving the problems of inadequate basic urban services and inadequate infrastructures in Okpoko slum.

Thus, this study is aimed at profiling and prioritising the basic infrastructural and urban services needs of Okpoko urban slum settlement of Anambra State based on the perception of the residents; with a view to minimising the effects of social exclusion and improving the quality of life of the dwellers. Secondly, being

one of the most densely populated slums in Nigeria with about 44,000 people per hectare in 1998 (UN-Habitat, 2009; 2012b), determining the critical basic infrastructural and urban services needs of Okpoko slum is instrumental to devising appropriate intervention programmes and addressing urban poverty sustainable urbanisation. It will also be a step towards meeting the unfinished business of Millennium Development Goals (MDGs) (i.e Social Development Goals (SDGs)) Target 11.1: by 2030, through ensuring access for all to adequate, safe and affordable housing and basic services of water, sanitation, electricity, education, communal facilities, access roads drainages and upgrade slums (UN-Habitats, 2016b); and thereby improving the lives of all the people living in Okpoko slum.

2. Study area

Okpoko is an urban slum settlement in Ogbaru L.G.A of Anambra State but situated within the metropolis of Onitsha city, one of the biggest commercial cities in Nigeria that has witnessed a great influx of people (see Figures 1-3). The arrow in Figure 2 shows the location of Okpoko within Onitsha Metropolis. Okpoko lies by the South West of Onitsha City and is bordered on the West by a tributary of the River Niger, on the North by Fegge Community, Onitsha – Enugu Express road, on the West by Harbour Industrial Layout, East Niger Residential/Industrial Layout and Niger Bridgehead; and on the East by Onitsha Owerri Road and Obosi Community, and on the South by Odekpe and Atani Communities.
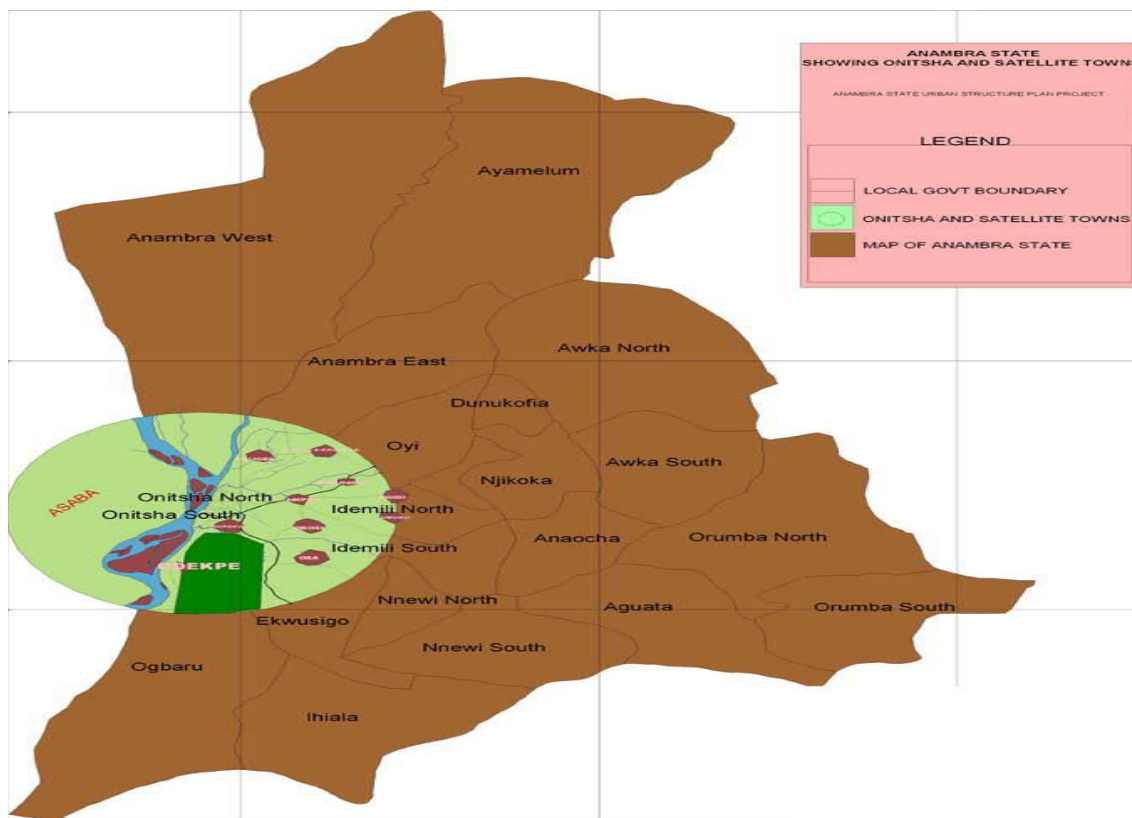

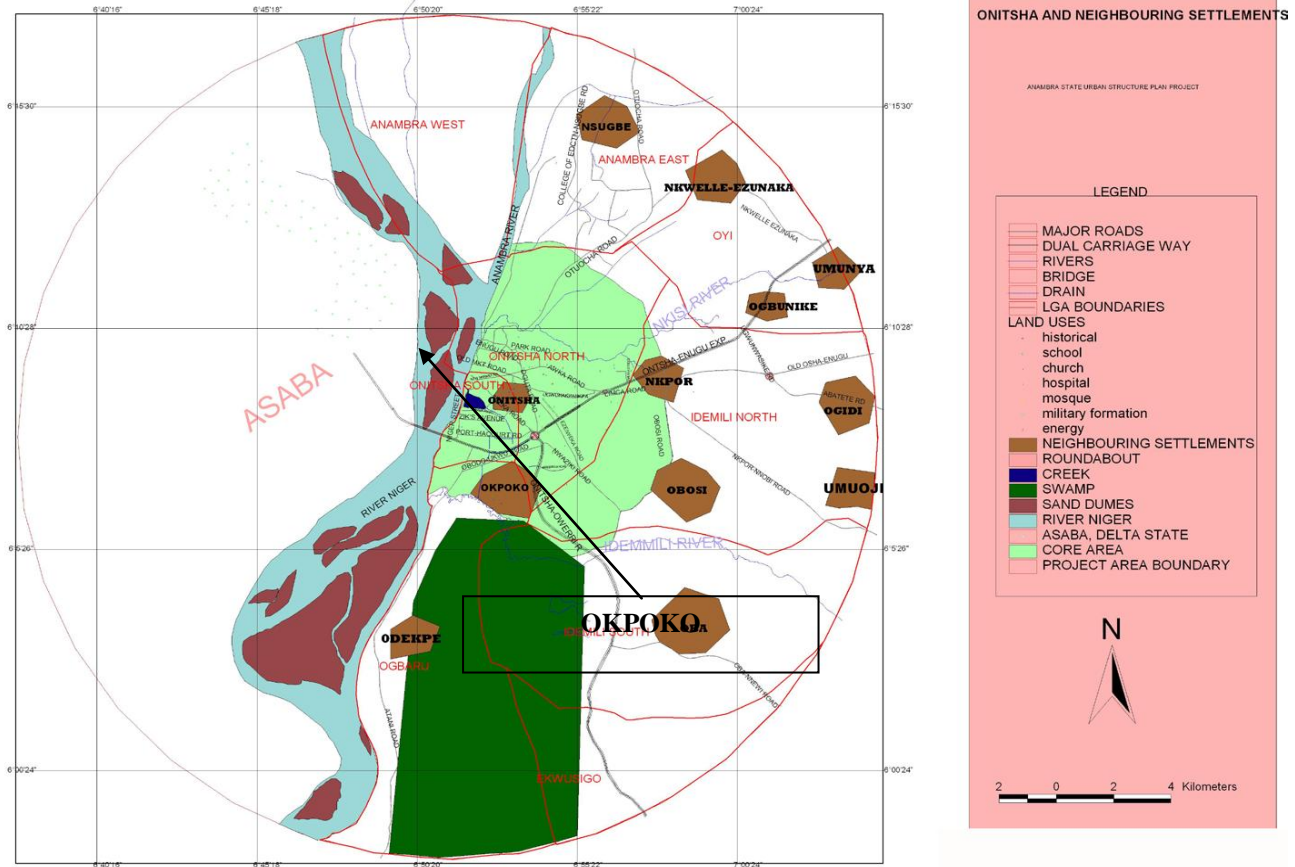**Figure 1.** Map of Anambra State showing Onitsha Metropolis (UN-Habitat, 2009)

Figure 2. Map of Onitsha Metropolis showing Okpoko slum Settlement (UN-Habitat, 2009)

Okpoko is located between latitudes 6° 06 34́ N and 6° 07 49́ N and longitudes 6°46 38́ E and 6°47 41́ E, and covers an area of 291.967 hectares (UN-Habitat, 2009). It has a high population of low-income earners, comprising mainly of traders, artisans and farmers living with their families. According to UN-Habitat (2009), Okpoko's population grew very fast from 31,000 in 1978 to 105,127 in 1991, 121, 343 in 1996 and to 128, 417 in 1998. The population in Okpoko has been on the increase and it is one of the most densely populated slums in the country, attracting as much as 44,000 people per hectare in 1998 (UN-Habitat, 2009; 2012b). Growing by the same trend it would have reached 140,000 by 2008 using graphical projection (UN-Habitat, 2009).

While the population density is high, Okpoko lacks almost all the basic facilities for better life. There are also bushes between groups of houses, ditches and gutters created by erosion over the years. The few available drains do not flow because they have been filled with refuse and intervening bushy empty plots; serve as refuse disposal site and defecation places, while most of the houses have inadequate or no toilet facilities. Interestingly, the western part of the six lanes wide road of the proposed second River Niger Bridge, which is closest to the bridge, would pass through the industrial area known as Harbour Industrial Layout as well as Okpoko slum settlement which is more of a residential and agricultural area (AURECON, 2014).
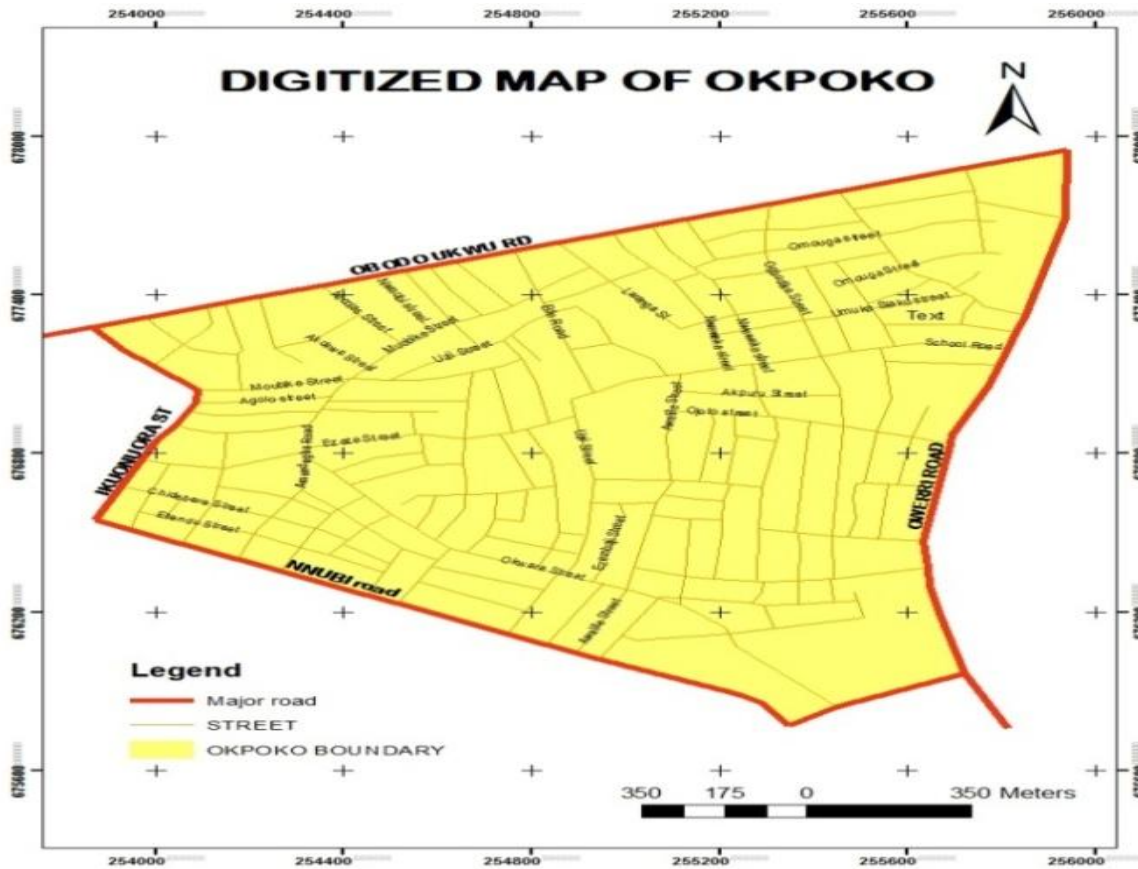
Figure 3. Map of Okpoko Slum Settlement (Onwuzuligbo et al., 2017)

3. Methodology

This study adopted a survey approach due to the nature of the research and the data required. The survey research means the collection and analysis of responses of large samples of people to polls and questionnaires, designed to elicit their opinions, attitudes and sentiments about a specific topic. The researcher used selected sample from the population to discover the relative statistical distribution of selected sample, of the population. The sample frame for this study comprises all the households in Okpoko. However, in line with the objectives of this study, the focus is on the perception of the residents on critical basic services and infrastructure needs in Okpoko.

According to the UN-Habitat (2009) the population of Okpoko was 128,417 in 1998 and the population averagely grows at 2.83% growth rate. This growth rate was also recommended by the National Population Commission (NPC) for Anambra State and used by the Anambra State Bureau of Statistics (2012) and UN-Habitat (2009) for population projections in the state. Therefore, in 2017, Okpoko population would have been increased exponentially based on this growth trend. The population of Okpoko in 2017 can be

computed using Malthusian growth model. This model predicts an exponential increase in the population with time. The Equation is given as:

$$P_n = P_0 e^{rt} \qquad (1)$$

where P_0 denotes the initial (base year) population = 128,417; P_n denotes Population in the current year (required population); r denotes the growth rate = 2.83% (0.0283) (i.e. average population growth rate of Anambra State); and t denotes the time interval (years) = 19 years.

Thus, base on Equation (1), the population of Okpoko slum settlement in 2017 would have been approximately 219,858. Likewise, the number of households in Okpoko in 2017 would be approximately 30,881 based on the household size of 7.1 as reported by Onweluzo (2017).

To determine the sample size, Israel (2013) suggested several approaches which include: census for a small population, sample size of a similar study, published table, and the use of formulas. Hence, to determine the appropriate sample size for this study, Cochran's (1977) sample size calculation procedure was employed. The equation is appropriate when the population of the study is large (Cochran, 1977). To do this, Cochran's return sample size formula is first determined using the formula presented in Equation (2).

$$n_0 = \frac{(t)^2 \, x(p)(q)}{(d)^2} \qquad (2)$$

where n_0 is the sample size, t = value for selected alpha level of .025 in each tail = 1.96 (the alpha level of .05 indicates the level of risk the researcher is willing to take that true margin of error may exceed the acceptable margin of error), (p)(q) = estimate of variance = 0.25 (maximum possible proportion (0.5) x 1-maximum possible proportion (0.5) produces maximum possible sample size), d = acceptable margin of error for proportion being estimated = 0.05 (error researcher is willing to except).

After computing the Cochran's return sample size n_0 (see Equation 2), if the sample size computed exceeds 5% of the population, the Cochran's (1977) correction formula (see Equation 3) is used to obtain the appropriate and final sample size. Otherwise adopt as the final sample size for the study. The formula is given as:

$$n_1 = \frac{n_0}{1 + \dfrac{n_0}{population}} \qquad (3)$$

Thus, applying Equation (2), the sample size (n_0) would be.

$$n_0 = \frac{(1.96^2) \, x(0.5)(0.5)}{(0.05^2)} \qquad = 384$$

Given that the number of households in the study area is 30,881, the final sample size (n_1) is then 384; and since n_0 is less than 5% of the population (384 < 5% of 30,881). This number also represents the number of

households that will be selected for the study. Whereas a household consists of a person or a group of persons living together usually under the same roof or in the same building/compound, who share the same source of food and recognise themselves as a social unit with a head of household (NPC, 2009; 2010). However, a systematic sampling technique was used in choosing the households. In this case, samples were obtained by selecting one unit on a random basis and choosing additional elementary units at evenly spaced intervals or natural sequence until the desired number of units was obtained. In all, a total of 384 households were selected and studied. This study made use of the same set of respondents used by Okoye, Ezeokonkwo and Mbakwe's (2017) study, since contacts and familiarisation had already been established in the previous study.

Meanwhile, data were collected through structured questionnaire personally administered to the heads of the selected households or their representatives. Only respondent adults within the age bracket of 25 years and above were considered. Due to the nature of the study, interviews, physical observation of the infrastructural facilities and environment, and taking of still photographs were carried out to complement and validate the credibility of the results. Accordingly, a total of 384 questionnaires were administered to the selected respondents that represent each of the selected households and all the questionnaires were retrieved and found useful for the study; making a 100% response rate. Written consent/permission was first sought and obtained from the President-General of Okpoko community, while the objectives of the study were clearly explained to participating households and they were made to know that participation is voluntary. However, all the participants gave their informed consent for inclusion before they participated in the study.

Apart from demographic information which includes the respondents' sex, age, marital status, education level, occupation, period of residence and position in the household, the level of perceived needs of 14 identified basic services and infrastructure needs of slum settlements were also ascertained from the literature and included in the questionnaire. Based on the 14 identified basic services and infrastructures of slum settlements, the respondents were asked to prioritise their perceived needs by indication on a 5-point likert scale, where 1 = Least important and 5 = Most important. The interview on the other hand focused on the importance of each of the identified basic infrastructural need. The Relative Importance Index (RII) was then calculated based on the respondents' prioritised needs and the needs ranked according to their priorities as indicated by the respondents' computed Relative Importance Index (RII) values. Thus,

$$\text{Relative Importance Index (RII)} = \frac{\sum (f_i w_i)}{A x N} \qquad (4)$$

where, w_i = the weighting given to each variable by the respondents and ranges from 1 to 5; f_i = the number of response for each weight; A = the highest weight (in this case, 5); and N = the total number of sample.

While physical environment was observed with respect to the availability of basic services in the study area, pictures of some of the physical observations were presented in plates. According to Anol (2012) the choice of the method used for a particular research depends on the data collected and the type of research. As a descriptive research, tables and pictures were used in presenting the data.

4. Results and discussion

4.1. Demographic information

Table 1 reveals that the respondents are made up of about 62.8% of male and 37.2% of female. This shows that there is lopsided distribution between the two genders. Out of these, 29.4% are aged 50 years and above, 25.3% are 30-39 year, 21.6% are 25-29 years, 18.0% are 40.49 year, while only about 5.7% are below 25 years70.4%. Similarly, 68.2% of the respondents are married, 22.1% are single, and 8.9% are widow, while 0.8% is separated. It further reveals that about 80.5% of the respondents are heads of the household while 19.5% are representatives of their households. In this case, it shows that the respondents are in good standing to divulge the desired information expected from them.
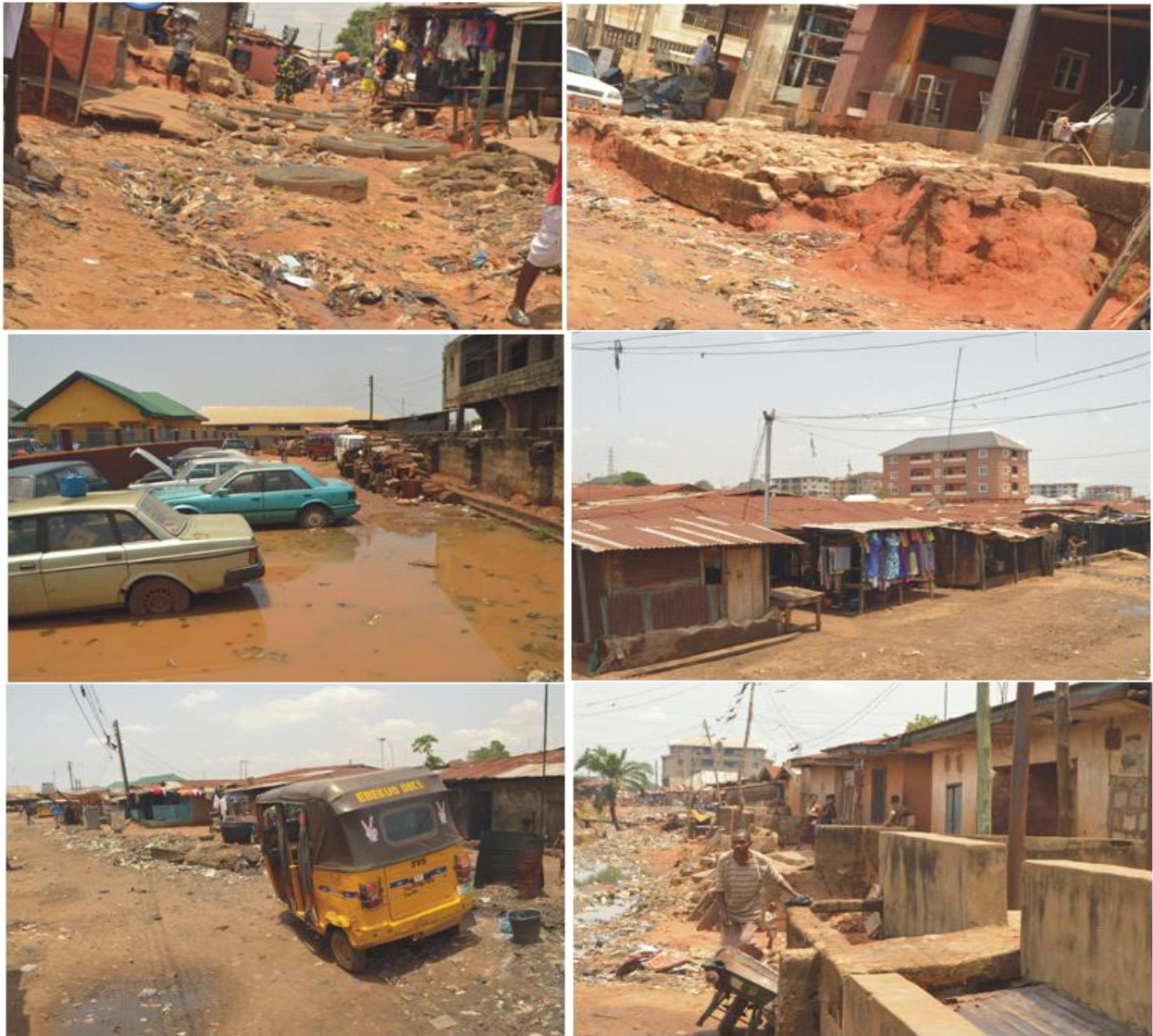

Plate 1. Nature of Occupation of Residents of Okpoko

On the educational background, Table 1 reveals that more than half of the respondents in the area are literates who have enjoy the benefits of formal education at least primary school. As shown on Table 1, out of 287 who claimed to be literate, about 41.9% have only primary school leaving certificate, 22.4% attempted secondary school while only about 10.4% have tertiary education. The remaining 25.3% do not enjoy any form of formal education. This implies that there is the high level of education among the people living in the study area despite living in the slum. This is also a plus to the overall questionnaire distribution exercise because the burden of interpreting the content and the expected response to the respondents was minimised.

Table 1. Demographic Information

Variable	Responses (%)
Sex Distribution	
Male	62.8
Female	37.2
Age Distribution	
Below 25	5.7
25-29 years	21.6
30-39 years	25.3
40-49 years	18.0
50 years and above	29.4
Marital Status	
Single	22.1
Married	68.2
Widow	8.9
Separated	0.8
Position in the Household	
Head	80.5
Representative	19.5
Educational Level	
No Formal Education	25.3
Primary	41.9
Secondary	22.4
Tertiary	10.4
Occupational Pattern	
Farming	15.9
Craftsmanship/Artisanship	35.4
Trading	23.7
Civil Service	7.8
Jobbing/ Unemployed	17.2
Period of Residence	
Below 10 years	18.5
11-25 years	33.6
26-40 years	27.6
41-50 years	12.2
Above 50 years	8.1

The nature of occupation may have had link with the general level of income of the respondents which invariably relates with part of the reasons for living in the slum. Thus, about 35.4% engage in craftsmanship/artisanship of many sorts like weaving, tailoring, vulcanizing, mechanics, carpentry, masonry, driving, etc., 23.7% engage in different trading activities, and 17.2% are either unemployed/apprentices or are involved in different jobbing works while 15.9% engage in farming. Only about 7.8% are civil servants. Different views in Plate 1 clearly show some of the occupations the residents of Okpoko slum are engaged in. The views are showing petty trading setting, repairer of electronics, flooded mechanic workshop, a tailor shop and jobber. It is an attestation of people with low income earners who seek to live in an area with low value such as Okpoko slum.

In terms of period of residence, Table 1 also shows that majority of the respondents have lived in the area for more than 10 years. The breakdown reveals that 33.6% have lived in the area for 11-25 years, 27.6% for 26-40 years, 18.5% for 10 years and below, and 12.2% for 41-50 year while only about 8.1% have lived in the settlement for more than 50 years. This implies that the respondents have enough experience and knowledge about the study area and are in the right position to give valid information.

4.2. Basic services and infrastructural needs

Table 2 shows the level and ranking of the perceived importance of the basic infrastructures and services in Okpoko slum settlement. The result of the relative importance index reveals that all the identified infrastructures and services are important; and are also needed in the community for smooth and better livelihood. Still, based on the computed relative importance index and ranking, the result reveals that safe, affordable and decent houses came top as the most pressing infrastructural and services needs of the residents with RII (0.98). This is followed by access road (0.94); water supply (0.93); waste disposal/sanitation system (0.92); improved drainage system (0.90); electricity (0.89); health facilities (0.88); security facilities (0.86); improved sanitary facilities (0.82); transportation system (0.81); education facilities (0.79); communication system (0.64); fire service facilities (0.61); and public spaces/recreational centres and parks (0.58) in that order. From this result, it implies that the five most needed basic infrastructure and services in Okpoko community are safe, affordable and decent houses (0.98); access road (0.94); water supply (0.93); waste disposal/sanitation system (0.92); and improved drainage system (0.90), in order of their necessity.

It is important to note that the interview results aligned with the result of the questionnaire analysis. But when asked to state the reasons for their preferences, majority of the respondents stated that they chose access to safe, affordable and decent houses as theirs most important need. This may not be unconnected with the general condition of buildings in which majority of Okpoko residents are living. In the case of access road, majority of the residents stated that they need good road network to ease their mobility to other parts of Onitsha city for businesses and workplace, and to fend for their daily living.

For water supply, most of the respondents stated that good and safe water supply system is very necessary in the area because of many problems associated with the available ones in the area. When pressed further, they revealed that most of the available water sources from boreholes and well are contaminated

and always lead to diseases outbreak, but for few private ones which quality is not guaranteed, are sold at a very high price. The issue of waste disposal/sanitation system came forth in the ranking. The respondents referred to the dirtiness and uncontrolled and wanton disposal of both solid and liquid wastes in the area as the main reason they also preferred having good waste disposal/sanitation system in the area. Next on the log is the drainage system. Frequent flooding in the area is the mostly cited as reasons for desiring improved drainage system to contain and aid the easy flow of run water. During raining season, the entire areas are usually flooded to the extent that everyone within the area is at risk of being washed away by the flood and no one moves in or out of the area.

Plate 2. Views of Some Basic Services and Infrastructural Needs in Okpoko

Table 2. Perceived Level of importance of Basic Services and Infrastructural Needs in Okpoko Slum Settlement

S/n	Variable	Condition					RII	Rank
		Most Important (5)	More Important (4)	Important (3)	Less Important (2)	Least Important (1)		
1	Electricity	202	162	20			0.89	6
2	Access road	274	103	7			0.94	2
3	Safe, affordable and decent houses	353	31				0.98	1
4	Improved Sanitary facilities	72	269	43			0.82	9
5	Security facilities	151	175	58			0.86	8
6	Health facilities	209	123	52			0.88	7
7	Communication system	17	94	223	50		0.64	12
8	Improved drainage system	223	137	24			0.90	5
9	Transportation system	104	198	82			0.81	10
10	Water supply	277	97	3			0.93	3
11	Waste disposal /sanitation system	226	117	41			0.92	4
12	Education facilities	88	190	106			0.79	11
13	Public spaces /recreational centres and parks		101	148	135		0.58	14
14	Fire service facilities	3	116	159	106		0.61	13

This does not mean that other infrastructural facilities and services are not needed, but when prioritising the basic infrastructural and services needs of the community, the need assessment is required based on the residents' perceived needs. This is so because; the respondents when asked why they were somehow silent on critical issues like education facilities and security, they said that even though these are also important, the condition of the community at the present mostly needed their preferred choices first. Secondly, there are enough primary and secondary schools (both public and private) in the area. Likewise there are police and other security presence in the area.

Meanwhile Plate 2 shows the views of some of the basic services and infrastructural needs of Okpoko community. The pictures show the true condition of Okpoko slum and some of the infrastructural facilities begging attention. The pictures show the dilapidated buildings where the residents are living, poor road

network, poor drainage network, flooded environment, poor waste disposal/ sanitation system, inadequate source of water, electricity lines and other sources of energy (firewood). Through these pictures, the basic infrastructural needs of the community are greatly revealed. This also gives credence to the results of the questionnaire and interviews.

5. Conclusions

As a classic urban slum, Okpoko community is evidently in dire need of basic urban services and infrastructures. However, misplacement of priority is very common especially in areas where there are so many competing needs as in Okpoko. Generally, what differentiates the urban slum settlement from the rest of the urban cities is the state of the infrastructure and basic services which inadvertently affect the socio-economic activities of the area. In most cases, the infrastructural needs of the slum are many and varied. Evidently, when any intervention tends coming, it becomes a problem choosing from many competing alternatives, and sometimes the priority need(s) is misplaced with project (s) which immediate need may not have much impacts on the residents. On this premise and base on other existing scenarios including the so called federal government need assessment on Okpoko and the UN-Habitat Structure Plan for Onitsha and Satellite Towns which only identified, but failed to prioritise the infrastructural and basic services needs of the area, this study has successfully examined, profiled and prioritised the infrastructural and basic services needs of Okpoko urban slum settlement of Anambra State.

The study found that though all the identified basic infrastructural facilities and urban services in the area are important and needed in the community, the five most demanding and pressing needs of Okpoko community in terms of infrastructural facilities and basic services are in the order of safe, affordable and decent houses; access road; water supply; waste disposal/sanitation system; and improved drainage system. This implies that any slum upgrading programme in the area should follow this scale of preference in order to have any meaningful impact on the residents.

Based on the findings in the study, this will involve revitalisation of affected parts of the area by providing safe, adequate and affordable buildings, retaining some structures that are retainable; rehabilitating old buildings and structures, upgrading the roads that are not tarred and introduction of more roads with a view to opening up the blighted areas. It also involves improving the existing infrastructures as well as providing new ones such as water supply system; waste disposal/sanitation system; improved drainage system; and many others. These are improving the structural quality and aesthetic of the areas.

Indubitably, this study has some compelling practical implications. It has highlighted the pivotal infrastructural needs of Okpoko community and calls for methodical urban planning and new project development in the area. It has also established the area where government or non-governmental or donor agencies' interventions are most needed. It is a guide towards implementing government plans and programmes in the area and an important addition to many other studies on the area which could not prioritise the infrastructural needs of the community despite its strategic position in the State.

It is therefore pertinent to recommend a strict adherence to the priority needs of the community whenever any intervention project especially physical infrastructure is being proposed for the area; whether government or non-governmental. All existing plans and programmes regarding upgrading of Okpoko slum should be reviewed in line with its current needs and priorities. There is also need for a workable operational framework which will be in tandem with the current realities for implementation of all the proposed upgrading programmes in Okpoko community. Finally, the federal government should begin the process of implementing the results of its needs assessment on Okpoko urban slum as it is being done in some other area.

References

Aduwo, E.B., Edewor, P.A. and Ibem, E.O. (2016), "Urbanisation and housing for low-income earners in Nigeria: A review of features, challenges and prospects", *Mediterranean Journal of Social Sciences,* Vol. 7 No. 3, pp. 347-357.

Anambra State Bureau of Statistics (2012), *2011 Statistical Year Book,* Ministry of Economic planning and Budget, Awka.

Anol B. (2012), *Social Science Research: Principles, Methods, and Practices, 2nd* edition, University of South Florida, USA.

Arimah, B.C. (2011), "Slums as expressions of social exclusion: explaining the prevalence of slums in African countries", *OECD International Conference on Social Cohesion and Development,* Paris, pp. 20-21.

AURECON (2014), *Scoping Report for the Proposed Second River Niger Bridge, Nigeria,* Report No. 9151. Aurecon Consulting Engineers Nigeria Limited, Abuja.

Cochran, W. G. (1977), *Sampling techniques,* 3rd Ed., John Wiley & Sons Inc. New York.

Federal Government of Nigeria (2017), *Submission of Urban and Regional Development Department Input To the Federal Ministry of Power, Works and Housing,* Federal Ministry of Power, Works and Housing (Housing Sector), Mabushi, Abuja, 20 March.

Foundation for Development and Environmental Initiatives (FDI) (2014), *Study of Slum Settlement in six Nigerian Cities,* Commissioned by the Federal Ministry of Lands, Housing and Urban Development, Abuja.

Israel, G.D. (2013), *Determining sample size,* Agricultural Education and Communication Department, UF/IFAS Extension, University of Florida, PEOD6, Reviewed version. http://edis.ifas.ufl.edu.

Izueke, E.M.C., and Eme, O.I. (2013), "Urban planning problems in Nigeria: A case of Onitsha metropolis of Anambra State", *Singaporean Journal of Business Economics, and Management Studies,* Vol. 1, No. 12, pp. 41-59.

National Population Commission (NPC, 2009), *2006 Population and Housing Census of the Federal Republic of Nigeria,* National and State Population and Housing Tables, Priority Tables, Volume I. www.population.gov.ng.

National Population Commission (NPC, 2010), *2006 Population and Housing Census of the Federal Republic of Nigeria,* Housing Characteristics and Amenities Tables, Priority Tables, Volume II. www.population.gov.ng.

Okoye, P.U., Ezeokonkwo, J.U. and Mbakwe, C.C. (2017), "Survey of housing conditions and improvement strategies in Okpoko peri-urban settlement of Anambra State Nigeria", *Architecture Research,* Vol. 7 No. 2, pp. 168-183.

Onweluzo, F.A. (2017), "Enhancing the liveability of informal settlements: the case of Okpoko in Ogbaru Local Government, Anambra State", Outline of Site Trainer's Notes on Okpoko Informal Settlement for 2017 MCPDP, Awka, Anambra State , 26-27 April.

Onwuzuligbo, C.U., Nnam, V.C., Alozie, P.O. and Ejezie, E.V. (2017), "Implementation of social tenure domain model in Okpoko, Anambra State, Nigeria", in Surveying the world of tomorrow - From digitalisation to augmented reality, *FIG Working Week 2017,* Helsinki, Finland, May 29–June 2.

Parry, J. (2015), "From slums to sustainable communities: the transformative power of secure tenure", Issue Paper on Secure Tenure for Urban Slums, Habitat for Humanity in conjunction with Cities Alliance.

Rahman, M.A.U. (2012), *Housing the Urban Poor in Bangladesh: A Study of Housing Conditions, Policies and Organisations,* Doctor of Philosophy Thesis, School of the Built Environment, Heriot-Watt University.

Taher, M.T. and Ibrahim, A. (2014), "Transformation of slum and squatter settlements: A way of sustainable living in context of 21st century cities", *American Journal of Civil Engineering and Architecture*, Vol. 2 No. 2, pp. 70-76.

UN-Habitat (2003), *The Challenge of Slums: Global Report on Human Settlements 2003.* New York, NY: United Nations Settlements Programme (UN-Habitat).

UN-Habitat (2007), *UN-Habitat and the Kenya Slum Upgrading Programme,* United Nations Human Settlement Programme.

UN-Habitat (2009), *Structure Plan for Onitsha and Satellite Towns,* United Nations Human Settlements Programme, http://www.unhabitat.org.

UN-Habitat (2010), *State of the World Cities 2010/2011: Bridging the Urban Divide,* Earthscan, London.

UN-Habitat (2012a), *State of the World's Cities 2012/2013: Prosperity of Cities.* Nairobi: United Nations Human Settlements Programme.

UN-Habitat (2012b), *Nigeria: Onitsha Urban Profile,* United Nations Human Settlements Programme (UN-Habitat), http://www.unhabitat.org.

UN-Habitat (2016a), *World Cities Report 2016: Urbanisation and Development: Emerging Futures,* Nairobi, United Nations Human Settlements Programme.

UN-Habitat (2016b), *Up for Slum Dwellers - Transforming a Billion Lives,* World Urban Campaign on the Participatory Slum Upgrading Programme, Press Release.