2018 POPULATION AND HOUSING CENSUS: A VERITABLE TOOL FOR AN INCLUSIVE AND SUSTAINABLE DIGITAL SOCIETY

TEXT OF AN ADDRESS DELIVERED

BY

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I.   INTRODUCTION

On behalf of the National Population Commission (NPopC), I wish to express my appreciation to the President and the Executive Council of the Nigeria Computer Society (NCS) for extending to me the special privilege of being the Guest speaker on this auspicious occasion of the 13th International Conference of this great society.

The mandate of your association is very crucial to the attainment of our objective of providing accurate, reliable and acceptable demographic data for planning purposes. In this hi-tech era, it is difficult to carry out the collection, processing and dissemination of population statistics without a robust ICT platform. ICT is an indispensable and core component of conduct of censuses, specialized surveys and civic registration. It not only makes the task of capturing, processing and dissemination of demographic data easier and faster but also transparent, auditable and accessible. Nurturing enduring partnership with ICT professional associations such as NCS is therefore of tremendous value to the Commission.

II.   OBJECTIVES OF PRESENTATION

I have been requested to address the topic: *2018 Census as a Veritable Tool for an Inclusive and Sustainable Digital Society.*I must say that this topic is fascinating to us as a Commission because it encompasses our commitment to make the 2018 or the next Population and Housing Census (PHC) the foundation of a new and planned Nigeria not only in the ICT sector but every facet of our national life. This presentation therefore examines the sustainable

manner in which the processes and outcomes of the next Census will lay the foundationfor the building and operation of an inclusive and sustainable digital society in Nigeria. The specific objectives are:

1. To examine how the conduct of the next population and housing census will contribute to the nation's quest for an inclusive and sustainable digital society.

2. To identify possible indicators from the next census that will be useful for the operations of the digital society.

3. To present an over view of how the Commission intends to massively deploy ICT tools for the conduct of the next census, particularly the conduct of biometric based census.

4. To highlight the potential benefits of the adaption of biometric for the census and;

5. To highlight possible challenges and obstacles that might arise from the adoption of the biometric approach to census.

III.   DEFINITION OF CONCEPTS AND THEORETICAL CLARIFICATIONS

In order to ensure that we have a common understanding of issues raised in this presentation and its scope, it is important to define the two basic concepts in the presentation namely population census and digital society. This will also make it possible to appreciate the symbiotic relationship between census and ICT.

Population Census: The United Nations Principles and Recommendations for Population and Housing Census defines Census as *the total process of collecting, compiling, evaluating, analysing and publishing or otherwise disseminating demographic, economic and social data pertaining, at a specified time, to all*

persons in a country or in a well delimited part of a country. Census is the primary source of population statistics and the frame upon which the population profile of the country is usually established. However, there are other sources of population statistics such as Civil registration of births and deaths and conduct of specialized surveys such as the Nigeria Demographic and Health Surveys (NDHS), Nigeria Education Data Survey (NEDS), Malaria Indicators Survey (MIS), Nigeria State Health Investment Project (NSHIP), Migration surveys etc. These other non-census data provide complementary data for census that can meet the needs of specialized data users and update the population profile particularly within the inter-censal period.

WHAT IS DIGITAL SOCIETY?–According to Sultanate Oman Information Technology Agency, a Digital Society is a modern, progressive society that is formed as a result of the adoption and integration of Information and Communication Technologies at home, work, education and recreation. In a Digital Society, people avail various government services, pay their bills and taxes, access important information and register companies through an online gateway that works 24/7. People prefer reliable and secure electronic transactions to cash. All residents are issued national identity cards based on smart-card technology that enables biometric authentication with a capability for multiple-applications such as personal identification, financial transactions, medical records and employment status in a single card.All governmental units will be electronically connected with each other and will provide better public services. People will be highly IT literate and will use e-Government services to better their lives. Lastly, a digital society will boast of highly advanced telecommunications and wireless connectivity systems and solutions.

Two sub concepts have been used to describe a digital society in this presentation. They are *Inclusive* and *Sustainability.* Inclusiveness of the digital society implies that a greater proportion of the population are participants in the digital activities. In other words, they are in one way or other on the internet, have their information captured and use it for their daily activities and therefore are digital citizens.

Sustainability means that the digital society must flow seamlessly in a way that things are done faster, effectively and more efficiently and ensure the capacity or capability to be utilised and improved oncontinuous basis overtime.

It is important to stress that there is a symbiotic relationship between census and ICT. The first facet of the relationship is how the availability of robust ICT platform and facilities impact on the quality of the processes and outcomes of population census while the second facet of the relationship is how the availability of census data serves as a veritable tool for the formulation and implementation of ICT programs. This presentation is primarily concerned with the latter.

IV.   2018 BIOMETRIC BASED CENSUS: HOW IT WILL BE CONDUCTED

Census: Trends

Various ICT Options to be adopted for Refinement and Ease across all stages of the Census
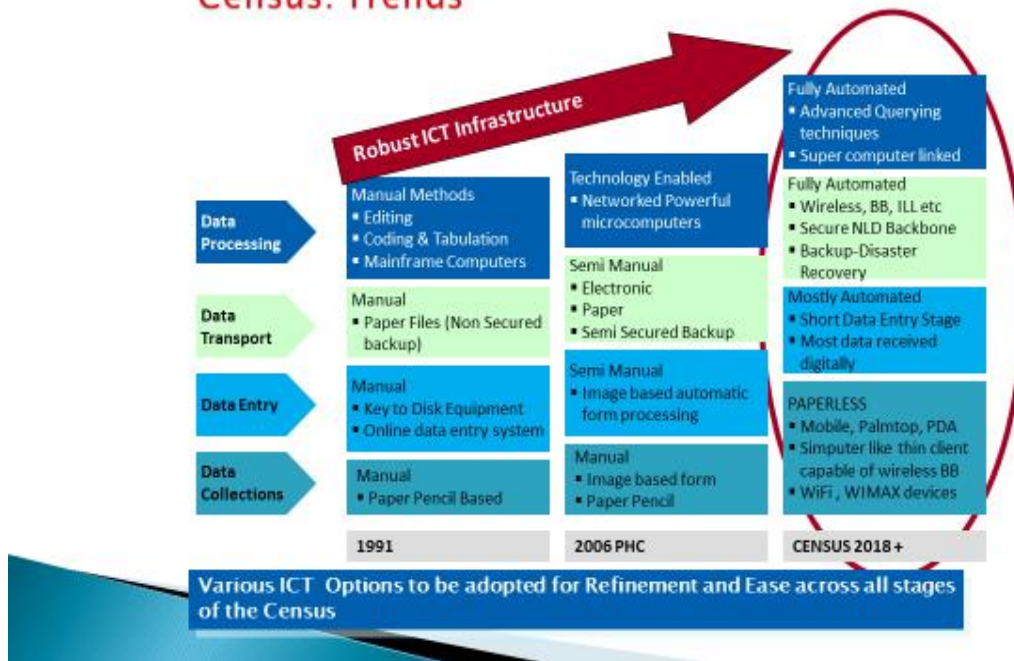
Nigeria is on the verge of another population census hopefully in 2018. Conscious of the pitfalls that befell previous censuses, the present Commission is determined to break the jinx and fiasco that trailed past censuses by adopting effective and innovative measures that would arrest challenges experienced. The corner stone of this strategy is the comprehensive and innovative deployment of ICT at the various stages of the census operations. The proposed 2018 Census will be based on Biometrics which involves the use of Electronic Data Capture. As you are aware, biometrics is the science and technology of uniquely identifying human subjects by means of measuring and analysing one or more intrinsic physical or behavioural traits. These human body characteristics may include finger prints, eye retinas and iris, voice patterns and hand measurements.

The methodology for the 2018 Census will be de facto based; interviewers will collect information from the members of the household/persons physically present at the time of enumeration in a building and within an Enumeration Area, using the Electronic Data Capture device containing census questions.

Thereafter, the finger or thumb prints and/or facial impression of all respondents will be captured.The data captured will be stored in these devices or streamed to data centre as depicted here.

## Direct Data Capture Infrastructure
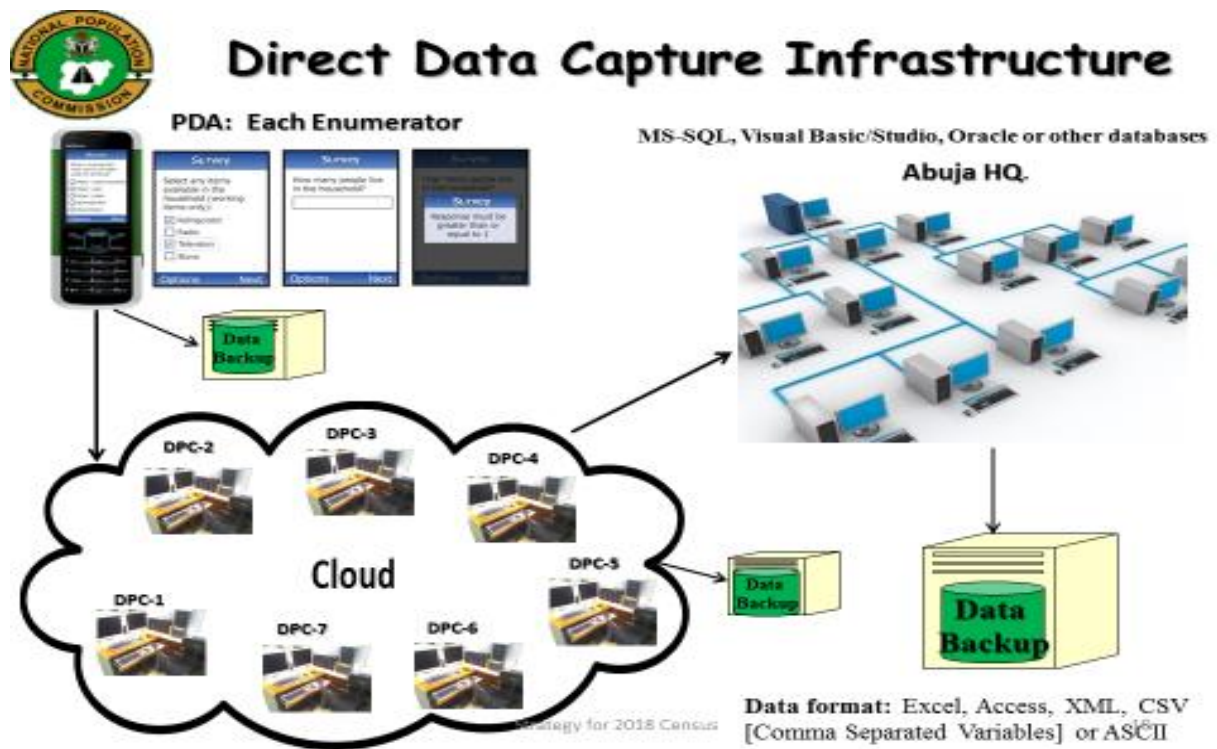
In order to increase the speed, reliability and efficiency of data capturing, processing and disseminating of census products, a Client-Server environment to handle census data will operate over a robust and secure Local Network (LAN), Metropolitan Area Network (MAN), and Wide Area Network (WAN) with a Virtual Private Network and National Population Commission Private Cloud set up for an accurate, reliable, verifiable and acceptable Population and Housing Census in 2018.

The most obvious advantages of the use of handheld devices for data collection are:

- Data can be directly uploaded and exported to any type of data base ready for analysis, simultaneous data entry and data base coding, which allows for bypass of manual data entry, zero staff hour for data entry or scanning. Ability to program a requirement that enables interviewers selects a response to a current question before going on to the next question.
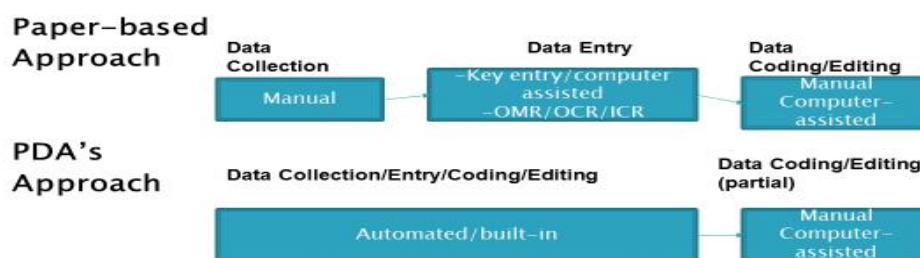
- There will be no need to find secondary areas for storing survey materials for long period, the ability of the software to automatically follow skip patterns, checks and validation are simultaneous, it increases productivity, it increases data security, devices are pass worded and protected. The device can be preserved for other use, it is faster.
- It gives room for geo referencing the point of interviews using GPS, another potential advantage of electronic instrument is the ability to include pictures, audio or video links along withtext.

V. BIOMETRIC BASED CENSUS AS A TOOL FOR INCLUSIVE AND SUSTAINABLE DIGITAL SOCIETY

The most tangible outcome of the proposed 2018 Census is the unprecedented manner it will create a robust digital participation in Nigeria as every person enumerated will have their biometric features captured into a national

population register and can therefore have their biometric features used for digital activities. As defined above, there are certain elements that define an inclusive and sustainable digital society. First, it must be inclusive, in other words, a greater proportion of the population should enrolled on the digital platform by having their biometric features captured, stored and accessible on the digital platform.

Notwithstanding the great advances the nation has recorded in digital revolution, less than half of the population have had their biometric features captured by the various agencies such as INEC, Banks, Nigeria Immigration Service (NIS) etc. This is not surprising as Nigeria was ranked 137th on the International Telecommunication Union (ITU) ICT Development Index. The plan of the Commission to conduct a biometric based census will make the digital society in Nigeria inclusive and sustainable. As you are aware, census involves the enumeration of all persons resident in Nigeria during the census moment. A biometric based 2018 census means that for the first time, the biometric features of the total population will be captured and stored and used in the National Population Register (NPR).

This will be unprecedented in the history of the country. There are quite a number of agencies collecting biometric data in Nigeria. However, they collect only for a certain section of the country with the registration of voters being the most extensive, other major institutions involved are the National Identity Management Commission (NIMC), Banks, Federal Road Safety Commission (FRSC), NIS and others. The limitations of the current biometric data structure are as follows:

1. The combined biometric data collection of all these agencies covers only a segment of the population. The INEC data is for those who are 18years and

above and who wish to vote in elections. The National Identity card on the other hand is issued to only Nigerians, Driver's License for those who are qualified and wish to drive and International passports for those who wish to travel abroad; these permits are issued on voluntary basis.

2. The biometric data lacks uniformity as the different agencies collect different parameters. This makes harmonization into a common national register cumbersome. Related to this is the fact that the data have been duplicated and makes consolidation multitasking.

3. The biometric data collection process lacks cost effectiveness. Acquiring the hardware and software, and of course the personnel for biometric data capture does not come cheap and could be quite expensive if it is done individually by agencies. Many agencies that require biometric data for efficient discharge of their duties are constrained by limited fund therefore hampering the nation's quest for inclusive and sustainable digital society.

The next census through the capture of the biometric features of all enumerated persons will facilitate the nation's quest for an inclusive and sustainable digital society. The data will be collected centrally, for all persons, stored in a centralized national demographic data base and accessible to every user. This will reduce the astronomical cost of biometric data capture in Nigeria. This is our vision for the next census.

VI.   MEETING THE DEMOGRAPHIC AND SUSTAINABLE DIGITAL SOCIETY

The basic purpose of National Census is to provide data for planning and national development. It performs this important role by providing information on existing conditions and guide on how resources and policies can be utilizedin

order to improve these conditions. Census data is required for planning in every facet of National use including ICT sector.

The scope, pattern and processes of information, communication and technology is demographically driven. In other words, the size, structure and distribution of the population as well as house hold characteristics have implications for national needs, capacities and utilization of ICT. It is therefore difficult to divorce demographic data from the formulation, implementation and monitoring of ICT policies and programmes in any country.

Conscious of its historic mandate of conducting a national Censes that will respond to national aspirations, the Commission is leaving no stone unturned in ensuring that the 2018 census responds to the data needs of an inclusive ICT sector. The questions to be canvassed and indicators to be generated are robust for planning and operating a robust ICT sector. These relevant ICT indicatorsin the 2018 Census and their usefulness are presented below:

No	Indicators	Potential Usefulness for ICT
	Population size distribution	Makes it possible to determine percentage of internet users and penetration
	Age structure depicting youthful population	Makes it possible to know the size of youth age group who are more active participants in digital activities
	Literacy level	Some level of literacy is required to participate in digital activities and literacy data makes it possible to estimate potential digital citizens
	Occupation characteristics to identify professions that require it more	Some occupation are more disposed towards participation in digital activities. Data on occupational characteristics provide information on these occupations.
	Household sources of Electricity	The use of digital gadgets require electricity and data on household sources of power will help in planning digital programs
	Ownership of telephone	Phones are becoming important tools for digital activities and data on phone ownership will help in determining

		internet access
	Household access to internet	Internet is required for digital activities and household access to internet will provide information on internet penetration

VII.   POSSIBLE CHALLENGES IN CONDUCTING BIOMETRIC BASED CENSUS

Like every new innovation, fears and apprehension have been expressed in certain quarters over the workability of the Commission's plan to conduct a paperless biometric based census as opposed to the conventional paper based census. While it is conceded that capturing biometric features of respondents through Electronic data devices will ensure speedy processing of census and remove human errors, various technical and non-technical issues have been raised. These include:

1. The huge cost of procuring the Electronic Data Capture (EDC) devices and other supporting IT superstructure and infrastructure for the census, the Commission plans to spend about NGN60b on ICT. Given the dwindling resources of government, raising this huge fund adequately and timely is a major challenge.

2. Related to the above is the need to produce the EDCs in good time. The Commission will require about one million devices, one each for the enumerators to be engaged. These are not items to be procured off the shelf. They need to be configured to specifications before they are procured and deployed. This will require time and a lot of time and efforts

3. There is also turn around issue of acceptability of the EDC by the general public. In some culture, taking photograph may be resisted and this could be

turned into controversies like we witnessed over the deployment of card readers during the 2015 elections. Some of these resistances could be politically motivated over perceived outcomes of the census result

4. Issues of workability of the EDCs within the context of the fragile infrastructure setting of the country have been raised. Fear has been expressed on how the device will be charged in an environment of epileptic electricity supply in both urban and rural areas.

5. Much more importantly, Nigeria's population is huge and given the stipulated time for census, the importance of EDCs that can capture respondents within a short period cannot be over emphasized. This becomes critical if it is noted that the device will not only capture biometric features but also record demographic responses. Taking finger prints could be more cumbersome as cases of rejected finger prints could be more common like in the case of card readers.

Conscious of these challenges, the Commission is adopting a painstaking process of fine-tuning its strategies by identifying hiccups and devising appropriate measures to tackle them. Towards this end, the process of oems, ICT Solution/Service providers presenting their solutionsis on-going with a view to identifying providers whose packages meet our needs. The field testing and ICT structure would be carried out during the proof of concept(PoC), pre-test and trial census and incorporated into the finalstrategies for the next Census.

VIII.   CONCLUSION

Building an inclusive and sustainable digital society is of utmost significance in our quest for sustainable national development. ICT is fast turning the world into a digital village and Nigeria cannot afford to be left out in this digital

revolution. Building a digital society makes daily activities simpler, fosters economic growth and enhances security.

However, given the fact that digital society will be built by the people and for the people, demographic issues relating to ICT cannot be ignored. The Population size, structure and distribution have profound implication for the scope, pattern and operations of the digital society. It is in this regard that accurate and reliable demographic data becomes a first step towards an inclusive and sustainable digital society. The present Commission has braced up to this great challenge through plan to conduct a biometric based census. This will ensure that every person resident in Nigeria is enrolled into the national population register. In addition, it allows for harmonisation of biometric data, makesit more accessible and cheaper.

Given the fact that the next census will be ICT driven, the active involvement of critical stakeholders and in the ICT sector is required at the various stages of the census. The Commission will require the professional skills, wide network and goodwill of ICT practitioners individually and collectively in order to succeed. It is my hope that this presentation and follow up engagements will mark the beginning of mutual collaboration and enduring partnership between the NPopCand the NCS for the sake of a planned, digital and prosperous Nigeria.

I thank you for your kind attention

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National Population Commission
18th July 2017

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