COVER PAGE

COMPUTERISATION OF CENSUS DATA (A CASE STUDY OF CENSUS DATA FOR FEDERAL CAPITAL TERRITORY, ABUJA.

1991- 1999.

BY

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PGD-MCS – 501 – 97/98

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FEDERAL UNIVERSITY OF TECHNOLOGY MINNA
NIGER STATE.
NIGERIA.

MARCH, 2000

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A PROJECT SUBMITTED TO THE DEPARTMENT OF MATHEMATICS COMPUTER SCIENCE, IN PARITAL FULFILMENT OF THE REQUIREMENT FOR AWARD OF POST-GURADUATE DIPLOMA IN COMPUTER SCIENCE OF FEDERAL UNIVERSITY OF TECHNOLOGY MINNA NIGER STATE.

MARCH, 2000

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DEDICATION PAGE

This Research project is dedicated to the creator of man kind and the whole universe who gives me the power and ability to carry out this work.

Etc.

ACKNOWLEDGEMENT PAGE

I will like to express my sincere gratitude to my parents whose moral support and up bringing served as the source of my inspiration.

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ABSTRACT.

COMPUTERISATION OF CENSUS SYSTEM.

This project is primarily concerned with the use of computers for processing census data with particular reference to census of the Federal Capital Territory Abuja.

It highlights the role a good computer program plays in processing census data in particular.

Thus the fortran language is used to produce the program titled, "Population Project", the sub-routine provides information for the population estimate of the Federal Capital Territory Abuja.

TABLE OF CONTENT

Title Page i

Approval Page ii

Dedication iii

Acknowledgement iv

Abstract v

Table of Content vi

CHAPTER ONE

1.0 Introduction 1

1.1. Functions of the National Population Commission 2

1.2 The uses of population Data and Data Processing 3

1.3 Scope of the study 4

1.4 Objectives of the study 4

1.5 Statement of problem 5

CHAPTE TWO

2.0 Literature Review 7

2.1 History of Census in Nigeria 7

2.2 Strategies for a National Census 9

2.3 Psychology of population count 10

2.4 Implication of census 11

2.5 Problems of data Collection End Apparisal 12

CHAPTER THREE

3.0 Introduction of population Estimation 14

3.1 Pre-Requisites 14

3.2 Population Estimation Model 14

3.3 Methodology 14

3.4 Collection of Sample 16

3.5 Data Collection Control 20

3.6 Description of Old System in terms of limit 21

3.7 Input 22

3.8 Processing 22

3.9 Out put 23

3.10 How the old system affects decision making. 24

CHAPTER FOUR

4.0 Screen Design 26

4.1 Program Design 26

4.2 Over view 27

4.3 New Philosophy for an intelligent data entry 28

4.4 Editing soft ware 29

4.5 Coding and Data Entry 30

4.6 Package for Data Entry 33

4.7 System Implementation 33

CHAPTER FIVE

5.0 Summary and Conclusion 34

5.1 Summary 34

5.2 Conclusion 34

5.3 Recommendation 35

Glossary 35

Reference 36

Appendix 37

CHAPTER ONE

1.0 INTRODUCTION

The increase in the nature, and growth of human being in Nigeria for the past and present years. Year-in – Year – out; there is always an increase in the technological advancement that seems to affect almost all aspects of life. This technological advancement is not only limited to education but also increase and population. No too long ago, Census was processed and carried out manually. But with the advancement in technology, there is an increase in computerization of these tasks.

Census can be defined as the hundred percent count of in mates or groups of in mates with well-defined characteristics within a defined territory at a particular point in time. However, the recent rapid growth of population in Nigeria with an estimated population of about one Hundred and five million (105,000,000) people compared to the last census with took place in 1991 of about Eight-eight point eight million people. This rapid growth makes proper co-ordination difficult. In the Right of this, the need to apply computer technology in Census count becomes absolutely necessary thereby building up an efficient and accurate F.C.T Abuja population counting systems become more complex.

Therefore this project will attempt to know the role that the computerized system plays on Nigeria population with particular reference to F.C.T. population. How ever, at the end of this study, recommendation on ways by which efficient use of computer technology in census will be given. This is quite important in that the result will be very useful in forecasting future needs, adequate planning and formulating an effective counting system in all sphere of population growth.

1.1 FUCTIONS OF THE NATIONAL POPULATION COMMISSION

Decree 23 of 1989 not only states the powers of the National Population Commission, and offences. Punishable under that decree, but also state the functions of the commission. The functions of the Commission as stated in part II of Decree 23, 1989 include:-

(a) Under take the enumeration of the population of Nigeria periodically through Censuses, sample surveys or otherwise;

(b) Establish and maintain a machinery for continuous and universal registration of births and deaths through-out the federation;

(c) Prepare and maintain a national frame work for the delineation exercise for censuses and sample surveys:

(d) Collect, collate and publish data on migration statistics;

(e) Research and monitor the national population policy and set up a national population data bank

(f) Arrange for the appointment and training of enumerators and all other categories of staff of the commission'

(g) Provide information and data on population for purposes of facilitating national planning and economic development;

(h) Advise the Federal Government on any population and population related programmes and problems;

(i) Disseminate information educate the general public about the functions of the commission under this decree;

(j) Do all such things as may be considered by the commission to be necessary, desirable, expedient, supplementary or incidental to the performance of the functions of exercise of the powers conferred on the commission under this decree.

1.2 THE USES OF THE POPULATION DATA OR DATA PROCESSING

Data collection and Data process.

To ensure adequate coverage, effective supervision of the census enumeration and efficient and quick processing of data. The states were grouped into seven Zones. The headquarters of the Zone were up Kano, Yola, Port Harcourt, Enugu, Lagos, Ibadan and Kaduna for Zone 1 to 7 respectively. Technical and Administrative functions of the states in each of the Zones were supervised by a Commissioner.

Data processing naturally follows enumeration. It commenced immediately after the retrieval of the census documents from the field for the general administration of the commission and for ease of handling the huge data generated, the country was divided into seven Zone. In each of the Zones a Data Processing Centers (DPC) was established.

The main function of each (DPC) was perform manual coding and editing of the NPC and NPC 02 Census questionnaires.

The use of population data and Data Processing

Enter the data into the Computers and then clean the data of errors and in consistencies using appropriate software. The (DPCs) were also to aggregate the validated data from the E.A. level through L/G.A and state the levels into Zone level.

The data for the state consisting each of the Zones were processed in the Zone by indigenes of the Zone with assistance of United Nations Association Data Processing Manager.

In general, the procedure adopted in handling processing the data generated at Census included the following activities checking of questionnaires; Manual coding; data entry and verification, data validation; and tabulation. These

are standard procedures adopted worldwide and the commission is pleased to note that the results. So achieved have passed standard acceptability tests.

E.A. = Enumeration Areas.

DPC: = Data Processing Centres.

1.3 SCOPE OF THE STUDY

The scope of study in the topic of this project covers the role of computers in Census and brief history of Census in Nigeria.

More so, this project will highlight the problems of Census data collection, the cost analysis and the benefit.

However, a package will be designed in this project for Census data entry starting the process of editing and the purpose and use of questionnaire.

1.4 OBJECTIVE OF THE STUDY

(a) To find out the role of application of computer technology plays in the computerized Census system.

(b) This project is aimed at making all census figures generated by the National Population Commission to be computerized. In achieving this aim a package will be developed for data entry, record keeping and processing system for the commission instead of the Manual Method.

(c) Also, to discuss the result of the past population figures till data and see the level of it's significance to the computerized census system.

(d) To detect, correct and re-process all errors.

(e) To preserve the integrity of maintained data.

However, the aims and objective of this project is to draw the reader's attention on how census came into existence and how it helps in economic development in this country Nigeria.

1.4 STATEMENT OF THE PROBLEM

Computerised census system is expected to be used all over the world for the purpose of simplicity; these can further be used for identification, categorization and qualification. Census taking in Nigeria stated in Lagos during the early colonial period. There were several attempts done manually in 1866, 1871, 1896 etc before the invention of the first generation computers. This could not generate an efficient and accurate figure, therefore all effort was to no avail.

My case study is based on information provided by NATIONAL POPULATION COMMISSION, ABUJA. The commission provided me information and data on census' 91 for purpose of facilitating National Planning and Economic development and some other necessary information needed for my project. Therefore I will utilize the information gathered for my project and make necessary amendments to the old system.

1.4.1 STATEMENT OF PROBLEM

If the need arises to make it standard to the new technology and economic development.

Initially, there was nothing like records of births and deaths in the then Feral Capital Territory i.e. Lagos Colony, where by you record the birth and death of your household, these makes population Figures in accurate.

However, the Federal Government of Nigeria with the assistance of the National Population commission developed a public enlightenment program on the advantages in the registering of ones birth and death in a particular house hold, this seems to help a lot in generating accurate figure. But all efforts proved abortive because the interpretation given to this exercise does correlate with the cultural environment.

In the light of the above, if the entire general public could register their birth and death in any "Registered" hospitals and the hospitals in turn pass this information to any nearby population commission, this will create an impact on effective Census taking.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 HISTORY OF CENSUSES IN NIGERIA

The conduct of a national population Census in November, 1991 and the generous commendation it's provisional result received from government and well meaning Nigerians could be appropriately termed as an over due realization of the dream of an accurate, reliable and acceptable Census, first conceived in 1866 but which eluded the nation for about 125 years. The history of census in Nigeria was a sad tale of dreams that constantly ended in nightmares, plans that produced disorder and aspirations consistently transformed in to frustrations. Before November 1991 not less than twelve, concerted attempts were made to conduct an accurate head count. Virtually all produced were neither accurate nor reliable result but rather tensions and controversies, which threatened the basis PF a tenuous national unity. Despite Superior Statistical techniques, effective administration and increased funding the quality of census exercise continued to deteriorate mainly because of political problems associate.

HISTORY OF CENSUSES IN NIGERIAN

With it's conduct, few cared to remember that it is simply the statistical enumeration of all the persons living in a country.

The volatile nature of the political problems generated by census was intimidating enough to make successive governments wary of it. Many Nigerians will readily wish a way the national census as a sleeping dong which must be left to live.

In order to really appreciate the significance of the past census as a water shed in the history of census taking generally and in Nigeria in particular, a review of previous census experiences is desirable.

COLONIAL CENSUSES

The first census exercise to be conducted in any part of Nigeria dates backs to 1866 and it covered only the then Lagos colony.

This was consequent upon the enactment of the census ordinance Act of 1863 by the British Colonial Administration.

The 1866 census was followed by several other attempts in 1871, 1881, 1901 and 1911. All this censuses like previous attempts covered only the Lagos colony and it's surrounding areas. However, the census conducted in 1911 was wider in coverage as it involved the whole of southern Nigeria. This was possible because of the earlier amalgamation of the Lagos Colony and whole of Southern Nigeria Protectorate.

A subsequent amalgamation of the protectorates of Southern and Northern Nigeria in 1914 paved the way for the first Nation-wide census in 1921. A census ordinance was passed in October 1917. Dr. Amaury Talbot conducted the 1921 census in Northern Nigeria in two parts. The first consisted only of towns and cities only and was called Township Census while the second part, which covered the whole country, was called provincial census. The 1931 census, which was to be the second nation-wide census, was not comprehensive in its coverage because only six towns including Lagos spreading across the country were enumerated. Estimates from existing tax records were put to use in compiling the figures of their places.

Because of the Second World War, which created shortage of European manpower, there was no census in 1941. The Census exercise resumed with the conduct of the 1951/53 census after the Second World War.

This census was the last to be conducted by British colonialist has been described as the first modern, National and carefully planned head count in Nigeria despite the fact that it was conducted over a long period of three years.

Virtually all the colonial census figures were in accurate because their conduct was neither thorough nor comprehensive.

The figures were in most cases – "quesstimates" from existing, tax records. In respect of the five Lagos censuses, the then Assistant District officer, H.M. Thompson declared. All Lagos census have been more or less in accurate and reasons for this are not far to see.

STRATEGIES FOR A NATIONAL CENSUS

Census is basically a technical exercise that requires the putting in place of an elaborate network of arrangements both at the planning and execution stages. The accuracy and reliability of any census exercise depend on the quantity and quality of its technical arrangements in two basic ways. Firstly, the technical arrangements determine the comprehensiveness of the exercise, i.e. Ensuring that persons in every hook and cranny of the country are enumerated. Secondly, they also determine the thoroughness of the exercise through the prevention and detection of omission and commission that could undermine the validity of census figures.

To achieve accuracy, reliability and acceptability, technical arrangements for census must therefore be thorough, scientific and multi disciplinary. The thoroughness of the arrangements refers to their strictness, leaving no room for lapses either by omission or commission. It also pays special attention to detail thereby making the process more tedious and time consuming. The thoroughness of the arrangements also emphasizes strict adherence to rules at all times, and high standard and at any cost.

The scientific quality of the arrangements emphasizes the use of common standard in the conception, planning and execution of the exercise. The exercise and its process must be verifiable, particularly the result, in such away that claims and counter-claims could be assessed and amended. This quality also emphasizes the

experimentation of the various options before a final decision is taken.

The multi disciplinary conception of the arrangements stresses that relevant principles and methods in a wide range of disciplines should be used in fine-tuning arrangements for census. Some of these disciplines, which include demography, statistics, geography, psychology, sociology, mass communication and anthropology, provide insights into how to make census arrangements efficient and effective.

The dismal history of census in Nigeria underscored the importance of putting in place technical arrangements that would posses all the qualities highlighted. Besides, the acute politicization of census in Nigeria imposed additional responsibility on the technical arrangements for a national census. Such arrangements must be able to check the intrusion of political forces into the exercise. For one, it must be able to check the manipulative tendencies of politicians in collusion with corrupt census personnel who see census as politics by other means. Its process must also be simple and clear as to make its results acceptable even to cynics.

These were some of the board assumptions that informed all the arrangements the National Population Commission made for census '91. The arrangement was not only elaborate, but also tedious and time consuming. To put up such a complex arrangement, the commission sought a three years mandate.

It drew a tight timetable, which involved proper examination of previous efforts, Examination of the various options, experimentation and selection of the best methods.

The various arrangements are discussed.

2.3 PSYCHOLOGY OF POPULATION COUNT

Numbers are tools generally used by scientist all over the world for the purpose of simplicity. They are used for categorization, identification and quantification.

Psychology of "Population Count" her means the effect of counting on people. How does the general public feel about being counted? How does it affect an individuals? What factors affect an individual's attitude towards being counted.

2.4 IMPLICATION OF CENSUS

Man can be reduced to a simple formula of birth, maturity and death. Within this period, various events occur which either add joy or create disaster. Man embroiders upon this fundamental pattern. Nonetheless, birth, maturity, reproduction and death are four basic universal crisis in the complete life cycle. In the span of the human organism, every individual must pass through these stages.

Census is necessary for adequate planning and provision for members of the society. In order to make this members of the society. In order to make this easier, the computer serves as an aid for more effective and planning. People's attitude towards being counted varies according to cultural background. The interpretation given to this exercise does correlate with cultural environment. In a census count, political motives must be given low priority. The problem affecting census operation in F.C.T. Abuja as a case study is just the same disease affecting the whole society wrong. Priority attached to possession of money and power. Hence the census operation has never being looked upon in this country as the work of computer and professionals. It has always being an administrative exercise.

The situation of poor data cannot continue like this. The quality of Nigerian statistical data must improve and Nigerians themselves must do this. Some effort where this can be made possible is the subject of this paper. Statistical data are usually collected through experiments, census survey or administrative process.

Suppose there are N (not necessarily known) members of the population, and the ith member possesses X_i as it's true value in respect of a characteristic (age, sex,

height level of education etc), then we say, for example, that the true value of the population total in respect of the characteristics is: $X = X_1 + X_2 + X_3 + \ldots\ldots\ldots\ldots X_n$.

2.5 PROBLEMS OF DATA COLLECTION END APPRAISAL

Apart from the usual problems of data collection and appraisal, which are usually discussed in the textbooks, there is the peculiar Nigerian situation with:

(a) Largely illiterate population making self-impossible and in addition increasing cost and time of completion of the census or survey project.

(b) Difficult terrain and poor climatic conditions making sandy, semi-desert, reverie and mountainous areas in accessible.

(c) Poor or lack of transport and communication systems generally in all parts of the country.

(d) Multiplicity of languages having adverse effect on questionnaire design or translations and making recruitment of appropriate staff for many areas impossible.

(e) The unattractiveness of moving staff from place to place because of uneven distribution of manpower all over the country, Abuja in particular.

(f) Apparent lack of data culture making data collection counter-productive over other developmental operations of government and resulting in the habit of not keeping records of supply reliable information.

(g) The special problem of enumerating women in purdah, nomads, and the homeless in the big cities.

(h) Uncoordinated activities of the various government data collecting agencies soliciting for information from the public even for the same subject of enquiry.

(i) Improper or poor documentation of census activities or secrecy

surrounding such documentation, which make independent appraised of results impossible.

Some of these problems need thorough study actual field experimentation e.g. of response distortion.

Among these reasons include the lack of universality in the conduct of the censuses. For example, until 1911, census only took place in Lagos Colony and later in Southern Nigeria in 1911. Even the 1931 census, the second after the amalgamation of Nigeria did not cover the whole of the country because of the invasion in Northern. Only six towns and 201 Villages were counted. The tax riot of the Calabar and Owerri provinces prevented enumeration on the Major towns of these areas and locust invasion of 1931 resulted in the diversion of some census staff to anti-locust duties.

There was no census in 1941 because of the second world war.

The 1973 census never saw the light of day as the results were declared unacceptable.

In 1985, a political bureau recommended that census be conducted in Nigeria, as one of the steps to ensure national cohesion. Government appointed members of very high caliber, representing the nation rather than states to serve on the commission. This arrangement was a complete departure from the past where state representatives were appointed into census boards with consequential adverse political influences and connotations. Accordingly, the Federal Government established the NATIONAL POPULATION COMMISSION by decree 23 of 1985 on April 22, 1988. The Commission, with seven members and a chairman was charged with among other things, the task of conducting a national census.

Given the checkered history of census taking and the refusal of the two previous administrations to risk another census, the decision to conduct a census in 1991 was both timely and bold.

CHAPTER THREE

3.0 INTRODUCTION TO POPULATION ESTIMATION MODEL

Model can be built at different levels of details. A "macro model" is like a low-power telescope. It takes in large picture but not much fine details are visible. On the other hand "a micro model" is like a high-power telescope where we see the fine structure but the field of view is very narrow.

The first model of this project work will consider population estimation model as a macro model. This macro model can be thought of as answer to the question of how many will be in future?

The second population model based on the coslier matrix model will be regarded as micro model. It can be thought as answer to the question of how many people of various age will be in future?

3.1 PRE-REQUISITES

The first of the two model i.e. population estimation model requires knowledge of high school algebra while the second model requires understanding of principle of matrix multiplication together with some knowledge of linear algebra.

3.2 POPULATION ESTIMATION MODEL

The first segment of this modeling will focus on model that estimates total population of any state of the Country within a given period of time "t" in years. It will also consider both the continuous and discrete-modeling method. The deterministic approach is used in the modeling methodology.

3.3 METHODOLOGY

This Chapter provides an overview of the system life cycle

Preliminary Survey/Study

Feasibility Study

Investigation and Fact recording

Analysis

Design

Implementation

Maintenance and Review

Figure 1: Show the major stages in the System life-cycle.

The method of data collection used here is the personal interview method from various departments of National Population Commission, Abuja in order to know how they have tried computerized Census so as to generate an efficient and accurate population figure.

For effective performance, the commission, mapped out the most vital documents for the conduct of the Census. This is known as NPC 01 form the main questionnaire. A lot of time and energy was invested into its preparation and production. This questionnaire was basically divided in to 4 parts. There was the identification particulars section with canvassed data of locality code, building number and house hold number. House hold information section summarized the distribution of the population in house hold being enumerated.

The third part is the main questionnaire which collected data on twelve socio-economic characteristics of the respondents. There were eight rows and fourteen columns on each part of the questionnaire and the column consisted of the following items: Serial number within household; name relationship to head of house hold; sex, age; disability; home place; home L.G.A; literacy level; martial status; work status; occupational status and provision for thumbprint. The fourth part was for

iii. Population Distribution by Age in five years groups and sex

The population of Nigeria is very young. About 34 percent of the population are children under 10 years; and about 45 percent are under age of 15 years. The distribution is identical for both the male and female populations. About half the population, (51.8 Percent) are in the active age group of 15-64 years. There are more females in this age group (23,675,975) or 51.4 percent) than males (22,415,477) or 48.6 percent). Ageing has not become an important feature of the Nigeria population. Only 3.6 percent of male, and 3.0 percent of females are aged i.e. about 64 years.

Note: Using the 1952/53 census as based, the growth rate between 1952/53 and 1991 was estimated at 2.83% per annum. A point of clarification is, however, necessary with respect to other growth rates that have been estimated for the country, and which have been canvassed by some agencies. These growth rates, which range between 3.2 and 3.1 were derived using the Nigerian fertility surveys 1981/82 and demographic and Health Survey, 1989 respectively. These are periodic estimates from survey data.

The growth rate of 2.83% per annum was used to project the population to 1996 giving the year population of 102.5 million in 1996 e.g. (88.992) (1.0283)5.0833 = 102.55 population, Distribution by age in five years groups and sex:

AGE GROUP	MALE	IN %	FEMALE	IN%	BOTHS SEXES	IN%
0 – 4	7,344,454	16.5	6,999,435	15.7	14,343,889	16.1
5-9	7,374,314	16.6	7,126,144	16.0	14,500,458	16.3
10 -14	5,82,538	13.1	5,336,143	12.0	11,148,681	12.5
15 -19	4,528,811	10.2	4,806,977	10.8	9,335,788	10.5
20 - 24	3,314,303	7.4	4,357,267	9.8	7,671,570	8.6

25 - 29	3,304,739	7.4	4,006,932	9.0	7,311,671	8.2
30 - 34	2,808,629	6.3	3,105,298	7.0	5,913,927	6.6
35 - 39	2,206,871	5.0	2,008,062	4.5	4,214,933	4.7
40 - 44 45- 49	1,971,197 1,355,101	4.4 3.0	1,874,721 1,061,602	4.2 2.4	3,845,918 2,416,703	4.3 2.7
50 -54	1,388,650	3.1	1,182,149	2.7	2,572,799	2.9
55 - 59	638,375	1.4	481,394	1.1	1,119,769	1.3
60 - 64	898,801	2.0	791,573	1.8	1,690,374	1.9
65- 69	406,540	0.9	357,400	0.8	763,940	0.9
70 - 74	492,186	1.1	394,116	0.9	886,302	1.0
75 - 79	195,455	0.4	156,368	0.4	351,823	0.4
80 - 84	258,059	0.4	222,627	0.5	48,686	0.5
85 +	230,585	0.6	194,404	0.4	424,989	0.5
TOTAL	44,529,608	0.5	44,462,612	50.0	88,992,220	100.0

iv. Population Density:- From the table below it is deduced that Abuja (FCT) has the low population density which is 5.1. This population density include: Land Area (sq.Km.) but raised to 59.5 population density 1999.

AREA COUNCIL	LAND AREA (SQ. KM)	POPULATION NOV. (1991)	DENSITY	POPULATION Jun. (1999)	DENSITY
ABAJI	980.85	21,.081		27,738	29.7
ABUJA MUNICIPAL	1,990.87	156,027		205,170	108.3
BWARI	906.78	70,922		93,449	108
GWAGWALADA	1,387.1	47,257		61,830	47.1
KWALI	953.91	32,050		42,520.4	46.4
KUJI	1,497.08	44,338		58,339.699	41.0
TOTAL AREA (FCT)	7716.58	371,674	51	489,046.7	66.5
		51			66.53

DENSITY = POPN/LAND (SQ.KM)

POPULATION: = DENSITY * LAND (SQ.KM).

LAND (SQ.KM) = POPULATION/DENSITY.

iv. Population density:- From the table it is deduced that Abuja (FCT) has the low population density which is 5.1. This population density include: Land Area (sq.km) but raised to 66.53 population density by the year 1999

v. Population in state by sex and sex ratio:- This will allow one to know the level of sex in terms of low, balanced, and high sex ratios respectively. The case of Abuja (FCT) is unique in terms of masculinity with 123.40.

The total population of Abuja as recorded in the 1991 population census, was 371,674 of this figures, 205,299 (or 55.2 percent) are Males while 166,375 (or 44.8 percent) are Females.

The Census showed are makably balanced distribution males than females. The overall sex ratio shows that for every 100 females, there are 123 males, or for every 10,000 females there 12300 males.

As for the total population of Abuja 1999 population Census projection is 489,045 of this figures, 270,131 are males while 219,715 are females.

The Census showed a remarkable balanced distribution males and females in Abuja 1999. There are only 52216 more males than females.

ABUJA PROJECTION:

Pij = No Exp (r_m * t).

No = Initial Population = 371,674

r_m = Growth rate = 3.619%

t = Time (Number of years covered, Nov, 91 – Jun, 1999).

:. Pij = 371,674 Exp (3.619 X 9.0833)

= (37,1674)(1.03619)8.5833

vi Economical Active Population:- The economically active population is defined as "all persons of either sex who furnish the supply of labour available for the population of Economic goods and services". This group comprises enterprises employers, employees, self employed persons as well as persons who assist in family enterprises with or without pay.

3.5 DATA COLLECTION CONTROL

The collection of data for processing involves transcribing it into a form suitable for machine processing. There is very real possibility of error at this stage, for control must be imposed to prevent of detect transcription of errors. The type of control depends on the method of data collection.

Data processing naturally follows Enumeration. It commenced immediately after the retrieval of the census form the filed for the general administration of the commission and for ease of handling the huge data generated. The country was divided into seven zones. In each of the zones a Data Processing Centre (DPC) was established. The main function of each DPC was to perform manual coding and editing of the NPC01 and NPC02 census questionnaire, enter the data into the computers and then clean the data of errors and in consistencies using appropriate software.

The DPC were also to aggregate the validated data from the EA level through LGA or AC and state levels into Zonal level. In general, the procedure adopted in handling/processing the data generated at census included the following activities; checking of questionnaires; manual coding; Data entry and verification; data validation; and tabulation.

However, for many years the delay spoken of earlier in terms of batch processing was aggravated by the time it took for data to pass through all the stages

of data collection prior to processing. Newer methods of data collection have helped to reduced data collection times. The change to key-to-disk eliminated media conversion. The use of OCR/MICR eliminated the transcription process.

3.6 DESCIPTION OF THE OLD SYSTEM IN TERMS OF ITS LIMITATIONS.

The pressure of census were originally introduced as aid to systematic process of analyzing problems of the masses and development of suitable computer based solutions. In recent years census done manually has been heavily criticized as being cumbersome and in efficient tools for the job. Newer alternatives have been introduced and widely adopted. From the previous records of census in Nigeria, some states including Abuja, it shows that there are some unidentified problems associated with previous censuses in the country, and no suggested means of overcoming the problems. Some of the problems identified included the fact that Census was seen as machinery for the sharing of National revenue and allocation of seats in government which led to the general tendency of inflate figures. The public was noted to have no confidence in the whole census exercise as they viewed the Census official as political agents. Religion and tribal undertone were therefore introduced into census. Sectionalism and paroclialism was exhibited by even those into whose hands the census exercise was entrusted. Lack of public education/understanding and the suspicion of the rural population of the purpose of the entire census exercise were also shown as amongst the limitation.

It is also gathered that, most of the vital census document has been kept or handle manually. In cases like this termites, cockroaches and rats can easily eat them up and this will lead to loss of important document.

3.7.1 INPUT

Some of the data to be inputs into the computer were as follows: Age; Disability; Serials numbers within house-hold; name relationship to head of house hold; sex; Nationality; home place; home LGA/AC; literacy; marital status; work status; occupational status; etc.

When data is first input to the computer different checks can be applied to prevent errors going forward for processing.

For this reason, the first computer run is often referred to as

VALIDATION OR DATA VET.

Consideration of input will be influenced greatly by the need of output e.g. The necessity for quick response from the system would determine the need for an on-line type of input consideration would be given to:

(a) Data collection methods validation

(b) Volumes of input document

(c) Types of input media-available

(d) Design of input document.

Further checking is possible when the data input are been processed. The consistency of the input data with existing stored data can by the program. It is possible to perform checks of this types during the input run.

3.7.2 PORCESSING

These are step that unify the whole process, that link every thing together to produce the desire output. Theses will involve both computer and clerical procedures. They will start better with the origination of the source document and end with the output document being distributed.

The design of the computer program will constitute a major task in itself.

Some of the processes involved in carry out effective census include:

1. **Census Planning:** For effective performance, the commission created eight department and two other services units. (the internal Audit and the Office of the Secretary to the Commission. In addition to the National Headquarters then in Lagos, the commission had offices in all of the then 30 states and Abuja and the 593 LGA/Acs in the Federation. The LGAs were considered as the units of census operation for the purpose of logistics, public enlightenment, data collection and processing.

2. **Census Mapping:** This process was carried out as a result of inadequacies stated with gathering topographic and cadastral maps at relevant scales for the carried of Enumeration Areas (Eas).

3. **Pre-tests And Trial Census:** Then main objectives of the pretests were to determine the adequacy of the data collection instruments, procedures and facilities for the Census. They were to also evaluate the field returns and to determine the areas where reviews were necessary.

4. **Public Enlightenment Program:** The focus of public enlightenment was therefore on creation general awareness, making census information accurate and available to all and to solicit people's understanding and co-operation.

Other processes include:- Census Enumeration; Census Data process; Dissemination of Results; Census wall chart etc.

3.7.3 OUT PUT

It is necessary to consider what is required from the system before deciding how to set about producing it. After passing through all the above process/procedures, it should be developed that will be disseminated and in a manner that would be understood and there by meet users demand.

Choice of output media will also have to be made including when to use hard copy and when to use screen display.

It is envisaged that the strategy for disseminating the census data to promote the extensive application should include the following: Press/Radio/TV coverage of the presentation of census reports to the government. Press release on the Census results, Radio/TV discussion of highlights the census result, census data users and workshops; Thematic seminars; mass production of proto-type census tables and Announcements on availability of census data on various media (publication, print-out, diskettes).

3.8 HOW THE OLD SYSTEM AFFECTS DECISION MAKING

As far as Census was introduced formally as aid to systematic process of analyzing problems of the masses; for adequate planning and provision for members of the society. Theses more easier, computer serve as an aid for more effective census planning and development of suitable computer based solution.

Some of the areas to note as part of decision making include:

A. **ON-LINE PROCESSING:** This method involve some physical transportation of data or manual intervention in the data collection process. The data sources itself can be linked directly to the computer in which case there is no manual intervention and the whole process is automatic. The work of the enumerators will be come easier, if they have on-line access to the computer introduced to all enumeration areas (Eas). This "On-line data entry" may take place means of data transmission equipment or as part of a distributed system.

The advantage of "On-line" processing is that data is less out of data when it arrives in the computer. As a results file reflect a much more upt to date.

The result of census processing will be available more quickly as they can be back to the same terminal if need be.

It should be noted that on-line system of involving transporting the census data by post. How ever, the Advantages lie in the time saved and the availability of more up to date information.

B. **DATA SECURITY:**

This is the term given to all measures which protect against the loss or misuse of data. It was noted that the census data generated by the use of questionnaire was been kept manually, where by termites, rats, cockroaches, etc can easily destroy them. This will definitely result into loss of data or labour loss. We can draw a distinction from External and Internal Measures.

(i) **EXTERNAL MEANSURE**

(a) Keep data in a safe place.

(b) Making periodic back up copies of data inventory and program libraries.

(ii) **INTERNAL MEANSURES**

(a) Protecting data against unauthorized overwriting.

(b) Protecting files against unauthorized access with pass word.

(c) Preventing the input of false data with validation checks.

(d) Using parity check to prevent errors in storage and transfer.

CHAPTER FOUR

4.0 SCREEN DESIGN

4.1 PROGRAM DESIGN

Digital Computer is an electronic machine that can only perform a procedural task based on the sets of instructions coiled into it to perform such task. There sets of instructions must be in a specified syntax that computer can understand and execute. It is called computer Programming Language.

Programming language therefore are finite sets of instructions in a specific syntax that can be interpreted and executed by computer to accomplish a given procedural-task.

Any computer programming language should have some attributes in common. These attributes include the following.

i. Precision: The program sets of instructions and steps must a void of assumptions.

ii. Finite: It must not be an infinite sets of instructions.

iii. Termination: The execution of the instructions of the program must be capable of termination in the case of instructions that have repeated execution.

iv. Specification: It must be presented in a specific syntax.

v. Out put: Any programming language should be capable of generating at least a result after its implementation.

vi. Flexibility: It must accommodate for any change whenever it requires.

4.2 OVER VIEW

After layout has been completed and saved, it is possible to design a data entry from on the screen resembling the questionnaire. The screen design may be used for data entry, verification, and modification. If there is no screen (or if the screen has not been completed), PC – Edit uses the line entry mode or the new prompt mode based on available field description.

To use the Screen Design Program, the user must first have a layout file containing all the fields that will be placed on the screen form. Then, data entry form with all the fields can be designed.

If a screen form is part of the layout, the system will ask you if you want to use this when accessing the data entry, verification, and modification programs. However, if all the fields have not been placed on the form, PC-Edit will not be able to use the screen design for data entry, verification or modification. The system will work in the line entry mode as when there is no screen design. The screen design has to be completed (all the fields have to be placed) prior to using it with the Data Entry Programs. Any change in the physical structure of the layout (New fields, fields deleted, field length modified) will have some consequences on the location of the fields on the screen design.

These fields have to be placed on the form again in the correct location with appropriate adjustments made according to the new or revised fields. Otherwise, the system will not able to use the screen as mention above.

To be sure that all the fields have been placed on the screen, the F2 key will be use to list available fields when placing a field on the form. As fields are placed on the screen, they are removed from F2 field list window. When all the fields in the layout have been placed on the screen form, the field list window will be empty.

CONTROL KEY DESCRIPTIONS FOR DATA ENTRY

DATA ENTRY (F2)	CONTROL KEY DESCRIPTION
F2:	Show Field Valid Values
Ctrl/E:	Edit Mode for Field
Ctrl/F:	Force Value into Field
Ctrl/G:	Go To Column (Field)
Ctrl/L:	List Labels If Available
Ctrl/Q:	Save Data and Quit
Ctrl/S:	Save Data and Continue
Ctrl/W:	Display Work in Record
Entry Key:	Next Field in Record
Up Arrow:	Preceding Record in File
Down Arrow:	Next Record in File
Left Arrow:	Preceding Field in Record
Right Arrow:	Next Position in Field
Back Space:	Preceding Position in Field.
HIT ANY KEY TO RETURN INPROGRAM	

The following information about data entry is provided.

The number of errors per file committed during data entry. The number of errors is the number of times on invalid value was entered. This count is tallied from every session.

The number of times (Ctrl-F) key has been used to force a value into a field. This information enables a supervisor to check an operator's data entry performance, making sure that values are carefully analyzed and not simply forced into fields.

CONTROL KEY DESCRIPTIONS FOR FILE STATISTICS

4.3 NEW PHILOPHY FOR AN INTELLIGENT DATA ENTRY

The (F2) Data Entry Program is used to input raw data in to data file according to the file layout and edit rules specified using the file layout maintenance (F1).

A new file can be created or data may be appended (added) to an existing data file.

Only valid values can be entered during data entry. As data is keyed in, constants are automatically entered, skips are implemented, range checks occur, onto increments and any consistency checks are performed according to the program logic specified when the file layout was defined. For exceptional cases, an option is provided to force a value into a field that does not pass the edit checks.

Value labels can be defined using X table, list can be displayed in a window during data entry and code entered only by label selection.

In census and survey work, statisticians and demographers should pay more attention to questionnaire design, sampling, and data collection than to procedures for data entry, coding and editing. With pressures to speed up data processing in order

to produce quick results, more errors are likely. With advent of portable computer, this is changing and data entry can take place at the time data are collected, thus contributing to improved data quality. However, the data processing strategy for large scale data entry should not be applied for smaller scale data collection efforts such as post enumeration checks, complex sample surveys, vital and civil registration and administrative data in general.

Data edit rules are fundamental in improving the overall data quality and consistency of the ultimate out puts. Formatting editing rules for computer applications is generally a complex process that requires considerable substantive work. Such a process depends upon experience in subject matter areas such as demography, education and labour markets as well as country and region specific knowledge.

Interactive environments such as microcomputers after the possibility of improving the process of refining the set of edit rules and using them directly at t he data entry stage, leading to an improvement in final data quality.

4.4 EDITING SOFT WARE:

Intelligent data entry soft ware allows for the development of data entry applications, data entry itself, verification, Addition secondary editing, data modification, and collection of statistics on the data entry operations.

With intelligent data entry, only valid values can be entered during data entry. As data are keyed, constants are automatically entered, skips are implemented, and range checks occur, auto program logic. For exceptional cases, an option is provided to forecast value into a field that does not pass the edit checks.

A New development is to include on-line look-up table internal to the data entry program that can be used to assign codes to written responses on the

questionnaire. For example, with PC-EIDT/X table value labels are defined using X table. The list of values can be displayed in a window during data entry using PC-EDIT, and a code entered in the data file selecting the label corresponding to the written response.

With intelligent data entry data are basically clean immediately after entry is completed. Secondary editing involving complex internal consistency and structure checks that require the review of several sections of questionnaire and needs to be simple to use so data processing people need not be involved a lot. (This will not be possible in some countries, but at least decrease the time it takes to develop the data entry and data editing programs). It should also provide for either internal or external coding tables so the existing and transcription phase prior to data entry can be eliminated. While this may slow down the data entry operator somewhat it should not be a major problem if data entry operators are trained on the purpose of the survey and the content of the questionnaire. It is trade off between faster data entry with longer data editing and slower data entry resulting in virtually clean data files.

With the new soft ware and powerful microcomputers, it should be possible to accommodate both entry to the production of clean statistical tables must be considered, not just the amount of time devoted to any one phase of census and survey processing.

4.5 CODING AND DATA ENTRY

Coding is the conversion of all responses to the questionnaire to numbers of data entry and tabulating. During the design stage of the questionnaires each – question is assigned a data field, which becomes the record of each respondent's answer. For each question, the anticipated answers are then assigned a code number. In recording answers the interviewers circle the pre-code that matches the response

given. If the questionnaires themselves are used for coding and data entry, the interviewer will then code each question in appropriate space, usually the right margin. If separate coding sheets are used the responses from each questionnaire will be recorded on a code sheet.

The coding operation may involve one of the three alternatives:

(a) Assigning numerical codes to responses recorded in words or in a form requiring modification before data entry. These include items such as geographic location, occupation, industry and other open-ended questions. This is "Coding" proper.

(b) Transcription, in which numeric codes already assigned and recorded during the interview are transferred (rewritten) on special spaces provided in the questionnaire or onto separate coding sheets.

The objective is to facilitate data entry.

In certain cases no coding or transcription is required, that is, the numeric responses recorded by the interviewer are directly used for data entry.

It is generally preferable to code all the questions recorded in the questionnaire separately and not to condenses the range of responded in the question at the coding stage. It may seem that some questions need not be coded at all, or that combining several questions into one code can save space. However, such false economy can result in loss of valuable information and certainly increase the risk of making errors. Further more, some redundancy in the coded information can be useful in checking internal consistency of the information recorded.

All questions which have answers in the same range (e.g. questions with Yes/No responses) should have these code in the same way and same order.

Categories common to all questions, such as "not known" or "not stated" should be coded in a standard way.

As discussed earlier, mistakes in coding and data entry are major causes of non-sampling errors in survey research. Quite commonly codes may be incomplete, incorrect, impassible, insistent, or illegal. Some examples of these mistakes are described below.

INCORRECT CODE: The respondent says no (cod2), but the interviewer circle code 1 (for yes). This types of errors is unlikely to be detected unless a follow up question reveals an inconsistency. Also circling two or more codes where only one is allowed in incorrect coding.

INCOMPLETE CODE: This interviewer fails do record all codes. For any question without a code, the respondent's answers are lost to analysis. If multiple responses are permitted but not all recorded, detail will be lost.

ILLEGAL CODE: A code that is out side the accepted range of codes for a set of responses is illegal. If a question is coded S for a set of responses for which 1 to 3 are the only acceptable codes, an error has been made. It may be possible to check the questionnaire cannot clear up the problem, it is coded as a no responses. Errors such as these which are not discovered during data entry and verification will confound the table when printed.

IMPLAUSIBLE CODE: The spouse is coded as being unemployed but also for having an income of $20,000. One code or the other may be incorrect. It may be possible to go back to the respondent for verification.

INCONSISTENT CODE: These error are the least obvious but are often detected when the code does not fit some pattern. For example, the respondent may say that they believe girls should be educated as much as boys, but later it is determined that

their daughters quite school at a very your age. Here it cannot be assumed that there is in error in coding.

4.6 PACKAGE FOR DATA ENTRY USING PC-EDIT

A package has been developed that will accept data entry. This package was designed in form of questionnaire.

PC-EDIT is an easy way to use inlet gent data entry and editing soft ware created to handle any type of questionnaire. It generates or processes flat or hierarchical file. It is well suited for processing censuses, vital and civil registration records or any other administrative data. The user can define editing rules to easily handle simple and complex data structures without any programming knowledge and skills!.

Special facilities to design and process multiple occurrence record types.

Screen design option to easily "paint-the-screen" likes the questionnaire.

PE-EDIT is specially designed for PC architecture and developed in Assembler to provide the best performance on any hardware configuration.

4.7 SYSTEM IMPLEMENTATION

This is where many will design system go wrong, where by the users do not know how to work with the new system. It is however, it is the system analysis to train both

the user and data processing in the use of the news system. The system should not go operational until it has been proven error free and the users are familiar with its operation.

Progressively, the conversion process can then takes place. I.e. changing from the old system to new system.

The recommended approach is "pilot approach" for a considerable period of evaluation and user's friendly.

CHAPTER FIVE

5.0 SUMMARY/CONLUSION

5.1 SUMMARY

It was recorded that Census taking in Nigeria started in Lagos, during the early colonial period and carried out manually. However, computerized census system was embarked upon in the lat 50s for the purpose of simplicity. The rapid growth in the population makes proper Co-ordination difficult.

In the light of this, the need to apply computer technology in census becomes absolutely necessary thereby building up an efficiency and accuracy in Lagos state population figure as the populace increase while counting system becomes more complex.

In the light of the above, statisticians and demographers should pay more attentions to questionnaire design, sampling and data collection than to procedures for data entry, coding and editing

This arrears will check every field of transaction to be processed by the system for completeness and correctness and it give rooms for any detected error for correction.

5.2 CONCLUSION

The problems affecting accuracy in population figures would continue to persist if adequate public enlightenment program was not given high priority towards the largely act of illiteracy affecting most of the populace.

In addition, the users department should ensure that there is an intelligent data entry applications, verification and modification. This system will handle all manual records and the modified records into modern form of technology.

However, this project may be verified, upgraded or modified if the arises, otherwise, the project should remain in fact and no part of this research work should be in any form reproduced with out the prior permission of the author.

5.3 RECOMMENDATIONS

This project is highly recommended to National Population Commission for the next Census coming up in year 2001.

The pilot approach is recommended as the mode of conversion, that is the above process could be set up in Abuja (FCT) before the total or general enumeration.

GLOSSARY

EAS - Enumeration Areas

LGA - Local Government Area

PES - Post Enumeration Survey.

DPS - Data Processing Centre

OCR - Optical Character Recognition

MICR - Magnetic Ink Character Recognition

GIGO - Gabage-in-Gabage-out.

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```
      WRITE(6,45)GWALM(I+1),GWALF(I+1),GWALT(I+1)
   45 FORMAT(/2X,'GWALADA',9X,3(F11.3,7X))
      GO TO 12
   50 ESTM=AKUJEM(1)
      ESTF=AKUJEF(1)
      CALL POPEST(ESTF,ESTM,R,T,PGRM,PGRF)
      AKUJEM(I+1)=PGRM
      AKUJEF(I+1)=PGRF
      AKUJET(I+1)=AKUJEM(I+1) + AKUJEF(I+1)
      WRITE(6,55)AKUJEM(I+1),AKUJEF(I+1),AKUJET(I+1)
   55 FORMAT(/2X,'KUJE',12X,3(F11.3,7X))
      GO TO 12
   60 ABUJM(I+1)=ABAJM(I+1)+ABAMM(I+1)+GWALM(I+1)+AKUJEM(I+1)
      ABUJF(I+1)=ABAJF(I+1)+ABAMF(I+1)+GWALF(I+1)+AKUJEF(I+1)
      ABUJT(I+1)=ABAJT(I+1)+ABAMT(I+1)+GWALT(I+1)+AKUJET(I+1)
      WRITE(6,65)ABUJM(I+1),ABUJF(I+1),ABUJT(I+1)
   65 FORMAT(/2X,'ABUJA FCT',7X,3(F12.3,4X),//)
   12 CONTINUE
   10 CONTINUE
      STOP
      END
C
C
C
      SUBROUTINE POPEST(ESTF,ESTM,R,T,PGRM,PGRF)
      IMPLICIT DOUBLE PRECISION(A-H,O-Z)
      PGRM = ESTM*EXP(R*T)
      PGRF = ESTF*EXP(R*T)
      RETURN
      END
```

```
C         MAIN PROGRAMM POPPROJECT
C         USING SUBROUTINE POPEST
C

      IMPLICIT DOUBLE PRECISION(A-H,O-Z)
      DIMENSION ABAJM(9),ABAJF(9),ABAJT(9),ABAMM(9),ABAMF(9),
     *ABAMT(9),GWALM(9),GWALF(9),GWALT(9),AKUJEM(9),AKUJEF(9),
     *AKUJET(9),ABUJM(9),ABUJF(9),ABUJT(9),B(9),D(9)
C     OPEN(UNIT=2,FILE='INPUT')
      OPEN(UNIT=6,FILE='OUT.FOR')
      ABAJM(1)=10833.0D0
      ABAJF(1)=10248.0D0
      ABAMM(1)=129388.0D0
      ABAMF(1)=97561.0D0
      GWALM(1)=42656.0D0
      GWALF(1)=36650.0D0
      AKUJEM(1)=22422.0D0
      AKUJEF(1)=21916.0D0
      R=0.036190D0
      T=0.00D0
      DO 10 I=1,8
      M=I+1
      WRITE(6,1)M
    1 FORMAT(/1X,'POPULATION PROJECT. IN L.G.AS IN ABUJA, 199',I1)
      WRITE(6,3)
    3 FORMAT(/2X,'L.G.A.',13X,'MALES',10X,'FEMALES',10X,'BOTH SEXES')
      IF(I.GT.1)GO TO 4
      T=T+0.58333D0
      GO TO 8
    4 T=T+1
    8 DO 12 J=1,5
      GO TO(20,30,40,50,60)J
   20 ESTM=ABAJM(1)
      ESTF=ABAJF(1)
      CALL POPEST(ESTF,ESTM,R,T,PGRM,PGRF)
      ABAJM(I+1)=PGRM
      ABAJF(I+1)=PGRF
      ABAJT(I+1)=ABAJM(I+1) + ABAJF(I+1)
      WRITE(6,5)ABAJM(I+1),ABAJF(I+1),ABAJT(I+1)
    5 FORMAT(//2X,'ABAJI',11X,3(F11.3,7X))
      GO TO 12
   30 ESTM=ABAMM(1)
      ESTF=ABAMF(1)
      CALL POPEST(ESTF,ESTM,R,T,PGRM,PGRF)
      ABAMM(I+1)=PGRM
      ABAMF(I+1)=PGRF
      ABAMT(I+1)=ABAMM(I+1)+ABAMF(I+1)
      WRITE(6,35)ABAMM(I+1),ABAMF(I+1),ABAMT(I+1)
   35 FORMAT(/2X,'ABUJA MUN',7X,3(F11.3,7X))
      GO TO 12
   40 ESTM=GWALM(1)
      ESTF=GWALF(1)
      CALL POPEST(ESTF,ESTM,R,T,PGRM,PGRF)
      GWALM(I+1)=PGRM
      GWALF(I+1)=PGRF
      GWALT(I+1)=GWALM(I+1) + GWALF(I+1)
```

POPULATION PROJECT. IN L.G.AS IN ABUJA, 1992

L.G.A.	MALES	FEMALES	BOTH SEXES
ABAJI	11064.123	10466.642	21530.766
ABUJA MUN	132148.509	99642.476	231790.984
GWALADA	43566.071	37431.932	80998.003
KUJE	22900.376	22383.580	45283.957
ABUJA FCT	209679.079	169924.631	379603.709

POPULATION PROJECT. IN L.G.AS IN ABUJA, 1993

L.G.A.	MALES	FEMALES	BOTH SEXES
ABAJI	11471.868	10852.368	22324.235
ABUJA MUN	137018.555	103314.583	240333.138
GWALADA	45171.604	38811.405	83983.009
KUJE	23744.320	23208.479	46952.799
ABUJA FCT	217406.346	176186.834	393593.180

POPULATION PROJECT. IN L.G.AS IN ABUJA, 1994

L.G.A.	MALES	FEMALES	BOTH SEXES
ABAJI	11894.638	11252.308	23146.947
ABUJA MUN	142068.077	107122.018	249190.094
GWALADA	46836.305	40241.715	87078.020
KUJE	24619.365	24063.777	48683.142
ABUJA FCT	225418.385	182679.818	408098.203

POPULATION PROJECT. IN L.G.AS IN ABUJA, 1995

L.G.A.	MALES	FEMALES	BOTH SEXES

ABAJI	12332.989	11666.988	23999.977
ABUJA MUN	147303.687	111069.767	258373.454
GWALADA	48562.356	41724.736	90287.092
KUJE	25526.658	24950.595	50477.254
ABUJA FCT	233725.691	189412.086	423137.776

POPULATION PROJECT. IN L.G.AS IN ABUJA, 1996

L.G.A.	MALES	FEMALES	BOTH SEXES
ABAJI	12787.495	12096.949	24884.444
ABUJA MUN	152732.245	115163.002	267895.247
GWALADA	50352.016	43262.411	93614.426
KUJE	26467.388	25870.095	52337.483
ABUJA FCT	242339.144	196392.457	438731.601

POPULATION PROJECT. IN L.G.AS IN ABUJA, 1997

L.G.A.	MALES	FEMALES	BOTH SEXES
ABAJI	13258.750	12542.756	25801.506
ABUJA MUN	158360.860	119407.085	277767.945
GWALADA	52207.630	44856.753	97064.383
KUJE	27442.786	26823.481	54266.268
ABUJA FCT	251270.027	203630.075	454900.102

POPULATION PROJECT. IN L.G.AS IN ABUJA, 1998

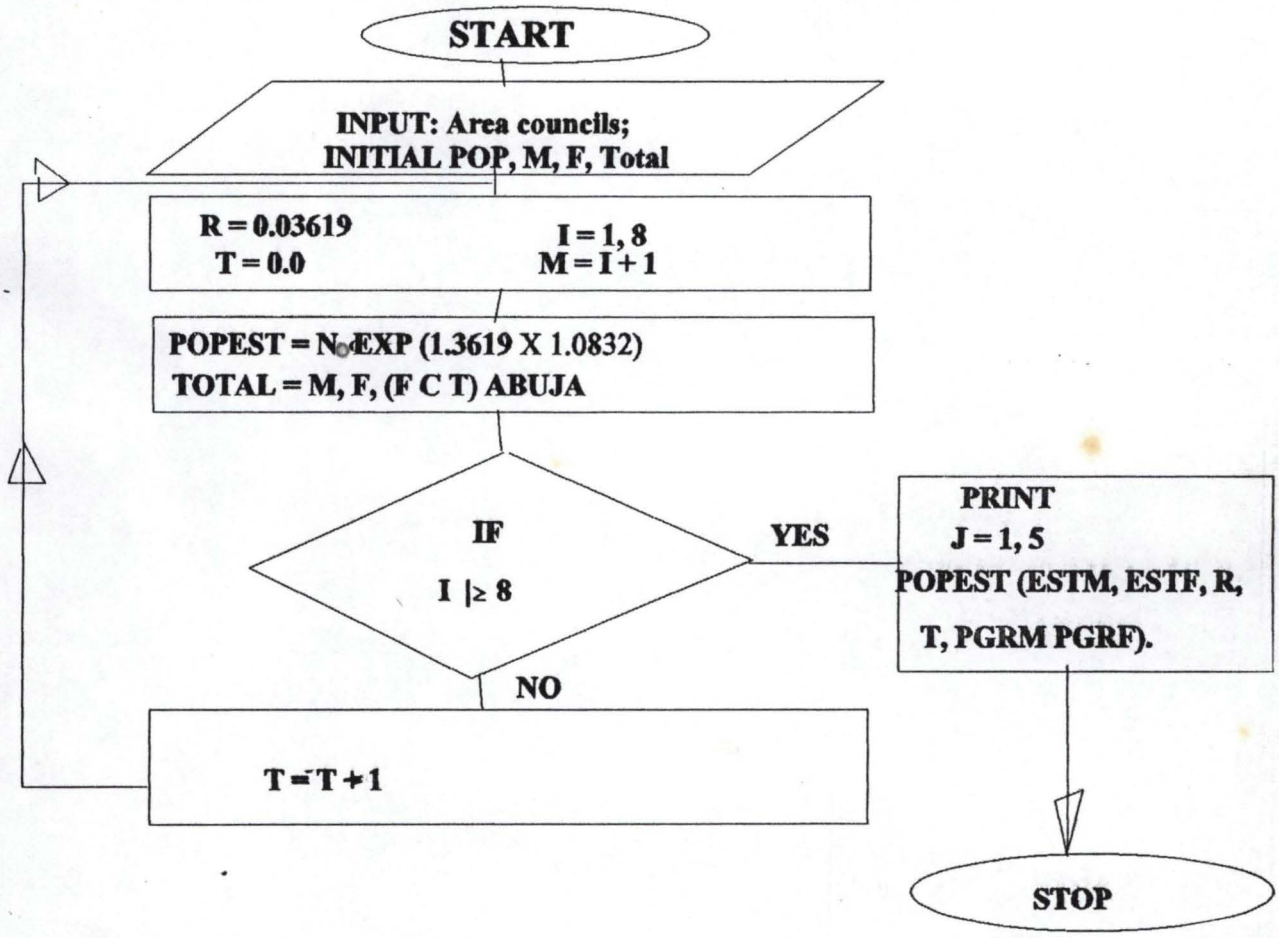
L.G.A.	MALES	FEMALES	BOTH SEXES
ABAJI	13747.373	13004.992	26752.365
ABUJA MUN	164196.906	123807.574	288004.480
GWALADA	54131.629	46509.851	100641.480

KUJE	28454.130	27812.003	56266.133
ABUJA FCT	260530.039	211134.419	471664.458

POPULATION PROJECT. IN L.G.AS IN ABUJA, 1999

L.G.A.	MALES	FEMALES	BOTH SEXES
ABAJI	14254.002	13484.263	27738.265
ABUJA MUN	170248.027	128370.233	298618.260
GWALADA	56126.533	48223.871	104350.404
KUJE	29502.746	28836.954	58339.699
ABUJA FCT	270131.308	218915.320	489046.628

FLOW CHART.


START
INPUT: Area councils;
INITIAL POP, M, F, Total
R = 0.03619
T = 0.0
I = 1, 8
M = I + 1
POPEST = N₀EXP (1.3619 X 1.0832)
TOTAL = M, F, (F C T) ABUJA
IF
I |≥ 8
YES
NO
PRINT
J = 1, 5
POPEST (ESTM, ESTF, R,
T, PGRM PGRF).
T = T + 1
STOP

NPC 50467204
01

QUESTIONNAIRE IDENTIFICATION

Locality Code | Building No. | Household No.

Locality Name

CONFIDENTIAL

FEDERAL REPUBLIC OF NIGERIA
NATIONAL POPULATION COMMISSION
1991 POPULATION CENSUS

HOUSEHOLD INFORMATION

Household Type | Male in Household | Female in Household | Both Sexes

If Institutional Household, specify type

NPC 50467204
01

QUESTIONNAIRE IDENTIFICATION

Same
L.G.A.
E.A.

Locality Code | Building No. | Household No.

Locality Name

	FOR ALL RESPONDENTS						FOR NIGERIANS ONLY		FOR PERSONS 4 YEARS AND ABOVE	FOR PERSONS 10 YEARS AND ABOVE			THUMB-PRINT OF RESPONDENT
SERIAL NUMBER	NAME	RELATIONSHIP TO HEAD OF HOUSEHOLD	SEX	AGE	DISABILITY	NATIONALITY	HOME PLACE	HOME L.G.A.	LITERACY	MARITAL STATUS	WORK STATUS	OCCUPATION	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Circle Serial No. of Guests/ Visitors	Full names of all members of household present including guests and visitors, beginning with head of household. (WRITE SURNAME FIRST)	What is your relationship to the head of the household? 1-Head 2-Wife 3-Husband 4-Son 5-Daughter 6-Parent 7-Others 8-Institutional Household	1-Male 2-Female	What is your age (in completed years)?	Nature of disability 1-Not disabled 2-Deaf 3-Dumb 4-Deaf and dumb 5-Blind 6-Crippled 7-Mentally retarded/ Lunatic 8-Others? (Specify)	What is your nationality? 0 1 1 NIGERIAN If non-Nigerian specify and go to col. 10	What is the name of your Home Place?	What is the name of the L.G.A. of your home place?	Can you read and write with understanding in any language? 1-Yes 2-No	What is your Marital Status? 1-Never Married 2-Married 3-Separated 4-Divorced 5-Widowed	In respect of the last six months, which of these applies to you? 1-Working now 2-Worked before but not now 3-Seeking for a job 4-Homemaker/ housewife 5-Student 6-Income recipient 7-Others? Specify	If you are currently working or ever worked during the last six months, what type of work did you do? (In respect of 1 or 2 in Col. 12)	Repeat the Serial Number as in Col. 1 but do not circle those of guests and visitors

IF HOUSEHOLD CONTAINS MORE THAN 8 PERSONS, CONTINUE ON THE NEXT PAGE(S) AND FILL THE CONTINUATION COLUMNS AT THE BOTTOM RIGHT CORNER OF THE QUESTIONNAIRE

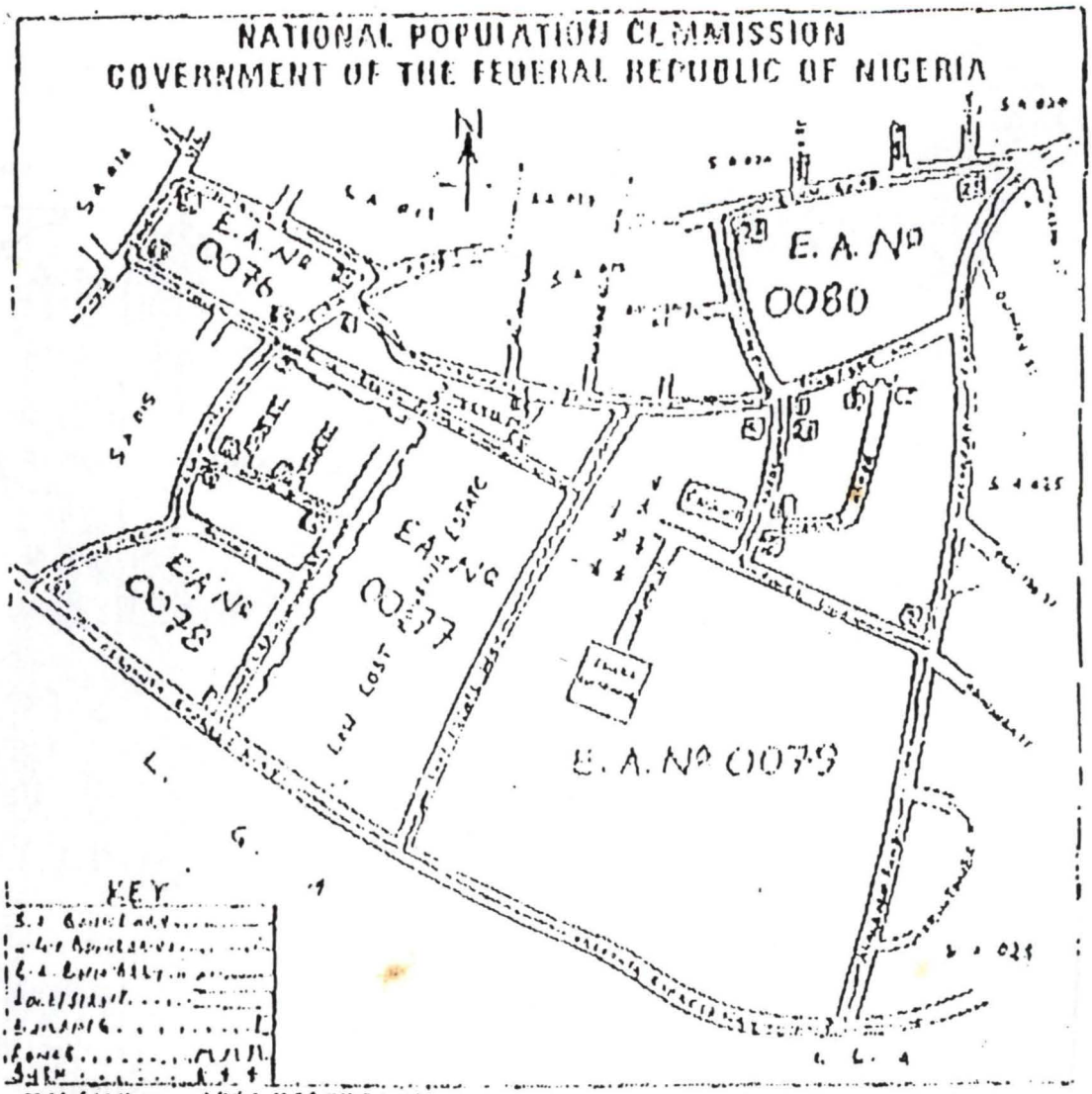
Continuation for the "Continued" and indicate the "page number"

Continued	Page No.

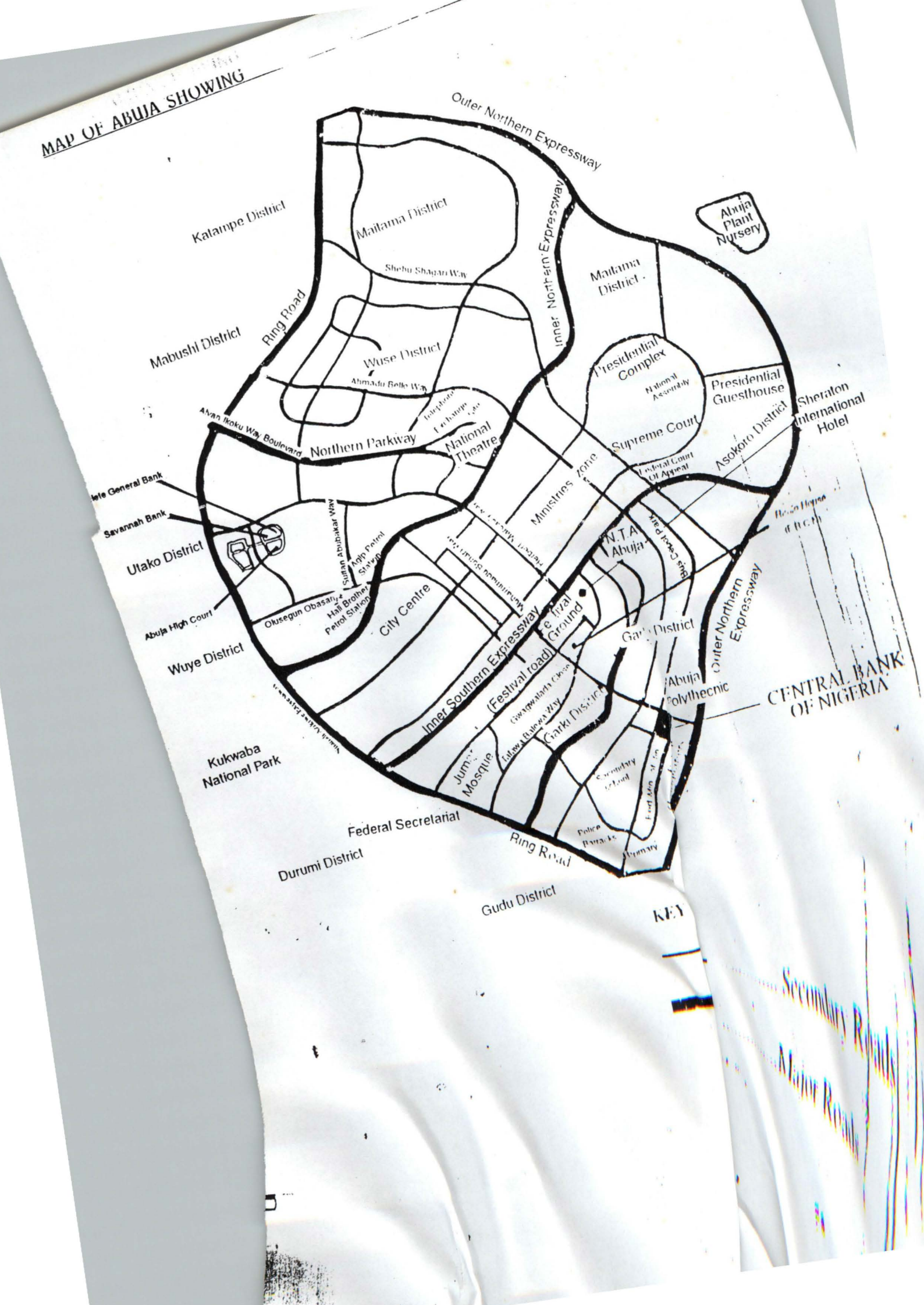
Continuation for the "Continued" and indicate the "page number"

Continued	Page No.

NATIONAL POPULATION COMMISSION
GOVERNMENT OF THE FEDERAL REPUBLIC OF NIGERIA



SUPERVISORY AREA DESCRIPTION The E.A. is made up of 3 E.As nearly: [illegible] street 0076, [illegible] road 0077, [illegible] EXPRESS WAY/[illegible] STR. 0078, [illegible] STREET 0079 [illegible]. It is bounded in the north by [illegible] street, [illegible] street, [illegible] street. In the East by [illegible]. In the South by [illegible] Expressway and in the West by [illegible] street, [illegible] Road, power line and [illegible] street.

Drawn BY ALITU [illegible]	Date	Rev	State LAGOS	1 4
Checked			L.G.A. AGEGE	0 1
Designed			[illegible]	
Approved			E.A. No.	[illegible]
Reviewed			Scale	Sheet of

MAP OF ABUJA SHOWING