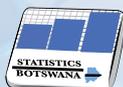




2021 Population & Housing Census Project Document



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PREFACE

Since independence in 1966, Botswana has successfully conducted decennial censuses from 1971 through 2011. The country's political stability and economic resilience have been supportive of the census exercise and the results which have not had any major shortcomings. In a significant move within the context of regional integration, the Southern African Development Community (SADC) decided to harmonize the census process of its member states from the 2000 round of censuses. Botswana has responded positively, from the 2001 census and beyond to this regional requirement. The 2001 census, being the country's fourth census since independence was the first in the edition of the SADC-wide rounds of censuses.

Statistics Botswana in collaboration with, and support from the United Nations Fund for Population Activities (UNFPA), embarked on the development of a comprehensive Census Project Document (CPD) that will guide the 2021 Population and Housing Census (PHC) undertaking.

The PHC being a project, requires that a CPD be developed to provide a guide on what is to be done to make the project successful. It has been a tradition to develop CPD for censuses since 1981 to present. The CPD is intended to define what census is and spell out processes and procedures of conducting a census with a breakdown of activities by different components of the census cycle. It goes further to present the total estimated budget broken down into major components or milestone by financial years from 2018/19 to 2022/23.

The census project document is also an important instrument to use in resource mobilization, advocacy for the 2021 PHC, as well as, providing guidance on stakeholder roles and participation on the project.

This document has taken into consideration key issues and challenges experienced during the 2011 census, as well as, recommendations thereof. Mitigation of these issues will be used as input in planning for the 2021 census processes. It goes further to provide different strategic areas as census implementation guide and the required technical assistance. Capacity building shall be to the cornerstone of the success of this project and so, the census staff will be capacitated through benchmarking and attending relevant courses and training workshops on the 2020 round of censuses.



Dr. Burton S. Mguni
Statistician General

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LIST OF ABBREVIATIONS AND ACRONYMS

| | |
|--------------|--|
| AfDB | African Development Bank |
| BDF | Botswana Defense Force |
| BDQAF | Botswana Data Quality Assurance Framework |
| CAPI | Computer Assisted Personal Interview |
| CCC | Census Central Committee |
| CEDA | Citizen Entrepreneurial Development Agency |
| CEO | Chief Executive Officer |
| CPD | Census Project Document |
| CSC | Census Standing Committee |
| CTAC | Census Technical Advisory Committee |
| CTO | Census Technical Officer |
| CTO | Central Transport Organization |
| DC | District Commissioner |
| DCC | District Census Committees |
| DCO | District Census Officer |
| EA | Enumeration Areas |
| GIS | Geographic Information System |
| GPS | Global Positioning System |
| HATAB | Hospitality And Tourism Organization of Botswana |
| ICT | Information and Communications Technology |
| IMIS | Integrated Management Information System |
| MDA | Ministries Departments and Agencies |
| MFED | Ministry of Finance and Economic Development |
| NCC | National Census Coordinator |
| NCCC | National Census Communication Committee |
| NDP | National Development Plan |
| NGO | Non-governmental Organization |
| PAPI | Paper Assisted Personal Interview |
| PES | Post Enumeration Survey |
| PHC | Population and Housing Census |
| PI | Principal Investigator |
| PS | Permanent Secretary |
| RPHC | Round of Population and Housing Census |
| SADC | Southern African Development Community |
| SB | Statistics Botswana |
| SDG | Sustainable Development Goals |
| SG | Statistician General |
| SMME | Small-Medium and Micro Enterprises |
| SVC | Statistical Value Chain |
| UNECA | United Nations Economic Commission for Africa |
| UNFPA | United Nations Fund for Population Activities |
| UNSD | Nations Statistics Division |

EXECUTIVE SUMMARY

In accordance with established guidelines of United Nations Statistics Division (UNSD) on census taking, the Census Project Document (CPD) considers census as a process which comprises several stages. While Statistics Botswana coordinates the processes, involved also in these stages is the Government and development partners.

The total direct cost of the 2011 PHC was P126, 976,218.59 (one hundred and twenty-six million, nine hundred and seventy-six thousand, two hundred and eighteen pula fifty nine thebe) only for a population of 2,024,904 inhabitants. The USD equivalence was about \$18,568,661.14. This budget was largely funded by the Government of Botswana. In addition, United Nations Fund for Population Activities (UNFPA), supported the project by funding the engagement of the National Census Coordinator (NCC) and Census Technical Advisor; provision of transport for Census Office and sponsoring capacity building workshops as well as publicity events.

The 2021 Population and Housing Census will be the first census to be conducted by Statistics Botswana outside Government establishment. It is therefore anticipated that the cost for conducting the 2021 PHC will be higher than before. The main contributors of this escalation are mainly sources of transport for fieldwork as well as electronic gadgets used for data collection. The national population is projected to reach **2,565,855** by 2021 and the estimated total cost of the 2021 census is P334,692,943,00 (three hundred and thirty-four million six hundred and ninety two thousand, nine hundred and forty three pula only) or USD equivalence of about \$33,469,294.30. While the Government of Botswana will be supporting a large portion of the 2021 PHC Census budget as in the past, there will be a need to solicit assistance from the development partners and other stakeholders within and outside Government, especially in the areas of capacity building, advocacy and transportation.

The 2021 Census will be conducted using technological devices and equipment in line with current approach to census undertaking and other statistical operations. This approach is anchored on digital technology, mapping with GPS coordinates to enhance spatial analysis, use of handheld devices for enumeration to improve timeliness, data quality and promote utilization.

The use of census information starts with immediate utilization of the data for constituency delimitation, where political representation areas are demarcated. The total population of the country and its distribution with figures disaggregated by sex, age structures and sub-national administrative division form part of immediate output as preliminary results.

1. INTRODUCTION

Census taking dates back to the ancient world. Governments of every era have recognized the need to collect information on their most valuable assets and the population. The Babylonians and the Chinese held their first known censuses mainly for military and taxation purposes in the years, 3800 BC and 3000 BC respectively. The Israelites held their first census in 1446 BC after Moses was ordered by God at Mt Sinai to do so for purposes identifying men who would form army regiments. The Egyptians collected information on the population so that they could plan armies of people to build the pyramids and to redistribute land following the annual flooding of the Nile River. The Greeks and Romans also held censuses of population many years before Christ. A five yearly census was ordered by Caesar Augustus which required every man in the Roman Empire to return to his place of origin to be counted there.

In Botswana conducting census dates back to colonial period when the first census was conducted in 1904. In the colonial period the country conducted censuses at irregular intervals: in 1904, 1911, 1921, 1936, 1946, 1956 and 1964. Since independence in 1966, the country has carried out five (5) decennial censuses, the last one being in 2011. Several episodes of conducting census imply that Statistics Botswana (SB) has acquired a strong institutional memory for the exercise. With an experienced team, reinforced by international experts, where necessary, SB will continue embracing modern technologies that will accelerate the census processes and permit quick dissemination and utilization of the census information in decision making.

The population and housing census is conducted at intervals of 10 years. Botswana conducted the last population and housing census in 2011. In order to plan for, and implement economic and social development, administrative activity or scientific research, it is necessary to have reliable and detailed data on the size, distribution and composition of population. The population census is a primary source of these basic benchmark statistics, covering the settled population and the homeless persons. Data from population censuses allow presentation and analysis in terms of statistics on persons and households, as well as, for a wide variety of geographical units, ranging from the country as a whole to individual small and large localities or city blocks.

In the 2001 PHC, Botswana's fourth census since independence, SADC came up with an initiative involving harmonization of concepts and definitions. The initiative includes synchronized data collection, training of personnel and dissemination of census results among the member states. The SADC initiative was adopted in Botswana then, and continued in subsequent censuses.

2. OBJECTIVES OF THE 2021 POPULATION AND HOUSING CENSUS

The 2021 Population and Housing Census aims to count all persons, vis. citizens, non-citizens, visitors, babies, elderly, etc. living in Botswana and determine the socio-economic and demographic characteristics of the population. Such characteristics include among others, the total number, geographic distribution by sex, age, migration patterns, education, housing characteristics, household sizes, etc. Thus, the census will cover all inhabitants in Botswana. The eventual objective is to provide the Government and other stakeholders with relevant, reliable and timely baseline data and statistical information for development planning, policy formulation and service delivery as well as for monitoring and evaluation of development programs and plans. By so doing, the project contributes to the improvement of quality of life of the nation through providing the required information to guide development.

2.1 Specific Objectives

By the end of the 2021 census cycle, Botswana will be well placed to:

1. Have increased availability and accessibility of accurate, timely and reliable data on demographic and socio-economic characteristics of the population, for evidence based decisions, policy formulation and monitoring and evaluation of development frameworks at national, sub-national and sectoral levels.
2. Have strengthened national capacities in data collection, processing, analysis, dissemination and utilization, including Geographic Information System (GIS), as well as census strategic planning and management

3. DEFINITION OF CENSUS

A census is the way of counting human population with a procedure of systematically obtaining/recording information on demographic, social and economic characteristics at a specified time and defined geographic boundaries. The geographic boundaries in this case refers to the country of Botswana. The essential features of a population census are individual enumeration, totality within a defined territory, simultaneity, defined period of census count and periodicity or census interval. It needs to be mentioned that a population and housing census is the largest data collection undertaking in a country by the government. It counts and provides information on every person, from the newly born babies to the oldest person in the country for both citizens and non-citizens. By nature, thus, a population and housing census covers every corner of the country and visits every dwelling and household. In order to effectively manage the activities of the census, Statistics Botswana will set up district structures headed by District Commissioners (DCs) to coordinate activities at district level and manage the required logistics at that level.

A population and housing census collects information on the characteristics of the population in terms of the size and composition such as age, sex and geospatial distribution, health, education, housing, employment, migration and disability, ploughing land, its acquisition and tenure. This process is followed by compilation, validation, evaluation, analyses and publishing or disseminating demographic, economic and social data. While at enumeration every person is counted regardless of citizenship status, at dissemination, the population is reported in its totality and disaggregated by citizens and non-citizens.

Population and housing census provides information on the geographic and administrative distribution of the population in addition to the demographic and socio-economic characteristics of all the people in the country. The data from the census are classified, tabulated and disseminated so that political leaders, election officials, planners, businesses, NGOs and civil society, regional and international organizations as well as the public at large, can use the data in decision-making. For the purposes of good governance, poverty maps derived from the census can play an important role in guiding the distribution of resources and allocation of public spending to reduce poverty. Census results are also used for review of power sharing such as political representation in parliament and at local government level. Micro level data (individual records) shall be protected by the Statistics Act 2009 and will not be used for any other purpose except for research and statistical analysis.

4. LEGAL FRAMEWORKS

Statistics Botswana conducts the 2021 Population and Housing Census (PHC) within the jurisdiction of two (2) key legal instruments namely;

- Census Act (Cap 17:02) of 1904.
- Statistics Act (Cap 17:01) of 2009.

Further, the conduct of census at 10 year intervals is enshrined in the Constitution of Botswana under Sections 64(2)b and 65(1-3) which state that the Judicial Service Commission shall appoint a delimitation commission at any time after a comprehensive national population census has been held in Botswana. The interval between appointing one delimitation commission and another shall neither be less than five (5) years nor more than 10 years. Implicitly, therefore, a comprehensive national census shall be held at regular intervals to satisfy the requirements of the Constitution and hence the 10 years interval between censuses.

The Census Act and Statistics Act spell out responsibility of citizens to provide correct and timely responses to census officials, as well as, ensuring protection and confidentiality of individual's data obtained during the census. The law goes further to spell out penalties for those (census officials and members of the public) who violate it.

These legal instruments mandate Statistics Botswana to implement the 2021 Census Project. The Conduct of a population and housing census is the responsibility of the Government of Botswana. The role of Statistics Botswana (SB) as bestowed by the Census Act and Statistics Act is to coordinate census as a project. This makes the Statistician General (SG) as the Chief Executive Officer (CEO) to be responsible to the Government for the conduct of the census. Statistician General provides technical and operational coordination while the district authorities within the auspices of the District Commissioner's Office implement census at districts with full authority. The DCs work with a team that also includes Council Authorities, Tribal Authorities and Land Boards.

The Statistician General (SG) sets up a Census Office and appoints the National Census Coordinator (NCC) and other staff members. The SG delegates some of the responsibilities to the NCC to lead the coordination role. The Census Office being one arm of the many functions of SB becomes part of the system that works with other functions to obtain support to ensure that the census project runs smoothly and is adequately delivered.

Population and housing census is a national project which involves a number of key stakeholders. Some of the stakeholders play significant roles as partners. These require to be mobilized, involved and engaged so that all key players, indeed execute their roles and do so fully and efficiently. These players include Ministries, Departments and Agencies (MDAs), District Authorities, the Private Sector, NGOs and the public as partakers during enumeration and so, **everybody gets involved**.

5. USE OF CENSUS DATA

Information generated from a PHC serves various purposes, some of which are emerging issues that need baseline data as the yardstick for more insightful analysis and research. Some of these are as discussed below:

5.1 Evidence-based decision making

Botswana has had successive National Development Plans (NDPs) with the current NDP 11 undergoing a mid-term review. This national plan was developed through the prisms of global, continental, regional and national frameworks being the Agenda 2030, Sustainable Development Goals, African Union Agenda 2063, SADC Protocols, and the National Vision 2036 which of necessity rely on population data for planning at national level, district and sub-district levels. The planned 2021 PHC is particularly important because it will inform the establishment of baseline data as well as monitoring and evaluation of these developmental frameworks, mid-term review of NDP 11 as well as evaluation of both Vision 2036 and SDGs expected to end in 2036 and 2030 respectively. Population data will inform various development planning frameworks, and such development will, in turn, influence demographic phenomena. The 2021 PHC will also complement data from future surveys that are conducted intermittently between the censuses that the country has undertaken and those it will carry out in future.

5.2 Research

The 2021 PHC will provide data for further analysis, leading to published material, policy documents and research on issues generating interest and arousing curiosity.

Researchers will find the census data invaluable for more in-depth analysis, comparison with the previous census results and to attract further research.

The academia and students, as well as research organizations constitute a special group that will benefit greatly from the 2021 PHC from which they may be expected to publish academic and policy papers, prepare dissertations/theses and launch new research interests/agenda. Governmental and non-governmental institutions would find the census data useful for their work relating to their specific mandates. For instance, education, health, housing and vulnerability issues would receive more professional or expert treatment by institutions and individuals who are best suited to handle them. Outcomes of such research and analysis would inform policy and programs requiring data updates.

5.3 Service to business Sector

Apart from the public sector, the private sector requires population and housing data to assess and determine the business requirements such as the market levels and the workforce. Moreover the business communities use census data to determine demand levels of commodities and production/output levels based on census information.

5.4 Formulation of Policies and Programs

Formulation of policies and programs represents one of the principal uses of census data. Data from the census will enable planners and policy makers formulate meaningful policies and design appropriate programs to meet the needs of the society in both urban and rural areas.

5.5 Vulnerable Population Data and their Utility

The 2021 PHC will collect data on different categories of population with varying types of vulnerability. Among the special groups are minorities, the disabled, orphans, youth and women, as well as those poverty stricken and needing shelter. Their demographic and socio-economic attributes require special consideration in policy and program terms, which must be factored in, in the country's development process at all levels.

5.6 Diversification in the Development Sphere

Over the past years, Botswana's development policy has been emphasizing diversification of the economy to reduce exclusive reliance on diamond mining. The 2021 PHC will generate data that will inform different development frameworks aimed at diversification of the economy, among which are Small, Medium and Micro Enterprises (SMMEs), Local Enterprise Authority (LEA), Citizen Entrepreneurial Development Agency (CEDA), youth-based cultural (including art) programs and other emerging economic pursuits. Botswana's well-developed livestock and mining industries, which have made the country become a middle-income economy, are the backbone of its promising future to which the 2021 PHC data will contribute considerably.

In a nutshell, the 2021 PHC, linked to other surveys taking place in the country, will respond appropriately to the NDP 11 and subsequent national development plans, SDGs, Vision 2036, SDGs, and other national and international development frameworks. Further, the census information such as enumeration areas as primary sampling units, is the basis for representative sampling frame upon which national household surveys would be conducted. This is important for continuous generation of information to monitor progress on policy and program implementation during the inter-censal period. The census data is also the basis for population projections figures at lower administrative levels to guide public and private sectors, as well as, research bodies.

6. STRATEGIES FOR CENSUS PLANNING AND MANAGEMENT

6.1 Execution Plan

- Division of administrative districts: Botswana is made up of 10 administrative districts plus the two cities of Francistown and Gaborone. For census purposes, there are 28 census districts, which consist of; two (2) cities, five (5) towns, 17 sub districts and four (4) districts with no sub-district.
- Enumeration areas plan: the Cartographic Exercise delineates enumeration areas across the entire country to facilitate enumeration. To this end an enumeration area (EA) represents the number of dwellings that will be assigned one enumerator. Enumeration areas are further grouped into clusters of four (4) such that each group of four EAs becomes a Supervision Area (SA). A supervision area represents the workload of a supervisor under whom there will be four (4) enumerators. Therefore, the number of delineated enumeration areas will represent the number of enumerators required for census. Similarly the number of required supervisors will be the number of enumeration areas divided by four (4).
- The number of vehicles required for census enumeration will be equal to at least the number of supervisors. Some supervision areas particularly in vast rural areas, where enumerators use vehicles during enumeration; will need at least two (2) vehicles. The number of vehicles required for supervisors and enumerators will be determined from cartographic exercise input.
- At district level, there shall be District Census Officers (DCO). Their role is to coordinate census activities at district level. Further, there will be at least two (2) DCOs per district. Overall the total number of DCOs will be around 56 people. There will also be Census Officials from Statistics Botswana (SB) who will be deployed to the field as Census Technical Officers (CTOs). Their role will be to assist DCOs on all technical matters pertaining to the census. The CTOs will comprise of all professional statisticians at all levels, estimated to be around 96. Both the DCOs and the CTOs will each require one vehicle. Therefore the total number of vehicles for DCOs and CTOs will be at least 152 vehicles. This number exclude the number of vehicles for enumerators and supervisors.

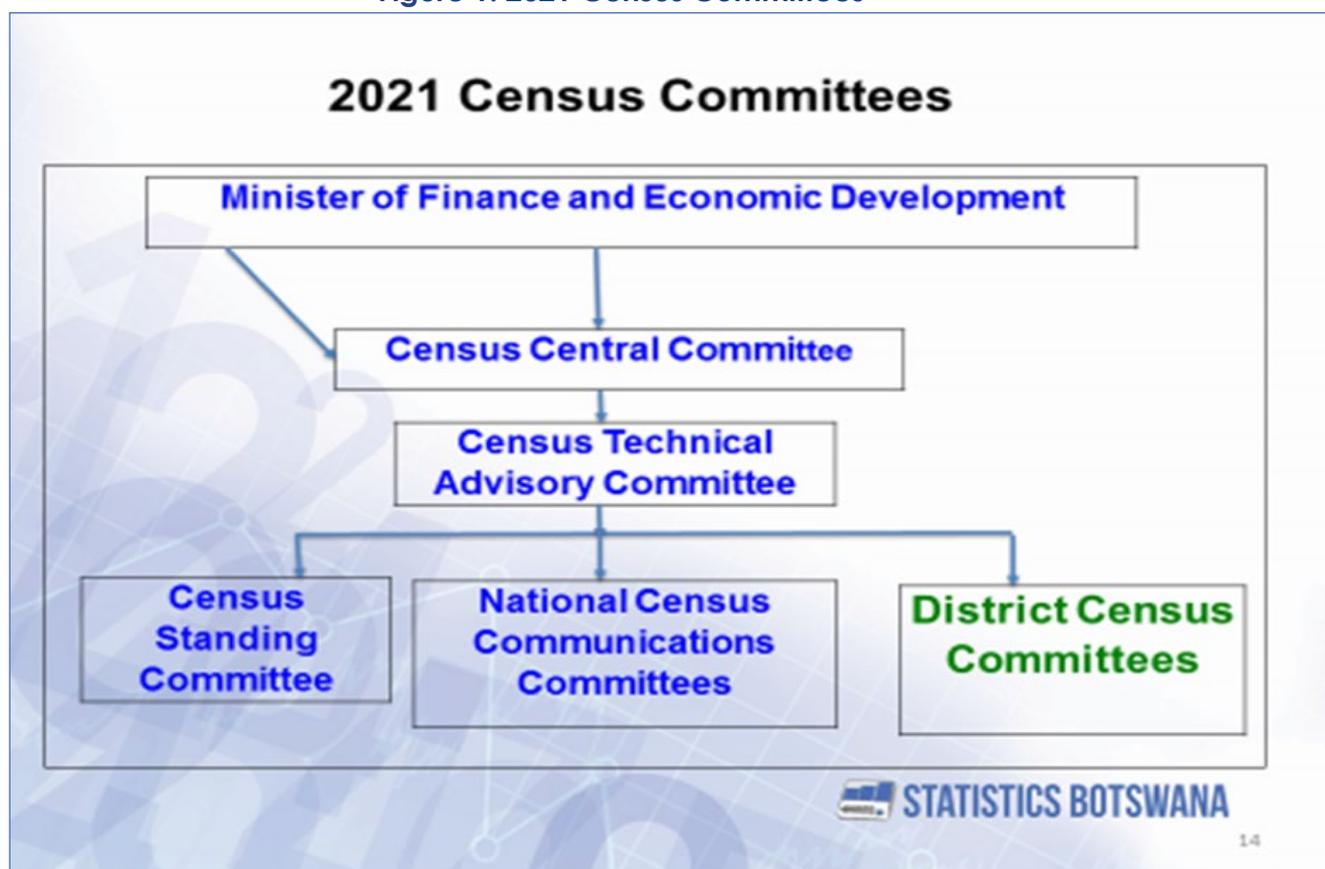
6.2. Census Structure

Conducting a census requires developing a clear census management framework, which outlines the census management structure, the key activities, responsibilities and critical dates, as well as capacity enhancement and resource mobilization. This structure clearly outlines the supervisory and implementation responsibilities of the various stakeholders.

6.2.1 Census Supervisory Structure

The census supervisory structure shows the various organs which will supervise the implementation of the 2021 census activities. The supervisory authority is anchored on the Ministry of Finance and Economic Development (MFED) under which Statistics Botswana falls. The structure displayed in figure 1 shows the Census Committees.

Figure 1: 2021 Census Committees



6.2.2 Census Central Committee

The Census Central Committee (CCC) is the apex committee of the 2021 Population and Housing Census. The Permanent Secretary (PS) in the MFED charged with conducting population and housing censuses (PHCs) will provide the overall oversight of the 2021 PHC. In the present MFED set up, this responsibility falls under the Secretary for Economic and Financial Policy and therefore, **the Chairperson of CCC will be the Secretary for Economic and Financial Policy**. Membership to this committee is comprised of all Permanent Secretaries. The Statistician General and Deputy Statistician Generals are members of this committee. The National Census Coordinator (NCC) is the secretary to the committee.

The duties of the committee will include:

- Provide guidance on census topics
- Lobbying for and mobilizing resources from the government, development partners and the private sector
- Provide guidance to ensure successful execution of the 2021 census.

6.2.3 Census Technical Advisory Committee

The Census Technical Advisory Committee (CTAC) is chaired by the Statistician General and it comprises of high-level representatives from the relevant stakeholders from the public sector, development partners and civil society. Membership to this forum will be reserved for technocrats, who are directly responsible for policy and program formulation, implementation and monitoring and evaluation. The secretariat duties will be provided by the Census Office.

The Census Technical Advisory Committee (CTAC) will be the advisory organ on census matters and is expected to:

- Provide guidance on sectoral technical issues through stakeholder representation regarding development of the census instruments
- Support the national management institutions to ensure the efficient management of the 2021 PHC
- Ensure that census provides relevant data to support policies
- Provides platform for stakeholders to exchange ideas on the required support for the census.

6.2.4 Census Standing Committee

The Census Standing Committee (CSC) is chaired by the NCC and the secretarial services will be provided within the Census Office. The committee comprises Statistics Botswana (SB) members at the level of divisional managers, Census Office technical staff members from the level of statistician and above, and some selected heads of units as may be prescribed by the NCC and the Divisional Managers.

The CSC is responsible for all the technical aspects of the 2021 PHC as guided by input from the CTAC. It will be the responsibility of this committee to review all the census instruments, which will include questionnaires, enumerators' manual, supervisors' manual, and development of ICT systems. The ICT systems include tabulation program, CAPI program, dashboard and controls, edit specifications and validation programs. The committee will ensure that all processes are aligned appropriately and bring them current to be in sync with ICT technologies used for CAPI census.

The Committee's specific duties will be to:

- Review and finalize the census instruments;
- Determine best practice in use of technology to improve census processes
- Recommend the best practices for preparatory activities, CAPI data collection and processing;
- Ensure adherence to quality assurance guidelines.
- Monitor and evaluate all the technical activities of the census at all stages.
- Approve **cadre and numbers** of all categories of census staff (DCO, trainers, supervisors and enumerators)
- Ensure availability of training centres for census field staff, both pilot and main census enumeration
- Ensure the training of field staff at various stages of census processes take place
- Oversee transport arrangement at all stages of census fieldwork; pilot and main census enumeration
- Facilitate procurement of all logistics (stores, material, supplies and equipment)
- Ensure timely delivery of census material to districts
- Ensure smooth implementation of the pilot and main census enumeration as per schedule
- Ensure production of the census preliminary results

6.2.5 National Census Communication Committee (NCCC)

The National Census Communication Committee (NCCC) will be responsible for informing and preparing the general public on the activities of the census. The NCCC will be chaired by a communication, publicity and advocacy expert from the Government media and communication fraternity. The secretary to the committee will be from the Division of Communication, Documentation and Dissemination (CDD) in Statistics Botswana.

Membership to NCCC will be experts from the Government Departments as will be guided by whoever will be the chairperson. From the SB side, the NCC, heads of Unit from Census Office, Manager of CDD and other relevant officers from the division as will be considered fit by the Manager, will be part of the committee.

Specific roles of this Committee will be to:

- Ensure the development of a communication, publicity and advocacy strategy and implementation of the same at a national level
- Oversee the development of communication, publicity and advocacy materials and other communication collateral including public releases
- Oversee the development of a strategy for disseminating census results
- Coordinate workshops, seminars, public meetings, and other events/activities for the purposes of informing the general public
- Spearhead sensitization of District Publicity Sub-committees members and other various census committees and stakeholders on the national communication, publicity and advocacy strategy
- Guide the development and implementation of district specific publicity strategies

This Committee will work closely with the other committees, i.e. the Census Standing Committee (CSC), and the District Census Committees (DCC) to incorporate technical aspects of the census in various publicity materials. Further, this Committee will keep the CTAC informed of progress on matters relating to communication, publicity and advocacy.

6.2.6 District Census Committees

District Census Committees (DCCs) will be established to supervise the implementation of census activities at the district level. District Commissioners will in collaboration with the Council Secretaries, appoint District Census Officers (DCOs) from among the District Administration and District Council Administration. The DCs/ Council Secretary and their deputies shall not be DCOs. District Commissioners will chair the DCCs of their respective districts.

The functions of the DCCs will include:

- Providing oversight support to the District Census Officers (DCOs)
- Providing support for publicity and advocacy activities within their respective districts
- Arrange transport for census in the districts
- Making security arrangements in their respective districts
- Ensuring the safety of all census materials and instruments in the districts
- Providing logistical support during recruitment, training, enumeration and payment of field staff
- Provide storage for census materials and equipment

6.3 Census Office

The Census Office will bring together all heads of divisions, key heads of unit in SB (GIS/Cartography, Census and Demography, Data Processing, Communication, Documentation and Dissemination, Admin/Finance, etc.). The National Census Coordinator (NCC) will monitor and evaluate the implementation of census activities.

6.3.1 National Census Coordinator

Statistics Botswana has direct responsibility for implementing the 2021 PHC. The Statistician General (SG) is therefore the Chief Census Officer. Statistics Botswana will initiate the legal basis for undertaking the census exercise through a Legal Notice to be published in the Government Gazette in accordance with the country's Census Act. The SG appoints the National Census Coordinator (NCC) who will manage the day-to-day activities of the National Census Secretariat (NCS).

The SG is the Principal Investigator (PI) responsible to Government for the conduct of the Census. The DC, being the custodian of government projects/operations in the district, will thus, be responsible for implementation of census taking in their respective districts. The District Commissioner is the returning officer for the census.

The NCC's specific functions will include the following:

- Responsible for conducting the 2021 PHC
- Responsible for day-to-day professional, technical and administrative matters of the census
- Mobilize and ensure proper usage of resources for the 2021 census
- Provide Secretarial services to the CCC and CTAC

- Coordinate the census office and all stakeholders
- Provide necessary link and updates to the Statistician General (SG)
- Release census results as per schedule

The functions of the Census Office are as follows:

- Draft Census documents, namely, Census Project Document, Advocacy for 2021 Census, Guide to 2021 Census
- Coordinate production of census materials for publicity and education
- Development of census instruments
- Draft Terms of Reference for Census Committees and DCOs
- Develop Terms of Reference for technical assistance where necessary
- Train DCOs and CTOs
- Spearhead recruitment of census personnel
- Coordinate training of census personnel (trainers, supervisors and enumerators)
- Coordinate the procurement of census materials;
- Coordinate dispatch and receipt of all census equipment, materials, equipment and instruments
- Develop tracking ICT systems to monitor progress during enumeration;
- Responsible for CAPI data processing as well as tabulation, analysis and dissemination of census results
- Develop quality control guidelines and monitoring mechanisms
- Draw the agenda for the CSC
- Oversee the enumeration exercise

6.3.2 District Census Offices

The District Census Offices will be outreach structures to coordinate all pre-enumeration, enumeration and post enumeration activities in the district. This will ensure better coordination of the implementation of the census by Statistics Botswana. The district structures will be within the District Administration in the office of the District Commissioner.

6.3.3 Technical Experts

All SB professional officers and senior technical officers, referred to as **Census Technical Officers (CTOs)** will each be responsible for their assigned districts on census technical matters during the pilot and the main census enumeration periods. The CTOs will also be responsible for training of trainers, supervisors and enumerators in their assigned districts for both pilot and main census implementation.

6.4. Census Processes

A number of census preparatory activities take place prior to conducting the census. It normally takes two to three years to prepare for a population and housing census. The major stages and milestones of preparations include cartographic mapping and pilot census. Other activities entail instrument development, recruitment, training, procurement of all equipment, materials and supplies, as well as publicity, advocacy and education.

6.4.1. Cartographic Mapping Exercise

The cartographic field mapping forms the fundamental core to the success of any population and housing census. The primary objective is to delineate enumeration areas (EAs) and map all the dwelling units in the country to facilitate smooth counting of inhabitants during enumeration period and fundamentally to ascertain that all areas and dwellings are covered. Further, cartographic mapping ensures that everyone in the country is counted.

The 2020 round of census Cartographic field mapping will use the paperless system (SmartClient for census). This will ensure that through unique workflows the data capturing is viewed and managed as soon as data has been synchronized into the server while field work is ongoing. SmartClient for Census is a WEB-based Client-Server software solution that enables different users to log into the system in order to execute the tasks allocated to them and has GIS architecture with one central database for office and field work, which ensures easy access to data. SmartClient for Census also has an online and offline functionality, this ensures that work is continuous even where there is no internet coverage. This has been outlined in detail in the 2021 Population and Housing Census Cartography Project Strategy.

The role of maps in the census is twofold: (a) to support enumeration activities and (b) to present aggregate census results in cartographic and geospatial form. Advantages of the enumeration maps include: (i) Ensuring full and unduplicated coverage; (ii) Estimating travel time while canvassing and conducting interviews; (iii) Assigning geographical codes and (iv) Providing number of EAs to determine numbers of field staff, transport equipment, as well as materials and supplies. The number of field materials, equipment and capacities of training centres depend on the number of EAs delineated.

During the enumeration exercise, these maps are used to guide the enumerators to and within the enumeration areas. Enumeration area maps also provide a basis for producing thematic maps for spatial analysis of the census and provide a sound basis for developing a national sampling frame and master samples for different statistical inquiries beyond the census. The spatial data from cartographic mapping exercise is built into a database from which outputs on spatial information will be generated.

6.4.2. Design of Census Instruments

The purpose of designing instruments for data collection and supporting materials, is to promote the collection of high quality data from the respondents. The types of data collection instruments refer to paper and electronic instruments. Design of census instruments entails the review of literature on topics to be covered and also on other census processes. Further instrument development includes; drafting tabulation plan, questionnaire development, drafting manuals, system development and conducting pretest, among others.

Instruments development is done in consultation with potential data users, on topics and indicators, so that their needs are incorporated. This process is also guided by the UNSD 2020 Census Round guidelines.

6.4.3. Literature Review

The Census Office will develop the questionnaires, manuals and control forms for the pilot census, main census and post-enumeration survey (PES). Some literature review will be done on the previous Botswana census recommendations and making reference to development frameworks, both national and international. Census topics to a large extent cover nationally required data for indicators for the NDP11, Vision 2036, Sustainable Development Goals (SDGs). Internationally, frameworks such as the UN Handbook on the Management of PHC, Washington Group guidelines, African Union Agenda 2063, Principles and Recommendations for the 2020 Round of PHC Rev 3 to name a few, will be referred to. The drafted questionnaire and manuals will be referred to the **Census Standing Committee (CSC)** for recommendation and submission for approval process to begin.

6.4.4. Census Topics

Table 1 shows census topics that were carried in the 2011 Census and going back a few censuses before. These are the topics which were approved in the past Botswana Censuses. More topics will be added based on new developments since the last census. Indicators for national and international development agendas provide a basis for inclusion of new topics or expansion of some of the topics that are already in the list. The census topics are discussed and firmed up at a stakeholders' workshop that will be arranged so as to feed into the process of questionnaire development.

The census topics will be presented to key stakeholders for consultation and input. The tick (✓) indicates that the topic was included in the reference census, while the X means that the topic was not included.

Table 1: Census Topics

| SR No. | Topics | 1991 | 2001 | 2011 |
|--------|--|------|------|------|
| 1 | Relationship to Head of the Household | √ | √ | √ |
| 2 | Sex | √ | √ | √ |
| 3 | Age | √ | √ | √ |
| 4 | Citizenship | √ | √ | √ |
| 5 | Place of Birth | √ | √ | √ |
| 6 | Place of Usual Living | √ | √ | √ |
| 7 | Place of Usual Living one year ago | √ | √ | √ |
| 8 | Place of Usual Living 5 years ago | × | √ | √ |
| 9 | Parental Survival | × | √ | √ |
| 10 | Language spoken most often at home | × | √ | √ |
| 11 | Educational Attainment | √ | √ | √ |
| 12 | Field of Education (Profession) | × | √ | √ |
| 13 | Religion | × | √ | √ |
| 14 | Marital Status | √ | √ | √ |
| 15 | Economic Activity (Usual-last 12 months and Current-last 7 days) | √ | √ | √ |
| 16 | Occupation | √ | √ | √ |
| 17 | Industry | √ | √ | √ |
| 18 | Fertility (Children ever born, Birth in past 12 months) | √ | √ | √ |
| 19 | Citizens outside the country and period away from Botswana | √ | √ | √ |
| 20 | Disability | √ | √ | √ |
| 21 | Death in the past 12 months | √ | √ | √ |
| 22 | Agricultural activity | √ | √ | √ |
| 23 | Mode of acquisition of farm land | √ | √ | √ |
| 24 | Type of Housing Unit | √ | √ | √ |
| 25 | Land acquisition mode | √ | √ | √ |
| 26 | Land Tenure | √ | √ | √ |
| 27 | Number of living rooms | √ | √ | √ |
| 28 | material of construction (wall, floor and roof) | √ | √ | √ |
| 29 | Water Supply | √ | √ | √ |
| 30 | Toilet Facility | √ | √ | √ |
| 31 | Refuse Disposal mode | √ | √ | √ |
| 32 | Energy for: cooking, lighting and heating | √ | √ | √ |
| 33 | Ownership of Durables | × | √ | √ |
| 34 | Ownership of ICT Equipment (computers) | × | √ | √ |
| 35 | Ownership of Cellular Phone | × | × | √ |
| 36 | Access to Internet | × | × | √ |

6.4.5. Tabulation Design

Ideally, census tabulations would be designed by the census topic experts based on the objectives, required indicators as well as the intended national and subnational disaggregation. The required indicators will inform specific tabulations on the basis of census variables collected through the census questionnaire.

Tables no longer need to be physically reproduced on paper; distribution via electronic media has become an important component of census data dissemination. However, all proposed tables, whether for conventional or virtual publication, should be approved by the census topic experts.

6.4.6. Census Questionnaire

Statistics Botswana will continue the harmonization of SADC census core topics for the 2020 round of censuses as done in the previous censuses.

The main instrument used in census taking is the household questionnaire. In addition, an institutional questionnaire is also administered. A well designed questionnaire captures data efficiently and effectively with minimal errors. Careful consideration should be given to the type of questionnaire, its format and wording and sequencing of the questions therein. Among the factors to be taken into account in designing the questionnaire are; the method of enumeration, type of questionnaire, the data to be collected, arrangement and flow of the questions and the processing techniques to be employed.

A CAPI module will be developed allowing the questionnaire to be administered in an electronic format. This module also entails incorporating edit specifications, consistency checks and skip controls as produced by census sector experts. These cover all aspects of validation and consistency checks such that data being collected is validated real time and giving immediate feedback to the enumerators whilst they are in the field. In addition the system will have capabilities to work both offline during data collection, and online for synchronization, which is an advantage when it comes to areas with poor or no network connectivity.

Within the system, there will be a synchronization function to facilitate electronic transfer of completed interviews to the field supervisors. The system will also allow headquarters to run tables for progress monitoring and draw summaries of field returns. This will allow the supervisor to interactively check progress and make corrections while enumeration is ongoing.

6.4.7. Census Manuals

There are several operatives responsible for the different functions within the census taking processes and these include the Census Technical Officers (CTOs), District Census Officers (DCOs), supervisors and enumerators. These operatives are guided by the different manuals that are used as reference materials.

The CTOs have to be conversant with all manuals as they will be providing guidance on technical and operational matters. They are the link between the field operations, district and the Statistics Botswana headquarters. They monitor and discuss any problems affecting field operations including CAPI issues, such as data transfer especially in areas where network connectivity is a challenge and carry out troubleshooting issues.

Enumerators Manual

Enumerator's manual is the most important tool that guides the enumerator through the entire census data collection process. The manual gives detailed information on how to ask all the questions in the questionnaire, allowing the enumerator to work independently in the field. It details out the identification of boundaries, how to approach the respondents, identification of households as well as background information relating to each question in the census, and how the questions should be asked. The manual also features the use of CAPI for data collection and shall be accessible in electronic format.

The enumerator's manual should cater for and address all scenarios/ eventualities that may arise during enumeration, and provide guidance on dealing with difficult enumerations.

Supervisors Manual

The supervisors manual guide the supervisors on questionnaire administration without necessarily repeating what is entailed in enumerators manual because supervisors are expected to be familiar with the enumeration processes. Similarly it will feature the use of CAPI for assigning the enumerator workload, checking the enumerators' daily progress and transmission of data. Both manuals (enumerator and supervisor) should address issues in a common way for consistency. These will be used as training guide during enumerators and supervisors training.

District Census Officers (DCO) Manual

The manual guides the DCOs on the administration of the census. It stipulates the roles of the DCOs which entails:

- Enforcing the law
- Administrative logistics (recruitment, payments, transport mobilization, training etc.)
- Assist the field workers with suitable and secure camping sites
- Publicity of the census

6.4.8. Testing of Census Instruments

The testing of the various aspects of census processes prior to enumeration is a standard practice. With regard to census questionnaire, the purpose will be to test the applicability, acceptability, sensitivity, simplicity and reliability of the census questions, including their formulation and the instructions for smooth flow of interviews.

Testing the instruments during Pre-test and Pilot census will reveal information relating to the average duration of administering the questionnaires to the household and institutions. These tests are done on both the PAPI and the CAPI questionnaires. The manual questionnaire will be tested to check the flow, consistency and relevance of questions. This pretesting will occur before the training and will include a core team of members of the Census Standing Committee who will constitute trainers and will also monitor the census activities. The manual tool will be finalized following the closure of the pretest. The results will be used to modify the Census instruments, as needed. All changes in the questionnaire after the pre-test shall be agreed upon and submitted for approval.

6.4.9. Cartographic Inspections

Delineation of the enumeration areas should take into consideration the distance and the number of households to be covered by the enumerator within the stipulated census enumeration period. At the end of the delineation process, it is necessary to assess the accuracy of the maps, completeness of the mapping, household size and to verify EA boundaries. Henceforth the cartographic inspection for the pilot and main census are scheduled three (3) months before enumeration. The cartographic inspection exercise will be conducted by the CTOs and DCOs.

6.4.10. Familiarization Tour

Familiarization tours will be undertaken few days before the commencement of census enumerators training, for both pilot census and main census enumeration. The purpose of the tour is for the DCOs and CTOs to familiarize themselves with the district boundaries, meet with district structures and village leaderships, identify issues in the district and conduct further publicity before enumeration.

6.4.11. Data Collection

This process involves enumerators visiting households to conduct interviews using CAPI. The process of canvassing is facilitated by cartographic information that will be uploaded in the tablet. The map will have coordinates of dwellings, description of EA boundaries and other information that may be helpful during enumeration. The supervisor will be overseeing enumeration in their assigned EAs. Further, they will be checking and monitoring progress of interviewing. In the process completed households information will be synchronized to a repository server at headquarters.

7. ENUMERATION STRATEGY

Botswana has consistently adopted the de facto approach of enumeration whereby the total population are those counted in the country when the census is taken, and enumerated at the place where they are, at enumeration time, regardless of their usual place of residence. The country has also adopted an aspect of de jure enumeration by including absent Batswana or Batswana leaving outside the country on the census night.

For consistency with previous censuses, the 2021 PHC will adopt the canvasser interview method of enumeration using CAPI. Therefore, it should be determined in the early stages of census planning. This method has wide-ranging influences on the budget, organizational structure, and training program, system of records management, content and scope of the publicity campaigns.

The past censuses' enumeration period was 15 days up to 1991 census. For 2001 and 2011 the enumeration period was 10 days. However, the reduction from 15 to 10 days did not come with commensurate reduction in the enumeration area size. Experience of the 2001 and 2011 censuses suggest that 10 days was not adequate as in both censuses, enumeration had to be extended in a significant number areas, particularly in urban settlements. For this reason the census period will be revised to be between 10 and 15 days, for the 2021 PHC. This move will ensure total coverage and completion of enumeration, thereby, improving the quality of the census data.

The reference night will be a moving one such that during the census period enumeration reference night will be as at "**LAST NIGHT**" when starting a new interview on the first contact with the household. However, on revisiting the household, after the first contact was made, the reference night will remain the night before the first contact with the household. This means that the night before interview on first contact is referred to as last night.

The strategy entails the implementation of all operational census processes. These processes are subdivided into two main activities, being, preparatory stage and field operations. These activities are discussed in this section.

7.1. Preparatory Activities

A number of crucial preparatory activities will be undertaken before the enumeration exercise takes place. These activities are: (i) communication and publicity to put the country on the census mode; (ii) recruitment, training and deployment of the field staff for the exercise.

Prior to the enumeration, publicity and census education should be enhanced to educate everybody in Botswana to understand and appreciate salient census issues, such as: when enumeration is scheduled to start; census enumeration period, importance of the census and use of the data and underscoring the confidentiality of responses to ensure privacy of respondents.

On the census eve, **HE the President of the Republic of Botswana**, shall call on the nation to encourage all the residents of Botswana to be responsible and get enumerated, for success of the exercise. The HE will also request everybody to co-operate with enumerators and census officials by providing accurate information during interviews.

7.1.1 Field Staff Recruitment, Training and Deployment

The field staff recruited will undergo training on specific aspects of fieldwork. In the end, the field staff deployed will be those selected following thorough screening of all who had been invited for training. Guidelines and training manuals will be developed to ensure efficient handling of training and deployment of all field staff. These will apply appropriately to different categories of field staff, viz. trainers, supervisors and enumerators.

Two features are crucial well for a successful census. First, settlement of large populations in towns, rural villages, urban villages and small populations in the lands and cattle posts permits easy tracking of the respondents. Second, the vast majority of the population speaks Setswana, which makes it easy for enumerators and respondents to communicate easily. The latter attribute implies that enumerators need not be confined to particular areas as they can work well anywhere in the country.

The schedule of the major training sessions are shown in Table 2.

Table 2: Schedule of Training Sessions

| SR. | TYPE OF TRAINING (Who to train) | TIMING OF TRAINING | |
|-----|------------------------------------|--------------------|-------------|
| | | Pilot Census | Main Census |
| 1 | Census Technical Officers | Mar-20 | Mar-21 |
| 2 | District Commissioners | Oct-19 | - |
| 3 | District Census Officers | Sep-19 | Jan-21 |
| 4 | Trainers | Mar-20 | Mar-21 |
| 5 | Enumerators | Jul/Aug-20 | Jul/Aug-21 |

7.2. Field Operations

Field operations is the hallmark of conducting census. The Key field operations to be undertaken include the logistics of deployment of field staff and the distribution and collection of census materials, supplies and equipment. These operations will be coordinated by District Census Officers (DCOs), who will receive, hold, dispatch, collect and return to SB all the census documents.

7.2.1 Distribution and Return of Census Materials and Equipment

The census materials and equipment will be distributed and returned as scheduled to ensure timeliness and proper execution and termination of fieldwork. This activity includes various tasks, among them: receipt of materials from suppliers; bulk storage during the packing operation; consignment preparation and actual packing of materials for various destinations; bulk transport and delivery to designated districts. The SB will distribute to and receive from the field the census materials, supplies and equipment.

7.2.2. Logistics Arrangement

Census field operations involve various aspects of logistics which will require prior arrangements. Within the Census Office, there will be a census HR and Admin officer who will be working with the relevant sections of the Directorate of Corporate Services to coordinate all logistical arrangements for the census enumeration. Such logistical support will address issues pertaining to procurement, transport, recruitment and payment of census staff.

7.2.3. Quality Control

In order to improve the accuracy of the census data, it is important to establish quality and operational control procedures for each operation. Guidelines for quality control procedures, such as spot checks, consistency and range checks, verification and supervision, will be outlined.

The overall census quality control plan for the 2021 PHC will be helpful at the data collection stage. All the supervisors will review carefully the first few interviewed and completed households by each enumerator in order to identify any problems early enough and to correct the enumerators' mistakes before making more mistakes. This will then be followed by close monitoring of enumerators whose work had many errors.

Following the supervisors quality checks, the data will be transmitted to the quality controller and will further quality checks and validation, after which it will be transferred to headquarters for verification and approval.

7.2.4. Field Requirements

The projected number of enumeration areas (EAs) in 2021 is estimated to be at most 7,000. This figure will be confirmed after the cartographic exercise has made significant progress in EA delineation to provide a revised estimate of the total number of EAs. The projected number of EAs will allow for estimation of the optimal number of field staff, transport, equipment and all other logistical requirements.

7.2.5. Security

The District Commissioners (DCs) will liaise with the Botswana Police to provide security of census personnel and safeguarding the electronic gadgets that will be used during enumeration. For ease of identification, all field staff will be provided with uniforms and temporary identification cards. The census logo will be placed visibly on vehicles and on field staff uniforms. The public will be made aware of these census identification apparels.

8. CONDUCTING PILOT CENSUS

A pilot census is a comprehensive test of all census processes and procedures. All stages will be tested; these includes data collection, editing, coding, data capture, further data processing and validation of census data. Such tests will provide important information on the adequacy of the field organization, training programs, extent of respondent burden, the data processing plan and other important aspects of the census. They are particularly important in assessing the acceptability, conciseness, ambiguity and flow of questions and skip instructions. These issues affect data quality. In addition, census tests serve as practical training for census officials.

Essential features of a pilot census are coverage of a sizeable administrative divisions, enumeration areas, dwellings and households, and encompassment of the preparatory activities for enumeration and processing stages of a census. It also tests the adequacy of the entire census plan. To serve this purpose, there will be attempts to establish as close as possible similar conditions of conducting pilot census and of carrying out the main census. Therefore, the pilot census will be taken exactly one year before the planned census in order to subject the pilot to the same conditions of climate conditions, as well as, resources and facilities.

A set of tests of the Information and Communication Technology (ICT) solutions that are planned to be applied in the census also will be undertaken. Depending on the extent and characteristics of ICT, these tests should include all ICT components related to fieldwork. Tests should include the testing of the equipment, as well as the underlying circumstances necessary to avoid equipment malfunctioning, such as acclimatization. In the context of new approaches using hand-held devices, testing should include daily data transfers to the major data repository. Testing the efficiency of connectivity and synchronization, editing and tabulation applications should be done based on results of the pilot census.

A sample of **two percent** of EAs across all the districts will be taken for the pilot census. The sample will be a purposive one but with representativeness by stratification of rural-urban population, terrain, settlement patterns, etc. Coming one year before the 2021 PHC, the pilot census will provide lessons on all aspects of the true census: fieldwork logistics; recruitment, training and deployment of the field staff; the nature of responses to the questionnaire; average duration of household enumeration; data collection, analysis and the results generated; and a report stating the outcome including the shortcomings requiring attention before the main census. The pilot census will be scheduled to take place in August 2020.

8.1 Analysis of the Pilot Census processes and systems

Outputs of the pilot census will be analyzed and reports prepared. The reports will be discussed with internal stakeholders regarding the outcome and possible review of processes and resources for the main Census.

9. BUDGET AND RESOURCE MOBILIZATION

The Government of Botswana is fully committed to ensuring successful conduct of the 2021 census exercise. The budget of the 2021 PHC is allocated as part of the budget ceiling of the Ministry of Finance and Economic Development (MFED). However, due to competing national priorities, which may make it stringent to obtain adequate subventions from the national purse, sourcing of additional funding from development partners is of paramount importance. Consequently, this calls for close collaboration with development partners such as UNFPA, UNECA, AfDB, and UNSD, other government ministries and the private sector to support budgetary constraints in closing capacity gaps (financial, technical or otherwise).

9.1 Census Budgeting and Cost Control

The total estimated cost for the 2021 census is **P334,692,943.00** (Three Hundred and Thirty Four Million, Six Hundred and Ninety Two Thousand, Nine Hundred and Forty three pula only). The USD equivalence is about \$33,469,294.30.

Effective planning and control of the census operations are not possible without a very careful financial estimation of the cost of each census activity and operations, including all of its components, no matter how small.

Information on expenditures from the previous census classified by census phases, starting with the expenditure for different elements of the preparatory work and ending with expenditure for the dissemination of the census results, provided an important basis for estimating the budget of the 2021 Census.

To obtain the information needed to monitor the costs of the current census and that needed to plan for the next, detailed and precise data were required on the following: (a) number and cost of census staff classified by function, cadre and manner of payment; (b) type of facilities and equipment, and material used for the census, manner of acquisition (i.e., purchase or rental) and cost; (c) office space (surface measurement), classified by use and type of cost (in other words, for construction or for rent) and (d) type of services used for census operations.

9.2 Project Cost by Component

The estimation of the census budget items was a participatory exercise conducted by Statistics Botswana. The exercise involved officers at the administrative and supervisory levels who will be responsible for the execution of each operation. The budget was formulated by employing the activity driven budget approach.

Statistics Botswana presented the census plan and budget to the Government of Botswana with adequate lead time, to facilitate committing sufficient resources from the national budget and appropriately engaging development partners on time.

While the Government of Botswana will be funding the census, as in the past, there is need to source additional funding from collaborating development partners and private sector to fill the gaps through funding and sponsorship.

9.3 Budget Breakdown

The **first year (2018/19)** will be dedicated to preparatory activities which include setting up a Census Office and appointing census staff, review of literature on the past census, internal consultations, sensitization of stakeholders, including address of the district authorities, as well as, mapping the way forward and the progression path. The estimated cost of this phase is **P5,500,000**.

The **second financial year (2019/20)** will be dedicated to setting up Census Office, appointment of National Census Coordinator and other census staff, development of 2021 Census Project Document and Census Business Plan, formation and inauguration of census committees, establishing census district structures, **census launch**, capacity building, consultation with relevant Ministries, Departments and Agencies (MDAs) and development partners particularly UNFPA, as well as other collaborating, institutions. Other activities will be, instruments development (drafting of the census questionnaires and pretesting), developing the census ICT systems, including CAPI as the main system, engagement of district authorities and appointment of District Census Officers (DCOs), setting up district census structures, training of DCOs, Census Technical Officers (CTOs), procurement of vehicles for Census Office. More staffing of the Census Office and capacitating the staff through attending relevant workshops and short courses, and more benchmarking trips to peer countries will also be done during the 2019/20 financial year. The budget for this phase is estimated at **P19,006,875**.

Procurement of supplies for the census will be done in the **third financial year (2020/21)**. The procurement will include tablets, laptops, servers and other ICT equipment for the census. In the same financial year more procurement will be done entailing camping equipment, stationery and more vehicles for the pilot census

enumeration, familiarization tours and quality control. Securing venues and training the field staff, being, enumerators and supervisors. It is estimated that **P81,196,355** will be needed for this phase in the second financial year.

The main census will be conducted in August 2021, which is under the financial year 2021/22 where the bulk of the budget is, and it stands at which **P163,863,020**, to be used. This will entail procurement of more tablets for the main census, internet connectivity charges for transfer of data to the servers, training of census field staff, and mainly running costs for the vehicles, personnel emoluments covering salaries, allowances (honorarium) for the DCOs, travel costs, overtime allowances for the census team, stationery, and support for quality control during census enumeration.

It ought to be highlighted that one of the key preparatory activities is the cartographic work, which was started in the first year (2018/2019).

9.4 Milestones for the 2021 Population and Housing Census (PHC)

The milestones for the 2021 PHC are presented on the table below.

Table 3: Milestones for the 2021 Population and Housing Census

| Sr No. | Milestone Activity | Pilot Census | | Main Census | |
|--------|--|--------------|---------|-------------|---------|
| | | Date From | Date to | Date From | Date to |
| 1 | Cartographic Exercise – Smart Census | 18-Oct | 18-Dec | 19-Mar | 21-Apr |
| 2 | Publicity of 2021 PHC | 19-Apr | 20-Aug | 20-Sep | 21-Aug |
| 3 | Instrument Development - PAPI ,CAPI and Manuals | 19-May | 20-Apr | 20-Oct | 21-Apr |
| 4 | Tabulation plan | 19-Jun | 19-Dec | 20-Sep | 20-Dec |
| 5 | Stakeholders Consultation Workshops on Census Topics | 19-Jul | 19-Jul | - | - |
| 6 | Census procurement | 19-Jul | 20-Apr | 20-Sep | 21-Apr |
| 7 | Enumeration Attire | 19-Oct | 20-Apr | 20-Oct | 21-Apr |
| 8 | Pre-test (PAPI) | 19-Nov | 19-Nov | - | - |
| 9 | Network and Connectivity Infrastructure | 19-Nov | 20-Mar | 20-Apr | 21-Apr |
| 10 | CAPI system testing | 20-Mar | 20-Apr | - | - |
| 11 | Census Launch | 20-Apr | 20-May | 21-Apr | 21-May |
| 12 | Training of Census Officials and Field Personnel | 20-Apr | 20-May | 21-Apr | 21-Jun |
| 13 | Pilot Census | 20-Aug | 20-Aug | - | - |
| 14 | Census Enumeration | - | - | 21-Aug | 21-Aug |
| 15 | Analysis and Dissemination | - | - | 21-Oct | 22-Mar |
| 16 | Preliminary Results | - | - | 21-Sep | 21-Oct |
| 17 | Post Enumeration Survey (PES) | - | - | 21-Sep | 21-Oct |

10. QUALITY ASSURANCE

Quality Assurance is concerned with the quality of all the processes within the Statistical Value Chain (SVC). It is achieved by following generally accepted statistical practices aligned to the Statistical Value Chain which are; consulting users to determine what kind of information is needed; developing instruments to obtain estimates that fulfill these information needs; developing procedures to collect, capture, validate, tabulate and disseminate and archive the data collected; and have processes to ensure that each of these steps are executed carefully and that problems that are encountered are dealt with expeditiously, in a professional manner.

In order to check for adherence of statistical processes, a set of pre-requisites and eight dimensions of data quality being: credibility, comparability, coherence, methodological soundness, relevance, accuracy, timeliness and punctuality, accessibility and interpretability are used. For each dimension, a set of standards are outlined and every process should be aligned to it (dimension). Thus, quality assurance exposes all the activities within the value chain to a rigorous compliance process which is aligned to the dimensions.

Upon completion, the PHC 2021 data will be subjected to the Data Quality Assurance Framework (DQAF) which provides a rationale, transparent and sustainable methodology for quality assessment of statistical products and services. This document also outlines procedures for designating statistics as 'official statistics' thereby promoting the production of statistics that conform to the UN Fundamental Principles of Official Statistics.

For the 2021 PHC current project, a strategy stipulating a detailed plan of activities will be developed. The Quality Assurance team will guide on the use of standards at every stage. This will therefore ensure alignment to the set quality dimensions.

Evaluation of every census phase will be done and outcomes used to improve on the subsequent operations. It is a fact that output of one phase of census becomes input in the next, this would ensure that mistakes are not carried forward in the process

Peer review by Census experts from other countries and development partners would be integrated to ensure international guidelines are adhered to, so that feedback for improvement is ensured.

11. TECHNOLOGICAL ASPECTS OF THE CENSUS PROJECT

Statistics Botswana has taken a decision to conduct a paperless census in 2021. This is the trend for most countries in the recent censuses. The benefits of this approach include; reduced data collection and processing time; enhanced and prompt feedback between enumerators and the central backstop team; improved quality of data; and expedited time to release reports.

The previous censuses used the traditional approach to listing and numbering of dwellings, and a paper-based recording system and cartographic maps. For the upcoming 2021 PHC, cartographic work will be digitized through the use of satellite imagery to guide the location of dwellings and collection of coordinates of identified dwellings. Further to the digitized cartographic work, the census will adopt an electronic approach to the data collection process through the use of Computer Assisted Personal Interviewing (CAPI) which also provides editing, coding and data entry functionalities.

A technology first approach, followed by community based activities and events, supported by a highly visible mass media communication campaigns will be used to educate and publicize the census. Electronic dissemination platforms will be used optimally to increase availability and accessibility of census products.

The major preparatory activities will therefore, include capacity building of staff to develop a CAPI system and conduct a CAPI census. This will be done through collaborative training with development partners. Census staff will undertake benchmarking trips to countries which have conducted census with CAPI to appreciate experiences and challenges which will provide valuable lessons for Botswana. This will further give the census staff an opportunity to see CAPI in motion, where benchmarking is done targeting enumeration.

11.1. ICT Support

A census on CAPI is fully dependent on the use of ICT equipment, therefore dedicated IT support staff for the census is a requirement. The IT staff will provide support to users in the field to deal with issues of connectivity, gadgets malfunction as well as assistance in terms of usage of the gadgets. At headquarters support of the servers and the CAPI system must be undertaken, this entails maintenance of servers, backup, data security as well as ensuring the availability of connectivity to the gadgets in the field. A mobile device management system will be developed. Network Connectivity is important to data collection and will be provided through various ways that include use of internet service providers at Head Office, Wi-Fi on areas where there is Wi-Fi and mobile data networks through cell phone providers. **Mobile data for tablets will be provided through a dedicated private network** on the national mobile carriers that shall be selected by Statistics Botswana.

12. HUMAN RESOURCES ACQUISITION AND UTILIZATION

The need for quality data collected from the field cannot be overemphasized. Quality data depends on the quality of enumerators, and the supervisors recruited. To ensure recruitment of committed and accountable staff, it is necessary to employ enumerators and supervisors of a higher education calibre and to further capacitate permanent employees on census processes. Three categories of employees will be involved in the Population and Housing Census, and they are namely; deployed permanent staff, temporary supervisors, enumerators and drivers.

Permanent staff who will be re-deployed to the Census Office are those with experience and technical skills. This will also include support staff from various fields such as Accounts, Administration, Procurement and Human Resource.

12.1. Training

Training will cover all categories of people involved in the census project. These are Statistics Botswana Technical staff, District Commissioners, District Census Officers, Trainers, Supervisors and Enumerators. The aim of training is to ensure a common understanding of concepts by all people involved. These will require training venues with lodging facilities that will be procured in different regions to reduce travelling costs as well as long distances.

12.2. Administration and Logistics

It was noted in the 2011 PHC that hiring of private vehicles and their drivers was a challenge because the owners issued unsuitable vehicles and they were uncooperative. Overall it is anticipated that about **two thousand (2,000)** vehicles will be required for during census enumeration. The plan is to use government vehicles and these will be augmented by Statistics Botswana vehicles that will be procured through the project. Where there is a shortfall, then leasing will be considered. Where air and water transport is required, as in the delta, government institutions with needed resources shall be requested to assist.

Since the bulk of the census fleet is expected to come from government, vehicle fueling will be done through Central Transport Organization (CTO). Fuel dumps will be arranged in strategic places to augment CTO fuel points. Further additional request will be made to government departments such as BDF, Wildlife and Police, etc. to assist where there is need.

SB offices in Gaborone, Francistown, Ghanzi and Maun will be used as facilities for storage and distribution of relevant equipment. Other facilities shall be sought from District Commissioner's premises when the need arises. In all these facilities Botswana Police Services will be engaged to provide security.

13. CAPACITY BUILDING

Sustainability of the 2021 Census project will be ensured by a number of factors, including, national, and of the collaborating partners' commitment, capacity building, and quality assurance. National commitment should be reflected through legal actions (Acts and formation of census committees), human, financial, and other resource allocation. Collaborating partners' commitment will be reflected through financial resources and

providing technical support in the form of capacity building through funding participation of census staff in census workshops such as 2020 Round of Population and Housing Census (RPHC) and short courses on census planning, field logistics, data management, procurement, communication technology IT technical, system development and related technological capacitation. This capacity development will have far reaching effects in improving census planning and implementation, including cartographic mapping exercise, data collection, data processing, evaluation and analyses of data and dissemination of results.

In its present form, the Census Office's capacities need to be built for the implementation of the census exercise. Its regular staff will have to undergo training in the latest methods of census taking and undertake study tours to countries that have already adopted and implemented their 2020 RPHC, more importantly, new technologies used in cartographic mapping, Computer Assisted Personal Interviewing (CAPI) for enumeration and data processing, validation, analyses and dissemination. In undertaking these study tours, Malawi and Mozambique were visited in 2018 and 2019 respectively. Other countries for further benchmarking will be identified in due course. The census staff will also gain capacity through short term training courses and attending workshops on 2020 Round of Population and Housing Censuses (RPHC).

14. PROCUREMENT PLAN

For the census project to be a success, a comprehensive procurement plan for all items to be purchased indicating quantities, specifications, delivery period will be developed. The plan will also indicate possible procurement risks and suggested alternatives.

The project will procure relevant census materials such as transport, storage space, ICT equipment (hardware & software), conference & training facilities, camping equipment, uniforms, promotional and publicity materials.

A schedule of items to be procured is shown in Table 4.

Table 4: The 2021 Population and Housing Census Procurement Schedule

| SR | ITEM | PILOT CENSUS TIMELINES | MAIN CENSUS TIMELINES |
|-----|--|------------------------|-----------------------|
| 1. | CAPI equipment (software, hardware & tablets) | Sep 19-Mar 20 | Apr 20-Apr 21 |
| 2. | Network and Connectivity Infrastructure | Nov 19-Mar 20 | Apr 20-Apr 21 |
| 3. | Servers (software & hardware) | Sep 19-Mar 20 | Sep 20-Apr 21 |
| 4. | Storage with high security (camping equipment & tablets) | Nov 19-Mar 20 | Apr 20-Mar 21 |
| 5. | Publicity equipment | Sep 19-Mar 20 | Apr 20-Apr 21 |
| 6. | Recruitment of Census staff | May 20-Jun 20 | May 21-Jun 21 |
| 7. | Camping equipment | Oct 19-Apr 20 | Apr 20-Apr 21 |
| 8. | Transport (vehicle & fuel centres) | Nov 19-Mar 20 | Jan 21-Feb 21 |
| 9. | Capacity building including CAPI | Apr 19 | Mar 21 |
| 10. | Enumeration attire | Oct 19-Apr 20 | Oct 20-Apr 21 |
| 11. | Training centres | Jan 20-Mar 20 | Nov 20-Mar 21 |

15. STRATEGY FOR COMMUNICATION, ADVOCACY AND STAKEHOLDER ENGAGEMENT

An integrated communication, advocacy and stakeholder engagement operation is not only the “face” of the 2021 PHC, but is also critical for the success of the census exercise. An integrated communication, advocacy and stakeholder engagement strategy identifies key census stakeholders, targeted communication objectives, messages, activities and channels.

15.1. Communication Strategy

The success of the census is dependent upon the cooperation and participation of the entire populace. It therefore becomes imperative to sensitize and educate the public on the need and importance of the census, an objective that will be achieved through implementation of the communication strategy. A phased approach will be assumed in implementing the communication strategy that includes; a) early education b) awareness, motivation, reminder, and c) dissemination.

Some of the methods to be used for publicizing the 2021 PHC are highlighted below:

- i. Digital Communication Program through websites, social media, and mobile platforms.
- ii. Public Relations, Events and Crisis Communication
- iii. Traditional Advertising through mass and outdoor media
- iv. Community Mobilization (Outreaches)
- v. Information, Education and Communication
- vi. Commemoration/celebration of the World Population Day in 2020 and in 2021

Statistics Botswana shall be responsible for organizing and coordinating, as well as preparing and implementing appropriate communication and educational programs for all communities at both national and census district levels. The materials will be appropriately packaged, as may be relevant, and delivered to the districts for implementation. In addition, the District Census Officers (DCOs) will coordinate and implement communication interventions as guided by the strategy, and where necessary by prevailing conditions at the district level. The DCOs will receive backstopping from assigned SB officers, including those stationed at satellite offices and the regional office.

15.2. Advocacy Strategy

The advocacy component of the overall communication, advocacy and stakeholder engagement strategy identifies key stakeholders, how they will be reached, and what messages they will be targeted with. The strategy will enable SB to lobby for increased support in terms of participation and funding from local and international stakeholders.

Some of the methods to be used for advocacy for the 2021 PHC are highlighted below:

- i. High Level Meetings and Courtesy Visits
- ii. High level Census Launch and other stakeholder engagement forums
- iii. Information, Education and Communication for Advocacy

15.3. Stakeholder Engagement Strategy

The strategy will detail the participation of all stakeholders. Although the census is implemented by the district authorities, participation of central government, local government, the media, private sector, the public and the civil society play pivotal role in different census activities. Statistics Botswana will seek support from development partners in the form of financial and technical assistance. Further, private sector partnerships for the purposes of receiving sponsorships and other forms of support will therefore be sought, such as input into census topics, partnerships in dealing with logistical and administrative processes (availing transport, training facilities, connectivity infrastructure, sponsorships etc.).

16. RISK REGISTER AND MITIGATION STRATEGIES

Statistics Botswana shall take into account challenges experienced from the 2011 PHC and develop mitigating strategies. It is also anticipated that the project will have its constraints and emerging challenges, and therefore a risk register that accounts for the experienced and anticipated challenges with mitigation strategies have been developed and illustrated in **Appendix 2**.

17. STRATEGIES FOR DATA ANALYSIS AND PREPARATION OF REPORTS

Data analysis and report writing requires Statistics Botswana (SB) to collaborate with institutions and professionals such as statisticians, demographers, economists, agriculturalists, environmental scientists, and other social scientists to produce reports.

18. POST ENUMERATION SURVEY

As part of the census evaluation Statistics Botswana will conduct a Post Enumeration Survey (PES) within two (2) month, following census enumeration. The PES is conducted by an independent team that is not part of the Census Office. This is so to ensure complete independence to avoid any possible influence of the results of the exercise to match or to be close to the census results.

Post enumeration survey is designed to evaluate either the entire exercise or focusing on specific area. Most PES normally evaluate coverage of the census in order to ensure that the figure given as the total population is the most accurate estimate. The 2021 Census' PES will be designed for mainly evaluating the coverage.

The PES team will be established well in advance for purposes of planning the survey while occasionally liaising with the Census Office for whatever information the PES team will require.

18.1. Master Sample for Inter-Censal Household Survey Program

Following completion of the population and housing census, Statistics Botswana will consider developing a master sample as may be required, for the national household survey program that will be valid for 10 years.

19. STRATEGIES FOR DISSEMINATION, DOCUMENTATION AND ARCHIVING

When a census is conducted, a number of activities are carried out which have to be documented. Further, effective dissemination of census products is important and combined documentation and dissemination operations increased availability, accessibility, and hence utility of statistics through usage.

19.1. Dissemination

The census products will be disseminated to stakeholders in accordance with the Fundamental Principles of Official Statistics, Botswana's Statistics Act of 2009, and Statistics Botswana's data dissemination policy and strategy.

The primary goal of the Census dissemination process is to ensure that census and geography products and services meet the primary needs of the majority of data users. Statistics Botswana strives to provide more data to users, while at the same time seeking ways of publishing census results in a timely and user-friendly manner.

The preliminary results of the 2021 census are planned to be released within two (2) months following the completion of enumeration. Further, it is planned that the main results will be released in March 2022. Other platforms shall be used and these include data visualization, simplified methods of presentation of data, digital dissemination platforms, amongst others.

19.2. Documentation

A documentation plan that guides the documentation and archiving of census products and services will be developed and implemented. The plan will ensure that census outputs are:

- Organized and stored in a systematic way that facilitates easy retrieval and reuse
 - Made available promptly to those who have the right and a requirement to use them
 - Protected and preserved.
-

19.2.1 Materials for documentation and archiving

Table 5: Types of materials to be documented

| Type of Document | Description |
|--|--|
| a. Structures | Composition of the Task Teams, Technical Team, Reference Groups, Project Management Team including Coordinator |
| b. Project Document | Including the work plan and budget |
| c. Census Instruments | Tabulation plan, Questionnaires, manuals (enumerators, supervisors and district census officers), edit specifications, manuals for editing and coding etc. |
| d. Minutes | Minutes of the different meetings held throughout the life of the census. |
| e. Sampling frames | Sampling frame (Containing List of Districts, EA's localities, households etc.) Enumerated households Sample design for post enumeration survey |
| f. Master sample | |
| g. Metadata | |
| h. Data Dictionary | |
| i. Census data | Anonymized census data |
| j. Report Analysis | Preliminary results, Analytical papers, and policy briefs that made use of the data PowerPoint presentations , Stats briefs, Report |
| k. Fieldwork Activities | Photos, Video clips |
| l. Publicity Materials | Survey promotional/informational materials (flyers, videos, posters, songs, etc.) |
| m. Maps | Maps |
| o. Data management system | Computer programs, Dictionary, edit specifications, tabulation plan, variable labels etc. |
| | Source codes |
| | Manuals |
| p. Micro data files in appropriate format e.g. SPSS files, CSPro files, etc. | Raw Dataset (to be archived) |
| | Edited Dataset (to be archived) |
| | The Micro data file will be available a month following the dissemination of the census Results |

19.3. Expected Outputs

Various products are expected from the 2021 Census. Described below, though not exhaustive, these can include thematic analysis reports, statistical tables, census thematic maps, documents printed or in electronic media, and databases.

19.3.1. Thematic Analysis Reports

1. Population structure by sex and age
2. Spatial distribution of the population (including urbanization)

3. Economic characteristics of the population
4. Fertility trend
5. Population density
6. Migration patterns
7. Marital status and nuptiality
8. Household and living conditions (including the typology of households)
9. Population Projections
10. Men and Women in Botswana
11. Women and children
12. Youth Issues
13. Population with disability
14. Elderly population
15. Housing characteristics
16. Agricultural activities
17. Availability of ICT, transport and other durable assets
18. Home based care
19. Demographic atlas
20. Population distribution atlas
21. District monographs
22. Literacy, Education
23. Executive summary of the analysis main results (including the indicators recommended by international conferences)
24. Education Map
25. Map of the vulnerable population (e.g. people with disabilities and senior citizens)

19.3.2. Statistical Tables

Preliminary results of the census (to be published not later than two months after data collection). As in the 2011 PHC, SB is expected to release preliminary 2021 census figures in October 2021, two months after the main census.

All the tables will be produced in disaggregated to village level.

19.3.3. Printed Documents

1. Statistical tables
2. Thematic analysis reports
3. Posters
4. Leaflets/Wall charts/Brochures
5. Demographic Atlas
6. District Monographs
7. Characteristics of localities

19.3.4. Documents on Electronic Media

1. Census results:
2. Website of the census results (with census priority tables, etc.)
3. Demographic database (including data from previous censuses)
4. Cartographic database
5. Census database (including the updated master sample for inter-censal surveys)
6. Integrated socio-demographic databases such as Census-Info and Redatam-based IMIS

19.3.5. Planning, Monitoring and Evaluation Indicators

Since the district and other local government units are the focal point of development, Census data can close the data and information gaps at the lower levels for the purpose of good governance and decentralization. Most of these indicators will be directly provided by the Census not only at the national and district levels but also at the lower levels such as localities.

19.3.6. Poverty Monitoring Indicators

The indicators in this sub-section though not exhaustive, are in line with the SDGs and Vision 2036 which NDP 11 is expected to encapsulate. Some of these indicators will be provided from the census data.

School attendance

- Net primary enrolment
- Net secondary enrolment
- Net tertiary enrolment

Health

- Infant mortality rate
- Under-five mortality rate
- Maternal mortality rate
- Life expectancy

Energy

- Proportion of population with electricity in the dwelling unit

Water and Sanitation

- Population with access to safe water
- Proportion of population with access to improved sanitation

Housing

- Proportion of households with access to secure tenure (owned or rented)

Employment

- Ratio of population employed to population of working age
- Unemployment rate

Agriculture and Rural Development

- Heads of livestock per household

Income poverty

- Proportion of working-age population not currently employed

Extreme vulnerability

- Proportion of orphaned children
- Proportion of child-headed households
- Proportion of children in the labour force
- Proportion of children in the labour force and not going to school
- Proportion of elderly living in a household where no one is economically active.

19.3.7. Children Indicators

Child mortality

- Under-five mortality rate
- Infant mortality rate

Water and sanitation

- Proportion of population who use a safe drinking water source
- Proportion of population who use a sanitary means of excreta disposal

Education

- Proportion of children entering first grade of primary school who eventually reach grade five
- Proportion of children of primary school age attending primary school
- Proportion of population aged 15+ years who are able to read a letter or newspaper

Preschool development

- Proportion of children aged 36-59 months who are attending some form of organized early childhood education program

Children's living arrangements

- Proportion of children aged 0-17 years in households not living with a biological parent

Orphans in household

- Proportion of children aged 0-17 years who are orphans living in households

Child labour

- Proportion of children aged 5-14 years who are currently working

Appendix 2: Risk Assessment for the 2021 Population and Housing Census

The risk log is a high level analysis used to identify and manage overarching risks which may impact on the successful completion of the project.

The risk log is a “living” document which will be updated and managed throughout the project.

The **key** used to quantify the impact/consequence of the risks is as follows:

| | |
|--|--|
| | Catastrophic: Occurrence/s with the potential to lead to suspension of census operations. |
| | Critical: Event/s which can be endured, but which may have a prolonged negative impact and/or extensive consequences |
| | Serious: Event/s, which can be managed, but require additional resources and management effort |
| | Significant : Event/s which can be managed under normal operating conditions |
| | Minor : Consequences can be readily absorbed |

| SR NO. | Risk Name | Risk Description and consequences | Root Cause | Impact / Consequence Rating | Risk Mitigations | Risk Owner | Target Date Pilot Census in Aug 2020 | Target Date Main Census in Aug 2021 |
|--------|--|--|--|-----------------------------|---|------------|--------------------------------------|-------------------------------------|
| 1 | Delays in decision making. | Delay in decision making affecting implementation of census activities. | Bureaucratic decision making process and authority channels on strategic issues. | Critical | Minimal reporting channels and adherence to timelines | | Continuous | Continuous |
| 2 | Unavailability of training facilities. | Inability to influence shifting of school calendar to accommodate census training centres in public schools. | Schools open during census exercise. | Critical | <p>Plan A: Engage with the government through the Ministry of Basic Education to shift school calendar in 2021 so as to have school holidays start mid-July up to mid-August in 2020 and 2021. This will allow for one week refresher training of supervisors, two weeks for enumerators PAPI and CAPI training and deployment. The fourth week includes contingency.</p> <p>Plan B: The fallback position will be to use the already existing two and half weeks of school holidays in the month of July to train. This however, would make the raining very much squeezed.</p> | | Mar-20 | Mar-21 |

| SR NO. | Risk Name | Risk Description and consequences | Root Cause | Impact / Consequence Rating | Risk Mitigations | Risk Owner | Target Date Pilot Census in Aug 2020 | Target Date Main Census in Aug 2021 |
|--------|-----------------------------|---|--|-----------------------------|---|------------|--------------------------------------|-------------------------------------|
| 3 | Unavailability of transport | The estimated number of vehicles that will be required for the main census enumeration is around 2,000 which is difficult to obtain and costly. | Census requires a large fleet of vehicles for pilot census and main census enumeration countrywide | Catastrophic | Engage the Central Transport Organization (CTO) relevant Government Ministries, Departments and Agencies (MDAs) to release some of their vehicles or pilot and main census enumeration. This will be augmented with privately owned vehicles as may be necessary. | | Jan-20 | Dec-20 |
| 4 | Inaccessible terrain | Inaccessibility of swampy areas such as Okavango Delta needing specialized transport mode. | Swampy areas | Serious | Engage the relevant government departments to obtain appropriate transport. For example, choppers and speed boats as means of transport to enumerate in the deltas. | | Jan-20 | Jan-21 |
| 5 | | Inaccessibility of sandy areas needing specialized transport mode. | Difficult terrains due to heavy sand, ditch and stream infested roads and tracks. | Serious | Allocate appropriately robust vehicles. | | May-20 | May-21 |
| 6 | Delays in procurement | Failure to secure equipment and material on time. | Delayed release of funds. | Critical | Borrow equipment and funds from other projects. | | Continuous | Continuous |
| | | | Failure to deliver on time by service providers. | Critical | Set lead time in the ITT and commit the supplier to it. | | Jul-20 | Mar-21 |
| | | | Failure to start the procurement process on time. | Critical | Draw up a procurement plan and adhere to set timelines. | | Continuous | Continuous |
| 7 | Poor quality data | Use of inappropriate cadre for fieldwork. | Lack of appropriate cadre in the market | Critical | Recommend recruitment of appropriately qualified fieldworkers and ensure adequate training. | | Continuous | Continuous |
| | | | Inadequate training especially with new system being used for the first time. | Critical | | | | |

| SR NO. | Risk Name | Risk Description and consequences | Root Cause | Impact / Consequence Rating | Risk Mitigations | Risk Owner | Target Date Pilot Census in Aug 2020 | Target Date Main Census in Aug 2021 |
|--------|-------------------------|--|---|-----------------------------|--|------------|--------------------------------------|-------------------------------------|
| | Inadequate server space | Insufficient server storage which will result in the server crashing and software failure. | Inadequate funds. | Critical | Source funds from other components of the project. | | Jan-20 | Jan-21 |
| 8 | Technology failure | Connectivity failure | Low bandwidth resulting in interrupted data transmission due to low or no network coverage by service provider. | Critical | Backup strategy for low or no network coverage. | | Jan-20 | Jan-21 |
| | | Cyber-attack e.g. denial of service attacks | Weak system security | Critical | Assessment and reinforcement of system security. | | Jan-20 | Jan-21 |
| 9 | Loss of data | Theft and damage to devices, and arson | Inadequate security (negligence, faulty electrical equipment, lack of resources and equipment to combat fire, etc.) | Catastrophic | Ensure adequate security Establish and implement mobile device management (MDM) which allows remote access of lost or stolen Install automatic fire detectors and extinguishers. | | Jan-20 | Jan-21 |
| 10 | Census coverage | Emerging and missed homesteads after cartographic work | Emerging homesteads after completion of mapping and missed ones. | Minor | Conduct Cartographic inspections and familiarization tours. | | Continuous | Apr-21 |
| | | Enumeration of special groups such as grass harvesters, fisherman, the homeless, etc. | Seasonal migration | Minor | Device some means and tactics for locating and reaching out the special groups and addressing each, about the impending census enumeration. | | May-20 | May-21 |

| SR NO. | Risk Name | Risk Description and consequences | Root Cause | Impact / Consequence Rating | Risk Mitigations | Risk Owner | Target Date Pilot Census in Aug 2020 | Target Date Main Census in Aug 2021 |
|--------|-----------|--|--|-----------------------------|--|------------|--------------------------------------|-------------------------------------|
| | | Refusals in suburban areas with high wall as found in urban cities, towns and major villages. | Seasonal migration | Significant | Device some communication strategy that will focus on reaching out these suburban areas and inform the dwellers about the impending census enumeration. | | May-20 | May-21 |
| | | Uncooperative owners of hotels, lodges, safari camps, freehold farms, cities for census enumerators. | In cities there are high crime levels therefore not easy to open doors for strangers, while other areas lack of information on importance of census. | Significant | Approach HATAB and farmers associations to sensitize members about census and its importance in development processes. This will be done by targeting the annual conferences and meetings. | | May-20 | May-21 |



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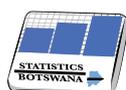
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