DEPARTMENT OF URBAN AND REGIONAL DEVELOPMENT

FEDERAL MINISTRY OF LANDS, HOUSING AND URBAN DEVELOPMENT

SLUM IDENTIFICATION AND NEEDS ASSESSMENT STUDIES OF SELECTED SETTLEMENTS IN NIGERIA – ABA, KADUNA AND OSHOGBO

CASE STUDY OF KADUNA, KADUNA STATE, NIGERIA

FINAL REPORT

POLAD TECHNOLOGIES LIMITED

AUGUST 2014

ACKNOWLEDGEMENTS

We acknowledge, with deep appreciation, the Department of Urban and Regional Development (DURD) of the Federal Ministry of Lands, Housing and Urban Development (FMLHUD) for giving Polad Technologies Ltd the opportunity to carry out this Study.

In the process of carrying out this study, so many people, groups and institutions assisted us but space would only permit us to mention just a few. First, we would like to acknowledge the support of the Federal Controller FMLHUD, Kaduna State, Mr. B.O.B. Isiki and the Director, Physical Planning Unit- Mr. Ibrahim.

We would also like to thank the officials of the Ministry of Lands, Survey and Urban Development who provided us with the necessary support; in particular, Mr. Husaini.

We specially acknowledge the support and cooperation of community leaders Alhaji Mohammed Innua Abubakar (The Seriki of Shagari Low Cost Housing Estate, Barnawa) and Alhaji Amini Saidi (The Chairman of the Abattoir Association, Sabo Gari, Kaduna South) as well as men, women, youth and association leaders of the various communities covered in this project.

In the same vein, our special thanks go to the experts who participated at the Validation Workshop for their views and suggestions on the draft study report. These experts include: TPL. Ayo Adejumo, TPL. Omotayo Awomosu, TPL. Dr. Victor Ilechukwu, Prof. Iyiola Oni, Mrs. Gloria C. Agu-Nwofor, Mr. Valentine Ofogba, Mrs. Joyce Omenai,Assoc. Prof. Alabi Soneye, Dr. Olatunji Babatola, Arch. Osuade Oyediran, Mr. Chike Anikamadu and Mr. Lana Olalekan.

Lastly, we wish to acknowledge the selfless service rendered by our Consultants in various capacities in the execution of the project – Dr. Mayowa Fasona, Dr. Peter Elias and Dr. Emmanuel Ege. We also appreciate the technical support provided by Gbolahan Badru and Sam Udofia during the various stages of this study.

Polad Technologies Ltd.
August, 2014

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ACRONYMS

C of O	Certificate of Occupancy
DURD	Department of Urban and Regional Development
ETM	Enhanced Thematic Mapper
FGD	Focus Group Discussion
FGN	Federal Government of Nigeria
FHA	Federal Housing Authority
FMLHUD	Federal Ministry of Lands, Housing and Urban Development
FMBN	Federal Mortgage Bank of Nigeria
GIS	Geographical Information System
GPS	Global Positioning System
GRA	Government Reserved Area
HR	High Resolution
KASUPDA	Kaduna State Urban Planning and Development Agency
KII	Key Informant Interview
LAT	Latitude
LAUTECH	Ladoke Akintola University of Technology
LGA	Local Government Area
LONG	Longitude
LULC	Land Use Land Cover
MDG	Millennium Development Goals
NBS	National Bureau of Statistics
TM	Thematic Mapper
TPL	Town Planner
UN-Habitat	United Nations Human Settlements Programme

VHR	Very High Resolution

EXECUTIVE SUMMARY

Project Background

This project on slum identification and needs assessment study of Kaduna is part of the effort by the Department of Urban and Regional Development (DURD) of the Federal Ministry of Lands, Housing and Urban Development (FMLHUD) to begin the study of Nigerian cities with the view to collecting, collating, analyzing and synthesizing data on slums and blighted areas and to propose inclusive renewal strategies and prioritize implementation action plans and programmes. Two other cities involved in this initial effort of DURD are Aba and Oshogbo.

The Specific Terms of Reference as Stated by the DURD are:

- Identification and delineation of the slum areas
- Provision of site photographs of the slum areas
- Preparation of an overview of the physical characteristics including housing conditions, drainages, roads, schools, health centres, abattoirs, sewage, solid and liquid waste collection and disposal points, places of worship, markets, civic centres and playgrounds, etc
- Assessment and analysis of basic infrastructures and services required by the inhabitants to uplift their living conditions
- Preparation of strategic proposal using phased development method for improving slum conditions
- Provision of evaluation and monitoring strategies for successful implementation of projects

Methodology

The study utilized both the remote sensing and social surveys approaches to data collection and analysis. The activities carried out include desk review and literature search; collation of physical and social criteria for slum identification; collation, processing and analysis of maps and satellite imageries; delineation of candidate slum clusters and preliminary slum area maps; field work planning and field reconnaissance; field social surveys including questionnaire administration and FDG and KII; GPS and photographic campaign; data analysis and integration; in house stakeholders validation workshop, and drafting of the reports.

The physical indicators of slum used were inferred from the spectral, qualitative and locational information of high resolution satellite image data were grouped into object, settlement and environment levels. The object level which comprises of building characteristics include roof material, footprint, shape, orientation, type, access network characteristics,

regular/irregular structure, type and width of roads, and other elements of image interpretation including texture, object size and shape, and shadow. The settlement level characteristics consists of development characteristics of the settlement defining the overall shape and density including compactness and complexity, haphazard, high density building pattern, unplanned development, public infrastructure and services lag behind development, proximity to public services (health, education, open space, public transport). The environment level refers to the general characteristics of the environment including the location of slums with respect to socio-economic status and hazard-prone areas, poor management of solid waste, location of the settlement/ proximity to natural and technological hazards, and degree of greenness.

The social dimensions of the slum conditions were evaluated based on social survey data collected on the field. The social factors of slums generated from household surveys carried out across the slum clusters include household information, housing conditions, and environmental conditions which captures information on sustainable access to safe water, access to improved sanitation, access to durable structure/housing, overcrowding, access to tenure, access to social services. In addition a needs assessment was conducted and what the communities are willing to offer in partnership with other stakeholders to improve their living conditions were documented.

Summary of Findings

The followings are the summary of the findings for Kaduna.

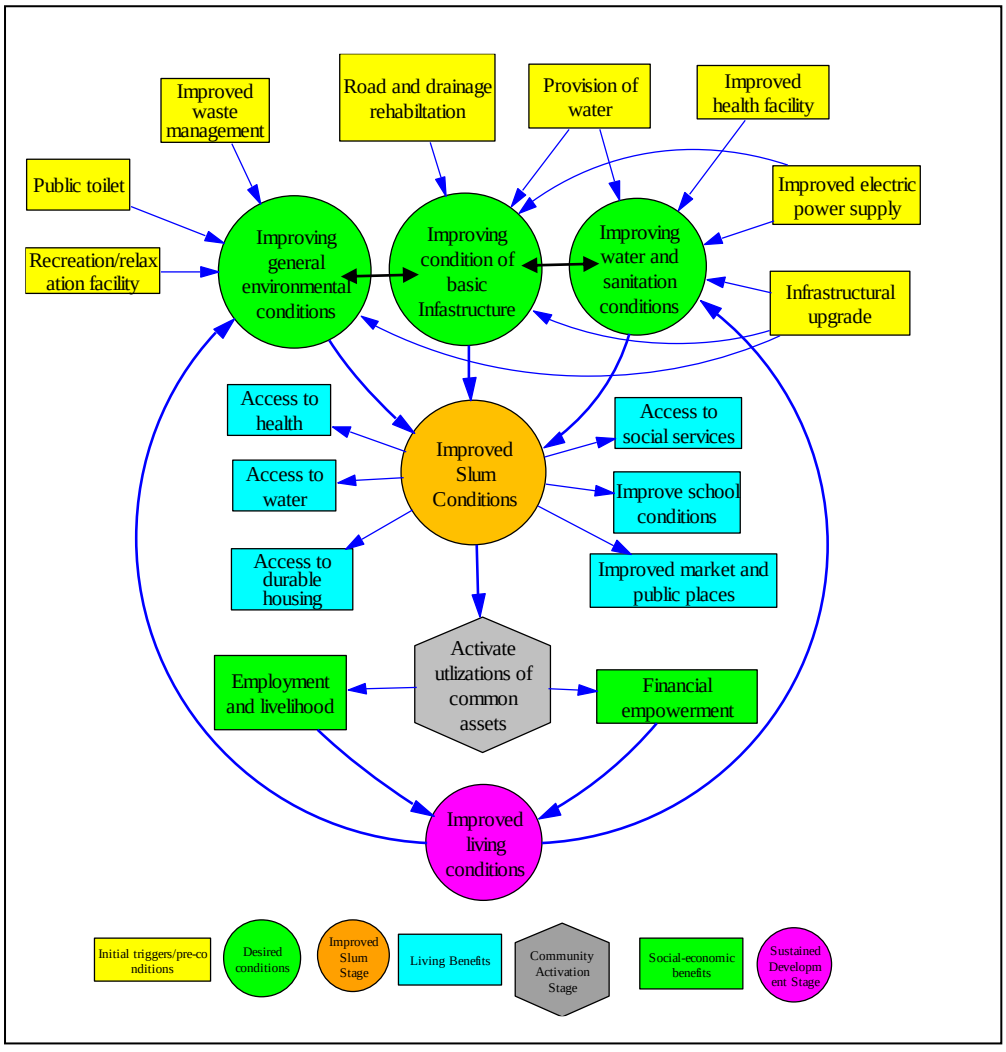
- Kaduna city has been expanding at about 4.5% per annum
- About Forty Two (42) slum clusters (delineated based on major routes and standalone basis) covering **about 4,916ha or 49.16 km^2 with a total perimeter of about 205.6km** were delineated in Kaduna.
- The slum area represents **about 15.7%** of the entire built up lands of Kaduna City in 2014
- Every kinds and stages of slum formation - from infancy, consolidation and maturity to gradual degradation of formal housing and social filtering processes and a variety of informal housing development processes either incremental and structured, incremental and unstructured, sudden and structured, sudden and unstructured –are found in Kaduna
- While some may have developed as a result of closeness to industrial areas (especially south of the Kaduna river), some others developed as a result of degradation of formal housing and re-densification of originally planned areas. The most unique are those that developed as individual towns (i.e. Kaduna urban villages).
- Trading or business dominates the major occupation or source of livelihood
- Strong social network, 92% belongs to a group or association
- 71.3% of the houses are constructed of concrete

- On environmental indicators, planning of the area, building appearance, number of people living in a building, and motorable access to building were rated good. All other indicators receive either poor or bad ratings
- On the condition of basic infrastructures, recreation facilities, children playground, road side-walks, trees on the street, public toilets, street lights, refuse collection points, civil centre, post office and abattoir are rated as not available. Public water supply, electricity, public primary and secondary schools, and markets were rated as been in very bad shape.
- On common issues, food, being able to perform spiritual and cultural rituals and communication are rated as good. Water, sanitation, access to means of livelihood, housing, fuel for cooking, health care, children school, and transportation were adjudged to be poor. Sanitation and toilet facilities and security were considered to be in bad condition
- Pipe borne water remains the major source of water relied on for drinking. A significant population also relies on sachet water.
- 57% of the respondents feel they always have enough water for household daily use, while 43% feel otherwise
- Majority of the population (56.5%) use the water closet toilet system
- Open waste dump remains the means for waste disposal for majority (51.2%) of the population
- At least one in five respondents has ever experienced cholera and typhoid outbreak and about 10.4% have experienced flooding
- Water, electricity, access to means of livelihood and road rehabilitation are the most critical issue to living in the slum of Kaduna and remain the key issues requiring urgent attention
- Access to the means of livelihood and infrastructure upgrade are the key expectations from the government
- Enlighten other community members to support government efforts, mobilise others to contribute to government efforts, and voluntary personal labour are the assets the slum dwellers are willing to contribute in partnership with other stakeholders.

Redevelopment Strategy

The identified slum areas in Kaduna face three key urban challenges. The need to invest in: **(A)** upgrading the slums with the insertion of physical and social infrastructure; **(B)** regeneration of the slum areas to bring infrastructure and buildings that have suffered neglect and whose original functions have been lost and **(C)** local economic development and empowerment by activating the local assets to create jobs and improve livelihood, financial independence and living conditions.

The figure below shows how these challenges can be addressed to turn around the situation in the slums.



Recommendations

The suggested recommendations are divided into the short term (immediate to 3 year), medium term (3-6 years), and long term (6-9 years) time-line. They also include suggested agencies with implementation responsibility to actual the recommendation.

- Some of the recommendations on the short term include quick and immediate rehabilitation of roads and clearing of drains in Kaduna.
- The medium term recommendations include investment in design and provision of municipal infrastructure including water, public recreation and relaxation areas and children's playground, street light and waste management, and the need to develop a digital GIS-based database for managing the settlements, tracking progress made in slum upgrading and human living conditions improvement plans.
- Recommendations for the long term include rehabilitation and improvement of housing stock, removal of make shift structures constructed of non-durable materials and leveraging on existing economic and social assets and networks to institute cleavages to improve local economic development.

CHAPTER ONE

PROJECT SCOPE

1. 1 INTRODUCTION

As with many cities in developing countries, urban development in Nigeria is happening too rapidly, and at a large scale for the current system to cope. This often results in urban degradation and deficiency in infrastructure and related basic services including power supply, water, drainage and sanitation, solid waste disposal, roads and public transport). The main challenge is not to slow down urbanization but to cope with it and the challenges it brings. The main challenges that rapid urbanization brings are centered on how to provide adequate shelter, employment, and basic urban services such as water and sanitation, and how to effectively respond to the rising crime, urban poverty and environmental degradation.

The UN-Habitat described slums as the physical manifestation of urban poverty and intra-city inequality. Slums occur partly because the prosperity of cities is not well distributed. About 10% of the world population now live in slums which are neighbourhoods that typically lack or denied access to basic services. Slums can also result from the failure of public policy. Slums are typically characterised by physical blight, insecure tenure, diseases, and insecurity which resulted from absence of basic neighbourhood services such as potable water, sanitation, vehicular access, and adequate housing. They can be identified on the basis of the performance of a community against some basic attributes such as access to land, potable water, sanitation and generally good living conditions. They are also characterised by dense and overcrowding conditions, where human rights are flagrantly denied.

Urban slums and blighted areas pose specific and peculiar physical and environmental health planning challenges. They have population density that is in most cases beyond the carrying capacity of both the environment and infrastructure. Resource depletion is a natural result of a system that is fast growing beyond its carrying capacity. Blighted areas are in themselves evidence of development beyond the limit of acceptable change. Hence environmental deterioration, waste management problem and inadequacy and breakdown of infrastructure and facilities are the hall mark of blighted areas. Epidemics of poor environment-induced and related diseases including chorea, dysentery, malaria, etc are common occurrences. Waste generation is high and waste collection and disposal is poor. Due to poor planning and the lack or poor management of drains, flooding is also a common challenge. People live in very unsanitary conditions which pose serious challenges to the public health. Unfortunately, there are many of these blighted areas in Nigerian cities, and they form the abode of over 50% of cities' population.

Location characteristics including socio-demographic and environmental exposure offer a valuable source of data for urban slum research. Spatial heterogeneity can develop for a variety of reasons including differences in geography, history and ethnicity, social exclusion in access to markets, employment, social services and infrastructure, and other aspects of public policy. Providing information on the spatial heterogeneity of urban slums can greatly assist in trying to identifying the proximate and underlying causes of slum conditions and understanding the distribution of access to the assets that are necessary to alleviate poverty and improve the performance of human well-being. When spatial information is not available, the ability to make informed intervention decisions and to monitor development activities that are vital functions of governance would be basically difficult.

It is expected that urban development must meet current and anticipated human needs, whilst making use of land, infrastructure and other natural and human resources in the most efficient, cost effective and sustainable way. Urban development plan often focuses on regeneration in terms of physical transformation of disadvantaged places without explicitly considering the poorest. The reality is that urban conditions become much worse when public policy and programmes no longer secure and protect the set of needed opportunities for sustainable development at the local level. Globally, urban regeneration policy is now moving towards inclusive governance, tackling poverty and deprivation in the context of disadvantaged places. This inclusive and sustainable urban development approach as enshrined in the doctrine of good urban governance aims to enable women and men to access the benefits of urban citizenship. Good urban governance, based on the principle of urban citizenship, as articulated by the UN-Habitat affirms that no man, woman or child can be denied access to the necessities of urban life, including adequate shelter, security of tenure, safe water, sanitation, a clean environment, health, education and nutrition, employment and public safety and mobility. Through good urban governance, citizens are provided with the platform which will allow them to use their talents to the full to improve their social and economic conditions. Indeed, inclusive and sustainable urban development framework involves urban situation analysis, sustainable urban development planning, sustainable action planning, and implementation and management of projects. The rights of citizens are also protected through access to information, consultations and consensus building and inclusion in decision-making, risk sharing, partnership and community-driven development projects. These ensure that projects and programmes are relevant to community's needs and aspirations. Ultimately, while steps can be taken to improve policy and the regulatory framework and strengthen the capacity for administering it, the only way that a plan has any chance of working is if it has buy-in from all those with a stake in it. Public and community participation is essential particularly at the action planning stage. This will

ensure that the stakeholders 'own' the plan, and take their own steps to ensure that it is followed.

The Federal Ministry of Lands Housing and Urban Development (FMLHUD), in collaboration with the Federal Mortgage Bank of Nigeria (FMBN) and the Federal Housing Authority (FHA) convened a national slum summit on Monday 21st and Tuesday 22nd October, 2013 in Abuja. The theme of the summit was '***developing a national housing strategy for mass housing delivery and slum upgrading***'. The aim of the summit was to establish a strategic platform that would guarantee sustainable mass housing delivery and slum upgrading in Nigeria. The summit is a positive response to the declaration made at the conference on 'global efforts at making slums history' in 2012 at Rabat, Morocco. The summit was anticipated to produce integrated approach and innovative strategies for sustainable housing delivery and slum upgrading.

The current effort by the Department of Urban and Regional Development (DURD) of the Ministry of Lands, Housing and Urban Development (FMLHUD) to begin the study of Nigerian cities with the view to collecting, collating, analysing and synthesising data on slums and blighted areas and to propose inclusive renewal strategies and prioritise implementation action plans and programmes is a welcome development. This will provide data on the extent of urban slums in Nigerian cities and assist in mobilizing stakeholders to participate in the quest to achieving sustainable cities where land, infrastructure, and other natural and human resources are used in the most efficient, cost effective and sustainable way. It is also in consonance with the task of the FMLHUD to develop a National Programme of Action and Strategic Plan to address slums in Nigeria.

1.2 TERMS OF REFERENCE

The aim of the study is to collect, collate, analyse required data and subsequently propose alternative renewal strategies with prioritised implementation programmes of actions for the slum areas.

The specific terms of reference as stated by the DURD are:

a. Identification and delineation of the slum areas
b. Provision of site photographs of the slum areas
c. Preparation of an overview of the physical characteristics including housing conditions, drainages, roads, schools, health centres, abattoirs, sewage, solid and liquid waste collection and disposal points, places of worship, markets, civic centres and playgrounds, etc
d. Assessment and analysis of basic infrastructures and services required by the inhabitants to uplift their living conditions

e. Preparation of strategic proposal using phased development method for improving slum conditions
f. Provision of evaluation and monitoring strategies for successful implementation of projects

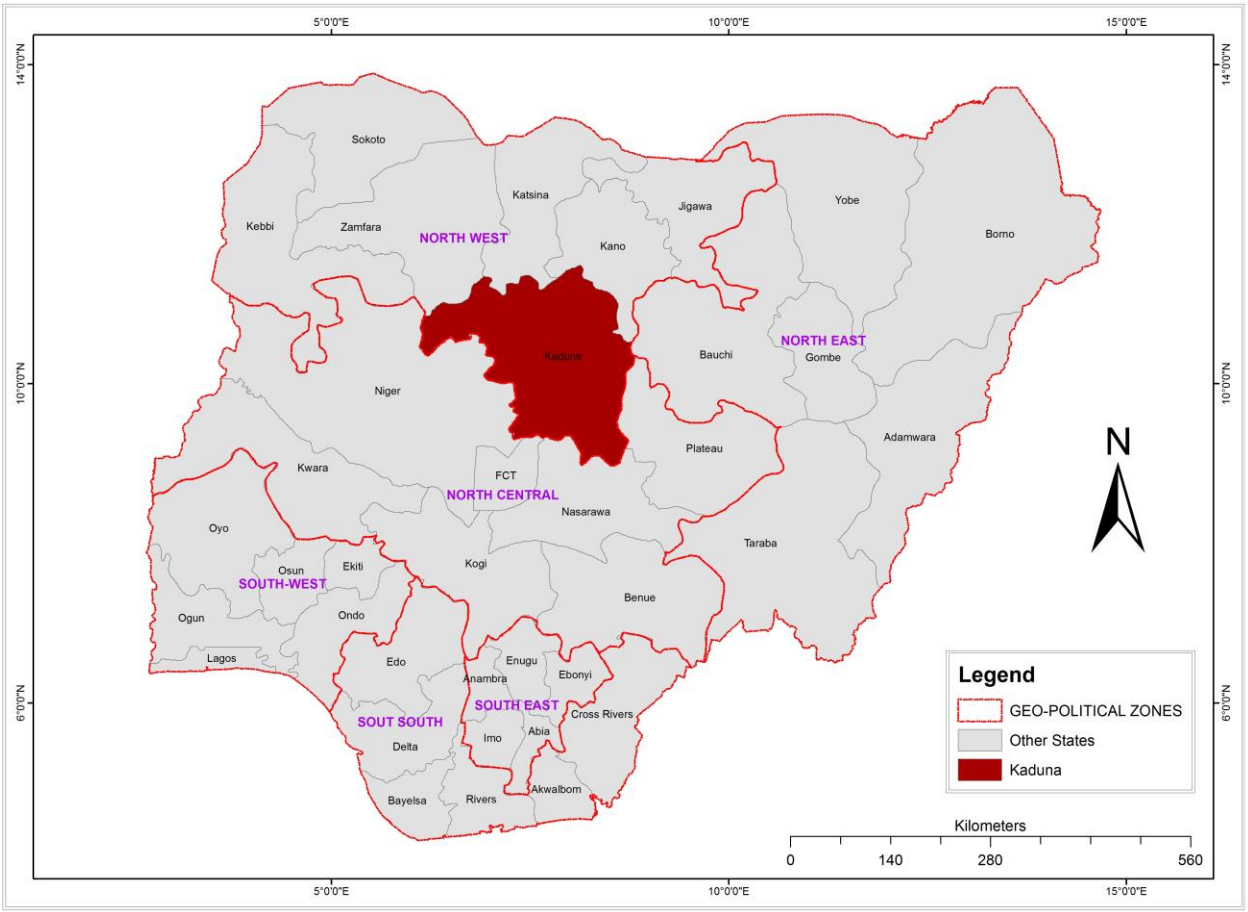


Figure 1.1: Nigeria showing the Kaduna State where Kaduna City is located

1.3. IDENTIFIED SCOPE OF WORK

Based on the terms of reference listed above, the identified scope of work includes the following:

i. Desk review and literature search and collation of preliminary information – national and international criteria for slum definition and delimitation, existing city reports and city/local development plans, etc
ii. Collation of existing spatial data on Kaduna – including base maps and plans

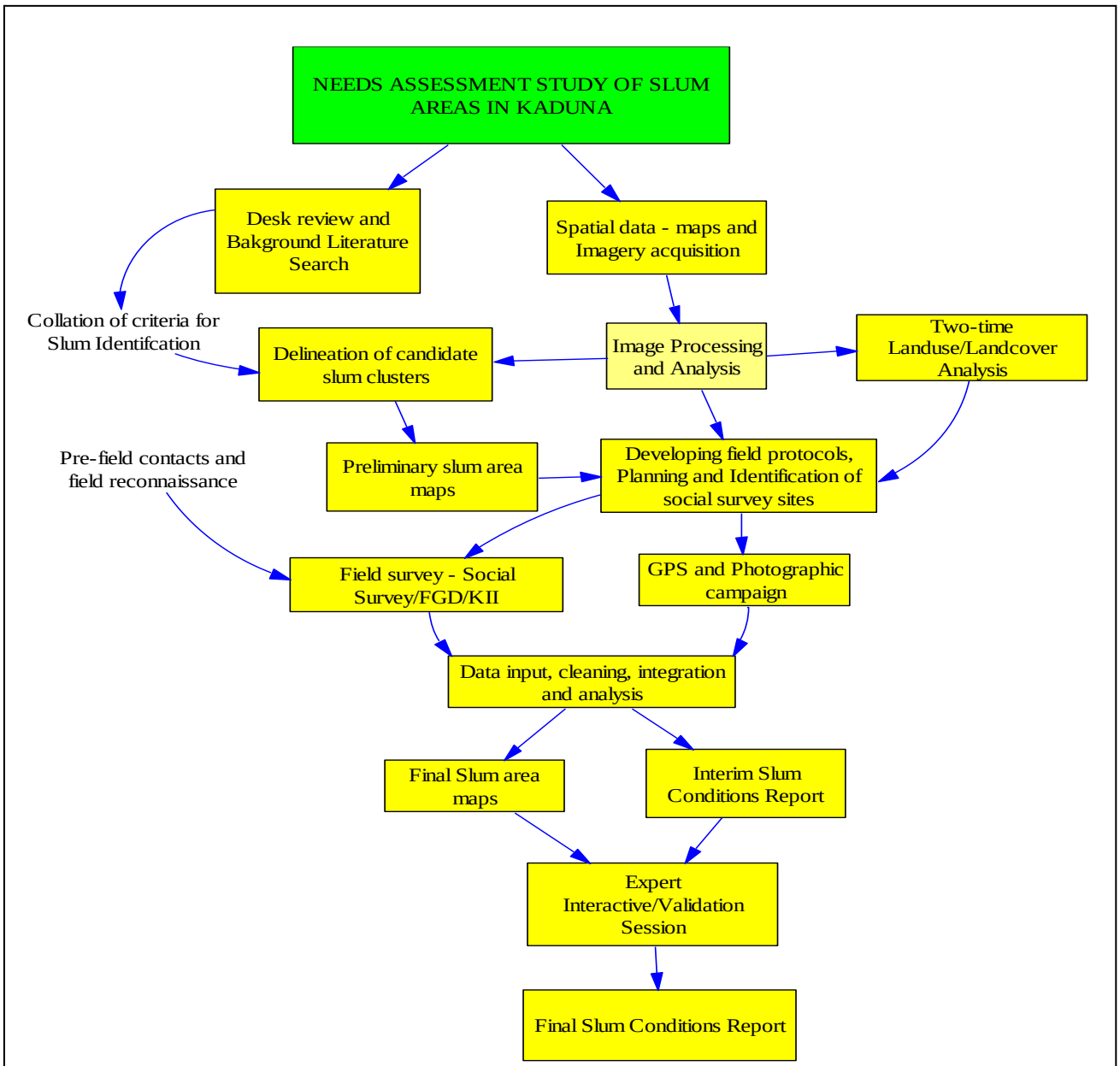
iii. Field reconnaissance and identification of candidate slum areas and clusters
iv. Sourcing of archived imageries imagery for the identification of the slum clusters
v. Delineation of slum clusters and extraction of spatial information (building footprints, roads, drainage, facilities, etc) from imageries
vi. Field Survey – GPS and Photographic campaign to capture point facilities such as schools, medical facilities, places of worship, waste disposal points, markets, civil centres, abattoir, etc. This also includes inventory and documentation of status and conditions of all facilities available. All photographic will be geolocated for import into GIS database for each slum areas/clusters.
vii. Social Survey – questionnaire administration, focus group discussion and key informant interviews to solicit information on proximate conditions and personal experiences, communal lives, communal aspiration and priorities. It will also elicit information on what individuals and communities require to uplift their living standards.
viii. Information synthesises, integration and analysis
ix. Expert interactive session for Visioning, Scenario building and preparation of phased, inclusive and strategic urban renewal strategies to improving slum conditions and evaluation and monitoring strategies for successful implementation of projects.

CHAPTER TWO

PROJECT METHODOLOGY

2.1 RESEARCH FRAMEWORK

Figure 2.1 shows the overall framework of the study based on the terms of reference and identified scope of work.



The methodology for accomplishing the task is divided into the followings:

- Desk review and Literature search of the Kaduna
- Collation and acquisition of spatial data on Kaduna
- Collation of physical and social criteria for slum identification in Kaduna
- Delineation of candidate slum areas from imageries/preliminary slum area maps for fieldwork
- Time series analysis of the city expansion
- Fieldwork planning(including preliminary field contacts and reconnaissance)
- Actual fieldwork – social surveys and GPS/photographic campaign
- Data analysis and integration
- In-house expert interactive session for slum development strategy
- Final Reporting

As shown of Figure 2.1, the key components of the study include: desk review and literature search on the state of Kaduna and to generate indicators for slum conditions identification; acquisition of spatial data - very high and medium resolution satellite imageries for time-series change analyses and candidate slum areas delineation; field surveys consisting of social surveys and GPS and photographic campaign in the slum areas, and in-house slum redevelopment strategy workshop with experts to collate opinions on possible strategies for upgrading the human living conditions in the identified slum areas as well as possible monitoring and evaluation strategies.

2.2 DESK REVIEW AND LITERATURE

Several documents were collated with the view to establishing the study background for Kaduna. They include the followings:

- The Draft final report of the Revised Master Plan for Kaduna City for 2010-2050, prepared by Max Lock Consultancy Nigeria Limited for the Kaduna State Government, Ministry of Lands, Survey and Country Planning, Published by MLC Press, University Of Westminster, London.

- Proceedings of housing & slum summit held by FMLHUD on 21st-22nd October, 2013
- The UN-Habitat Kenya Slum Upgrading Programme Strategy Document, 2008.

In addition, technical documents and academic articles were reviewed with the view to gather information on the spatial and socio-economic criteria for slum identification.

2.3 SPATIAL DATA

The following spatial data were accessed for this project:

- Landsat TM and ETM satellite image scenes for Kaduna for periods ranging from 1980s to 2014. These image scenes were processed and analysed to generate two-time period maps/image maps for Kaduna with the view to estimating the changes in spatial extents of Kaduna between the two time periods. This was also used to calculate the spatial growth rate for the city.
- Very high resolution Quickbird imageries (62cm) – These were used for delineating the slum areas using the physical/spatial indicators retrieved from literature search.
- Existing base maps and data – Road data and place names were retrieved from existing base maps and other digital spatial data sources.

2.4 COLLATION OF SOCIAL AND SPATIAL CRITERIA FOR SLUM IDENTIFICATION AND DELINEATION IN KADUNA

According to Sliuzas et al (2008), slum development is a process that can take several different forms.

- Slums can develop through the gradual degradation of formal housing and social filtering processes (examples of this are often found in the developed cities but they are also found in the form of degraded social or low income housing projects in developing countries).
- Slums can also develop through a variety of informal housing development processes (e.g. incremental and structured, incremental and unstructured, sudden and structured, sudden and unstructured). Each form has its own distinctive characteristics.

2.4.1 SOCIAL INDICATORS OF SLUM CONDITIONS

Majority of human populations in the world lives in cities. This unprecedented growth in human populations and settlements has created the type of urbanization characterized by increased affluence and poverty. There is a growing inequality among urban dwellers where the rich are found in sections of the city served with basic social services and infrastructures while

the poor are confined to poorly served areas characterized by squalid conditions (Elias, 1999). Demographically, the rich who enjoys the largest share of city resources are fewer in number compared to the population of the poor. This picture describes urbanization in the least development countries where rapid urban populations is growing faster than available resources. Consequently, majority of the urban dwellers do not have access to basic life-support systems. The UN-Habitat (2003) describes slum areas as "those communities characterized by: insecure residential status, poor structural quality of housing, overcrowding and inadequate access to safe water, sanitation and other infrastructure".

Preliminary literature reviews revealed that five (5) main social indicators of slum conditions (also referred to as the indices of deprivation) were identified by the UN-Habitat expert group on slum identification and mapping. These are:

- Sustainable access to safe water
- Access to improved sanitation
- Access to durable structure/housing
- Overcrowding
- Access to tenure
- And to these we have added access to social services which is the one of the most basic evidence of slum condition in cities of the developing countries in general and Nigerian cities in particular.

The identified metrics and the data sources from which they were generated for Kaduna are shown in Table 2.1.

Table 2.1: Social indicators of slum condition, likely metrics and data sources

Sn	Indicator	Likely metrics /measurement	Data sources
1	Sustainable access to safe water	Where major source of water for drinking and other uses is not piped water, public tap, borehole or pump, protected well, protected spring or rainwater E.g. shallow well, pond, stream Use and amount spent on vendor-provided waters, bottled water, and tanker trucks. (water should take less than 10% of household income) Minimum water use per day Maximum water access per day Time spent on water collection Amount paid per litre	Fieldwork
2	Access to improved sanitation	Lack of access to water system toilet or improved latrine E.g. – use of pit, open defecation, etc.	Fieldwork
3	Access to durable structure/housing	Lack of access to durable housing material (e.g. where housing roof, wall, floor is made of non-durable materials) Building in hazardous areas such as floodplain, close to canals, waste dumps, etc.	Fieldwork
4	Overcrowding	Living in more than 3 people per room Density of people per km2	Fieldwork

5	Access to tenure	Approved building plans Certificate of occupancy	Fieldwork
6	Access to social services	Social services – health, education, police, etc. per population	Fieldwork

While efforts were made to access census and demographic and health surveys data, they did not contain these metrics at neighbourhood or enumeration areas and household levels which are the spatial scale desirable for high resolution mapping and analysis of slum conditions. All the social metrics for slum condition analysis were, therefore, generated from social surveys and field observations.

Access to tenure (criteria #5) is a strong indicator of possessory rights to property. However, this is very difficult to operationalise in Nigeria where less than 5% of all lands/properties are legally registered. But it is important in terms of access and entitlement to compensation in cases where a private dwelling has to give way for overriding public good especially in the process of improving slum conditions. Question on the resident status (land lord or tenant) was included in the questionnaire with a follow-up question on the type of legal document for possessory right to the property.

2.4.2 Physical Indicators of Slum Conditions

Satellite imageries remain the best means of identifying slum clusters at the city level. Satellite images are complemented and strengthened by results derived from micro level survey. Very High Resolution (VHR) images are useful for assessing and providing objective evidence on the physical conditions of slum areas. They are also useful to assess the development stage - ***infancy, consolidation, maturity*** -of a slum and to identify how slum characteristics may change according to the development stage of the slum. Preliminary or candidate slum area maps generated from satellite imageries are indispensable tool for social vulnerability assessment of slums on the field.

According to Kohli et al (2012) and Sliuzas et al (2008), the physical indicators which are inferable from spectral, qualitative and locational information useful for identification of candidate slum areas on satellite imageries can be grouped into ***object, settlement and environment levels***.

Object Level comprises of building characteristics observable via VHR Images such as:

- roof material,
- footprint,
- shape,
- orientation,
- type,
- height,

- access network characteristics such as connected/not connected with surroundings
- regular/irregular structure
- type and width of roads.
- condition of drainage,
- durability of housing/material for roofing (corrugated tin, plastic sheeting/tarps, cloth/grass);
- other elements of image interpretation including texture, lacunarity (measure of the distribution of empty spaces within an image), object size and shape, and shadow

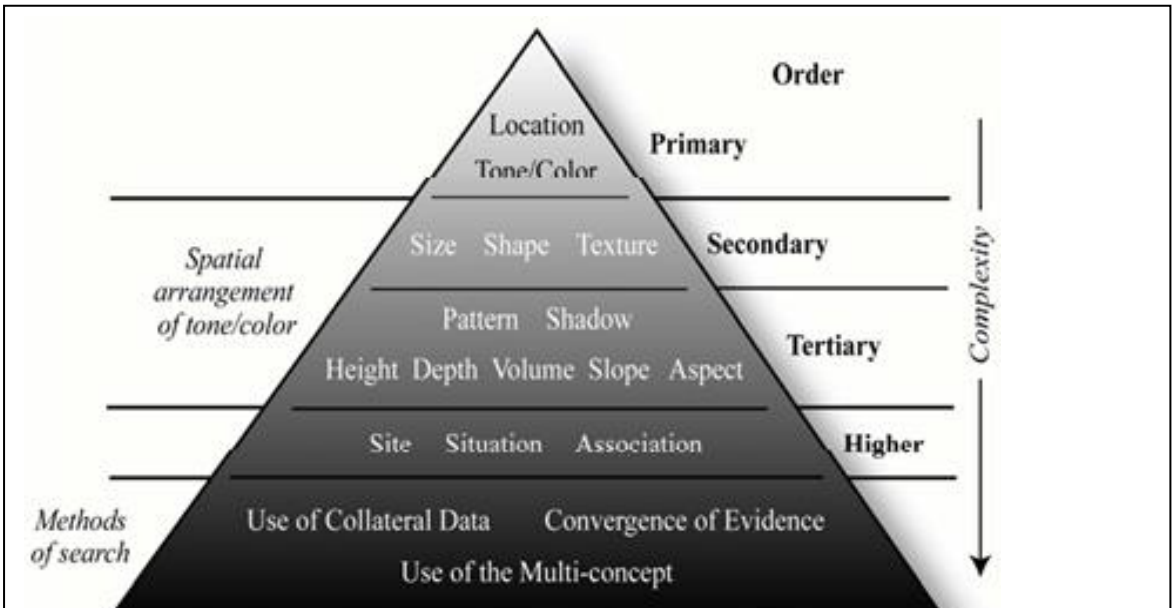
Settlement level consists of development characteristics of the settlement defining the overall shape and density including:

- Very compact and complex settlement patterns
- *Extensive, high density, multi-storey unplanned development.*
- *Public infrastructure and services lag behind development*
- haphazard, high density building pattern
- Proximity to public services (health, education, open space, public transport).

The Environment level refers to the general characteristics of the environment including:

- the location of slums with respect to socio-economic status and hazard-prone areas
- Poor management of solid waste, air pollution
- Location of the settlement/ proximity to natural and technological hazards - (in or near a steep slope, in or near a flood plain, in or near a (toxic) waste area, in or near an industrial area, etc.)
- We also add to this class the degree of greenness – presence or absence of trees that provide ecosystem services

The hybrid image analysis technique (combining elements of digital and visual analysis) was employed for the interpretation and delineation of slum areas from the Very High Resolution imageries. The elements of image interpretation were employed in the visual analysis of the imageries. (See Fig 2.2)



Using the principle of convergence of evidence, all the three levels – object, settlement and environment – were integrated. Table 2.2 shows the spatial metric most relevant for delineating slum areas Kaduna.

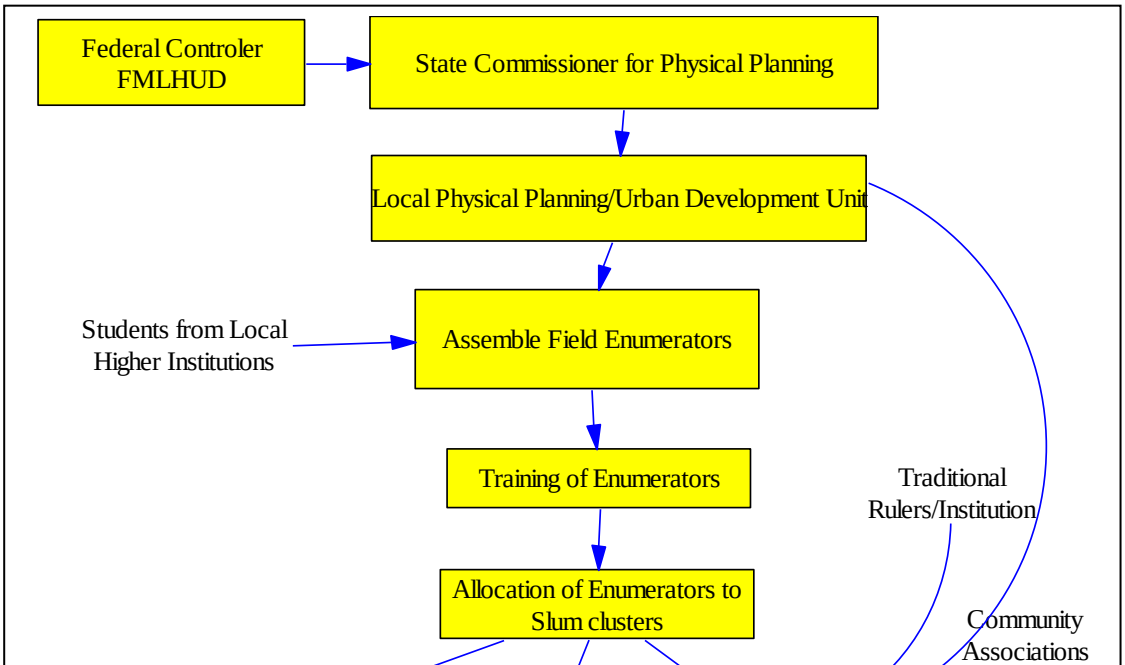
Table 2.2: Metric Relevant for Slum Delineation in Kaduna

Spatial Metrics	Kaduna
Settlement Level	
· roof material,	√
· footprint,	√
· shape,	√
· orientation,	
· type,	√
· height,	
· access network characteristics such as connected/not connected with surroundings	√
· regular/irregular structure	√
· type and width of roads.	√
· condition of drainage,	
· durability of housing/material for roofing (corrugated tin, plastic sheeting/tarps, cloth/grass);	√
· other elements of image interpretation including texture, lacunarity (measure of the distribution of empty spaces within an image), object size and shape, and shadow	√
Object Level	
· Very compact and complex settlement patterns	√
· Extensive, high density, multi-storey unplanned development.	
· Public infrastructure and services lag behind development	√
· Redensification and Public infrastructure breakdown	
· haphazard, high density building pattern	√
· Proximity to public services (health, education, open space, public transport).	√

Environment Level	
· the location of slums with respect to socio-economic status and hazard-prone areas	
· Poor management of solid waste, air pollution	
· Location of the settlement/ proximity to natural and technological hazards - (in or near a steep slope, in or near a flood plain, in or near a (toxic) waste area, in or near an industrial area, etc.)	√
· Degree of greenness – presence or absence of trees that provide ecosystem services	√

2.5 FIELDWORK

The fieldwork consists of pre-field contacts and visits, social surveys (questionnaire administration and Focus Group Discussions (FGD)/Key Informant Interviews (KII)) and GPS and Photographic Campaign. The field protocol is as shown on Figure 2.3.



2.5.1 Preliminary Field Visits and Contacts

The pre-field visit to Kaduna was carried out between 9th and 12th April, 2014. The first point of call was at the Federal Secretariat in Kaduna where our team was received by the Federal Controller for the Ministry of Lands, Housing and Urban Development (Mr. Isiki). Mr. Isiki handed us over to Mr. Ibrahim who is a Director in the Physical Planning Unit.Our team was taken to the office of the State Commissioner for Physical Planning and Urban Development where we were recieved by Mr. Husaini, a Director in the Ministry. Efforts were thereafter made, without success, to meet with the General Manager, Kaduna State Urban Planning and Development Agency (KASUPDA). We were told KASUPDA has a list of priority areas for slum upgrading and living conditions enhancement for the Kaduna Metropolis which this study can key into. Both the Federal Controller and the State Ministry of Physical Planning and Urban Development assured our team of their cooperation in the course of the study. We also took a tour of some slum areas including Sabon gari, Narayi and Television village.

2.5.2 Fieldwork Protocol

The actual fieldwork in Kaduna took place from Mid-April to Mid-May, 2014.The protocol for the actual fieldwork is shown on Figure 2.4. The Federal Controller (FMLHUD) served as our primary contact and facilitator. The Controller helped our team to link the State Ministry in charge of Urban Development. The State Ministry gave us a briefing on and profile of the city. It also either facilitated the recruitment of local enumerators, or as in the case of Kaduna, linked us with the Local Urban Development office to do that task. The enumerators came mainly from the State Ministry in charge of Urban Development and local higher institutions. With this arrangement, the POLAD team was able to recruit enumerators that are not only conversant with the

local city and community environments, but also conversant with issues about slum conditions in those neighbourhoods.

Training of enumerator was conducted to get them familiarised with the survey instrument. In addition, a pilot survey was conducted with them before they proceeded to the field for the full survey. Each enumerator was allocated to a slum cluster or sub-areas as the case may be. The total number of enumerators employed for the questionnaire survey in Kaduna was **15.** The deployment of enumerators to the areas was based on the initial slum area maps generated from satellite imageries. An enumerator was expected to administer about 30 questionnaires in his/her allocated area within a week.

In addition to the field enumerators, 2 other field assistants were specially trained to handle the GPS/Photographic campaign. The focus group discussion (FGD) and key informant interviews (KII) were handled by the POLAD team and assisted by staff from the State Ministry in Charge of Urban Development. The targets engaged in the FGD and KII include community and traditional rulers/leaders, opinion leaders, neighbourhood groups and community based organizations, and officials of the State Ministry in Charge of Urban Development.

2.5.3 Field Equipment

2.5.3.1 Field Survey – Social Survey and FGD:

The questionnaire is the instrument used for the social survey. The household head was the target of the survey. The questionnaire was designed to capture all the social indicators of slum conditions including water, sanitation, housing, overcrowding, access to tenure and access to social services (see questionnaire in Appendix 1). The questionnaire consists of 35 questions and about 116 variables. It captures issues such as location (LGA, Town, Locality and Streets) where the survey was conducted. It also contains aspects dealing with household information including income and means of livelihood, among others. There is also a section on housing conditions and residential status of household head, as well as environmental conditions where respondents were asked to check from a catalogue of indicators (facilities) and indicate the ones that are present in their locality and their present conditions. It also captures aspects relating to water, and access to water, toilet facilities, waste management, etc. The final aspect deals

Plate 2.1: Polad Officer at Field Planning Session with Field Officers in Kaduna

Plate 2.2: Training Field Enumerators In Kaduna

2.5.3.2 GPS and Photographic Campaign

A state-of-the-art **Canon PowerShot SX280 HS GPS camerawith in-built GPS** capability was used for the GPS and photographic campaign. In this case we were able to achieve photographic and coordinate collection with single equipment. Prior to proceeding to the field, 4 types of forms were designed to record information about the name and state/status of the facilities that are available, as well as documenting the general environmental conditions of the slum communities (see appendices).

Form A: captures the general facilities and environment including the locality where they are, as well as their status and ownership or provider.

Form B: is for schools and health facilities. It captures the name, provider, status and general conditions of the facility

Form C: specifically for some selected schools/education facilities. It captures in-depth information about the schools, including estimated population, number of teachers, number of classrooms, condition of buildings, water, electricity, toilets, etc.

Form D: is for in-depth information on health facilities, including, estimated number of patients, number of doctors and nurses, number of beds, etc. (See Appendices II and VI)

2.5.3.3 FGD/KII

An interview guide was designed to elicit information from stakeholders about the general conditions of the slum areas. In particular, aspects relating to slum conditions including water, sanitation, housing, overcrowding, access to tenure and access to social services were discussed with the stakeholders. They were also requested to volunteer opinions on how the community as a group can be involved in slum upgrading and improvement of lives in these areas.

2.5.4 Field Sampling

The stratified sampling technique was used to select the candidate respondents. First the LGAs that share the city were considered. Second, the localities/neighbourhoods where the slum areas are concentrated were considered. Lastly the streets were collated and questionnaires randomly administered in selected streets. Due to the lack of population and household size data scale lower than the LGA, the sampling efforts were concentrated at ensuring adequate representations consisting of all the identified slum types and stages (inner core, semi-urban, continuous, standalone clusters, infant, consolidation, maturity, etc).

The sampling design in Kaduna was accomplished in conjunction with the officials of Federal Ministry of Lands, Housing and Urban Development and Kaduna State Ministry of Lands, Urban Development and Kaduna State Urban Planning Development Agency. The representatives of these government agencies played active roles with their extensive local and practical knowledge to guide the selection of sampled communities. The State Ministry also have special areas or neighbourhoods of interest where they have been intervening. These were also factored into the selection of the final communities to be sampled. The four LGAs that make up the Kaduna metropolis - Kaduna North, Kaduna South, Igabi and Chikum – were first selected. The sampled communities are shown in Table 2.3:

Table 2.3: Sampling frame for the City of Kaduna

LGA	Sampled communities	Sampling frame
Kaduna north	Kawo new extension, Ungwan Rimi, Low cost, Kabala costain, Doka	117
Kaduna south	Tudun wada, Sabongari, Ugwan Sanusi, Tundun Nupawa, Shagari low cost, Badikko, Ngwan Yawa, Ngwan Boro,	116
Igabi	Angwa Gwari, Trade fair layout, KASDPC layout, Hayiabanmani, Mando/light industrial layout, Igabi	110
Chikum	Goni gora, Sabon tasha, Nayari site, Ungwa Romi new extension	110
TOTAL		453

The recruitment of the field assistants and supervisors was facilitated by the above named agencies.

Summary

In total **453** questionnaires were administered in Kaduna. Tables 2.4 shows the locality where questionnaires were administered.

Table 2.4: Number of Questionnaire Administered Per Locality in Kaduna

Locality	Frequency	Percent
Doka	71	15.7
Angwan Baro	10	2.2
CBD	15	3.3
OriapataCBD	4	0.9
Sadauna crescent	3	0.7
Kawo new extension	21	4.6
Sabo Tasha	50	11
Kabala Doki	9	2
Kabala Costain	10	2.2
Rigasa	27	6
Mando	20	4.4
Danmani	5	1.1
Hayin Danmani	12	2.6
Unguwan Gwari	32	7.1
Angwan Rimi Low-cost	10	2.2
Angwa Kudu/ Angwa Rimi	10	2.2
Sabo Gari	15	3.3
Layin ado Gwaram	2	0.4
Television	9	2
Badiko	10	2.2
Narayi	10	2.2
Romi	20	4.4
Angwan Sanusi	10	2.2
Tudun Wada	17	3.8
Tundu Nupawa	10	2.2
Kurmin-Marshi	10	2.2
Goni –gora	10	2.2
Phase II	5	1.1
Phase I	5	1.1
Total	442	97.6
No location information	11	2.4
Total	453	100

2.6 EXPERT INTERACTIVE SESSION

The objective of the expert interactive session was to validate the fieldwork and to offer further expert opinions and suggestions on the proposed slum upgrading strategy and recommendations. The expert interactive session took place on Tuesday 28th July 2014 after the initial comments on the draft

report have been received from the FMLHUD. The experts were drawn from both the academic and industry. They include practicing Urban Planners and Planners from the University, Expert Geographers with considerable experience in Human Settlement Analysis, Remote Sensing, and Geographic Information System (GIS). They also include experienced Estate Surveyor and Valuers, and Lawyers with expertise in land management and policy. Two representatives from the FMLHUD also attended the session. The experts also acted as reviewers. They were given copies of the draft report to review in advance and their observations, comments and suggestions were discussed and collated during the session with the view to improving the report. During the session each aspect of the report were thoroughly considered and consensus reached on the strategies and recommendations for improving human living conditions in the slum areas. The full report of the expert interactive session including the names and domiciliation of the attendees is shown in appendix V.

2.7 CHALLENGES AND CONSTRAINTS

The challenges and constraints encountered in the course of this project can be divided into two major groups.

- The first are those that relates to sourcing and acquisition of spatial and attribute data pertaining to the slum areas.
- The second are those experienced in the conduct of the fieldwork.

Spatial data

Ideally, this kind of study should have been done using the lowest official units of spatial and /or population reporting zones e.g. census enumeration areas, census supervisory areas, or electoral wards boundaries. Both government records, administrative registers and spatial data or maps showing the delimitation of these were not available. This makes it difficult to know either the population or the actual extent of a slum neighborhood. Good street network data (showing all the streets and their names in a town) is also important for delineating the coverage of particular areas or neighborhoods. The street data available for Kaduna is incomplete in attribute. The unavailability of these spatial data makes the delineation of actual slum neighborhoods very difficult except in those cases where the slum clusters are standalone such as we have in the Kaduna Urban Villages. Hence, in the inner city areas with extensive and continuous slum areas, these slum areas were delineated as one polygon while the place or neighborhood names are then placed as points to identify them. The implication is that it becomes difficult to calculate the area of each separate inner city slum neighborhood.

On the Field

One of the major constraints encountered on the field is apathy. Some households are unwilling to respond to the questionnaire because of the feeling that the government has never implemented recommendations from

any study. In essence they feel it is sheer waste to devote any good time to supporting or volunteer information for any study. This suggests disenchantment with government disposition towards slum dwellers in not being able to provide urban basic services to support improvement in their living conditions. In few cases, there were demands for money as incentive to participating in the survey.

Security was also a major concern during the fieldwork in Kaduna. The security situation was explosive during the field visit. Although the field team was not harassed, they were not very free to capture the photographs of some infrastructures. Apart from wearing identification jackets, security operatives were engaged thereby increasing the cost of data collection. In one of the FGD in Sabon Gari, the participants, who kept anonymity, were at loggerhead with a Staff from the Ministry on our field team. For example, when some particular infrastructures (e.g. pipe borne water) were mentioned, the FDG claimed they were not available but the Staff from the Ministry says they were available. This created a heated argument which had to be carefully managed. This also reflects the mistrust between the government and the slum dwellers. There was also the lack of cooperation from facility managers such as schools and health facility heads. In most cases, they did not agree to complete the forms on attributes of facility, citing orders from above and the need for us to obtain permission from the school board or the health board before they can accede to our request. This barrier exemplifies the divergence between data availability versus its accessibility.

CHAPTER THREE

GEOGRAPHY AND PHYSICAL CHARACTERISTICS OF SLUMS IN KADUNA

3.1 GEOGRAPHY

3.1.1 Location

Kaduna is a city, capital of Kaduna State and a trade centre whose name is derived from the Hausa word for crocodiles, "Kada.". Located in the north-western geopolitical zone of Nigeria, along the Kaduna River, a major tributary of the Niger River, the city is roughly defined by Latitudes 10°20' to 10° 40' North and Longitudes 7°20' to 7°33'East (Fig 3.1). Spatially, Kaduna city is about 25km long and 8–10km wide, and extends from Katabu in the North to Kakau and the oil refinery in the South.

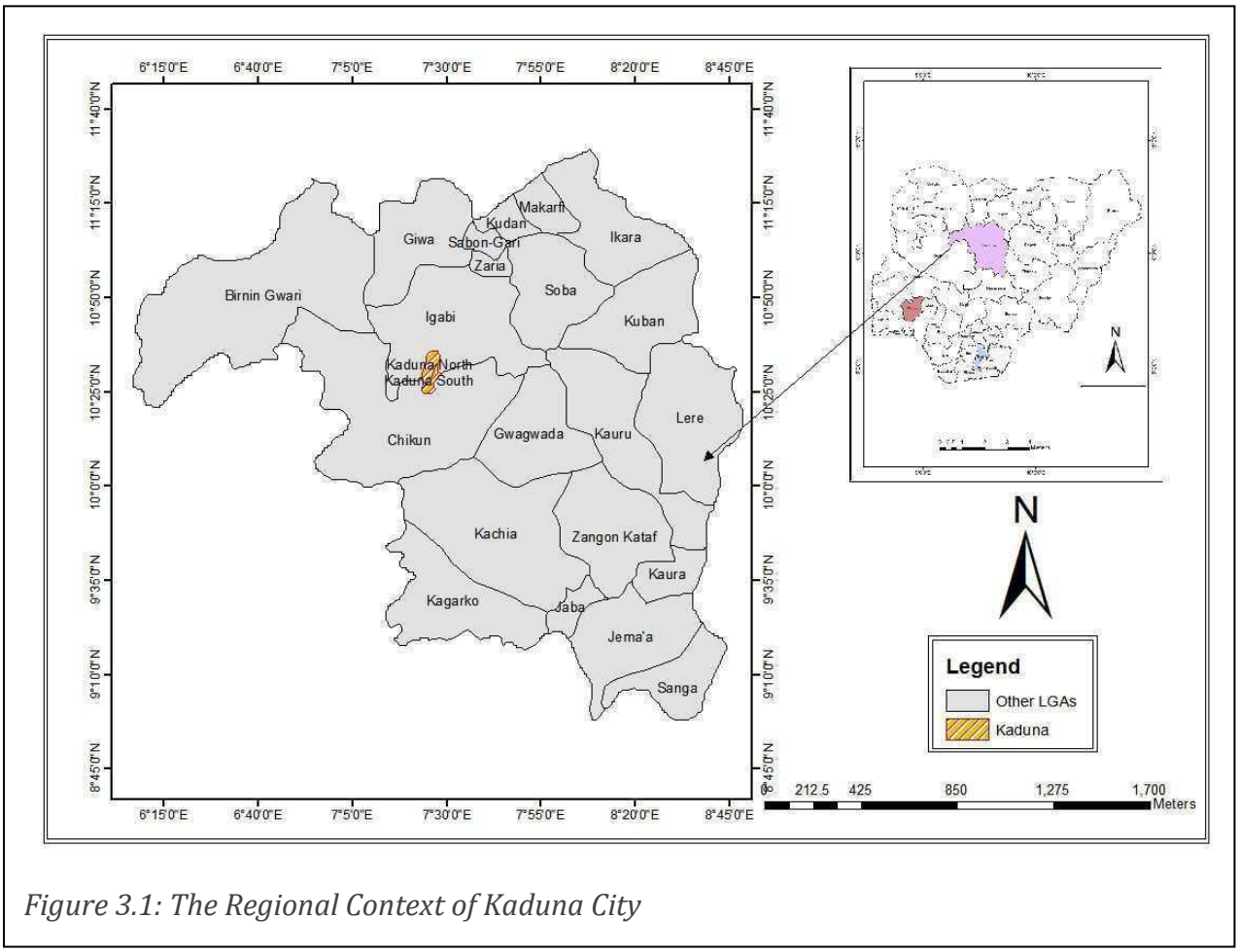


Figure 3.1: The Regional Context of Kaduna City

3.1.2 History

The original layout of Kaduna was conceived in 1913 by Lord Lugard and laid out in 1917 as the administrative and military capital of what was then the

protectorate of northern Nigeria. Today it remains a capital city, albeit of one of the largest states in Nigeria rather than the whole Northern region. According to the Kaduna Revised Master Plan 2010, the city has recorded a huge growth since the 1960s. South of the River Kaduna the expansion was initially fuelled by industrial growth attracting large numbers of in-migrants. Though much diminished since the closure of the majority of the textiles factories and now supplemented by formal and informal opportunities north of the river, the industrial concentrations south of the River continue to underpin Kaduna's role as Nigeria's fifth city. Latterly, much of the growth has been driven by endogenous demographic factors, with an urban 'population explosion' driving by high (but falling) birth rates of its young population.

North of the River, subsequent to the growth of the new district of Sabon Gari to the west of Tudun Wada, development of the western districts of Rigasa, Afaka and Ungwan Mu'azu was stimulated by the building of the western expressway by the Federal Government in the late 1970s as part of the new North/South trunk road linking Kano, Kaduna, Abuja and a Niger River crossing at Lokoja. Expanded development directly to the east has been prevented by lack of access bridges over the River Kaduna. The potential for dramatic change in this pattern of growth has increased with the recent construction of the new Makarfi Bridge and plans for the new millennium city that opens up the development potential east of the River Kaduna. The basic pattern of grid-iron plot development in the original residential settlements of Sabon Gari and Tudun Wada set the pattern for the majority of land development in the city, both formal and informal, ever since.

3.1.3 Physical Characteristics

3.1.3.1 Climate and Vegetation

The city of Kaduna has a typical savannah climate with distinct wet and dry seasons. The climate is strongly influenced by the equatorial maritime and tropical continental air masses. While the wet season/rainfall regime is derived from the moisture-laden equatorial maritime air mass with a long history of movement over the Atlantic Ocean, the dry season/harmattan is determined by the influence of the tropical continental air masses. The rainy season extends from March/April to October while the dry season lasts from November to March/April. The city's natural vegetation consists largely of savanna woodlands characterised by grassland with scattered trees and woody shrubs. The average temperature is between 26°C and 34°C while the mean annual rainfall is around 1400mm (Kaduna Master Plan 2010). It has been traditionally characterized by a mono-modal rainfall system and a growing period of 150-180 days.

3.1.3.2 Soil and Geology

Most of the soils in the area are light in texture and free draining. Soils with impeded drainage derived largely from aeolian loess and alluvium are found

in small areas along banks of watercourses and on valley bottoms and terraces (Fadamas). The soils in the city of Kaduna are reddish-brown typical of ferruginous soils. This is unconnected to the geology of the city which is mainly underlain by the migmatite-gneiss complex consisting of migmatites, biotites and granitic gneisses. The underlying complex is capped by laterites which are highly consolidated especially at the surface and weathered into lateritic nodules mixed with silty and sandy clays.

3.1.3.3 Drainage and Topography

The Kaduna City Region is drained by the Kaduna River and its tributaries, the Tubo, Sarkin Pawa, Udawa, Karami and the Galma. The Kaduna River provides most of the water requirements of the City. The source of the Kaduna River lies on the Jos plateau. It flows for 210 km before reaching Kaduna city. It crosses the city dividing it traditionally into north and south – but now, with development to the east of the Kaduna metropolis being undertaken, into east and west also. The drainage pattern is mostly dendritic which indicates absence of structural control over drainage lines.

3.1.4 Human Characteristics

3.1.4.1 Population

According to the Kaduna Revised Master Plan 2010, Kaduna was a small city of 150,000 people in 1967, with elegant tree-lined avenues and official buildings befitting the capital of the whole northern region of Nigeria. Forty years later it has grown to seven times this size and continues to be overwhelmed by the rapid pace of urbanization. The combined population of all four LGAs, which includes the rural population of Chikun and Igabi LGAs living outside the Kaduna built-up area, is estimated in the provisional 2006 Census at 1,570,331. However, the UN estimates the population for the Kaduna urban agglomeration (based on Federal Government estimates) in 2010 at 1,561,000. By this estimate Kaduna is Nigeria's fifth largest city - behind Lagos, Kano, Ibadan, and Abuja. The projected city population for Kaduna in 2025 by the UN is 2,362,000. The same source estimates the rate of growth of population for the past five years at 2.55% per annum, similar to Kano but considerably less than Abuja at 8.33% per annum.

3.1.4.2 Socio-Economic Activities

Kaduna is a cultural melting pot, with several distinct groups. The Hausa/Fulani are the dominant groups in the city, and the Hausa language serves as the lingua franca. Agriculture and animal husbandry are significant commercial activities. The city's cotton-textile spinning and weaving mills used to be Nigeria's largest and among the largest in Africa. Light manufactures include leather goods, plastics, ceramics, pharmaceuticals, furniture, and several printing and publishing firms. The town's heavy industries make steel and aluminium rolling plants, automobiles, petro-chemical

refinery, cement, asbestos cement, concrete blocks, electrical motors, ordnance, and explosives.

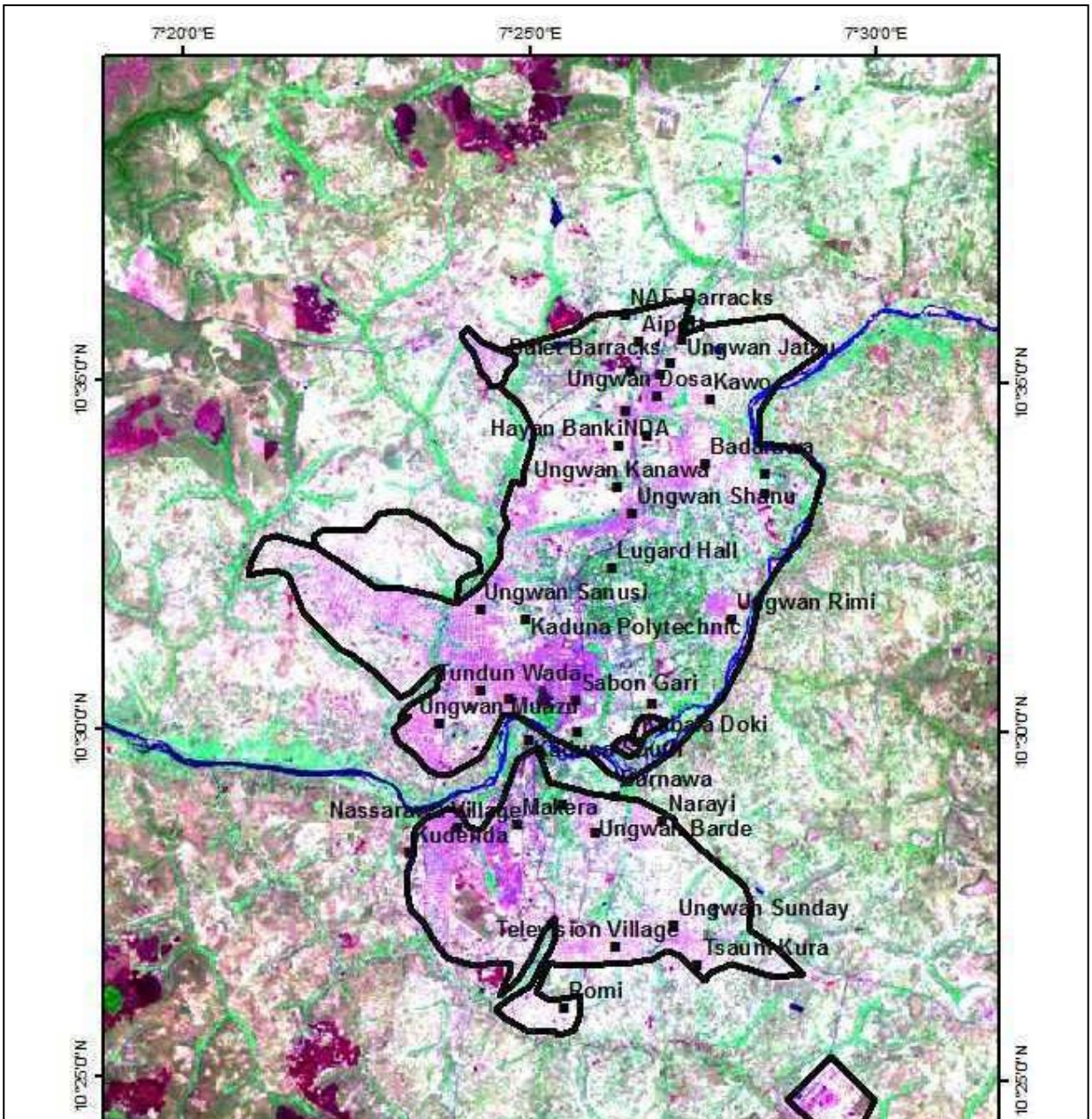
3.1.4.3 Settlement Pattern

Ribbon development has taken place along the major roads out of the city to the North and the Southeast in particular. Large areas have been demarcated in the outskirts of the urban area and the expansion of green field urban development has continued, particularly in the south and Southeast along with a consolidation and intensification of building within the limits already reached. According to the Revised Master Plan 2010, long established informal developments in such areas as Badarawa and west of Makera (now Nassarawa) were just starting to develop in 1965 and were observed to be progressing down this route in the 1967 Master Plan. Then they were called 'illegal' as indeed they were, but they were not stopped. These and many other places have now developed to the full extent of their physical and topographical boundaries and as such have become established urban areas even to the extent of individuals applying for and being granted a Certificate of Occupancy and title deeds over developed plots. What was once 'illegal' has over the years become accepted. This is a basic tenet of land law in most parts of the world. Unchallenged occupancy after a given number of years gives the occupier a legitimate right to occupy and even 'ownership.

As with many, if not most cities in developing countries, urban development is happening on too rapid and large scale for the current system to cope. ***Kaduna's 'urban villages' are also a unique feature in Kaduna City***. ***These are the usually very high density informally laid out areas that have been developed over time on the basis of traditional land holdings and their subdivision. They are classified as areas with irregular street and plot layouts. These layouts, and the fact that streets often take the form of narrow lanes in these areas, means they create difficult and demanding requirements for upgrading and improvements to basic services***. Although these are often very poor areas, they are characterised by a strong traditional community identity and represent important concentrations of 'social capital' in the city. Along with the wealthy, planned, tree-covered areas of the original GRA, they represent part of Kaduna's cultural heritage and, wherever possible, their essential character should be preserved in any planned works that affect them.

3.2 SPATIAL EXPANSION OF KADUNA CITY

The city of Kaduna has not only increased in terms of population, it has also experienced rapid urban expansion between 1990 and 2014 as seen from Landsat Imageries in Figures 3.2 and 3.3. In specific terms, ***the built-up area of Kaduna increased from about 148.4km^2 in 1990 to about 313.2km^2 in 2014***. This represents increases ***of about 165km^2 or about 111% which is about 4.5% per annum***.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Ungwan Shanu
Lugard Hall
Ungwan Sanusi
Ungwan Rimi
Kaduna Polytechnic
Sabon Gari
Ungwan Muazu
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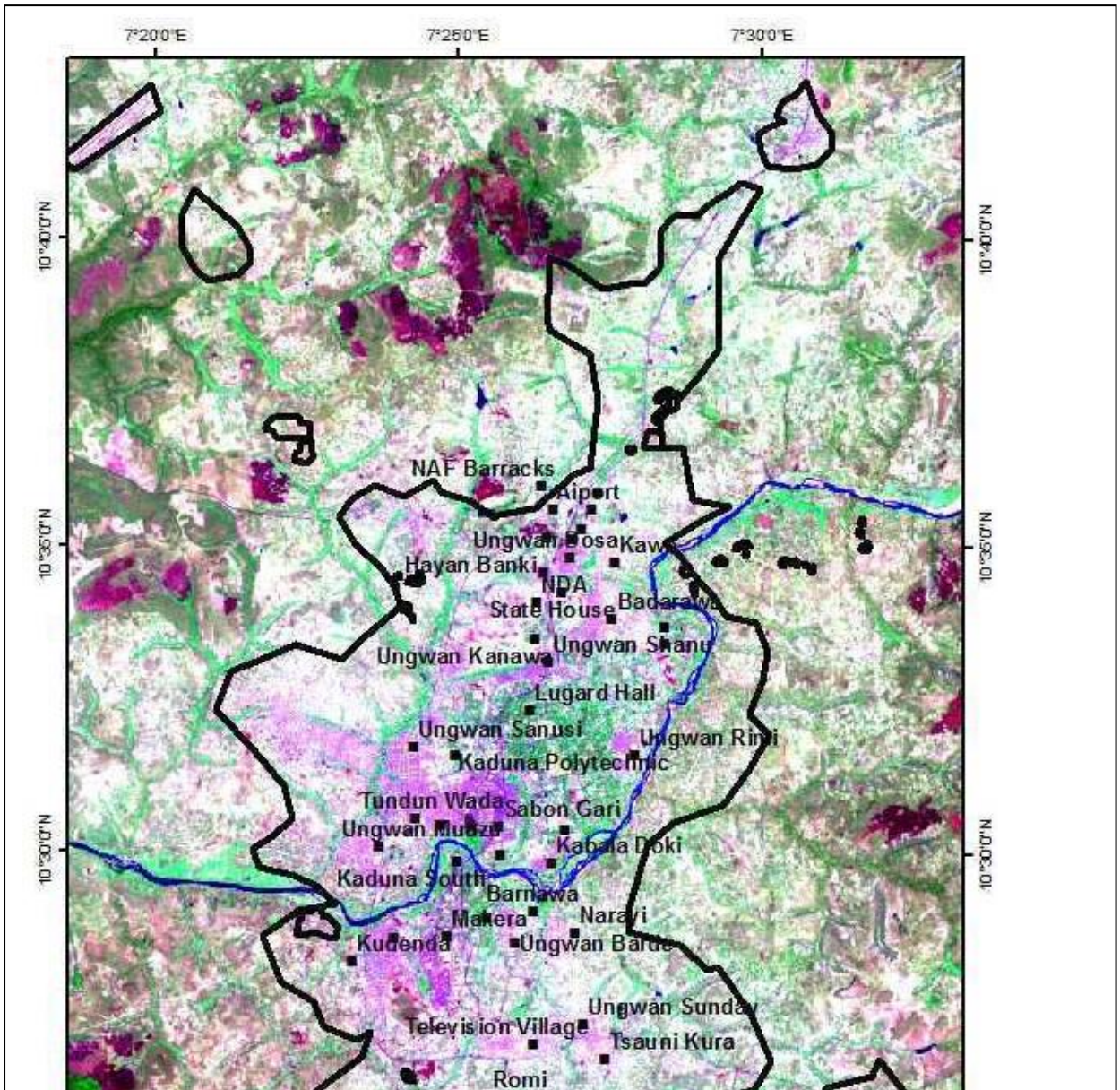
Makera
Narayi
Kudenda
Ungwan Barde
Ungwan Sunday
Television Village
Tsauni Kura
Romi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State House
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Ungwan Shanu
Ungwan Kanawa
Lugard Hall
Ungwan Sanusi
Ungwan Rimi
Kaduna Polytechnic
Tundun Wada
Sabon Gari
Ungwan Muazu
Kabala Doki
Kaduna South
Barnawa
Makera
Narayi
Kudenda
Ungwan Barde
Ungwan Sunday
Television Village
Tsauni Kura
Romi

3.3 SLUM DELINEATION

3.3.1 Slum Areas Delineation

The slum situation in the city of Kaduna is best captured by the Kaduna Masterplan 2010 thus: '*Kaduna was a small city of 150,000 people, with elegant tree-line avenues and official buildings befitting the capital of the whole northern region of Nigeria. Forty years later it has grown to seven times this size and continues to be overwhelmed by the rapid pace of urbanization*''. ***Image analysis and field observations suggest that every kinds and stages of slum formation - from infancy, consolidation and maturity to gradual degradation of formal housing and social filtering processes and a variety of informal housing development processes either incremental and structured, incremental and unstructured, sudden and structured, sudden and unstructured – are found in Kaduna***.

Kaduna's '*urban villages'* which are unique feature of the city (Kaduna City) contributes significantly to the number of slum areas. According to the description in the Kaduna City Masterplan 2010 report, ***'Kaduna 'urban villages' are usually very high density, informally laid out areas that have been developed over time on the basis of traditional land holdings and their subdivision. They are areas with irregular street and plot layouts. These layouts, and the fact that streets often take the form of narrow lanes in these areas, means they create difficult and demanding requirements for upgrading and improvements to basic services'.*** Based on the definition and the spatial criteria for slum identification, it may be summarised ***that some of these villages were designed as slums from inception***.

A total of about 42 slum clusters according to neighbourhoods and standalone basis (Urban Villages) **covering about 4,916ha or 49.16 km^2 with a perimeter of about 205.6km were delineated in Kaduna**. **The slum area represents about 15.7% of the entire built up lands of Kaduna City in 2014. Table 3.1 shows the identified slums and their areal extent while** Figures 3.4, 3.5 and 3.6 show the context and pattern of their locations in relation to non-slum areas and other land-uses.

The largest cluster is the Tudun Wada-Tudun Nupawa-Ungwan Sanusi complex which covers about 603ha.This is followed by Igabi and with 590 and Badarawa with 590ha and 363ha respectively.

Table 3.1: Slum clusters delineated in Kaduna city

SN	Neighborhood Name	Class	Acres	Area (in square kilometer)	Area (in hectares)	Perimeter (km)
1	Ungwan Jatau	Slum area	35.465	0.143526	14.3526	1.495561
2	Ungwan Kanji	Slum area	50.385	0.203905	20.3905	1.995504
3	3 (In Map)	Slum area	12.089	0.048925	4.8925	0.982438
4	Hayan Banki	Slum area	167.125	0.676347	67.6347	4.227792
5	Ungwan Dosa	Slum area	239.180	0.967947	96.7947	4.224884
6	Badarawa	Slum area	896.081	3.626391	362.6391	10.713512
7	Ungwan Malali	Slum area	47.472	0.192115	19.2115	1.76786
8	8	Slum area	86.590	0.350423	35.0423	2.467824
9	Ungwan Shanu	Slum area	319.334	1.292328	129.2328	8.606728
10	10	Slum area	240.785	0.974442	97.4442	4.226236
11	11	Slum area	5.809	0.023508	2.3508	0.579326
12	12	Slum area	38.297	0.154987	15.4987	1.601645
13	Ungwan Muazu	Slum area	488.995	1.978937	197.8937	8.239528
14	Tundun Wada/Tudun Nupawa/Ungwan Sanusi	Slum area	1490.548	6.032163	603.2163	16.477921
15	Sabon Gari	Slum area	531.175	2.149638	214.9638	7.884639
16	16	Slum area	12.411	0.050228	5.0228	1.030249
17	17	Slum area	36.210	0.146539	14.6539	1.874026
18	Nassarawa Village	Slum area	690.331	2.79373	279.373	9.35739

19	19	Slum area	23.380	0.094616	9.4616	1.358031
20	Television Village	Slum area	436.936	1.768255	176.8255	7.212905
21	Ungwan Sunday	Slum area	500.894	2.027092	202.7092	7.173077
22	22	Slum area	258.997	1.048146	104.8146	5.650674
23	23	Slum area	177.068	0.716586	71.6586	3.54732
24	Narayi	Slum area	390.935	1.582094	158.2094	5.317244
25	Ungwan Barde	Slum area	229.057	0.926981	92.6981	5.795305
26	Tsauni Kura	Slum area	546.083	2.20997	220.997	7.050539
27	Igabi	Slum area	1457.873	5.89993	589.993	15.834493
28	Igadi	Slum area	159.716	0.646363	64.6363	3.464155
29	29	Slum area	163.572	0.661969	66.1969	4.295969
30	Kabala Doki	Slum area	181.867	0.736008	73.6008	4.796828
31	Mando	Slum area	469.608	1.900478	190.0478	10.493284
32	Ungwan Rimi	Slum area	370.059	1.497607	149.7607	5.549205
33	Goni Gora	Slum area	94.822	0.383739	38.3739	2.941024
34	34	Slum area	17.794	0.072011	7.2011	1.16343
35	35	Slum area	196.768	0.79631	79.631	3.940377
36	Romi	Slum area	432.064	1.748539	174.8539	6.864672
37	37	Slum area	60.083	0.243152	24.3152	2.083089
38	Kawo	Slum area	232.977	0.942845	94.2845	3.93614
39	39	Slum area	150.032	0.60717	60.717	2.987519
40	40	Slum area	14.298	0.057863	5.7863	1.061906
41	41	Slum area	147.396	0.596505	59.6505	3.63727
42	42	Slum area	46.868	0.189674	18.9674	1.655097
			12147.429	**49.160**	**4915.998**	**205.563**

Source: GIS Analysis

As noted earlier, these clusters are very unique in their own. ***While some slum areas may have developed as a result of closeness to industrial areas (especially in areas south of the Kaduna River), some others developed as a***

result of degradation of formal housing and re-densification of originally planned areas. The most unique are those that developed as individual towns (i.e. Kaduna urban villages).

Hanyan Banki, Ungwan Dosa, Badarawa, Ungwan Shanu, Ungwan Malali, Ungwan Sanusi, Igabi, Ungwan Muazu, and Sabon Gari in Kaduna North are independent towns (or urban villages) that have sprung up all at the vicinity of the 'elegant tree-line avenues and official buildings' of the city metropolis. Ungwan Rimi and Kabala Doki may have developed as slum settlements in the delicate floodplain of the Kaduna River.

In the South, Nassarrawa Village, Makera, Barnawa, Ungwan Barde, and Narayi, although they are independent urban villages, likely have strong affiliations with the Kudenda and Makera industrial areas. Ungwan Sunday, Tsauni Kura, Television village, Romi and Goni-Gora also emerged as independent urban villages in Southern Kaduna.

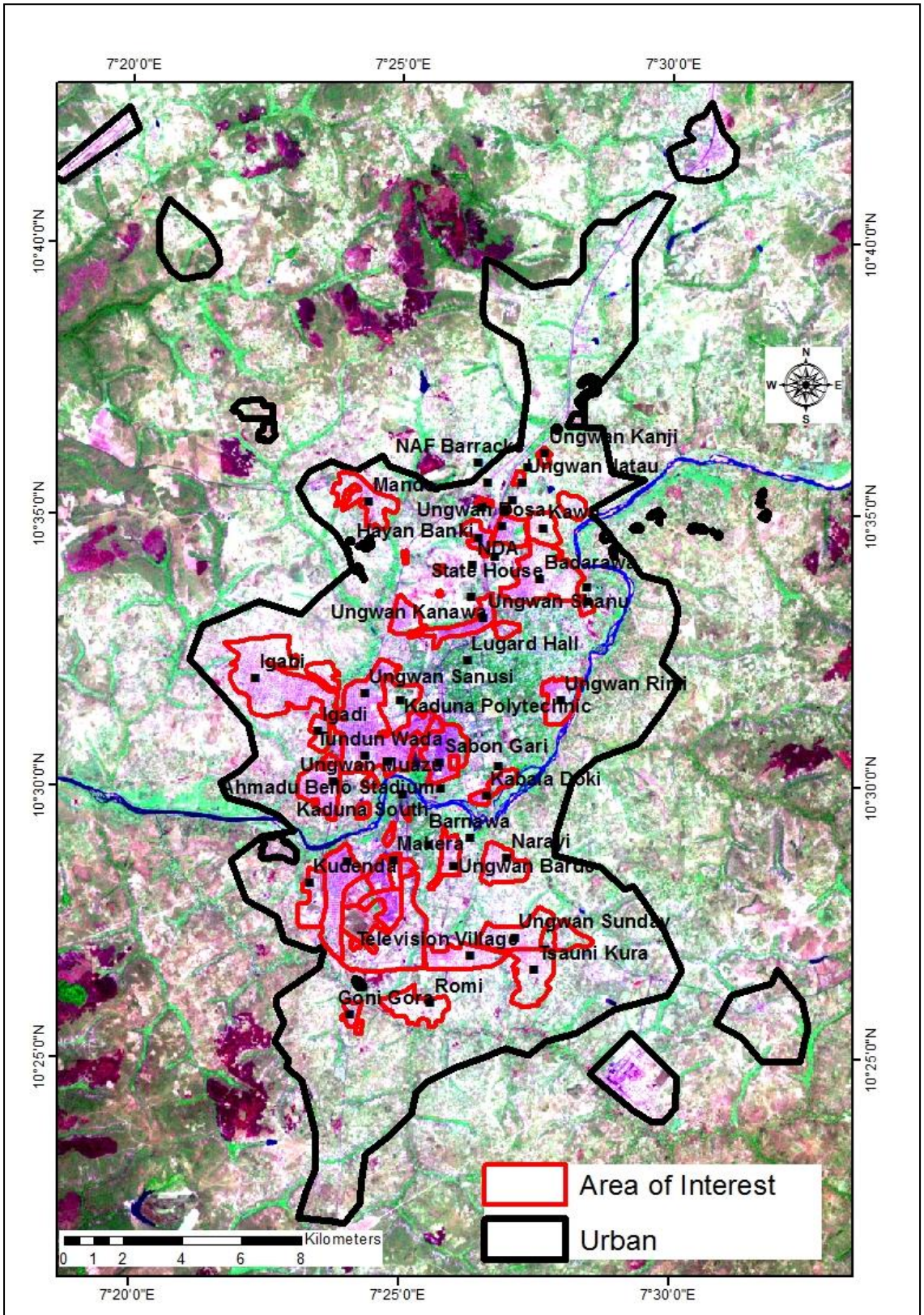


Figure 3.4: Location Context of the Slum Areas in Kaduna

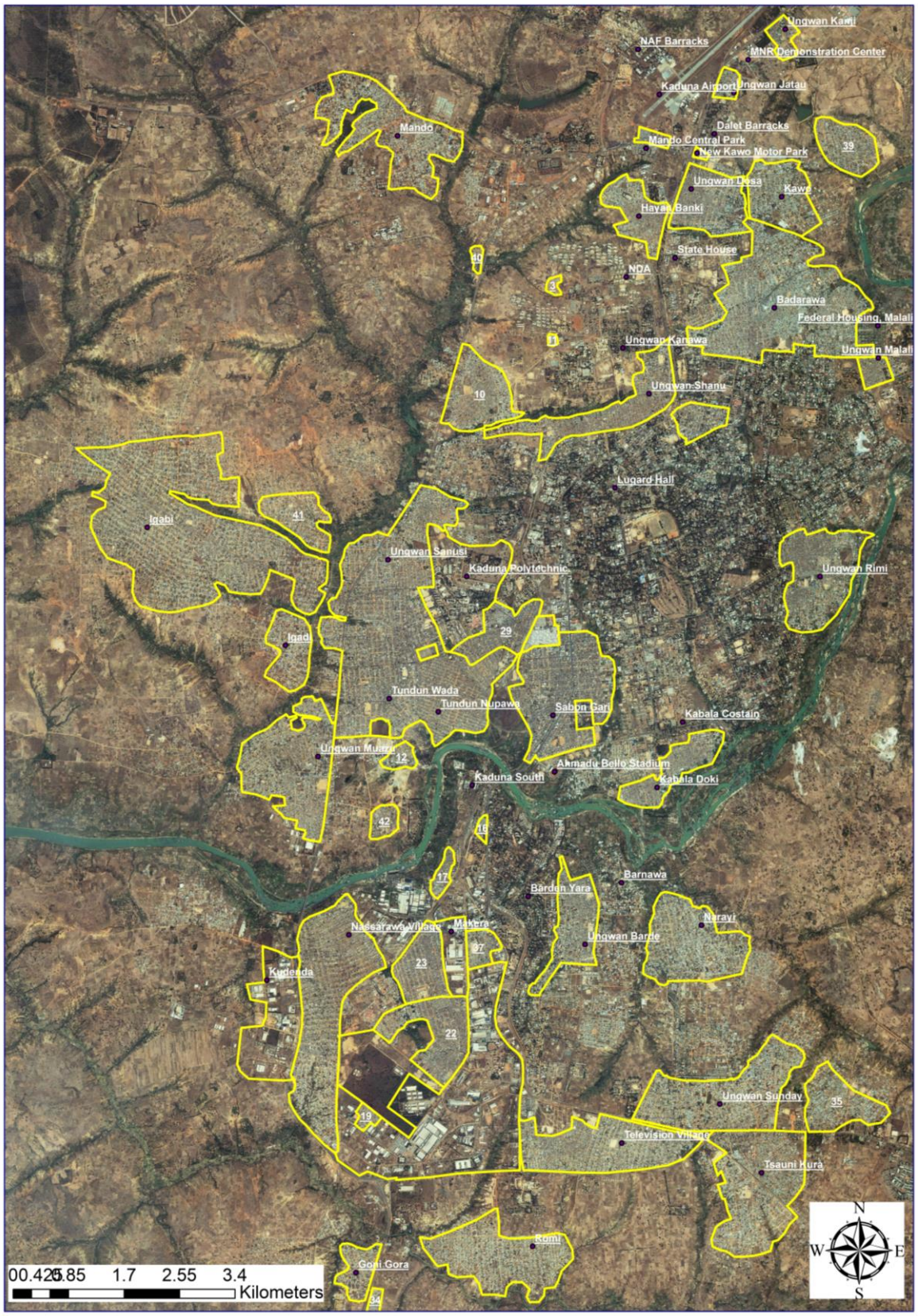


Figure 3.5: Identified Slum Areas on HR Image

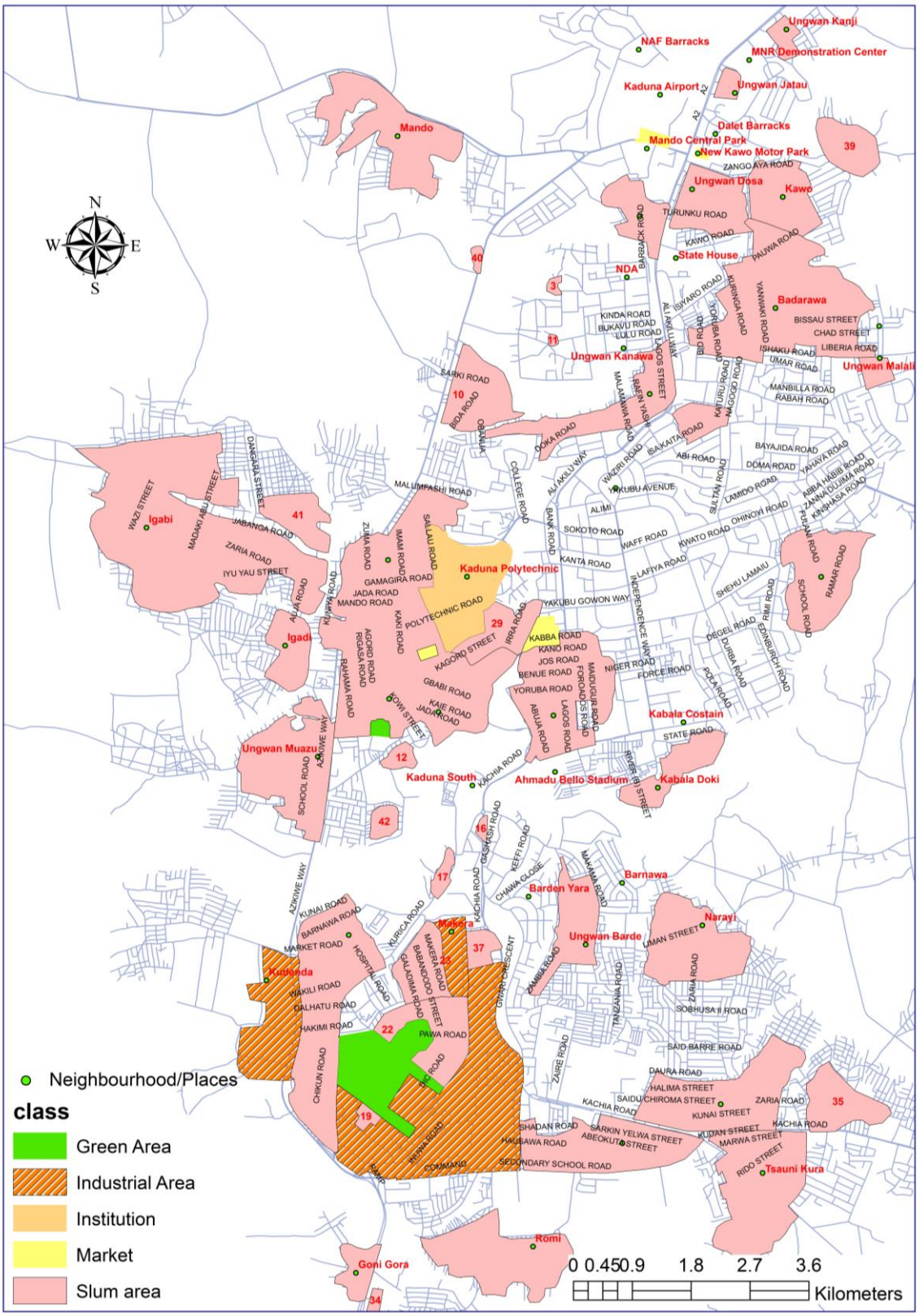


Figure 3.6: Identified Slum Areas and Related Classes

The development of informal settlements also contributes significantly to the present level of slum areas in the city of Kaduna. This was succinctly captured by the 2010 Master Plan Report thus: "***long established informal developments in such areas as Badarawa (*north of the Kaduna River*) and west of Makera (now Nassarawa) (*south of the Kaduna River*) were just starting to develop in 1965 and were called 'illegal' as indeed they were, but they were not stopped. These and many other places have now developed to the full extent of their physical and topographical boundaries and as such have become established urban areas even to the extent of individuals applying for and being granted a C of O and title deeds over developed plots. What was once 'illegal' has over the years become accepted. This is a basic tenet of land law in most parts of the world. Unchallenged occupancy after a given number of years gives the occupier a legitimate right to occupy and even ownership***"

The impacts of infrastructure deficiencies are generally more acute in these low-income settlements, with a general lack of access to basic municipal services. The experiences from these settlements are documented in the following section on socio-economic profile of slum conditions in Kaduna.

3.4 PHYSICAL CONDITIONS OF THE SLUM AREAS IN KADUNA

3.4.1 Physical Infrastructure and Road Conditions

The influence of the planned and well laid out streets of the tree-line neighbourhoods of the old 'northern capital' Kaduna City seems to have a rubbing effect on all the other neighbourhoods including the Kaduna Urban Villages. Every street seems to be straight and defined to imitate the grid iron pattern, albeit narrow and hardly accessible to vehicles in some cases (Plates 3.1a and b).

Plate 3.1a: Street Layouts in Slum Areas

Plate 3.1b: Street Layouts in Slum Areas

Some roads are bad and others are in good condition. Roads in the greater Kaduna areas such as Kawo, Hanyan Banki, Badarawa, Tundun Wada and Ungwan Sanusi areas tend to suffer from traffic congestion (plate 3.2a) while roads in the urban villages are very poorly maintained (Plate 3.2b).

Plate 3.2a: Sabon Birni Road in Kawo

Plate 3.2b: Majues Road in Ungwan Yelwa

Many roads do not have drainage channels. Areas such as Shagari low cost housing estate in Barnawa and Igabi drainages are poorly laid out or maintained where they exist where they exist.

Plate 3.3: Road without Drainage in Igabi

3.4.2 Waste Disposal and Water and Sanitation

Waste disposal is poor in most parts of the identified slum areas. Open waste dump is very common and used by significant percentage of the people. Hence, refuse heaps in open areas are common sights in the urban villages.

Plate 3.4: Open Waste Dump in Mando

Evidence of efforts to improve water supply in some of the slum neighbourhoods abound. While some areas enjoy public water supply, others

depend on bore holes (both public and private). Plate 3.5a shows public running tap in Tugwa Kaiji while plate 3.5b shows a solar powered bore hole in Goni Gora in Chikun LGA. However, access to water still remains a key challenge in the slum areas. A significant number of people still do not have access to potable water and they depend on purchased sachet water and water supplied by vendors.

Plate 3.5a: Public Water Supply in Tugwa Kaiji

Plate 3.5b: Solar Powered Borehole in Goni Gora

3.4.3 Recreation Facilities

Some limited recreation facilities **are** available in schools and in estates (see plate 3.6).

Plate 3.6: Poorly Maintained Children Playground along Zazzau Road in Shagari Low Cost In Kaduna South

3.4.4 School and Other Public Facilities

Generally, the physical structures of the public primary schools are in fairly good shape in some of the slum areas and villages as shown on plates 3.7a and b.

Fig 3.7a: LGA Primary School, Maidugiri Road, Doka

Plate 3.7b: Kawo Model Primary School, Kawo new extension

Public health facilities in the areas appear to be very few and in dilapidated state. In particular, the basic and primary health centres are in bad state and this appears to be putting pressure on the general hospital. Dilapidated structures were also sighted in some of the general hospitals (see plate 3.8a to 3.9b)

Plate 3.8a: Kawo General Hospital

Plate 3.8b: Model Primary Health Care Ungwan Sanusi

Plate 3.9a: Inside General Hospital Tundun Wada

Plate 3.9b: Dilapidated Hospital Block In Tundun Wada General Hospital

CHAPTER FOUR

SOCIO-ECONOMIC CHARACTERISTICS OF SLUMS IN KADUNA*

4.1 INTRODUCTION

The social dimensions of slum conditions in the city of Kaduna was captured by field surveys consisting of household questionnaire administration and key informant interviews and focus group discussions in the slum communities. The results are discussed below under the following headings:

- Household information
- Housing conditions
- Environmental conditions which captures information on
  - Sustainable access to safe water
  - Access to improved sanitation
  - Access to durable structure/housing
  - Overcrowding
  - Access to tenure
  - Access to social services
- Needs assessment of the communities

Figure 4.1 shows the neighbourhoods and urban villages where the social survey took place. The delineation of these clusters was based on the major roads in clustered and compact areas for the purpose of convenience. Although the different neighbourhoods in the compact urban zone where the survey was conducted exist as areas and place names, there were no existing data to aid in accurate delineation of the neighbourhood boundaries. But for those villages that are standalone, it was easier to delineate their boundaries. Thus, figure 4.1 is a rough delineation showing the major neighbourhoods and urban villages where the social survey was conducted.

**See Appendix IV for the summary of the outcomes from, the slums in the three cities – Aba, Kaduna and Oshogbo*

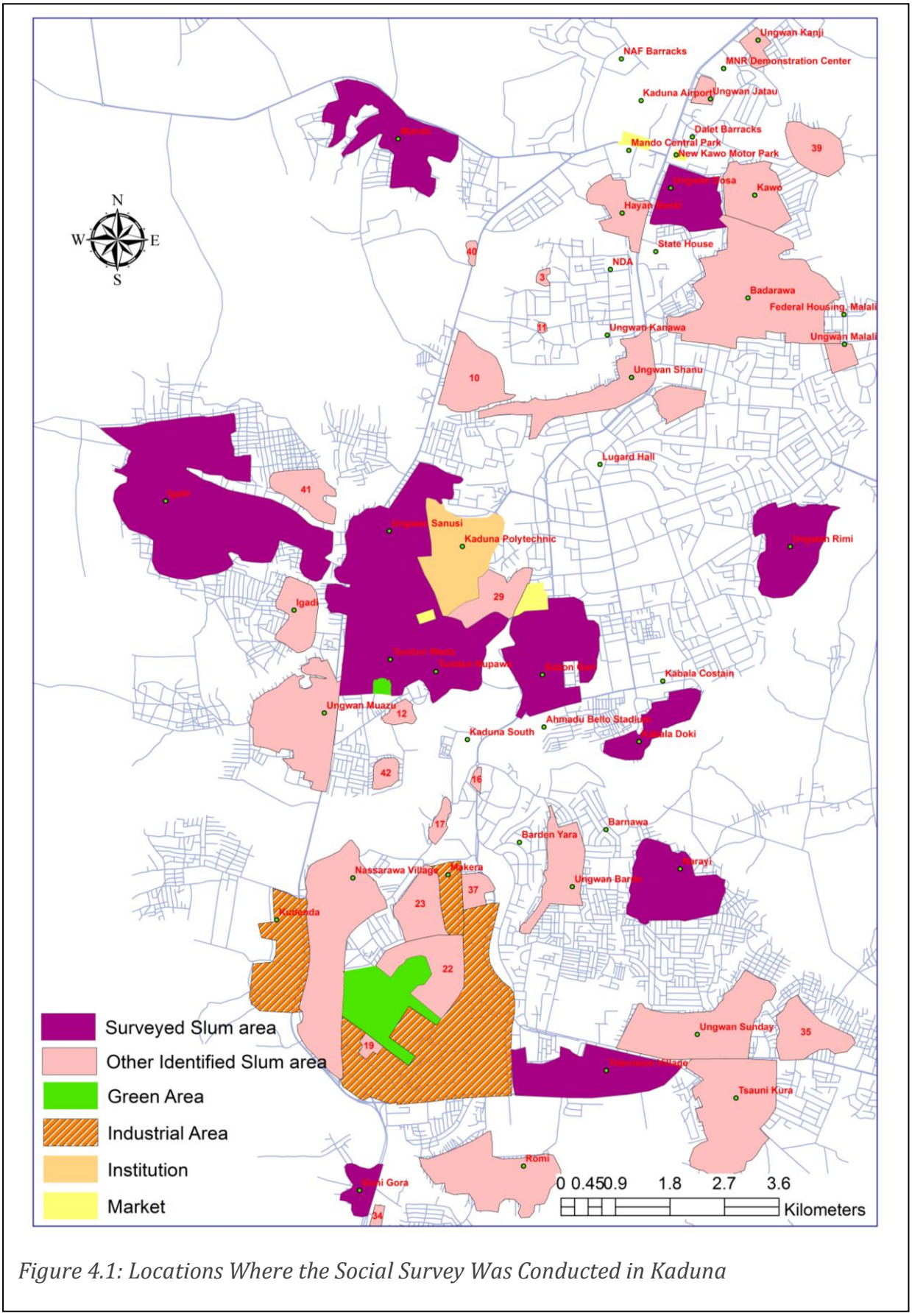


Figure 4.1: Locations Where the Social Survey Was Conducted in Kaduna

4.2 HOUSEHOLD INFORMATION

A. Age, gender and ethnic composition of respondents

The survey of age composition of household heads (Table 3.1) was dominated by the people in the middle age bracket 41-55 years (37.7%) and the virile young group 26-40 years (33%). The older 56-70 years was strongly represented with 21.2%.

Table 4.1: Age Groups Represented In the Survey

Age	Frequency	Percent
16 - 25 years	23	5.1
26 - 40 years	146	32.2
41 - 55 years	167	36.9
56 - 70 years	94	20.8
Above 70 years	13	2.9
Total	443	97.8
System	10	2.2
Total	453	100.0

In terms of gender, the male dominated overwhelmingly (88.3%) and only 11.7% of the respondents were female.

In terms of ethnic group of household heads, Kaduna city has always been a melting pot of peoples and cultures not only across the northern region, but the country as a whole. Hence, the ethnic profile of respondents that participated in the survey is important. The Hausa-Fulani dominate with 32.7%. The Yorubas accounted for 24.8%, and Igbos 12.2%. Other ethnic nationalities including the *Gbaggis* and *Bajjus* and others accounted for 30.3%. This presents a very broad base to visualize perceptions on slum conditions in the city of Kaduna across ethnic spectra.

B. Occupation

Figure 4.2 shows the major occupation of household heads in the surveyed area - the trading and business group dominate with 45.3%. Civil servant also shows strongly with 22.7% and farmers were also sampled strongly here with 9.7%.

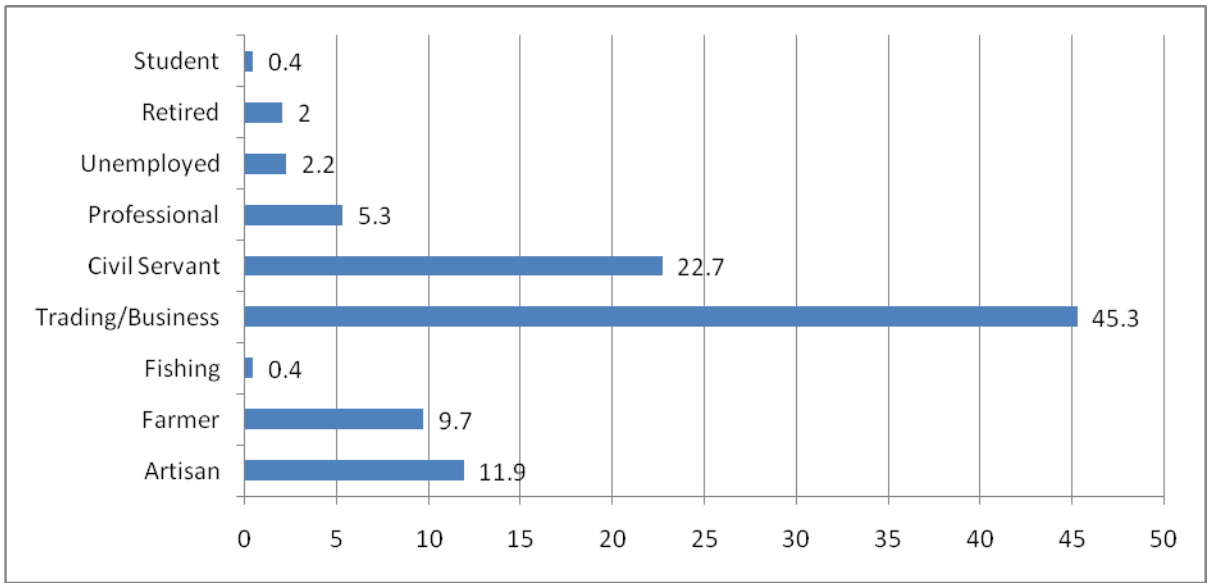


Figure 4.2: Occupation of Respondents

The information contained on Figure 4.2 is consistent with the volunteered information on the major occupations of household heads around the sites where 83.1% believes trading/business is the most prominent occupation.

C. Income Distribution

Table 4.2 summarises the average monthly income status of the respondents. This is dominated by N25K – 50Kgroup with 32.7% and closely followed by N50K-100K group and N10K-25K groups.

Table 4.2: Monthly Income of Household Head

Average **monthly income**	Frequency	Percent
Less than 10,000	23	5.2
10,001 - 25,000	109	24.5
25,001 - 50,000	145	32.7
50,001 - 100,000	127	28.6
100,001 - 250,000	35	7.9
250,001 - 500,000	5	1.1
Total	444	100

D. Size of Household

Large number of people per household which breeds overcrowding is one of the insignia of slum conditions around the world. This makes slum areas a densely populated zone. Again the UN Habitat believes a situation of more than three people living in a room results in overcrowding. **About 40% of the respondents in the slum areas of Kaduna have more than 7 people within their households. 37% have between 5 and 7 people and 22.8% has between 1 and 4. As a matter of fact based on the records, there are households with as many as over 30 people.**

E. Proportion of Vulnerable Groups

The proportion of dependent populations including children less than 5 years of age and elderly above 65 years of age are important indicators that could help government policy and planning for slum areas. Table 4.3 indicates that over fifty percent (50%) of households have one to two children below 5 years while majority of households (Table 4.4) do not have elderly persons.

Table 4.3: Children less than 5 years of age

Children less than 5 years	Number of Households	Percentage
one	119	26.3
two	123	27.2
three	48	10.6
four	13	2.9
five	5	1.1
six	2	0.4
seven	3	0.7
Eight	2	0.4
11	1	0.2
12	1	0.2
Total	317	70
System	136	30
Total	453	100

Table 4.4: Elderly (above 65 years of age)

Elderly over 65 years of age	**Number of Households**	**Percentage**
one	13	2.9
two	4	0.9
three	1	0.2
Total	18	4
No Response	435	96
Total	453	100

F. Association of Household Heads

Community associations and networks provide veritable platform for mobilizing communities to participate in developmental and slum improvement projects to improve human wellbeing in the slum communities. Again, religious institutions top the list with 30.3%. Town association is also very significant at 19.8%. This is expected and it reflects the ethnic diversity of the city. It is also worthy to note that at least one in every five of the respondents belongs to more than two local network as shown on Table 4.5.

Table 4.5: Associations to Which Respondents Belong

Association	**Frequency**	**%**
None	35	7.8
Professional guide or association	18	4
Religious institutions	136	30.3
Landlord association	4	0.9
Vigilante association	6	1.3
Community development association	24	5.3
Town association	89	19.8
Elders forum	15	3.3
Cooperative society	27	6
More than one	94	20.9
Trade union	1	0.2
Total	449	100

G. Reasons Why Respondents Live in Slum Area

On the reasons for residing in the community, most respondents indicate that they decide to stay in the study area because it is close to their place of work (31.1%). Another important reason given was the that the areas are generally peaceful (17.3%) (Table 4.6).

Table 4.6: Reason for Living in the Communities

Reason	Frequency	Percentage
Financial constraint	4	0.9
Because my family and friends live here	47	11
It is comfortable living here	73	17.1
It is cheaper living here	21	4.9
It is my home town	15	3.5
Good place before	3	0.7
Close to my work	133	31.1
Where I can afford to build my house	42	9.8
Inherited the property	2	0.5
It is peaceful community	74	17.3
Due to nature of my work	10	2.3
Because of job opportunity	3	0.7
Total	428	100

4.3 HOUSING CONDITION

A. Age of Buildings

With regards to the age of the building where they live, 25% do not have an idea of when it was constructed. However, 21.6% believes it is between 21

and 40 years while 21% think it is between 11 and 20 years. 9.5% believes the house they live is more than 40 years old and about 21% think it is less than 10 years old.

B. Building Construction Materials

On construction materials for the building wall, 71.3% says their house is constructed of concrete while a significant 25% says it is constructed of mud as shown on figure 4.7.

Table 4.7: types of build construction materials

Type of materials	Number of households	Percentage
Concrete	323	71.3
Zinc	11	2.4
Mud	113	24.9
Others	1	0.2
Total	448	98.9
No Response	5	1.1
Total	453	100

C. Length of Stay in Slum Area

With regards to the duration of stay in the community, 40% Of the sampled population have lived in the area for over 10 years and in particular about 8.4% of the people were born in that community (Fig 4.3).

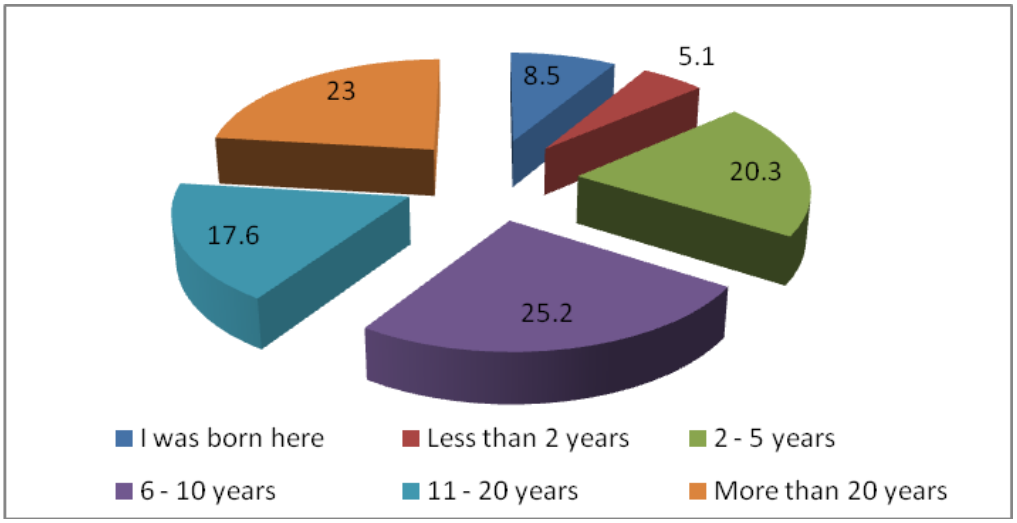


Figure 4.3: Respondents' duration of residency

D. Status of Household Heads

On the residential status of the household head 52.8% of the sample individuals are tenants while 46.5% are landlords. Lack of access to tenure is always a big issue in slum communities (Table 4.8)

Table 4.8: Status of Household Heads

Status of household heads	Number of households	Percentage
Landlord	208	45.5
Tenant	234	51.7
I inherited the house	1	0.2
Total	443	97.8
No response	10	2.2
Total	453	100

But in the surveyed sites in Kaduna, 85.3% of the landlords (which represents 174 of 204 respondents) claim to have access to tenure of their property which means they possess a form of legal document or instrument of ownership to their property. Only 14.7% has no access to tenure. This is encouraging and it is consistent to earlier discussion and assertions from the Kaduna 2010 Revised Master Plan that even property owners in some of the Kaduna urban villages have applied for and were granted tenure documents with respect to their property. Figure 4.4 shows the type of legal instrument the landlords have in respect of their property. 55% have the statutory certificate of occupancy (C of O), and 27% have the customary freehold rights, 11% have survey plans while 7% have land certificate.

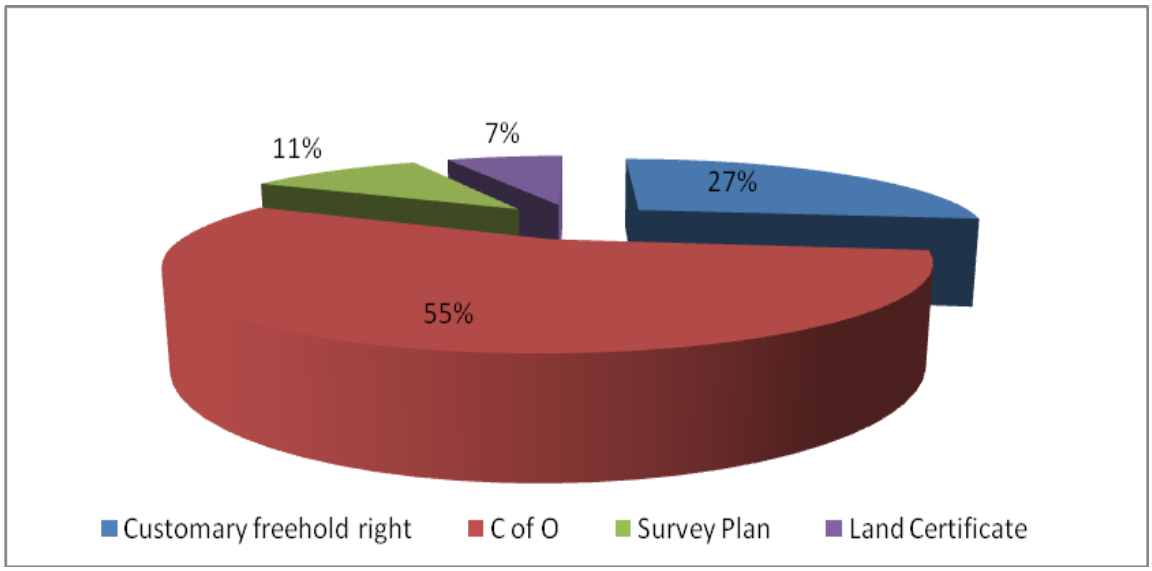


Figure 4.4: Tenure Document in Respect of Property

4.4 ENVIRONMENTAL CONDITION

4.4.1 PERCEPTION OF ENVIRONMENTAL CONDITION

Table 4.9 and Figure 4.5 show the rating or perception of the respondents with regards to the environment of the place they live. The indicators that have good approval with over a third of the respondents include planning of the area, building appearance, number of people living in a building, and motorable access to building. In all the other the indicators the approval ratings is either poor or bad.

Table 4.9: Rating of the Environment

	Good	Poor	Bad	Worse	Worst
	Percentage	Percentage	Percentage	Percentage	Percentage
Planning of the Area	33.6	51	15.2	0.2	
Squatting	16.6	57.2	24.8	1.4	
Building Appearance	39.2	41.9	18	0.7	0.2
Number of people living in a building	40.3	42.8	15.9	0.5	0.5
Road Condition	14.9	45.7	34.8	3.6	0.9
Solid Waste disposal	5.2	42.3	47.7	4.3	0.5
Sewage/effluent discharge	8.8	37.1	45.4	8.3	0.4
Motorable access to the buildings	35.7	40.9	21.1	1.8	0.4
Pedestrian access to the buildings	39	39.6	19.6	1.1	0.7
Traffic Congestion	26.3	45.8	25.2	2.2	0.4
Noise Pollution	16.1	42.7	36.6	1.1	0.2
Drainage/gutter/ Water channel	6	30.2	41.8	19.7	2.2
General cleanness of the environment	4.6	41.8	48.3	3.4	1.9

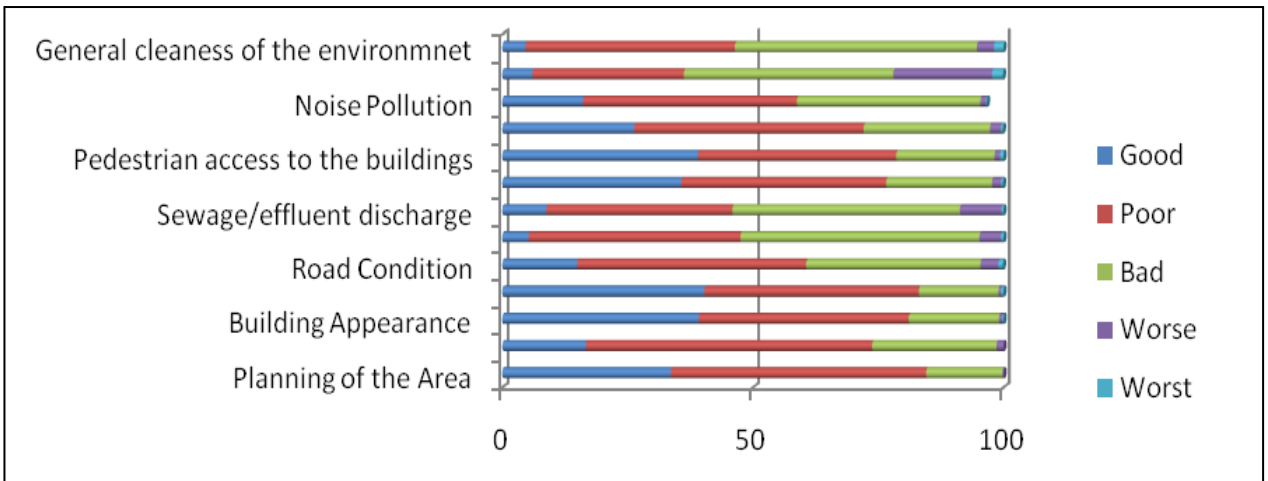


Table 4.10 shows the ratings of the environmental indicators across selected slum clusters in Kaduna based on the highest responses. Most of the indicators are rated poor too bad in all locations.

Table 4.10: Perception of Environmental Condition Across Slum Neighbourhoods in Kaduna

Indicator	**Doka N=71**	**Sabo Tasha N=50**	**Rigasa N=27**	**Mando N=20**	**Ungwan Gwari N=32**	**Romi N=20**
Planning of the area	Good	Poor	Poor	Bad	Bad	Good
Squatting	Poor	Poor	Poor	Poor	Bad	Poor
Building appearance	Good	Poor	Poor	Poor	Bad	Good
Number of people living in a building	Poor	Poor	Poor	Poor	Poor	Good
Road condition	Poor	Poor	Poor	Bad	Bad	Bad
Solid waste disposal	Poor	Poor	Bad	Bad	Bad	Bad
Drainage/gutter/ water channel	Poor	Poor	Bad	Worse	Worse	Bad

Rating Scale	Good	Poor	Bad	Worse	Worst

4.4.2 PERCEPTION OF BASIC INFRASTRUCTURE IN THE COMMUNITY

Table 4.11 is a checklist and the status of facilities presented in the surveyed slums in Kaduna. Over 50% of the sampled population are of the opinion that recreation facilities, children playground, road side-walks, trees on the street, public toilets, street lights, refuse collection points, tertiary institution, civil centre, post office and abattoir are not available in their area. Over a third believes public water supply, electricity supply, public primary and secondary schools, and markets are in very bad shape. The only facilities believed to be available and functioning by over 50% of the respondents are private primary and secondary schools, church, mosque and private clinics.

Table 4.11: Status of Basic Infrastructures

	Present & Good/Working	**Present but bad**	**Not Available**
Indicators	**Percentage**	**Percentage**	**Percentage**
Public water supply	30	50.1	19.9

Electricity Supply	36.8	62.1	1.1
Recreation/relaxation facilities	9.2	24.1	66.7
Children Playground	10.3	17.2	72.3
Road side walks	3.3	20.2	76.4
Public Toilet Facility	4.7	13.7	81.4
Trees on the street	4.3	12.8	83
Street Lights	0	8	92
Refuse Collection point	1.1	38.9	60
Public primary schools	40.6	45.7	13.7
Public Secondary schools	34.3	35.4	30.3
Private primary schools	79.8	16.1	4
Private Secondary schools	74.1	12.8	13.1
Tertiary Institution	8.7	7.3	84
Market	31.1	47.3	21.6
Civic Center	9.3	17.8	72.9
Church	71.2	10.3	18.4
Mosque	65.5	19.2	15.2
Public Health Center	36.1	43	20.9
Private Clinic	67.5	20.2	12.3
Petro/ Gas station	35.1	17.8	47.1
Financial Institution	20.5	6.5	72.9
Post Office	9.2	10.3	80.6
Police Post/ Station	30.4	25.1	44.3
Abattoir	8.9	24.9	66.2

Plate 4.1: Inside Public Health Facility in Kaduna Slum Areas

Plate 4.2: Big Water Project Signboard, Yet Dry Tap Remains

Plate 4.3: Housing and Road Condition in the Inner Urban Villages

Plate 4.4: A Public Primary School

Table 4.12 is a summary of the perceptions across selected slum locations in Kaduna. Again, public water supply is rated as present and working in Doka and Romi, but bad or absent in others. Children playground, side walk, public toilet, and street lights and relaxation facilities are rated absent in all the locations. Refuse collection points are also rated as absent in all except Rigasa where it is rated as bad.

Table 4.12: Perception of the Condition of Basic Infrastructure Across Selected Clusters in Kaduna

Indicators	**Doka N=71**	**Sabo Tasha N=50**	**Rigasa N=27**	**Mando N=20**	**Ungwan Gwari N=32**	**Romi N=20**
Public Water Supply	Good	Bad	Bad	Absent	Bad	Good
Electricity Supply	Good	Bad	Bad	Bad	Bad	Good

Recreation/Relaxation Facilities	Absent	Bad	Absent	Absent	Absent	Absent
Children's Playground	Absent	Bad	Absent	Absent	Absent	Absent
Road Side Walks	Absent	Absent	Absent	Absent	Absent	Absent
Public Toilet Facility	Absent	Absent	Absent	Absent	Absent	Absent
Trees On The Street	Absent	Absent	Absent	Absent	Absent	Absent
Street Lights	Absent	Absent	Absent	Absent	Absent	Absent
Refuse Collection Point	Bad	Bad	Absent	Absent	Bad	Absent
Public Primary Schools	Good	Bad	Absent	Good	Good	Absent
Public Secondary Schools	Good	Bad	Absent	Good	Absent	Absent
Private Primary Schools	Good	Good	Good	Good	Good	Good
Private Secondary Schools	Good	Good	Absent	Good	Good	Good
Tertiary Institution	Absent	Good	Absent	Absent	Absent	Absent
Market	Good	Bad	Bad	Bad	Absent	Absent
Civic Center	Absent	Absent	Absent	Absent	Absent	Absent
Public Health Center	Good	Bad	Bad	Absent	Good	Absent
Private Clinic	Good	Good	Good	Good	Absent	Good
Petrol/ Gas Station	Absent	Good	Absent	Absent	Good	Bad
Financial Institution	Absent	Good	Absent	Absent	Absent	Absent
Police Post/ Station	Good	Good	Absent	Absent	Absent	Absent

Rating Scale	Good=present and good	Bad=present and bad	Absent= not available

4.4.3 RATINGS OF SOME COMMON ISSUES

Table 4.13 and Figure 4.6 show the rating of some common issues required for human wellbeing within the slum communities of Kaduna. The only ones that received positive ratings by over 50% of the sampled population are food, being able to perform spiritual and cultural rituals and communication. In particular, water, sanitation, employment and livelihood, housing, fuel for cooking, health care, children school, and transportation were adjudged to be poor by over 45%. Sanitation and toilet facilities and security were considered to be in bad situation by about 25% of the respondents.

Table 4.13: Ratings of Some Common Issues

Indicator	**Good**	**Poor**	**Bad**	**Worse**	**Worst**
	Percentage	Percentage	Percentage	Percentage	Percentage
Water	29.8	49.7	13.4	4.5	2.4
Sanitation/ Toilet Facilities	9.2	56	28.5	6.1	0.2
Food	60.9	32.6	3.6	2.5	0.4
Employment/livelihood	15.4	45	20.4	14.2	5
Housing/ Shelter	19.6	62.6	14.6	3	0.2
Fuel For Cooking	18.1	57.2	22.2	2	0.5

Health care	28	51.4	15.7	4.6	0.2
Being able to perform cultural &religious rituals	63.3	27.7	7.2	1.6	0.2
Security	30.9	27.1	25.6	14.1	2
Children school	40.4	44	15	0.7	
Transportation	36.1	47.1	14.1	2.7	
Communication	54.6	30.3	13.5	1.6	

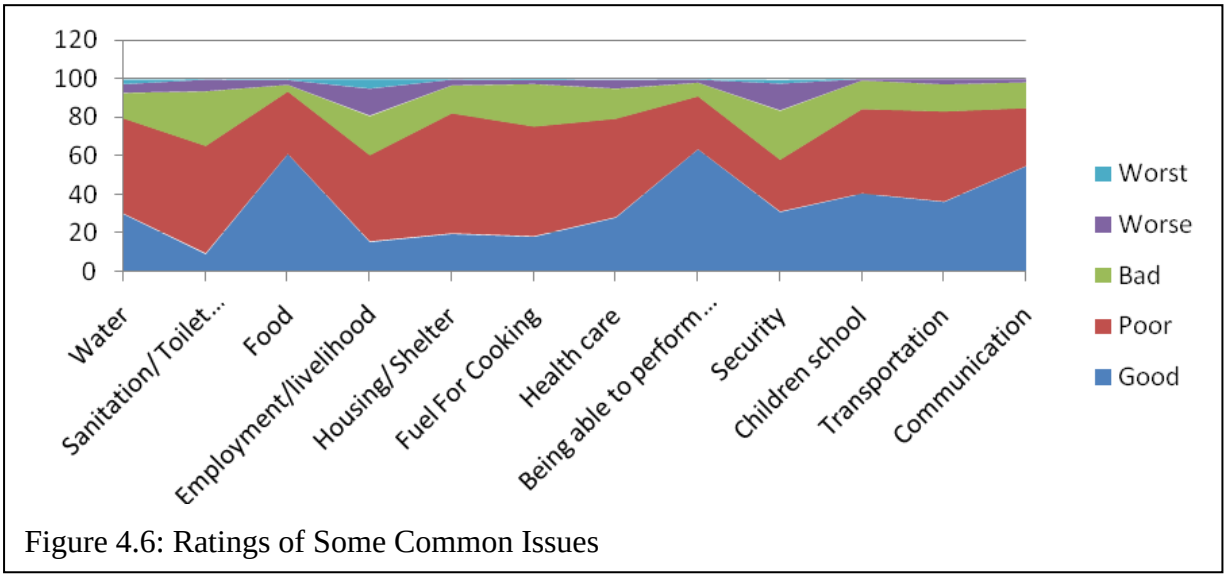


Figure 4.6: Ratings of Some Common Issues

Table 4.14 shows the rating of some community issues across the selected locations. Everything from water to ability to perform cultural and religious rituals is rated poor in Sabon Tasha and poor to severe in Mando. Others have mixed bags from good to severe about these issues.

Table 4.14: Rating of Community Issues

Indicator	**Doka N=71**	**Sabo Tasha N=50**	**Rigasa N=27**	**Mando N=20**	**Ungwan Gwari N=32**	**Romi N=20**
Water	Good	Poor	Poor	Severe	Bad	Good

Sanitation/ Toilet Facilities	Poor	Poor	Bad	Severe	Bad	Poor
Food	Good	Poor	Good	Poor	Good	Good
Employment/Livelihood	Poor	Poor	Bad	Severe	Severe	Severe
Housing/ Shelter	Poor	Poor	Poor	Poor	Poor	Poor
Fuel For Cooking	Poor	Poor	Bad	Poor	Poor	Poor
Health Care	Good	Poor	Poor	Bad	Poor	Severe
Being Able To Perform Cultural &Religious Rituals	Good	Poor	Good	Poor	Good	Good

Rating Scale	Good	Poor	Bad	Severe	Critical

4.4.4 ACCESS TO SUSTAINABLE WATER AND SANITATION

This indicator is designed to assess the proportion of the population with sustainable access to an improved water source and to sanitation. Sustainable water access means access to affordable and sufficient quantity of water without excessive physical effort and time. For sanitation, access to improved sanitation means access to facilities that hygienically separate human excreta from human, animal and insect contact.

4.4.4.1 Main Source Of Drinking Water

Figure 4.7 depicts the main sources of drinking water for the households in the sampled slum areas in Kaduna. Only about a third of the population (33.4%) have access to pipe borne water, while about 20% depend on borehole. However, a significant 16.4% depend on sachet water which is not considered a safe and sustainable source of water.

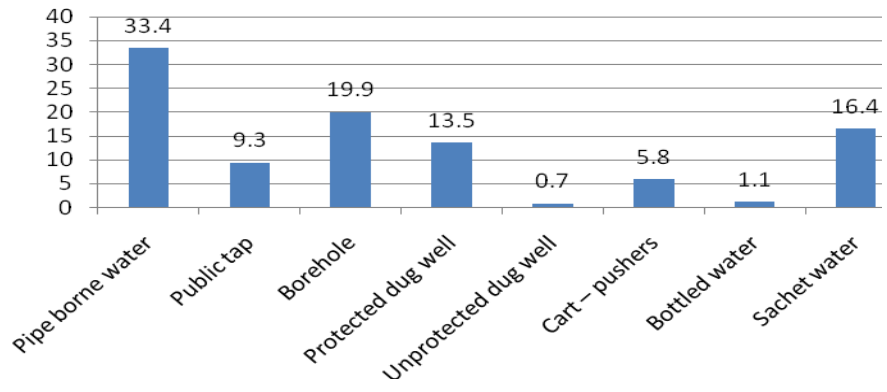


Figure 4.7: Source of Drinking Water in Sampled Slums in Kaduna

Again, the source of water for drinking in across the selected slum locations is diverse as shown on Table 4.15.

Table 4.15: Sources of Household Drinking Water

Source of Drinking Water	**Doka N=71**	**Sabo Tasha N=50**	**Rigasa N=27**	**Mando N=20**	**Ungwan Gwari N=32**	**Romi N=20**
Pipe Borne Water	X					X
Borehole/ Sachet Water		X			X	
Protected Dug Well			X			
Cart - Pushers					X	
Borehole &Well				X		

In terms of the time spent to access main water sources, about 73.4% of the respondents take less than 30 minutes. 16.4% take between 30 minutes and 1hour, 4% take between 1-2 hours, another 4.5% take between 2-4hours while 1.7% take more than 4 hours to access drinking water as shown on Table 3.16.

Table 4.16: Time taken to collect water from source

How long	Number of Households	Percentage
<30minutes	295	65.1
30 minutes - 1hour	66	14.6
1 hour - 2 hours	16	3.5
2 hours - 4 hours	18	4
More than 4 hours	7	1.5
Total	402	88.7
System	51	11.3
Total	453	100

With respect to the adequacy of water for daily family use, **57% of the respondents feel they always have enough water for household daily use, while 43% feel otherwise**. Across the slum neighbourhoods, respondents in Doka, Rigasa and Romi always feel they have enough water for daily use; but those at Sabo Tasha, Mando and Ungwan Gwari thinks otherwise as shown on Table 4.17.

Table 4.17: Adequacy of water for daily use in the locations

Community	**Yes**	**No**
Doka (N=71)	X	
Sabo Tasha (N=50)		X
Rigasa (N=27)	X	

Mando (N=20)		X
Ungwan Gwari (N=32)		X
Romi (N=20)	X	

4.4.4.2 Sanitation and Waste Disposal

Toilet facilities

Table 4.18 shows the toilet facilities used by the respondents. The water closet toilet system according to the respondents is the most prominent in the study area (56.5%). This is consistent with the fact that 57% believes they always have enough water, which suggests that water for toilet may not be a big problem. However, 32.8% still use the pit latrine system (32.8%), and 10.4% share toilet with other households respectively.

Table 4.18: Toilet Facility

Toilet facility	Freq	Percent
Water closet	255	56.5
Pit latrine	148	32.8
Toilet shared with other households	47	10.4
Bush/open area	1	0.2
Total	451	100

Waste disposal

Most of the respondents assert that they dispose their solid waste by taking them to the open waste dump (51.2%), giving them to cart pushers (31%) and giving them to government collectors (10%). Some people also dump in drainages (2.3%) as shown on Table 4.19. This is consistent with the ratings of waste management in the section of the general environment.

Table 4.19: Waste Disposal Methods Utilized

Waste disposal	Frequency	Percent
Take to open waste dump	230	51.2
Give to cart pushers	139	31
Give to government collectors	45	10
Store in the backyard	16	3.6
Throw into the gutters	13	2.9
Burn with fire	6	1.3
Total	449	100

4.4.4.3 Disease Outbreak and Disasters

Table 4.20 shows the experience of the respondents with regards to environment-related diseases or disasters. At least **one in five** respondents has ever experienced cholera and typhoid outbreak and about 10.4% have experienced flooding.

Table 4.20: Experience with Environment-Related Disaster or Diseases

Water and sanitation issues	Yes (%)	No (%)
Flood	10.4	89.2
Fire	13.3	86.3
Building collapse	5.3	93.9
Typhoid outbreak	19.9	79.8
Cholera outbreak	21.8	77.9
Diarrhea outbreak	6.4	92.8

4.5 NEEDS ASSESSMENT

4.5.1 Ranking of the Needs by the Respondents

Table 4.21 show the ranking of the major challenges which the sampled population want addressed to improve human living conditions in the study area. From this table, despite the fact that about 57% feels they always have enough water for daily use, water and electricity remains the most critical issue to living in the slum of Kaduna. This is followed by employment opportunities and need for roads improvement.

Table 4.21: Ranking of the Major needs

Facility	**Percentage**	**Rank**
Water	40.7	1
Electricity	39.2	2
Employment opportunities	12.6	3
Tarred Road	10.9	4
Health Facility	4.4	5
Town Hall	4.3	6
Postal office/ postal agency	3.3	7
GSM Facility	1.7	8
Cottage Industry	1.6	9
Tertiary Institution	1.5	10
Primary School	1.1	11
Market	1.1	11
Financial Institution	1	12
Housing Facility	0.6	13
Internet Facility	0.5	14
Secondary School	0.4	15

Samples across selected locations in the slum area show that water and electricity are the primordial challenges recognised by the communities. Road was also mentioned in Mando and primary school in Romi as shown on Table 4.22

Table 4.22: Ranking of Community Needs

Community Needs	Doka N=71	Sabo Tasha N=50	Rigasa N=27	Mando N=20	Ungwan Gwari N=32	Romi N=20
Water	2	1	2		1	
Electricity	1	2	1	1		
Tarred Road				2		
Primary School						1

4.5.2 Ultimate Need

Table 4.23 and Figure 4.8 show the results of the follow up questions on one major need that requires urgent attention and intervention to improve the slum conditions in Kaduna. Again, the four items –electricity, road, water and employment opportunities emerge as the key issues.

Table 4.23: One Necessary Facility Required to Function

Need	Frequency	Valid Percent
Electricity	108	24.8
Road Construction	102	23.4
Water	97	22.2
Employment opportunities	82	18.8
Health Facility	20	4.6
Education/school upgrading	8	1.8
Upgrade of infrastructures	7	1.6
Tertiary Institution	6	1.4
Security	5	1.1
Affordable Housing	1	0.2
Total	436	100

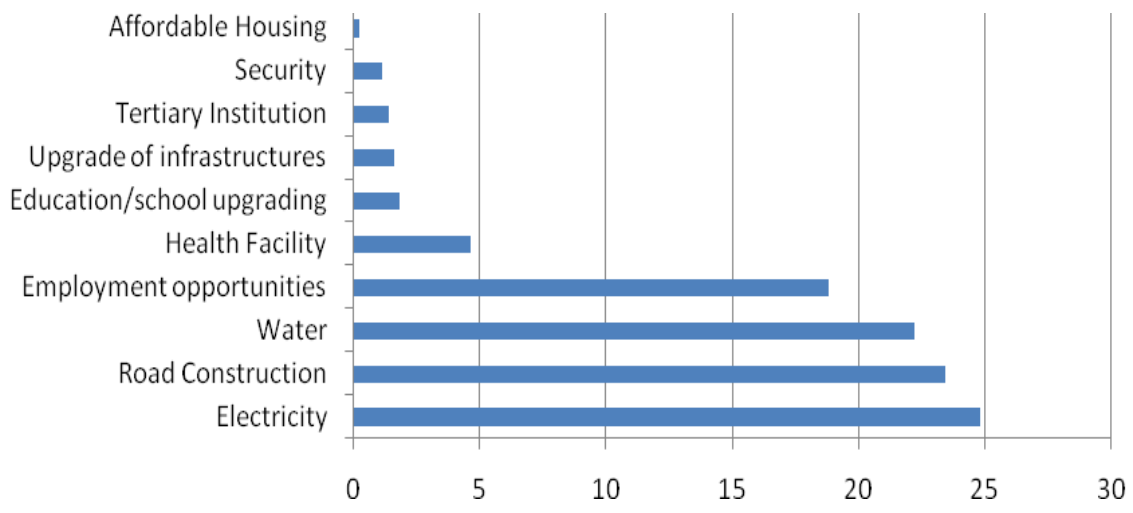


Figure 4.8: Major Problems of the Communities

Again at the selected locations, water is the number one desire in Rigasa, Mando and Ungwan Gwari. For Doka it is electricity, road rehabilitation in Romi and access to employment in Sabo Tasha as shown on Table 3.24

Table 4.24: One Necessary Facility required to function across selected solutions

Needs	**Doka N=71**	**Sabo Tasha N=50**	**Rigasa N=27**	**Mando N=20**	**Ungwan Gwari N=32**	**Romi N=20**
Water			X	X	X	
Electricity	X					
Tarred Road						X
Employment Opportunities		X				

Tables 4.21 to 4.24 thus highlight the needs, priorities and aspirations of the people who live in the identified slum areas to enable them improve their human living conditions. Hence, intervention strategies from the governments should aspire to go in this direction in order to secure the partnership of the communities and give them the sense of inclusiveness in making decisions that affect their own individual and communal lives.

4.5.3 Expected Intervention from Government

In terms of the expectation of the slum dwellers in their own words, employment provision comes top as shown on Table 4.25. This is followed by infrastructure upgrade (which includes road infrastructure, provision of power (electricity) and then water. These are same set of issues that have come out in consistently in this section on needs assessments of the communities.

Table 4.25: Expectations from the Government

Expectations	**Frequency**	**Percent**
Employment provision	173	38.9
infrastructure upgrading	90	20.2
Water	38	8.5
Low cost Housing	5	1.1
Market	1	0.2
Provision of soft loan	13	2.9
Good Road	40	9
Drainage	9	2
Power	47	10.6
Hospital	17	3.8
Security	7	1.6

Education	5	1.1
Total	445	100

In the selected locations across the Kaduna slums, employment provision is the most urgent thing required from government in Doka, Sabo Tasha, Rigasa, Mando and Romi. Others include water in Mando, road in Rigasa and electricity in Doka as shown on Table 4.26.

Table 4.26: Expected Role of Government in Slum Improvement from the selected locations

Needs	**Doka N=71**	**Sabo Tasha N=50**	**Rigasa N=27**	**Mando N=20**	**Ungwan Gwari N=32**	**Romi N=20**
Employment Provision	X	X	X	X		X
Infrastructural Upgrade					X	
Water				X		
Good Road			X			
Electricity/Power	X					

4.5.4 Willing Contribution from Communities

Contribution from communities – On what the communities are willing to contribute to partnership with the government in improving the human conditions of slum dwellers in Kaduna, significant majority are willing to enlighten other community members to support government efforts. 62.5% will mobilise others to contribute to government efforts, while about 35% are willing to contribute their personal labour free to the cause of improving lives in their slums (Table 4.27)

Table 4.27: Willing Contributions from Communities

Suggested Contributions	Frequency	Percentage
Volunteer Professional Service	46	10.2
Paid professional service	64	14.1
paid personal labour	77	17
Volunteer personal labour	157	34.7
Personal Financial contribution	99	21.9
Mobilizing other community members to contribute	283	62.5
Enlighten other community members to support government effort	328	72.4

The results from these social surveys from the identified slums strongly suggest that the slum dwellers understand the challenges militating against their human wellbeing. They also understand what needs to be done to improve their living conditions. But obviously some of these issues such as provision of water and electricity and improvement of the road conditions are well beyond their capability. They are also willing to partner and support government efforts. This willingness is an important goodwill and asset which

the government can use as the springboard to institute inclusive slum improvement and upgrading strategies in these communities.

4.6 FOCUS GROUP DISCUSSION AND KEY INFORMANT INTERVIEWS IN KADUNA

1. Structure

Key informants, community leaders and focus groups engaged in different slum areas include:

- Alhaji Mohammed Innua Abubakar, The Seriki of Shagari Low Cost Housing Estate, Barnawa)
- Alhaji Amini Saidi, The Chairman of the Abattoir Association, Sabo Gari, Kaduna South.
- Men, women, youth and association leaders in Tudun Wada
- Men, women, youth and association leaders in Chikun

2. Highlights

A. KII

Mohammed Innua Abubakar, Seriki of Shagari Low Cost Housing Estate, Barnawa, believes that water and electricity supply to the estate is good. There are a number of private facilities such as schools, hospitals, church, mosque, petro/gas station, financial institution. But the conditions of roads and drainage are bad. In addition, the estate lacks public toilets, street lights, public primary schools, public secondary schools, public health centre and abattoir, among others. The sanitation and health care conditions in critical.

Alhaji, Amini Saidi, Chairman of the Abattoir Association In Sabo Gari, Kaduna, said that none of the facilities in the abattoir is functional. He also noted that the access road to the abattoir is very bad. He described water as one the critical factors they contend with.

B. FGD

<u>Tudun Wada</u>

The FGD in Tudun Wada included men, women, and youth and association leaders in Tudun Wada area.

- **Major occupation**: trading.
- **Community associations and efforts**: religious-based; they assist in maintaining social amenities such as drainage channels and organizing themselves into vigilante groups to provide security.
- **Conditions of facilities**: generally bad. These range from bad road condition and poor motorable and pedestrian access to the buildings, poor drainage channels etc. Solid waste disposal and traffic congestion are in worse conditions.
- The following facilities are present, but in bad conditions: public water supply, electricity supply, refuse collection point, public primary school, public secondary schools, private primary schools, private secondary schools, market, public health centre, police post and post office.
- The following facilities are not available: recreation or relaxation facilities, children playground, road side walks, public toilet facility, and trees on the street, street lights and civic centre. Only the private facilities are good.

- **Expectations from the government:** General improvement of the infrastructural facilities; Widening of some drainage channels and constructing new ones in some areas.

Angwa Yelwa and Television Village

- The FGD included men, women, youth and association leaders in Angwa Yelwa and Television Village.
- The general opinion - no government impact in the communities.
- Individuals provide own water supply through borehole and the community maintains the streets.
- Main expectation from the government - improving infrastructural facilities especially waste collection and disposal, road construction and maintenance, and provision of water and electricity.

3. Conclusions

The catalogue of complaints and expectations from the community leaders and groups agrees with the results from household surveys. ***Water, sanitation and health care are generally in poor situation. Public schools and waste management and road condition are also in bad shape. The priorities listed by the different groups align with the overriding priorities and needs of the communities which are provision of water, electricity, road improvement, employment opportunities and improvement of health facilities***.

The full report of the FGD AND KII conducted in Kaduna is found in appendix III.

Plate 4.5: A KII being

Plate 4.6: After an FGD in Kaduna

4.7 STATUS OF INFRASTRUCTURE IN SLUM AREAS OF KADUNA

Figure 4.9 shows the spatial pattern of facilities in Kaduna city, while Table 4.28 shows the names and types of facilities present in the communities.

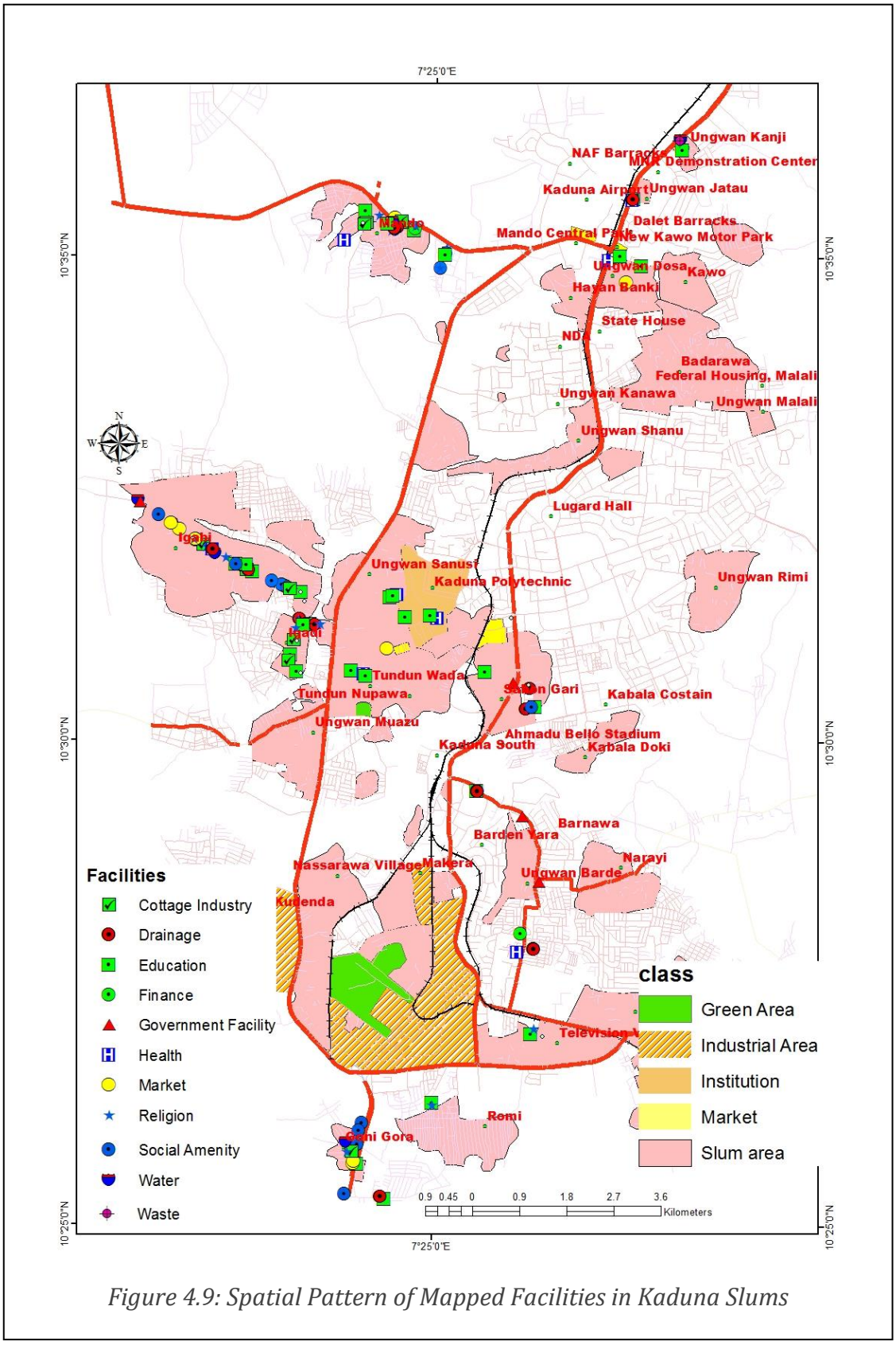


Figure 4.9: Spatial Pattern of Mapped Facilities in Kaduna Slums

Table 4.28: Names and types of facilities present in the communities

S_N	State	LGA	Community	Facility	Facility Code	Long	Latitude	Ownership
1	Kaduna	Igabi	Mando	Divine Victory Schools	Education	7.412765	10.587787	Private
2	Kaduna	Igabi	Mando	Unity Bank	Finance	7.413095	10.588177	Private
3	Kaduna	Igabi	Mando	Road	Road	7.413115	10.588572	State Government
4	Kaduna	Igabi	Mando	Mosque	Religion	7.413238	10.588573	Community
5	Kaduna	Igabi	Mando	CAC Church, Oke-Iyin	Religion	7.418615	10.584793	Community
6	Kaduna	Igabi	Mando	Communications Shop/Mast	Social Amenity	7.418367	10.583987	Private
7	Kaduna	Igabi	Mando	Nazareth Baptist School	Education	7.418195	10.583610	Private
8	Kaduna	Igabi	Mando	Bajju Community Town Hall	Social Amenity	7.417432	10.581433	Community
9	Kaduna	Igabi	Mando	The Apostolic Church	Religion	7.417433	10.581422	Community
10	Kaduna	Igabi		Abdul Karim Model School	Education	7.393387	10.525495	Private
11	Kaduna	Igabi		Kachia Road	Road	7.393398	10.525525	Public
12	Kaduna	Igabi		Mosque	Religion	7.392078	10.525912	Community
13	Kaduna	Igabi		Ram Market	Market	7.390548	10.526612	Public
14	Kaduna	Igabi		Community Resource Centre	Social Amenity	7.390095	10.526805	Community
15	Kaduna	Igabi		Cambridge International College	Education	7.384882	10.529092	Private
16	Kaduna	Igabi		Block Industry	Cottage Industry	7.383878	10.529445	Private
17	Kaduna	Igabi	Mando	Madrasatu Hayatul Primary School	Education	7.404335	10.591272	Private
18	Kaduna	Igabi	Mando	Refuse Dump	Waste	7.404923	10.589312	Community
19	Kaduna	Igabi	Mando	Block Industry	Cottage Industry	7.404615	10.589233	Private
20	Kaduna	Igabi	Mando	Fine Wood Seller	Cottage Industry	7.404220	10.589025	Private
21	Kaduna	Igabi	Mando	Road	Road	7.403880	10.589083	Public
22	Kaduna	Igabi	Mando	Dami Clinic and Maternity	Health	7.400660	10.586268	Private
23	Kaduna	Igabi	Mando	Mosque	Religion	7.406800	10.590382	Community
24	Kaduna	Igabi	Mando	Block Industry	Cottage Industry	7.410617	10.589252	Private

S_N	State	LGA	Community	Facility	Facility Code	Long	Latitude	Ownership
25	Kaduna	Igabi	Mando	Shopping Complex	Market	7.409417	10.590082	Private
26	Kaduna	Igabi	Mando	Firewood	Cottage Industry	7.410627	10.589473	Private
27	Kaduna	Igabi	Mando	Drainage	Drainage	7.409895	10.588440	Public
28	Kaduna	Igabi	Mando	Mosque	Religion	7.409468	10.589232	Private
29	Kaduna	Igabi	Mando	Water Tank	Water	7.409067	10.589388	N/A
30	Kaduna	Igabi	Mando	Handpump Borehole	Water	7.409532	10.587983	N/A
31	Kaduna	Igabi	Mando	Mosque	Religion	7.408887	10.587800	Community
32	Kaduna	Igabi	Mando	Drainage	Drainage	7.409340	10.588395	Public
33	Kaduna	Igabi	Mando	Alyaqin Islamic Academy	Education	7.408093	10.588977	Private
34	Kaduna	Igabi	Mando	Road	Road	7.408195	10.589725	Public
35	Kaduna	Igabi		Public Water	Water	7.364957	10.541272	Community
36	Kaduna	Igabi		Power Holding Company	Government Facility	7.365355	10.541072	Private
37	Kaduna	Igabi		Public Water	Water	7.370757	10.537268	Private
38	Kaduna	Igabi		Market	Market	7.372030	10.536390	Public
39	Kaduna	Igabi		Dangote Cement Shop	Cottage Industry	7.376278	10.533677	Private
40	Kaduna	Igabi		Mosque	Religion	7.377025	10.533295	Community
41	Kaduna	Igabi		Drainage/Road	Drainage	7.384177	10.529377	Public
42	Kaduna	Igabi		Petrol Station	Social Amenity	7.388370	10.527510	Private
43	Kaduna	Igabi		Post Office	Social Amenity	7.391087	10.526338	Public
44	Kaduna	Igabi		Block Industry	Cottage Industry	7.391445	10.526223	Private
45	Kaduna	Igabi		Abuja Road	Road	7.394042	10.523930	Public
46	Kaduna	Igabi		Canal	Drainage	7.393177	10.521060	Public
47	Kaduna	Igabi		Islamic Religious Centre	Religion	7.393095	10.520798	Community
48	Kaduna	Igabi		Isburo School	Education	7.394977	10.520037	Private
49	Kaduna	Igabi		Drainage	Drainage	7.395742	10.520062	Public
50	Kadun	Igabi		Mosque	Religion	7.396792	10.520005	Community

S_N	State	LGA	Community	Facility	Facility Code	Long	Latitude	Ownership
	a							
51	Kaduna	Igabi		Waste Dump	Waste	7.394220	10.520127	Public
52	Kaduna	Igabi		Mechanic Workshop		7.393930	10.519993	Private
53	Kaduna	Igabi		NP School	Education	7.393807	10.519937	Public
54	Kaduna	Igabi		Mosque	Religion	7.392625	10.519397	Private
55	Kaduna	Igabi		Molad bottle H20	Cottage Industry	7.392152	10.517455	Private
56	Kaduna	Igabi		Hayim Mallam Bello	Road	7.392765	10.517112	Public
57	Kaduna	Igabi		Merit Academy	Education	7.391498	10.514787	Private
58	Kaduna	Igabi		Wood Depot	Cottage Industry	7.391237	10.513823	Private
59	Kaduna	Igabi		Maryyah Model School	Education	7.392663	10.511863	Private
60	Kaduna	Igabi		Bridge	Road	7.393475	10.511640	Public
61	Kaduna	Igabi		LEA Primary School	Education	7.451082	10.593403	Private
62	Kaduna	Kaduna North		UNG Gwari Primary Health Clinic	Health	7.450857	10.593277	Local Government
63	Kaduna			Drainage	Drainage	7.450903	10.593408	Public
64	Kaduna		Ugwa Kanji	HEA Primary School	Education	7.459588	10.601802	Private
65	Kaduna		Ugwa Kanji	Public Water	Water	7.459265	10.603725	Public
66	Kaduna		Ugwa Kanji	Waste Dump	Waste	7.459193	10.603492	Public
67	Kaduna	Kaduna South		Kagoro LEA Primary School, Sabon Garin Tudun Wads	Education	7.402143	10.512070	Local Government
68	Kaduna	Kaduna South		Salamatu Hospital	Health	7.404272	10.511575	Private
69	Kaduna	Kaduna South		Mosque at Matazu	Education	7.404652	10.511192	Community
70	Kaduna	Kaduna South	Tudin Wada	Yusuf Dantosho Memorial General Hospital	Health	7.417130	10.521160	State Government
71	Kaduna	Kaduna South	Tudin Wada	Kaduna Polytechnic	Education	7.415927	10.521563	Federal Government
72	Kaduna	Kaduna South	Tudin Wada	Polytechnic Road Primary School	Education	7.411487	10.521368	Local Government
73	Kadun	Kaduna	Unguwan	G. Girls	Educatio	7.408913	10.524762	Public

S_N	State	LGA	Community	Facility	Facility Code	Long	Latitude	Ownership
	a	South		Secondary T/W	n			
74	Kaduna	Kaduna South	Unguwan Sanusi	Model Primary Health Care	Health	7.410043	10.525215	Local Government
75	Kaduna	Kaduna South	Unguwan Sanusi	GLGA Maimuna Aguranzo Primary School	Education	7.409403	10.524933	Local Government
76	Kaduna	Kaduna South	Unguwan Sanusi, Ibrahim Taiwo Road	Kasuwan Barc Market	Market	7.408393	10.515857	Public
77	Kaduna	Kaduna North	Kawo	General Hospital Kawo	Health	7.446735	10.582922	State Government
78	Kaduna	Kaduna North	Kawo	Sabin Birni Road	Road	7.447415	10.583868	State Government
79	Kaduna	Kaduna North	Kawo	Kawo Model Primary School	Education	7.448758	10.583545	Local Government
80	Kaduna	Kaduna North	Kawo	Moshacashi (Kawo New Expansion)	Road	7.457295	10.581685	State Government
81	Kaduna	Kaduna North	Kawo	Aileon International School	Education	7.452423	10.581878	Private
82	Kaduna	Kaduna North	Kawo	Kawo Market, Sabo Maijaki Road	Market	7.449870	10.579147	Public
83	Kaduna	Igabi	Igabi	Ummul Qura Academy	Education	7.383740	10.530177	N/A
84	Kaduna	Igabi	Igabi	Khalifa Comprehensive School	Education	7.381935	10.530312	N/A
85	Kaduna	Igabi	Igabi	Motor Park	Social Amenity	7.382058	10.530310	Public
86	Kaduna	Igabi	Igabi	Mosque	Religion	7.380305	10.531505	Community
87	Kaduna	Igabi	Igabi	Road	Road	7.378323	10.531960	Public
88	Kaduna	Igabi	Igabi	Public water	Water	7.378380	10.532202	Public
89	Kaduna	Igabi	Igabi	Yalwa Nusrsing and Maternity	Health	7.377822	10.532967	Public
90	Kaduna	Igabi	Igabi	Drainage	Drainage	7.377930	10.532890	Public
91	Kaduna	Igabi	Igabi	Road	Road	7.375687	10.534055	Public
92	Kaduna	Igabi	Igabi	Shopping Mall	Market	7.374915	10.534553	Private
93	Kaduna	Igabi	Igabi	Mosque	Religion	7.374880	10.534578	Community
94	Kaduna	Igabi	Igabi	Shops	Market	7.374817	10.534607	Private
95	Kaduna	Igabi	Igabi	Mosque	Religion	7.374745	10.534660	Community

S_N	State	LGA	Community	Facility	Facility Code	Long	Latitude	Ownership
96	Kaduna	Igabi	Igabi	Road	Road	7.374465	10.534812	Public
97	Kaduna	Igabi	Igabi	Ram Market	Market	7.370620	10.537360	Public
98	Kaduna	Igabi	Igabi	Kanoh Oil Petrol Station	Social Amenity	7.368473	10.538838	Private
99	Kaduna	Kaduna South	Barnawa	Kaduna Polytechnic College of Environmental Studies	Education	7.424193	10.491497	Federal Government
100	Kaduna	Kaduna South	Barnawa	Filling Station	Social Amenity	7.424287	10.491458	Private
101	Kaduna	Kaduna South	Barnawa	Drainage on Aliyu Makama Road	Drainage	7.424287	10.491447	Public
102	Kaduna	Kaduna North	Doka	Drainage on Oshogbo/Oyo Road	Drainage	7.432722	10.505712	Local Government
103	Kaduna	Kaduna North	Doka	L.E.A Primary, Maiduguri Road	Education	7.434310	10.505895	Local Government
104	Kaduna	Kaduna North	Doka	Computer House	Social Amenity	7.433783	10.505957	Local Government
105	Kaduna	Kaduna North	Doka	Kaduna North Secretariat	Government Facility	7.430543	10.510168	Local Government
106	Kaduna	Kaduna North	Doka	Central Mosque	Religion	7.433150	10.508968	Local Government
107	Kaduna	Kaduna North	Doka	Maiduguri Road (Drainage)	Drainage	7.433362	10.509167	Local Government
108	Kaduna	Kaduna North	Doka	Maiduguri/Dayva Road	Road	7.433232	10.509678	Local Government
109	Kaduna	Kaduna North	Doka	Katsina Road Primary School	Education	7.425525	10.511882	Local Government
110	Kaduna	Kaduna North	Doka	Road	Road	7.430047	10.521285	Local Government
111	Kaduna	Chikun	Gonin-Gora	Overcomers Academy	Education	7.408335	10.421172	Private
112	Kaduna	Chikun	Gonin-Gora	Living Faith Foundation Church	Religion	7.403712	10.427110	Private
113	Kaduna	Chikun	Gonin-Gora	Petrol Station	Social Amenity	7.401498	10.422087	Private
114	Kaduna	Chikun	Gonin-Gora	Gutter	Drainage	7.407673	10.421660	Private
115	Kaduna	Chikun	Gonin-Gora	Cedar Academy	Education	7.403473	10.427142	Private
116	Kaduna	Chikun	Gonin-Gora	Market	Market	7.402815	10.427260	Community
117	Kaduna	Chikun	Gonin-Gora	Gonigore Market	Market	7.403040	10.427748	Community

S_N	State	LGA	Community	Facility	Facility Code	Long	Latitude	Ownership
118	Kaduna	Chikun	Gonin-Gora	God Exalts Petrol Station	Social Amenity	7.403588	10.430538	Private
119	Kaduna	Chikun	Gonin-Gora	Oando Petrol Station	Social Amenity	7.404422	10.434228	Private
120	Kaduna	Chikun	Gonin-Gora	Sharon Petrol Station	Social Amenity	7.403957	10.432907	Private
121	Kaduna	Chikun	Gonin-Gora	Metal Company	Cottage Industry	7.402712	10.429452	Private
122	Kaduna	Chikun	Gonin-Gora	Cheribum and Seraphim Church	Religion	7.401978	10.429262	Private
123	Kaduna	Chikun	Gonin-Gora	Solar Powered Borehole	Water	7.401605	10.430938	
124	Kaduna	Chikun	Vng. Romi	Better Future School	Education	7.416550	10.437778	Private
125	Kaduna	Chikun	Vng. Romi	Faith Baptist Church	Religion	7.416717	10.437375	Private
126	Kaduna		Unguwar Yelwa, Majelisa Road	Road (Dilapidated Tarred Road)	Road	7.435872	10.449210	Public
127	Kaduna		Iyaka Street, Unguwar Yelwa	ECWA Church, Nusery and Primary School	Education	7.433842	10.449640	Private
128	Kaduna		Iyaka Street G18	United Church of Christ	Religion	7.434393	10.450590	Community
129	Kaduna	Kaduna South	Barnawa	Federal Neuro-Psychiatric Hospital	Health	7.431380	10.463827	Federal Government
130	Kaduna	Kaduna South	Barnawa	GT Bank	Finance	7.431973	10.466933	Private
131	Kaduna		Zazzau Road	Community Playground, Shagari Low cost	Social Amenity	7.434252	10.464350	Federal Government
132	Kaduna	Kaduna South		Drainage	Drainage	7.434245	10.464378	Federal Government
133	Kaduna	Kaduna South	Barnawa	FRCN Quarters	Government Facility	7.435287	10.475892	Federal Government
134	Kaduna	Kaduna South	Barnawa	Prison Staff Quarters	Government Facility	7.432227	10.487188	Federal Government

CHAPTER FIVE

SUMMARY OF OUTCOMES, SLUM REDEVELOPMENT STRATEGY, RECOMMENDATIONS AND MONITORING AND EVALUATION PLANS

5.1 INTRODUCTION

Deficiency in infrastructure and related basic services (power supply, water and sanitation, roads and public transport, solid waste disposal) and lack of ability to generate employment is a central challenge for the slum areas across Kaduna. For the slums to achieve their full potentials as thriving centres with improved human living conditions, well-targeted investment in improving the environmental conditions and urban basic infrastructures is an essential element. The impacts of infrastructure deficiencies are very acute in these slum areas. There is a lack of access to basic municipal services which further exacerbate individual and household family poverty levels and thus aggravating other composite vulnerabilities. Experiences from these slum areas in Kaduna suggest that the possibility of meeting the target of the Millennium Development Goals (MDG), which winds down in 2015, especially with regards to halving the proportion of people without adequate access to water and sanitation services looks very unrealistic in these slums.

The thrust of this section of the report is to summarise the outcomes from the identified slums of Kaduna, assess the assets and threats available to the slum areas and suggest some slum upgrading and human lives improvement strategies to improve the performance of human well-being in these slums.

5.2 SUMMARY OF OUTCOMES

This project on slum identification and needs assessment study of Kaduna is part of the effort by the Department of Urban and Regional Development (DURD) of the Federal Ministry of Lands, Housing and Urban Development (FMLHUD) to begin the study of Nigerian cities with the view to collecting, collating, analyzing and synthesizing data on slums and blighted areas and to propose inclusive renewal strategies and prioritize implementation action plans and programmes.

The Specific Terms of Reference as Stated by the DURD are:

- Identification and delineation of the slum areas
- Provision of site photographs of the slum areas
- Preparation of an overview of the physical characteristics including housing conditions, drainages, roads, schools, health centres, abattoirs, sewage, solid and liquid waste collection and disposal points, places of worship, markets, civic centres and playgrounds, etc.
- Assessment and analysis of basic infrastructures and services required by the inhabitants to uplift their living conditions

- Preparation of strategic proposal using phased development method for improving slum conditions
- Provision of evaluation and monitoring strategies for successful implementation of projects

The study utilized both the remote sensing and social surveys approaches to data collection and analysis. The activities carried out include desk review and literature search; collation of physical and social criteria for slum identification; collation, processing and analysis of maps and satellite imageries; delineation of candidate slum clusters and preliminary slum area maps; field work planning and field reconnaissance; field social surveys including questionnaire administration and FGD and KII; GPS and photographic campaign; data analysis and integration; in house stakeholders validation workshop, and drafting of the final reports.

The followings are the summary of the findings:

- Kaduna city has been expanding at about 4.5% per annum
- About 42 slum clusters (delineated based on major routes and standalone basis) covering **about 4,916ha or 49.16 km^2 with a perimeter of about 205.6km** were delineated in Kaduna.
- The slum area represents **about 15.7%** of the entire built up lands of Kaduna City in 2014
- Every kinds and stages of slum formation - from infancy, consolidation and maturity to gradual degradation of formal housing and social filtering processes and a variety of informal housing development processes either incremental and structured, incremental and unstructured, sudden and structured, sudden and unstructured –are found in Kaduna
- While some may have developed as a result of closeness to industrial areas (especially south of the Kaduna river), some others developed as a result of degradation of formal housing and re-densification of originally planned areas. The most unique are those that developed as individual towns (i.e. Kaduna urban villages).
- Trading or business dominates the major occupation or source of livelihood
- Strong social network, 92% belongs to a group or association
- 71.3% of the houses are constructed of concrete
- On environmental indicators, planning of the area, building appearance, number of people living in a building, and motorable access to building were rated good. All other indicators receive either poor or bad ratings
- On the condition of basic infrastructures, recreation facilities, children playground, road side-walks, trees on the street, public toilets, street lights, refuse collection points, civil centre, post office and abattoir are rated as not available. Public water supply, electricity, public primary and secondary schools, and markets were rated as been in very bad shape.

- On common issues, food, being able to perform spiritual and cultural rituals and communication are rated as good. Water, sanitation, access to means of livelihood, housing, fuel for cooking, health care, children school, and transportation were adjudged to be poor. Sanitation and toilet facilities and security were considered to be in bad condition
- Pipe borne water remains the major source of water relied on for drinking. A significant population also relies on sachet water.
- 57% of the respondents feel they always have enough water for household daily use, while 43% feel otherwise
- Majority of the population (56.5%) use the water closet toilet system
- Open waste dump remains the means for waste disposal for majority (51.2%) of the population
- At least one in five respondents has ever experienced cholera and typhoid outbreak and about 10.4% have experienced flooding
- Water, electricity, access to means of livelihood and road rehabilitation are the most critical issue to living in the slum of Kaduna and remain the key issues requiring urgent attention
- Access to the means of livelihood and infrastructure upgrade are the key expectations from the government
- Enlighten other community members to support government efforts, mobilise others to contribute to government efforts, and voluntary personal labour are the assets the slum dwellers are willing to contribute in partnership with other stakeholders.

5.3 SUSTAINABLE LIVELIHOOD ASSETS AND THREATS IN THE SLUMS

The need to make use of land, infrastructure, and other natural, social, human, cultural and financial resources in the most efficient, cost effective and sustainable way is important for sustainable slum upgrading and improvement of human living conditions. All slum upgrading plans should have strong physical, cultural and social connections. The inclusive or sustainable livelihoods approach is important to this. This participatory approach enables the slum dwellers to own the whole process of redevelopment and human living conditions improvement from the onset and to deploy their local assets to keep the system running once it is set in motion.

The sustainable livelihoods approach focuses on the human livelihood as capabilities, assets and activities required by people for a means of living. It deals with the end-point and final resting place of policy, planning, projects, interventions and investment which is improvement in human living conditions. A sustainable slum improvement or re-development strategy must create a context in which sustainable development and livelihoods can flourish. This is where the assets possessed by the people as a community and user of urban infrastructure become important. A livelihoods approach is useful in recognising the needs of different income groups and inequality of

provision. It allows attention to be focussed on people's own definitions of deprivation – which in this case means a lack of, or little access to, basic urban infrastructure and services.

Thus, in proposing inclusive slum re-development and human living conditions improvement strategy, it is important to consider the peculiarities of Kaduna with respect to the natural, physical, social, cultural and economic assets that can be tapped into, as well as the threats that must be addressed. These assets which can be harnessed by the community help to turn the wheel of improvement once the process is instituted. It is also important to consider the priorities and aspirations of the people – what do they consider the important or pressing issues to improving their living conditions - in order to guarantee cooperation and partnership.

Table 5.1 summarises the assets base and Table 5.2 summarises the threats for the slums in Kaduna.

Table 5.1: Identified asset Base for the Slums in Kaduna

Asset	**Kaduna**
Economic	▪ Large informal sector economy ▪ Great resilience and capacity for diversification ▪ 70% earn above N25,000 monthly income
Physical	▪ 71% of houses constructed of concrete
Human	▪ Generally significant population ▪ Significant virile household heads – 26-45 years ▪ Large Literate population – only 1.3% had no formal education
Natural	▪ Possibility of development in the western flank, and also in the east with new bridges being constructed ▪ River Kaduna – presents enormous potentials for floodplain agriculture and river park ecotourism
Social	▪ Good social network – 92% belongs to one association or another ▪ Engaged in community self-help projects ▪ Long term commitment -46.5% are landlords ▪ 85.3% of the landlords have access to tenure ▪ Willingness to volunteer personal labour ▪ Willingness to engage in community mobilization and enlightenment ▪ Willingness to make financial contributions
Cultural	▪ Historic city ▪ Renown administrative and military center ▪ Well mixed population with great diversity ▪ Strong traditional community identity ▪ Close to the Ahmadu Bello Stadium – potential for sports tourism

Table 5.2: Identified Possible Threats for the Slums in Kaduna

Threat	**Kaduna**
Economic	▪ 30% still earn less than N25,000/month

Physical	▪ Rapid spatial expansion – 4.5% pa ▪ 25% of houses constructed of mud
Human	▪ Relatively high density in Kaduna urban villages ▪ Large household size – about 75% has more than 4 persons per household
Natural	▪ Slum clusters close to the Kaduna River floodplain (e.g. Ungwan Rimi, Kabala Doki and Barnawa) risk flooding at high flow
Social	▪ Explosive mix of population – frequent ethnic and religious clashes

5.4 SUSTAINABLE SLUM REDEVELOPMENT STRATEGY

The task of redeveloping an existing slum is a complex challenge because it presents a completely different scenario in comparison with developing a virgin area that would ordinarily grant room for flexibility. The people who live and work in slum areas have feelings and aspirations which must be respected. The goal of slum redevelopment and upgrading should thus address poverty alleviation, decentralization and governance and propagate rights based approaches to providing basic urban services, improve the livelihoods and impact maximally on the state of people living and working in slums and not to increase their agony through drastic and draconian measures.

The Federal Government of Nigeria's National urban development policy aims to improve the living standards of the Nigerian people, by facilitating adequate, efficient and functional service delivery. This is to be achieved by providing infrastructure developed to design standards that make urban facilities and amenities more affordable, through investments.

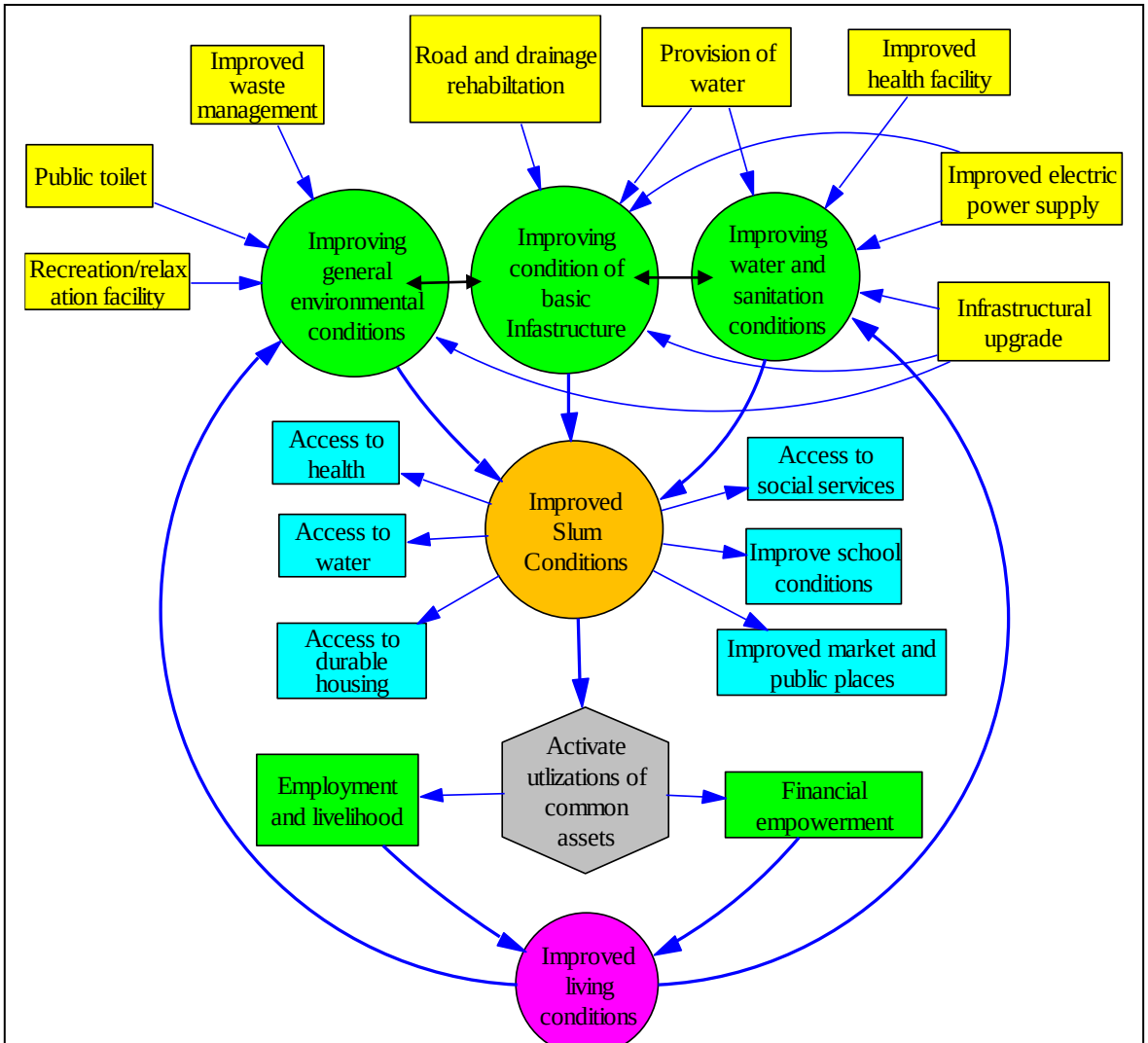
The identified slum areas in Kaduna face three key urban challenges. These are:

- The need to invest in upgrading the slums with the insertion of physical and social infrastructure (which are currently lacking or in serious decrepit state) to bring them up to a basic living standard.
- The need to invest in regeneration of the slum areas to bring infrastructure and buildings that have suffered neglect, including renewal where original functions have been lost and/or decline or progressed to the point of no return.
- The need to invest in local economic development and empowerment by activating the local assets to create jobs and improve livelihood, financial independence and living conditions. This will feed-back into the system to contribute to maintenance of physical and social infrastructure and restoration and maintenance of restoration of urban functions.

The provision of basic infrastructure, such as water and sanitation, is an entry point to slum upgrading. The main dimensions of improving the lives of slum

dwellers refer to access to water and sanitation, secure tenure, durability of housing and ensuring sufficient living area. According to the UN-Habitat (2008), these are to be achieved by guaranteeing accountable urban governance, promoting a leading role for local authorities, supporting decentralization and local democracy, building partnerships to deliver basic services, empowering the urban poor, developing innovative financial systems, motivating leadership at all levels, and funding large-scale slum upgrading. This underscores that every tier of governments is important and has a role to play in slum upgrading and redevelopment. In addition, the roles of other stakeholders from the local community based organizations, private sectors, to the international development partners are also critical to the success of any slum upgrading strategy.

Figure 5.1 shows the strategy to address slum challenges and improve human performance systems in the slums of Kaduna. This has been termed as the flywheel of slum improvement and prosperity.



From the systems analysis point of view, addressing the urban basic facilities including road and drainage, water, electricity, health facility, public toilet, waste management and recreation facility, among others, is the ***entry point or preconditions*** into slum upgrading. As a first level platform, these have to be provided by the government and its agencies, with support from other stakeholders including the private sectors, volunteer organizations and international development partners. At this stage, the slum dwellers will begin to benefit in terms of employment and utilisation of community contracting to implement small infrastructure works. Generally, community contracting where community members are hired to do the construction work using labour-based methods provide job opportunities for the community members and it is cheaper for the government on the long run. This, in turn, enables the slum community members to earn an income, and hence to improve their livelihoods, or to invest in improved housing and infrastructure.

This first platform of providing these basic services is ***a trigger or preconditions*** to addressing the key challenges and human aspirations within the slum areas. These key aspirations or ***desired conditions*** are: improving the general environmental conditions, improving the conditions of basic infrastructure and improving water and sanitation conditions. These are interconnected and take inputs from all the urban basic services. Slums represent composite condition resulting from breakdown or degradation of many urban basic infrastructure and services. The combination of the three desired conditions will lead to general improvement in slum conditions which will translate into improvement in human well-being. At the level of individuals and households, it will ***generate living benefits*** which provide improved access to water and sanitation, health, social services, housing and education, among others.

This improved slum conditions is expected to improve the social and psychological well-being of the slum dwellers and enable the ***individuals and community to activate the development and utilization of common assets*** (physical, natural, economic, social and cultural). At this stage, the slum communities would begin to organise themselves into groups and cleavages, actively participate in decision making concerning them, and take charge of

their own needs related to housing, services and infrastructure. It is also expected that they will begin to establish project management committees that will monitor and coordinate the implementation of project activities at the local level. It is also expected that the communities will organize themselves to be involved in the construction, operation, and maintenance of the facilities provided in order to gain maximum benefits. This activation stage is expected to lead to ***socio-economic benefit stage*** with improved access to employment and livelihoods opportunities and improved financial independence and economic prosperity among the slum dwellers. In essence, individuals and households living conditions are expected to improve considerably.

This prosperity or socio-economic benefit stage is expected to lead to a ***sustainable improved living condition stage*** where improved individuals and households living conditions will feed back into the system and cause individuals and households to contribute maximally to improvement in environmental, basic infrastructure and water and sanitation conditions. The cycle will then go on and thus spins the flywheel of slum improvement and prosperity faster and faster.

5.5 RECOMMENDATIONS

This study has profiled the physical and social state of slum areas in the city of Kaduna. The goal of slum redevelopment and upgrading is expected to address poor urban basic facilities and services, the high incidence of poverty, civic duty and responsibility, decentralization of governance to include the communities and all those who live and work in the slum, as well as the issue of rights based approaches to providing basic urban services where the slum dwellers will own the process to improve their conditions and livelihoods. Further recommendations should thus include strategy for participatory planning at neighbourhood levels and participatory implementation at community level.

These points are known to the Federal Government of Nigeria and in particular, the FMLHUD as the driver of good urban development, management and governance in Nigeria. Delivering the keynote address at the National Housing and Slum Summit, the Vice President of the Federal Republic of Nigeria, Arc. Namadi Sambo submits: ***for a more holistic approach to slum reduction, there is the need for proper planning of urban places, broad-based improvement efforts based on creating economic opportunities for the residents and respect for the rule of law. People who live in slums have emotional attachment to their poor homes and better choices must be offered to goad them into relocating in instances when drastic slum improvement measures are implemented.***

Beyond the efforts of the Federal tier to confront the slum challenge, the Vice President recognised the role of balanced inter-agency collaboration

amongst all stakeholders as well strengthening of institutions responsible for implementing planned initiatives. He expressed strong preference for continuous engagements and dialogue with affected slum residents as well as inclusion of issues related to the allocation of financial and human resources in the projects. That is inclusive governance in slum upgrading. The physical approach of evicting slum dwellers under the guise of slum redevelopment is contrary to the principle of human development, inclusive governance and participatory slum upgrading. The hard approach of eviction and relocation should be seen as the last option and should be done only when alternatives that are in consonance with the emotional and social aspirations of slum dwellers have been offered. Authorities concern should be ***planning with*** the slum dwellers and not plan ***for them***.

Based on the findings, the following recommendations are suggested for implementation on the short term (immediate to 3 years), medium term (3-6 years), and long term (6-9 years) time-line.

Short-Term (Immediate To 3 Year)

SN	Recommendations	Objectives	Performance Indicators	Implementation Authority
1	Mobilization and sensitization of stakeholders – State Government, Local Government and the communities about the slum development Master Plan.	To create the synergy and establish partnership` between all the stake holders (including development partners, NGOs, the private sector and the community)	Agreed blue print for slum upgrading and livelihood improvement	FMLHUD and other institutional stakeholders

2	Immediate intervention in water provision through motorized or tanker-supplied potable drinking water.	To provide temporary relief measures with the view to reducing the suffering on access to drinking water thereby improving the water and sanitation conditions	Temporary improvement in access to drinking water	Kaduna State Government and the LGAs – Kaduna North, Kaduna South, Chikum and Igabi
3	Immediate rehabilitation and upgrading of roads and streets through direct labour.	Improve accessibility to the slums. To create livelihood opportunities for slum dwellers.	Improvement in road and street conditions	FMLHUD and Kaduna State Government (In Partnership With LGA and Communities)
4	Immediate clearance of drainage and gutters through direct labour.	To improve the general environmental conditions. To create livelihood opportunities for slum dwellers	Improved, clean and free flowing drains	Kaduna State Government (In Partnership With LGA and Communities)
5	Immediate clearance of refuse in open and public places including market areas through direct labour	To improve the general environmental conditions. To create livelihood opportunities for slum dwellers	Clean environment	Kaduna State Government (In Partnership With LGA and Communities)
6	Urgent provision of public toilet facilities to improve sanitation	To improve the water and sanitation conditions	Increase in number of people with access to improved toilet facility	Kaduna State Government and the LGAs concerned.
7	Repair and rehabilitation of structures in primary and secondary schools and healthcare facilities especially in the slum areas of southern Kaduna.	To improve the health and sanitation conditions To create livelihood opportunities for local artisans	Improvement in public health facility	Kaduna State Government (In Partnership With LGA and development partners)
8	Mobilization of the community members for street cleaning and beautification.	To begin the process of instituting civic duty and responsibility and decentralization of urban governance To utilise local assets including paid and voluntary professional and technical services	Clean and green environment	Kaduna State Government, the LGAs and Local Associations
9	Rehabilitation of abattoirs	To improve food hygiene and sanitation To improve income generation	Improved handling and packaging of meat products	LGAs and Public-Private-Partnerships and Local Associations

Medium Term (3-6 Years)

SN	Recommendations	Objectives	Performance Indicators	Implementation Authority
1	Investment in design and provision of municipal infrastructure including public water supply, public recreation and relaxation areas and children's playground, public toilet, street light and waste management (including recycling and reuse) facilities.	To improve urban basic infrastructure, general environmental conditions and water and sanitation conditions. To create employment and access to livelihoods for skilled professionals and unskilled labourers To improve the general economy of the slums through utilization of community contracting to implement small infrastructure works	Improvement in urban basic infrastructure and services	FMLHUD, Kaduna State Government And the LGAs (In Partnership With Private Investors)
2	Improve supply and distribution of electric power.	To support other urban basic services including health and water and sanitation To boost local production	Increase in number of hours of stable electricity	Kaduna State Government And Private Investors
3	Creation of digital GIS-based database for slum management in Kaduna.	To track progress made in slum upgrading and living conditions improvement plans across space To monitor degrading areas and other areas with possibility of slum development. To improve data sharing and synergy between the FMLHUD and Kaduna State and participating LGAS	A functional GIS infrastructure and database	FMLHUD And Kaduna State Government

Long Term (6-9 Years)

SN	Recommendations	Objectives	Performance Indicators	Implementation Authority
1	Rehabilitation and improvement of housing stock through accessible 'special housing improvement loan facility'	To assist property owners in the slum to improve the physical conditions of their housing stock	Improved physical condition of houses	FGN, FMLHUD, Kaduna State Government and Private Financial and Mortgage Institutions
2	Removal of make shift structures constructed of roofing sheets, plastics and other non-durable materials	To create clean aesthetics and make hazardous areas such as floodplains free from temporary dwellings	Free hazardous areas and improved aesthetics	Kaduna State Government and the LGAs
3	Develop some areas in the Kaduna River floodplain into riverbank parks and green area for recreation.	To improve the general environmental conditions To generate employment.	Parks and green areas	FMLHUD, Kaduna State Government and Private Investors
4	Leverage on existing cultural, economic and social asset bases and networks	To sustain the flywheel of slum improvement and prosperity by utilizing existing micro-cleavages e.g. cooperatives and community contracting groups to improve local outputs.	Sustained outputs from local productions	Kaduna State Government, LGAs, and community associations
5	Implement urban development policy and strengthen existing institutions	To develop capacity for slum prevention and curtailment To improve on advocacy and citizenship education with regards to urban environmental management	Strengthen the capacity of the FMLHUD to design and execute slum improvement strategies. Establishment of a unit to concentrate on slum management and upgared in the physical planning department of Kaduna State. Empower LGAs to improve advocacy on citizenship responsibility and urban environmental education	FGN, FMLHUD, Kaduna State Government, LGAs, Local Associations

Funding is crucial to slum redevelopment and upgrading. It is clear that the FGN alone will likely not be willing to put down the enormous funding required for the slums upgrading and improvement of livelihoods in Kaduna. This report is a good document to begin the process of negotiation for assistance from, and partnership with, international development partners including the UN-Habitat with regards to slum upgrading and livelihood improvement in the slums of Kaduna. It is also a vital document to institute a basis for partnership with local actors including the State Government and LGAs, NGOs as well as private investors to mobilise the necessary support for actualizing the strategy and recommendations.

5.6 MONITORING AND EVALUATION

There is the need to monitor and track progress recorded on slum upgrading and human living condition improvement projects and plans. This will include the ability to track progress in intervention strategies and projects and monitor what it translates into in space and time across the target slum areas. This also means ability to be able to compare environmental indicators and performance of urban facilities across neighbourhoods in the slum areas. This will enable the gauging of the progress on how much resources are translating into actual improvement in human living conditions across space.

The recommended monitoring and evaluation tool in this case is GIS. The current field data and slum areas maps generated in this project for the slum areas in Kaduna could serve as the base. The required inputs into the M&E from spatial perspective will include the following:

5.6.1 Geoinformation database

Every bit of data about the land base, urban basic infrastructure and services, human livelihood activities, natural, available and potential economic, social and cultural assets, etc is important. These data need to be sourced, processed, integrated and stored within a GIS for easy interrogation and updates. An Urban Geographic Information Systems (UGIS) tailored to target areas in Kaduna (e.g. KADUNA-UGIS) can be developed for the project. In this case, the identified slum area maps and facility location data and photographs collated from the field can form the base. Mapping of the target slums using high resolution satellite imagery is urgently required to provide high resolution data for the recommended intervention strategies.

It is very likely that some States may have embarked on high resolution aerial photographic mapping campaign or acquisition of high resolution satellite imageries of their cities and other target areas in recent years. Some of these

data may also be lying in one office without the knowledge of sister ministries/departments because of poor coordination and lack of data sharing. Where this is predictably correct, there will be the urgent need to engage all stakeholders and extend the search for spatial data to ministries other than the ministries in charge of Urban Development. Some other offices including Survey Offices/Departments, Ministry of Works (especially for road and other infrastructure) and externally coordinated projects (e.g. past World Bank Assisted Projects in the communities) may also have some urban spatial data and information that could be accessed.

A way to integrate these agencies and offices from inception is to:

- Have an enlarged stakeholders' workshop where data needs and requirements for slum upgrading and urban basic services improvement are discussed
- Design a well-structured questionnaire instrument to elicit information from the ministries and agencies, first on their (spatial) data needs, and secondly on the data that is available within their archives.
- Appoint one or two data focal person(s) in each agency
- Have a committee of data focal persons across the ministries and across the state.

5.6.2 Capacity building

Technical and human capacity for GIS and spatial information gathering and management needs to be developed at FMLHUD headquarters and at the Federal Controllers' offices in the State. The State Ministries in charge of Urban Development should also be encouraged to participate in the capacity building process.

5.6.3 Periodic image acquisition for updates

Periodic image acquisition (at least once a year) should form part of the M&E strategies. This is to periodically monitor the extent of success and how much the efforts are translating into improvement in basic services and infrastructure across space. For example, from HR imageries one can quickly know how many of the roads have been upgraded (say in the last one year) and how much the face of the target areas has changed within the period.

5.6.4 The TOR

All the points discussed above can be fashioned into a term of reference for the geoinformation component of the M&E to include:

- Access, acquisition, integration and harmonization of baseline data
- Access to possibly available large scale aerial photograph or acquisition of new high resolution satellite data for target areas
- Acquisition, installation, and test run of GIS hardware and software at the FMLHUD headquarters
- Training of trainers – training of key personnel who will be able to train some other staff on the job

- Periodic acquisition of satellite imageries to monitor project success across target areas
- Managing and updating the system

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APPENDIX I – QUESTIONNAIRE

FEDERAL MINISTRY OF LANDS, HOUSING AND URBAN DEVELOPMENT

NEEDS ASSESSMENT STUDY OF SLUMS IN KADUNA, NIGERIA

HOUSEHOLD QUESTIONNAIRE

General (to be filled before getting to respondent)		
Household code number		Survey details
Name of interviewer…… ……..		Date of survey:……/……/……..
1	lga:	start time:
2	town:	finish time:
3	locality:	
4	street name:	
Household information		
5	Age of household head	6. Gender of household head
	ð 16-25 years	ð male ð female
	ð 26-40 years	
	ð 41-55 years	
	ð 56-70 years	
	ð above 70 years	
7	Age and gender of informant(s) for this assessment (if different from household head)	informant 1: age:..... ð male ð female
		informant 2: age:..... ð male ð female
		informant 3: age: ..... ð male ð female
8	ethnic group of household head	ð Hausa/Fulani
		ð Yoruba
		ð Igbo
		ð Others.....
9	marital status of household head	ð Single
		ð Married
		ð Separated/divorced
		ð Widow/widower
10	occupation of household head	ð Artisan
		ð Farmer

		ð fishing		
		ð trading/business		
		ð civil servant		
		ð professional		
		ð unemployed		
		ð other (please specify).....		
11	What is the commonest local occupation in this community			
12	monthly income of household head	ð less than ₦10,000		
		ð₦10,001 - ₦25,000		
		ð₦25,001 - ₦50,000		
		ð₦50,001 - ₦100,000		
		ð₦100,001 - ₦250,000		
		ð₦250,001 - ₦500,000		
		ð above ₦500,000		
13	highest educational status of household head	ð primary		
		ð secondary		
		ð post-secondary/technical		
		ð HND/B.Sc.		
		ð Postgraduate		
		ð Quranic education		
		ð No formal education		
		ð others (please specify)…….....		
14	Total number in household	Children (<5years)..... children (5-18years)…….		
	men..... Women..... ..	Elderly (above 65years).....		
	Children…… …….	Disabled.....		
15	which of the following associations do you or your household members belong to (tick as many as applicable)	**Associations**	**yes**	**NO**
		ð professional guild or association		
		ð religious institutions		
		ð landlord association		
		ð vigilante association		
		ð community development association		
		ð town association		
		ð elders forum		
		ð cooperative society		
		ð others (specify).....		

Housing condition								
16	When was the building you live in constructed?	**tick one only**						
		ð less than 5years						
		ð 5-10years						
		ð 11-20years						
		ð 21-40years						
		ð more than 40years						
		ð i don't know						
17	construction material of walls of building occupied	tick one only						
		ð wood						
		ð concrete						
		ð zinc						
		ð mud						
		ðothers (specify).....						
18	How long have you been living in this community?	ð i was born here						
		ð less than 2 years						
		ð 2-5 years						
		ð 6-10 years						
		ð 11-20 years						
		ð more than 20 years						
19	Why do you live in this community?	explain.....						
20	What is the residential status of the household head?	ð landlord						
		ð tenant						
		ð squatting						
		ð other (please specify)…….....						
21	if you are a landlord, do you have any legal document for your house/land	yes	No					
22	if yes to #21, which of this do you have	customary freehold right	c of o	survey plan	land certificate			
Environmental conditions								
23	how will you rate/rank your community with	**indicators**	**1-good**	**2-poor**	**3-bad**	**2-bad**	**4-worse**	**5-WORST**
		planning of the area						

	regards to the following indicators	squatting area						
		building appearance						
		number of people living in a building						
		road condition						
		solid waste disposal						
		sewage/effluent discharge						
		motorable access to the buildings						
		pedestrian access to the buildings						
		traffic congestion						
		noise pollution						
		drainage/gutter/water channel						
		general cleanness of the environment						

24	which of the following is present in your community	**indicators**	**present and good/working**	**present, but bad**	**not available**
		public water supply			
		electricity supply			
		recreation/relaxation facilities			
		children playground			
		road side walks			
		public toilet facility			
		trees on the street			
		street lights			
		refuse collection point			
		public primary schools			
		public secondary school			
		private primary school			
		private secondary school			
		tertiary institution			
		market			
		civic center			
		church			
		mosque			
		public health center			
		private clinic			
		petro/gas station			

		financial institution					
		post office					
		police post/station					
		abbatoir					
25	how will you rate the following issues in your community	**indicators**	**1-good**	**2-poor**	**3-bad**	**4-severe**	**5-critical**
		ð water					
		ð sanitation/toilet facilities					
		ð food					
		ð employment/ livelihood					
		ð housing/ shelter					
		ð fuel for cooking					
		ð health care					
		ð being able to perform cultural and religious rituals					
		ð security					
		ð children school					
		ð transportation					
		ð communication					
		ð others (specify).....					
26	What is the main source of drinking water for your household?	ð pipe borne water					
		ð public tap					
		ð borehole					
		ð protected dug well					
		ð unprotected dug well					
		ð shallow well					
		ð rain water collection					
		ð tanker truck					
		ð cart-pushers					
		ð surface water sources - river, stream, pond, etc					
		ð bottled water					
		ð sachet water					
		ð others (specify)					
27	How long does it	**tick one only**					

	take to go there, collect water and come back **(if not in the dwelling)**?	ð < 30 minutes
		ð 30 minutes – 1 hour
		ð 1 hour – 2 hours
		ð 2 hours – 4 hours
		ð more than 4 hours
28	do you feel your family always have enough water for use daily	**tick one**
		yes
		No
29	What toilet facility does your household use?	**tick one**
		ð water closet
		ð pit latrine
		ð toilet shared with other households
		ð public toilet shared with other members of the community
		ð bush/open area
30	how do you dispose your waste	take to open waste dump
		give to cat pushers
		give to government collectors
		store in the backyard
		throw into the gutters
		burn with fire
31	have you or your household ever experience any of the following:	ð flood
		ð fire
		ð building collapse
		ð typhoid outbreak
		ð cholera outbreak
		ð diarrhoea outbreak

Needs assessment

32	Needs: rank your first 10 needs in order of priority. *1 for the most important and 10 for the least important.*	**Indicators**	**SCORE**
		Electricity	
		Water	
		tarred road	
		primary school	
		secondary school	
		tertiary institution	
		health facility	
		postal office/postal agency	

		financial institution	
		cottage industry	
		Market	
		gsm facility	
		internet facility	
		housing facilities	
		town hall	
		employment opportunities	
		others (please specify)	
33	if you are to mention only one thing the majority of people want in this community, what will you say		
34	in your own view, what do you think government should do to uplift the living conditions of the people in this area		
35	what can you as an individual contribute towards the improvement of the slum condition in this area	**tick as many as appropriate**	
		volunteer professional service	
		paid professional service	
		volunteer personal labour	
		paid personal labour	
		personal financial contribution	
		mobilizing other community members to contribute	
		enlighten other community members to support government effort	
		any other (please list)-------	

THANK YOU FOR YOUR TIME

APPENDIX II: FACILITY FORMS

INFRASTRUCTURAL FACILITIES / FEATURES FORM - CATEGORY A

Sn	State	LGA	Community/Cluster	Name of Facility/Feature	*Ownership	**Condition	Picture No
1							
2							
3							
4							
5							
6							

INFRASTRUCTURAL FACILITIES / FEATURES FORM - CATEGORY B (SCHOOLS AND HEALTH FACILITIES)

Sn	State	LGA	Community/Cluster	Name of School/Health facility	*Ownership	Estimated Capacity	**Condition-inside	**Condition-outside
1								
2								
3								
4								
5								
'								

FACILITY INDEPTH - SCHOOLS

	1	2	3	4	5
School name					
Location					
Est student Population					
No of Teachers					
No of Class-rooms					
Availability of playing field					
General condition of surrounding					
Condition of building					
Condition of classes					
Condition of Toilets					
Water					
Electricity					
Any other observation					

FACILITY INDEPTH - HEALTH

	1	2	3	4	5
Health Facility name					
Location					
Type					
Est Patients catered for					
No of Doctors					
No of Nurses					
No of beds					
General condition of surrounding					
Condition of building					
Electricity					
Water					
Any Other observations					

APPENDIX III: FGD AND KII REPORT

1. Structure

Key informants, community leaders and focus groups engaged in different slum areas include:

- Alhaji Mohammed Innua Abubakar, The Seriki of Shagari Low Cost Housing Estate, Barnawa)
- Alhaji Amini Saidi, The Chairman of the Abattoir Association, Sabo Gari, Kaduna South.
- Men, women, youth and association leaders in Tudun Wada
- Men, women, youth and association leaders in Chikun

2. Highlights

A. Interview with the Seriki (Mohammed Innua Abubakar) in Shagari Low Cost Housing Estate, Barnawa, Kaduna South

The interview started with the ranking of facilities in the community by the Seriki of the low cost housing estate in Barnawa. He believes that the facilities in the estate are generally in good condition except for the followings: drainage channels, roads, lack of motorable access to the buildings and lack of road sidewalks. He believes the water supply to the estate is good. There is also electricity supply. He says the following facilities are present and in good condition-private primary school, private secondary school, church , mosque, petro/gas station, financial institution. And the following are present but in bad condition - recreational/relaxation facilities, children play ground, refuse collection point, post office and police post.

The following facilities are not available: road side walks, public toilet, trees on the street, street lights, public primary schools, public secondary schools, tertiary institution, market, civic centre, public health centre and abattoir.

In the rating of facilities and needs of the community, the Seriki indicated that ***sanitation conditions, health care and children school are in critical situation; and the conditions of water, food and employment are poor***.

B. Interview with the Chairman of the Abbatior Association (Alhaji, Amini Saidi) Located In Sabo Gari, Kaduna South

The chairman of the abattoir association Alhaji Amini Saidi informed us that the government built the abattoir and provided essential facilities such as bore holes, transformer, cold room, generator etc., but at the moment, none of these is functional. He also noted that the access road to the abattoir is so bad that it takes longer time to move the animals to the abattoir and to evacuate the meat. As a result of the non-functional generators and the

public power supply, the following problems emerge: deterioration of the meat and scarcity of water which forces them to be drawing water from the wells.

The abattoir was designed to slaughter more than 200 animals daily but the non-functionality of the facilities have made the unit to handle only less than 100 daily. This low productivity affects the income of the farmers in the area.

C. Focus Group Discussion in Tudun Wada

The FGD in Tudun Wada included men, women, and youth and association leaders in Tudun Wada area.

Major occupation: the group is of the opinion that the commonest occupation of the people is trading.

Community associations and efforts: the associations in the community are mainly religious-based and they assist in maintaining social amenities such as drainage channels, forming vigilante groups etc. To them the government has been involved in constructing schools, roads, electricity and providing security.

Conditions of facilities: the group was of the view that generally things are bad. These range from bad road condition and poor motorable and pedestrian access to the buildings, poor drainage channels etc.

The group agreed that solid waste disposal and traffic congestion are said to be in worse conditions.

The group agreed that the following facilities are also present, but in bad conditions in Tudun Wada: public water supply, electricity supply, refuse collection point, public primary school, public secondary schools, private primary schools, private secondary schools, market, public health centre, police post and post office.

The group agreed that the following facilities are not available: recreation or relaxation facilities, children playground, road side walks, public toilet facility, and trees on the street, street lights and civic centre.

The group agreed that they following are present and in good condition: tertiary institution, church, mosque, private clinic, petro/gas station, financial institution and abattoir.

The following facilities are also in bad to critical shape: water, access to food, transportation, employment, health care and security.

Public water supply is functional in some areas and non-functional in other areas. There are no credit facilities from the government.

Expectations from the government

The group is of the opinion that the government should improve the infrastructural facilities as a slum upgrading measures. In specific terms, this should include widening of some drainage channels and constructing new ones in some areas. In the government general hospital located almost opposite Kaduna Polytechnic, the Director lamented that government intervention is urgently needed to arrest an emerging ugly situation in front of the hospital's premises. This emerging situation has to do with parking along the road by traders in the market.

Our team was also conducted round the general hospital and it was observed that the facilities in the hospital are under serious pressure. We noted sick women seating on bare floor waiting to be attended to by the nurses and doctors. Many building in the premises were uncompleted and abandoned.

D. Focus Group Discussion in Angwa Yelwa and Television Village in Chikun Local Government Area, Kaduna South.

The FGD included men, women, youth and association leaders in Angwa Yelwa and Television Village.

The general opinion of the group in the two communities is that there was no government impact in the community. They say individuals sink their own bore holes for water supply and the community maintains the streets. The research team observed that the two intersecting roads in the community were riddled with pot holes.

Their main expectation from the government is to come to their aid by improving their infrastructural facilities especially in the area of waste collection and disposal, road construction and maintenance, and provision of pipe borne water and electricity.

3. Conclusions

Again, the catalogue of complaints and expectations from the community leaders and groups from these various stakeholders tally with the results from questionnaire analysis. ***Ratings of key infrastructure show water and sanitation situation and health care to be in poor situation. Public schools and waste management and road condition are also in bad shape. The priorities listed by the different groups align with the overriding priorities and needs of the communities as analyzed from the questionnaire, which are provision of water, electricity, road improvement, employment opportunities and improvement of health facilities***.

APPENDIX IV: SUMMARY OF OUTCOMES FROM THE SLUM AREAS IN ABA, KADUNA, AND OSHOGBO

The summary of the situation across the three cities is provided under the followings:

- General environmental conditions
- Conditions of basic infrastructures
- Assessment of common issues
- Slum conditions which captures information on
  - Sustainable access to safe water
  - Access to improved sanitation
  - Access to durable structure/housing
  - Overcrowding
  - Access to tenure
  - Access to social services
- Needs assessment of the communities

The ratings represent the highest category of responses for each indicator based on the simple majority rule. So it does not consider a situation of close or very close tie between two indicators.

Environmental Conditions

Table 1 summarises the perception on the environmental conditions across the slums in the three cities. The rating is from good to worst as shown on the scale.

Table 1: Perception of Environmental Condition across the cities

Indicator	**Aba**	**Oshogbo**	**Kaduna**
Planning of the area	Poor	Poor	Poor
Squatting	Poor	Poor	Poor
Building appearance	Poor	Poor	Poor
Number of people living in a building	Good	Good	Poor
Road condition	Worst	Poor	Poor
Solid waste disposal	Poor	Good	Bad
Sewage/effluent discharge	Poor	Poor	Bad
Motorable access to the buildings	Worst	Poor	Poor
Pedestrian access to the buildings	Bad	Good	Poor
Traffic congestion	Poor	Good	Poor
Noise pollution	Poor	Poor	Poor
Drainage/gutter/ water channel	Worst	Poor	Bad

Ratings Scale	Good	Poor	Bad	Worse	Worst

Oshogbo and Kaduna seem to have fared better than Aba on most of the indicators. While Oshogbo has "good" in the number of people living in a house, solid waste disposal, pedestrian access to building and traffic congestion, and "poor" on the others; Kaduna oscillates between poor and bad in these indicators. Aba on the other hand recorded "worst" in a road condition, motorable access to buildings, and drainage/gutter, and poor in other ones except number of people living in a building.

Conditions of Basic Infrastructure

Table 2 summarise the conditions of basic infrastructures across the slum areas in the three cities. The scale is from present and good to absent or not available. In all the cities, basic infrastructure including recreation area, children playground, public toilet, road sidewalks, and street lights are not available in the slums. Electricity is rated poor in all, public water supply is acknowledge only in Kaduna, refuse collection and public primary and secondary schools are rated as present and good only in Oshogbo, financial institutions, police post/station, post office and abattoir are also rated as not available. Markets are rated in the three cities as being in bad condition.

Table 2: Conditions of basic Infrastructure across the cities

Indicators	**Aba**	**Oshogbo**	**Kaduna**
Public water supply	Absent	Absent	Bad
Electricity supply	Bad	Bad	Bad
Recreation/relaxation facilities	Absent	Absent	Absent
Children's playground	Absent	Absent	Absent
Road side walks	Absent	Absent	Absent
Public toilet facility	Absent	Absent	Absent
Trees on the street	Absent	Absent	Absent
Street lights	Absent	Absent	Absent
Refuse collection point	Absent	Good	Absent
Public primary schools	Bad	Good	Bad
Public secondary schools	Absent	Good	Bad
Private primary schools	Good	Good	Good
Private secondary schools	Good	Good	Good
Tertiary institution	Absent	Absent	Absent
Market	Bad	Bad	Bad
Civic centre	Bad	Absent	Absent
Church	Good	Good	Good
Mosque	Absent	Good	Good
Public health centre	Absent	Bad	Bad
Private clinic	Good	Good	Good

Petrol/ gas station	Absent	Absent	Absent
Financial institution	Absent	Absent	Absent
Post office	Absent	Absent	Absent
Police post/ station	Absent	Absent	Absent
Abattoir	Absent	Absent	Absent

Ratings scale	Good=present and good	Bad=present and bad	Absent= not available

Assessment of Common Issues

The assessment of common issues across the slums in the three cities is summarised on Table 3. Issues regarding water and sanitation, healthcare, access to employment or livelihoods, housing and shelter and children school were rated poorly in all the cities. The only issues that received pass marks are food, ability to perform cultural and religious rituals, and communication.

Table 3: Rating of Community Issues across the cities

Indicator	**Aba**	**Oshogbo**	**Kaduna**
Water	Poor	Poor	Poor
Sanitation/ toilet facilities	Poor	Poor	Poor
Food	Good	Good	Good
Employment/livelihood	Worst	Poor	Poor
Housing/ shelter	Poor	Poor	Poor
Fuel for cooking	Poor	Poor	Poor
Health care	Poor	Poor	Poor
Being able to perform cultural &religious rituals	Good	Good	Good
Security	Poor	Good	Good
Children school	Poor	Poor	Poor
Transportation	Poor	Good	Poor
Communication	Good	Good	Good

Rating Scale	Good	Poor	Bad	Severe	Critical

Slum Conditions

Access to Water

The most significant source of drinking water in each of the city is shown on Table 4. Combination of water from borehole and purchased sachet water is the major source of drinking water in the slum at Aba. For Oshogbo, it is combination of public piped water and dug well, while Pipe borne water is the dominant in Kaduna.

Table 4: Sources of Household Drinking Water across the cities

Source of drinking water	ABA	OSHOGBO	KADUNA
Pipe borne water			X
Public tap			
Borehole/ sachet water	X		
Protected dug well			
Unprotected dug well			
Shallow well			
Rain water collection			
Tanker truck			
Cart - pushers			
Surface water source - river, stream, pond			
Bottled water			
Pipe/well		X	
Borehole &well			
Unprotected well & sachet water			
Protected well, rain &sachet water			
Public tap, rain & sachet water			
Total			

The slum dwellers of Aba and Kaduna feel they do have enough water for their household daily use, while those in Oshogbo feel otherwise (Table 5).

Table 5: Have Enough Water

Community	Yes	No
Aba	X	
Oshogbo		X
Kaduna	X	

Sanitation

Water closet is the major type of toilet facility available in Aba and Kaduna, while Pit latrine remains the commonest used by the slum population in Oshogbo (Table 6). It has been shown earlier that public toilet facility is not available.

Table 6: Toilet Facility

Major Toilet Facility	Aba	Oshogbo	Kaduna
Water closet	X		X
Pit latrine		X	
Toilet shared with other households			

Public toilet shared with other members of the community			
Bush/open area			

Waste Disposal

Table 7 summarises the major means for disposing waste in the slum communities in the three cities. Waste disposal seems to be more coordinate and efficient in Oshogbo than Aba and Kaduna. This is also consistent with the views on the environment and basic facilities where waste collection and disposal is rated better in Oshogbo than the other two cities.

Table 7: Waste Disposal

Dispose of waste	**Aba**	**Oshogbo**	**Kaduna**
Take to open waste dump			X
Give to cat pushers	X		
Give to government collectors		X	

Needs Assessment

Community Needs

For all the basic facilities, the urgent needs of each community seem to be different. Road/ street rehabilitation, electricity and access to employment or livelihoods in that order dominate the need in Aba. Water, electricity, access to employment and road/street rehabilitation in that order dominate the needs in Oshogbo and Kaduna (Table 8).

Table 8: Ranking of the topmost Community Needs

Community needs	**Aba**	**Oshogbo**	**Kaduna**
Water		1	1
Electricity	2	2	2
Employment opportunities	3	3	3
Tarred road	1	4	4
Health facility		5	
Primary school		6	
Market		7	
Secondary school			
Housing facility			
Town hall			
Tertiary institution			
Gsm facility			
Internet facility			

Financial institution			
Cottage industry			
Postal service			
Public toilet			

Ultimate Need

In mentioning just one thing that is ultimately desirable to improve human living conditions, road/street rehabilitation mentioned in Aba. For Oshogbo, it was access to water, while Kaduna was spilt roughly between electricity, road/street rehabilitation and access to the means of livelihood (Table 9).

Table 9: Just One Need that is required

Needs	**Aba**	**Oshogbo**	**Kaduna***
Water		X	
Electricity			X
Tarred road	X		X
Public toilet			
Employment opportunities			X
Security			
Nothing			
Health facility			
Upgrade of infrastructures			
Tertiary institution			
Affordable housing			
Total			

*None has up to 25%

Expectations from the Government

Table 10 summarises, according to priority, the main expectations from the government on slum improvement. Infrastructural upgrade (which is a complete package) tops the list in Aba and Oshogbo, while access to employment is the ultimate in Kaduna (Table 10).

Table 10: Expected Role of Government in Slum Improvement

Needs	**Aba**	**Oshogbo**	**Kaduna**
Employment provision	3	2	1
Infrastructural upgrade	1	1	2
Water		4	4
Low cost housing			
Market			

Provision of soft loan			
Good road	2		
Drainage			
Electricity/Power		3	3
Hospital			
Public toilet			
Nothing			
Total			

Willing Contribution for Community

Table 11 shows what the people are willing to contribute in partnership with the government. Across the three cities, slum dwellers are willing to volunteer their personal labour as well as mobilizing and enlightening other community members to support government efforts. In addition, professionals in Aba are willing to volunteer their professional services while people are willing to make personal financial donations in Kaduna. These are strong social assets and sense of citizenship, social responsibility and community that cannot be wished away in these cities.

Table 11: Willing Contributions from Community Members across the cities

Suggested contributions	**Aba**	**Oshogbo**	**Kaduna**
Volunteer professional service	X		
Paid professional service			
Volunteer personal labour	X	X	X
Personal financial contribution			X
Mobilizing other community members to contribute	X	X	X
Enlighten other community members to support government effort	X	X	X

Sustainable livelihood assets

The need to make use of land, infrastructure, and other natural, social, human, cultural and financial resources in the most efficient, cost effective and sustainable way is important for sustainable slum upgrading and improvement of human living conditions. All slum upgrading plans should have strong physical, cultural and social connections. The inclusive or sustainable livelihoods approach is important to this.

The sustainable livelihoods approach focuses on the human livelihood as capabilities, assets and activities required by people for a means of living. It deals with the end-point and final resting place of policy, planning, projects, interventions and investment which is improvement in human living conditions. A sustainable slum improvement or re-development strategy must create a context in which sustainable development and livelihoods can

flourish. This where the assets possessed by the people as a community and user of urban infrastructure becomes important. A livelihoods approach is useful in recognising the needs of different income groups and inequality of provision. It allows attention to be focussed on people's own definitions of deprivation – which in this case means a lack of, or little, access to basic urban infrastructure and services.

Thus, in proposing inclusive slum re-development and human living conditions improvement strategy, it is important to consider the peculiarities of each city with respect to the natural, physical, social, cultural and economic assets that can be tapped into, as well as the threats. It is also important to consider the priorities and aspirations of the people – what do they consider the important or pressing issues to improving their living conditions - in order to guarantee cooperation and partnership.

Table 12 summarises the assets base and Table 13 summarise the threats for the slums in Aba, Oshogbo and Kaduna.

Table 12: Identified asset Base for the Slums In The Three Cities

Asset	Aba	Oshogbo	Kaduna
Economic	▪ Large informal sector economy ▪ Great resilience and capacity for diversification ▪ Sewing and tailoring substantial – presents potential for specialization and agglomeration and expansion ▪ Big and renown local and international markets –center of commerce	▪ Large informal sector economy ▪ Great resilience and capacity for diversification	▪ Large informal sector economy ▪ Great resilience and capacity for diversification ▪ 70% earn above N25,000 monthly income
Physical	▪ 84.7% of buildings constructed of concrete	▪ 60% of houses constructed of concrete	▪ 71% of houses constructed of concrete
Human	▪ Generally significant population ▪ Significant virile household heads – 26-45 years ▪ Creative and adaptive population – mostly into business/ trading ▪ Literate population – 96% had formal education to at least primary school level.	▪ Generally significant population ▪ Significant virile household heads – 26-45 years ▪ Creative and adaptive population – mostly into trading ▪ Literate population – about 55% had above primary education	▪ Generally significant population Significant virile household heads – 26-45 years ▪ Literate population – only 1.3% had no formal education

Asset	Aba	Oshogbo	Kaduna
Natural	▪ Possible development in every front - city surrounded by farmland and fallow land ▪ Aba River – presents potential for riverbank parks and urban green areas	▪ Possible development in every front - city surrounded by farmland and fallow land ▪ Osun River – presents potential for riverbank parks and urban green areas	▪ Possibility of development in the western flank, and also in the east with new bridges being constructed ▪ River Kaduna – presents enormous potentials for floodplain agriculture and river park ecotourism
Social	▪ Religious Network – 79% belongs to a religious group ▪ Engaged in community self-help projects ▪ Willing to volunteer personal labour ▪ Willing to Volunteer professional service ▪ Willing to engage in community mobilization and enlightenment	▪ Good social network – 75% belongs to one association or another ▪ Long term commitment – 45% are landlords ▪ 74% of landlord have access to tenure ▪ Engaged in some form of self-help or community efforts ▪ Willing to volunteer personal labour ▪ Willing to engage in community mobilization and enlightenment	▪ Good social network – 92% belongs to one association or another ▪ Engaged in community self-help projects ▪ Long term commitment - 46.5% are landlords ▪ 85.3% of the landlords have access to tenure ▪ Willing to volunteer personal labour ▪ Willing to engage in community mobilization and enlightenment ▪ Willingness to make financial contributions
Cultural	▪ Close to the Aba stadium – potential for sports tourism ▪ Strong traditional community identity		▪ Historic city ▪ Renown administrative and military center ▪ Well mixed population with great diversity ▪ Strong traditional community identity ▪ Close to the Ahmadu Bello Stadium – potential for sports tourism

Table 13: Identified Possible Threats for the Slums in the Three Cities

Threat	Aba	Oshogbo	Kaduna
Economic	▪ Weak financial base - 65% earn less than N25,000/pm ▪ Financial institutions absent	▪ Weak financial base - 45% earn less than N25000/per month ▪ Financial institutions absent	▪ 30% still earn less than N25000/per month
Physical	▪ Rapid spatial expansion – 5.4%pa	▪ Very rapid spatial expansion – 21%pa ▪ 38.3% of the houses constructed of mud	▪ Rapid spatial expansion – 4.5% pa ▪ 25% of houses constructed of mud

Human	▪ Large household size – 70% has more than 4 persons per household ▪ Relatively high density	▪ Large household size, over 90% has above 4person per household	▪ Relatively high density in Kaduna urban villages ▪ Large household size – about 75% has more than 4 persons per household
Natural	▪ Aba River divides the city into two unequal halves – causes flooding of surrounding areas	▪ Areas around the Osun River risk flooding at high flow	▪ Slum clusters close to the Kaduna River floodplain (e.g. Ungwan Rimi, Kabala Doki and Barnawa) risk flooding at high flow
Social	▪ Long term commitment may be lacking - 70% are tenants		• Explosive mix of population – frequent ethnic and religious clashes

APPENDIX V: EXPERT INTERACTIVE SESSION

Minutes of the Expert Interactive Session for the Slum Study Report on Three Cities (3) held at the MGIS Room, Faculty of ARTS, University of Lagos, Akoka-Yaba, Lagos Tuesday, July 29, 2014

Present

	NAME	ORGANISATION
1	Prof. Peter O. Adeniyi	Polad Technologies ltd
2	Victor Ilechukwu (Ph.D)	University of Lagos
3	Chike Anikamadu	FMLHUD, Abuja
4	Badru Gbolahan	University of Lagos
5	Lana Olalekan	FMLHUD, Abuja
6	Mayowa Fasona	University of Lagos/Polad Technologies ltd Consultant
7	Ege Emmanuel	University of Lagos/Polad Technologies ltd Consultant
8	Prof. Iyiola Oni	University of Lagos
9	Omotayo Awomosu	Spatial Resource Consulting
10	Peter O. Elias	University of Lagos/Polad Technologies ltd Consultant
11	Ayo Adejumo	Ayo Adejumo and Co
12	Banjo Kayinsola	Ayo Adejumo and Co
13	Gloria C. Agu-Nwofor	G.C. AguNwofor and Co
14	Ajayi Olalekan	University of Lagos
15	Oni Adebukola F.	University of Lagos
16	Val Ofogba	Lensprings and Co
17	Olatunji Babatola	University of Lagos
18	Alabi Soneye	University of Lagos
19	Joyce Omenai	University of Lagos
20	Osuade Oyediran (Arc)	University of Lagos
21	Gbenga Obe	Polad Technologies ltd
22	Sam Udofia	University of Lagos
23	Muyiwa Adeniyi	Polad Technologies ltd

Opening Remarks
The interactive session was called to order by the Managing Director/CEO of Polad Technologies Ltd, Prof. Peter O. Adeniyi at 9.00am, with a welcome and introductory remark where the purpose of the session and strategy to be adopted was outlined.

This was followed by a brief remark by the Deputy Director, FMLHUD; Mr. L.C. Anikamadu where the importance attached to the slum identification and needs assessment study by the Ministry was accentuated. Specifically, he noted that the study will among other things help reduce the embarrassing lack of reliable data on the identification of slum phenomenon in the country while also setting the stage for meaningful and well-coordinated interventions and possibly charting the course for the development of a virile national slum policy and strategic plan. He therefore challenged all present to make best use of the opportunity to bring to birth a proactive report that would attract due attention and set the stage for "cities without slums" in Nigeria.

Brief Presentation Of The Methodology And Major Findings Of The Slum Study
Dr. M.J Fasona, the lead consultant presented the adopted methodology and major findings of the slum study. As presented, the methodology adopted for the study entails the use of questionnaires, field observation, key informant interviews, focus group discussions and photo campaigns while the results were in the form of tables, charts and pictures depicting the conditions of the selected slum indicators. Also presented are the findings of the needs assessment of the residents of the three cities under study.

Presentation and Discussion Of Slum Upgrading Strategy
The peculiar slum upgrading strategy for each of the cities under study were presented by members of the consulting team. Specifically, Dr. M.J. Fasona presented the slum upgrading strategy for Kaduna, Dr. E.E Ege presented the strategy for Aba while Dr. P.O. Elias presented the slum upgrading strategy for Oshogbo.

Presentation, discussion/review and agreement/validation of recommendations on slum upgrading action plans for the three (3) cities
The general observation/suggestions that cut across the three cities are:

- Dr. Victor Ilechukwu suggested that the rapid areal expansion of the cities would have been better depicted if they were related to the population growth estimates in the cities.

- Mr. Omotayo Awomosu opined that the designed rating scale for the perception of the state of infrastructure is unconventional especially the last two scales (i.e. Worse and worst).
- He also noted that the slums were not properly identified or demarcated/singled out since no names were linked to specific slums. He thus suggested that each identified slum should be named after the major road in the area.
- Prof. Oni suggested that there is the need to assess the level/state of ongoing intervention by other bodies so as to know the necessary point of intervention.
- The need to introduce the assessment of gender, resettlement and compensation issues into the study was also highlighted.
- Also noted is the need to develop a strategy to contain future growth of slums.
- Mr Omotayo Awomosu also indicated that the slum upgrading strategy recommendations are not encompassing enough as some germane aspects are missing. He thus suggested a design which contains a column for recommendation, objectives, activities, deliverables, timelines and implementing agencies.
- The timelines for the slum upgrade plans was also amended, with the short term increased to 1-3years, medium term increased to 3-5yrs while the long term was increased to 5yrs and above.
- The need to separate the report into three with each city standing alone and each having their own photo album was emphasised.

Specific validated recommendations for slum upgrading in Aba

Short term (1-3yrs)

- The specific names of the implementation agencies should be mentioned
- The establishment of a slum upgrading unit in the planning department of the FMLHUD which should be replicated in all state ministries of lands and urban development. This is to ensure that the recommended slum upgrade strategies are championed by a specific agency in collaboration with others.
- Creation of a GIS database to monitor slum upgrade success or failure.
- The search for donors or international development partners to fund slum upgrading exercises.

Medium term (3-5yrs)

- Community based organisations (CBOs) and local government areas should be involved in the implementation to ensure their participation.

Long term (>5yrs)

- The need to create another pole in the state by moving a section of the artisan in the market to another locality to ensure the decongestion of the area.

Specific validated recommendations for slum upgrading in Kaduna

Short term (1-3yrs)

- Public places where the clearance are to be done should be noted
- The need to sensitize the citizens and especially the butchers on the use of the abattoirs
- There is also the need to introduce private-public partnership system to effectively run the abattoirs
- The establishment of a slum upgrading unit in the planning department of the FMLHUD which should be replicated in all state ministries of lands and urban development. This is to ensure that the recommended slum upgrade strategies are championed by a specific agency in collaboration with others.
- Creation of a GIS database to monitor slum upgrade success or failure.
- The search for donors or international development partners to fund slum upgrade exercises.

Medium term (3-5yrs)

- The need to improve the distribution of electricity through the provision of transformers.
- The specific agencies that will implement the recommendations should be mentioned.

Long term (>5yrs)

- The need for social instead of special housing
- Specific attention should be paid to the decongestion of slum areas. This can be done by developing medium cost housing estates where medium income households can move to thereby decongesting the slum areas.
- The need to involve community based organisations (CBOS) in the implementation of the slum upgrade strategies

Specific validated recommendations for slum upgrading in Oshogbo

Short term (1-3yrs)

- The specific public areas should be mentioned. Examples should include; market, shopping malls, parks etc.
- The need for tenure improvement to ensure buy- in since most inhabitants of the area are tenants and so do not have much at stake.
- The establishment of a slum upgrading unit in the planning department of the FMLHUD which should be replicated in all state ministries of lands and urban development. This is to ensure that the recommended slum upgrade strategies are championed by a specific agency in collaboration with others.
- Creation of a GIS database to monitor slum upgrade success or failure.
- The search for donors or international development partners to fund slum upgrade exercises.
- The implementation agencies should be Osun State Government, Local Government Area, trade associations and community based organisations.

Medium term (3-5yrs)

- The need to improve the distribution of electricity through the provision of transformers
- The specific agencies that will implement the recommendations should be mentioned
- Responsible agencies should include the state government, LGAs and the private sector.

Long term (>5yrs)

- Specific attention should be paid to the decongestion of slum areas. This can be done by developing medium cost housing estates where medium income households can move to thereby decongesting the slum areas.
- Development plans for the Osun-Osogbo groove should be conceptualised
- Provision of ancillary facilities should be improved
- Complimentary services like parks, shopping malls, hotels and golf course should also be encouraged.
- The local stakeholders should be encouraged to take ownership of the slum upgrade exercise

Closing remarks

The MD/CEO of Polad technologies thanked the participants for their constructive contribution to the session which he noted would greatly

improve the final report of the slum study. He thereafter wished them journey mercies.

APPENDIX VI: PHOTO ALBUM OF SLUM AREAS