DESIGN AND IMPLEMENTATION OF COMPUTERIZED POPULATION ANALYSIS SYSTEM

(CASE STUDY OF NATIONAL POPULATION COMMISSION ENUGU)

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APPROVAL PAGE

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DEDICATION

This work is dedicated to the Almighty God whom I depend and stand on, I also dedicate it to my parent's who through the mercy of God sponsored my academic career and my friends, Jennifer, opera Charles, Uno victor as well as my supervisor and my Head of department computer science and information technology, caritas university.

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ABSTRACT

Computerized based spec analysis system includes the sets of methods that allow us to measure the dimensions and dynamics of populations. These methods have primarily been developed to study human populations, but are extended to a variety of areas where researchers want to know how populations of social actors can change across time through processes of birth, death, and migration. In the context of human biological populations demographic analysis uses administrative records to develop an independent estimate of the population. Computerized based spec analysis system estimates are often considered a reliable standard for judging the accuracy of the census information gathered at any time. In the labor force demographic analysis is used to estimate sizes and flows of populations of workers; in population ecology the focus is on the birth, death and movement of firms and institutional forms, the software is created and design with visual basic 6.0

ORGANIZATION OF WORK

This project work is primarily designed to give an insight to Computerized based spec analysis system.

Chapter one talks about introduction to Demographic analysis, study of problem and objectives as well as definition of the scope.

Chapter two comprises the literature review. Chapter three gives the detailed information about the existing (old) system, while chapter four and five deals with the design and implementation of new system.

Chapter six documents the project work, while chapter seven summaries, conclusion and suggestions were made.

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CHAPTER ONE

1.0 INTRODUCTION

Demography is the statistical and mathematical study of the size, composition, and spatial distribution of human populations and how these features change over time. Data is obtained from a census of the population and from registries-records of events like birth, deaths, migrations, marriages, divorces, diseases, and employment. To do this, there needs to be an understanding of how they are calculated and the questions they answers which is included in these four concepts: population change, standardization of population numbers, the demographic bookkeeping equation, and population composition.

Population change is analyzed by measuring the change between one population size to another. Global population continues to rise, which makes population change an essential component to demographics. This is calculated by taking one population size minus the population size in an earlier census. The best way of measuring population change is using the intercensal percentage change. The intercensal percentage change is the absolute change in population between the censuses divided by the population size in the earlier census. Next, multiply this by 100 to receive a percentage. When this statistic is achieved, the population growth between two or more nations that differ in size, can be accurately measured and examined.

For there to be a significant comparison, numbers must be altered for the size of the population that is under study. For example, the fertility rate is

calculated as the ratio of the number of births to women of childbearing are to the total number of women in this age range (multiplied by 1000). If these adjustments were not made, we would not know if a nation with a higher rate of births or deaths has a population with more women of childbearing age or more births per eligible woman.

Within the category of standardization, there are two major approaches: direct standardization and indirect standardization. Direct standardization is able to be used when the population being studied is large enough for age-specific rate are stable. Indirect standardization is used when a population is small enough that the number of events (births, deaths, etc.) are also small. In this case, methods must be used to produce a standardized mortality rate (SMR) or standardized incidence rate (SIR)

Population composition is the description of population defined by characteristics such as age, race, sex or marital status. These descriptions can be necessary for understanding the social dynamics from historical and comparative research. This data is often compared using a population pyramid. Population composition is also a very important part of historical research. Information ranging back hundreds of years is not always worthwhile, because the numbers of people for which data are available may not provide the information that is important (such as population size). Lack of information on the original data-collection procedures may prevent accurate evaluation of data quality.

1.1 **STATEMENT OF THE PROBLEM**

Owing to:

(i) The difficulties encountered in keeping demographic data/information.

(ii) Miscalculation of demographic data/information,

(iii) Difficulties in accessing demographic data/information

(iv) Time wasted in searching for a given demographic data/information on packed files.

(v) Time wasted in processing demographic data/information

The need arise for the development of computerized based spec analysis system for national population commission Enugu.

1.3 PURPOSE OF THE STUDY

The main purpose of this study is to eliminate errors involved in demographic data/information. This is actualized by designing computerized based spec analysis system for national population commission Enugu which is user friendly and interactive. By the time this software is designed and implemented, the difficulties encountered with manual method of keeping demographic information will be eliminated.

1.4 SIGNIFICANCE OF STUDY

With the growth in information technology, the study offers numerous values to the national population commission Enugu.

Huge of files kept in the offices will no longer be there again because information will be stored on the computer with the help of the database program.

1.5 OBJECTIVES OF THE STUDY

The aims and objectives of this project is listed below:

- To provide essential information for government decision making
- To enable people understand their community
- To eliminate gaze work in population census.
- To demonstrate increased motivation to the census workers.
- To easy the work associated with manual method analyzing demographic data/information.
- To eliminate the error involved with the manual method analyzing demographic data/information.
- To save the time wasted when method analyzing demographic data/information.
- To make population council office neat and tidy as a lot of information will no longer be documented on paper but in computer.
- To ensure easy retrieving and updating of demographic data/information.

1.6 SCOPE OF THE STUDY

This project work is narrowed to computerized based spec analysis system for national population commission Enugu. It also deals with the development of database program to help in the storage of demographic data/information in the national population commission Enugu.

1.7 LIMITATION OF THE STUDY

Owing to the scope of this project work as stated above, this project work is limited to computerized based spec analysis system for national population commission Enugu.

It is important to mention here that TIME, FINANCIAL, NON-CHALANT ATTITUDE OF THE STAFF.

Where major constraint occur ’s in the course of fact finding. It is also wise to mention here that some information we need to work with were not collected because of some reason.

1.8 ASSUMPTIONS OF THE STUDY

One of the major assumptions made in this project work is that manual methods of processing demographic data/information are ineffective, time wasting, prone to error. It is also assumed that with the level of development in information technology, there is a serious demand to join this trend of information technology.

It is also assumed that computerized based spec analysis system for national population commission Enugu will motivate the staffs to work more with easy.

1.9 DEFINITION OF TERMS/VARIABLES

Abundance: is an ecological concept referring to the relative representation of a species in a particular ecosystem.

Population: density is a measurement of population per unit area or unit volume

Male: refers to the sex of an organism, or part of an organism, which produces small mobile gametes, called spermatozoa. Each spermatozoon can fuse with a larger female gamete or ovum, in the process of fertilization. A male cannot reproduce...

Female : is the sex of an organism, or a part of an organism, which produces ova (egg cells). The ova are defined as the larger gamete in a heterogamous reproduction system, while the smaller, usually motile gamete, the spermatozoon, is produced

CHAPTER TWO

2.0 ACCURATE POPULATION DATA A VITAL INGREDIENT FOR SOCIAL AND ECONOMIC POLICY

Accurate population data is a vital ingredient of social and economic policy. Governments cannot deliver efficient services and infrastructure without knowledge of the national demographic profile – the size of the population, where people live, how old they are, and the net effect of births, deaths and migration.

These assumptions are far from certain and will be closely monitored. Even if they prove accurate, the outcome will not in itself relieve the challenge of sustaining a world population of 9-10 billion but it will create the conditions necessary for long term stability, or maybe reduction.

As the projected increase will occur entirely in developing countries, the task of stabilising world population must be captured within the international development agenda. This was exactly the conclusion reached at the landmark 1994 International Conference on Population and Development whose 20-year Programme of Action, known as the Cairo Consensus, has proved to be a decisive influence on population policy.

Now coordinated by UNFPA, the Cairo Consensus clarified that population concerns are best addressed by redoubling commitment to national poverty reduction plans in general and women's education and empowerment in particular. For example, a full period of schooling for girls reduces the risk of teenage marriage and increases awareness and demand for contraception.

2.1 POPULATION AND DEMOGRAPHIC DIVIDEND

The prospective contribution of growth to this strategy for stabilising population is bolstered by an economic theory of demographics. Poor countries enjoy favourable dependency ratios, their populations dominated by potentially productive young people. This is often described as the "demographic dividend" and has been associated with the tiger economies of East Asia. Some economists interpret recent strong rates of growth in Africa as evidence of this demographic dividend. Others fear that poor infrastructure, governance and education will stifle the potential. Very high rates of youth unemployment do indeed persist in Africa and parts of the Middle East.

The demographic dividend is a fleeting opportunity which can quickly overturn into social unrest, as illustrated by recent dramatic events in several Arab countries. There is further concern that a hard core of about 25 of the very poorest countries cannot possibly benefit from the demographic dividend. They show signs of being trapped in a demographic vortex, where low resilience to the impact of climate change on food and water scarcity offers no escape from exceptionally high fertility rates of around 8 children per woman.

Whilst there is some truth in the adage that "development is the best contraceptive," it is wise to award at least equal status to the view that "contraception is the best development."

2.2 FAMILY PLANNING AND REPRODUCTIVE HEALTH

After much prevarication, a target of universal access to reproductive health services by 2015 was included in the Millennium Development Goals. Progress is disappointing, especially for the family planning component. Dr Hania Zlotnik, Director of the UN Population Division, has warned that: "in

most high fertility countries, contraceptive prevalence is increasing by less than 1% per year." As a result, 215 million women in developing countries have an unfulfilled wish for family planning services. A 2010 report by the Guttmacher Institute estimates that the cost of meeting this need would be $3.6 billion per annum. Such an investment would bring an immediate return through the savings in maternal health support for the pregnancies avoided, quite apart from the longer term benefits of smaller family sizes. Nonetheless, global donor funding of family planning services has fallen steadily since 2001, both in real terms and as a share of the overall health budget from foreign aid. The Executive Director of UNFPA, Dr Babatunde Osotimehin, has said that "neglect of sexual and reproductive health results in an estimated 80 million unintended pregnancies, 22 million unsafe abortions and 358,000 deaths from maternal causes.

2.3 OVER POPULATION AN OBSTACLES TO FAMILY PLANNING

Campaigners for universal access to reproductive health must contend with some of the most sensitive issues in international development. The first obstacle has been the narrow dividing line between voluntary family planning and coercion. Fears have stemmed largely from the history of over-enthusiastic birth control policy in India in the 1970/80s and the one-child policy imposed by China since 1979.

China's policy is explicitly coercive but claims to have
averted 400 million births. However, a high price has been paid in the denial of human rights in family life and in the unspoken tolerance of sex-selective abortion. The Chinese authorities themselves estimate that, by 2020, there will

be 24 million more men of marriageable age than women. Similar distortion is found in India.

Although the Cairo Consensus has provided reassurance about coercion, it has been unable to overcome the further obstacle of religious conservatism. The Catholic Church, which claims over 1.1 billion followers, opposes all forms of contraception, despite evidence of the consequent human distress.

Islamic teachings generally adopt a pragmatic interpretation of the Koran, supporting the right of women to space their children through use of family planning within marriage. Government programmes in Bangladesh and Indonesia have been praised for their success in reducing high fertility rates. The Obama administration has been consistently supportive of higher levels of funding for reproductive health but faces strong resistance from a Republican-dominated House of Representatives. Answerable to the religious right in the US, the House seeks to deny funding for UNFPA and to reinstate legislation known as the Global Gag rule. This blocked US funds from supporting any developing country organisation whose programmes implied tolerance of abortion.

Wary of religious and racial sensitivities, aid agencies and environmental groups have tended to suppress their views about population issues. Their silence may have contributed to the long term downward trend in funding for overall population assistance.

2.4 OVERPOPULATION OR OVERCONSUMPTION?

In the animal world, species move through demographic cycles which typically follow a pattern of "boom and bust." Rampant reproduction encounters a

threshold known as “carrying capacity” beyond which the environmental resources essential to that species deteriorate, leading to a sharp decline in its population.

Humans possess the unique power to determine their own carrying capacity. They know the factors that will dictate its level – the global population, the economic means of individuals to consume resources, the technology available and the choice of lifestyle.

Exercising wisdom in mixing this cocktail is proving highly problematic, largely because of the extreme inequality in our current consumption. According to the Global Footprint Network, if all countries adopted the American lifestyle, we would require five planets to supply the necessary resources. Yet that is the not unreasonable aspiration of poorer countries. Almost a third of the world’s population lives on less than $2.00 per day Such are these extremes that, even if the population of developing countries was stabilised tomorrow, the roll-call of environmental threats – climate change, loss of biodiversity, water scarcity – would remain barely diminished. An influential 2009 scientific study published by the Stockholm Resilience Centre suggests that three out of nine environmental boundaries critical to a sustainable planet have already been crossed.

The immediate priority is to find a narrower and less damaging range of consumption in which the less fortunate can live in dignity but which in aggregate remains within our planetary boundaries.

The obstacle is our global addiction to a measure of economic success which rewards consumption of resources rather than efficiency of their use. Economic “growth” is arguably far more damaging to the planet than population growth,

yet is relentlessly pursued. The 2012 UN Conference on Sustainable Development presents a crucial opportunity for world leaders to adopt strategies which acknowledge the interconnection of population and consumption with sustainability. As a minimum, they will be pressed to reaffirm the original 1992 Rio Principles which include:

2.5FOOD, WATER, ENERGY AND THE GLOBAL POPULATION

Prospects for our three essential household needs illustrate how our global population can be sustained if rich and poor can be persuaded to meet halfway. A 2009 UN conference billed as "how to feed the world in 2050" generated much public anxiety. In the event, the UN Food and Agriculture Organization (FAO) declared itself to be "cautiously optimistic" whilst stressing the "need for a proper socioeconomic framework to address imbalances and inequalities." Water scarcity is another favourite subject for doom-mongers, armed witvisions of water wars. But the 2006 UN Human Development Report observed that "there is more than enough water in the world for domestic purposes, for agriculture and for industry.... scarcity is manufactured through political processes and institutions that disadvantage the poor."

Likewise, the exponential future demand for energy that
converts into projections of runaway climate change is caused by the extremes of personal consumption. The World Watch Institute's State of the World 2010 records that "the world's richest 500 million people (roughly 7 percent of the world's population) are currently responsible for 50 percent of the world's carbon dioxide emissions, while the poorest 3 billion are responsible for just 6 percent."

Such appeals to the principle of equity in distribution of resources do not deny the awesome challenge of overcoming scarcity as population numbers rise. Food production must increase by 70% by 2050 and freshwater demand will rise by 53% by 2030. Energy security is not just about incremental demand but also the basic needs of 1.3 billion people who have no access to electricity at all. Nigeria, population has been a rather sensitive and controversial issue because of its implications for shaping regional (now geopolitical), state and ethnic relations and balance of power. It is the attitude towards the population question, in terms of its absolute size, as it affects the states and the sub-regions that constitutes the background to the census controversies which the country has been associated with (Ottong, 1983).

2.6 POPULATION OF NIGERIA

In contemporary society, population has become an important issue of concern. This is so because population, in terms of its size and composition, has far-reaching implications for change, development and the quality of life in society.

Population is a major asset, as resource for development, and is also the prime beneficiary of development in society. It constitutes the bulk of the producers of goods and services as well as the major consumers of the goods and services. Thus, the population of a country is a major determinant of the size of the national and international marvel for investment.

In Nigeria, population has been a rather sensitive and controversial issue because of its implications for shaping regional (now geopolitical), state and ethnic relations and balance of power. It is the attitude towards the population question, in terms of its absolute size, as it affects the states and the sub-regions that constitutes the background to the census controversies which the country has been associated with (Ottong, 1983).

The controversies have been responsible for the rather chequered history of census taking in Nigeria. It is however salutary to note that the phenomenon now appears to be a thing of the past, especially with the successful conduct of the 1991 census.

The 1991 census, conducted by the National Population Commission, was preceded by the kind of elaborate preparation that would be expected of a scientifically conducted census, by international standards. The outcome of the census has been widely acclaimed, although it might not necessarily have been

perfect.

Preparations for the 2001 census exercise in the country started with series of workshops and seminars/conferences on census advocacy, sensitisation and development of modules. It seems that for the year 2001, Nigeria did firmly join the comity of nations in the regular conduct of decennial censuses. In the sections that follow, the population of Nigeria is further discussed in terms of its dynamics, composition, spatial distribution and the processes of urbanisation, drawing largely from the 1991 census.

2.7 POPULATION AND HOUSING UNIT ESTIMATES

The Census Bureau's Population Estimates Program (PEP) produces estimates of the population for the United States, its states, counties, cities, and towns, as well as for the Commonwealth of Puerto Rico and its municipios. Demographic components of population change (births, deaths, and migration) are produced at the national, state, and county levels of geography. Additionally, housing unit estimates are produced for the nation, states, and counties.

These estimates are used in federal funding allocations, as survey controls, as denominators for vital rates and per capita time series, and as indicators of recent demographic changes. With each new release of annual estimates, the entire time series of estimates is revised for all years back to the last census. All previously published estimates are superseded and archived.

2.8 WHY ARE CENSUSES CONDUCTED?

Censuses are conducted not just to satisfy the needs of the central governments but also that of other units of government, such as the States and Local

governments, as well as the private sector. This is because at some point in time, each of these stakeholders would require for planning purposes, an indepth examination of the characteristics of the people within their areas of jurisdiction. Such data which must be comprehensive, timely and reliable must be able to describe the age, sex, occupation, marital status, literacy levels, number of children ever born, number of children living, ethnic composition, religious affiliation, presence and durability of disability, the spatial distribution of the population as it relates to rural and urban areas as well as different political units of the country. Population trends such as birth and death rates and internal migration are some of the data expected to be captured from a population census. In addition, the 2005 census in Nigeria would provide information on houses.

2.9 LINK BETWEEN CENSUS DATA AND DEVELOPMENT

The debate on the link between census data and development began with two propositions by the Reverend Thomas Malthus. He proposed that population would grow at a geometric rate due mainly to lack of conscious constraint on fertility, and that food would grow at an arithmetic rate due substantially to diminishing returns on the use of land. In the long-run, population size could be doubled and the outcome of the proposition would lead to food shortages, starvation and death. Population pressure would constrain income per capita to a low level of subsistence – *"Malthusian trap"* as it has been termed.

Clearly, the Malthusian ideas regarding census-development linkages were incomplete, such that richer analytical and empirical foundation were therefore needed. The urgency for such a framework was made apparent by demographic events, hence, it was recognized that the simultaneous occurrence of declining mortality and exceptionally high and sustained fertility in many developing countries resulted in high population growth rate. There

was a concern that this rate may not be sustained over a long period of time, still it was unclear whether such a decline would be soon or rapid enough to avoid potentially deleterious effects on welfare and economic progress. Thus, while the *"Malthusian Problem"* reappeared, approaches to assessing consequences of census data assumed quite a different dimension.

2.10**THE DETERMINANTS AND CONSEQUENCES OF TRENDS IN CENSUS DATA.**

The study observed twenty-one economic-demographic linkages with census data. The impact of census data on some factors was judged to be positive (economies due to scale and organization), on some negative (diminishing returns), and on some neutral (technology and social progress). Overall, a net negative impact of undetermined size was considered most likely in many developing countries. The diversity of these effects was found to be country specific.

A second major dimension by Coale and Hoover (1958) in *Population Growth and Economic Development in Low Income Countries* was based on the simulation result of a mathematical model using Indian data. Coale and Hoover concluded that India's development would be substantially enhanced by lower rate of population growth. The analysis hinged on two premises. First, household and economy wide saving would be diminished by large families; it certainly would not be stimulated enough in responding to demographic changes to provide the increased capital required by an enlarge population. Second, economy wide investment would be skewed away from relatively productive activity since funds will be shifted toward so-called unproductive population – sensitive social expenditure (e.g. education and health). This crowding out of productive investment was linked mainly to the

youthful age composition of the high-fertility population, and not population size, density, or growth per se.

The size and growth of a population which are derived from the conduct of census and the level of socio-economic development are interdependent. For instance, the size and growth of a population determine the number of consumers and hence the rate at which production and investment must grow if prevailing levels of per capita income and consumption are to be maintained. On the other hand, population size and growth affect the growth of the economy by determining the potential numbers of producers and consumers. The balance between the effects on the number of producers and consumers determines the impact of population on the growth of the economy. Different population sizes and rates of growth imply different numbers of producers and consumers for whom planning is required. With respect to income, an increase is expected over time if there is a growth in the productive capacity of the labour force and this growth is accompanied by higher investments and availability and application of relevant technologies. If as a result of rapid population growth, capital and land become scarce and improvements in the skills of the labour force are impeded, then there can be no growth in the productive capacity of the labour force.

2.11 NIGERIA'S EXPERIENCE IN CENSUS EXERCISES

In a well documented article Okolo (1999) gave a detailed account of the census experience in Nigeria. We shall attempt to give a summary of the events that took place since 1866 when the first census was conducted in the Lagos Colony. According to him, the next census was conducted in 1871 following the British tradition of conducting censuses in years ending with 'one'. That also marked the beginning of decennial censuses in the country as

others were subsequently conducted in 1881, 1891 and 1901. The 1911 census covered what was then known as Southern Nigeria. It could also not be regarded as a true census as house-to-house count took place only in 11 main parts. Estimates were however used in determining the population of the rest of the Southern Provinces and the entire Northern Protectorate (see attached table).

The 1921 census, which was conducted as Township and Provincial census, respectively covered 13 townships which were enumerated in one day. The exercise yielded fairly accurate results. However, the provincial census spread over a period of 2 months and because of several difficulties yielded inaccurate results. These difficulties arose from "hearty dislike which many tribes feel towards enumeration and to the shortage of European staff due to World War I. Again, due to economic depression prevalent at the time, the locust invasion in the North, and the tax riots at Aba, Onitsha and Owerri, during 1929 – 1930, the census failed again to cover the whole country. Counting took place only in Lagos, 201 villages in Northern Nigeria, and for all foreigners living in the country. Note that the estimates of all other places were derived from existing tax returns and records.

According to the author, the censuses conducted during 1866 – 1931 were largely inaccurate and did not meet all the accepted census characteristics earlier outlined above.

There was no census in 1941 due to World War II. The next census was, however, taken between 1950 and 1953. New methods were introduced during the census, and so, Lagos was used as a trial before the census of Northern Nigeria was taken between May and July 1952.

The population of the West and Mid-West were counted in December 1952 and January 1953, respectively, while the census in the East was

conducted in May, June and August, 1953. Overall, the exercise was a great improvement over all the previous censuses in that it covered the whole country. However, because of the differences in timing, the results obtained from one region could not be compared with data from any other region. Again, many Nigerians remained suspicious of the motives for the 1952 – 1953 censuses, and so did not readily agree that their wives and children should be counted. They also suspected that it would enable tax collectors to demand heavier taxes from persons with many wives and children, among others.

2.12 COUNTRY EXPERIENCES IN THE CONDUCT OF POPULATION AND HOUSING CENSUS

Malaysia

The Department of Statistics is in charge of conducting Population and Housing Censuses in Malaysia. The 2000 Population and Housing Census is the fourth nation-wide census conducted by the Government since the formation of Malaysia. The 'de jure' approach was adopted for the first time in the conduct of 2000 Census whereby all persons on Census Day were enumerated according to their place of usual residence. This differed from the 'de facto' approach used in previous censuses whereby all persons were enumerated at the place where they physically were on Census Night. Anyway, the country still relies on door to door interview. The enumeration was carried out over a period of sixteen days and consistent with the usual practice, mopping-up activities were also undertaken after the enumeration.

The data processing activities was decentralized into 13 centres. The total number of personnel involved in the data processing was 2,800 and the number of personal computers (PCs) used was 403 units. The report on the

2000 census was made available to users on a staggered basis keeping in perspective the need for timeliness in the release of data. The first report released was the preliminary full count on the total population (male and female), household and living quarters at various geographical levels (wards, local and states) and was made available to users 3 months after the completion of the census. Census report based on computer validated data were released in stages by subject areas (e.g. basic demographic characteristics, social characteristics, education, migration, economic characteristic, household and housing) over a period of two years after the completion of the census enumeration. Note that religion and ethnicity are part of the demographic characteristics captured.

The Malaysian population censuses are traditionally used for public and private sector policy-making, planning, administrative and research purposes. In particular, the data served as an important input in the evaluation and formulation of important policies, projects and programmes to be incorporated in government's plan (e.g. 2001-2005). Apart from this, other government agencies use census data to evaluate and formulate policies and programmes in relation to the duties and responsibilities entrusted to them. As the census involves large data set, Malaysia also adopts a GIS system to capture, store, retrieve, analyse and display spatial information.

India

The census Act, 1948, forms the basis for the conduct of population censuses in India. The 2001 census of India was conducted in two distinct but interrelated phases. The first phase was on house-listing operation and the second was on population enumeration. The house-listing exercise provided the basis for uniform and unambiguous frame to undertake the population

enumeration with the ultimate objectives of achieving full coverage of all households. The comprehensive household schedule has three parts. Part one contains information about location while part two relates to the individual particulars and part three contains question for household engaged in cultivation/plantation. The house-listing data is available in hard copy form-tables on houses, household amenities and assets. Similar publications are also available for the schedule Castes and the Schedule Tribes household separately (which are part of the ethnic groups). Religious affiliations are also captured in the census questionnaire. The house-listing data is useful to the policy makers, planners and administrators to improve the quality of life for the citizenry. The data is also useful to the corporate sector for formulating marketing strategy and reaching the rural masses.

One of the major initiatives taken at the 2001 census was the allotment of permanent location code number (PLCN) to each and every village within the state. PLCN was thus assigned as one continuous number from the first village in the first district to the last village in the last district. PLCN is an eight-digit unique location code number with the first six-digit representing the code number of the village and the last two-digit depicting two zeros. These zeros are reserved as buffers to be used for coding any new village(s) that may come up between two villages in the future.

Turkey

The first census of the Republic of Turkey was conducted in 1927. The second was in 1935 and then every five years until the last general census of 1990. Since then, it was decided that population census should be conducted decennially. The questionnaires used in collecting population data contain information such as male, female, birth and death rates, population growth, religion and ethnicity. From the religious point of view, there is no official

religion; however, 99.0 per cent of the people living in Turkey are Muslims. The remaining are of different religion. The number of ethnic groups in Turkey is about 50. The major ones include the Turks, Kurds and Albanians. The largest of the ethnic group after the Turks is the Kurds. The application of census data in Turkey attaches importance to ethnic groupings.

2.13 CHALLENGES OF POPULATION CENSUS

The challenges that readily emerge from the above discussions are, firstly, how to deal with the expanding population of Nigeria. From the benchmark estimates, the population of Nigeria is estimated to double in 25 years time, based on the 1991 census figure of 88.99 million people. If that happens, Nigeria's population would stand at about 178.0 million in 2015. Another consequence of this is that primary school enrolment would increase from 14.0 million in 1990 to 25.5 million in 2010, and from there to 32.6 million in 2020. The population will continue to grow after replacement level. There are other demographic shifts that would occur. Other challenges have to do with the issue of religion and ethnicity. However, let me quickly add that it has been shown that religion "influences the way people think and behave". Studies have shown that population has something to do with religion, among others. On ethnicity, scholars have observed that ethnicity is a "social tag by which ethnic groups want to be identified". Even advanced countries like the United States of America have ethnicity in their census questionnaires. It has however been shown that the ethnic identity might continue to diminish in importance to some people as their social and economic status continue to improve. This lends credence to The World Bank (2000) findings in 'Can Africa Claim the 21st Century?" that poverty and undemocratic processes have

tended to play up ethnic sentiments, rather than the diversity itself. In fact, it has been established that some ethnic diverse societies have taken advantage of their diversity by unlocking the hidden potentials in them. Alleviating poverty, by further reducing the 54.4 per cent incidence in poverty, as measured by the NBS (former FOS) in their Nigeria Living Standards Survey (2003), as well as democratizing our political institutions, through further decentralization, and allowing greater participation and contributions in political decision making processes, are issues we should be pursuing, and not eliminating ethnicity and religious affiliation" from our census questionnaire. That only tantamount to dealing with the symptoms rather than the ailment itself.

CHAPTER THREE

3.1 DESCRIPTION AND ANALYSIS OF THE EXISTING SYSTEM

The existing system is a system that is been carried out in terms of manual operation, A system in which all the methods of storing demographic data/information is of a manual approach. This approach is such that the national population commission Enugu staff will record your information on a paper or register and kept it a file. Critical analysis of this system reveals that it is a system prone to a lot of errors and it is not effective. The system is in such a way that the office is full of files. This tends to make the office look untied. Also because of the inconsistency of the manual system, at times files are lost because of mismanagement.

3.2 FACT FINDING METHOD USED

1. **Personal Interview**: Some of the national population commission Enugu staffs were interviewed to share their feeling and experience about the manual system of storing demographic data/information. They stressed that the manual system has not helped them much.

2. **Observation**: A situation whereby files will full everywhere makes the office untidy. Having observed that searching for pupils record are time consuming makes the manual ineffective.

3. **Browsing Method**: I visited internet to browse for information concerning computerized demographic analysis.

3.3 OBJECTIVES OF THE EXISTING SYSTEM

The objectives of the existing system are listed below:

(vi) To provide essential information for government decision making

(vii) To enable people understand their community

(viii) To eliminate gaze work in population census.

(ix) To demonstrate increased motivation to the census workers.

(x) To easy the work associated with manual method analyzing demographic data/information.

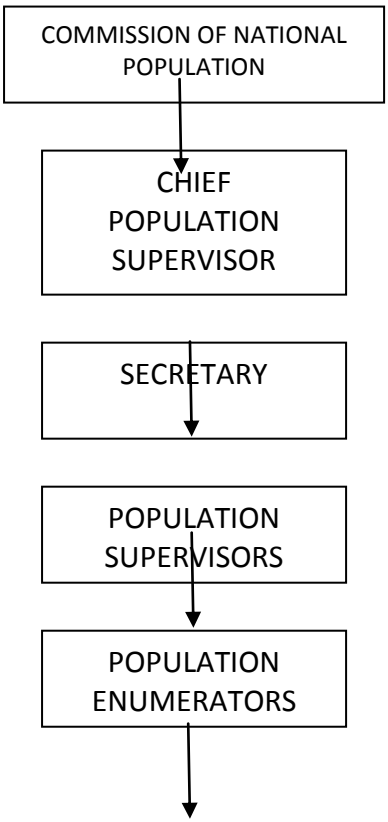
(xi) To eliminate the error involved with the manual method analyzing demographic data/information.

(xii) To save the time wasted when method analyzing demographic data/information.

(xiii) To make population council office neat and tidy as a lot of information will no longer be documented on paper but in computer.

(xiv) To ensure easy retrieving and updating of demographic data/information.

3.4 ORGANIZATIONAL STRUCTURE



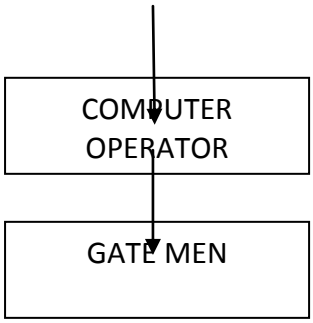


Fig 3.1: Organisational Structure

3.5 INPUT ANALYSIS

This deals with the process used to feed data to the system for processing.

Inputs enter here are:

Name, date of birth, sex, age, marital status, home address, state, L.G.A,

3.6 OUTPUT ANALYSIS

This involves the resultant documentation generated after processing of Demographic data/information supplied to the system. The outputs are:

Number of male (youth) 18766

Number of female (youth) 15563

Number of children (boys) 5557

Number of children (girls) 6918

Number of children within school age 6987

Number of elderly men above fifty years 1554

Number of elderly women above fifty years 2345

Number of deform (male) 84

Number of deform (female) 679

3.7 PROCESS ANALYSIS

Once the inputs are collected, the obtained data are processed properly for effective use. The data/information processed is stored in the computer for subsequent use.

3.8 INFORMATION FLOW DIAGRAM

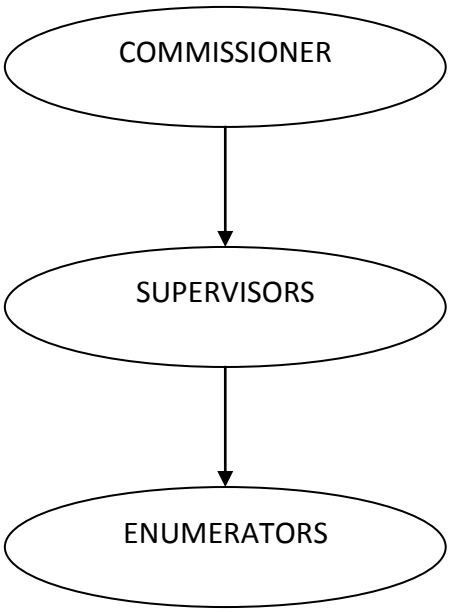


Fig 3.2: Information flowdiagram

3.9 PROBLEMS OF THE EXISTING SYSTEM

A lot of problems are associated with existing system. The existing system involves the use of manual way to store data/information.

The system has proved defective as the objective of the system has also failed. Among the problems associated with the existing system include the following:

1. Data redundancy.
2. Time wasted in searching/sorting for information.
3. Dullness and boring experience of the staff.
4. Poor security and protection.
5. Misplacing and mismanaging of files.
6.

3.10 JUSTIFICATION FOR THE NEW SYSTEM

It is expected that with the introduction of the new system, a lot of positive changes will be noticed. The numerous problem associated with the manual system will be minimizes, if not totally put to an end.

Computerized based spec analysis system when implemented will enhance the work of national population commission Enugu.

CHAPTER FOUR

4.1 DESIGN AND IMPLEMENTATION OF THE NEW SYSTEM

The major factor taken into consideration in the design of the new system is the issue of storing Demographic data/information in a electronically format. The new system has sections for population form and analysis record

4.2 OUTPUT SPECIFICATION AND DESIGN

The output of the design is a comprehensive report of the program. It is a Computerized based spec analysis system for national population commission Enugu. The outputs here are Number of male, number of female, total population

4.3 INPUT SPECIFICATION AND DESIGN

The word input entails the various data supplied to the system which are processed to give out an output. The input is supplied to the system using keyboard and mouse. The inputs to the system are:
Name, date of birth, sex, age, marital status, home address, state, L.G.A

Population collection form

Name _____ _____ _____

First name Middle name

Date of birth _____ sex _____

Marital Status _____

Disability _____

Address _____

Phone number _____

L.G.A _____

State _____

Occupation _____

Population Analysis Form

Number of Male_____

Number of Female _____

Total _____

4.4 FILE DESIGN

SN	FIELD	FIELD TYPE	FIELD ABBREVATION	FIELD WIDTH
1	FIRST NAME	TEXT	FN	20
2	MIDDLE NAME	TEXT	MN	20
3	SURNAME	TEXT	SN	20
4	DATE OF BIRTH	DATE/TIME	DOB	20
5	SEX	TEXT	S	10
6	MARITAL STATUS	TEXT	MS	10
7	DISABILITY	TEXT	DIS	20
8	ADDRESS	TEXT	A	50
9	PHONE NUMBER	TEXT	PN	15
10	LOCAL GOVT. AREA	TEXT	LGA	20
11	STATE	TEXT	ST	20

12	DENOMINATION	TEXT	DE	50
13	AGE	TEXT	AG	10
14	OCCUPATION	TEXT	OC	20
15	DATE OF BIRTH	TEXT	DOB	20
16	NUMBER OF MALE	NUMBER	NOM	15
17	NUMBER OF FEMALE	NUMBER	NOF	15
	TOTAL	NUMBER	TOT	15

Fig 4.1: File Design

4.5 PROCEDURE CHART

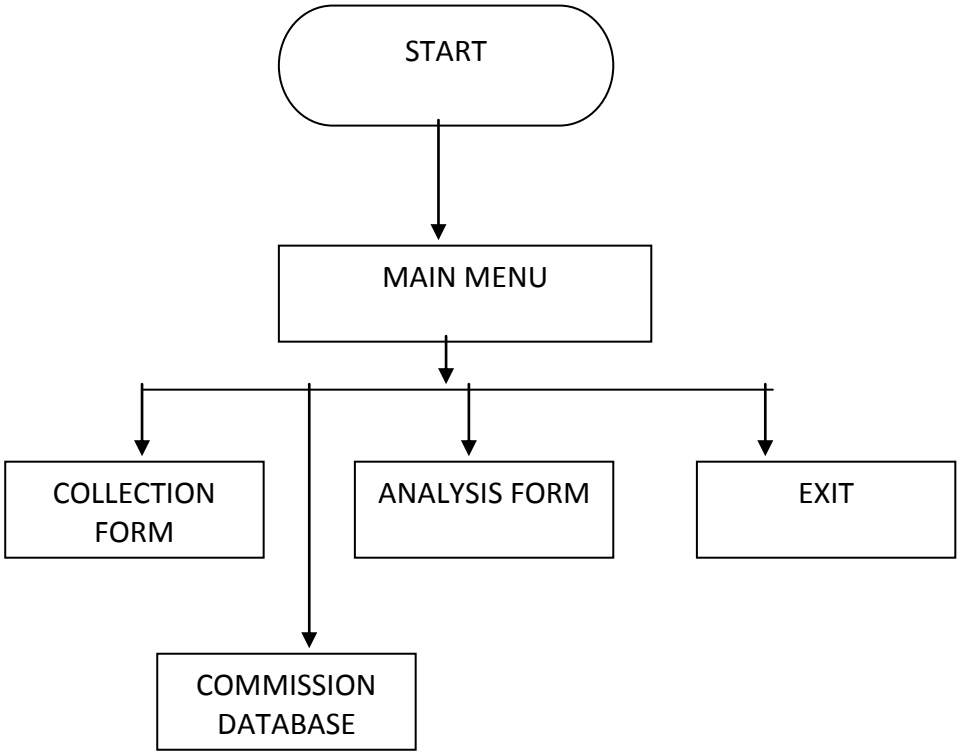


Fig Fig 4.2: Procedure Chart

4.6 SYSTEM FLOWCHART

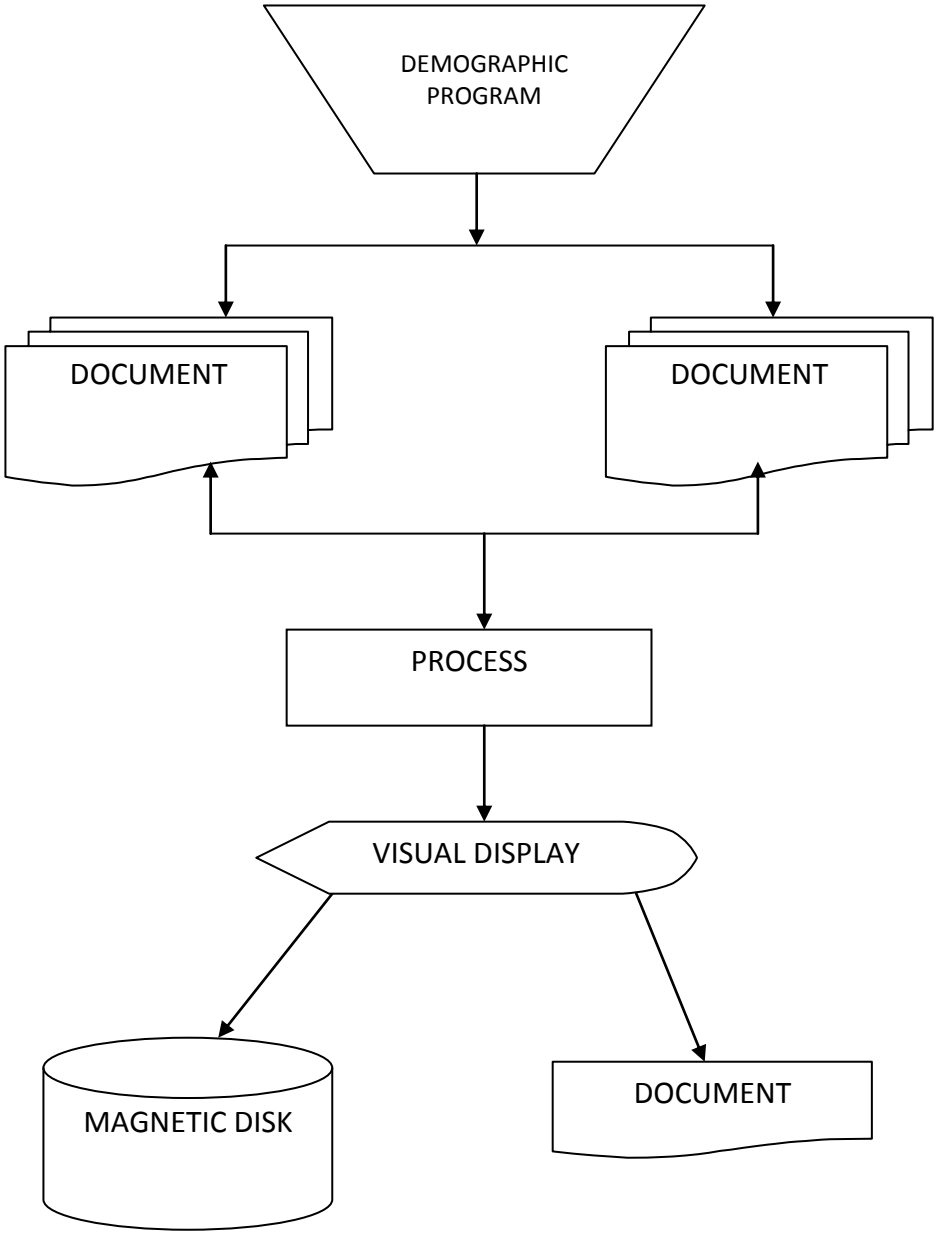


Fig 4.3: System Flowchart

4.7 SYSTEM REQUIREMENTS

(a) **Software Requirement**

The following software are needed for adequate implantation of the design.

1. Window 98/2000/xp
2. Visual Basic 6.0
3. Microsoft Access

(2) Hardware Requirement

The following hardware are required for the efficient work of the system:

1. At least 20 gigabyte of hard disk
2. At least 128MB of RAM
3. At least 650MHZ of speed processor
4. At least Pentium II mother board
5. CD ROM
6. Floppy Disk

4.8 IMPLEMENTATION OF THE NEW SYSTEM

4.8.1 Structure Chart

Having considered the old system, the structure of the new system was being prepared on paper.

This involves a segmental designing method applied to the structure for the new system.

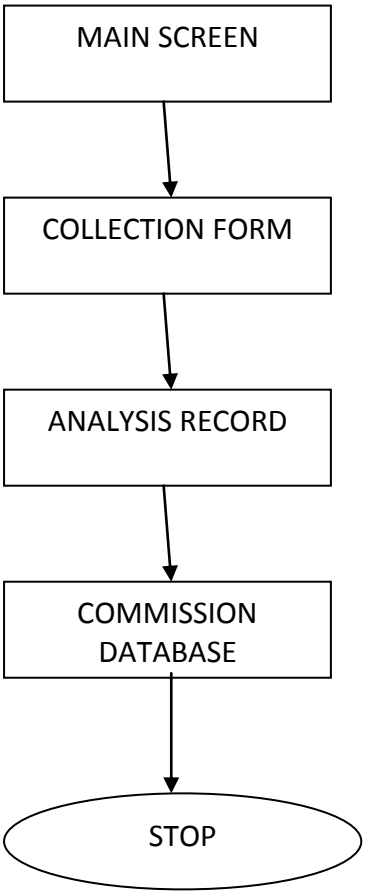
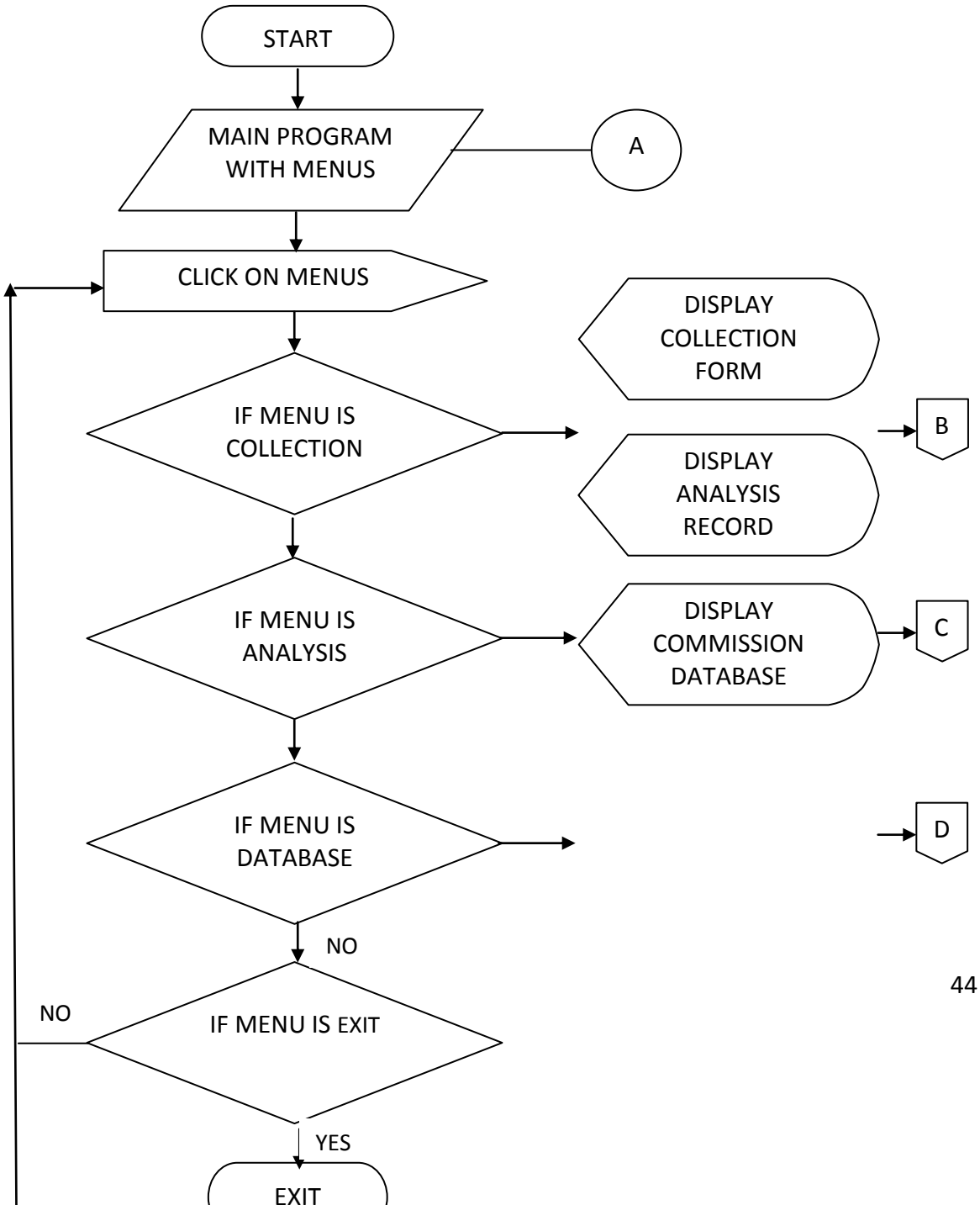
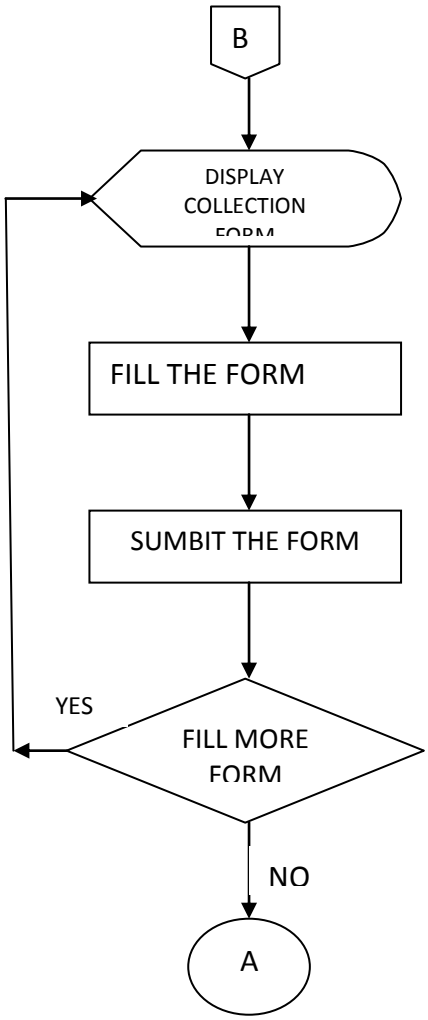


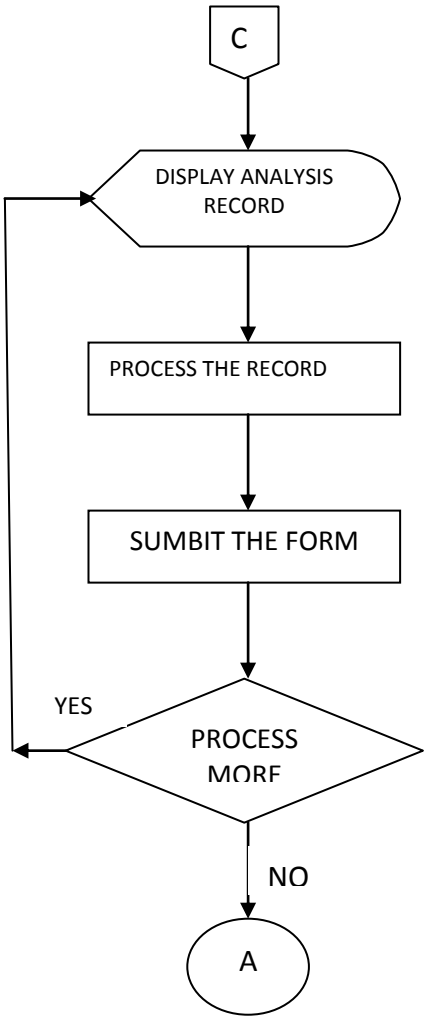
Fig 4.4 Structure Chart

4.9 PROGRAM FLOWCHART

During the database application program design, a modular designing approach was used to design the program for the system. The design of the new system was carefully developed into paper considering the old system.Flowchart was used as an effective graphical representation of the program, as well as a design tool and it is aided in the evaluation of a logical correct program.




B
DISPLAY COLLECTION
FILL THE FORM
SUMBIT THE FORM
YES
FILL MORE
NO
A


C
DISPLAY ANALYSIS RECORD
PROCESS THE RECORD
SUMBIT THE FORM
YES
PROCESS
NO
A

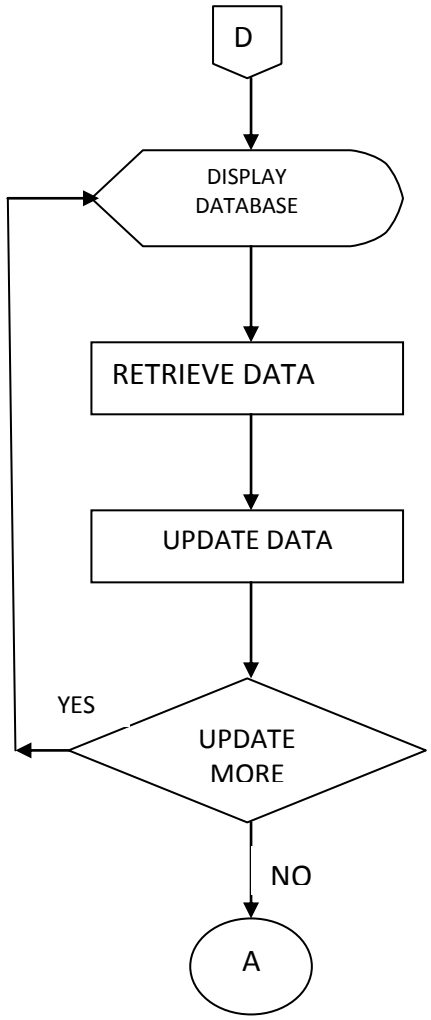


Fig 4.5: Program Flowchart

4.10 CHOICE OF PROGRAM LANGUAGE

To ensure a standardized object oriented program in its entire ramification, I used visual basic 6.0, Microsoft Access and Front Page. These entire programs are used to ensure effective program.

4.11 SOURCE OF PROGRAM LISTING

To be collected from the programmer who write the program.

4.12 TEST DATA

The accuracy of the program was tested with some varying data. This gives the assurance that the new system with achieve it's purpose and objectives.

4.13 SYSTEM DOCUMENTATION

The software was designed to be user friendly. It can be operated by anyone irrespective of their education level provided that the instruction is followed. The software runs on window operating system platform.

The program also need internet explorer.

4.14 USER DOCUMENTATION

i. Switch on the computer system.

ii. At the desktop, click start button.

iii. Select my computer

iv. From the CD ROM, Select the Demographic program to load it.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 SUMMARY

This research work focuses on the use of computer system with the aim of making a reference to population analysis system of national population commission Enugu.

The work covers the manual system of operation and recording as regard to problem identified stating the aim of the new system, stating the specification and then implementing the programs.

The work was successfully developed using visual basics, a users friendly programming language, and the package was tested and improved upon which yield and resulted to a computerize population analysis system which is use to store data about population and record them for reference use.

The project work by me cannot be rated perfect but however its benefits cannot be overemphasized. it has lead to good data collection and recording population system.

5.2 CONCLUSION

The manual approach to administration of the National population commission poses a lot of problem to commission.

With Computerized based spec analysis system, National population commission data/information are well collected, processed and stored for future purpose.

5.3 RECOMMENDATIONS

For the Computerized based spec analysis system to be effective, I recommend

(1) these for National population commission

- Having access to computers
- Have a well trained IT staffs
- Strong and reliable database

(2) these for the Government

- Government should ensure necessary infrastructure.
- Masses should be educated on the use of information technology.

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Michael S. , (1995): *Data Analysis: an Introduction*, Sage Publications Inc, Perry,

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Schutt, K. (2006*). "Investigating the Social World: The Process and Practice of Research"*. SAGE Publications.

Siegal, S. (2002*). Applied Demography: Applications to Business, Government, Law, and Public Policy*. San Diego: Academic Press.

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Appendix 1

- Private Sub cmdHelp_Click()
- frmAbout.Show
- End Sub
-
- Private Sub cmdHome_Click()
- frmHome.Show
- End Sub
-
- Private Sub cmdPdata_Click()
- frmStaff.Show
- End Sub
-
- Private Sub cmdReport_Click()
- FrmReport.Show
- End Sub
-
- Private Sub menuAbout_Click()
- frmAbout.Show
- End Sub
-
- Private Sub mnuExit_Click()
- reply = MsgBox("Are you sure you want to Quit?", vbInformation + vbYesNo, "Log Out")
- If reply = vbYes Then
- End
- End If

- End Sub
-
- Private Sub mnuInof_Click()
- FrmInfo.Show
- End Sub
-
- Private Sub mnuRegister_Click()
- frmStaff.Show
- End Sub
-
- Private Sub mnuReport_Click()
- FrmReport.Show
- End Sub
- //////////////////
- Private Sub cmdInfor_Click()
- FrmInfo.Show
- End Sub
-
- Private Sub Timer1_Timer()
- lblshow.Move lblshow.Left - 50
- If (lblshow.Left + lblshow.Width) < 0 Then
- lblshow.Left = Me.ScaleWidth + 10
- End If
- End Sub
- /////////////////
- Private Sub adoreport_MoveComplete(ByVal adReason As ADODB.EventReasonEnum, ByVal pError As ADODB.Error, adStatus

```
As ADODB.EventStatusEnum, ByVal pRecordset As
ADODB.Recordset)
With AdoReport.Recordset
   If .EOF Then
      AdoReport.Caption = "End of File"

 Else
      AdoReport.Caption = "Record " & .AbsolutePosition & " of " &
.RecordCount
   End If
End With
End Sub




' Reg Key Security Options...
Const READ_CONTROL = &H20000
Const KEY_QUERY_VALUE = &H1
Const KEY_SET_VALUE = &H2
Const KEY_CREATE_SUB_KEY = &H4
Const KEY_ENUMERATE_SUB_KEYS = &H8
Const KEY_NOTIFY = &H10
Const KEY_CREATE_LINK = &H20
```

- Const KEY_ALL_ACCESS = KEY_QUERY_VALUE + KEY_SET_VALUE + _
- KEY_CREATE_SUB_KEY + KEY_ENUMERATE_SUB_KEYS + _
- KEY_NOTIFY + KEY_CREATE_LINK + READ_CONTROL
-
- ' Reg Key ROOT Types...
- Const HKEY_LOCAL_MACHINE = &H80000002
- Const ERROR_SUCCESS = 0
- Const REG_SZ = 1 ' Unicode nul terminated string
- Const REG_DWORD = 4 ' 32-bit number
-
- Const gREGKEYSYSINFOLOC = "SOFTWARE\Microsoft\Shared Tools Location"
- Const gREGVALSYSINFOLOC = "MSINFO"
- Const gREGKEYSYSINFO = "SOFTWARE\Microsoft\Shared Tools\MSINFO"
- Const gREGVALSYSINFO = "PATH"
-
- Private Declare Function RegOpenKeyEx Lib "advapi32" Alias "RegOpenKeyExA" (ByVal hKey As Long, ByVal lpSubKey As String, ByVal ulOptions As Long, ByVal samDesired As Long, ByRef phkResult As Long) As Long
- Private Declare Function RegQueryValueEx Lib "advapi32" Alias "RegQueryValueExA" (ByVal hKey As Long, ByVal lpValueName As

String, ByVal lpReserved As Long, ByRef lpType As Long, ByVal lpData As String, ByRef lpcbData As Long) As Long

- Private Declare Function RegCloseKey Lib "advapi32" (ByVal hKey As Long) As Long
-
-
- Private Sub cmdSysInfo_Click()
- Call StartSysInfo
- End Sub
-
- Private Sub cmdOK_Click()
- Unload Me
- End Sub
-
- Private Sub Form_Load()
- Me.Caption = "About " & App.Title
- lblVersion.Caption = "Version " & App.Major & "." & App.Minor & "." & App.Revision
- lblTitle.Caption = App.Title
- End Sub
-
- Public Sub StartSysInfo()
- On Error GoTo SysInfoErr
-
- Dim rc As Long
- Dim SysInfoPath As String
-

```
    ' Try To Get System Info Program Path\Name From Registry...
    If GetKeyValue(HKEY_LOCAL_MACHINE, gREGKEYSYSINFO,
gREGVALSYSINFO, SysInfoPath) Then
    ' Try To Get System Info Program Path Only From Registry...
    ElseIf GetKeyValue(HKEY_LOCAL_MACHINE,
gREGKEYSYSINFOLOC, gREGVALSYSINFOLOC, SysInfoPath)
Then
        ' Validate Existance Of Known 32 Bit File Version
        If (Dir(SysInfoPath & "\MSINFO32.EXE") <> "") Then
            SysInfoPath = SysInfoPath & "\MSINFO32.EXE"

        ' Error - File Can Not Be Found...
        Else
            GoTo SysInfoErr
        End If
    ' Error - Registry Entry Can Not Be Found...
    Else
        GoTo SysInfoErr
    End If

    Call Shell(SysInfoPath, vbNormalFocus)

    Exit Sub
SysInfoErr:
    MsgBox "System Information Is Unavailable At This Time",
vbOKOnly
End Sub
```

```
Public Function GetKeyValue(KeyRoot As Long, KeyName As String,
SubKeyRef As String, ByRef KeyVal As String) As Boolean
    Dim i As Long                           ' Loop Counter
    Dim rc As Long                          ' Return Code
    Dim hKey As Long                        ' Handle To An Open
Registry Key
    Dim hDepth As Long                      '
    Dim KeyValType As Long                  ' Data Type Of A
Registry Key
    Dim tmpVal As String                    ' Tempory Storage For A
Registry Key Value
    Dim KeyValSize As Long                  ' Size Of Registry Key
Variable
    '------------------------------------------------------------
    ' Open RegKey Under KeyRoot {HKEY_LOCAL_MACHINE...}
    '------------------------------------------------------------
    rc = RegOpenKeyEx(KeyRoot, KeyName, 0, KEY_ALL_ACCESS,
hKey) ' Open Registry Key

    If (rc <> ERROR_SUCCESS) Then GoTo GetKeyError          ' Handle
Error...

    tmpVal = String$(1024, 0)               ' Allocate Variable Space
    KeyValSize = 1024                       ' Mark Variable Size

    '------------------------------------------------------------
```

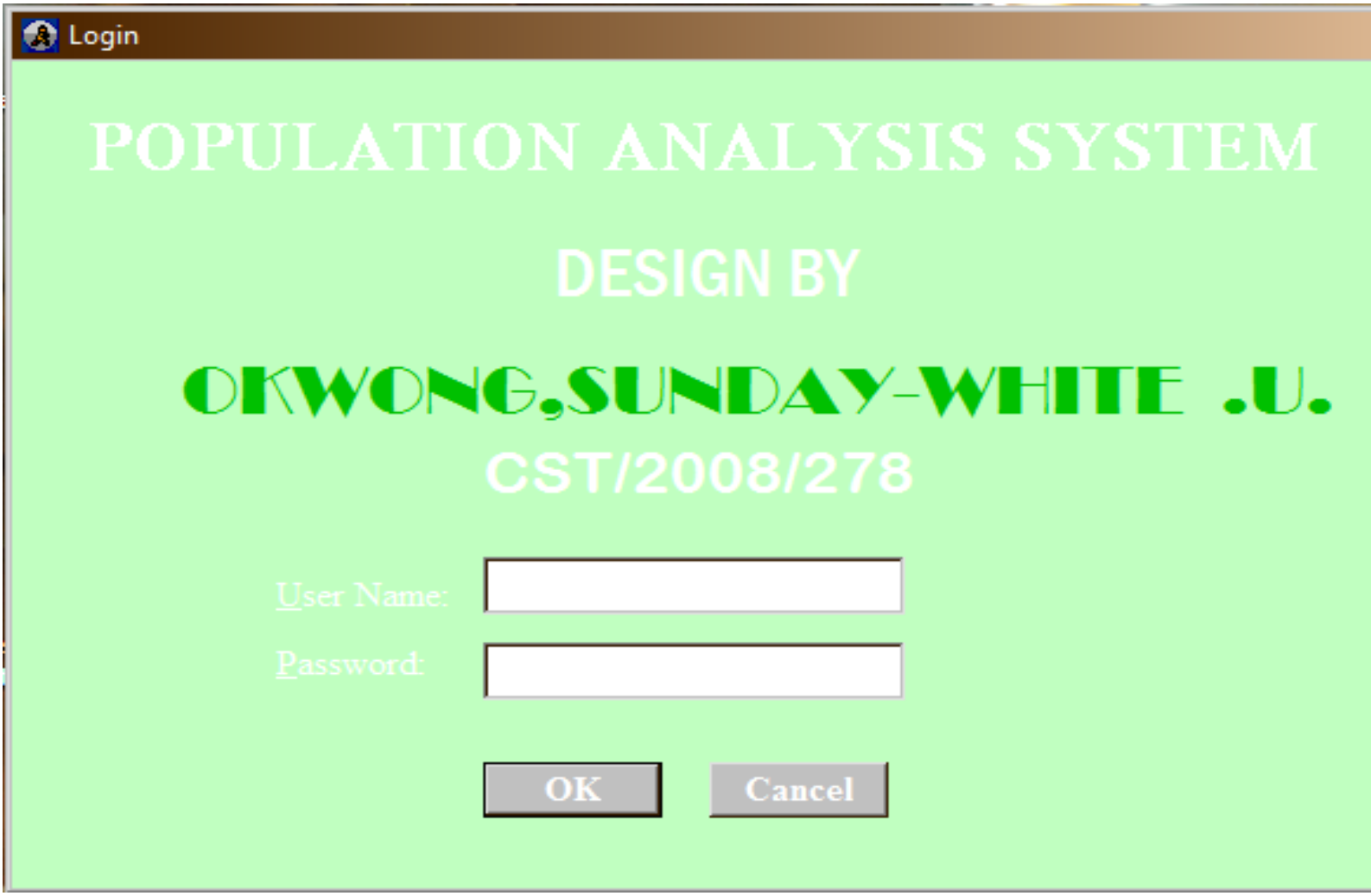
- ' Retrieve Registry Key Value...
- '--
- rc = RegQueryValueEx(hKey, SubKeyRef, 0, _
- KeyValType, tmpVal, KeyValSize) ' Get/Create Key Value
-
- If (rc <> ERROR_SUCCESS) Then GoTo GetKeyError ' Handle Errors
-
- If (Asc(Mid(tmpVal, KeyValSize, 1)) = 0) Then ' Win95 Adds Null Terminated String...
- tmpVal = Left(tmpVal, KeyValSize - 1) ' Null Found, Extract From String
- Else ' WinNT Does NOT Null Terminate String...
- tmpVal = Left(tmpVal, KeyValSize) ' Null Not Found, Extract String Only
- End If
- '--
- ' Determine Key Value Type For Conversion...
- '--
- Select Case KeyValType ' Search Data Types...
- Case REG_SZ ' String Registry Key Data Type
- KeyVal = tmpVal ' Copy String Value
- Case REG_DWORD ' Double Word Registry Key Data Type

- For i = Len(tmpVal) To 1 Step -1 ' Convert Each Bit
- KeyVal = KeyVal + Hex(Asc(Mid(tmpVal, i, 1))) ' Build Value Char. By Char.
- Next
- KeyVal = Format$("&h" + KeyVal) ' Convert Double Word To String
- End Select
-
- GetKeyValue = True ' Return Success
- rc = RegCloseKey(hKey) ' Close Registry Key
- Exit Function ' Exit
-
- GetKeyError: ' Cleanup After An Error Has Occured...
- KeyVal = "" ' Set Return Val To Empty String
- GetKeyValue = False ' Return Failure
- rc = RegCloseKey(hKey) ' Close Registry Key
- End Function
- Private Sub adoreport_MoveComplete(ByVal adReason As ADODB.EventReasonEnum, ByVal pError As ADODB.Error, adStatus As ADODB.EventStatusEnum, ByVal pRecordset As ADODB.Recordset)
- With AdoReport.Recordset
- If .EOF Then
- AdoReport.Caption = "End of File"
- Else

```
        AdoReport.Caption = "Record " & .AbsolutePosition & " of " &
.RecordCount
    End If
End With
End Sub


Public LoginSucceeded As Boolean

Private Sub cmdCancel_Click()
    'set the global var to false
    'to denote a failed login
    LoginSucceeded = False
    Me.Hide
End Sub

Private Sub cmdOK_Click()
    'check for correct password
    If txtPassword = "npc" Then
        'place code to here to pass the
        'success to the calling sub
        'setting a global var is the easiest
        LoginSucceeded = True
         Me.Hide
        frmHome.Show
    Else
        MsgBox "Invalid Password, try again!", , "Login"
```

```
        txtPassword.SetFocus
        'SendKeys "{Home}+{End}"
    End If
```

Appendix 2


Login
POPULATION ANALYSIS SYSTEM
DESIGN BY
OKWONG,SUNDAY-WHITE .U.
CST/2008/278
User Name:
Password:
OK
Cancel

Population Analysis - [About]

File

Home | Population Count

Search

Select task

- History of Enugu State
- Ministries
- Legislature
- Executive
- Judiciary
- Federal Parastatals
- Projects

Close

His Excellency
Sullivan Ikemsebe Chime
Governor, Enugu State

MINISTRIES IN ENUGU STATE

Contact Address: Ministry Of Agriculture

State Secretariat, Enugu

Contact E-mail: comm.agric@enugustate.gov.ng

MINISTRY OF WORKS AND INFRASTRUCTURE ENUGU

Hierarchy of offices/officers

- Hon. Commissioner
- Permanent Secretary
- Heads of departments
- Heads of Sections
- Heads of Units

Departments and Departmental Head

Admin-Mr. Raphael Idoko