

STATISTICS BOTSWANA



POPULATION AND HOUSING CENSUS 2011

ADMINISTRATIVE AND TECHNICAL REPORT

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 National Census Coordinator (1/10/2009 – 31/10/2012)

June 2016

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Preface

1. The Administrative and Technical Report provides a historical account of the census programme, tracing activities from project launching to the release of outputs. With regards to administrative issues, the report gives details on the organizational issues, institutional arrangement as well as the funding. In addition, a very lucid account on technical issues is provided, which are: development of questionnaire, cartography, publicity, census enumeration, data processing as well as details on overall quality assurance measures. The instruments and materials used in the census are given as appendices, for ease of reference.

2. Reports released to date in the series of publications based on the 2011 census results are:

- 2011 Population Preliminary Results (September 2011)
- Population of Towns, Villages and Associated Localities (April 2012)
- District Census Officers and Technical Officers Reports (May 2012)
- National Statistical Tables
- Monographs on various topics Vol I
- Census Analytical Report
- Population Projections

3. Reports still to be released, based on the 2011 census, include the following:

- Monographs on various topics Vol II
- Guide to the Villages of Botswana

2011 Population Census – Preliminary Results

4. The publication titled “2011 Population Census Preliminary Results” was issued as a Statistics Brief on 29 September 2011. It highlighted the preliminary results of the Census. The report broadly discussed the 2011 provisional figures in comparison with those of 2001 and population projections for the period in reference.

Population of Towns, Villages and Associated Localities

5. This is the third time the report titled “Population of Towns, Villages and Associated Localities” is released based on census results. It contains the total counts of all localities identified during the census exercise. Localities are classified by villages to which they owe economic, social and cultural allegiance. Users should be cautioned that this allegiance has nothing to do with political affiliation.

District Census Officers and Technical Officers Report

6. This report gives a narrative account of the overall census enumeration as experienced by the census personnel at the district level. The report has two parts – the first part contains district reports by District Census Officers while the second part contains the views of Census Technical Officers.

7. It is the second time that such a compendium on census administrative and technical issues has been published. The report is intended to enable evaluation of the census enumeration as well as to enable appraisal of the roles of the district census officers and the technical officers.

National Statistical Tables Report

8. The National Statistical Tables Report provides statistics on all the various topics covered in the census exercise. A cross-classification of information is also provided for all variables, by administrative district and sub-district, where necessary.

District Monographs

9. The monographs present a detailed analysis of selected indicators by district. The indicators contained include those that were in the previous monographs (1991) plus additional which were informed by stakeholder needs. These include indicators on:

* population size and composition

* Access to basic services and facilities like

- water
- Sanitation
- electricity
- Energy sources

* The publication also present a future outlook of the population

Census Analytical Report

10. The Census Analytical Report is based on contributions by external analysts from various institutions who are experts in the chosen area of analysis. While there is a wealth of data collected through the census, the Analytical Report focuses on select topical socio-demographic and economic variables. Analysis on other variables is expected, subject to emerging policy needs and research interests.

Population Projections 2011 - 2041

11. This report contains population statistics estimated on the basis of future demographic trends in the country. These population estimates are presented at national, district and village levels.

Guide to the Villages of Botswana

12. This will be the fifth edition of the Guide to the Villages of Botswana. The first edition was published in 1973 as part of the 1971 Census series of publications and it has since been produced in all post-independence censuses.

13. The data presented in this publication were collected in two phases. The first phase occurred between July 2009 and April 2011, and it entailed fieldwork mapping and house listing. Data collected during this period included a list of villages and associated localities such as cattle posts; lands areas; freehold farms, total number of dwellings and facilities in each of the localities. The second phase, which was the main census enumeration phase, occurred between 9 and 18 August 2011. The enumerated population and the number of housing units were compiled using data collected during phase two.



Anna N Majelantle
STATISTICIAN GENERAL
June 2016

Acknowledgement

1. I wish to acknowledge the role of various structures, especially the following census committees:

- Census Central Committee
- Technical Advisory Committee
- National Communications Committee
- District Communications Committees
- Census Standing Committee (which was responsible for planning of census activities)

2. My appreciation is extended to members of these committees for overall direction regarding the census. Membership to these committees comprised of officers from government ministries and non-governmental organizations.

3. I wish to commend government ministries and departments as follows:

Ministry of Local Government & Rural Development for providing the perennial pool from which the District Census Officers were drawn:

- The District Administration, through the District Commissioner played a very important role in providing direction in the conduct of the census in their areas of jurisdiction.
- Tribal Authorities, through the willing cooperation and support by Chiefs in addressing Kgotla meetings to sensitize and educate their subjects on the importance of participation in the census.

Ministry of Lands and Housing for the support rendered through:

- Providing a pool from which District Census Officers were drawn.
- Surveys and Mapping which provided all the base maps which were used in the census cartographic exercise.
- Landboards which assisted in mapping especially on verification of district maps.

Ministry of Presidential Affairs and Public Administration, for the support rendered through the:

- Department of Information and Broadcasting, which assisted in the planning and implementation of the publicity and education campaign of the census.
- Department of Printing & Publishing Services, which printed numerous items for the census, and in particular made printing the census material a priority over other competing demands on its limited service;
- Department of Police, who provided the necessary security for the field staff and availed themselves whenever their assistance was required.
- Botswana Defence Force, who provided helicopters to augment the private helicopters that were used in enumerating the Okavango Delta.

Ministry of Education & Skills Development, for providing training facilities. The facilities also provided accommodation for the trainers and the trainees for the duration of the training.

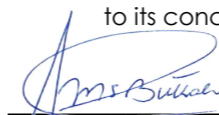
Ministry of Transport and Communications (through the Central Transport Organization – CTO) for providing census vehicles.
Ministry of Agriculture, for rescheduling the agricultural fairs to accommodate census needs;

Department of Information Technology, for providing IT support;

The Attorney General's Chambers for their role in preparing Census Regulations and other legal instruments;

Various other government and non-governmental agencies contributed to the census in one-way or the other. The cooperation of these organizations is gratefully appreciated.

4. Members of the public and the civil society for their cooperation in providing the information required.
5. All District Census and Technical Officers, who coordinated and guided the exercise at various districts.
6. All the enumerators and fieldwork supervisors who worked tirelessly to collect the information required.
7. Last but not least, all Statistics Botswana staff for their input during the entire exercise; from its planning stages to its conclusion.



Dabilani Buthali
NATIONAL CENSUS COORDINATOR (01/10/2009 – 31/10/2012)

1. Background

1.1 The Country

1. The Republic of Botswana occupies a land area of 582,000 square kilometres and lies at the centre of the Southern African Plateau at a mean altitude of 1,000 metres above sea level. Much of the country is relatively flat with gentle undulations. Along the eastern margin, adjacent to the Limpopo drainage system, the land rises above 1,200 metres and the Limpopo valley itself gradually descends from 900 metres in the south to 500 metres at the confluence of the Limpopo and Shashe Rivers.

2. Botswana is landlocked and is bounded by four countries - Namibia in the West and North-West, Zambia in the North, Zimbabwe in the North East and South Africa in the East and South. Botswana lies approximately between Latitudes 18 and 27 degrees South and Longitudes 20 and 29 degrees East. Most of the country lies to the North of the Tropic of Capricorn, which passes just south of Dinokwe (Palla Road). In the North West the Okavango River drains inland from Angola to form an extensive swamp. In the West lies the Kalahari Desert, which supports a vegetation of shrub and grasses with almost complete absence of surface water, although pans hold water for some time after the rains?

3. The climate is described as continental, semi-arid, sub-tropical but generally considered healthy. Rainfall is low, erratic and unevenly distributed. It ranges from 650 mm in the North East to less than 250 mm in Kgalagadi. More than 90 percent of the rain falls in the summer months between November and April.

4. Mean temperatures vary according to region, with maximum temperatures reaching 40 degrees Celsius. During winter overnight temperature may fall to 0 degrees Celsius in the extreme south.

1.2 The Economy

5. At independence in 1966, Botswana was classified among the least developed countries in the world. The mainstay of the economy was the beef industry. The discovery and exploitation of minerals in the early seventies, as well as the re-negotiation of the Southern African Customs Union Agreement in the late sixties, led to the transformation of the economy, which currently is described as one of the fastest growing economies in the world.

6. The revenue from diamonds contributes significantly to Gross Domestic Product (GDP). Following concerns regarding the dangers of over-dependence on minerals, initiatives are now being made to diversify the economy. Tourism has been identified as a possible engine of growth.

7. Gross Domestic Product (GDP) during the inter-census period was estimated to have been growing at 4.4 percent per annum (2000/01 to 2010/2011); and GDP per capita in (real terms) was estimated at P34214.9 million in 2010/2011. This growth has helped transform the socio-economic set-up of the country, as well as influencing the settlement patterns. The population is becoming highly urbanized.

8. The transformation of the economy has led to investments in the health and education sectors, ensuring access to these services by the majority of the population. Transport and communication networks have improved, giving rise to increased population mobility over the years.

1.3 Settlement Patterns

9. A major feature of the settlement pattern (distribution and density map on Pages 9 and 10) is that the population is concentrated around four major centres of the country. There is a heavy concentration of the population around Gaborone and its surrounding areas, Serowe-Palapye, Francistown, Selebi-Phikwe, and the Okavango Delta (Maun) area. About 40 percent of the total population is now living within a radius of 100 kilometres of Gaborone. The heavy concentration of the population has also led to a high urbanization of the population. About 64 percent of the population is now classified as urban.

1.4 Constitution Obligation

10. Census information is central to development planning since policies are initiated, monitored and reviewed on the basis of figures so derived. In view of this importance, countries usually make provision of the required information in a census obligatory. In this regard, the conduct of a census in Botswana is a fulfilment of Section 64 of the country's constitution. In order to provide assurance regarding the safekeeping of sometimes highly personal information, the census statute guarantees privacy in the handling of data obtained during the census. In essence, divulging of data by census officials is a punishable offence.

1.5 Census Legislation

11. According to Section 64 of the Constitution, the Judicial Service Commission shall appoint a Delimitation Commission at any time after a comprehensive national population census has been held in Botswana. Further, the Constitution stipulates that the interval between appointing a Delimitation Commission and another shall not be less than five years nor more than ten years. It is implicit, therefore, that a comprehensive national census should be held at regular intervals to satisfy the requirements of the Constitution.

12. In any statistical enquiry, there is need to make legal provision for two main purposes:

- to make it obligatory for respondents to provide the required information.
- to balance that obligation with the individual's right to privacy.

13. Census Legislation dates back to 1904, when the first census was conducted. Proclamation No.10 of 1904 providing for the taking of a Census in the Bechuanaland Protectorate was issued on 6 April 1904. For each respective census since that time, Proclamations or Statutory Instruments were issued providing for the taking of a census.

14. The content of the first Proclamation of 1904 does not differ much from the Census Act of today. The major difference is that today's Act provides for penalties for refusal to provide information to a Census Officer whereas there were no such penalties in 1904. It was thought that providing penalties for the general population would only complicate the process of Census taking. On the other hand, severe penalties were imposed on Census Officers who neglected their duties. Section 10 of the Proclamation of 1910 reads:

"Any Census Officer who-

(a) Without sufficient cause refuses or neglects to act as such or to use reasonable diligence and care in performing any duty imposed upon him;

(b) Willfully puts an offensive or improper question or knowingly makes any false return;

(c) asks, receives or takes from any person otherwise than an authorised officer of the Administration any payment or reward;

(d) divulges any information obtained during the performance of his duty as an officer of the census;

shall be guilty of an offence and shall be liable to a penalty not exceeding one hundred pounds and in default of payment to imprisonment with or without hard labour for a period not exceeding one month or to both such fine and such imprisonment"

15. The current Act, CAP 17:02 provides for a fine of P500 or imprisonment for a term not exceeding one year, or both in respect of the same offence.

16. The Census Act of today also provides for a penalty to be imposed upon those who, being obliged to provide information to a duly authorised Census Officer, fail, without reasonable cause, to do so.

17. All census officers were made aware of the Census Act and its regulations by officials from the Census Office during the training sessions of District Census Officers, supervisors and enumerators. The section dealing with penalties for census officers was quoted in the training manuals. The Census order, 2011, making provision for the taking of a census between the 9 and the 18 August 2011 was published in the Government Gazette of 1 April 2011. The census regulations, 2011 itemizing the topics to be covered, the penalties for refusing to cooperate with Census Officers and the duties of Census Officers, were published as a statutory instrument published on the Government Gazette of 27 May 2011.

18. There were a few incidents where some respondents initially refused to cooperate with Census Officers, and where some enumerators falsified Census Returns. Those individuals who initially refused to cooperate with Census Officers eventually agreed after persuasion by senior officials from either the Census Office or the District Administration. Enumerators who falsified census returns were summarily dismissed. Whilst some small communities refused to be enumerated (CKGR and some Bakgatla tribesmen undergoing a rite of passage initiation), it was decided that the political overtures on the part of the communities would have resulted with protracted legal battles which would not have benefitted the census, even if the Census Office was to prevail.

1.6 History of Census Taking

19. Historically, census taking began in ancient times for tax and military purposes. It is recorded in history that a population count was taken in Babylonia before 3800 B.C., followed by that in China in 3000 B.C.

20. In Botswana, the first census was conducted in 1904, with 17 April as the census night. This Census was held as part of the Census of British South Africa with the three High Commission Territories (Bechuanaland, Basotholand and Swaziland) and the South African colony taking part.

(a) [The 1904 Census](#)

21. The Bechuanaland Protectorate was a very large country and was sparsely inhabited. In 1904, the country was full of endemic (as well as epidemic) diseases. The literacy level of the people was very low. In view of the poor communication between the people and the administrators, the people were full of fear and suspicion of these administrators. The administrators knew little or nothing about the people's way of life. The authorities therefore decided that legislation (with attendant fines in default of regulations) would only complicate matters and arouse more fear and suspicion. Therefore the Census of 1904 was made voluntary and not compulsory.

22. Bechuanaland Protectorate was made up of Tribal Reserves, Crown lands, and so on. The Census of 1904 covered the Reserves only and estimates were made for other areas. The enumeration was carried out by Chiefs and Headmen (free of charge). The only payments made were grants to the officials of Government who took part and these amounted to £155.9.1.

23. The information collected during this Census was on total numbers, sex, adults and children. Other information also collected was on wagons, cattle, horses, donkeys, sheep goats owned by individuals or households.

(b) [The 1911 Census](#)

24. The second census was carried out in 1911 as part of decennial census of the British Empire. The information sought in the Bechuanaland Census was restricted to number of people, sex and broad age group (adult/child). The reasons for insisting on a simple return were compellingly put to the authorities in Pretoria by Mr Panzera thus:

25. "I need to hardly point out the difficulties of carrying this work in a Territory nearly thirty times the area of Basotholand with a tenth of officials and an almost entirely uneducated population."

26. In Bechuanaland, the cost of the 1911 Census was £500 plus £138 in gratuities to officials. In Basotholand, where more detailed information was collected, the cost was £1,775 plus £1,000 for clerical assistance in handing the data to the South African Bureau of Census and Statistics.

(c) [The 1921 Census](#)

27. The Bechuanaland Protectorate took part in the 1921 Census of the British Empire, with plans coordinated from Pretoria. The Bechuanaland authorities again insisted on a simpler questionnaire for the African Population. Administrative difficulties were as great as ever. The forms for Ngamiland were sent by a trader's wagon on a month-long journey from Serowe to Maun. In some parts of the country, the forms did not arrive on time. The census was heavily criticized for providing minimum information. It was reported by Sir Alan Pim, in 1933, that in some districts the census papers consisted of pieces of string on which the headman tied knots to indicate the number of people in his charge. The costs were some £800 against £3,500 for Basotholand and £400 for Swaziland.

(d) [The 1936 Census](#)

28. There was no census in 1931 because of the worldwide recession. The next census was in May 1936, at a total cost of £684.10.11. There were no illusions about its accuracy. The Resident Commissioner, Mr. C.F. Re reported to Pretoria that he was far from satisfied with the reliability of the figures. For example, the Basarwa population of the Ghanzi District entered on a single line was estimated at 7,000 males, and 3,000 females, which he remarked as palpably absurd. He continued;

29. "Moreover if these figures were accurate, the population of the Ghanzi District would have shown an increase of nearly 500 percent - a result which needs no comment. It may be noted in this connection that only 44 Bushmen have been numbered in the Kgalagadi District."

30. A Comparison of the 1921 figures with the 1936 count suggested that the very large increases recorded were a result of under-enumeration in the 1921 Census.

(e) [The 1946 Census](#)

31. One other census was conducted in 1946, and was the most ambitious. No less than 49 questions were asked and a large number of tables were published. The census work was coordinated from Pretoria and the Union Bureau of Census and Statistics carried out the analysis. The work on the tabulations was not finished in time for preparations for the 1951 census to begin. Thus the 1951 census was postponed to 1956.

(f) [The 1956 Census](#)

32. Professor E. Batson of the University of Cape Town conducted the 1956 Census on behalf of the government. It was conducted on a sample basis using tax registers as a frame. For purposes of this Census, a household was defined as comprising of any person whose name appeared in a tax register together with his dependents or household associates of that person, whose names did not appear in a tax register. In effect, this meant that the African households in the country comprised every male aged 18 years or more, together with his family if any, and a number of widows together with their dependents if any. These registers were, however, reported to have been deficient.

33. The processing of this Census took a very long time and the results were never published. The Administration Secretary writing to Professor Batson on 12 October 1964, regarding government's reluctance to finance the publication of the census results, had this to say:

34. "Viewing the matter broadly, the main consideration from this Government's point of view must be whether the results of the 1956 Census would now, if printed, be of any practical use. Seven years have now elapsed since the Census, and so severe a time lag has deprived government most of the original usefulness of the data, 7 years in planning time have now been lost and the data, even if otherwise accurate, is now largely obsolete".

35. The Government took this strong view for the very fact that another Census had already been carried out during 1964. Thus there was little point in financing the publication of Professor Batson's work.

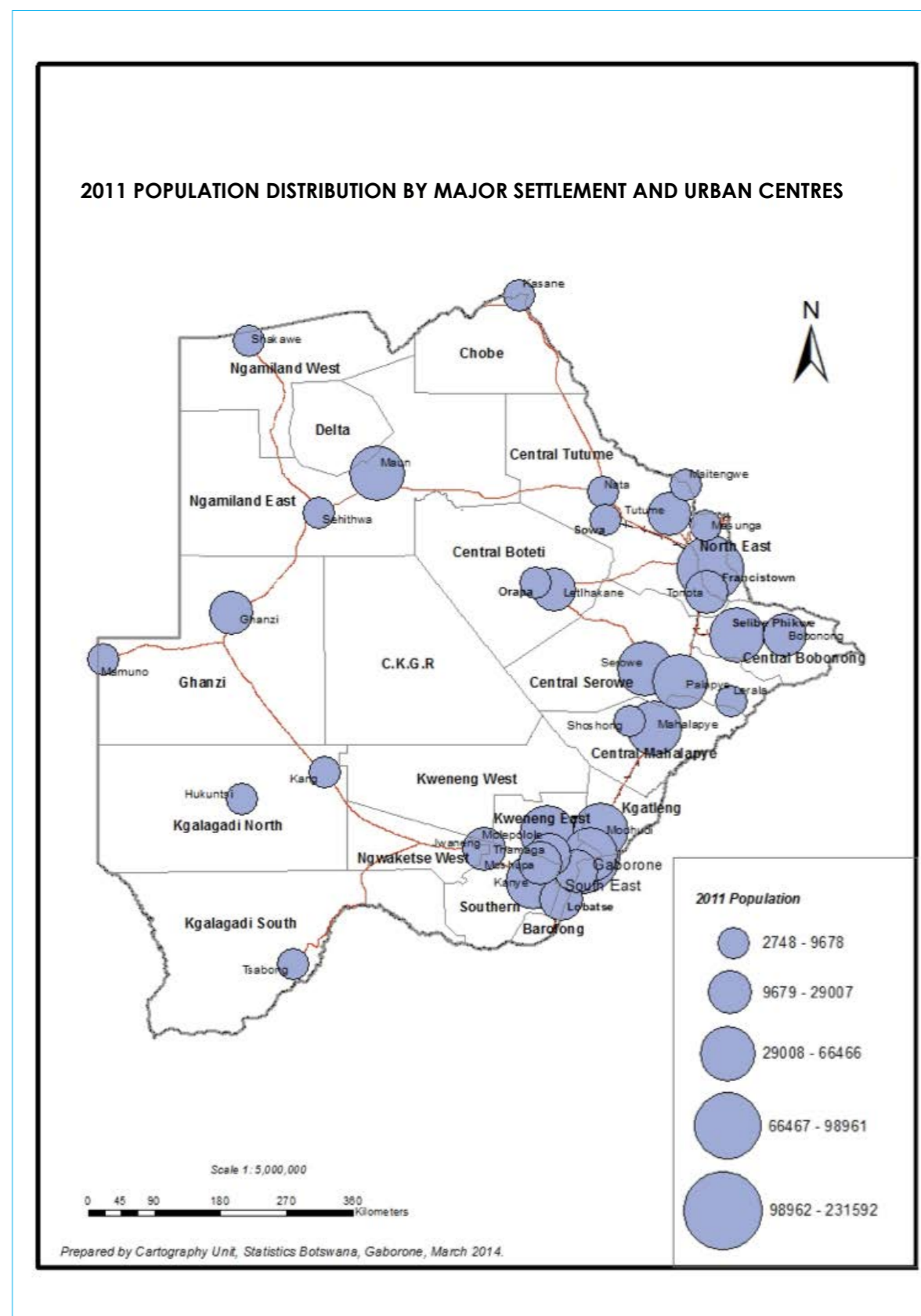
(g) [The 1964 Census](#)

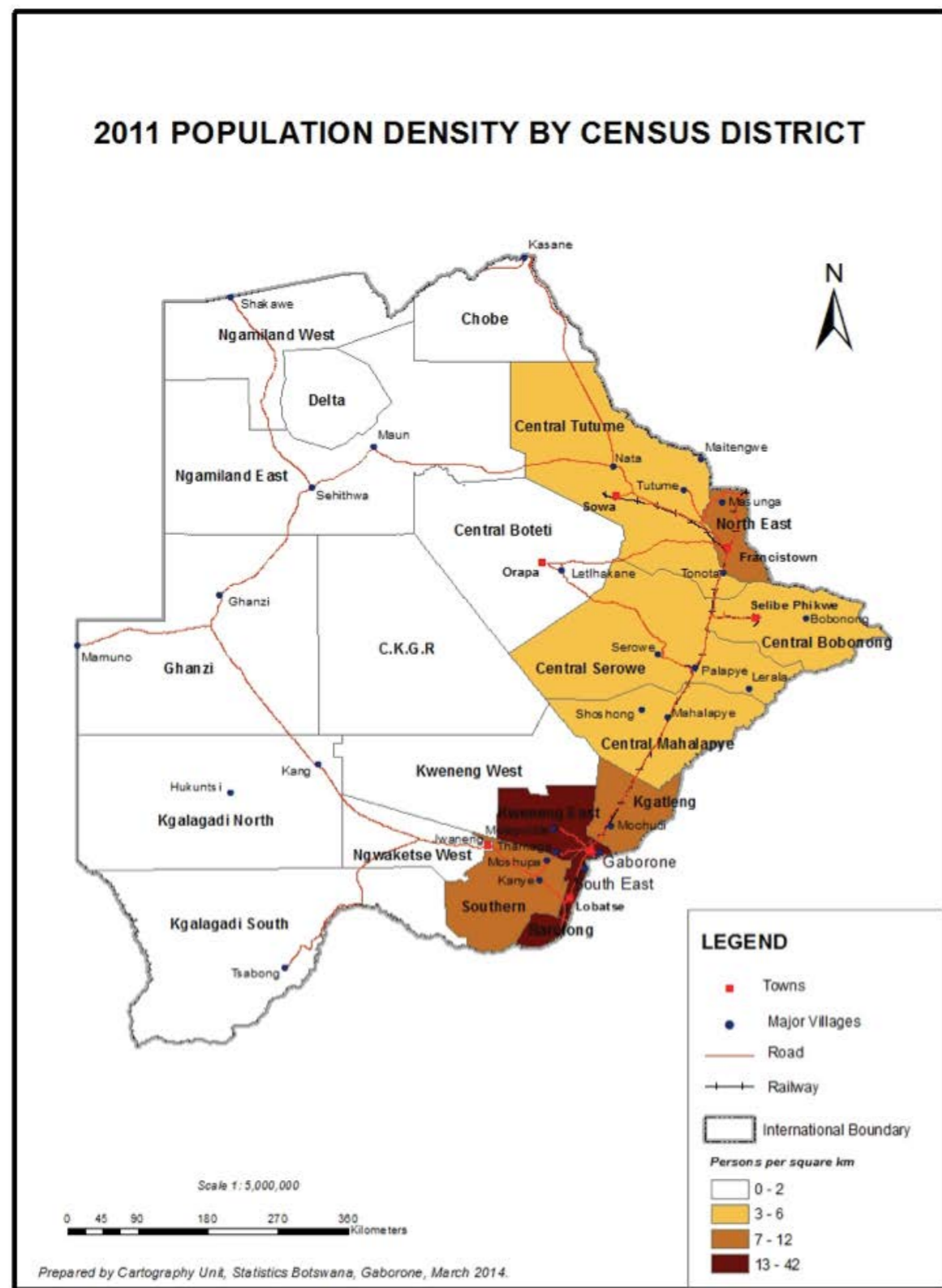
36. The 1964 Census, the seventh in the series, was the first census conducted on a house to house campaign. It was mainly intended for the delimitation exercise in preparation for Independence.

(h) [The 1971, 1981, 1991, 2001 and 2011 Censuses](#)

37. Post-independence censuses were improvements on the one conducted in 1964. A major improvement to note is that starting in 1981; Censuses have attempted to cover the nomadic Population. In the previous censuses only estimates were provided.

38. The methodologies of the post-independence censuses, as well as that of 1964, are well documented in the respective reports.





2. Introduction

2.1 The Census

1. The United Nations defines a population census as the total process of collecting, compiling, evaluating, analyzing and publishing or otherwise disseminating demographic, economic and social characteristics pertaining, at a specified time, to all persons in a country or in a well-delimited part of a country. Population characteristics which are normally collected in most countries are: geographic (place of usual residence and previous residence), migration, household characteristics (relationship to head of household, household structure), demographic, social characteristics (age, sex, marital status, and citizenship), fertility, mortality, educational characteristics, and economic characteristics (whether in the labour force, occupation, industry, employment status).

2. As in most developing countries, in Botswana a census involves enumerators visiting each dwelling in the country for purposes of enumeration. In the developed countries, questionnaires are usually left for self-enumeration by the households and are then posted back to the authorities.

3. The conduct of a census in Botswana is a constitutional obligation. The constitution requires that a Parliamentary Seats Delimitation Commission meet after a comprehensive national population census has been conducted. Thus the primary purpose of a census is to provide the commission with the information it needs. Further, planners, researchers, administrators and professionals usually take advantage of the census and add on questions of interest to the census questionnaire.

4. Censuses are very complex exercises, which directly or indirectly involve every individual in the Country. A census is time consuming and expensive. Unfortunately, the expenditures that are easy to quantify are those that are incurred by the census organization and its affiliated agencies. It is not possible to cost the time that the households and individuals avail to the census takers.

5. The process of taking a census may be classified into three broad stages:

(a) Pre-enumeration Phase

6. The pre-enumeration phase is the preparatory stage during which a number of issues are considered including the scope of the census, the budget and the design of the census schedule. This is followed by the cartographic (mapping) exercise, the aim of which is to produce detailed up-to-date maps for the whole country.

(b) Enumeration Phase

7. The enumeration phase is the data collection stage, where census enumerators complete census schedules for all households and institutions in the country.

(c) Post - enumeration Phase

8. This phase involves coding, editing and processing of the census schedules. Other very important activities that are integral parts of this phase are; the census evaluation, analysis of the census data as well as the preparation of census reports.

(d) Need and Usage of Census Data

9. A population census provides information on the size, distribution and characteristics of country's population. This information is essential to describe and assess the country's economic, social and demographic circumstances and to develop sound programmes aimed at improving the welfare of its inhabitants. The census provides comparable basic statistics for a country as a whole and for each administrative unit and locality therein, and makes an important contribution to the overall planning process and the management of regional and national affairs.

10. Population censuses provide indispensable data for scientific analysis and appraisal of the composition, distribution and prospective growth of the population. The trend in the indicators of socio-economic development such as the occupational or industrial structure can also be examined using data from two or more population censuses.

11. Population censuses have very many important uses for individuals and institutions in business, industry and labour. Reliable estimates of consumer demand for an ever expanding variety of goods and services can be made based on information on the size of the population at district level, urban or rural setting, age and sex composition, etc. These characteristics heavily influence the demand for housing, furnishings, food, clothing, recreational facilities, medical supplies, and so on.

12. Some specific uses of the age-sex structure of the population are:
- preparing population estimates and projections;
 - examining the supply of the labour force;
 - examining the dependency ratios;
 - calculating morbidity and mortality rates that can be used as a guide for authorities in charge of public health as a measure of their success;
 - calculating morbidity and mortality rates that can be used as a guide for authorities in charge of public health as a measure of their success;
 - Calculating survival rates that are used in the area of life insurance and actuarial work.

13. With regard to the project initiation, planning for the 2011 Population and Housing Census started in 2009 with the preparation of the Project Document, which was subsequently submitted to Government. The project was scheduled to last five years ending on 31 March 2014.

3. Funding of the Census

3.1 Preamble

1. The 2011 Population and Housing Census was largely funded by the Botswana Government with additional support provided by the United Nations Population Fund (UNFPA). The latter funded services of the technical experts (Chief Technical Advisor and National Census Coordinator) and the team support (one driver, one vehicle and associated fuel charges, team travel costs, etc.) as well as some essential equipment and materials which were directly donated to the project (2 vehicles, furniture, computers, internet, etc.).

3.2 Direct Costs

2. The total direct cost of the 2011 Population and Housing Census is estimated at P127 Million, with 92 percent of the cost covered by the Government of Botswana and 8 percent covered by the UNFPA.

3. As with the previous census, once again weak capacity in the administration and financial tracking system made documentation of census costs very difficult. Census ledgers contained not only incorrect entries but also very misleading figures in some instances. There is a very high likelihood that a sizeable fraction of the budget might have been spent on some official activities which may not necessarily be linked to the census. Further, detailed accounting of funds disbursed to the various District Administration offices at the time of census enumeration was not possible because the returns from the districts were lumped together thus again giving room for some expenditure not related to the census to be concealed. It is important to note that although mechanisms were put in place for proper accounting of funds, strict enforcement of such mechanisms was a major challenge.

3.3 Indirect Costs

4. Censuses require the deployment of various personnel – Census Technical Officers, District Census Officers, District Administration Staff and a wide range of supporting staff. Apart from honoraria paid to non-Statistics Botswana staff, salaries of all those involved were not paid for the period they spent on the census. Unfortunately it is not possible to cost the time spent on the census by all resources deployed by government during the entire census period – from mapping, through census enumeration and the post enumeration phase. Notwithstanding that, a conservative estimate of the indirect costs relating to all the government staff for their involvement in the census could well be half the direct costs.

5. In discharging their duties DCO often used office stationery, their departmental vehicles, telephone, faxes and other resources for the benefit of the census. Again these have implicit costs even though they are not included as part of the direct cost. Suffice it to note that some DCOs raised a concern regarding the fact that piggybacking on their department's resources affected their budget quite significantly.

3.4 Census Costs borne by Botswana Government – Direct Costs

Summary of Direct Costs						
Description	2009/10*	2010/11	2011/12	2012/13	2013/14	Total (BW Pula)
Equipment & Materials		1,261,473.00	2,649,731	349,942	282,621	4,543,767
Computer Hardware		870,000	1,017,898	62,401	30,800	1,981,099
Information Management System		4,405,009	2,900,924	624,006	61,600	7,991,538
Software		143,880	507,026	249,602	246,400	1,146,908
Cabling and networking		2,000	61,600	-	-	63,600
Promotion and Advertising		2,564,500	5,354,122	349,443	221,760	8,489,825
Implementation Fees		1,233,112	444,645	873,608	1,848,000	4,399,365
Transport		4,800,000	18,536,332	436,804	431,200	24,204,336
Salaries & Wages		5,791,864	2,555,426	899,237	722,700	9,969,227
Workshops and Seminars		827,000	9,063,000	686,406	677,600	11,254,006
Allowances		1,525,250	34,737,061	612,863	671,000	37,546,174
Total	5,253,772	23,424,087.60	77,827,765	5,144,313	5,193,681	116,843,618.40

* Itemized expenditure votes only introduced in the 2010/11 Financial Year.

Descriptions of major budget items are outlined below.

(a) Allowances

6. Allowances accounted for the largest share of the census budget. The largest proportion of the cost on this item was spent on census allowances for enumerators and supervisors¹ as well as subsistence allowances and overtime for drivers.

7. District Census Officers' census allowances and subsistence allowances were covered under this item. Also included in the cost are the subsistence allowances for Statistics Botswana Technical Officers and support staff deployed countrywide at the time of enumeration.

8. Lack of proper management of vehicle logbooks resulted in huge overtime costs by some Districts Census Officers and drivers. Some drivers were found to have manipulated the logbooks particularly knock-off times. Although census work was generally very demanding, instances where some District Census Officers worked for over 20 hours on a daily basis were not uncommon. Payment for overtime worked was honoured in cases where the district administration confirmed the hours worked. Future censuses need to ensure proper management of vehicle logbooks and overtime for purposes of improved efficiencies.

¹There were over 5,000 enumerators and over 2,000 supervisors

(b) Transport

9. Transport costs were the second major item within the 2011 census budget and this is due largely to the fact that over 2,000 vehicles were required for the census enumeration. It was clear from the outset that the Central Transport Organisation (CTO) was not going to provide all the required vehicles. As a result, over 80 percent of the vehicles were sourced from private vehicle owners, DCOs, Technical Officers and supervisors. Standard vehicle payment rates were developed taking into account the type of terrain – rural areas attracting high rates whilst cities, towns and urban villages had lower rates. Further, a standard maximum daily distance was determined. Although private vehicle hire worked, there were a lot of implementation bottlenecks.

(c) Training Costs

10. A number of workshops and seminars were held to train the various personnel involved in the census – TOs, DCOs, Trainers, Supervisors and enumerators. The workshops and seminars budget was largely used to cover training costs. Overall workshops and seminars was the third major cost item in the census budget.

(d) Salaries & Wages

11. This budget item covered temporary staff – field mapping assistants, data processing staff (data entry operators, manual editors, coders and online editors) and other ancillary staff.

(e) Promotions and Advertising

12. This cost item covered the census film, media (print and electronic), branded merchandise, brochures, booklets, television drama, etc. For full details on the mediums employed refer to Chapter 6.

(f) Data Processing

13. Census data processing system development and management was outsourced and the costs associated with the pilot and the main census accounted for over half the total (about P8 million) provision for this budget item.

(g) Equipment and Materials

14. Among the major equipment in this group were t-shirts, census satchels, computers, printers, and training equipment. Costs for important supplies for census enumeration such as stationery and adhesive labels are also covered in the group.

3.5 Census Costs borne by UNFPA – Direct Costs

Summary of Direct Costs						
Description	2009	2010	2011	2012	2013	Total (US\$)
Technical Assistance	147,959.94	300,423.00	333,702.00	75,633.00		857,717.94
Support Staff	2,697.00	12,112.00	13,313.00	11,730.00		39,852.00
Equipment & Materials	41,891.00			4,199.00		46,090.00
Transport	103,112.00	3,578.00	3,095.00			109,785.00
Communication/Advocacy & Dissemination	19,959.88	12,519.00	9,648.00	4,425.00	5,000.00	51,551.88
Capacity building	30,419.70	36,653.00		43,369.00	22,000.00	132,441.70
Reports/Document Production	7,735.38			6,855.00	8,000.00	22,590.38
Structures & Mechanisms	13,927.00					13,927.00
Database Development					8,000.00	8,000.00
Field Monitoring		21,104.00	21,463.00			42,567.00
Total	367,701.90	386,389.00	381,221.00	146,211.00	43,000.00	1,324,522.90

4. Census Programme of Activities**4.1 Introduction**

1. The programme of activities for the 2011 Population and Housing Census followed the tradition established in the preceding post-independence censuses. A lot has been documented about issues affecting the timing of the census enumeration hence there was no justification for change.

2. The Botswana government decided to follow the UNFPA recommendation that a national population census be carried out every ten years. The reasons for a ten-year interval include the following:

- o updating the data every ten years is reasonable,
- o a ten-year period is long enough for work on the previous census to be completed and preparations for the next one to start,
- o to meet the requirements of the Delimitation Commission who must meet at intervals of not more than 10 years.

3. In preparing the timetable of operation of activities for the census programme, the timing of the period of census enumeration was the most paramount. All the other activities were built around the period of census enumeration. The timetable thus naturally divides into three periods:

- o all census pre-enumeration activities
- o the census enumeration activities; and
- o the post-census enumeration activities.

4.2 Timing Period of Census Enumeration

4. The period of census enumeration must satisfy certain requirements. Some of these conditions are:

- o It must be possible to move easily throughout the country. In order to contact the persons to be enumerated, enumerators move either by foot, motor vehicles, river transport or any combination of the three.
- o The movement of the population to be enumerated should be as minimal as possible during the period of enumeration. Thus it is important to time enumeration to avoid times of major social or cultural activities in the country that would entail larger movement of people. Such type of activities may include religious festivals of national importance, national holidays, agricultural shows, international trade fairs or sporting activities.
- o It is important that the enumeration period coincide with the school holidays in order to minimize interference with schools' normal activities.

4.3 Climate Condition

5. Fulfilment of the above conditions depended on appropriate administrative measures being taken but largely on the climatic and cultural situations in the country.

(a) The Summer Period

6. The summer (November to January), is also the period of maximum rainfall. Consequently, there is a lot of undergrowth and vegetation. Travelling by vehicle in many parts of the country becomes hazardous especially in the North-West and the North-East because of the flooding of the flood plains and fast flowing rivers respectively. In the Kgalagadi, for example, traversing the pans from the South to the North is particularly treacherous because of the wetness and flooding of the pans. In the Ghanzi District, vehicles may have to pass through floodwater for several kilometres in low-lying areas.

7. Furthermore, the thick vegetation cover during the period could also inhibit the movement of enumerators from dwelling to dwelling in the rural areas and may even lead to some dwellings being hidden from view and thus not being enumerated.

(b) The Autumn Period

8. In autumn (February to April), it is still generally hot throughout the country although the evenings are cool to sometimes cold. Thus this period is unstable for any tasks that require considerable physical efforts over long periods of the day. Enumerators have to walk long distances during the course of the day. Further, in the North-West and to a limited extent in the North-East the ground is still wet and vehicular activities on a major scale could be hazardous.

(c) The Winter Period

9. In winter (May-July), the weather is generally too cold for door-to-door canvassing by enumerators. Since the daylight hours are shorter in winter, a considerably longer period would be required for enumeration compared to the period required if the census were to take place at any other time of the year. The longer the period of enumeration the more likely the conflict with the schools' calendar. Furthermore, during this period, a considerable proportion of the population lives at the lands, but for the most part in the fields, most of the day. Contacting them for enumeration purposes would be tenuous.

(d) The Spring Period

10. In spring (August – October), the weather is generally mild. The slight cold conditions in the early morning change to warmer ones by mid-morning. There is always a gentle breeze that reduces the effect of the upcoming heat of the day. Generally harvesting is over and most of the farmers have returned back to the village. The vegetation cover would have dried up and travelling conditions would have improved. In the extreme North-West, the floods are receding and no longer hazardous to vehicular activities.

11. From the above summary of the country's climatic conditions, it is obvious that the best time for the census is the spring school holiday period. Usually this covers most of August, the beginning of the spring season. Thus the censuses of 1971, 1981, 1991, 2001 and 2011 were conducted during the spring period.

4.4 The 2011 Census Timetable

12. Considerations discussed above demonstrate how limited the options are for the choice of enumeration period. Thus any significant delay in carrying out any of the census pre-enumeration activity may lead to a postponement of the enumeration for a considerable time. A delayed census enumeration implies additional cost. In order, therefore, to ensure that all census pre-enumeration activities were carried out as scheduled, the Government made the census a priority.

13. Appendix I shows the details of the timetable of activities with respect to the 2011 Census. As mentioned earlier, the activities were divided into three phases: the census pre-enumeration activities; the census enumeration activities and the census post-enumeration activities. The table also shows the time each activity was scheduled for and the actual period when the activity was carried out.

14. From the timetable it can be seen that all the pre-enumeration and the enumeration activities were largely carried out as scheduled. However, the slippage of time started to mount with the post-enumeration activities. The data processing took longer than it had been anticipated.

5. The Institutional Framework of the Census

5.1 Introduction

1. As per the provision of the Statistics ACT CAP 17:01 and CAP 17:02 of the Laws of Botswana, Statistics Botswana² is responsible for providing all organs of government, non-governmental organizations and members of the general public with statistical services in areas of data collection, compilation, processing, analysis, dissemination and archiving. Encapsulated within that mandate is the conduct of the census and therefore the 2011 Population and Housing Census was conducted by Statistics Botswana.

2. The Census Officer, in accordance with the organizational structure of the census is the de facto head of the Census Office, reporting directly to the Government Statistician, who by right of position as the head of the Department is the de jure head.

3. In spite of the long history of decennial population censuses carried out during the post-independence period, the Central Statistics Office has never had a permanent census office. Efforts made to maintain a functioning Census Office between censuses are dealt a heavy blow by staff turnover. Thus whenever the need for a census arose, an ad-hoc Census Office was established.

5.2 Census Office During Preceding Censuses

1971 Census

4. When the 1971 Population Census was carried out, a Census Office was established and the Census Officer recruited externally under the provisions of the Special Commonwealth Assistance to Africa Plan. A cartographer-draughtsman was recruited on a part-time basis. Due to unavailability of data processing facilities in the country, the census data was processed in Zambia.

1981 Census

5. In 1981, again an ad hoc Census office was instituted and a national Senior Statistician (Mr. Maitlhoko Mooka) was temporarily designated the Census Officer. A UN Technical Advisor was recruited to advise on the technical aspects of census taking. A UN Cartographer was recruited to take charge of the geographic preparations for the census. Two draughtsmen were seconded to the office from the Department of Town and Regional Planning and the Department of Geological Surveys, to assist the UN Cartographer. For data processing, a UN Census Data Processing Expert was recruited. This time, the data was processed through the Government Computer Bureau mainframe computer, with the UN providing 15 ICL Key-Edit Machines for data capture. For the temporary post of Publicity Officer/Field Organizer, an ex-senior secondary school head-teacher, Mr David Maine, was recruited on a contract basis. To augment the staffing requirements of the Census office, some junior statisticians from the various units of the CSO were seconded to the office. The recruitment of the UN expert was part of the technical contribution by the UNFPA.

1991 Census

6. Upon the Government reaffirming her commitment towards maintenance of a continued programme of decennial population censuses in 1988, a temporary Census Office was established. It was charged with the day-to-day professional and administrative responsibility of designing, coordinating and executing the Census. Consequently in 1989, temporary posts of Census Officer, Publicity/Education Officer, Census Advisor, Census Cartographic Advisor, Statistical Officer (Cartography), Senior Administration Officer, Senior Supplies Officer, Assistant Administration Officer and Personal Secretary were created. The post of Census Data Processing Expert had already been created as a permanent post in 1981. The Post of Census Officer was, upon review of its responsibilities, upgraded to the same level as that of Principal Statistician II. It was in July 1989 that the Senior Statistician then heading the Surveys Unit (Mr Batho Christopher Molomo) was appointed to this post.

² Central Statistics Office at the time of the 2011 Population and Housing Census.

7. The Census Office was set up by selecting a number of the existing professional staff of the CSO from the Household Surveys Unit, to form the nucleus of the office. Inevitably, this caused a major disruption to the work of the Surveys Unit and consequently all household survey activities were suspended for an indefinite period.

8. Before the establishment of the Census Office, the Survey and the Demography units of the CSO had to fill the vacuum created by the non-existence of such an office. This involved performing preliminary preparatory activities such as circulation to users of proposed topics for the census, holding consultative discussions with major users, preparation of inventory of available materials, identifying core staff for the office, etc.

9. As part of the contribution by the UNFPA, three UN Experts were contracted to the Government of Botswana to provide technical assistance on this census. At the head of the UN Team was the UN Chief Technical Advisor, who joined the Census Office on November 14, 1989. Other team members were the UN Cartographer and the UN Census Data Processing Advisor, who joined the office on 6 October 1989 and 29 October 1990 respectively.

2001 Census

10. Establishment of the Census Office for the 2001 Population and Housing Census followed the same pattern as that of the 1991 census. With the exception of the Census Officer, all the posts that were created for the preceding census were no longer available at the time of launching the 2011 census programme. Although cartographic work continued during the inter-census period, the critical posts were vacant. Botswana was no longer eligible for UN technical support at the time of preparation for the 2001 census and thus all the UNFPA posts were non-existent.

11. Temporary posts of Publicity/Field Organiser, Administration Officer, Supplies Officer and Personal Secretary were created. In the place of a Census Data Processing Expert this time there was a Data Processing Manager whose services were provided through a private consultancy.

12. In April 1999 a Senior Statistician who was heading the Prices Unit (Mr Dabilani Buthali) was appointed to the post of Census Officer. Initially the post of Census Officer was graded at Principal Statistician II but upon review of its responsibilities, it was upgraded to the same level as that of Principal Statistician I. Other officers were deployed to the Census Office in a similar fashion. Thus the nucleus of the Census Office was established by deploying professionals from other units of the CSO.

13. For ease of operation and space consideration, a one-storey building was secured through the Department of Lands. This office accommodated the Census Office, Household Surveys and Cartography Unit. The three units occupied the new building in October 1999.

5.3 Organizational Structure of 2011 Census

14. Establishment of the Census Office for the 2011 Population and Housing Census followed the normal tradition of re-deployment of staff from various units of the Central Statistics Office. The Census Office was established early 2009 and was under the leadership of the National Census Coordinator (Mr Dabilani Buthali), supported by the Census Chief Technical Advisor (Professor Borbor Kandeh). These two positions were funded by the UNFPA.

The Census Office was functionally subdivided into the following sections:

15. **Statistical Planning Section** - was responsible for the overall design, co-ordination and implementation of the exercise, supervising the work of all the other sections, and coordinating the funding and the finances of the whole exercise. The National Census Coordinator coordinated the work for this section.

16. **Quality Assurance and Logistics Section** - was responsible for overall quality control, coverage and content error evaluation processes. This section did not perform to expectation since there was no strategy or structured method followed for its activities.

17. **Cartography & GIS Unit** - was in charge of all the cartographic requirements of the exercise, including recruitment, training and daily supervision of the cartographic personnel. This was a fully-fledged unit under the oversight of a Chief Statistician as cartographic work is an integral part of any successful census.

18. **Data Processing Section** - was responsible for all the data processing aspects, including training and daily supervision of staff. A decision was taken to outsource data processing system development and management. Consequently RPC Data was awarded the tender for the data processing consultancy. A Data Processing Manager from the consulting firm headed the section. CSO attached Systems developers, technicians and some artisans to the section for capacity building and also provided all the auxiliary staff.

19. **Communication, Publicity & Education Section** - was responsible for all the publicity and educational needs of the census, at both national and sub-national levels. This section was head by a Chief Statistician, assisted by a statistician and a statistical assistant.

20. **Administration Section** - took charge of all the daily operations of personnel administration, payments and general financial administration of the project. This section was headed by an Administration officer in close liaison with the Assistant Director based at the headquarters. This unit was fairly weak and guidance from the administration unit at headquarters was not very helpful, with professionalism from that end seriously lacking.

21. **Supplies Section** - was responsible for the procurement and administration of equipment, materials, stationery and control of stores. The Section was headed by a Supplies Officer, who was supported by one assistant. Although the team tried their best, lack of overall control of the census budget by the Census Office made it difficult to maintain proper records.

5.4 Census Committees

22. Given the importance attached to this exercise and furthermore its multi-disciplinary nature, a number of national committees were established to give it the desired direction³, in both technical and policy-related matters. Committees formed were as follows:

(a) The Census Central Committee

23. The Census Central Committee (CCC) was one of the first committees to be formed and it dealt with all major policy issues related to the census taking. Its composition is given in Appendix 3. This is one committee that neither met too often nor had to. Any matter however, which required cabinet approval had to be vetted by this committee.

24. In spite of the importance attached to it, this committee did not discharge its obligations satisfactorily and this was largely due to the fact that permanent secretaries delegated members of the Census Technical Advisory Committee (CTAC) to represent them thus rendering the CCC and CTAC to be almost the same thing. The PS (MFDP) delegated the chairperson role to the Secretary for Economic and Financial Policy (albeit a permanent secretary level), this in itself downplayed the importance of the census as a national project and that might have led the cue in the delegation across ministries. In past censuses the PS (MFDP) actually chaired the committee.

(b) The Technical Advisory Committee

25. The Census Technical Advisory Committee (CTAC) was constituted mainly to advise on technical matters of the census. Among other things, the role of this committee included, reviewing content of the questionnaire, phrasing of questions, concepts and definitions. The broad objectives of this committee were the setting of broad parameters for field application, tabulation and classification variables, evaluation, analyses and publication programmes. Membership of the committee is given in Appendix 4. In spite of its wide representation, this committee did not function as effectively as expected, due to continued absenteeism of some members at meetings. In fact, some members sent substitutes to meetings or never attended any at all. This inevitably resulted in the Census Standing Committee taking over the responsibilities of this Committee, a situation that the CSO had made a conscious effort to avoid. Such a situation has the potential to marginalize the objective to have census data being demand-driven. Suffice to note that the same sentiments were expressed in the 1991 and 2001 censuses.

³At advisory and decision-making levels.

(c) The National communications Committee

26. The National communications committee was formed in 2011 (which was rather late) and held its inaugural meeting on 15 March 2011. Details regarding the composition of the committee are given in Appendix 4. The main function of this Committee was to design, co-ordinate, supervise and implement a publicity and education programme operational at the national level. It was charged with the responsibility of reviewing the effectiveness of the 2001 census education/publicity programme, and on that basis generate new ideas for an effective programme of education and publicity for the populace, on all relevant matters regarding the census. Effective publicity was seen as a major factor in ensuring a successful census count.

(d) District Communications Committees

27. District Communication Committees were responsible for designing, coordinating and implementing the education and publicity programmes at district and sub-district level. However, due to their composition, these committees performed more than publicity and education, since they played an advisory and coordinative role on all matters concerning the administration of the exercise at district level.

28. These committees varied in composition from district to district, depending upon the availability of staff. In some districts politicians, especially councilors, and chiefs were drafted into the committee depending on the strategic role expected of them. There was a formal coordinative and consultative link between these committees and the national committee through the head of Communication, Publicity & Education Unit at the Census Office.

5.5 Role of District Administrations

29. District Commissioners had an executive and legal responsibility to coordinate all census activities at district level. However, it was recognized that they could not effectively discharge the census obligation due to their already busy schedule. Therefore some senior persons in the district administration were designated District Census Officers (DCOs). A DCO was delegated the coordinative authority and responsibility for all census activities in the district.

30. The DCOs worked closely with the Communication, Publicity & Education Unit, in their capacities as secretaries to the communications committees. Administratively, the DCO reported through the District Commissioner/Officer to the National Census Coordinator, while the District Commissioner reported to the Government Statistician through the National Census Coordinator. In practice however, lines of communication were less formal and more direct, thus increasing the efficiency with which responsibilities were achieved.

31. The DCOs were drawn from both Central and Local Government in the districts through the District Commissioners' offices. Unlike in previous censuses when the District Commissioners/Officers nominated a few officers to undergo training before appointment among those adjudged to be capable, in the 2011 census there was no flexibility since the exact number was nominated for appointment by the Central Statistics Office. Some of the District Census Officers were not as capable as desired. Notwithstanding the foregoing, the success of the census is attributed to the dedication and commitment of the District Census Officers.

5.6 Role of CSO Technical Officers

32. The Central Statistics Office provided a pool of Technical Officers (TOs), drawn from its professional and technician cadre to back up the DCOs. These ranged in rank from Statistical Officers to Government Statistician level. This group of professionals was responsible for assisting the DCOs on all technical matters relating to the census. In addition, they were expected to take charge or assist in any other matters concerning the census wherever there was need.

33. As a cadre of professionals, the TOs started participating in the field alongside the DCOs, at the beginning of the final preparatory activities of the main enumeration period, when they assisted DCOs in the recruitment of enumerators and supervisors, did the training of trainers, supervisors and enumerators and assisted with the employment of all field staff. Most of the TOs had taken part at all planning stages of the census, and were therefore well versed in all census matters.

34. The quality of Technical Officers (TOs) for the 2011 Population and Housing Census was not satisfactory. Service delivery, aptitude and attitudes on the part of some TOs was not satisfactory. Some TOs deliberately did not follow the strategic deployment devised by the Census Office. Further to this, no corrective action was taken by leadership. This was complicated by the blurred lines of authority between the UN technical team and CSO staff, and the lack of decisiveness and resoluteness of the leadership when cases requiring action had to be resolved. The fact that the leadership could re-deploy TOs without input from the National Census Coordinator did not help the situation at all, since that could have brought into question the role of the National Census Coordinator.

5.7 Administrative and Census Districts

35. Considering the district size and furthermore to ease the workload on the DCO, some districts were subdivided into census districts. These subdivisions were ideal for census operation purposes. The census districts, however, were consistent with the administrative district boundaries. Census districts were either whole districts or sub-districts, where sub-districts were already institutionalised administratively. Cities and towns, regardless of size, were regarded as separate census districts.

36. With the creation of district authorities whose boundaries were not clearly defined, establishing an exact number of census districts was a difficult matter. There was a total 60 District Census Officers as per the arrangement outlined below:

- Kgalagadi District was sub-divided into Kgalagadi South and Kgalagadi North census districts, conveniently coinciding with the already existing administrative sub-divisions. The South was serviced from the district headquarters of Tsabong and the North from Hukuntsi as the sub-district sub-headquarters. Each sub-district had two DCOs.
- Central district was already administratively sub-divided into Serowe, Palapye, Mahalapye, Bobonong, Boteti, Tutume and Tonota sub-districts. With the exception of Tonota (allocated one DCO) each of one these census districts was assigned two DCOs.
- North-West District was organised into Ngamiland East, Ngamiland West, Okavango Delta and Chobe census districts. Ngamiland West comprised of all those areas which fell under the administrative jurisdiction of the Gumare sub-district with the headquarters situated at Gumare. Chobe census district maintained the same boundaries as the Chobe district with its headquarters at Kasane. Each census district had two DCOs except Chobe and the Delta which had one each.
- Southern District was sub-divided into four census districts, namely Kanye, Moshupa, Barolong and Mabutsane. Each of these was assigned two DCOs.
- Ghanzi district was sub-divided into two sub-districts of Ghanzi main (including the Central Kgalagadi Game Reserve) and Charleshill. This arrangement was just for administrative convenience since district authorities could not identify the actual boundary between the two. Considering the distances between certain areas in the two-census districts, each with peculiar problems, particularly the Central Kgalagadi Game Reserve, four DCOs were assigned for Ghanzi main district.
- South East District was subdivided into two census sub-districts, corresponding to Ramotswa and Tlokweng each with a DCO.
- Kweneng District was sub-divided into three census districts corresponding to the formal subdivisions of Molepolole/Lentsweletau with headquarters in Molepolole, Mogoditshane/Thamaga with headquarters in Mogoditshane and Kweneng West whose headquarters is in Lethakeng. Each of these was assigned two DCOs.
- Kgatleng District was also not formally sub-divided into census districts. However, it was assigned two DCOs whose areas of responsibility were agreed mutually between the DCOs.
- North East District was designated a census district with two DCOs.

- o Each of the towns; Lobatse, Selebi-Phikwe, Orapa, Jwaneng, Sowa Town and the Cities of Gaborone and Francistown each formed a census district.
- o Gaborone was subdivided into four census sub-districts namely Gaborone Central, Gaborone West, Gaborone North and Gaborone South/East, each with a DCO.
- o Francistown although not subdivided either formally or informally into census districts, was assigned four DCOs. It was not the area size that was the factor here but the workload.
- o Lobatse was designated a census district and was served by two DCOs, and similarly Selebi-Phikwe was a census district with two DCOs. Orapa was assigned one DCO who also assisted the DCOs for Central Boteti.
- o Sowa Town was considered a census district and was served by one DCO.
- o Jwaneng was assigned one DCO

5.8 Field Organization

37. As a usual practice, each of the 30 census districts were in turn divided into statistical areas referred to as Enumeration Areas (EAs). Each EA comprised approximately 100 to 150 dwellings or malwapa, and each was the responsibility of one census enumerator.

38. Over 6,000 enumerators (including Botswana Defence Force enumerators) were deployed nationwide. Each enumerator was responsible for enumerating all persons found in a single enumeration area. However for supervisory purposes enumerators were organised into teams of four or five. A supervisor, who reported directly to the DCO for that census district, looked after each team. Only in the absence of the DCO would the supervisor report to the TO.

39. The enumerator to supervisor ratio was on average 5: 1 in cities and towns, 4: 1 in the rural areas. The ratios varied because EAs in cities and towns are more compact as compared to the ones in the rural areas where the enumerator had to travel relatively longer distances between dwellings and sometimes between localities. Over 1,250 supervisors (including BDF supervisors) were deployed.

40. Special Botswana Defence Force (BDF) personnel were trained (together with the civilian enumerator force) specifically for enumerating the BDF camps. BDF supervisors reported directly to the DCO in the district in which the camps were located. Once again the institutional co-operation with the BDF was very good.

5.9 Census Standing Committee

41. In addition to the national committees referred to in the foregoing section, the Census Office also established a technical working group referred to as the Census Standing Committee. This Committee was an internal arrangement involving all CSO subject matter specialists. It played an internal advisory role to the Census on all technical matters pertaining to various subject matter areas, before presenting to the Census Central, National Communications and Technical Advisory Committees.

42. Membership to this committee was drawn mainly from heads and assistant heads of unit within the CSO. The Government Statistician chaired the Committee while the Census Officer was the Secretary. Recording responsibilities were rotated amongst other junior members of the committee, as a means of on-the-job training.

43. This Committee served as an important link between the Census Office and the rest of the CSO. It was a very effective forum for uninhibited professional discussions. It also provided very good on-the-job training for the less experienced members of the committee.

5.10 Constraints

44. Although the arrangement to have the census coordinated by an officer from outside the Central Statistics Office looks perfect in theory, the arrangement is not the best in practice. Fundamental issues arose largely due to different terms and conditions of employment. For instance public officers were governed by the Public Service Act which stipulates performance management protocols and supervisory mechanisms, and these did not accommodate non-public servants. This resulted with teaming of the UNFPA and CSO staff purely on mutual understanding rather than contractually and this had a bearing on service delivery and performance.

45. Although the Census Technical Advisor (CTA) could play a very important role in the conduct of a census, this was not the case either due to the job profile⁴ or lack of clearly defined lines of authority. Further to this, the operational arrangement to have the CTA report to the Government Statistician, whilst the job profile indicated direct reporting to the National Census Coordinator, was also detrimental.

46. Efforts made to maintain the Census Office fully functional after the 2001 census, could not be realised due to staff turnover. However concerted efforts should have been made to recruit people with appropriate skills to run the office to demonstrate the offices commitment towards that objective. Recruitment of key personnel in readiness for the census is not strategic since it does not allow for a holistic project planning approach. For instance, the substantive National Census Coordinator assumed duty in October 2009 – very late for project conceptualisation and planning.

47. Ad hoc census offices have resulted in:

- o Inability to retain and sustain the experience gained by temporary and seconded personnel.
- o Lack of satisfactory accountability once the office has been disbanded.
- o Lack of continuity and follow-up actions in a field which is inherently dynamic.
- o Lack of adequate research in areas of sampling for censuses, development of frames for future studies, questionnaire design and other methodological aspects.
- o Inadequate preparations due to time constraints, lack of experienced personnel, and researched information bases.
- o Enormous overhead costs each time the office has to be established.

48. These problems were also raised in past censuses. However, the importance of an adequately staffed and operational Census Office cannot be overemphasised. It is also critical that the authorities charged with the responsibilities of the institutional machinery of the Census Office do not miss the observations and recommendations made in respect of this census as they are intended to guide preparations for the next census.

5.11 Recommendations

49. With the changes brought about by the transformation, it is important that the Census and Demography Divisions (through the Social and Demographic Statistics Directorate) need to ready itself immediately for the 2021 Population and Housing Census. Moreover, with the various functions spread across divisions and departments (e.g. instrument development, fieldwork coordination, advocacy, etc.) the need for proper coordination and oversight is very important. Piloting the effectiveness of the new structure will be very crucial.

50. The Directorate of Social and Demographic Statistics needs to reflect on mapping of the traditional census setup on the division and the directorate and clearly define/designate key players⁵.

⁴The job profile of the CTA and the NCC were almost the same.

⁵For instance, which position will equate to Census Coordinator/Census Manager, etc.

51. With Statistics Botswana having become a parastatal, the relation and partnership with local authorities in conducting the 2021 census must be reflected upon. Creation of parastatals is usually accompanied by a lot of expectations⁶ from stakeholders, some of which are not realistic hence these must be managed.

52. Whilst the traditional approaches and methodologies have worked in past censuses, there is need to explore more innovative approaches including optimizing on ICT development (scanning, computer assisted personal interview, etc.) in the 2021 census.

6. Publicity and Census Education

6.1 Introduction

1. A census is an enormous national exercise as it entails counting all inhabitants. Citizens and non-citizens who are within the boundaries of the country are counted. A project of this magnitude requires the involvement, collaboration and assistance of all stakeholders as well as cooperation and acceptance of the census by the public.

6.2 Objectives of Census Publicity

2. A nationwide publicity and educational campaigns were done to make the public aware of the census and its importance through various strategies. The success of the project depended on the willing cooperation of the public to accept the census and answer its questions.

3. Noteworthy are the specific objectives of the 2011 population and housing census publicity which are as follows:

- Raise awareness among the various stakeholders throughout the different stages of the census, which included cartographic exercise, enumeration phase (pilot & main census) and census dissemination.
- Facilitate and encourage strategic stakeholders to participate
- To build consensus among the key stakeholders
- To inform the public about the census and engage it to accept the census and participate by allowing census officials into their dwelling premises for cartographic exercise and census enumeration

6.3 Launch of the 2011 Population and Housing Census

4. The 2011 Population and Housing Census project was officially launched by the Minister of Finance and Development Planning, Honourable O.K. Matambo at a seminar held on 17 November 2009 at Boipuso Hall in Gaborone. This was the launch of the start of the project activities, particularly the cartographic exercise. Another launch of the census enumeration by the Honourable Minister was done on 9 August 2011, the first day of the census enumeration at Boipuso Hall in Gaborone.

6.4 Contribution by Government Departments and Other Institutions

5. A national exercise such as a census cannot be done by just one implementing department or ministry alone. It needs collaborative efforts of all major stakeholder government departments, public institutions and the media. Various key stakeholder Government Ministries and Departments were addressed to solicit their support. These include the Botswana Defence Force, Botswana Police Service, Central Transport Organization, Ministry of Local Government, Department of Broadcasting, Department of Information Services, Ministry of Education and Skills Development, Independent Electoral Commission, the Cabinet and Parliamentary Committee on Population.

⁶Some are usually far-fetched, especially those with financial undertones

6.5 United Nations Population Fund (UNFPA)

6. The United Nations Population Fund (UNFPA) as a partner in the project played a pivotal role in the census publicity activities. The World Population Day commemorations of 2010 and 2011 events core funded by UNFPA and Ministry of Finance and Development Planning (MFDP) were used to disseminate census information. The commemorations were held in Jwaneng and Gaborone in July 2010 and 2011 respectively and members of the public were invited. Electronic and print media houses/companies were invited to the events for wider coverage.

6.6 Private Sector Assistance

7. Some private sector organizations played their roles of social responsibility to the nation, by having offered their services and use of their products to help in publicising the 2011 Population and Housing Census and they are as follows:

(a) Kgalagadi Breweries Limited (KBL)

8. Like in the previous census, the Kgalagadi Breweries Limited continued to help in the publicity of census by producing artwork with the census logo and the dates that was seen on the Chibuku cartoon two weeks before census enumeration.

(b) Mascom Wireless

9. This service provider dispatched a census message with census dates to all its subscribers during the week leading to census enumeration. This targeted wide coverage of members of the public and ensured reaching out to people living in remote areas where radio and television coverage is inadequate. Suburb areas were also targeted as these proved to be difficult to reach through other means of publicity.

(c) Civil Aviation Authority

10. Tear drops and banners carrying census messages were put at the airports of Gaborone, Francistown, Maun and Kasane to reach out to those who could be going out or arriving in the country during the two (2) weeks leading to census enumeration.

6.7 Census Publicity Committee Structures

11. Committees were formed both at national and district levels to drive the census publicity program. These committees' structures played an advisory and implementation role at their respective levels.

(a) National Census Communication Committee (NCCC)

12. The committee was inaugurated on 15 March 2011, and its role was to come up with ways of implementing the advocacy and communication strategies of the census publicity. The committee formulated a communications plan from the census publicity strategies and implemented the plan. The communication plan stated activities and channels through which census information and education were disseminated to stakeholder organizations and the general public. It also advised on strategies to negotiate discounts with the media channels to get reduced costs or added value when disseminating census information. The NCCC guided districts on census publicity operations. The committee met once on a monthly basis. A task team was formed to monitor the implementation of the plan and report back to the committee. The task team also met once monthly, that is, a week before the main committee meetings. The committee was chaired by Deputy Permanent Secretary responsible for Media Communication in the Office of the President. The Deputy Chairperson was the Director for Botswana Government Communication and Information Systems (BGGIS) and the secretariat was the Census Publicity Division of the Central Statistics Office (CSO), which later transformed into Statistics Botswana.

13. The membership consisted of:

- a. Office of the President – Deputy Permanent Secretary - Chair
- b. Botswana Government Communication and Information Systems (BGCIS) – Deputy Chair
- c. Central Statistics Office - later transformed and named Statistics Botswana – Secretariat
- d. Public Relations Office of the Ministry of Finance and Development Planning
- e. Department of Information Services
- f. Department of Broadcasting
- g. Department of Tourism
- h. Independent Electoral Commission (IEC)

(b) United Nations Population Fund (UNFPA)

14. The committee did a good job. Its members were committed and drove census publicity to its fullest and contributed immensely to the success of the project. The committee worked around the clock to make sure things are done and at the right time. It negotiated for a discounted or added value charges in private organizations and free or subsidised charges in government departments for disseminating census publicity information.

(c) District Census Offices & Committees (DCC)

15. The District Census Officers (DCCs) had, among other census activities, the mandate to implement the communication, publicity and advocacy activities. These activities were implemented through various structures at district and sub-district levels. The District Commissioners were overseeing the census operations at their respective districts.

6.8 Publicity Strategies

16. Publicity strategies covered a wide range of programs for communication and dissemination of census information. There were also strategies which involved public participation and feedback from stakeholders such as radio and TV discussions.

17. The slogan for the 2011 census, "My count a guide to development", which in Setswana is "Palo ya me, tsela ya ditlhabololo" was easily understood by the public as it connects the census enumeration with the use of census information for development.

(a) Public information

18. There were various means used to reach out to the public and these included posters put in public places with census dates, car stickers pasted on census vehicles, Kgotla address by District Census Officers, public address systems announcing census enumeration dates and other information, public transport billboards on long distance public transport and in local census districts, inserts in the newspapers, radio jingles, television advert and many others.

b) Media

19. The media covered the radios, television and the newspapers. The media participation and assistance in the publicity of the 2011 Population and Housing Census cannot be over emphasised. The assistance by media started way back with cartographic exercise (2009–2011), pilot census (2010), main census enumeration (2011) and lastly dissemination seminars (2011–2012). The media played an important role in raising awareness to the public about the 2011 census and emphasizing the role of members of the public (cooperation and answering census questions) during the main census enumeration

(c) Electronic Media**Television**

20. The census advert flighted on Botswana Television (Btv) at prime times for two months to the last day of enumeration in 2011. This also happened for one month during the pilot census in 2010. Adverts, documentaries, and news bulletins were produced for airing on BTV. Also regular interviews and debates were arranged by the census publicity unit with key public figures to support educational campaigns. The TV programs such as The Eye and news bulletin interviews were used.

Website

21. The website of the then Central Statistics Office (transformed into Statistics Botswana) was kept alive with all census publicity materials. All publicity documents carried the website address and readers were referred to it for other information. The site address was www.cso.gov.bw.

Radio

22. The radio as the most accessible means of communication especially for the rural population has been used. Jingles were played and phone in programmes such as A re Bueng, A matlhong, Maakaneng and Live-Line that invited people to contribute on census operations were featured on public radio stations (RB1 and RB2) and live radio interviews and discussions were featured on private radio stations.

(d) Print Media**Newspaper Articles**

23. Advertisements of census jobs, announcements, articles and features about the 2011 Population and Housing Census activities were published on all local newspapers.

Advertisements

24. Various forms of advertising the census such as printed census merchandise with the census logo. These included coffee mugs, lanyards, pens, key holders, etc. Other forms of advertising engaged the stakeholders to print the census logo with messages on their products. These included Botswana Breweries Limited (BBL) that had the census logo and dates on Chibuku cartons and Mascom Wireless's census message reminding all its subscribers of the census dates within the week before census enumeration. Government pay slips had had census dates in June, July and August 2011.

Newsletter

25. The production of the newsletter on quarterly basis was to inform stakeholders and the general public on issues of the on-going census operations. However, due to lack of capacity, only one newsletter was produced. The plan had been to produce quarterly issues from December 2010 to September 2011.

Public Addresses

26. Special briefings on the census operations were organised for the cabinet, House of chiefs, full council meetings, Parliamentary Committee on Population and Churches through their societies. The addressees extended the census publicity information to the public through their operations of these institutions.

Census Pamphlets, Brochure and Booklets

27. Pamphlets, flyers, newsletter, Guide to Census Advocacy for Census and School Lessons on the 2011 Census were printed and distributed to the public during major events such as Consumer Fairs, Toyota Desert Race, Agricultural Shows, BOCCIM Shows, etc. others were sent to district structures for distribution at Kgofla meetings.

Education Programmes

28. Census school lesson notes were produced and distributed to all primary schools in the country as it formed part of the 2011/12 curriculum. The notes were also dramatized in script form and formed part of the radio lesson in the school broadcasting. School children are one of the important stakeholders, and as such were sensitized and educated about the importance of the census and use of its information for development planning, program and policy formulations such that the pupils shared the information with parents, friends and relatives at home.

Radio Botswana

29. The two public radio stations (RB1 and RB2) assisted in publicising the census. Played in these public radio stations were both Setswana and English census jingles. The census information was also disseminated through radio discussion programs such as Maakaneng, Masa-a-Sele, Live-Line, A matlhong and live interviews, etc. These activities intensified during the period nearing census enumeration, that is, in the month of July and August 2011. The census school lesson notes that targeted school children were incorporated in the school curriculum and played as census radio lessons on RB1 during the second term of the school calendar in 2011.

Botswana Television

30. The census advert was aired at prime times. Programs such as The Eye, Morning Shows and live interviews were shown on BTV.

Botswana Daily News

31. Advertisements, announcements, insertions of census logo and flyer with the help of Government Printing Department were placed on this paper.

Independent Electoral Commission (IEC)

32. The Independent Electoral Commission assisted in producing the TV advert and the radio jingles that were played on Btv and both public and private radio stations.

Botswana Post

33. The organisation has designed stamps with census messages on the use or importance of census and this kind of publicity will go beyond the census enumeration.

(e) Other Strategies

34. There were many other publicity strategies that were planned for the 2011 census project. These included the use of TV drama, census song on radio and television and cartoons on local print media. These strategies were planned and had been used in previous censuses but in the 2011 census they were aborted after attempts had been made because of delays experienced due to stringent measures in government tendering processes.

35. Attempts without success were made to have electronic messages about the census in the public service points of the commercial banks and utility corporations. These would have reached a significant proportion of the population.

(f) Private Media

36. Private media too did a wonderful job in publicising the census from the beginning of the census processes to the end. The radio stations included Yarona FM, Duma FM, and GABZ FM. The radio stations played both the jingles (Setswana and English) at prime times. With the guidance of the Media Plan prepared by the National Census Communication Committee (NCCC), officers featured on the different radio stations to discuss and inform the public about the census operations. Similarly, public notices, articles, advertisements with census logo and announcements about the census were placed in the private print media from July 2009 to August 2011.

6.9 Challenges

1) Some areas were not reachable through publicity strategies. Such areas include high security suburbs in cities and towns. The communities in these areas do not normally listen to public radio stations, watch Botswana Television (Btv), or read the Daily News. These public media were the main channels through which census information was disseminated as they have the widest coverage of the country.

2) Some farms on freehold land in the areas of Kgagaladi, Ghanzi, Hyena Veldt, Chobe, Tuli Block and Sand Veldt were not easily accessible during the cartographic exercise and the census enumeration due to locked gates. Efforts to address farmers associations in some of these areas failed due to inappropriate timing of the meetings.

3) Though the budget was not a serious constraint, it is worth noting that it could have been, had it not been for the United Nations Population Fund (UNFPA) that financed some of the publicity activities that could not be met with the project funds. Such activities included, among others reprinting of posters and flyers which were in shortage due to limited project funds.

4) Stringent government procurement procedures hindered implementation of some of the important strategies earmarked to reach certain quarters of society. One such strategy was the erection of billboards around the country. The approval of the billboards tender was done late when there was little time left for the billboards to yield the desired results. Another example is census publicity merchandise such as pens and rulers which could not be procured for school pupils as the tender for these was not approved.

6.10 Recommendations

1) Census district publicity committees should arrange to meet with farmers associations in the areas of Ghanzi, Kgagaladi, Sand Veldt, Tuli Block, Tati, Chobe and Hyena Veldt.

2) In addition to the strategies used, Road Shows in villages have been identified as one effective way to disseminate census information to the public. Road shows attract public gathering because of their edutainment nature. It is recommended that road shows be part of the census publicity strategies and the activities should be coupled with engaging the media for increased coverage.

3) Public address (PA) systems were used in some districts and have proven to be effective in reminding the public about the census enumeration dates and how they were expected to participate by accepting census officials in the dwelling premises and answering all census questions. It is recommended that each census district should use PA systems during the pilot census and the main census to make announcements about census dates and the role of the public.

4) Tendering documents should be prepared and submitted at the earliest possible time to allow for the approval processes to take place in time for the planned implementation dates for census publicity activities.

7. Census Cartography

7.1 Cartographic Field Operations and Delineation of Enumeration Areas

7.1.1 Introduction

1. A permanent cartographic unit within the CSO was established immediately after the 1991 Population and Housing Census to service the cartographic needs relating to the Household Survey Programme, the annual Agricultural Surveys and the future Censuses. A Chief statistician heads the Division of cartography and a principal statistician heads the unit with a senior statistician, four cartographic technical officers and two cartographic assistants with certificates in cartography and draughting.

2. The 2011 Population and Housing Census preparatory work started on the 1 July 2009 in Gaborone. The reason for starting in Gaborone was mainly to monitor the mapper's work progress. Each team was assigned two vehicles fitted with a multi-functional high frequency (HF) radio telecommunication system with a built-in Global Positioning System Receiver (GPS).

3. Cartographic preparations constitute a vital part for the implementation of a modern Population Census. It is a basis for ensuring that every person in the country is counted with minimal possibilities for over-enumeration or under-enumeration. It is one of the links between Population Censuses and other related activities as it is an essential input into the development of several types of statistical sampling frames.

7.1.2 Objectives

4. The cartographic exercise was conducted to satisfy the following objectives:-

- To up-date and correct the 2001 Population and Housing Census maps by listing all localities by ecological type, all dwellings (malwapa) and recording the number of persons residing in those dwellings.
- To delineate new enumeration areas on the basis of reliable census maps that would be produced to constitute the framework within which an orderly enumeration could be conducted with minimum possibility for over or under-counting.
- To collect information for estimating the number of enumerators and supervisors, in order to determine workloads at enumeration time.
- To collect information at community level, on certain selected socio-economic characteristics such as religion, home based business and language to be used in determining the type of enumerators to be recruited for the area.
- To collect information that would form part of the input for one of the most useful publications, "Guide to the Villages of Botswana" and the construction of the sampling frames for subsequent statistical exercises.

7.1.3 Composition of Mapping Teams

5. In order to accomplish the above stated objectives, nine mapping teams were formed; each team comprised five mappers and one supervisor. Supervisors were mainly degree/diploma holders with a basic understanding of geographical information systems (GIS), map reading, field data collection and other qualification deemed relevant. They underwent a five day training prior to the ten days training for the whole group. Each team was assigned two vehicles fitted with high frequency (HF) radio telecommunication system, mostly four-wheel drive vehicles. At the beginning all the nine teams were assigned to work in Gaborone, mainly for close observation of their work. On the 1 October 2009 all the teams were deployed to rural districts. It took twenty-three (23) teams to complete the cartographic work country wide.

6. For operational convenience, each supervisor split his/her team to work on different localities in the assigned enumeration areas. The supervisor checked the work of each mapper at the end of each working day. All the work for each team was in turn checked regularly in the field as well as in the office by the census cartographic quality control teams comprising of cartographic technical officers and cartographic assistants.

7. Prior to the commencement of the cartographic fieldwork programme, an inventory of all existing cartographic materials was prepared. Available materials and datasets were evaluated for their suitability as cartographic base material for 2011 cartographic preparatory work and to identify data gaps. These were mainly the 2001 District maps with scale of 1: 100, 000 and 1: 350, 000 as well as village sketch maps. Sketch maps were to be avoided as much as possible, opting instead to use the panchromatic digital orthophoto map from the Department of Surveys and Mapping (DSM) covering the entire country at 1: 80,000 scale. Data was also collected from various sources including Botswana Power Corporation (BPC), Town and Regional Planning (DTRP), Land Boards, Local Authorities and other vendors in the country. A satellite imagery (Quick Bird) and colour digital orthophoto map were also collected from DSM.

7.1.4 Inventory for 2001 Census Maps

8. At the conclusion of the 2001 Population and Housing Census, copies of maps were deposited with the Department of Surveys and Mapping. These were District maps with a scale of 1: 100, 000 as well as cadastral maps for urban centers at a scale of 1: 5000. This was done because the demand for these maps is very high and moreover that Statistics Botswana was not mandated to sell maps. For the 2011 Population and Housing Census similar arrangements were made.

9. The District maps mentioned above were evaluated and satisfied to be suitable for use in the 2011 cartographic preparatory fieldwork. The datasets created by automating the 2001 sketch maps were not suitable for the cartographic work hence the data collected was used to produce maps for use by cartographic teams in the field.

10. Digital orthophoto maps and the satellite imagery were used as backdrops for onscreen digitizing of enumeration area boundaries and prominent features at village level. For areas that had ancillary datasets, the datasets were integrated with enumeration area boundaries to produce land use maps to replace sketch maps.

11. Although the scale and the resolution of the panchromatic digital orthophoto map were not suitable for large scale mapping, it played a very significant role in filling the data gaps especially for areas that did not have base line data. Another limitation of the digital orthophoto map was that it was outdated because it was produced from the 2001 aerial photography. Sketch maps were sparingly used during the cartographic fieldwork operations particularly in areas where the production of base maps was lagging behind.

7.1.5 Mapping Work

12. The mapping work was done in two stages. The first stage was the deployment of mapping teams in the field to collect information and to update the village and district maps from the 2001 census in the field. The fieldwork involved the team visiting all the localities in the district to list and number dwellings and building structures by affixing number metal plates on the doors. The information for each dwelling/building structure was recorded on the pre-listing form and completing the site conditioning form for each enumeration area.

13. For census purposes, a locality is defined as any human settlement with a name and identifiable boundaries. The team would check whether the locality already exists on the district map, its position, geographical codes and the name spelling. If the locality was not on the map, its position was marked on the map relative to those adjacent localities already on the map and its geographical coordinates were collected using the Global Positioning System Receiver for accurate plotting in the office.

14. Localities that no longer existed were not deleted from the map but the number of dwellings was zeroed and locality names were left for further verification during enumeration. As the mappers were updating the list of localities, they indicated new roads and other important features not included on the map. By all possible means the teams were advised to use vehicle odometers and GPS devices to estimate distances between localities.

15. According to the definition of a locality above, a locality could be a city, town, village, a lands area, cattle post, freehold farm, camp, border post, etc. During the listing and mapping of localities, each locality was assigned a geographical identification code in such a way that it uniquely identified the district to which it belonged. Built into the code was also the ecological category for the locality. As part of the locality identification, the district to which the locality belonged had its own unique code.

16. The second stage consisted of delineation of enumeration areas, updating of village and district maps, creation of supervision and enumeration area maps in the office on the basis of the updated information from the field. This also included the creation of both supervisors and enumerators files and the printing of the required number of copies of updated census maps for census enumeration. The control lists were also prepared and were included in the enumerators files for census enumeration.

7.1.6 Geographical Coding System of Census Districts

17. Geographical coding simply means assigning unique geo-codes to different geographical entities or levels such as Administrative Districts, Sub Districts, Villages, Localities, Towns/Cities and Enumeration Areas to uniquely identify them. When undertaking censuses and household surveys it is important to assign unique geo-codes to different geographical levels for the following reasons:

- To uniquely identify different geographical levels in the hierarchy
- For easy linkage of statistical information
- For easy retrieval of statistical information
- For data analysis and comparison
- For easy presentation and reporting of statistical information

18. The geographical hierarchy of census taking in the country starts at administrative districts/sub districts with well-defined physical boundaries. Both administrative and sub districts were established purely for administration purposes. Sub districts are subdivisions within administrative districts and are established when an administrative district has grown exponentially such that administration at one level becomes difficult. Their boundaries fall within those of the parent administrative district. For the purposes of census taking, each administrative and sub district is treated as census districts and are given a unique two-digit identification code. For the 2011 census, all the seven (7) towns were also designated census districts and were coded uniquely using two digits. The last level in the geographical hierarchy is the enumeration area which is given a four digit code.

a) Geographical Coding System for Cities and Towns

19. The seven (7) towns were designated census districts like the rest of the administrative and sub districts and were coded uniquely using two digits. Their coding system is slightly different from the rest of the sub districts and their localities. Towns and cities do not have villages associated to them, they are treated as villages hence they are given another two digit code (01) meaning that it is the first village in that census district. Extension areas within the towns and cities were designated as localities and were assigned a three digit code between 001 and 999. The table below indicates the coding system used for town and cities.

Serial Number	Town Name	District Code	Village Code
1	Gaborone	1	1
2	Francistown	2	1
3	Lobatse	3	1
4	Selebi-Phikwe	4	1
5	Orapa	5	1
6	Jwaneng	6	1
7	Sowa	7	1

b) Geographical Coding System of Rural Districts

20. As mentioned earlier, for purposes of census taking, each administrative and sub-district is treated as a census district and are given a unique two-digit identification code. The first digit (1-9) identifies the parent administrative district and where there have been subdivisions; each new sub-district is given a serial number preceded by the first digit of the parent administrative district. For example, during the 2001 census Southern (code 10) was subdivided twice to establish Barolong and Ngwaketse West sub-districts hence they are coded 11 and 12 respectively. The geographical coding system from the 2001 census was maintained for all the rural districts. However, there were several new sub-districts that were established after the 2001 census but due to boundaries issues; these districts were not uniquely coded. These are Tonota, Palapye, Moshupa, Kanye, Tlokweng, Thamaga, Mogoditshane and Lentsweletau. It is important to note that the Ghanzi/Charleshill boundary issue has been going on even before the 2001 census but it remained unresolved until the end of the mapping exercise. Regarding the Tlokweng/Ramotswa boundary, all the relevant information was provided after the completion of the mapping exercise. The table below summarises the Geographical Coding System used for rural districts during the 2011 census.

Serial Number	District Name	Geographical Code	Comments
1	Southern	10	Could not be sub-divided into Kanye and Moshupa Sub-Districts
2	Barolong District	11	
3	Ngwaketse West	12	
4	South- East	20	Could not be sub-divided into Tlokweng and Ramotswa Sub-Districts
5	Kweneng East	30	Could not be sub-divided into Mogoditshane / Thamaga / Lentsweletau Sub-Districts
6	Kweneng West	31	
7	Kgatleng District	40	
8	Serowe/ Palapye	50	Could not be sub-divided into Palapye and Serowe Sub-Districts
9	Central Mahalapye	51	
10	Central Bobonong	52	
11	Central Boteti	53	
13	Central Tutume	54	Could not be sub-divided into Tonota and Tutume Sub-Districts
14	North-East District	60	
15	Ngamiland East	70	
16	Ngamiland West	71	
17	Chobe District	72	
18	Okavango Delta	73	
19	Ghanzi District	80	Could not be sub-divided into Ghanzi and Charleshill Sub-Districts
20	CKGR District	81	
21	Kgalagadi South	90	
22	Kgalagadi North	91	

c) Geographical Coding System of Rural Localities

21. The next level in the geographical hierarchy is the villages and localities. Although a village is defined as a locality, it is superior in the geographical identification hierarchy. This is because it is a locality, which apart from the district is associated to itself, and in turn other localities are administratively associated to it. This relationship is clearly accounted for through the coding system.

22. There is however, no official definition of a village. Population size alone is not sufficient to classify a settlement as a village. For the purposes of census taking, a village is usually classified by the presence of a headman (Kgofa) and availability of facilities such as schools, clinic and water reticulation etc. In general, three local government authorities are

involved in designating a settlement as a village and these are the Tribal Administration, District Council and the Central Government District Administration. In preparing the list of villages the three bodies were consulted for their comments.

23. All settlements, which were designated villages, were given the code 100. To distinguish them from other localities in the district, they were serially coded from 01-98. The serial code 99 was reserved for any settlement not associated to any village (mostly freehold farms, camps and Safari lodges). The localities were serially numbered by locality type from 1 to 9. The system as described above can be illustrated by the following examples.

24. Bobonong is a village in Central Bobonong District, coded 52-01-100, where 52 is the district code, 01 is the serial village code and 100 is a code to signify that Bobonong is a village.

25. Marutlwane is a lands area in Central Mahalapye, coded 51-28-225, where 51 is the district code, 28 is the code for Shoshong village to which Marutlwane is associated and 225 signifies that it is a lands area (first digit 2) assigned serial code 25.

26. Xhugana is a cattle-post in Central Tutume, coded 54-30-305 where 54 is the district code, 30 is the code for Gweta village to which Xhugana is associated and 305 signifies that it is a cattle-post (first digit 3) assigned serial code 05. The above three examples can be summarized in a tabular form as below.

District Name	District Code	Locality Name	Locality Type	Village Code	Locality Code
Central Bobonong	52	Bobonong	Village	1	100
Central Mahalapye	51	Marutlwane	Lands area	28	225
Central Tutume	54	Xhugana	Cattle Post	30	305

27. The combination of these codes made the identification codes for localities unique within and between the districts. It also made it possible to uniquely associate every lands area, cattle post- areas and other settlement with the correct village. The geographical coding system from the 2001 census was maintained for all the villages and localities. The locality codes used for the 2011 census are summarized in the table below.

Locality Type	Locality Code
Villages	1
Lands Areas	2 and 7
Cattle Post Areas	3 and 8
Freehold Farms	4 and 9
Mixture of lands areas and cattle posts	5
Other (Camps, safaris lodges etc)	6

d) Geographical Coding System of Enumeration Areas

28. The information from the field was remodeled to what was desired for the 2011 Population and Housing Census. The enumeration areas boundaries from the 2001 census were modified or subdivided according to changes on the ground based on field data. New enumeration areas were created where necessary and they were given a four digit code such that there was no duplication of enumeration area codes. All efforts were made to maintain the enumeration area codes from the 2001 census for data and growth comparison with enumeration areas from the previous census.

29. In rural areas, the sizes of enumeration areas ranged from 75 - 150 dwellings, or an estimated population size of between 300 and 600 persons depending on the population density of the area and the number of vacant dwellings. In most densely populated areas such as Mogoditshane and Tlokwen, the average size of an enumeration area could be 60 dwellings, in towns and major villages the enumeration area size ranged from 110-220 dwellings or population size of 440 to 880 persons.

30. In total there were approximately 5,074 enumeration areas delineated for the 2011 census as compared to 4,165 enumeration areas for the 2001 census. This represents a growth of 21.8 % in the number of enumeration areas across the country. This growth is most prevalent in the South East, Kgalagadi South and Kweneng East districts which recorded an increase of 76.9, 46.0 and 39.4 percent respectively while Ngamiland East recorded a decrease of -2.7% most probably because of the relocation of Matlapana residents due to flooding of Thamalakane river.

31. Another contributory factor is that a lot of dwellings were demolished due to the expansion of the Maun Airport. In some cases the number of enumeration areas increased due to boarding schools which were either considered as enumeration areas or were lumped into more than one enumeration area considering the number of borders residing in the school in order to determine the workload of enumerators. All the enumeration areas were arranged in such a way that their ecological character was not a mixture of different ecological types.

e) Assignment of New Geographical Codes

32. For ease of comparison with the previous census, the 2001 district, villages and locality code numbers were maintained whenever possible. A few localities had to be assigned new codes in response to changes in the Sub-district boundaries; changes which occurred either by administrative decisions, corrections or alignment of boundaries or settlements being upgraded to villages. For the 2011 census no localities were assigned new codes due to the alignment of sub-districts boundaries though in Ngwaketse West and Southern district boundaries were realigned after the 2001 census for administrative purposes. This was not officially communicated to the office and it caused a lot of problems during the cartographic fieldwork and the localities were listed as they were in 2001. Geographical codes were only assigned to new localities that were discovered during the mapping exercise country wide as well as during the main census enumeration.

f) Enumeration Areas and Localities

33. The 2001 maps were used to update the locality lists, names and codes. The enumeration areas (EAs) had numbers between 0001 and 9999. The relationship between EAs and localities largely depends on the type of the locality. If the locality is a village, the EA could be part of the village, so that the village is composed of more than one EA or could be a whole village in the case of small villages. If the locality is a lands area, cattle-post, camp, freehold farm or a mixture, then the EA will comprise more than one locality.

g) Numbering of Dwellings/ Malwapa

34. When the mappers got to a locality, they numbered all the dwellings/malwapa they found on that locality, regardless of their occupation status (empty, vacant, under construction or occupied) and usage either as a private resident, commercial premises etc. Each dwelling was assigned a five-digit serial number. The district, the village and the locality codes formed part of the identification of dwellings. For example, the first dwelling listed in Xhugana in Central Tutume, which has code 54-30-305, was coded 54-30-305-00001. All the subsequently listed dwellings were numbered serially from 00002 in the same manner up to last dwelling in the locality e.g. lands areas, cattle-post and a mixture all the codes were to appear from the first dwelling to the last dwelling in the locality.

35. The assigned numbers of the dwellings were punched on blank aluminum plates obtained from the Government Printer. These were used aluminum printing sheets, which were otherwise to be disposed. They were cleaned in the Census Office and some of them were cut in the office although most were cut in the field by mappers. Those that were cut in the office were approximately size of 4.4cm x 6cm. Such metal plates were later sent to the field before the numbers were punched on them. These were affixed on the doors of each and every dwelling using a heavy-duty staple gun.

7.2 Data Collection Instruments

36. Two forms namely the prelisting and site condition forms were used to collect and record information during the census cartographic fieldwork. As mentioned earlier, copies of the mapper's manual and the 2001 census ' Population of

Towns, Villages and Associated Localities' report were given to each mapper as guidance during the fieldwork. The forms are discussed in more detail below.

7.2.1 The Prelisting Form

37. This form (See Appendix 9) was designed to fulfill four purposes: i) to record the code number assigned to each dwelling for control purposes, ii) to record additional information that would help enumerators in locating dwellings during enumeration period (e.g. name of the head of the household at the time of pre-listing), iii) information about number of persons living in that dwelling (this information is very useful in determining EA size as a measure of enumerator's workloads) as well as iv) collecting information on informal businesses operating within the dwellings or compounds.

38. The entire geographical identification codes for the dwellings were recorded on this form. At the top of the form there is provision for district name and code, locality name and code and the 2001 EA number. It is further divided into eight (8) columns, the first is for the pre-printed serial numbers from 1 to 50, the second column is for recording the dwelling/ malwapa numbers, the third is for describing the use of the dwelling or building (shops, churches etc.) and occupancy status (i.e. occupied, vacant and under construction). The fourth column is for recording the name of the head of the household, the fifth is for recording the estimated number of persons residing in the dwelling, the sixth is for recording home business ownership, the seventh for recording economic activity codes and the eighth for mapper's comments that would assist enumerators during enumeration period.

7.2.2 The Site Condition Form

39. When carrying out the pre-listing of dwellings, mapping teams also collected additional information. This was done using the site condition form.

40. Information collected was as follows:-

i) Summary from the pre-listing form

It provides information on number of persons from the pre-listing form, total residential places occupied, total residential places vacant and total residential places.

ii) Type of locality

It provides information on the type of locality whether it is a village, lands area, cattle-post area, freehold farm, mixture of lands and cattle-post areas, camp, border post and Remote Area Dwellers Settlement or other. This information was collected for use in the preparation of the census publication, "Guide to the villages of Botswana" and for the general planning of the census operations more especially in the assigning of geographical codes to new localities.

iii) Health and Educational Facilities

It provides information on the number and types of health and educational facilities available in the locality at EA level. This information was collected for use in the preparation of the census publication, "Guide to the villages of Botswana" and for the general planning of the census operations more especially that census enumeration was conducted during school days.

iv) Churches

It provides information on the number and names of churches available in the locality with permanent buildings or structures at EA level. This information was collected for use in the preparation of the census publication, "Guide to the villages of Botswana" and for the general planning of the census operations more especially that some of the churches have residential houses in the backyard.

v) Agriculture

It provides information on the number and type of agricultural facilities available in the locality at EA level. This information was collected for use in the preparation of the census publication "Guide to the villages of Botswana" and for the general planning of the census operations more especially that some of the agricultural facilities such as poultry and dairy farming may have residential houses in the backyard.

vi) Other Facilities

It provides information on other facilities available in the locality at EA level such as post office, postal agency, police station, guest houses, supermarket, general dealer, banks, electricity etc. This information was collected for use in the preparation of the census publication, "Guide to the villages of Botswana" and for the general planning of the census operations more especially that some businesses have residential houses in the backyard. Also guest houses are institutions with the possibility of having overnight visitors during census enumeration so it is important that they are visited. It also provides information on number of persons from the pre-listing form, total residential places occupied, total residential places vacant and the overall total residential places both occupied and vacant.

7.2.3 Sketch Maps

41. In addition to updating the information on census district maps, the mappers were given 1:10,000 maps for villages, which replaced the sketch maps that were prepared for the 2001 census. While the whole idea this time round was to avoid sketch maps, this has not been possible as some villages did not have recent aerial photographs or were not mapped altogether thus sketch maps were resorted to.

42. Sketch maps are normally prepared from field observations and are not drawn to scale in most cases. They are prepared for those villages where more than one enumerator will be required. Such situations arise where the number of dwellings in those villages is 220 dwellings or more. These types of maps show rivers, streams, roads as well as location of dwellings by their range and important buildings such as schools, post offices, hospitals, clinics and other features serving as landmarks. For the 2011 census, very few villages were covered using sketch maps especially the ones which were not mapped and could not be mapped using the black and white digital orthophoto map due to its coarse resolution.

7.2.4 District Maps

43. District maps were updated in the field and in the office by transferring information from the hardcopies (master copies) on to the digital base maps within a GIS environment. The information transferred included localities / village names, codes, number of dwellings, enumeration area boundaries, EA codes and the plotting of new localities on the updated maps. These are topographic maps that also show physical features such as roads, rivers, dams, farm boundaries and hills. These maps were printed on A0 size sheets at varying scales depending on the map layout and features. The copies were given to the district census officers and census technical officers for verification before the printing of final district maps for census enumeration.

44. Towns and Cities were covered by land use maps obtained from the Department of Surveys and Mapping at a scale of 1:5,000 except for Orapa which was covered by a very high resolution satellite imagery (Quick Bird). The land use maps showed major land uses such as residential, commercial, industrial, civic and community and sports and recreational facilities as well as street names and plot numbers.

7.3 Delineation of Enumeration Areas

7.3.1 Delineation

45. Delineation of enumeration areas for both urban areas started mid December 2010 on a smaller scale because the fieldwork was still on going. It went into full scale by January 2011 and was completed by mid-May 2011. Reproduction of enumeration area maps started immediately. Delineation started in time for distribution to the districts and the maps were then sent to the district authorities for verification of name spellings, missed localities, positioning of localities etc.

46. An enumeration area (EA) is defined as a small geographical unit that represents an average workload for an enumerator during a specified period of time (which is the enumeration time). In delineating an EA, a number of parameters were considered:-

47. Non-overlapping of EA boundary into other EA's within and between localities and districts.

48. Geo-physical conditions of the area containing that EA and generally, anticipated climatic conditions at the time of enumeration.

49. The 10 days available time expected of an enumerator to finish enumeration of their assigned areas.

50. The need, as expressed by planners in the districts that enumeration area boundary should where possible follow the ward boundaries. This was not possible because the district authorities could not identify those boundaries on the ground.

51. Relating the 2011 census EA's to the 2001 EA's and by making efforts to maintain the same boundaries where possible.

52. The need to minimize instances where villages and other localities are contained in the same EA, particularly with lands areas.

53. Furthermore there was need to arrange the EAs in such a way that the ecological character of an EA was not a mixture of different ecological type.

7.3.2 Enumeration Area Map

54. After all the EAs were drawn and reproduced in their final stage or format, separate copies of EA were reproduced for use by enumerators and supervisors during the enumeration period. A special file called the enumeration area file was compiled for each enumeration area. Amongst other documents such as the control form, this file contained a cutout map of the EA to be enumerated and was highlighted in red. This cutout map was stapled or glued to the inside of the front cover of the enumeration area file.

55. The map showed the EA, the EA boundaries denoted by a red dotted line and all localities contained in the EA. It also showed parts of adjacent EAs particularly those that had common boundaries with the assigned EA. The assigned EA was also distinctly marked in red to distinguish it from any other EA, which appears on the same cutout map. The main purpose of these cutout maps was to enable the enumerators to locate the EA assigned to them. Secondly to know the boundaries of the EA, to ascertain whether or not a locality belongs to their EA. Lastly to enable them to find their way around the EA.

56. In addition to the EA file, which was prepared for the enumerator, there was another file prepared for the supervisor, which was referred to as the supervision area file. This file contained, where possible, a district map showing all the EAs under his/her supervision. The EAs were arranged in such a way that they were adjacent to each other. This map was called the supervision area map and its boundaries were highlighted in red. The supervisor was required to know boundaries of the supervision areas of all the enumerators under his/her control as well as EA and the district boundaries. The supervisor was also given a copy of the district map for him/her to be able to identify district boundaries, where the situation dictated so, as well as assigning new boundaries.

7.4 Constraints

57. **Locality Names:** In a number of cases, localities had two different names depending on the political harmony or differences within the community. Mappers and enumerators were threatened, turned away or accused of being partisan in local politics if they did not use the name preferred by either group. One of the serious issues was the boundary dispute.

58. **Spelling of locality names:** Spelling of locality names was a problem, particularly where the mappers and enumerators were not literate on the vernacular of that community. In certain cases, the pronunciation of such names by the locals differed from one member of the community to the other thus confusing the enumerators. Certain localities may appear to have been missed when in fact they appear under a different name.

59. **Association of localities to village:** Lack of documentation made the association of localities very difficult during the cartographic work, to the extent that mappers relied entirely on the district administration, local authorities and local people. It was very difficult to determine which localities were associated to which village. This led to conflicting assertions, in most cases all these problems had tribal and political connotations for which Statistics Botswana or Census Officer should not associate.

60. **A lot of localities had changed drastically in terms of status and size since the 2001 census;** some lands areas had become villages, and some cattle-post areas had become a mixture of lands and cattle posts. Redefining these localities in line with their level of development depended on mutual agreement amongst the District Council, Tribal Administration and District Administration. It was not clear how the authorities arrived at the conclusions because there were no official guidelines for such decisions.

61. **Suitability of Census Vehicles:** The four-wheel drive Nissan and the Isuzu vehicles proved unsuitable for the terrains that had to be traversed and mechanically they were overheating to the extent that a lot of time was wasted in waiting for the vehicle to cool down, resulting in a considerable delay in the work progress.

62. **Repairs of Census Vehicles:** Prior arrangement was made with the Central Transport Organization (CTO) to give census vehicles first priority in servicing and repairs. However, things did not workout according to plan. CTO workshops did not have the money to send vehicles to private garages and even where money was available the services at private garages was not satisfactory. There was also shortage of spares and fuel for census vehicles during the cartographic work.

63. **Camping Equipment:** Some of the equipment used were not in good condition, which resulted in some members of the team having to do without such equipment for a very long period. This indeed delayed progress in a way because this lowered the moral of the mappers. At times it took long for ordered fieldwork and camping equipment to be delivered and this also affected work progress.

64. **Mapping Skills:** Though mappers were given sufficient training on map reading, as well as sketch map drawing and collecting of Global Positioning System co-ordinates, there are instances where GPS devices were not used and this made it very difficult to plot exact positions of localities on the district maps in the office.

65. **Geographical Coding System:** The three-digit coding system used for localities, where the first digit identified a locality by ecological type (i.e. whether a locality is a lands area, cattle-post, freehold farm etc.) and the last two digits sequentially numbering the localities from 01 to 99 could not cope with the increased number of localities (especially in the lands areas and freehold farms). This occurred in districts, where localities associated to a particular village were more than 99. To maintain the three-digit code, a different code number for the first digit had to be used so that two different numbers were identifying the same locality type.

7.5 Recommendations

1) **Official definitions of different settlements:** There is need for the development of official definitions of various settlements to ensure consistency and uniformity in classification and application between any two operations.

2) **Publicity:** Though cartographic work forms an integral part of any successful census, it has never been publicized. Mappers themselves had to publicize the cartographic work through the district authorities. Cartography needs to be well publicized for the successes of the census cartographic operations.

3) **Suitability of Census Vehicles:** Vehicles used for the census cartographic work must be very strong to traverse in difficult areas. Therefore, in future Toyota 4x4s and Land Rovers are recommended. It must be understood that cartography forms the backbone of any successful census. Hence, the use of unreliable vehicles could derail the whole operations of the census.

- 4) **Repairs of Census Vehicles:** This is one area that needs serious attention. Though prior arrangement was made with CTO to give census vehicles first priority in repairs and servicing, the services were not satisfactory. In future the office should request for a waiver to repair its vehicles engaged in projects such as the census cartographic fieldwork in private garages. Lack of proper and good running vehicles could compromise the whole exercise.
- 5) **Training of cartographic staff at all professional level:** There is an urgent need of training of cartographic staff and semi-professional staff given the sophisticated GIS equipment and software used.
- 6) Geographical information system is a new field and most of cartographic staff are diploma holders, hence, the need to train them at degree level to enable them to cope with the sophistication of GIS technology.
- 7) **Locality Association:** This is one area that needs immediate attention because it is not clear as to whether association of localities should be based on proximity or origin, by origin we refer to the village where people originate.
- 8) **Cartographic Committee:** There is need for a cartographic committee during the census period. The committee will advise on cartographic matters relating to the census.
- 9) **Revision of geographical codes:** The present codes were prepared a long time ago and therefore do not represent a real life situation. For instance Central District has been Sub-divided into five census districts, as such there is need for a district code e.g. (50) for central district and Serowe/Palapye (51) etc.
- 10) **Supervision of mappers:** For quality output there is need to properly supervise and closely monitor the cartographic field work.

8. Pilot Census

8.1. Introduction

1. A Pilot Census is a very important preparatory activity, normally undertaken one year before the actual census enumeration. It provides an opportunity for the census management team to address some of the major challenges the main census may face as well as a learning experience which will improve the implementation of the main enumeration. With the foregoing in mind, the pilot census was successfully carried out over the period 21 – 30 August 2010 – exactly one year before the actual census.
2. This summary provides a brief account of the lessons and experiences from the 2010 pilot census. A detailed report, consolidating all district reports by both the District Census Officers and Technical Officers, on the conduct of the 2010 pilot census is available.

8.2 Selected Pilot Census Areas

3. A total of 88 enumeration areas (EAs), representing about 2 percent of the projected enumeration areas, were selected from all over the country, ensuring that all districts and sub-districts were represented. This was consistent with the fact that the census was a national exercise which covered all parts of the country.
4. Enumeration Areas were selected in a purposive approach provide an opportunity for anticipated challenges in the main enumeration in August 2011 to arise. It should be pointed out that the selection was not just of difficult areas and communities likely to resist the exercise but rather covered enumeration areas the way a population and housing census would.
5. Areas selected included lands areas, cattle posts, villages, urban villages, towns and cities. Sampling was biased towards the more populous localities, thus a disproportionately large number of enumeration areas was selected in cities, towns, villages, lands areas and cattle posts in that order.

6. Various social strata ranging from those in high income areas (Phakalane in Gaborone) to those in low income areas (e.g. Bluetown in Francistown) were covered. Communities with illegal immigrants such as White City in Gaborone were also included.
7. Institutions were also covered, such as hospitals (Princess Marina in Gaborone), Prisons (Serowe), BDF camps (Thebephatshwa), Kwando area (Ngamiland West) and Chobe National Park, as well as institutions of higher learning (Francistown College of Education).
8. With regards to difficult terrain areas, EAs were selected from the Delta (Guma and Jao Village), from the CKGR (Mothomelo and Kgope), New Xade, Hainaveld Farms (Ngamiland East), and Kwando/Linyanti area (Ngamiland East).

8.3 Public Education and Participation

9. An effective public education programme about the census contributes significantly to increasing public acceptance, cooperation and participation in the enumeration. However in the case of a pilot census there is the danger that too much publicity might lead the public to believe that the pilot is the main event. On the extreme end a small scale public education programme often results in too little publicity for the pilot, leading to some members of the public dismissing the pilot, calling it a "dress rehearsal" , and intending to be counted properly during the main census. Nevertheless the low level of awareness and the initial reluctance to cooperate in the pilot census is an important lesson on the need for widespread and effective census publicity before the main enumeration to ensure full coverage and high participation.
10. Publicity for the pilot census intensified in the last month before the actual pilot census enumeration. There were full page advertisements in English and Setswana in major newspapers, listing the selected areas in which the pilot census would be undertaken. This same information was relayed over major radio stations. Probably the most effective was the Botswana Television (BTV) slots just before the news. There were also interviews of key census personnel like the Government Statistician and the National Census Coordinator. However all of this was centrally managed from Gaborone and could not be adapted locally in the districts.
11. At the district level, the District Census Officers (DCOs) had been mandated to start publicity for the pilot census through Kgotla and regular council meetings. In some rural communities public announcements had been undertaken with loudspeakers mounted on vehicles. However publicity became more effective with the arrival of the Technical Officers (TOs) from the CSO as they had almost two weeks to familiarise themselves with the selected EAs. While additional Kgotla meetings were held, reports indicate that most of them were poorly attended by communities. In urban areas like Francistown and Selebi Phikwe, the pilot census announcements which were modified to reflect the local communities to be enumerated, were then reproduced and distributed to each of the dwellings in the selected EAs. This activity had its challenges in the form of aggressive dogs and locked gates. In Phakalane (a Gaborone suburb) the census could not be publicised with a public address system because officials were informed by Phakalane Estates that such devices disturbed 'peace' in the suburbs. At the other extreme were the isolated communities in the CKGR and the Delta where one has to travel vast areas before running into communities. Undocumented immigrants ran away at the first site of a vehicle with a Government of Botswana number plate (BX). Some farms in Ghanzi had locked gates, with owners out of the country. Even after receiving messages about the pilot census there was a lot of hostility from the Basarwa communities in the CKGR who saw no reason to cooperate with a government that they considered to be unsympathetic to their welfare. Following inspection of some areas in the CKGR, communities at Metsiyanong and Molapo vowed that they would not be enumerated during the census, until the Government of Botswana 'recognised' them. Based on this experience, concerted efforts at the highest political level were necessary to ensure enumeration of the Basarwa community in the CKGR.
12. There were reports of house owners in Phakalane refusing access to enumerators who presented their "O mang" as they did not consider them proper census identification. Technical Officers with CSO identification cards intervened to ensure progress. This experience underscored the need for all enumerators in the main census to have census specific identification as well as their national identity cards.

13. Although public participation was high overall, reports highlighted some of the challenges which somewhat slowed down public participation and were likely to re-emerge during the main census. Such challenges include:

The “**month end**” phenomena with salaries paid, families shopping, increased use of alcohol, family trips etc.

The “**weekend**” phenomena in urban areas with family trips, some workers needing to rest hence unwilling to be woken up at 6:00 am, etc.

The “**only wife present**” or “**only maid present**” during most of the work week and refusal to give information until the husband or house owner is present leading to many revisits.

14. There were reports of individual but isolated cases of outright initial refusal, most of who later agreed to be interviewed but after repeated re-visits and intervention of TOs, DCOs or the Botswana Police. Mention has already been made of undocumented immigrants who scamper at the sight of census officials but who later return to provide information when they are assured that there was no police presence. Mention has also been made of the Basarwa people who threatened to have weapons during the main census as they perceived census staff as government organs, with whom they were locked in a case involving their relocation from the CKGR and their plight to return to their ancestral land. Adequate preparations had to be made to confront these challenges during the main census.

15. A significant number of participants complained that the interviews were too long, therefore taking up their time, while a few complained that there were too many surveys being conducted.

8.4 Logistics (Transportation, Supplies etc.)

16. Transportation is a crucial component for successful enumeration because of the vast terrain of Botswana and the challenging rugged environments of desert and delta. Enumeration teams are also very dependent on vehicles for their mobility during the enumeration.

17. Overall, a total of 150 vehicles were required for Pilot Census. The main challenge was the provision of vehicles by the Central Transport Organization (CTO). Earlier in 2010 the CSO engaged in discussions with the CTO about the provision of vehicles for the pilot, and 110 vehicles were requested. However, CTO provided only 75 vehicles and 50 drivers. CSO garnered 25 additional vehicles through District and Town Council Administrations and recruited 25 drivers. Eighteen (18) vehicles were provided by Technical Officers working in urban areas, following approval of a flat rate by Government for use of personal vehicles. The process went right down to the wire and one implication was that some drivers could not leave on the designated travel date because they had been late in applying for imprest funds while some had to leave without any money and were dependent on TOs for subsistence. The lesson here was the need to confirm vehicle availability well in advance for the main census.

18. The other transportation challenge was the mismatch of vehicles to the terrain in terms of number and types of vehicles allocated. This was particularly the case for CKGR, and the comment from the Ghanzi Team leader is reproduced below:

“The Ghanzi team had eight vehicles from Gaborone, 2 Isuzu 4X4s, 1 Isuzu 4X2, 1 Sorento 4x4, 2 Cruiser S/wagons, 1 Cruiser pickup, 1 Nissan 4X4. The Sorento was exchanged for another Cruiser S/wagon in Ghanzi. It should be noted that the eight vehicles allocated to the four EAs were not adequate for Ghanzi since CKGR alone needed at least five vehicles. Furthermore, the Isuzu vehicle is not suitable for the Ghanzi terrain and the matter was compounded by the fact that one of the Isuzu vehicles was a 4X2 rather than a 4X4 which is suitable for the Ghanzi terrain. In addition, some of the drivers were inexperienced, with some being temporary drivers. Furthermore, two of the vehicles caught fire during the exercise. One was abandoned and the entire team crammed into the second vehicle which had to be pushed intermittently”.

19. The Delta had its own challenges, requiring a combination of land, river and air transportation modes. The pilot census experience proved very useful in guiding preparations of logistics for the main census. For instance, some of the ploughing fields for communities at Jao Flats Village could only be reached by mekoro (dug-out canoes) because the channels to such areas are too narrow for a speedboat to travel through. This had not been anticipated during the Pilot Census.

20. The water level in the Delta made travelling within one enumeration area very difficult. For instance, Seshokora cattle post which is part of Gudigwa enumeration area could not be reached from Gudigwa because the direct route was water-locked in August 2010. The two localities are 70 kilometers apart. Seshokora could only be accessed through a loop road with very heavy sand from Kauxhi which in addition to being a much longer route (250 kilometers), required at least eight hours of travel. Furthermore, not any 4x4 vehicle could be used to reach the place, other land rovers and just a few types of landcruisers.

21. The availability of fuel at CTO depots was a challenge in some areas (Ghanzi, Kasane, Delta etc.). Some DCOs had established “bulk fuel depots” but others had to drive long distances just to refuel, with most of the fuel consumed on the return trip. Speedboats consume a lot of fuel hence this mode of transport requires bulking up huge quantities of fuel.

22. Another challenge was the negotiation for the use of private vehicles with the parent ministry which took more than two months to conclude and even then ending up paying a lower rate in 2010 than was paid in 2000 for the use of private vehicles. Most Technical Officers (CSO staff) agreed to offer their vehicles for use during the pilot census out of sympathy and solidarity to the project because by the time authority was granted by the Permanent Secretary (MFDP), there was very little time to explore other options.

23. Procurement of enumeration materials went smoothly except for the printing of Household and Institutional Questionnaires by the Government Printer. Although negotiations had started two months earlier and the Government Printer had assured the census team of prompt delivery, the questionnaires arrived only a day before the scheduled departure. This delayed the departure of some teams with some teams leaving two days after the planned departure date.

24. The supply and receipt of enumeration materials to and from teams by the Logistics Unit was handled well, as all enumeration materials were accounted for. Some enumeration teams suggested further improvement on the number of forms to be signed especially when there is no time and when dealing with a large number of field staff during the main enumeration.

8.5 Personnel

25. The pilot census had the following personnel:-

- **District Census Officers (DCOs):** officers designated by the District Commissioner for the day to day management of census issues in their respective districts on an ad-hoc and part time basis.
- **Technical Officers (TOs):** staff members from the CSO who were responsible for the technical components of the census, such as training and quality control and served as supervisors during the pilot census.
- **Enumerators:** recruited from among the general public and selected after training and a competitive examination.
- **Census Matrons:** administration staff members of the Central Statistics Office who were responsible for procurement of food items and accommodation arrangements at the various training centres for enumerators.

26. The prevailing view from the reports was that the DCOs should have dedicated more time to the census as the main enumeration approached more especially that they were responsible for publicity, recruitment and screening of enumerators in their districts. They also needed more in-service training on census issues to improve on their proficiency.

27. In the case of the TOs, the pilot census was the first experience for some in a supervisory role during a census and additional in-service training and survey experience was to be provided to build on this foundation experience. Their role was also going to change during the main census to assisting the DCOs in managing the field staff in the districts as well as providing technical backstopping.

28. The Enumerators consisted of Form 5 graduates, University Graduates serving as Interns, Primary and Secondary School Teachers, etc. It was expected that a similar situation would be replicated for the main census because of the new school calendar in 2011 and the employment situation in Botswana. Since schools were to be open in August 2011, many school teachers were likely not to be available to serve in the census. There was therefore need to standardize the recruitment process and set uniform minimum standards. All the same, some districts faced challenges in recruiting suitably qualified candidates who were also fluent in the local languages.

29. For the Census Matrons, recruitment from the district would go a long way in improving on their performance during the several sets of training for the main census.

8.6 Training

30. There were only two levels of training for the pilot census, one for the TOs who were to serve as Supervisors and one for the Enumerators. The training for the TOs was undertaken at one location in Gaborone while that for Enumerators was undertaken in six central locations (Oodi, Tonota, Serowe, Maun, Kang and Kanye)

31. The duration of the training for the TOs was four days while that for the Enumerators was six days. In terms of lessons learnt, the duration for the TOs training should have also been six days long in order to include the field practical elements incorporated into the training of Enumerators. Most of the training centres for Enumerators were able to finish their assignments within the allotted six days but there were recommendations from some centres that in future the training be extended to ten days to allow more time for field practicals. In terms of time allocated for various topics, it was suggested that it be reviewed based on the experience from the pilot census since some topics were completed within the allotted time while others were not.

32. The identification and confirmation of training centres was done centrally from Gaborone and this presented some challenges in terms of the suitability of some of the facilities. For example training had to be shifted from Ramotswa to Oodi because the facilities secured at Ramotswa were found to be unsuitable by the participants when they arrived. Most of the facilities in other sites had not been properly cleaned as well before the arrival of the participants. The lesson here was that there should be more involvement of the DCOs in the selection of training centres for the main census. Also confirmation of training centres should be timely since the training dates would have been established quite early.

33. Training arrangements for the Enumerators in all six training centres was residential with all participants (TOs, Enumerators and Drivers) sleeping and eating in the same premises. This was meant to foster bonding among participants. The participants complained that they were forced to stay in sub-standard facilities and that it appeared as if they were being penalized for their contribution to a national exercise. It was suggested that in future enumerators should be accommodated at training centers while Trainers, TOs and DCOs should be allowed to choose where to stay during the training.

34. Training and resource materials were adequate in all centres but consideration was given to the fact that there would be more training centres for the main census, some of which would not have audio visual facilities like projectors for PowerPoint presentations.

35. Finally it was suggested that a day or two be allowed between the end of training and the start of enumeration to enable travel and settling in and familiarisation before the enumeration starts. Eventually, the initial two days reserved for administrative logistics (selection tests, marking, payments, administration of oaths of secrecy, deployment, etc.) were no longer possible because schools were closing on 13 August 2010 and also the requirement for the enumeration period to straddle two weekends would not have been attainable.

8.7 Instruments (EA Maps, Control Lists, Questionnaires and Manuals)

36. Several instruments were used by enumerators during the pilot census enumeration. These included EA maps and Control Lists prepared by the field mapping teams and questionnaires and manuals prepared by the Instrument Development section.

37. The EA maps and Control Lists posed the most challenges for both TOs and Enumerators during the enumeration. Some of the comments received were: "missing plot numbers", "different plot numbers", "missing dwellings", "numbers not in sequence", "missing metal plates", "and illegible metal plates", etc. There were also lots of suggestions that since some of the maps did not reflect the current situation then, cartographic teams revisit and update the maps before the main enumeration. These comments were similar to comments received after the first cartographic inspection exercise of June 2010. Another issue was the inequity in the size of EAs both in terms of number of dwellings, number of households and areal extent. For example in Francistown, there was an EA with only 25 dwellings and the enumerator ended up enumerating only 22 households with 56 persons present while another enumerator enumerated 184 households with 734 persons present. In Mokolodi Farms the EA was too big for one enumerator as it consisted of Mokolodi 1 and 2. Mokolodi 1 is outside the park area and is near Mokolodi village, and Mokolodi 2 is inside the park area. Concerns about the quality of EA maps and control lists were therefore to be addressed before the main enumeration.

38. On the questionnaire, apart from the general comment from respondents that it took too long to go through the five sections during the interview, there were specific sections which enumerators had difficulty with, which the pilot census reports had suggested should be elaborated on during training. Examples include "Place of Usual Living", "Biological Parent", "Basic Education", "Education Level", "Duration of Absence", "Serial Number for Cellular Phone of unlisted household members", "Resident in institutional Questionnaire".

8.8 Enumeration

39. The pilot census enumeration (21 – 30 August 2010) was conducted successfully in all selected EAs. Some EAs experienced some difficulties initially, with some starting a day or two later than scheduled. There were also some initial refusals but ultimately there was significant coverage.

40. The first task was the identification of EA boundaries by the DCOs, TOs and enumerators. This was to ensure that enumerators did not stray out of or miss components of their EAs. The enumerators then contacted each dwelling using their EA map as a guide to conduct interviews following which they would affix a white sticker (signifying that enumeration was completed) or an orange sticker (enumeration incomplete) and then list summary information on their EA Book cover and on the Control List.

41. Some of the issues raised included:-

- Allowance for enumerators during training should be the same as during enumeration
- Low response rate and refusals by hotel guests to complete hotel record forms
- Insufficient orange stickers and adhesive on stickers not long lasting
- Need for torches for interviewing at night in areas with no electricity (lands area/ cattle posts)
- High number of revisits in EAs with mobile populations, urban areas and mining towns
- Nomadic areas with mobile populations in search of food and water
- Subdivisions of farms into further portions that are not reflected in the available maps
- Multiple households, e.g. a dwelling containing at least 50 households
- Some dwellings not accessible due to security reasons (locked gates & fierce dogs)
- Enumeration areas covering many cattle posts which are too far apart.
- The compilation of daily summaries (Control List, households enumerated, revisits, etc.) and the reconciliation of summaries at the end of the enumeration posed challenges which were to be addressed more intensively during training.

Generally, enumerators had not completed both the EA Check Control and Control List correctly during enumeration hence a lot of work had to be done on the final day. The Control Lists were generally very messy at the end of enumeration. There should therefore be daily checks to ensure that they are completed properly to reduce the workload at the end of enumeration

8.9 Data Processing

42. The activities (coding, data entry etc.) scheduled for this phase progressed very well.

43. Coders and editors were trained and started their work using the manual produced by the Instruments Development Section.

44. The data processing firm which was in charge of data processing for both the pilot and the main census had been selected after a competitive bidding process and already in place at the Census office by the end of the Pilot Census.

45. Data entry Operators were identified and trained on time.

46. The equipment (computers and printers) required for the data were procured and installed on time.

8.10 Conclusion

47. The Pilot Census was largely successful and the participation and cooperation of the public was overwhelming. Most of the challenges identified were discussed and addressed prior to the main enumeration in August 2011.

9. Development and Design of Census Questionnaire

9.1 Introduction

37. In developing the 2011 Population and Housing Census questionnaire, the following factors were taken into consideration:

- data needs for contemporary issues
- basis of census enumeration, whether "de facto" or "de jure"
- selection of the topics to be covered in order not to over-load the questionnaire
- the need to reconcile demographic terms and concepts to the prevailing cultural and social situations
- the necessity to structure the questions into a logical pattern that would be easy to administer to respondents by enumerators in order to minimise operational errors.

38. An in-depth discussion of these steps is presented in the sections that follow. Suffice it to note that, in practice, the steps are not independent of one another, as each decision taken has a strong bearing on others that follow.

9.2 Stakeholder/User Needs

39. Topics for inclusion in a census originate from the users since initiation, evaluation and monitoring of various policies rest on reliable data. Censuses are an important vehicle through which data on a wide variety of topics could be gathered hence inviting for topics was the natural way to start. In order to guide users, the list of topics which were covered during the 2001 census were sent to users together with the invitation for new topics.

40. The response from users was very good in view of the suggested topics. However, many users suggested a host of topics, which were not suitable for coverage in a census. These topics were screened by the Census Standing Committee for suitability of coverage in a census. This process involved a lot of consultations with users in an effort to get detailed background on the topic and to make users aware of what was suitable for censuses and surveys. The following is a list of topics suggested by stakeholders but excluded from the census because of the level of depth required.

- Maternal mortality
- Duration of residence in Botswana (for non-citizens)
- Previous residential status
- Type of agricultural activity undertaken
- Number of housing units owned countrywide
- Date of taking residence in Botswana
- Demand and supply of housing
- Dwelling construction costs
- Housing stock by agency
- Contribution of wild life and veld products to household income
- Causes of morbidity and mortality
- Fertiliser and pesticide usage
- Use of wind energy

9.3 Basis of Census Enumeration

41. It is very important when conducting a census to ensure complete coverage of the country, including ascertaining that everybody in the country during the period of census enumeration was counted. A particular concern is that movement of people within the country can be very fast and frequent. For instance, people may spend the day in a city, village, cattle post, or lands area and travel overnight to other settlements. The speed of this movement, especially between villages and cattle posts and lands is indeed very high. For this reason Botswana censuses always cover the anchor question – "who spent last night with the household". In this regard, special consideration had to be given to the basis of enumeration in order to ensure the achievement of the census objective of complete coverage of the country and complete enumeration and also of comparability of ensuing data with the data from the 2001 census.

42. Whilst the basis of enumeration of post-independence Botswana censuses has been "de facto", inevitably the basis of some other questions, such as fertility - children ever born living in the household or elsewhere, absent members of household and number of deaths in the household has been "de jure". A major distinction between the two alternative basis of a census enumeration is that:

- a "de facto" count is a census conducted on the basis of where the persons to be enumerated are found. In order to have a tidy operational base, this is modified to where the persons to be enumerated slept or spent the night previous to the census.
- a "de jure" count is a census conducted on the basis of a person's place of usual residence. This basis for a census count has the disadvantage of persons who are not at their usual place of residence being counted where they are during the enumeration, thus leading to possible over enumeration.

43. Considering the fast and extensive free movement of people between the urban and rural areas, more so within the rural areas (largely between the villages and cattle posts, villages and lands), a de jure count would lead to ambiguities with respect to place of usual residence and double counting of some people. In view of that, a de facto count has always been perceived to be more appropriate.

9.4 Operational Problems Associated with "de facto" Enumeration

44. To enumerate all persons who slept or spent the night prior to the enumeration with a particular household, the "de facto" enumeration basis was modified. In Setswana the concept "who slept or spent last night in this household"

translated into "who woke up in this household this morning". From a cultural and social viewpoint this is more acceptable to the respondents than the literal translation of "who slept or spent last night in this household". Three sets of operational problems arose with this modified approach to "de facto" enumeration:

- the need to define the term "night" becomes crucial to the accuracy of enumeration. There is always the possibility that some people may die during the course of an ordinary night. A decision would therefore have to be made, for enumeration purposes, whether or not such persons should be recorded as living or dead on the census night. On the other hand, some children might also be born during the course of the night thus requiring a decision whether or not their existence should be recorded for census purposes.
- there is a considerable number of persons who during the course of a night never slept/spent the night with any household nor for that matter woke up in any, for example persons travelling through the night, hobos, etc. In a few cases, there are persons who may sleep or spend the census night with more than one household.
- These operational problems are considered in turns and the solutions adopted for them in recent censuses. Notwithstanding the slight differences in interpretation and usage, the three concepts of - slept the night, spent the night or woke-up in a household were used interchangeably.

a) Definition of a "night"

A night was defined as the period between 6.p.m. and 6.00 a.m. Thus a person in the household during that interval was regarded as having spent or slept the night or woken-up with the household.

b) Persons who did not spend a Census Night with a Household

Some persons who would normally have slept the night with a household but were known not to have spent the night in any other household were enumerated with the household with whom they would normally have spent the night. Examples of such persons include night shift workers; hunting or fishing parties who slept in the bush or by the riverside; persons away cutting thatch; persons at overnight prayer meetings and persons at funeral wake-keeping, etc.

45. People on transit were the problematic group among this category. If a person spent the night or part of the night with a household before commencing a journey, the person would be enumerated with the household. There is, however, the possibility that the person could be enumerated at either or both of the households, where he or she started the journey or where the journey ended; or be missed out. Although this was noted in past censuses it also remained an unresolved source of error to the 2011 Census. It is hoped that incidents of double enumeration and complete omission would cancel each other out. Moreover, it has been observed elsewhere that the net result is always an undercount.

9.5 Selection of Topics for the 2011 Census

46. Botswana censuses are conducted as a fulfilment of Section 64 of Botswana's constitution. To that end, therefore, the primary purpose of a population census is to provide statistical information regarding the number of persons in the country, their distribution and their characteristics in order to enable the equitable distribution of parliamentary seats. All other considerations are secondary to this legal reason for the census. Hence in the midst of competitive requirements to include various topics in the census, the main purpose of the census - determining the number of people in the country, their sex, age and geographical distribution over the country - must take priority.

47. Having fulfilled the legal requirement, the other topics to be carried by the census were decided on technical considerations and mutual agreement between the census organisers and the users of the census data. Some of the guidelines, which were used in determining which topics to be carried by the census are:

- need for continuity and hence production of trends for some topics
- need to accommodate changes in the socio-economic situation in the country and hence admission of new topics.

- the sensitivity of respondents and the Government to some topics, (for example topics on tribe, personal income, number of cattle owned, etc.) had to be taken into consideration. The inclusion of such topics could affect the outcome of the census to the extent of compromising the quality of the returns.
- avoidance of topics that could cause or aggravate social, religious or political tension in the country.
- ease with which respondents can answer questions, if necessary after prompting or assistance from the enumerator.
- the topics should not be so numerous as to require undue demand of the respondents' time.
- Much as some of the guidelines are straightforward, others are subjective and in order to ensure universal and more importantly political acceptance of the results of the census, all the topics selected for the census must be politically acceptable to the Government. While some topics might be technically compelling to carry, the Government's view must be final, even then.
- The guidelines above were adopted in deciding on the topics carried in the 2011 Census. The topics covered by the 2011 Census and previous censuses are shown in the table below

Table 1: List of Topics Carried by Botswana Censuses, 1904, 1956 -2011

CENSUS TOPICS	Census Years											
					4	56	64	71	81	91	1	2011
Name	-	x	x	x	x	x	x	x	x	x	x	x
Household Relationship	-	x	x	x	x	x	x	x	x			
Sex				x	x	x	x	x	x	x	x	x
Age (Broad Age)		x	x	x	x	x	x	x	x	x		
(Single Age)		-	x	x	x	x	x	x	x	x		
Race				x	x	x	-	-	-	-	-	-
Citizenship				-	-	-	x	x	x	x	x	
Place of birth				-	-	-	-	-	x	x		
Residential Status				-	-	x	-	-	-	-	x	
Place of Usual Living												
Now/A Year Ago/5 years ago	-	-	-	-	x	x	x	x				
Village of Allegiance		-	-	x	x	-	-	-	-			
Literacy				-	x	x	-	-	-	-	-	-
Highest School Grade Passed		-	-	-	x	-	x	x				
Highest School Grade Attained-		-	x	x	-	x	x					
Training				-	-	-	-	-	-	-	x	-
Language Spoken				-	x	-	-	-	-	x	-	
Religion / Religion of Head		-	x	-	-	-	x	x				
Marital Status				-	-	x	x	x	x	x	x	
Working on Family Lands		-	-	-	x	x	x	x	x			
Working Status				-	-	x	-	x	x	x	x	
Occupation				-	-	x	x	x	x	x	x	x
Industry				-	-	-	x	x	x	x	x	x

Table 1 Cont'd: List of Topics Carried by Botswana Censuses, 1904, 1956 -2011

CENSUS TOPICS	Census Years											
					4	56	64	71	81	91	1	2011
No. of Children Ever Born	-	-	-	-	x	x	x	x	x			
Particulars of Most												
Recent Birth					-	-	x	-	-	-	-	
Particulars of Children born a												
Year to the Census			x		-	x	x	x	x			
Deaths a Year to the Census	-	-	-	-	x	x	x	x				
Survival of Mother / Father	-	-	-	x	-	-	x	x				
Absent Batswana during Census-	x	-	x	x	x	x	x					
Blindness												
Disability (including blindness)	-	-	-	-	-	x	x	x				
Livestock Ownership		x	-	-	x	x	x	x	x			
Poultry Ownership			x	-	-	-	-	x	x	x		
Household Farming Status	-	-	-	x	x	x	x	x				
Arable/Grazing Land Tenure	-	-	-	-	-	x	x	x				
Household Cash Activities	-	-	-	-	-	x	x	x				
Household Cash Receipts (remittances, rents, etc.)	-	-	-	-	-	-	x	x	x			
Ownership of Radio	-	-	-	-	-	-	-	x	x			
Household Durables	-	-	-	-	x	-	-	x	x			
Type of Tenure of Dwellings	-	-	-	-	x	x	x	x				
Number of Rooms in Dwellings	-	-	-	-	-	x	x	x				
Material of Construction of												
Dwelling								x	x	x	x	
Principal Water Supply Source	-	-	-	-	x	x	x	x				
Principal Source of Fuel for Cook- ing /												
Lighting/Heating	-	-	-	-	-	-	x	x	x	x		
Toilet Facilities	-	-	-	-	-	-	x	x	x	x		
Refuse disposal	-	-	-	-	-	-	-	-	x	x		
Home-based care	-	-	-	-	-	-	-	-	x	-		
ICT Equipment	-	-	-	-	-	-	-	-	-	x		

x = topic was carried in the census
- = topic was not carried in the census

9.6 2011 Census Questions

48. The household questionnaire for the 2011 Census is shown as Appendix 12

a) Name

49. Enumerators were instructed to write the name of the head of household (whose name should appear first) in full. The first names of the other members of the household were judged sufficient. The reason was that previous census experience has shown that writing the names of members of a household in full could slow down the pace of interviewing.

b) Relationship of Members of Head of Household

50. The concept of relation within the Botswana cultural setting is rather a very fluid one. For example, a brother or sister of a respondent may not have any blood or family relationship to the head of the household. He/she may just be a close friend of the family or a kinsman from the same village or town or even country as the head of household. This is important for determination of level of fertility. Without proper probing, a niece or nephew or even grandchild could be wrongly recorded as a child.

51. Further compounding the problem is lack of uniqueness in the type of relationship within the household due to the fact that enumeration is on a "de facto" basis. The relationship type recorded is dependent on which member of the household (subject to that person being at least 12 years of age) is answering the enumerator's question as the relationship is recorded around the head of household. Consequently, the statistics derived from this question have inherent weaknesses.

c) Age

52. In spite of the importance of age as a demographic variable, data on age is extremely difficult to collect. Therefore a considerable amount of time was also devoted to the question on age during both publicity and training. An Events Calendar was prepared for each administrative district to aid the enumerators in administering this question. This document was not as useful as before mainly because of improved literacy level and the introduction of national identity cards "O mang".

53. Once again, processing of the census data has revealed that probing or requesting for supporting evidence with regards to the age of person absent at the time of interview was either not done or was inadequate in many areas of the country. This also points to the amount of emphasis made in this area during training.

d) Citizenship.

54. Considerable economic growth in Botswana over the years, coupled with economic upheavals in neighbouring countries has resulted in an increase in the number of non-citizens coming into the country. Correspondingly the number of Batswana going abroad to work has been decreasing significantly. Since this situation has a lot of influence on population-age distribution and have other social implications, the importance of such data cannot be overemphasised.

e) Place of Birth

55. The question on place of birth was introduced to provide insight into lifetime migration. The place of birth was deemed to be the usual place of living of the mother at the time of the birth rather than the actual place. This was necessary since most births occur in hospitals.

f) Place of Usual Living

56. It is essential to obtain, as accurately as possible, information about the location of the population in the country. In addition to information provided by the de facto basis of enumeration with regards to the location of the population, questions on the place of usual living at the time of enumeration and the place of usual living a year previous to the census enumeration were asked.

57. It is possible, from the way the questions were framed, to obtain information on the number of persons who have remained in the same dwellings since a year prior to the census and those who have moved only within the same locality. It was decided to track movement across districts rather than within districts.

g) Education

58. The level of education attained, access to education facilities are important yardsticks for a nation's socio-economic development. The socio-economic development witnessed during the inter-census period shaped the way the question was asked. For the first time there was demand for data on pre-primary schooling and non-formal education. These were new introductions in the 2011 census. For these reasons, these questions were asked of all persons aged two years and over.

59. Unlike before, interest was on education up to secondary school level rather than tertiary institution level. Furthermore, emphasis was on the highest level completed, regardless of whether such level was passed or not.

h) Language

60. It was felt important to know all the languages spoken in Botswana, the numbers of people speaking different languages and the geographical distribution of these languages.

i) Religion

61. Religion has, for time immemorial, played a significant role in society's moral development and evolution. The extent to which various segments of society pay allegiance to religious affiliations countrywide is of major importance in community development. In addition, information regarding the dominant religious affiliations could be important to some users.

j) Marital Status

62. The changing social status and habits were taken into consideration in drawing the various categories of marital status. It was against such background that the status of couples living together without undergoing formal marital status was included. In spite of such a habit not being legally recognised, the number of couples doing so is increasing. It was therefore necessary to admit this group into the marital status classification.

63. Emerging changes in sexual orientation has brought about same-sex relationships, even though these are not legally recognised. These may have convoluted the marital status responses.

k) Questions on Economic Activity Status

64. A better picture on economic activity is often derived from data relating to activities performed over a longer period. With this in mind, a question was included to gather data on usual economic activity. Usual economic activity collects data on main activities done a year prior to the census.

65. With regard to current economic activity, an attempt was made to move as close as possible to the International Labour Organisation's (ILO) recommendation. Of importance in this instance is that "work" was considered to be any activity for pay, profit or home-use over the past seven days that lasted for at least one hour. Thus any work a person does, no matter how short the duration is, or how little the pay is, takes precedence over all other activities.

66. In determining the activity status, it is very important to understand that people consider many activities, especially agricultural related activities, to be of no economic value or as non-work. A probe was included to ensure that such cases were reclassified accordingly after establishing that indeed a person participated in an economic activity. For those persons who reported that they had worked, there were follow-up questions to obtain information on the work done during the reference period by persons who were reported as neither employee nor as self-employed. Information was sought as to whether they were working in a family business or whether they were doing any manner of work at the family lands or cattle-posts.

l) Occupation and Industry

67. Occupation and industry data is susceptible to many errors. These could arise because; the questions were not understood by the respondent, wrongly recorded by the enumerators or wrongly coded. Furthermore, respondents who might not have adequate information on absentee members provide proxy responses. In order to give a clear picture of the economic activity situation, it was important to collect data that were as detailed as possible. In this regard, it was decided earlier on in the preparatory phase of the census that the coding of responses to questions on occupation should be at the four-digit level and responses to industry questions at three-digit level (ISIC Rev 3).

68. To ensure a detailed level of coding of occupation and industry, the quality of data had to be good. Probing of respondents had to be thorough and the recorded answers had to be explicit enough to justify the coding effort. Sufficient space was therefore provided on the questionnaire for the enumerators to record full details of occupation and industry.

m) Fertility

69. An improvement was made on the 1991 census in as far as obtaining information by sex in respect of the number of children ever born as well as births a year prior to the census was obtained. The information on the sex of children ever born was required, among other things, to improve the estimates - by sex, of the level of infant mortality and life expectancy at birth.

70. Another improvement made was the inclusion of a follow up question to the births a year prior to the census to establish the number of such births still alive. This could enable estimation of infant deaths, as a residual.

n) Botswana Citizen Absentees

71. The topic of absent Botswana continues to have social and economic relevance. Apart from people going to South Africa to work in the mines and on the farms, many other people are going to South Africa and other countries for various other reasons. Hence, critical attention was paid to the framing of the question on why they were absent from the country.

72. Whilst a lot of attention has been paid to absentee citizens outside the country at the time of the census, there is need to consider obtaining limited details about household members away from home but within the country during census enumeration. This would have allowed better information on household composition. More accurate information on the headship of households would be obtainable. As of now, it is not possible to associate such persons to their actual households.

o) Disability

73. Disability is largely a medical condition, thus the question on disability was limited to the type of disabilities that are observable. Extensive consultation with user departments enabled the office to obtain very useful information on some terms and concepts used in framing the question. Areas to mention are mental retardation (moderate or severe) and mental illness.

p) Births and Deaths Reference Point

74. The reference point for the question on births and deaths was Botswana Day 2000 (30 September 2010). As the period was less than one year, a raising factor would be needed so that the births and deaths rates could be brought to a yearly basis.

q) Household Agricultural Activities

75. Censuses provide baseline data for further surveys or studies. In this regard questions on the household agriculture activities in the 2011 census were to provide a basis for the Agriculture Census, initially planned for 2014 but later re-scheduled for 2015.

76. The importance of this topic to a wider base of users was also recognized, hence the need to frame the questions on the ownership of livestock, crops planted and tenure on farming land was common and thus binary digits had to be used.

r) Household Cash Activities and Cash Receipts

77. Data from a de-facto census has serious limitation in that it is not always possible to obtain data pertaining to all household members. These topics are important in that they enable collection of an array of activities households participate in to subsist. Thus in spite of the fact that absentee members are not enumerated along with their household, their contribution will be captured in the section. Furthermore, there are economic activities or functions that are performed by the household as a collective unit. Information on such types of activities should therefore be obtained separately, at the household level, hence this section of the questionnaire.

78. The principal aim of this section was to obtain information on sources of household income, other than formal or wage employment. Such sources of income may be classified under two broad headings:

- production activities
- transfers

43 The first would include economic activities such as;

- production of cash crops - maize, sorghum, beans, etc.
- raising of livestock - cattle, sheep, goats, etc.
- hunting, fishing and gathering ;
- running store/bakery, truck/taxi, boats/canoes, etc.
- making handicraft , brewing traditional beer, bee-keeping etc.
- The second would include non-factor incomes such as interests and royalty receipts, pensions, remittances aid/ relief etc.

• In view of the need to avoid seasonality and other variable factors, the reference period for the questions on household economic activities was made longer than the reference period on individual economic activities, one year for household activities compared with one month for individual activities. Further, because of the possibility of multiple responses, binary digits were again used in recording the response.

• The reference period for this question was similar to that of births and deaths i.e. 30 September 2010. This decision was made with the intention to adjust the figures accordingly. In hindsight, adjustment was not possible because the responses could not be subjected to mathematical manipulation since they are in essence just categorical.

s) Housing Unit Type, Tenure, and Facilities Available

79. A housing unit was defined as the unit for accommodation for a household. Thus, in general, the number of housing units should be the same as the number of households. The responses to each question were expected to be unique for each household; hence binary digits were not used with regard to the questions on housing.

80. Information on the type of housing unit the household occupies, the mode of acquisition as well as the tenure of housing unit, is required in the formulation and evaluation of housing policies. Also of particular importance are data on the number of rooms, source of water supply and toilet facilities in urban and rural areas. The material of construction of the housing unit is an indicator of the quality of housing units in a locality.

t) Refuse Disposal

81. Refuse disposal is a very important environmental issue. With the recent concern over pollution of the environment and depletion of the ozone layer through improper disposal of litter, this question collected information to assist the planners, sanitation officers, etc. to evaluate or initiate appropriate environment policies.

u) Ownership of Durables

82. Household ownership of durable goods is a useful indicator of household income. Affordability of luxury goods indicates better income or credit worthiness of the household. Items like Radios, TVs and Computers could be used for educational purposes and therefore their availability or unavailability indirectly gives an indication of studying environment. Furthermore, Radios, TVs, telephones and computers are used as mediums of communication.

v) Information Communication Technology Equipment

83. This topic was introduced for the first time in 2011 in recognition of the important role of ICT advancement in socio-economic development. Also covered was a question on internet connectivity,

9.7 The Design of Enumeration Questionnaires

84. In spite of advancements in technology the 2011 census questionnaire was developed using Microsoft Excel, a spreadsheet not ideal for such a task. Making changes on the questionnaire by adjusting column and row sizes resulted in shifts across various sections of the questionnaire. Needless to say, the 2011 census questionnaire was huge (A2), just like that of the 2001 census.

a) Physical Consideration: Fonts, Ink and Paper Size

The number of questions in the 2011 census questionnaire was decided upon based on the fonts, ink and paper size. Having decided on paper size (A2) and carrying as many questions as practically possible, the resulting font size was very small.

The type of ink used in printing is also of utmost importance. Documented historical accounts note that under dusty and poor lighting conditions green ink is much preferable to either black or blue ink. Green ink was therefore used in the printing of the 2011 Census Questionnaires.

b) Printing On Both Sides of Questionnaire Form

Printing of questionnaires back-to-back is also a subject that requires considerable attention when designing the questionnaire. Indeed possible advantages of printing on both sides of the questionnaire form are many. There could be more space for the wording of the questions; more questions could be carried in the census; and considerable savings in the quantity of the paper required to print the questionnaire could be achieved. However, it is possible that enumerators could occasionally omit or forget to ask questions at the back of the questionnaire form. Similarly, coders could omit or forget to edit the questions on the back of the form. Errors could also be made at the data recording stage.

10. Preparatory Activities and Census Enumeration**10.1 Introduction****1. Preparation for census enumeration involved, mainly, the following leading to the census enumeration:**

- 1) Procurement and Printing
- 2) Determining the number of District Census Officers (DCOs) per census district on the basis of district size in terms of population projected, and also their appointment.
- 3) Training of DCOs and Technical Officers (TOs) for pilot census and also for the actual census.
- 4) Determining the number of trainers and supervisors by census district, and also their recruitment and training.
- 5) Determining the number of enumerators by census district on the basis of actual number of enumeration areas delineated, and coordination of their (enumerators) recruitment.
- 6) Coordinating the securing of training centres, including food and accommodation of participants.
- 7) Census enumeration and associated issues
- 8) Transport arrangements in all districts and also determining terrain suitability of specific vehicles.
- 9) Fuel arrangements in each census district during enumeration.
- 10) Strategies to ensure complete coverage during enumeration.

10.2 Procurement and Printing

2. Printing of census materials and documents was done at the Department of Printing and Publishing Services and by private printers, for the latter through tendering processes.

3. A schedule was developed such that materials needed for training were printed first, to give the Census Office enough time to do quality checks, packing and dispatching for the various centres in time for training.

a) Printing and Packing of Training Materials

4. Household Questionnaires were designed as A2 size booklets of 25 pages with a front and a back cover as well as in loose forms of A1 and A2 sizes for the training of enumerators. The A1 size copies were used as classroom-boards, while the A2 size copies were used for individual classroom exercises during training as well as for replacing spoiled enumeration check controls.

5. Institutional Questionnaires were designed for the enumeration of persons who were found residing in institutions. These questionnaires were designed as A2 size booklet of 10 pages. For training purposes, it was also printed in loose pages, in A1 and A2 sizes.

6. Other materials printed for training were training schedules, enumerator's manual, enumeration check controls and control lists. With the exception of the enumerator's manual, these materials were printed in loose form.

7. The materials described above were packed in cardboard boxes, which were organised according to designated Training Centres. The amount of material for each centre depended on the number of trainers, supervisors and enumerator trainees at the centre. Each centre was given an extra ten percent of the total requirement in order to allow for replacement of defective documents.

b) Printing and Packing of Enumeration Materials

8. With regard to materials for enumeration, the following were produced:

- A2 size 25 page Household Questionnaire booklets
- A2 size 10 page Institutional Questionnaire booklets
- A4 size booklets of Locality Coding list
- A4 size booklets of Events Calendar
- A4 size District Census Officer's Manual
- A4 size Supervisor's Manual
- A4 size Enumerator's Manual
- A4 Size booklets Events Calendar
- A4 size pre-addressed census envelopes
- A4 Size single sheets of Control Lists
- A4 size Guide to Census
- A4 size single sheets EA Book Cover
- A4 size single sheets EA Back Cover
- A4 Size Advocacy for Census booklet
- A4 Size Hotel Guest forms
- Letters to Hotel Managers and Guests

9. The materials listed above were either printed externally or printed and photocopied in-house. In addition to the above the Supervisor Satchels, Enumerator Satchels, and rolls of self-adhesive stickers - white (affixed in case of successful enumeration) and orange (for re-visit or incomplete enumeration) were produced.

10. Estimation of the required number of materials was made difficult by the fact that the exact number of Enumeration Areas and Supervision Areas was known rather late. Suffice to note that the quality of information from the cartographic exercise was generally low in comparison to past censuses. In reality the exact number of enumeration areas was only known after completion of enumeration.

11. Each enumerator and each supervisor was assigned a satchel containing all the materials necessary for enumeration in the assigned areas of work. The unit of packing was therefore a satchel. Each enumerator satchel contained the following items of equipment:

- 1 Enumerator's Manual
- 6 Enumeration Area Books
- a file containing the EA map and control lists
- 1 or more Institutional Questionnaire Books (if the EA was known to have an institution)
- 1 copy of the Locality Coding List
- 1 copy of Botswana Events and Age Calendar
- 3 Rolls of printed white adhesive labels
- 1 Roll of printed orange adhesive labels
- 1 Census Badge
- 2 blue or black ball-point pens

12. Each supervisor was given a green satchel containing:

- 1 Supervisor's Manual
- spare Enumeration Area Books (Household and Institutional Questionnaires)
- spare rolls of adhesive labels
- 2 Green ball-point pens
- spare blue or black ball-point pens
- a file containing maps identifying the areas of responsibility (and in some cases a district map) and spare blank control list form.

13. Each supervisor was assigned four to five enumerators. This, in a way, dictated the way the packing was eventually organized. All enumerator satchels were packed together with the supervisor satchels in the same cardboard box according to supervision area. The boxes were in turn arranged according to training centres within a census district. All spare enumeration materials for census districts were packed in one box and addressed to the DCO responsible for the district.

10.3 Retraining of DCOs and TOs

14. Re-training of DCOs and TOs was conducted over the period 9 – 12 May 2011 at Tlotlo Conference Centre in Gaborone. Following complaints raised by DCOs regarding lack of common understanding of concepts, definitions, procedures and processes, arising from separate training of DCOs and TOs, this was a combined training. This training was conducted by the Census Office personnel. The focus of the re-training was to review enumerator, supervisor, and DCO's manuals in detail. Changes that were made in the manuals after the pilot census were also highlighted.

15. The training alluded to above was a follow up of trainings conducted in 2000 in preparation for the pilot census. The first training of Census Technical Officers (TOs) took place over the period 8 - 15 March 2010 in Gaborone at Tlotlo Conference Centre. In total, 75 TOs were trained on the census procedures, concepts and on the questionnaire. There was however one TO who missed the training since she was on a long leave. Due to the large numbers, TOs were divided in two groups, with the first group undergoing training from 8 - 10 while the second group was trained between 11 and 15 March 2010 (excluding weekend). The training was conducted by the Census Secretariat with an additional trainer coming from CSO's Demography Unit. The DCOs were trained in groups of two – with the first training held between 22 and 23 March 2010 at Yarona Country Lodge in Gaborone. In order to minimize distance travelled, the second DCO training was held in Francistown at Tati River Lodge between 25 and 26 March 2010. In total, 59 DCOs were trained.

10.4 Recruitment & Training of Trainers and Supervisors

16. Census Trainers were recruited from among teachers and district extension officers, all with a minimum qualification of a degree (in any field). The number of trainers was determined on the basis of the estimated number of enumeration areas (EAs) in the census districts. Training of trainers took place at one central place (University of Botswana) from 21 – 26 May 2011. At this training, TOs were presenters/trainers in class sessions while DCOs assisted in general class discussions. The supervisor and enumerator's manual formed the core of materials covered in this training.

17. The selection criterion was based on best-performing candidates, in terms of participation in class, practical interview assessment and written test. Those whose behaviour indicated some possibility of being irresponsible were dropped regardless of their overall performance.

18. Supervisors were recruited from among district extension workers with a minimum of A diploma in any field of study. The number of supervisors per census district was determined on the basis of estimated number of EAs in that district.

19. Like the training of trainers, training of supervisors was conducted in one central place – University of Botswana. It took place over seven days from 18 – 24 June 2011. The training followed the same schedule as that of the trainers. Trainers conducted training while TOs and DCOs observed and offered assistance when necessary. Team leaders TOs were overseeing all the classes. The assessment and selection criteria were the same as those used in the training of trainers.

20. Towards the census, it was realised that in some districts, there was a shortage of supervisors. This was due to the insufficient number of recruited trainers in those districts and this arose because the recruitment was based on estimates rather than the actual number of EAs, which was not yet available. To meet the shortfall, the district had to draw from extra supervisors in adjacent ones.

10.5 Recruitment of Enumerators

21. Recruitment of enumerators started towards the end of May 2011 and was completed by the end of June. Prospective enumerators were drawn from amongst unemployed graduates and in exceptional cases extension workers.

22. Unlike with the recruitment of trainers and supervisors whose advertisements were independently managed by the district census officials, advertisements were done centrally from the Census Office. This was a result of the office having been inundated with complaints from those interested, regarding wide publicity of such advertisements. The office resolved to advertise the recruitment of census enumerators centrally but with applications being routed to the District Administration offices nearest to the candidates. Short-listing, interviews and final offers were done at the districts. The lists of recruited enumerators were subsequently submitted to the Census Office.

23. The recruitment of census personnel ensured that to the extent possible, enumerators and supervisors were assigned to areas where they usually reside. This was thought to be cost effective in that subsistence allowance payable to those outside their normal duty station would be minimised.

24. Botswana Defence Force (BDF) personnel residing in military barracks were required, for security reasons, to be enumerated by BDF soldier personnel. This condition necessitated recruitment of BDF soldier enumerators and supervisors. These enumerators also followed BDF anti-poaching camps around the country and enumerated soldiers living in them.

10.6 Training Centres

25. Almost all census districts secured their own training centres for training of enumerators within the district. There were problems however, in some districts finding training centres. This was largely due to the fact that secondary schools with boarding facilities were not available unlike in past censuses. For example Mahalapye conducted the training of enumerators at Shashe River Secondary in Tonota thereby necessitating the engagement of private buses to transport trainees and field personnel. Similarly Sowa and Chobe conducted their training at Nata Senior Secondary School, taking advantage of boarding facilities. Altogether 22 training centres were used for the training of enumerators.

10.7 Training of Enumerators

26. Training of enumerators took place over from the period 11 – 19 July 2011. Suffice to note that following the industrial action which affected the entire civil service in mid-2011, the school calendar had to be changed at a time when plans for training were at an advanced stage. Since the training centres for enumerator training were secondary schools, this change necessitated a change in the timing of the training. With the changed school calendar, the only available window resulted in a time lag of three weeks between the end of training (19 July 2011) and commencement of enumeration (9 August 2011).

27. Participants arrived at various training centres on 10 August 2011. It was compulsory for all trainee enumerators, supervisors, trainers and TOs who came from outside the host locality to stay at the accommodation provided at the training centres. This was necessary to avoid situations where TOs were provided with better hotel accommodation, while other census personnel were left to endure the modest accommodation provided at the training centres, lest they would boycott the accommodation and demand hotel accommodation as well. There were few exceptions, where the National Census Coordinator, on assessing the situation on the ground could waive the condition.

28. There were over 6,500 enumerators trained around the country. Most of the training was devoted to the presentation of concepts and procedures of enumeration as outlined in the enumerator's manual. Examples and mock interviews were discussed during the training. The last few days focused on supervised practical interviews, discussion of the experiences on the practical, and assessment on practical interviews, written tests, and marking. Trainers and supervisors did the marking, grading, team allocation and deployment of enumerators and supervisors, and distribution of census enumeration materials. Payments and deployment were done on the ninth and last day of training.

10.8 Enumerator Refresher Training

29. In view of the three week time lag between the training of enumerators and enumeration, refresher trainings were to be conducted two days before enumeration, i.e. on 7 and 8 August 2011. Whilst in some census districts this arrangement took place as planned, in a number of census districts this did not take place. The reasons advanced for failure to conduct the refresher trainings were that the period allowed for the familiarisation tour was inadequate. The effect of the three week time lag and the failure to conduct refresher trainings was quite visible on the census questionnaires, with the quality of data being below expectation. This is therefore a matter that needs attention in future censuses.

10.9 Census Enumeration

30. Census enumeration was scheduled for 9 – 18 August 2011. These dates were chosen to include two weekends so that the working population could be reached at their homes on weekends.

31. In most parts of the country enumeration started on 9 August 2011 as scheduled while in a small number of cases it started the next day on 10 August 2011. This was mainly due to late departures from the training centres to areas of assignment. Late departures, where they occurred, were caused mainly by refresher trainings (which were conducted on the day reserved for deployment of staff to the field) and delayed payments. Enumeration was completed as scheduled in all parts of the country, except in a few areas (including Gaborone), an extension by four days was necessary.

32. Central Transport Organization mechanics were placed in strategic places around the country, during enumeration, to ensure that breakdowns were attended to immediately.

33. At the end of census, some people were not counted in a few small localities especially in lands and cattle post areas which had been missed by the cartographic exercise. Incidents of omissions in Gaborone were also reported. Needless to say, efforts had been made to ensure that such localities were identified before the census so as to make arrangements for enumeration of people living in them. Cartographic inspections by TOs and familiarization tours by DCOs and TOs were the two main quality assurance measures in place. In addition, appeals had been made to parliamentarians and councilors, who were expected to be more familiar with their areas, to report to the district administration or the Census Office, any localities they found with dwellings that have no census numbers.

10.10 Transport Arrangement

34. The Central Transport Organisation (CTO) was not able to provide the over 2,000 vehicles that were required for census enumeration. A new strategy for sourcing of the required transport was therefore devised.

Private Vehicle Strategy

35. The devised strategy for sourcing of census vehicles aimed to strike a balance between practical considerations, attractiveness and budget affordability. An overall flat rate was considered practical to implement and also allowed vehicles providers a clear indication of what to expect for the vehicle usage.

36. With 439 vehicles provided by CTO, 20 vehicles from the districts, CSO vehicles and a few from ministries and government departments, the total number of vehicles from the Government fleet was 500. This therefore gave a shortfall of 1,500 vehicles to meet the 2,000 required for census enumeration.

37. In sourcing the required private 1,500 vehicles, private citizen individuals were approached to offer their personal vehicles for a flat daily rate, which covered both the vehicle and driver hire. In addition, census officials (District Census Officers, Technical Officers and Census Supervisors), in selected areas were granted permission to use their own vehicles albeit only for the vehicle hire rate but not the driver engagement fee.

38. Arrangements for the use of private citizen vehicles had been piloted in 2010, albeit restricted to CSO personnel, and the strategy had proven to be practical, workable and manageable. It must be noted however that the rate was approved at the eleventh hour, closing out the opportunity for negotiations, and ultimately being accepted by the officers in the spirit of patriotism.

39. The justification for the vehicle sourcing strategy is as per the details below:

- A flat rate based on average Kilometre Allowances as per the DPSM Directive No. 7 of 2010 and a nominal vehicle hire charge and driver allowance was agreed upon. Averaging Kilometre Allowances of gravel and tarred road rates was recommended in view of the fact that these are the areas planned for use of personal vehicles. With this arrangement, a private vehicle engaged for the census was to be deployed for use in either a gravel or tarred road, as per the requirements. Essentially, enumeration areas do straddle different roads types. It was not planned to use private vehicles in sandy or very harsh terrains in view of challenges associated with such areas.

- The agreed formula was

Personal Vehicle Charge = (Kilometre Rate x Daily distance + Vehicle Nominal Hire Charge) + Driver Allowance.

$$= [(150\text{km} \times \text{P}2.30) + \text{P}155] + \text{P}150$$

$$= \text{P}650, \text{ which equated to } \text{P}7800 \text{ over } 12 \text{ days census enumeration}$$

- An upper bound of 62 EAs to be covered within a Census Day (0600hours – 2000hours), with an estimated distance of 150 kilometres per day.
- Vehicle Owner Engagement Rate = P150.00. (This is more-or-less a 'driver hire' and is equated to the lowest census honorarium daily rate of P150.00, equivalent to that of Census Enumerator)

- The flat rate was calculated as follows:

- 1) A maximum of up to 62 EAs to be covered a day, with an estimated daily distance of 150km
- 2) Average Mileage Rate = P2.30 per kilometre (average of tar (P1.75) and gravel road (P2.85) rates).
- 3) Number of Days for Enumeration = 12 (extra day each for pre and post enumeration logistics)
- 4) **Vehicle Rate = Mileage Factor + Vehicle Hire**

$$= [(150\text{km} \times \text{P}2.30) + \text{P}155]$$

$$= [(\text{P}345) + (\text{P}155)] \times 12$$

$$= \text{P}500 \times 12$$

$$= \text{P}6,000.00 \text{ per vehicle}$$

Private Individual (Vehicle Rate+ Engagement Rate)

$$= (\text{P}500 + \text{P}150) \times 12$$

$$= \text{P}650 \times 12$$

$$= \text{P}7,800.00$$

- Detailed statistics applying the above rates, for the required number of vehicles are shown in Table 1.
- District Census Officers (DCOs) and Technical Officers (TOs) departed for the field in mid-July hence the engagement of their vehicles for a longer time (factoring out the training period).
- Distance to and from areas of assignment (in the case of DCOs and TOs) may be very long (e.g. Gaborone to Kasane) but that was to be cushioned by average distance over the 30 days allowable duration. On average the rate was thought to be attractive, taking into account such realities.
- As much as possible, the use of personal vehicles was restricted to areas whose terrains were not too harsh to avoid enumeration interruptions occasioned by vehicles breakdowns. Available Government vehicles were used in such cases.
- The private vehicles rates and statistics were as shown on the table below:

Table 1: Personal Vehicle Hire Rates

Vehicle Ownership Type	Number	Vehicle Rate (P)	Owner Rate (P)	Duration (Days)
Private Individual	1100	500	150	12
Census Officials	400	500	0	
- DCOs (50%)	-30	500	0	30
- TOs (50%)	-40	500	0	30
- Supervisors	-330	500	0	14
Total	1500			

Guidelines for Usage of Own Vehicles

- 1) Vehicle must be in a road worthy condition. Any breakdown during census enumeration should be due to factors beyond the control of the owner and proof of such must be made.
- 2) Valid vehicle registration (Copy of registration) must be availed to the Census Office
- 3) Vehicle must be owned by the person to drive the vehicle and such persons must have a valid driver's license
- 4) Government shall not be liable to any charges associated with the provision of personal vehicles, except the hire charge in reference.
- 5) Vehicle must be affixed a census car sticker on the doors as a condition for engagement and such stickers must be removed at the end of census enumeration.
- 6) Vehicles offered to the census enumeration shall be available to the census throughout the enumeration times (0600hours – 2000hours)
- 7) Owners of vehicles shall sign an appropriate indemnity form
- 8) In addition to the vehicle hire rate non-census (exclusions being District Commissioners, Council Secretaries, DCOs, TOs etc.) shall attract a driver
- 9) Census Officials (DCO, TO and Supervisors) must be self-driven.
- 10) Supervisors to share vehicles (2 supervisors per vehicle) even if each and every supervisor has a personal vehicle. Where all supervisors own a vehicle the DCO must ensure that a choice is made regarding the vehicle to use.
- 11) Since supervisor vehicles are to cater for enumerators, those offering their vehicles must undertake to provide transport to enumerators as and when required.
- 12) DCO and TO vehicles offered, similarly, must transport field personnel when necessary.
- 13) List of persons offering usage of own vehicles must be sent to Census Office for granting of permission. Such list must be accompanied by a copy of a valid driver's license and a certified copy of their National Identity Card (O Mang).

14) Large villages where supervisors could use own vehicles are: Kanye, Moshupa, Molepolole, Tlokweng, Mogodiitshane, Thamaga, Ramotswa, Mochudi, Mahalapye, Palapye, Serowe, Letlhakane, Bobonong, Tonota and Tutume, Ghanzi, Masunga, Kasane, Gumare, Kopong, Otse

15) Only DCOs and TOs in towns and cities are covered by the dispensation.

10.11 Challenges with Private Vehicles

40. The use of private vehicles posed some challenges. Some drivers did not want to transport enumerators to and from their areas of assignments. This resulted in enumerators having to knock off earlier than the stipulated time. In short, some private drivers were not cooperative at all. This problem was further compounded by the fact that some private vehicles were paired with Government vehicles, leaving those that were unpaired disgruntled.

41. Field staff could not control the drivers of private vehicles and did not even report to Technical Officers or District Census Officers in cases where private vehicle drivers were uncooperative. For example, there was a case where private vehicle drivers went to the extent of agreeing to park their cars in one spot where the enumerators would find them after enumeration. The census office quickly intervened to resolve the matter.

10.12 Airtime

42. The airtime given to TOs and supervisors was adjudged not enough. Airtime was only allocated for use during the period of enumeration. There was no airtime allocated for use for purposes of planning and coordination prior to enumeration. This was a challenge as there were many issues that required resolving through making telephone calls. Officers had to call the office regarding arrival of outstanding materials and also to invite enumerators and supervisors to collect their packs.

10.13 Recommendations

43. Cartographic work needs to be planned in such a way that the latest date for completion of EA delineation is end of February of the census year. This would allow for more correct figures to be determined regarding field personnel and number of vehicles to be requested from CTO.

44. Strategies must be put in place during the cartographic exercise to ensure that no locality is missed. One such possibility could be that cartographic inspection starts as early as possible, in such a way that members of the Census Standing Committee are assigned their districts permanently from the beginning to the end of the cartographic exercise. They could take trips to conduct inspections in their respective districts regularly and more frequently, following the cartographic team schedule until they are satisfied that no lands and/or cattle post areas have been missed.

45. District census committees must be given the responsibility to take inspection trips to cover the whole district once the cartographic work is completed in their respective district. They would then report to the Census Office any missed localities they find, so that remedial action is taken before finalisation of maps and control lists.

46. The recruitment of University of Botswana students for census enumeration needs to be well managed. Where it is practicable University of Botswana students should be left out. The fact that the university opens during the course of enumeration means that most students enroll for training and then drop out of the exercise, especially after receiving enumeration allowances.

11. Quality and Security Measures

11.1 Introduction

1. The Botswana 2011 Census Project document (CPD) provides the rudiments of a "Quality Assurance Strategy". It states the goal of the quality control plan, "to provide information so that timely and appropriate decisions can be made to help modify quickly ongoing census operations with a view to improving both the quality and cost-effectiveness of the census". Elaborating further, it continues, "All activities in pre-enumeration, enumeration and post-enumeration phases of the 2011 census, both in the field and in the office, will be extensively monitored and evaluated by the relevant departments to ensure maintenance of quality standards". Activities listed include the following:-

- 1) Quality Control Plan
- 2) Quality Control Management
- 3) Cartographic Work
- 4) Pilot Census
- 5) Main Census
- 6) Communication, Publicity and Advocacy
- 7) Data Processing
- 8) Monitoring and Evaluation

2. The Administrative and Technical Report for the 2001 Botswana Population and Housing Census in Chapter 11 also lists various "Quality Assurance" procedures that were adopted. Activities listed included the following:

- 1) The Design Of The Questionnaire
- 2) The Design Of The EA Books
- 3) The Pre-Listing Form
- 4) The Control List
- 5) Enumeration Check Control
- 6) The Supervisor's Manual
- 7) The District Census Officer's Manual
- 8) The Document Control Form
- 9) Security Arrangements At The Census Office
- 10) Cartographic Inspection And Familiarization Tours

11) From the above, it can be seen that "Quality Assurance" is an inherent component of Botswana censuses as shown by the report of the 2001 census and the plan for the 2011 census.

11.2 Implementation of Quality Assurance

3. The Central Statistics Office (CSO) implemented various components of Quality Assurance/Quality Control (QA/QC) as listed below:-

- 1) Development of a Comprehensive Project Document
- 2) Establishment of a management structure with committees
- 3) Dialoguing with users in the selection of topics and development of the questionnaire
- 4) Pre-testing census instruments followed by reviews.
- 5) Regular monthly meetings at which progress reports are presented to ensure that activities are timely
- 6) Field monitoring visits (cartographic inspection and management tours)
- 7) Reference to the UN Principles and Recommendations for Population and Housing Censuses
- 8) A pilot census followed by a review of procedures and instruments

11.3 Illustration of Implementation of Quality Assurance

a) Management

4. The regular monthly meetings of the Census Standing Sub Committee (CSSC) and the Census Standing Committee (CSC) provided the hub for QA as all sectors provided monthly progress reports which indicated adherence/non-adherence to the census timetable and provided a forum for inputs from technical heads at the CSO. Discussions were quite rigorous, sometimes heated, technically relevant and quite exhaustive with often reference to the UN P&R for Population and Housing Censuses. Technical issues were further vetted by the Census Technical Advisory Committee (CTAC) which met every six months and included non-CSO personnel from government ministries, departments and agencies and the University of Botswana.

5. Management tours involving the NCC, CTA and Chief Statisticians of Cartography and Publicity although only three, were undertaken and proved pivotal especially midway during the census preparations in providing management with on the ground facts about progress in field mapping, publicity arrangements and logistical preparations for training of enumeration field staff.

6. District familiarization tours which lasted for at least a week undertaken by technical officers before the pilot census and main census enumerations also provided useful feedback to census management on the situation on the ground.

b) Publicity and Advocacy

7. There was limited QA of this as most of the activity was procurement based and involved the development of materials. There was limited field testing of the developed materials. There was also limited QA of publicity and advocacy in the census districts as the radar was mostly on Gaborone. However, the radio and TV adverts before the start of the pilot and main census enumerations were quite effective in raising public awareness of the census in mainly urban areas.

c) Field Mapping

8. There was extensive QA of this activity in the form of supervisor monitoring and quality control and cartographic inspection. However the QA activity was not intensive as the supervisor monitoring by permanent cartographic staff was not regular/monthly especially in the early stages of field mapping, and when it was increased in the latter stages of field mapping, it was mainly to rectify errors that had been highlighted during the cartographic inspections, management tours and district familiarization tours.

9. Two cartographic inspections were carried out in June 2010 and January 2011 even though field mapping started in July 2009 and ended in May 2011. The inspections involved all technical officers at the CSO but the scope was limited because of transport challenges. In the end, less than 30% of the enumeration areas (EAs) were inspected. Valuable feedback was provided for the cartographic unit to rectify some of the challenges observed in the field and the discrepancies between the EA maps and the situation on the ground.

10. There was no QA of the other cartographic/GIS activities such as EA delineation, database, EA map production, etc. because of time constraints as the unit was overwhelmed with production of EA maps to be used for the field enumeration.

d) Instrument Development

11. There was extensive QA on this activity involving staff at the census office, the CSO and the general public. The design of the content of the questionnaire started with a request to various departments for topics to be included. This was followed by a review meeting involving the same stakeholders. The list of final topics was then gazetted after final approval by Cabinet. In the process only the question on mother tongue was finally dropped by Cabinet, since they did not find the motivation for its inclusion convincing.

12. On the questionnaire itself, there was a pretest in selected communities and the pilot census, following which there was a review of the question formats. This review of question formats went right down to the wire as during training sessions for technical officers, district census officers, and enumeration field staff there would be differences in opinion and interpretation. In the end, the unit came up with an official interpretation and format which was recommended for adoption. However this prolonged review process may have caused some problems during implementation as enumerators ended up doing things the way they had been taught by instructors who held different interpretations of some challenging concepts such as education, economic activity and fertility.

13. The manuals for the enumeration (District Census Officer, Supervisor and Enumerator) were also works in progress right through the pilot census and training of enumerators and as such were subjected to rigorous QA and amendments. However because of procurement regulations and volumes of printing, some of the amendments could not be incorporated into the final version of the enumerators' manual.

e) Procurement and Logistics

14. QA components were largely handled during monthly meetings when reports were provided. This enabled census management to proffer alternative arrangements. For example, training timetables and venues when the census enumeration dates had to be changed because of the sudden changes in the school calendar.

15. QA of the final products used for enumeration was adhered to based on the experience from the pilot census.

16. The census office had no control over activities such as the delivery of publicity billboards and the hiring of private vehicles since these required approval by the parent ministry. Such approval was granted very late, affecting delivery.

f) Recruitment and Training

17. This component faced a lot of QA challenges because of the decision of the Ministry of Education not to allow teachers to take part in censuses as field staff. These had served as the reliable stock for all the four previous censuses. As a result, a highly mobile group of school leavers, unemployed graduates etc. had to be recruited, some of whom vanished after completing training as employment opportunities became available. Also a sudden change in the school calendar because of a public sector strike caused a three week gap between the end of training and the start of enumeration which may have contributed to a slight loss of trained enumeration field staff. This also made it necessary to undertake a half day refresher training for field staff before the start of the main enumeration to ensure that the three week gap did not result in a slight loss of concepts that had been taught. The need for recruitment of enumerators from districts in which they were ordinarily resident as there was no provision for night allowance payment may have affected some largely rural areas which could not muster enough of the required clientele.

18. In spite of the above, QA measures were put in place and largely adhered to. District Census Officers were provided with guidelines and minimum qualifications for the recruitment of enumerators and supervisors. Training involved a multiple choice test with a cutoff point which was used to select the final set of enumerators and supervisors and also to replace enumerators who absconded. Training was also supervised by Technical Officers from the CSO often aided by the District Census Officers to ensure consistency and standardization in the interpretation of questions etc. and to ensure high quality training.

g) Enumeration

19. QA measures that were put in place for the enumeration included small teams (1 supervisor to 4/5 enumerators), a team vehicle to ensure ease of mobility of the team and ease of mobility for the supervisor to monitor his/her team. Also supervisors spent extra time with enumerators who were facing challenges especially during the start of enumeration. In addition all enumeration teams were monitored by technical officers and district census officers. When the need arose, issues could still be referred to the NCC based in Gaborone.

20. There were also field enumeration instruments apart from the questionnaire which had to be completed and signed on a daily basis by both the enumerator and the supervisor to assure supervision and monitoring. For example, the supervisor had to provide a daily count by the technical officer to assess enumeration progress. The supervisor had to countersign each page of the completed questionnaire to ensure that the correct responses had been recorded by the enumerator and that there was consistency between responses. Each completed EA book would then also be signed by the technical officer and finally by the district census officer. As a further check on the completeness of coverage the supervisor had to record the number of households, institutions and persons enumerated for each enumeration area as recorded in the control list and the EA book cover which in effect meant that the information had to match. Cases when these did not tally, meant going back to the actual EA books to establish and rectify the source of the discrepancy.

21. The extent to which these QA measures were implemented could not be assessed as there was no QA team monitoring the census districts and reliance was only on the reports provided by the technical teams later on.

h) Post Enumeration Survey

22. A Post Enumeration Survey (PES) was carried out for the 1991 census but not for the 2001 census. It was scheduled for the 2011 census to provide further QA input especially on enumeration coverage. However for logistical reasons, the PES was cancelled. It is hoped that the logistical challenges would be overcome for the 2021 census to ensure that a PES is undertaken to make the QA implementation more robust.

i) Preliminary Results

23. There was a painstaking QA procedure adopted for the production of the preliminary results especially when it began to emerge that the total population would exceed the projected population from the 2001 population totals and take Botswana's population over the 2 million threshold for the first time.

24. Totals from the control lists, EA book covers, DCO books for each EA plus serial numbers for all EA Books, Supervisors manuals and DCO manuals were computerized and printouts provided for crosschecking by around five teams. When there was a discrepancy, the actual EA books would be requested from the census store to verify the information. EA maps etc. would also be requested in case information had been transposed.

25. All of the above helped in rectifying some surprising results where some localities seemed to have lost considerable number of people for no immediate justifiable explanation while others seemed to have exploded their populations again with no immediate justifiable explanation.

26. The process lasted for close to a month instead of the expected two weeks but in the end it was reassuring that all measures had been put in place to ensure that there would not be a huge disparity between the preliminary and the final results.

j) Data Processing

27. Data processing provided quality assurance mechanisms through the following:

- 1)** Supervision randomly checked editing and coding work and where the quality of work by an editor or coder was not satisfactory, more intensive checks were carried out.
- 2)** Once data was considered reasonably clean, frequency tables were run for each variable/question.
- 3)** Consistency checks were carried out between preliminary results and captured data, district by district.
- 4)** Online editing through iterative runs of automated checks based on prioritized constituencies between variables and based on plausible variable values proved quite useful.
- 5)** Look-up files was yet another useful mechanism of comparing identification particulars uploaded prior to enumeration and those obtained during the census.

28. Suffice to note that generally the quality of data from the field was seriously compromised by i) quality of field personnel, ii) interval between training and enumeration, iii) quality of supervision, iv) treatment of multiple households dwellings, v) alpha-numeric identifiers, vi) duplicates identifiers (IDs), etc. It was against that background that quality assurance was very intense during data processing, hence the very prolonged data processing period.

k) Data Analysis

29. Data analysis provided an important feedback avenue, which resulted in further checking of data. It was for that reason that data analysis took almost six months rather than the initially planned three months.

30. An oversight committee was established to quality assure the work of the analysis. This committee quantity assured articles by all authors. Furthermore, guidelines were developed to ensure consistency and by extension, improved quality of resulting output. For instance there were manuscript guidelines and thus draft manuscripts by authors were checked for adherence.

l) Results Dissemination

31. The National Dissemination of results also served as a quality assurance mechanism since users and stakeholders critiqued the analysis approach, findings, recommendations and policy or programme connections.

11.4 Quality Assurance Team

32. In line with what had been proposed in the census project document, a Quality Assurance Team (QAT) was set up albeit about halfway through the census preparation process. This in effect meant that the team had no impact on the field mapping which had almost been completed by the time it was set up. The team was also looked on as intrusive as each unit claimed it was undertaking quality control and did not see the need for an external body. The team was also not headed by a Chief or somebody of similar rank while all the other units were headed by very senior personnel (UNFPA CTA was a member but only in an advisory capacity). As a result it would sometimes need the intervention of the NCC to facilitate cooperation. The team successfully concluded only one activity, the coding of "Other Specify" from the completed pilot census questionnaires. It was subsequently disbanded at the end of enumeration even though data processing and analysis were yet to be undertaken.

11.5 Lessons Learnt

1. The major lesson learnt is that the QAT should have been established quite early along with the other census teams. Also, implementation of QA was met with suspicion and limited cooperation probably because the major practitioners had at least two censuses under their belt and confidence that they were infusing enough quality control measures into their activities so that there was no need for a further layer of QA.

2. A possible solution to this is to establish a permanent QAT as part of the organizational structure of the newly established Statistics Botswana for all surveys and censuses being implemented. Regular use of QA measures in surveys would also make the QAT more welcome in censuses. The staff would also overcome the barriers that may exist within the existing organizational structure so as to encourage an open exchange of ideas. The QAT should be headed a very senior statistician.

11.6 Conclusion

3. The Botswana 2011 PHC outlined good intentions for the implementation of quality control and quality assurance. However, although quality control may have been achieved, QA may not have been completely achieved especially with regard to field mapping, EA delineation, and enumeration. Furthermore there was no independent means of verifying enumeration coverage as would have been provided by a PES. Despite the logistical challenges faced, such as the

abrupt change of the school calendar and exclusion of teachers from field work, there were adequate quality control measures put in place by the various units. The complementary efforts of the QAT would have buttressed the quality control reassurances provided by the units at the regular meetings of the CSSC and the CSC. This is particularly relevant as the United Nations Statistical Division (UNSD) is emphasizing the role and importance of QA in statistical undertakings.

12. Post Census Enumeration Activities

12.1 Introduction

1. Post census enumeration activities were to start immediately on completion of enumeration, scheduled for 26 August 2011. Among the first activities undertaken was the reconciliation of population counts in the field. This was followed by receipt of materials in the field, preparation of summaries, receipt of materials in the office, preliminary counts, as well as coding and editing. While these activities are addressed in turn, a full coverage of coding, editing and data entry is provided in Chapter 13.

2. Although census enumeration was scheduled to end on 26 August 2011, enumeration was extended in many areas thereby delaying the commencement of post enumeration activities.

12.2 EA Books and Control List

3. Before accounting for materials, enumerators had to reconcile the enumerated population and households in the EA book against the Enumeration Check Control and the Control List. This proved to be a challenging task for enumerators, depending on their level of numeracy as well as adherence to instructions. In some instances this task took longer than the extra day allowed for administrative matters.

4. Experience from preparation of preliminary results proved that documents were in most cases manipulated to balance. Even though the Enumeration Check Control seemed to balance when compared with contents of the EA book, it turned out that the figures were manipulated according to what was expected. Suffice it to mention that once again, like in the 1991 census, this form was the most difficult for most enumerators. Out of zeal, some supervisors, cancelled some books and re-entered them on fresh EA books because of cancellations on the front cover. Apart from the Enumeration Check Control, the Control list was a real problem for most enumerators. Once again⁷ a number of control lists had to be re-written and properly filled in the office.

12.3 Receipt of Materials in the field

5. Once the figures had been reconciled (or supposedly so as it turned out to be) the EA satchel, which was a unit of accounting was handed over to the supervisor. A form was designed for use by the supervisor when issuing materials to enumerators. This form was used to account for returnable materials (EA Books, Institutional Questionnaire and EA File). It was optional to return the rest of the materials issued at the beginning of enumeration. Upon being satisfied that the EA books had been reconciled and that all returnable materials had been accounted for, the supervisor received the satchel and made a recommendation that the enumerator be paid his/her allowance.

12.4 Receipt of Supervisor Documents in the field

6. Supervisors were given two days to compile summary totals and reconcile Control List and EA book totals before accounting for materials to DCOs. This was done once the supervisor had checked and corrected the enumerator's work. Supervisor summary sheets were prepared and were part of the Supervisors' Manual. Therefore the manuals had to be returned, unlike the enumerators' manual.

7. Summaries for supervisors were from two sources - EA Book total and Control List. The instruction of what was to be done was very clear. However, given the difficulty with which the supervisors completed their summaries, it seemed as though either some had not exercised due care from the onset or were simply not very numerate for the exercise. The fact that some EA check control totals were manipulated and Control list wrongly completed meant that the work of some supervisors was below expectation.

⁷Just like in the 1991 census

8. Only after all the documents had been checked and corrected was the supervisor expected to hand in all such to the DCO. Accounting forms were again used to check for all returnable materials. Indeed in most cases this was not observed, to the extent that some of the returns were submitted uncorrected and un-reconciled. This was made possible through the manner in which the DCO and TO conducted their checks.

12.5 District Census Officer Manual

9. When the documents had been reconciled and corrected and supervisor summaries had been prepared, DCOs compiled district summaries. These summaries followed the same pattern as for supervisors in that there were summaries from the EA books and those from the Control List. This was done on an EA-by-EA basis such that totals from the EA book and those from the Control List had to balance. These summaries gave the district total which formed the basis for the compilation of preliminary results.

10. Having noted the lack of care in the reconciliation of the figures, there was a cumulative effect in that one set of wrong results led to wrong summaries. The fact that DCO summaries were not checked at the time of handing over materials meant that anomalies could only be detected at the time of compiling preliminary results.

12.6 Receipt of Materials in the office

11. In anticipation of the volume of documents and heavy traffic, space was secured in a private building, which was hitherto used by another government department. This was a useful plan in that it provided the needed space for batching of materials (a batch being an EA) and ease of archiving later on at the Census Office after accounting of documents and materials. Moreover, most of the non-returnable materials were returned thus increasing the volume. However, a setback was that all usable materials had to be transported to the Census Office, which was about three kilometres away from the batching site.

12. One week was initially earmarked for receipt and accounting of materials, starting from 27 August 2011. It was also thought that arrival of district teams was going to be uniformly spread across the week. However, DCOs and TOs spent more time than allocated for field accounting and preparation of summaries. After spending days awaiting the arrival of district teams, most teams arrived almost at the same time, thus making accounting a slow and cumbersome exercise. Since accounting of materials was on a district-by-district basis, teams had to wait until late in the night for their turn to handover materials. In fact, some DCOs spent many days in Gaborone because it took a very long time for large districts to account for their materials. This was further compounded by the fact that some extra questionnaires supplied to the district were used during training after experiencing a shortage of loose sheets. While this was justified, instructions were issued to the effect that the front cover of such EA books must be kept safe for accounting purposes. It would seem this was not adhered to in a number of instances.

13. With many teams arriving at the same time, additional material receiving teams were formed within a very short time. Combined with the volume of materials, the quality of accounting was somewhat compromised to the extent that some used questionnaires were filed alongside blank ones. Fortunately at the time of data processing the cleaned data was compared with the summaries on an EA-by-EA basis thus enabling identification of missing books. Upon such discoveries, it was then decided to check all the supposedly blank questionnaires in case some completed books were inadvertently put in wrong piles.

14. Batching was done by way of tying together used EA book together with the corresponding EA file. Also included in the batch were cancelled books since experience has shown that there are usually transcription errors in moving information from the cancelled book to a clean book. Having EA books and EA files bound together was very useful not only during both manual and online editing but also when compiling preliminary results.

12.7 Preliminary Results

15. Immediately upon completion of receipt and accounting of documents and materials, compilation of preliminary results started. Four teams of three members, each headed by a senior statistician, were charged with the responsibility of producing preliminary figures. To the extent that most of the district summaries were incorrect there was need to refer to the EA books more often than had been anticipated. Preparation of preliminary results took place at the time when accounting for questionnaires was in progress. This made it very difficult to locate batches for districts that had not been accounted for.

16. Summaries were prepared such that disaggregation was possible at various levels. The hierarchy as built into geographic identification system was employed at this stage of the preparation of summaries. In towns and villages the smallest unit was the EA whereas for the rest of the country it was the locality within an EA. After checking through all these units, everything was added to the census district and national level. For each district there were sub-totals for each EA, locality and village.

17. Preparation of district and national summaries culminated in the first report titled, "2011 Population and Housing Census Preliminary Census Brief". This publication was released on 19 September 2011. This report presented results by census as well as by administrative district, thereby making comparison with the 2001 and projected figures easier. These results were very close to the projection and the finally published results.

12.8 Storage of EA Books and Control List

18. Storage of census questionnaires and other related materials proved to be a problem. The office that was designated for storage was just too small to accommodate all the materials and furthermore the shelves initially acquired were not strong enough for the bulky questionnaires. It would seem the decision to half the number of pages for an EA book, supposedly to allow ease of checking of questionnaires was not well thought out. Contrary to the thought that this did not change the volume of questionnaires, this was not necessarily the case since the questionnaire cover was very thick and heavy. These questionnaires were so heavy that the shelves collapsed resulting in injury of one of the data entry clerks. Stronger shelves were acquired while data processing was in progress. The speed with which the Central Tender Board dealt with the matter is well appreciated.

19. After printing, all materials were stored at the temporary space that had been acquired. Thus, it could not be established that the archiving room could not accommodate all the questionnaires. Faced with the problem, the Census Office Conference was used as temporary storage space pending completion of editing and coding. This arrangement made dispatch and receipt of materials for processing a very difficult task. In addition, accounting for materials was quite a daunting task. On completion of data processing, questionnaires were moved from the Archiving Room and the Conference Room to a bigger room that was hitherto used for editing and coding.

12.9 Constraints and Recommendations

20. Once again reconciliation of EA books, Control List and EA Check Control was not adequately done. It is clear that field personnel did not follow instructions on the completion of the documents in reference. Although the Control List was modified to make it easier to complete as per the recommendation made after the 1991 census, this did not help enumerators and supervisors. Halving the number of pages per questionnaire resulted with a number of lines on the Check Control reduced to one column. This did not help either.

21. Most Control Lists were wrought with cancellations, a factor that made reconciliation a difficult task. Worst still, for EAs made up of many localities, enumerators often entered details of a household in a wrong Control List page thus making supervisor summaries derived from the Control List impossible to reconcile. As regards the contents of Control List, it does seem some enumerators were again not clear about completion of the various columns. Un-enumerated households were obviously not clearly understood since it turned out that in some districts there were more dwellings than people prompting one to suspect that empty dwellings were treated as un-enumerated households.

22. EA Check Controls were poorly completed. There were many cancellations and photocopies of EA book front covers were pasted on some EA books. In some instances, the front covers were so messy that data on the EA books were transcribed to clean books thus resulting in transcription errors. While enumerators and supervisors had their own fair share in the matter, poor checking by the DCOs and Technical Officers ensured that field staff were paid and released even when their documents were not in good order. It is recommended that some mechanism be established to ensure that DCOs and TOs are held accountable for unsatisfactory work. Suffice it to note that some teams spent almost two weeks producing summaries, without spotting the anomalies in their district results.

23. In spite of being fairly junior, the Archiving Officer discharged her obligation with great care ensuring that almost all the questionnaires and materials were easily tracked. This was indeed a tall order for her moreover that she was just alone. It is recommended that in the next census, a unit be established which could also help in the procurement of materials since experience has shown that Supplies Unit is needs additional assistance to fully handling procurement of materials.

13. Census Editing and Coding

13.1 Introduction

1. Training of editors and coders, which was in two phases, was conducted from the 12 to 16 September 2011 for the first group of 57. The second training was conducted from 16 to 20 January 2012 for 27 coders and editors, thus in total 84 coders and editors were trained during the period. The high attrition rate compelled recruitment of the second group of editors and coders.

13.2 Editing Process

2. The actual editing exercise commenced on the 21 September 2011.
3. All officers worked on editing for the first three weeks in order to build enough stock before the coding exercise could start.
4. In all, editing and coding of about 27,580 Enumeration Area (EA) books was duly completed in a period of six months (by end of March 2012) as scheduled.

13.3 Coding Process

5. The actual coding exercise commenced on the 17 October 2011 with 25 coders, while the remaining 32 officers were editors.
6. At the beginning of the exercise, officers were doing around 5 books per day and this improved as time went by until some reached an average of 15 books per day by the end of coding exercise.
7. The whole process/exercise was completed on the 13 April 2012.

13.4 Challenges Encountered during editing/coding process

8. In general, the editing and coding exercise went well despite some challenges encountered during the initial stages of the process, such as:-
 - a) Editing and coding errors committed by the officers
 - b) Unlisted localities were very common especially in remote districts. These delayed the process since it took long for these to be listed appropriately.
 - c) Use of Household books to enumerate institutions. This was a problem as data had to be transcribed from the Household questionnaire into the Institutional questionnaire. This delayed the editors. Some of the Technical Officers did not make use of the available IQ books provided and most of these were returned unused, implying that enumerators were not provided with the Institutional questionnaires during data collection.
 - d) Reconciliation of the front cover and the page numbers was a major challenge as entered data did not correspond to the totals on the EA cover page.
 - e) Fertility Section: Children Ever Born (CEB) not adding up and at times eligibility criteria not observed.
 - f) Part E of the questionnaire left blank
 - g) Field of education was a major challenge as school names were entered instead of the course done
 - h) Place of birth: in most cases the census district was not specified
 - i) Wrong spellings resulted in some names of places coded wrongly, different places sharing the same code, some very common names not appearing in the code list book such as Sehunou and Madiela in Central Serowe, Machana in Barolong district just to mention a few.
 - j) For Economic activity questions, skip commands were not observed, for example some eligible questions were left blank (questionnaire business rule not followed).
 - k) Some questions, especially those on migration, had codes from the field, which were wrong. This made the questionnaires very untidy when trying to correct those codes during editing and coding.
 - l) Household numbering not properly done as households were numbered sequentially per the enumerated households in the book.
 - m) Recording of non-citizens under "persons outside Botswana"-Part B, even though it was stressed during training that the section applies only to citizens of this country.
 - n) Data inconsistencies and incomplete data

Administrative Challenges

1. Shortage of furniture (desks and chairs) for recruited editors and coders
2. Lack of air-conditioners in some offices. This was during summer and temperatures were very high, thus rendering work environment unsuitable and uncomfortable.
3. Delays in salary payments resulting in disgruntlement of officers concerned.

Online Editing Process

4. Online editing took much longer than expected because it was done in two stages. The first stage involved the verification of data structures, sex variables and population counts to enable the office to produce the Population of Towns, Villages and Associated Localities publication. The second stage involved content editing which required the running of the edit program on the data.

Challenges experienced during online editing were as follows:

1. Wrong entries by data entry operators
2. Partially entered EA books,
3. Reconciliation of book totals versus preliminary totals, some were showing positives while some negatives.
4. Book numbers wrongly entered
5. Identification codes not matching the available names in the control file. This was also a result of mixing up of district, village and locality codes.
6. Shifting of the data in cases where there were blanks or skips on EA book pages

Quality of Editors and Coders

7. The majority of officers employed had been involved in the 2011 Population and Housing Census as supervisors or enumerators, while others had taken part in household surveys conducted by Statistics Botswana. This really made training and understanding of concepts very easy.

Quality of the data Collected

8. The quality of data collected was adversely affected by the time lag between the training of enumerators and the start of census enumeration, which was three weeks. Although a refresher session was organized for both supervisors and enumerators before enumeration, it proved inadequate.

9. Poor mapping and slack supervision of enumerators resulted in skips not being followed, and some questions being left blank or not attempted.

10. Some of the census personnel failed to devote their time to what they were employed to do and this affected the quality of data submitted to the census office.. The books were not checked thoroughly and in majority of the cases not checked at all.

Handling of EA Books

11. There were five temporary labourers employed to assist in sorting and arranging EA books according to district and Enumeration Areas for ease of reference. This activity was well coordinated and handled satisfactorily.

Edit program

12. Edit specifications were prepared well on time but it turned out that some edits were unable to pick errors as expected and as such had to be revisited and modified accordingly.
Data Entry Program

13. The data entry program was not properly controlled since not all source files had been incorporated into the program to flag non-existent codes during data entry. For this reason, there were too many unspecified codes brought up by the edit program.

13.5 Recommendations

14. The Enumerators' training and TO's training must be thoroughly conducted. It was observed from the field records that a lot of issues and concepts were not understood by the fieldworkers. It is therefore essential that training for the main census be conducted under the notion that nobody understands anything and thus be quite detailed.

15. Emphasis should be placed getting the TO's to understand what is expected of them as supervisors. This in future will ensure that they possess the will, seriousness and accountability expected from officers of their calibre.

16. The data entry program should be controlled such that it does not allow outliers into the data. This will ease editing and as a result reduce the time spent on manual editing.

17. Finally the editors and coders used during the pilot census should be retained for the main census.

14. Census Data Processing**14.1 Consultant Account on Data Processing****14.1.1 Overview**

1. The 2011 Population and Housing Census (PHC) was conducted in August 2011 in around 5,228 enumeration areas (EAs) country wide. For the census enumeration, 27,245 Enumeration Area (EA) Books were used of which 571,862 pages were used in total. Most of Statistics Botswana staff were involved as technical officers during the census enumeration process. The data collection strategy comprised of face-to-face interviews to facilitate data collection from the households and institutions. The above number of EA books used for data collection were edited to eliminate errors and omissions, and coded for tabulation and analysis.

2. The editing was done in phases: The first phase dealt with the sex variables in order to release the Population of Cities/Towns, Villages and Associated Localities (PCTVL) report. The second phase dealt with content editing. The second phase lead to the production of statistical tables: National Statistical Tables and Summary Statistics on Small Areas to be used in various reports such as the Analytical Report 2011 Population and Housing Census and others.

14.1.2 Data Processing System

3. The 2011 PHC data processing system was developed, using CPro as the main engine for data capture and Alpha Five as the main engine for the front end. It incorporated enhanced features to check consistency in localities, EAs and other related IDs as well as checking content to a minimum extent to reap productivity gains.

4. The system provided facility for data entry i.e. adding or capturing data, data modification and verification. Also, the system provided facilities for running edit reports and producing tabulations for the 2011 Population of Cities/Towns, Villages and Associated Localities, National Statistical Tables and Summary Statistics on Small Areas.

5. During the data capture there was supposed to be a lookup file holding the fully qualified locality Identification file which was supposed to be built from the localities from the Cartography section. This complete localities' list was never availed from the Cartography Section since the section had not yet completed the delineation activity at the time of going to the census enumeration of 2011 PHC. The fully qualified Localities Identification was to give:

Census District code,
Village Code,
Locality Code,
Type of Locality,
EA and
Dwelling Number (Number on Census Plate in Rural Areas or Plot number in Cities/Towns)

6. The newly found Localities during enumeration were going to be updated into the lookup file as data entry went on.

14.1.3 Data Entry

7. The Cartography section had not completed its delineation and therefore could not provide a complete list of Localities. As a result, and after the first data entries where all localities were rejected by the system, the data entry system was modified to accept building of the localities identification from the cover page of the EA Book as the data entry continued. The builder in this case was the data entry operator who entered first the cover page of the EA Book. The cover page was used as the control for the book content with respect to pages completed, IDs for the page and number persons in Section A/F, B, C and D of the EA Book page. This relied mostly on the data entry operator's diligence and honesty. Therefore we compromised the quality of data with respect to Localities' ID.

8. The EA list from the Instrument Division (ID) gave a list of the EA Books to be captured. The list provided:-
 Census District code,
 EA No,
 EA Book No and
 Type of EA Book (1 for Household and 2 for Institutional Questionnaire)

14.1.4 Data Verification/Editing

Data Verification

9. The system provided facility for data verification. However, for the Main census, as it was the case for the Pilot census, it was agreed in a meeting with the National Census Coordinator (NCC) that the data should not be verified as it was thought that verification could introduce more errors to the data.

Data Online Editing

10. Data online editing was undertaken to ensure that all records were accurate and consistent with respect to the edit specifications. This editing under normal circumstances takes not less than 6 months to be completed.

11. For this census, the editing of data was done in two phases. The reason behind this was that data entry started one month later than scheduled, and it was clear that it was not going to be completed before the end of April 2012 and that the deadline of releasing the 2011 PTVL and submit to the authorities in June 1st, 2012 was not going to be met. The editing was structured into phases where the first phase was to deal with the following:

- Data structure – checking validity of Census districts, EA, Localities and EA Books and other related checks.
- Sex variability – Checking and editing/modifying invalid sex codes found in the data set.
- Population counts – Checking for invalid entries in A03/F03 to A12/F12 and correcting them. Eliminating blank entries in A03/F03 to A12/F12.

12. This phase started in May 2012 after data entry was completed and it was concluded on 01 June 2012. The required report (PTVL) was produced and submitted for acceptance by the Statistics Botswana working Team at the Census Office and signed for acceptance on the same date.

13. The second phase which dealt with the content started on 04 June 2012, and continued for three to four weeks. The steps involved on this second phase editing were:

System Point of View – The operator used the system to produce a work file from the raw data file – the raw data is B_T_YYYY_DD_EEEE.dat where:

- B** - Batch
- T** - Type of EA Book (Either 1 or 2 for Household and question)
- YYYY** - Year of Census
- DD** - Census district
- EEEE** - Enumeration Area number

14. The operator entered the appropriate parameters as to the type of EA Book and Enumeration Number that was selected from a look-up file by supplying the census district and EA number and press find button. Once found they double clicked the found record (EA) and the parameters' got updated automatically.

15. The operator generated a work file that was identified by an underscore V01 (_V01) plus a ".Dat". From this work file an edit report was produced and handed over to the subject matter specialist who used the report to check errors produced against the questionnaire and made corrections on the report. After the corrections were made on the edit report, the edit report was sent back to the data modifiers who effected changes on the work file - B_T_YYYY_DD_EEEE_V01.dat. After the modifier had edited the report, the work file online produced another report and submitted it to the subject matter to cross check. In this cycle the errors disappeared and only those that were type II were left as they were. The process moved in circles until the data was cleaned or deemed clean by the subject matter.

14.1.5 Data Status at the end of the Consultancy

16. It was resolved that the consultancy be concluded after completion of the second round of online editing - effectively 22 August 2012. However, the quality of the data was not considered thoroughly clean. Having earlier extended the consultancy by three months, it was considered impractical to extend it any further given the cost overruns. Whether the outstanding work, as captured in the consultant's summary below was by design or genuinely a result of the original quality of the data, this is a matter requiring a deeper insight than taken at face value. In the handing over report the consultancy highlighted that several content data checks had not been done:

- a) Duplicate fully qualified Household identification – District + Village+ Locality+ Dwelling + Household. Almost all census districts have duplicate household identification from census enumeration. Due to this, the process of anonymization is lengthy.
- b) There are 1,406 duplicate households' heads – a household having more than one head.
- c) The economic section has not been dealt with – enumerated persons have invalid economic activity; with wrong industry and occupation codes.
- d) The fertility section has not been dealt with to check the consistency between age and number of children ever born. Only the distribution of children ever born consistency A25, A26, A27, A28, A29 and A30 was checked.
- e) Education level – a lot of cases across the census districts have education level invalid – for example persons less than 10 years of age completed Form 3, 4 or 5.
- f) The relationship to the head is not consistent with marital status. For example a person is head and married and his/her spouse has marital status not married or something else other than married.
- g) Section E – Agriculture and Housing was done , but some checks on this section were omitted, for example, check of Donkey, Donkey Cart and Mokoro ownership"

14.2 Post-Consultancy Account on Data Processing

14.2.1 Data Processing Activities

17. Development of the 2011 Population and Housing Census System (PHC) was outsourced to RPC Data. The system was initially used and tested during the Pilot Census. The testing and acceptance of the system was done with the users before implementation in readiness for the main PHC.

18. The RPC Development Team comprised of a team of 4 personnel, a Project Manager/Developer, 2 technical Consultants and 1 Data Entry Supervisor. The Project Manager and the Data Entry Supervisor were housed at the Census Office and worked with the CSO Census Team.

14.2.2 Capacity building

19. Capacity Building was not done as it was left until the last minute; the CSO staff attached to the project did not benefit from the planned capacity building. By this time the bulk of the budget allocated for capacity building had been re-directed to cover critical shortages since funds approved for the consultancy had been depleted, after two contract extensions.

14.2.3 Census Office Staff Composition

a. CSO Staff

20. The staff of CSO was responsible for all IT related matters, procurement of IT equipment, software and other related peripherals, developments of ITTs, Quotations, evaluation Tenders, checking and overseeing configuration and installation of equipment and software such as anti-viruses, CSPro, SPSS, MS Office. The Department of Information and Technology (DIT) provided technical IT support to officers at the Census Office for registration of procured equipment, e-mail/internet configuration, reporting and following up of faults with Service Providers.

b. IT Data Processing Manager (RPC Data)

21. The responsibility of the IT Data Processing Manager was to oversee all IT related Data Processing activities and supervising IT Staff at the Census Office.

i) Two (2) IT Technicians/Network Administrators and One (1) IT Intern/ Network Administrator were responsible for:

- Ensuring that Servers and Computers at the Census Office were updated with the antivirus
- Making sure that the network, e-mail and internet were running smoothly
- Scheduling and performing backups
- Participating in developing ITTs and also requesting for quotation.
- Reporting and following up faults

ii) Three (3) IT Technicians /Data Entry Supervisors were responsible for:

- Installation of Data Entry/Online System on computers whenever updates were done on the programs or data dictionaries.
- Supervision of data entry and online editing
- Participating and assisting during training of Data Entry Operators (DEOs) and Online Editors
- Assisting with data entry
- Assisting with Online and Manual Editing
- Receiving 2011 PHC Questionnaires
- Compiling and updating computers, printers and other equipment inventory

iii) Data Entry Personnel

22. Approximately 70 Data Entry Operators (DEOs) were recruited for the project. The first batch of 30 started work in November 2011. The others were recruited in February and March 2012 to try and meet the April 2012 deadline. Most of the DEOs had no prior experience in data entry and therefore were very slow.

23. The project lost a number of DEOs due to resignations which impacted on completion of data entry. Four (4)

Permanent CSO staff and Data Entry supervisors joined the DEOs to assist with data entry.

24. Data entry was completed on schedule but there were a number of books which were missed during data entry and there was duplication of households and books.

14.2.4 Closure of the 2011 Population and Housing census Project

25. Despite the challenges encountered with the data, the project was signed off during the month of September 2012 well in advance of the completion of the project and the end of the National Census Coordinator's contract in October 2012.

26. Statistics Botswana constituted a team of forty officers to continue with the census activities, tabulation in particular. The tabulation team indicated a number of inconsistencies relating to, among others:

- a) Education
- b) Economic activity
- c) Age and Sex
- d) Shifting of pages
- e) Missing Section E

27. An edit program was developed by the Development and Maintenance team to resolve the above problems, while at the same time studying the consultant's tabulation program.

14.2.5 Challenges with Online Editing

- 1) Manual and online correcting of geographical codes
- 2) A number of variables with 9s such as level of education, highest level completed, occupation and industry and others were found in the data.
- 3) In the institutional Questionnaire, for questions which were not applicable the system automatically changed them to 9s. This also contributed to the delay in completion of online editing.
- 4) Duplication of questionnaires caused by incorrect numbering of household numbers by the enumerators or wrong entries by the DEOs.
- 5) Manipulation of the system by some DEOs; changing age to less than 12 in order to cut down on entries such as questions A21-A30 or changing Sex (A04) to male in order to avoid keying-in fertility questions.
- 6) Frequently changing and engaging inexperienced data entry and online editing staff in CSPro Software.

14.2.6 Challenges with Tabulation Programs

1. Most of the tabulation Category A to P had been completed and documented but it was realized by the Development and Maintenance team that there were quite a number of dictionaries and it was not clear which one was used for the production of Tables. The dictionaries were updated to align them with the tabulation programs.

14.2.7 Clean Data

28. Selected variables were corrected using automatic imputation from specifications provided by subject matter specialists. Clean data was exported to SPSS and submitted to subject matter specialists for checking and validating automated data and consistency of different variables.

14.2.8 Backup and Data Security

1. The Initial plan when procuring 2 Servers was for one Server to be used to replicate the other, and serve as a backup in case of any failure, but that was never achieved. The other server ended up being used as a backup data server, with restricted access.
2. Scheduled backups were performed daily on the Backup Data Server, to 2 external hard drives and copied to CDs on weekly and monthly basis and put in the Safe at the Census Office. Raw and Edited Data was also copied to Statistics Botswana Headquarters Servers.
3. Antivirus updates were done regularly when the need arose or whenever there was a threat.
4. E-mail/internet were disabled on all data entry and online editing computers and also the use of Flash drives to minimize virus attacks.
5. Regular Antivirus updates on Servers were done.

14.2.9 Equipment Procured

- 1) 97 Desktop Computers and Monitors
- 2) 2 Servers
- 3) 1 Server Rack
- 4) 1 Rack Mountable keyboard integrated with 16-port KVM switch, UPS and Monitor
- 5) 6 Laptops
- 6) 4 Colour LaserJet Printers
- 7) 6 Black and White Sharable Printers
- 8) 2 Line Printers
- 9) 9 External Hard Drives
- 10) 1 Heavy Duty LaserJet Printer
- 11) 1 Heavy Duty Line Printer
- 12) Centralised UPS's for all Data Entry Computers

14.2.10 Project Handing Over

29. The 2011 Population and Housing Census data was handed over to subject matter specialists in October 2013 to facilitate the December 2013 Dissemination Seminar activities.

15. Conclusion and Recommendations

15.1 Conclusion

1. The 2011 Population and Housing Census started in earnest in mid-1999, with the key pre-enumeration activity being mapping and house listing. Another major pre-enumeration activity was the pilot census conducted in August 2010, a year before the actual census as per international best practice. The main census enumeration took place over the period 9 – 18 August 2011. Of the many post-enumeration activities, more time was spent on data processing (data entry, coding and editing). These activities were carried over a period of about two years – from October 2011 to June

2013, much longer than expected due to the overall data quality which was below expectation. Notwithstanding the foregoing, preliminary census results were released within two months of the end of fieldwork while the 2011 basic census counts were released within ten months of completion of fieldwork. Although a number of reports were being prepared at the time of finalising this report, the dissemination in December 2013 effectively marked the end of the project. The project life ran from April 2009 to 31 March 2014.

2. Notwithstanding the long-time taken to produce the main census results, the 2011 Population and Housing Census was conducted successfully and the results were generally considered to be credible. It is estimated that the percentage enumeration rate was around 98 percent, and furthermore the results were consistent with the inter-censal survey findings. The count was way above the projected figure, largely due to positive developments which had a bearing on the mortality assumptions for the projection.

3. From another angle, the success of the census could also be assessed against the setting within which the census was conducted. Firstly, the census was conducted at a time when the then Central Statistics Office (CSO) was transforming into a parastatal – a major undertaking particularly in terms of structural changes. Secondly, an industrial action took place within the entire civil service a few months before the census enumeration and this almost paralysed all government machineries. Thirdly, there was a major change in the school calendar a few months before census enumeration, thus impacting negatively on fieldwork training logistics and availability of teachers for use as field operatives. Finally, with inadequate vehicles from the government fleet being available for census enumeration, the use of hired personal vehicles was employed for the first time. All these developments took place after the pilot census hence brining a new experience altogether in census taking in Botswana.

4. Unlike, the 2001 census, the 2011 Population and Housing Census was a partnership between the Government of Botswana and the United Nations Population Fund (UNFPA). Notwithstanding that, over 80 percent of the cost was funded by the Botswana Government. On the other hand, the UNFPA largely provided technical support (services of National Census Coordinator and Chief Technical Advisor) and the associated logistical support (vehicles, office equipment, fuel, etc.) to the technical team. Collaboration between the two organisations generally worked well. However, designating an external officer (in relation to the Government machinery) posed a challenge especially on staff reporting lines and the effectiveness of the authority bequeathed to the National Census Coordinator with regards to management of CSO staff by the accounting officer (the Government Statistician). As a result of this, some CSO staff got away with lackluster performance. Further to this, within the UN team, there were issues of role clarity, with the NCC and Chief Technical Advisor (CTA) having similar contracts. It can be stated for a fact that optimal value was not derived from having both positions.

5. Although cooperation and collaboration between key players was good, in comparison with past censuses, it would seem the enthusiasm that traditionally was visible in past censuses is waning. For example, participation at the Census Central Committee was not as commendable as it was in past censuses. This includes that of very senior officials. Similarly, cooperation with members of the communities in the conduct of the census could be seen to be waning. There were pockets of communities not cooperating with census officials and in some odd cases there were outright refusals to be enumerated. Interest at the political level was rather lukewarm during the pre-enumeration phases, in contrast to the post enumeration phases when there were many queries on the population of council ward areas.

15.2 Recommendations

a) Census Structures

6. The transformation of the CSO into a semi-autonomous organization is a positive development especially in terms of efficiency and effective service delivery. However, there are high of expectations on financial capability, especially by potential collaborating partners. In readiness for the next census in 2021 this must be managed, especially with key government stakeholders likely to play crucial roles. Of interest are the local authorities, from which the district census structures are drawn.

7. If the 2021 census is going to employ the traditional district structures, the logistical support to such needs due

attention. For instance, now there is need for the structures even during the inter-census period, not just during peak period. For instance, previously it was possible for DCOs to pool Central Transport Organisation (CTO) vehicles and fuel them using CSO votes. Similarly the disbursement of funds to the districts, even though accounting for such proved to be a challenge, was possible before the organisational transformation. As a parastatal, this arrangement will no longer be possible and therefore this needs to be looked into as soon as possible.

8. Census committees especially the Census Central Committee and Census Technical Advisory Committee were not very effective during the last census. Perhaps it is time to review these structures with the view to come up with optimal structures. It is recommended that all the census committees be reviewed for their effectiveness and relevance, with the view to come up with more effective and suitable structures.

b) Role Clarity

9. The role clarity between the Statistical and Technical Operations vis-à-vis that of the Economic and Social Statistics branch, with respect to the census, must be done on time. Experiences in the household surveys conducted following the transformation have proven that a lot of time is spent on back and forth issues related to role clarity, thus resulting in considerable time wastage. It is also important that the top leadership adheres to any mapped process since there have been incidents where their advice has been parallel to the mapped process, thereby creating confusion.

c) Cartographic Work

10. Although the 2011 census is assessed to have been successful, the quality of cartographic work was relatively below expectation – in terms of both quality and turnaround time in the delivery of outputs. Reports from both Census Technical Officers and District Census Officers highlighted this point hence, going forward there must be clear quality assurance mechanisms. In addition there must be robust monitoring and evaluation of the work programme to avoid very late EA Delineation. These recommendations need to be incorporated into cartographic work for the next census to improve the quality of work.

11. The ongoing Land Administration Procedures, Capacity and System (LAPCAS) would play a complimentary role to the 2021 census cartographic activities hence the need to intensify collaboration with the Department of Surveys and Mapping. Statistics Botswana needs to be proactive in establishing a window through which the organisation can work closely with the LAPCAS team. This need not wait for the usual timing of the mapping and house listing.

12. EA digitisation is a very important preparatory exercise for the 2021 census; therefore it must be closely monitored. In that respect, there must be a clear programme, with targets and milestones. All capacity and resource needs must be informed by the detailed programme.

13. The fact that settlement of village boundaries falls outside the province of the Cartography and GIS Unit does not need debating. However, to the extent that such issues have a serious bearing on cartographic work, this is a matter the organisation must be alive to. Against that background, it is recommended that the organisation take proactive steps in facilitating the resolution of 'hot spots areas'.

d) Data Processing Arrangement

14. Against the background of the outsourced data processing arrangement for the 2011 census not having worked satisfactorily, there is need for proper screening especially to guard against 'marriages of convenience' where contractors win tenders and later do not fully deliver. Without doubt outsourcing has proved to work before, for instance in 2001, hence the need for close screening for team composition of the vendors. A one-man team has very high risks, thus has to be avoided at all costs.

15. Appropriate capacity of the Organisation's Information System is critical to the success of census data processing. Capacity of the unit during the 2011 census was inadequate both in number and quality of staff. This is very important even if data processing is outsourced. Whatever option is adopted the organisation needs to have the needed capacity in both numbers and competencies.

e) Technical Officers Role

16. The role of technical officers (TOs) towards the success of any census can never be overemphasised. However, in the 2011 census, the conduct of some TOs adversely affected performance as they delivered below expectation. There is need for the leadership to be resolute, decisive, and transparent and above all prompt in their guidance of the census programme and officers. Technical Officers, as Statistics Botswana staff, must be held accountable for failure to deliver on the work they are assigned.

f) Use of Technology

17. Experience from the Botswana Aids Impact Survey (BAIS IV) in 2013 clearly demonstrated the advantages of using new technology in data collection. Although the use of such is not cheap, early decision on the approach would allow proper planning and budgeting.

18. In the past there has been a lot of advocacy for the use of scanning technology during censuses and the per capita cost argument raised by the office was perhaps justified. With technology generally dropping with passage of time, the organisation needs to reflect on the matter in readiness for the 2021 census. It is important to make a decision very early to allow for proper planning.

g) Source of Field Personnel

19. The use of teachers as a source for field personnel cannot be relied upon. New sources must be piloted using the inter-censal household surveys. There is need for the organisation to be alive to this reality in the upcoming surveys.

h) Pilot Census Size

20. In view of the array of issues that present themselves as potential challenges for the 2021 Population and Housing Census, it is recommended to have a reasonably sized pilot census, relative to past censuses. Early preparation would therefore be very crucial.

Appendix 1: Census Plan (Critical Milestones)

No.Activity	Target Date	Actual	
PRE-ENUMERATION			
1. Administration/Management			
1	Establishing of Census Office	Apr-09	Jul-09
2	Formation of Census Structures	Apr – Nov 2009	Sep – Oct 2009
3	Instruments Development (pre-test, pilot, training)	May 2009 – May 2010	Oct 2009 – May 2010
4	Publicity activities	Jul 2009 – Aug 2011	Jul 2009 – Aug 2011
5	Delivery of printed materials for pilot census	May-10	Jun-10
6	District map inspection for pilot census by TOs	Jul-10	Apr-10
7	Procurement of Equipment for pilot census	Apr - June 2009	May-June 2010
8	Tendering for System Development (Pilot)	Jan-Mar 2010	Feb – Jul 2010
9	Pilot System Development (data capture module)	May – Jul 2010	Sep – Oct 2010
10	Pilot census	Aug-10	Aug-10
11	Pilot Census Data Capture	15/9/10 – 15/11/10	Nov 2010 – Mar 2011
12	Delivery of printed materials for main census	May-11	June/July 2011
13	Data processing & analysis including coding	Sep 2011 – Jul 2012	Sep 2011 – Jun 2013
14	Census Preliminary results	Sep-11	Sep-11
15	Procurement of Equipment for census	Jul – Sep 2010	Nov 2010 – Jun 2011
16	System enhancement for Census	Jan - Aug 2011	Jan – Jun 2011
17	District familiarisation (for main census) by TOs	Jul-11	Jul – Aug 2011
2. Cartography			
1	Map Inventory and contact with the District	Feb-09	Mar-09
2	Data collection instruments	2/28/2009	
3	Recruitment and training of field staff	4/09 – 6/09	May – Jun 2009
4	EA Delineation	Jul 2009 – April 2011	Jul 2009 - Jul 2011
5	Final checking and packaging	6 Jun – 7 Jul 2011	6 Jun – 7 Jul 2011
ENUMERATION			
	Census enumeration	Aug-11	Aug-11
POST ENUMERATION PHASE			
3. Data Processing			
	Data Capture – census	Nov 2011 – Mar 2012	Sep 2011 – Jun 2013
4. Tabulation, Analysis, Report-Writing and Dissemination			
1	Develop and maintain tabulation programs & produce tables	Sep 2011- Jul 2012	Sep 2011 – Jun 2013
2	Dissemination of main census results	Aug-12	Nov-13
3	Dissemination (analytical report, national tables)	Oct 2012 – May 2013	Sep-14
4	Population Projections	Jun2013 – Dec 2013	Feb-15

Appendix 2: Census Order and Regulations

Statutory Instrument Through Government Gazette of 1 April 2011

CENSUS ACT

(Cap. 17:02)

CENSUS ORDER, 2011

(Published on 1 April, 2011)

IN EXERCISE of the powers conferred by section 2 of the Census Act, the Minister of Finance and Development Planning hereby makes the following order –

1. This Order may be cited as the Census Order 2011

2. A census shall be taken in Botswana beginning on the 9th August to the 18 August, 2011.

MADE this 1st day of March 2011.

K. Matambo,
Minister of Finance and Development
Planning

Statutory Instrument Published through Government Gazette of 27 May 2011

CENSUS ACT

(Cap. 17:02)

CENSUS (AMENDMENT) REGULATIONS, 2011

(Published on 27th May, 2011)

ARRANGEMENT OF REGULATIONS

REGULATIONS

1. Citation

2. Amendment of Regulation 6

3. Amendment of Schedule

In exercise of the powers conferred on the Minister of Finance and Development Planning by section 11 of the Census Act, the following Regulations are hereby made –

1. These Regulations may be cited as the Census (Amendment) Citation Regulations, 2011.

2. The Census Regulations (hereinafter referred to as "the Regulations" are Amended in Regulation 6, by submitting -
Amendment
Regulation 6

- for the figure "P100" the figure "P500"; and

- for the words "3 months" the words "6 months".

3. The Schedule to the Regulations is amended by submitting for Amendment the Schedule thereto, the following new Schedule - of the Schedule

CENSUS REGULATIONS, 2011

(Incorporating Amendments by Statutory Instrument Published on 6 July 2011)

REGULATION

2. The duties of officers appointed to be Census Officers shall be-

1. to enumerate persons within Botswana during the period the census is to be taken at such times, other than the periods between 8.00 pm and 6.00 am, and at such places as may be expedient;

2. to ask such questions of any persons so enumerated as may be necessary in order to obtain, in respect of that person and, where expedient, in respect of any other person such as is referred to in regulation 4, the information specified in the Schedule hereto; and

3. to map inhabited areas of Botswana and to include in the maps, among other things, all arable land and cattle post areas.

3. Every person questioned by a census officer in or within the precincts of any house or dwelling shall, if so required by such census officer,-

1. give to the best of his knowledge and belief the information referred to in the Schedule in respect of any member of the household who is present or absent from the house or other dwelling at the time of such questioning;

2. give such information as he may possess as to how long any member of the household who is absent from Botswana has been so absent; and

3. give to the best of his knowledge and belief, the information referred to in the Schedule in respect of any other person who spent the preceding night at the house or other dwelling.

4. A census officer may require any person who has attained the age or apparent age of 12 years to give any information required by or under these Regulations.

5. Forms to be used for purposes of section 6, 7 and 9 of the Act shall be such forms as may be approved therefore by the Minister.

6. (1) Any person who, without reasonable cause,-

1. fails to give any information which he is required by or under these Regulations to give;

2. for purposes of the census, gives to any census officer any information which he knows to be false or does not believe to be true; or

3. willfully hinders or obstructs any census officer in the exercise of the powers or the performance of the duties conferred or imposed on him by the Act or these Regulations, shall be guilty of an offence and liable to a fine of P400 and to imprisonment for 3 months.

SCHEDULE**INFORMATION TO BE OBTAINED BY A CENSUS OFFICER IN RESPECT OF ANY PERSON**

Name
 Relationship
 Sex
 Age
 Citizenship
 Place of birth
 Place of usual living (now, a year ago, 5 years ago)
 Parental Survival (Orphan hood)
 Language spoken
 Education (attendance and attainment)
 Field of education (tertiary institutions)
 Religion
 Marital status
 Economic activity (usual and current)
 Occupation
 Industry
 Children ever born alive (relate to women only)
 Births 12 months prior to the census (relate to women only)
 Household members outside Botswana (number and their characteristics)
 Disability of household members
 Deaths a year prior to the census (Number and their characteristics)
 Livestock ownership
 Crop planting
 Ownership and access to land (for cropping/planting)
 Mode of land acquisition (cropping/planting land)
 Household cash Sources
 Type of housing unit
 Tenure of housing unit
 Number of rooms
 Material of construction of house (Walls, floor, roof)
 Water supply
 Toilet facility
 Refuse disposal
 Energy Source (for lighting, heating and cooking)
 Ownership of durable goods
 Information Communication Technology (ICT) equipment (ownership and access)

MADE this 1st day of March 2011.

K O Matambo
 Minister of Finance and Development
 Planning

Appendix 3 Members of Various Committees**3.1 Census Central Committee members**

NAME	DESIGNATION
1. T. Nyamadzabo SEFP	(MFDP) (Chairperson)
2. A. Majelantle	Acting Statistician General
3. D. Buthali	National Census Coordinator (Secretary)
4. P.Khulumani	Principal Research Officer (Ministry of Health)
5. D.K.Keboneilwe	Chief Rural Sociologist (Ministry of Agriculture)
6. R.Selato	Principal Research Officer (NACA)
7. R.K. Mathhare	National Coordinator (NACA)
8. O.T. Modisa	Director (Ministry of Local Government)
9. T.Thebe	Permanent Secretary (Ministry of Lands & Housing)
10. T. Laletsang	(Invited member - Recording)

3.2 Census Technical Advisory Committee

NAME	DESIGNATION
1. A. Majelantle	Government Statistician
2. D. Buthali	National Census Coordinator
3. T. Laletsang	Census Statistician
4. B.S. Tlhomelang	Principal Statistician – Instruments Development
5. P.L. Mosele	Principal Statistician – Census Data Processing
6. D. Motlapele	Chief Statistician, Health & Education
7. K.Johane	Chief Statistician – Instruments Development
8. T. Maruatona	Chief Statistician – Cartography & GIS
9. K.Mogotsinyane	Chief Statistician – Census Publicity
10. K. Mbiganyi	Principal Statistician, Health
11. P. Khulumani	Principal Research Officer (Ministry of Health)
12. R. Selato	Principal Research Officer (NACA)
13. O.T. Modisa	Director (Ministry of Local Government)
14. M. Sayed	Deputy Secretary (IEC)
15. P.S. Nair	Associate Professor (Dept. Population Studies, UB)
16. M. Keetile	National Programme Officer, UNFPA
17. E. Serati	Director, (Housing Department)
18. M. Bogosi	Deputy Director, (Culture Department)
19. O.I. Phikane	Research Officer, (Youth Department)
20. K. Senne	Principal Planning Officer I (MFDP)
21. D.K. Keboneilwe	Chief Rural Sociologist (Ministry of Agriculture)
22. T.T. Sebina	Principal Surveyor I (Dept. of Surveys & Mapping)
23. N.C.Lepang	Director (Dept. of Civil & National Registration)
24. K. Natere	Senior Surveyor (Dept. of Surveys & Mapping)

3.3 National Communications Committee

NAME	DESIGNATION
1. Dr. Jeff Ramsay	(Chair): Deputy Permanent Secretary (OP)
2. Charmaine Revaka:	Botswana Government Communication and Information Systems (BGCIS)
3. Dabilani Buthali:	National Census Coordinator
4. K Mogotsinyane:	Chief Statistician (Statistics Botswana)
5. Oesi Thothe:	Statistician: (Statistics Botswana - Secretariat)
6. Ruth Kauthengwa:	Principal Statistician (Statistics Botswana)
7. Darlington Kemoabe:	(Statistics Botswana - Secretariat)
8. Tshwaragano Mmerekil:	Public Relations (MFDP)
9. Kelebogile Mutasa:	Public Relations (MFDP)
10. Sefane Phuthego:	(Department of Information Services)
11. Epena Ngatangue:	(Department of Broadcasting)Ngakayagae: (Department of Broadcasting)
12. M. Sennyee:	(Independent Electoral Commission)
13. Moses Keetile:	(United Nations Population Fund (UNFPA))

3.4 Census Standing Committee Members

NAME	DESIGNATION
1. Anna N Majelantle	Government Statistician(Chair)
2. Malebogo P Kerekang	Deputy Government Statistician
3. Kwenagape K Mogotsinyane	Chief Stat. Census Publicity
4. Kebonyethebe Johane	Chief Stat, Instruments Development
5. Phetogo Zambezi	Chief Stat. Environment & Agriculture
6. Moffat Malepa	Chief Statistician, (BCWIS)
7. Dabilani .Buthali	National Census Coordinator
8. Thapelo T Maruatona	Chief Stat. Cartography and GIS
9. Emmanuel P T Bulayani	Census Data Processing Consultant
10. Mopati Ngwako	RPC Data Management
11. Kelebetse Mbiganyi	Head of Unit, Health
12. Tebogo Laletsang	Census Statistician
13. Babuang S Tlhomelang	Principal Statistician, Instruments Dev
14. Susan Matroos	Principal Statistician, Education
15. Royal Chalashika	Principal Statistician, Cartography
16. Phaladi Labobedi	Principal Statistician, Prices
17. Eden Onyadile	Principal Statistician, Labour
18. Virginia Sebekedi	Principal Statistician Demography
19. Johannah Maphane	Chief Admin Officer, Transport
20. Ndiye Nko	Principal Statistician
21. Hokotsang Badisang	Assistant Director, Administration
22. Diemo Motlapele	Principal Statistician, Environment
23. Onneetse Gaosekelwe	Principal Statistician, Trade
24. Gaolatlhe Mmolawa	Principal Statistician, Transport
25. Ruth Mothibi	Chief Stat. Information Technology
26. Petunia Mosele	Principal Stat. Census Data Processing
27. Lekoko Simako	Senior Statistician National Accounts
28. Maclean Gwafila	Principal Statistician, Computing
29. Phemelo Kelekwang	Principal Statistician, Industrial
30. Ketso Makhumalo	Chief Statistician
31. Ditshupo Gaobotse	Principal Statistician, Environment
32. Ruth Kauthengwa	Principal Statistician, Census Publicity
33. Bakang Motswagae	Senior Statistician, Cartography
34. Maitumelo O Molebatsi	Principal Admin Officer, Census Logistics
35. Tebogo Tsienyane	Statistician, Census Logistics
36. Shadie. Baruti	Principal Administration Officer
37. Oesi Thothe	Principal Statistician, Census Publicity
38. Galeboe Kesupile	Principal Stat. Census Quality Assurance

3.5 Census Technical Officers (CSO Staff)

NAME	DESIGNATION
1. Kwenagape.K. Mogotsinyane	Chief Statistician, Census Publicity
2. Phetogo Zambezi	Chief Statistician, Envir & Agric.
3. Boitumelo Kesetse	Statistician, Demography
4. Oesi Thothe	Principal Statistician-Census Publicity
5. Victor Makwati	Statistician, Trade
6. Lesego Tswiio	Statistician-Transport
7. Zilethilwe Steinbach	Assistant Statistician-Computing
8. Game Bakwena	Statistician, Trade
9. Moffat Malepa	Chief Statistician, BCWIS
10. Ontibile Puleng	Chief Statistical Officer
11. Kagiso Bafaletse	Statistician
12. Mothusi Ditlou	Statistician
13. Diemo Motlapele	Chief Statistician, Health & Education
14. Bakang Motswagae	Senior Statistician-Cartography
15. Lucy Toise	Statistician, Agriculture
16. Keanewa Mandoze	Senior Statistician-Trade
17. Kelebetse Mbiganyi	Principal Statistician, Health
18. Daniel Magogwe	Statistician, Prices
19. Ruth Mothibi	Chief Statistician, ITT
20. Lesego Thedi	Senior Statistician-Industrial
21. Winston Kabo	Statistician
22. Yvonne. Muzola	Assistant Statistician- Education
23. Gaolatlhe Mmolawa	Principal Statistician-Transport
24. Stephen Pheko	Principal Statistician-Industrial
25. Ditshupo Gaobotse	Principal Statistician, Environment
26. Christon Daman	Statistician, Cartography
27. Ruth Kauthengwa	Principal Statistician-Census Publicity
28. Phemelo Kelekwang	Principal Statistician-Census
29. Kgalalelo Bareki	Assistant System Analyst, Computing
30. Thapelo.T. Maruatona	Chief Statistician. Cartography and GIS
31. Boago Mashadi	Statistician, BCWIS
32. Rejoice Mbalekelwa	Statistician, Prices
33. Maclean Gwafila	Principal Statistician, Computing
34. Galeboe Kesupile	Principal Stat. Quality Assurance
35. Oneetse Gaosekelwe	Principal Statistician, Trade
36. Judith Letebele	Principal Statistical Officer
37. Phaladi Labobedi	Principal Statistician, Prices
38. Lekoko Simako	Senior Statistician-National Accounts
39. Kealeboga Rampeethwane	Assistant System Analyst, Computing
40. Virginia Sebekedi	Principal Statistician, Demography
41. Phatsimo Bolowe	Statistician-Prices
42. Godiraone Mothelesi	Statistician-National Accounts
43. Dithapelo Lesolame	Statistician-Health
44. Kakanyo Dintwa	Senior Statistician-Environment
45. Never Muchaeli	Assistant System Analyst, Computing
46. Eden Onyadile	Principal Statistician, Labour
47. Tutu Lebengo	Principal Statistical Officer
48. Sandra Modise	Statistician, Agriculture
49. Thebeitsile Nkhutelang	Statistician
50. Petunia Mosele	Principal Statistician, Data Processing
51. Otsile Chelenyane	Assistant Statistician, Environment
52. Mothati Setume	Senior Statistician, Prices
53. Ndiye Nko	Principal Statistician, Agriculture
54. Patience Peloewetse	Statistician-Education
55. Chandler Madisa	Statistician- Prices

56.	Ketso Makhumalo	Chief Statistician (LNPR)
57.	Modise Ramaretlwa	Senior Statistician
58.	Neo Sekgantsho	Principal Statistical Officer-Transport
59.	Kaone Rasedibo	Statistician-National Accounts
60.	Mpho Keboi	Statistician, National Accounts
61.	Moshe Raletsatsi	Statistician, Census
62.	Elliott Ramooki	Senior Statistician, Health
63.	Boitumelo Gaongalelwe	Statistician, Health
64.	Tebogo Tsienyane	Statistician, Census
65.	Susan Matroos	Principal Statistician, Education
66.	Ditiro Bogatsu	Senior Statistician
67.	Phemelo Ntwayapelo	Statistician
68.	Kebonyethebe Johane	Chief Stat. Instruments Development
69.	Giff Mpugwa	Principal Stat. Officer, Cartography
70.	Babuang Tlhomelang	Principal Stat. Instr. Development
71.	Richard Ramosiane	Principal Stat. Officer, Cartography
72.	Sehakangaleng. Mabote	Senior Statistician, Demography
73.	Moffat Masingwane	Statistical Superintendent
74.	Malebogo Rakgantswana	Statistician, Trade
75.	Tumelo Njolomole	Assistant Statistician, Computing
76.	Tebogo Laletsang	Senior Statistician, Census
77.	Thabo Tswiio	Statistician, Census
78.	Motshabi Moreti	Statistical Superintendent
79.	Maipelo Busang	Assistant Statistician, Prices
80.	Royal Chalashika	Principal Statistician, Cartography
81.	Dickson Gareoitse	Senior Statistician- Agriculture
82.	Boammaruri Malemenyane	Principal Stats. Officer, Computing
83.	Kelebemang Ntebele	Principal Stats. Officer, Cartography
84.	Tsholofelo Montsheng	Senior Statistician, Industrial
85.	Bunny Komane	Senior Statistician
86.	Charles Rabothiwa	Principal Statistical Officer

3.6 District Census Officers

DISTRICT	NAME	DESIGNATION
Gaborone	Mr Davies Ntebela	Principal Health Officer
	Mr Tebogo Tshoswane	Principal Economic Planner
	Mr Leshe Toteng	Principal Election Officer
	Ms Mosetsanagape Busang	District Officer
Francistown	Mr Bruce Kojane	Principal Records Manager
	Ms Patricia Mmoloke	Principal Election Officer
	Ms Bompotse F. Ketelo	Principal Housing Officer
	Ms Mmapadi Goakabetswe	Senior HR Officer
Lobatse	Ms Gaomodimo Ntlotlang	Principal Economist II
	Mrs Omphile B. Seiphethlo	Deputy School Head
Selebi Phikwe	Mr Letlhogonolo Nkolane	Assistant DOD
	Mr Nathaniel Maphoto	Principal Economist I
Jwaneng	Mr Phibion M. Mannathoko	Animal Prod Coordinator
Orapa	Ms Dineo Gabete	Deputy School Head
Sowa	Mr Chris K. Moseki	District Aids Coordinator
Kanye/ MoshupaMrs	Maipelo Kesenye	Chief Adult Educ. Officer
	Ms Betty Gaotilwe	Principal Youth Officer
Barolong	Mr Kuate Sebua	District Agricultural Officer
	Ms Letty Regonamanye	Environmental Officer
Ngwaketse West	Ms Malebogo J. Malele	District Agricultural Officer
	Mr Flax G. Setlhare	Princ Social Welfare Officer
South East	Ms Angelinah Leano	District Officer
	Mr Ronnie Mosweu	Assistant DOD
Kweneng East	Mr Koogotsitse L. Molefe	Senior Adult Educ. Officer
	Mr Robert Maabong	Senior Physical Planner
	Mr Mojemela Gaboiphiwe	Senior Wildlife Warden
	Mr Baboloki Lekula	Personal Assistant
Kweneng West	Ms Gaolese Ncaagae	Principal Adult Ed Officer II
	Mr Lucas Kgosiemang	District Agricultural Officer
Kgatleng	Mr Mogomotsi Ramodisa	Principal DOD
	Mr Valentine Neo	Principal Economic Planner
Serowe	Mr Mmolotsi Katholo	Economist II
	Mrs Maikano Madigele	District Officer Development
Palapye	Ms Johana Morwe	Principal Adult Ed. Officer II
	Mr Lebonetse Maifala	Principal Election Officer
Mahalapye	Ms Masego Ngwato	Principal Admin Officer
	Mr Neiso Mokete	Principal Agric Res. Officer I

Bobirwa	Mr Letshwao Mogorosi Mr Tshupo Mogocha	District Officer II Physical Planner
Boteti	Mr Bigboy Mangwa Mr Molefinyana Morebodi	Snr. Assistant District Officer Deputy School Head
Tutume	Mr Thatayaone Maithamako Mr Mpho Leboane	Health Officer II (M&E) District Officer Development
Tonota	Mr Isaac Koogotsitse	Principal Election Officer
North East	Mr Amos B. Chube Mr Mopati Tapiso	Controller of Accounts Chief Env. Health Technician
Ngamiland East	Mr Tlamelo Molefe Mr Mokoka Mokgothu	Principal Education Officer II Chief Env. Health Technician
Ngamiland West	Mr Kenneth Mabote Ms Thutego Knudsen	Scientific Officer District Aids Coordinator
Chobe Delta	Mr Ntoloki Mothobi Mr Edson S. Chaba	Principal Election Officer I Principal Technical Officer
Ghanzi	Mr Ishmael Marenga Ms Gosego Gabana Ms Tshogofatso Lejowa Mr Monnaamasole Monnaamasole	Commercial Officer I District Officer Dev. II District Population Officer SP Planner
Charleshill	Mr Samuel Kenaape	Ass District Aids Coordinator
Kgalagadi South	Mr Tlhabologo Balesamang Mr Ditalelo Segotso	Principal Physical Planner I District Housing Officer
Kgalagadi North	Mr Judas Tjienda Mr Kwenathebe Kethibogile	Principal Education Officer II Chief Technical Officer

Appendix 4: Training Schedules (Enumerators & Supervisors)

Day 1 Session I—Chair DCO-		
	TOPIC/ ACTIVITY	Presenter
0800-0830	Registration of Participants	
0830-0835	Welcome Remarks	
0835-0900	Census Aims and Organisation	
0900-1000	Definition of Terms and Concepts	
	1. Terminology(EA, Locality, Dwelling, Household, Household Head etc.)	
	1. EA Identification procedures	
	2. Map reading	
	3. Geographic coding scheme	
1000-1030	Tea Break	
1030-1130	Definition of Terms and Concepts-Cont'd	
	4. Terminology(EA, Locality, Dwelling, Household, Household Head etc.)	
	5. EA Identification procedures	
	6. Map reading	
	7. Geographic coding scheme	
1130-1230	Preparation for Enumeration (Your Equipment, the EA file, control list-general information, the control list as a reference listing)	
1230-1400	Lunch	
Session II Chair DCO		
1400-1500	Enumeration Procedure (How to approach the public, Interviewing procedures, whom to enumerate etc.)	
1500-1515	Tea Break	
1515-1545	Enumeration Procedure (How to approach the public, Interviewing procedures, whom to enumerate etc.)	
1545-1630	The Questionnaire (General Points, the structure of the HH questionnaire, How to fill in the questionnaire)	
Day 2 Session I Chair- DCO		
0800-0815	Recap of Previous Topics	
0815-1000	Questionnaire (A1-A7)	
1000-1030	Tea Break	
1030-1130	Questionnaire (A8-A12)	
1130-1230	Questionnaire (A13-A18)	
1230-1400	Lunch	

Session II Chair DCO			
	1400-1500	Questionnaire (A19-A24)	
	1500-1515	Tea Break	
	1515-1630	Questions/Discussions (exercise on economic activity)	
Day 3 Session I DCO			
	0800-0815	Recap of Previous Topics	
	0815-0845	Questionnaire (A25-A30)	
	0845-0915	Section B	
	0915-1000	Section C (Disability)	
	1000-1030	Tea Break	
	1030-1100	Section D (Deaths)	
	1100-1130	Questionnaire (E1-E7)	
	1130-1200	Questionnaire (E8-E16)	
	1200-1230	Questionnaire (E17- E24)	
	1230-1400	Lunch	
Session II Chair—DCO			
	1400-1500	Procedure after Household Enumeration	
	1500-1515	Tea Break	
	1515-1630	Institutional Questionnaire/Hotel Guest form	
Day 4 Session I Chair DCO			
	0800-0815	Recap of Previous Topics	
	0815-0845	Duties of a Supervisor	
	0845-1000	Detailed Checks	
	1000-1030	Tea Break	
	1030-1130	Supervisors' Summaries	
	1130-1230	Classroom Interview Practice 1	All
	1230-1400	Lunch	
Session II Chair—DCO			
	1400-1500	Discussions/Evaluation of Classroom Interview 1	All
	1500-1515	Tea Break	
	1515-1600	Classroom Interview Practice 2	All
	1600-1630	Discussions/Evaluation of Classroom Interview Exercise 2	
Day 5 Session I Chair DCO			
	0800-0815	Recap of Previous Topics	
	0815-1000	Practicals on Supervisors' Summaries	All
	1000-1030	Tea Break	
	1030-1230	Practicals on Supervisors' Summaries	All
	1230-1400	Lunch	
Session II Chair DCO-			
	1400-1500	Class Group Discussions	All
	1500-1515	Tea Break	
	1515-1615	Class Group Discussions	All
	1615- 1630	Evaluation of Training	Trainers/TOs

Day 6 Session I Chair- DCO			
	0800-0900	Written Test	TOs/DCOs
	0900 -1000	Marking and Selection of Supervisors	Trainers/TOs
	1000-1030	Tea Break	
Session II- Chair- DCO			
	1030-1230	Marking and Selection of Supervisors-continued -Administrative Logistics	Trainers/TOs
	1230-1400	Lunch	
	1400 – 1600	1. Announcement of Results 2. End of Workshop Remarks	DCOs

Appendix 5: - Refresher Training Programme

DAYS	SESSION	TOPIC/ ACTIVITY	Presenter	
Day 1	1400-1600	Supervisors Only		
		1. Duties and responsibilities of supervisors		
		2. Enumerator and supervisor materials		
		3. The use of Enumerator Monitoring sheet		
		4. Checking of enumeration completeness (orange and white labels)		
		5. Re-deployment of enumerators where necessary		
		6. Detailed checks		
		7. Source of details for EA book totals		
		8. Source of details for Control list totals		
		9. Reconciliation of EA Book and Control List totals		
DAYS	SESSION	TOPIC/ ACTIVITY	Presenter	
Day 2	0800-0815	EA Identification Procedures		
		1. Map Utilization		
		2. Use of Geographical Coding Scheme		
	3. EA File (Map, Control list)			
	0815-0830	Emphasis on Census Concepts		
		1. Enumeration Area		
		2. Locality		
		3. Lolwapa/Dwelling		
		4. Household Respondent		
	5. Head of Household			
0830-0900	Enumeration Procedure			
	1. Establishing Number of Households			
	2. Identifying Household Head			
	3. Whom to enumerate and Cases of no one at home			
	4. Those who slept with the household but have left			
	5. Revisits and Revisit Record			
	6. Use of control list during Enumeration			
7. Use of white and orange labels				

0900-0930	Questionnaire General Points		
	1.	Shaded and Unshaded parts of the questionnaire	
	2.	Number of Digits for each response	
	3.	not applicable or Skips	
	4.	Cancellation of Responses	
	5.	Use of comments box	
	6.	Avoid reserving or skipping questionnaire sheets	
0930-1030	Tea Break		
1030-1300	PRACTICAL INTERVIEWS		
1300-1400	Lunch Break		
1400 – 1700	Administrative Logistics		
	1.	Distribution of Census Materials	
	2.	Deployment/Disperse to Census Enumeration Areas	DCOs

Appendix 6: Guidelines to Training Officers

Although the training is to follow the Enumerator's Manual, some sections are fairly straightforward hence trainers may produce notes rather than read line by line. Suggestions have been proposed to follow in making such notes. In some sections it is suggested that trainers read the manual line by line in order to retain the required detail. However, where possible, trainees will be provided with the manuals in advance.

1. Administrative Issues

Read the section line by line. Trainees must understand the section fully hence trainers must ensure that the section is understood by the enumerators.

1. Census Organisation
2. Objectives of census
3. Reference to Census Act

4. Concepts and Definitions

Read the section line by line. Trainees must understand the section fully hence trainers must devote more time to the section.

5. Preparation for Enumeration

Read the section line by line. Trainees must understand this section fully hence trainers must devote more time to the section.

6. Enumeration Procedure

As a guide, put emphasis on the following issues:

7. Courtesy in dealing with members of the public
8. Establishing number of households
9. Establishing the household head
10. Whom to Enumerate
11. Cases of no one at home
12. Questionnaire General Points
 - Who fills the questionnaire
 - Shaded and unshaded parts of the questionnaire lines
 - Number of digits for each answer
 - Cases of "not applicable"/Skips
 - Cancellation of responses
 - Answers not known
 - Avoid skipping/reserving pages
 - Use of comments box
13. Enumeration of those who slept with but have left the household
14. Revisits and revisits forms
15. Structure of questionnaire

16. Census Questionnaire

The presentation should focus on the census questionnaire but with constant reference to the manual except where it is indicated otherwise.

A1 – A7

As a guide, emphasize the following issues:

1. Order of listing persons
2. Listing of head of Household in relation to other members
3. Birth and death during census night
4. Serial number and households with more than 10 members
5. No sex not known
6. Age to be estimated at all costs, use events calendar, ID, Clinic cards, etc. (Do not demand but rather request for these documents)
7. Recording of age below 1 year or above 98
8. Age in completed years
9. Age consistency with relationship
10. Writing of locality, District or country name
11. Place of birth, usual place of residence of mother at time of birth of child
12. Name of locality of birth, specify the district
13. Significance of place of birth

A8 - A12

14. What is usual place of residence
15. Usual place of residence of residents, tourists, etc.
16. Importance of parental survival/orphanhood
17. Biological rather than foster parents

A13 – A15

18. Language (most spoken at home language) not dialects
19. Age cut-off point for questions
20. Education level, Education level for those still attending
21. Connotation attached to first digit of education level
22. What is the Field of Education
23. Recording of field of education (Answer of at least two words)

A16 – A24

24. Go through questionnaire followed by reading the section paragraph by paragraph
25. Religion but not church denominations
26. Acceptance of marital status as given (minimal probing)
27. Distinction of marital status categories in brief
28. Answers of at least two words (occupation and industry)
29. Make reference to some few probing examples for occupation and industry
30. Take note of the reference periods used (stress past 12 months and past 7 days)
31. The 'work for at least one hour' concept in the past 7 days reference period very important.
32. Distinction between paid and unpaid activities

A25 – A30

33. Linking fertility to females only rather than to males
34. Treatment of still births
35. Consistency of A25 to A28
36. Case of visiting mothers
37. Treatment of no births and unknown number of children for eligible females
38. Total fertility and current fertility, age restrictions
39. Consistency between A25 to A28 and A29 versus A30

Section B

40. Household members (CITIZENS) outside Botswana during census night
41. Cases of no absentees (use of dashes)
42. Duration of absence since last visit
43. Cases of re-visits
44. Duration of absence (years and months, e.g. treatment of periods of 18 months)
45. More than 3 absentees (treatment of Part A, C, D, E)
46. No sex unknown to be allowed
47. Age to be estimated at all costs, use events calendar, O mang, Clinic cards, etc. (Do not demand but rather kindly request for use of these documents)
48. Age below 1 year or above 98
49. Age in completed years
50. Age consistency with relationship
51. Questions B10 – B13 also apply to persons aged below 2 years and those below 12 years
52. Education Level and Field of Education (refer to presentation for A14 – A16)

Section C

53. Persons living with disability must be from A1 or B1
54. Distinction between defect and inability to use
55. Brief description of responses is most recommended

Section D

56. Multiple reporting to be avoided, there is need for probing
57. 14 days qualification period
58. Treatment of deaths after and before 6 o'clock
59. Treatment of more than 3 deaths (continuation)
60. Name of usual place of residence of the deceased
61. Consistency between relationship and age

E1 – E7

62. Exclusion of non-household members
63. Circling of codes and recording of responses not listed
64. Brief description of land acquisition modes
65. Importance of informal sector sources of income
66. Cash activities of members not enumerated with the household
67. Unearned income, remittances, maintenance (flow direction), etc

E8 - E16

68. Distinction between housing unit and house
69. Brief description of types of housing units
70. What tenureship means
71. What qualifies to be a living room
72. What is main house
73. Materials of construction of main house
74. Many sources of water but only one principal
75. Toilet facility used but not necessarily owned
76. Distinction between Pit latrine, VIP and Dry Compost (e.g. Enviro-Loo)
77. Main method of refuse disposal used by the household

E17 – E24

78. Energy Sources (used for lighting, cooking, heating), just principal needed
 79. Space heating rather any other heating
 80. Durables owned must be in a working condition and be in the dwelling unit
 81. Ownership of ICT Equipment (must be in a working condition)
 82. Access to Internet by members of the Household

After Household Enumeration

Read Part 5 of the Manual paragraph-by-paragraph (Stressing most critical points)

Institutional Questionnaire

83. Draw attention to similarity and differences (compared with EA Book)
 1) Sections B, D and E excluded
 2) Hotels/lodges forms, transcription of data into questionnaire
 3) Residence question
 4) Prisoners response category (has been included)
 5) Fertility Questions
 84. If one has to use of household questionnaire for enumerating institutions
 85. Who is covered by the IQ
 86. Identification Particulars for Institutions
 87. Completing the Control List
 88. Completing the IQ book summary

SUPERVISORS TRAINING**89. Duties of Supervisors (Supervisor's Manual)-**

90. Enumerator and supervisor materials
 91. Public relations and courtesy
 92. Enumerator monitoring sheet
 93. Checking completeness of enumeration (White and Orange labels)
 94. Re-deployment of enumerators
 95. Colour of pen to use

Detailed Checks (Supervisor's Manual)

Read the relevant section of the Supervisor's Manual paragraph by paragraph

Supervisor Summaries (Supervisor's Manual)

Read the relevant section of the Supervisor's Manual paragraph by paragraph, put emphasis on:

96. Source of details for EA Book totals
 97. Source of details for Control List totals
 98. Balance EA Book and Control List totals

Appendix 7: Vehicles Details By Districts 2011 Population and Housing Census Vehicle Details

Serial No	District Code	District Name	No of EAs (2001 Census)	Vehicles Details			
				Robust 4x4 Vehicles	Other 4x4 Vehicles	Other Vehicles 4x2/cars	Total
1	1	Gaborone	481	-	-	183	183
2	2	Francistown	191	-	-	73	73
3	3	Lobatse	78	-	-	30	30
4	4	S/Phikwe	141	-	-	54	54
5	5	Jwaneng	38	-	-	14	14
6	6	Orapa	29	-	-	11	11
7	7	Sowa	14	-	-	5	5
8	10	Southern	290	2	18	103	123
9	11	Barolong	122	-	13	41	54
10	12	Ngwaketse W	31	24	7	0	31
11	20	South East	117	-	10	41	51
12	30	Kweneng E	429	1	16	157	174
13	31	Kweneng W	113	15	21	29	65
14	40	Kgatleng	181	5	61	44	110
15	50	C. Serowe/P	401	14	40	132	186
16	51	C. Mahalapye	281	6	18	98	122
17	52	C. Bobonong	177	2	12	62	76

Appendix 8: Control List

Form CF2-2000 F-2010



REPUBLIC OF BOTSWANA
2010 POPULATION AND HOUSING CENSUS

District: Village: Page of
Locality: Enumeration Area:

Serial Number	Lolwapa/Dwelling Number	Name of Head of Lolwapa/ Household	Status: 1 Enumarated 2 Revist 3 Empty 4 Other	No. of h/h	Enumerated Households								Comments
					(1)		(2)		(3)		(4)		
					p/p	p/a	p/p	p/a	p/p	p/a	p/p	p/a	
1													
2													
3													
4													
5													
6													
7													
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29													
30													
31													
32													
Total this Page													

p/p = Persons present
p/a = Persons absent
h/h = Household

Appendix 9: Prelisting Form

Census District:	Code
Village:	Code
Locality:	Code
Enumeration Area:	Code

Date Started EA						Date Completed EA					
D	D	M	M	Y	Y	D	D	M	M	Y	Y

No.	Plot/ Lolwapa Number	Plot Type	Main use of plot/Lolwapa	Non Residential	Name of contact person in Lolwapa	No. of persons living in the Lolwapa	Comments
		01 = Residential	01=Residential Occupied	01 = Business			
		02 = Non Residential (skip to A5)	02 = Residential Vacant	02 = School			
		03 = Both	03 = Residential under Construction	03 =Church			
				04=Govt. Offices			
				05= Others (Specify)			
(A1)	(A2)	(A3)	(A4)	(A5)	(A6)	(A7)	(A8)
1							
2							
3							
4							
5							
5							
7							
8							
12							
13							
TOTAL IN THIS PAGE							

No.	Plot/ Lolwapa Number	Plot Type	Main use of plot/ Lolwapa	Non Residential	Name of contact person in Lolwapa	No. of persons living in the Lolwapa	Comments
		01 = Residential 02 = Non Residential (skip to A5) 03 = Both	01=Residential Occupied 02 = Residential Vacant 03 = Residential under Construction	01 = Business 02 = School 03 =Church 04=Govt. Offices 05= Others (Specify)			
(A1)	(A2)	(A3)	(A4)	(A5)	(A6)	(A7)	(A8)
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
..							
33							
34							
35							
35							
37							
GRAND TOTAL							
Mapper's Name: _____ Signature: _____ Date: _____							

Appendix 10: Site Condition Form 2011 POPULATION AND HOUSING CENSUS

Census District:	Code
Village:.....	Code
Locality:.....	Code
Enumeration Area:	Code

Summary from Pre-Listing Form:			
Total Population	Res. Occupied	Res. Vacant	Total Residential

This Locality is:

1	Village	4	Freehold Farm	7	Boarder Post
2	Lands Area	5	Mixed Lands/Cattle post	8	RAD Settlement
3	Cattle Post	6	Workers camp	9	Others

Local Language Spoken (circle only main language)

10		14	Sembukushu	18	Sesubia
11		15	Sekgalagadi	19	Sekgothu
12		16	Afrikaanse	20	Others
13		17	Sesarwa		

Main source of water supply throughout the year:

Located WITHIN this locality		Located OUTSIDE this locality	
21	Stand pipe (Government/Council)	28	Stand pipe (Government/Council)
22	Stand Pipe (Private)	29	Stand Pipe () km
23	Borehole	30	Borehole () km
24	Dam/Pan	31	Dam/ Pan () km
25	River	32	River () km
26	Riverbed	33	Riverbed () km
27	Others	34	Others: ()

Public Transport:

35	Regular, almost daily	38	Tarred road
36	Irregular or else	39	Gravel road (2 wheel drive)
37	Not existing	40	Tracks (4 wheel drive)

Health Facilities:

41	Health Post	44	Clinic
42	Health Centre	45	Hospital
43	Mobile Clinic		

Primary School:			Secondary School		
46	Private	Standard	49	Private	Form
47	Public	Standard	50	Government	Form
48	Aided	Standard	51	Aided	Form

Churches (must have building available)					
52	Lutheran		57	Seventh Day Adventist	
53	Catholic		58	Spiritual Healing Church	
54	Anglican		59	Dutch Reformed	
55	Methodist		60	U.C.C.S.A	
56	ZCC		61	Other	

Agriculture				
62	Cattle Crush		66	Other
63	Poultry			
64	Ostrich Farming			
65	Dairy Farming			

Other Facilities:				
67	Post office		75	Brigade
68	Postal Agency		76	Police Post
69	Public Telephone		77	Guest house/ Hotel
70	Telephone		78	Restaurant
71	Bank		79	Petrol Station / Diesel Station
72	Supermarket		80	Electricity
73	General Dealer		81	Other
74	Bottle store			

Comments:

Appendix 11: Enumeration Check Control


A-E

IF LOST BUT FOUND PLEASE, RETURN TO:

CENSUS OFFICE
PRIVATE BAG B0339
GABORONE


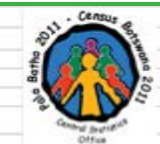
OR

NEAREST DISTRICT COMMISSIONER'S OFFICE



CENTRAL STATISTICS OFFICE

Check Digit:

CENTRAL STATISTICS OFFICE

MINISTRY OF FINANCE AND DEVELOPMENT PLANNING

2011 POPULATION AND HOUSING CENSUS

HOUSEHOLD QUESTIONNAIRE

District:

Enumeration Area:

ENUMERATION CHECK CONTROL (TO BE COMPLETED BY THE ENUMERATOR)

Page Number	Village Code	Locality Code	Lobvapa Number	Number of Enumerated		Person(s) Outside Botswana (Part B)	COMMENTS
				House-Hold	Person(s) Present (Part A)		
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
TOTAL							

FOR CENSUS OFFICE USE ONLY

CENSUS BOOK CHECK CONTROL

EA Book Number:

Date:

OPEN: CLOSE:

Enumerated - Households:

Persons Present:

Persons Outside Botswana:

Persons Disabled:

CENSUS DATA PROCESSING CONTROL

Processing	Name	Signature	Started	Finished

Comments:

Enumerator:

Signature:

Date:

Supervisor:

Signature:

Date:

Technical Officer:

Signature:

Date:

District Census Officer:

Signature:

Date:

Census Office Storekeeper:

Signature:

Date:

GENERAL OBSERVATION:

STATISTICS BOTSWANA

Appendix 12: Household Questionnaire

CONFIDENTIAL REPUBLIC OF BOTSWANA HOUSEHOLD QUESTIONNAIRE

A 2011 POPULATION AND HOUSING CENSUS

NAME	SR NO.	RELATIONSHIP	SEX	AGE	CITIZENSHIP	PLACE OF BIRTH	PLACE OF USUAL LIVING			PARENTAL SURVIVAL	LANGUAGE	EDUCATIONAL ATTAINMENT	
							NO.	YEAR AGO	5 YEARS AGO			1 Still at School	2 Left School
<p>What are the names of all persons who spent last night here?</p> <p>Have you included babies?</p> <p>Have you included elderly persons?</p> <p>Have you included people living with disabilities?</p> <p>Have you included the sick?</p> <p>Have you included visitors and those who normally spend the night here but were away on night duty, at prayer meeting, etc?</p>													
A1	A2(1)	A3(1)	A4	A5(1)	A6 (D)	A7 (C)	A8(1)	A9 (C)	A10 (C)	A11	A12	A13 (C)	

B LIST ALL MEMBERS OF THIS HOUSEHOLD (BOTSWANA CITIZENS ONLY) OUTSIDE BOTSWANA

NAME	RELATIONSHIP TO THE HEAD OF HOUSEHOLD	SEX	AGE	EDUCATIONAL ATTAINMENT	MARITAL STATUS	CURRENT RESIDENCE	DURATION OF ABSENCE	REASON FOR ABSENCE
B1	B2	B3	B4	B5	B6	B7	B8	B9

C DISABILITY

NAME	SEX	Does any listed person in A1 and B1 have any of the following disabilities?
C1	C2	C3

D DEATHS

SR NO.	RELATIONSHIP	SEX	AGE at Death	USUAL RESIDENCE	What was ...'s usual place of residence at time of death?
D1	D2	D3	D4	D5	D6

E (AS - FOR ALL AND CIRCLE IF YES)

AGRICULTURE AND LAND ACQUISITION	AGRICULTURE	HOUSEHOLD RECEIVES CASH FROM	REMITTANCES FROM	OTHER RECEIPTS	TYPE OF HOUSING UNIT	TENURE OF HOUSING UNIT	NUMBER OF ROOMS	AS - FOR MATERIAL OF CONSTRUCTION OF THE MAIN HOUSE FOR THE HOUSEHOLD	FLOOR	ROOF	WATER SUPPLY	TOILET FACILITY	REFUSE DISPOSAL
E1	E2	E3	E4	E5	E6	E7	E8	E9	E10	E11	E12	E13	E14

DISTRICT: [] VILLAGE: []

Locality: []

Enumeration Area: [] Check Digit: []

Lowapa/House Number: [] Household number: []

F ALL PERSONS 2 YEARS AND OVER

EDUCATION (14 and under A13)	RELIGION	MARITAL STATUS	ECONOMIC ACTIVITY	OCCUPATION	INDUSTRY	FERTILITY AND CHILD SURVIVAL - FEMALES													
F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	F14	F15	F16	F17	F18	F19	F20

G PRINCIPAL FUEL

GIFTING	COOKING	HEATING(Space)
G1	G2	G3

H OWNERSHIP OF DURABLES

Does any member of this household own any of the following in a working condition? (in this housing unit)
H1

I OWNERSHIP OF TELEPHONE

Does any member of this household own a cellular phone? (From A1 and B1)
I1

J INTERNET ACCESS

Does any member of this household have access to internet from:
J1

K ENUMERATOR'S

Name:	Signature:	Date:
K1	K2	K3

Appendix 15: Document Control Form (Main Census)

District _____		Code _____	
		QUANTITY	
		RECEIPT	RETURN
Enumerator's Satchels Yellow			
Within Each Satchel	Pens (Blue/Black)		
	Round Neck T-Shirt		
	Cap		
	Census Badge		
	White Adhesive Stickers		
	Orange Adhesive Stickers		
	EA File (Control List, EA Map)		
	EA Books (State Sr. #s)		
Supervisor's Satchels Green			
Within Each Satchel	Pens (Blue/Black)		
	Pens (Red)		
	Round Neck T-Shirt		
	Hat		
	Torch		
	White Adhesive Stickers		
	Orange Adhesive Stickers		
	Census Badge		
	Supervisor's EA File (Control List, EA Map)		
	EA Books(State Sr. #s)		
	IQ Books(State Sr. #s)		
	Hotel Forms		
	Self-Addressed Envelope		
	Supervisor's Manual		
	First Aid Kit		
Issued by: _____ Designation: _____ Signature: _____ Date: _____ Received by: _____ Designation: _____ Signature: _____ Date: _____			

District _____		Code _____	
		QUANTITY	
		RECEIPT	RETURN
DCO's			
	DCO's Manual (State Sr. #s)		
	District Map		
	Letter of Introduction		
	Oath of Secrecy		
	Enumerator's Appointment letter		
	Supervisor's Appointment letters		
	Yellow Satchels Enumerators'		
	Green Satchels Supervisors'		
Spare Material	Yellow Satchels Enumerators'		
	Green Satchels Supervisors'		
	White Adhesive Stickers		
	Orange Adhesive Stickers		
	Pens (Blue/Black)		
	Pens (Red)		
	Control list		
	Supervisor's Manual		
	EA Books(State Sr. #s)		
	IQ Books(State Sr. #s)		
	Hotel Forms		
	Self-Addressed Envelope		
	Enumerators Satchels		
	T-Shirts		
	Cap		
	Car Stickers		
	Issued by		
	designation		
	Signature		
	Date		
Received by			
Designations			
Signature			
Date			

Appendix 16: Census Budget 2011 (Pula)**Botswana 2011 Census Budget Expenditure (Pula)**

Description	2009/ 10	2010/11	2011/12	Budget 2012/13	Budget 13/14	Total (BW Pula)
Equipment & Materials	320,466.15	1,261,473.00	2,649,731.00	382,064.82	282,620.80	4,896,356
Computer Hardware	-	870,000.00	1,017,898.00	62,400.58	30,800.00	1,981,099
Information management System	-	4,405,008.60	2,900,924.00	624,005.83	122,800.00	8,052,738
Software	-	143,800.00	507,026.00	249,602.33	246,400.00	1,146,908
Cabling and Networking	-	2,000.00	61,600.00	-	-	63,600
Promotion and Advertising	152,693.08	2,660,270.35	5,427,929.20	383,294.52	260,010.00	8,884,197
Implementation Fees	165,717.21	1,394,557.60	608,836.95	926,048.92	1,909,200.00	5,004,361
Transport	788,806.80	4,827,371.70	18,560,008.75	436,804.08	431,200.00	25,044,191
Salaries and Wages	1,152,525.59	8,182,756.75	5,210,090.75	1,567,563.93	722,700.00	16,835,637
Workshop and Seminars	232,710.71	1,107,395.45	9,063,000.00	1,018,179.27	845,900.00	12,267,185
Allowances	-	1,525,250.00	34,737,061.00	612,862.87	671,000.00	37,546,174
Total*	8,066,692.00	26,379,963.50	80,744,106.00	6,262,827.00	5,522,631.00	126,976,218.59

*Government Budget was lumped under one vote in 2009/10

