

# Botswana - Botswana AIDS Impact Survey 2001

**Central Statistics Office (CSO) - Ministry of Finance and Development Planning**

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# Overview

## Identification

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### ID NUMBER

BWA\_2001\_AIS-I\_v01\_M

## Overview

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### ABSTRACT

In most parts of the world, individuals, communities and their leaders struggle with the best way to address concerns about HIV and AIDS. For Botswana, like in many other countries, the HIV/AIDS epidemic represents one of the most serious social problems in recent history, especially for countries in the Sub Saharan Africa. Southern Africa holds the majority of the world's hard hit countries.

The first cases of HIV in Botswana were diagnosed in 1985. The rapid spread of the infection and AIDS in Botswana over the past 13 years has been tremendous. UNAIDS estimates indicate that by the end of 1999, at least one in four adults in Botswana was living with HIV.

Botswana like other countries, has implemented programs to improve the knowledge about how HIV is transmitted as well as strategies for HIV/AIDS prevention and control. The current strategies include Sentinel surveillance; i.e surveys which are conducted annually or biannually to obtain information on the prevalence of HIV/AIDS, monitor trends of HIV/AIDS infection, provide information for program planning, monitoring and evaluation and assess the impact of intervention programs.

The Central Statistics Office conducted the 2001 Botswana AIDS Impact Survey. The Botswana Government provided funding and Botswana UNDP office assisted with consultancy fees for all consultants engaged at various stages of the survey.

The survey report presents results on the principal topics covered in the survey and on the UNAIDS indicators.

### Objectives

The Botswana AIDS Impact survey was conducted to obtain more information on topics related to HIV/AIDS. The main objective of this survey was to provide information to:

- Assess whether programs are operating as intended
- Assess performance of intervention programs
- Assess whether people are changing their sexual behaviour
- Establish the proportion of people in need of care due to HIV infection
- Establish the proportion of people who are at risk of HIV infection
- Assess the impact of the pandemic at household level
- Provide information on issues related to the impact of HIV/AIDS on household and communities.

### KIND OF DATA

Sample survey data [ssd]

## Coverage

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### GEOGRAPHIC COVERAGE

National

## Producers and Sponsors

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**PRIMARY INVESTIGATOR(S)**

Name	Affiliation
Central Statistics Office (CSO)	Ministry of Finance and Development Planning

## Metadata Production

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**METADATA PRODUCED BY**

Name	Abbreviation	Affiliation	Role
Development Economics Data Group	DECDG	The World Bank	Documentation of the DDI

**DATE OF METADATA PRODUCTION**

2012-03-01

**DDI DOCUMENT VERSION**

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# Sampling

## Sampling Procedure

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Frame: The Botswana Multiple Indicator Survey (BMIS) of 2000 collected data on health indicators. The BMIS 2000 sample served as the sampling frame for the BAIS. Ninety eight (98) sample points out of 215 BMIS sampling points were selected. The target population in BAIS is the same as in BMIS.

Sample Design : The sample for the 2001 Botswana AIDS Impact Survey was designed to provide estimates of AIDS indicators at the national level, urban and rural areas, and for the fourteen districts: Gaborone , Francistown , Lobatse, Selebi-Phikwe, Small towns (Jwaneng, Orapa, and Sowa), Southern, South East, Kweneng, Kgatleng, Central, North-East , North West , Ghanzi, and Kgalagadi.

A stratified two-stage probability sample design was utilised for the selection of the sample.

The first stage was the selection of Enumeration Areas (Eas) as Primary Sampling Units (PSUs) selected with probability proportional to measures of size (PPS), where measures of size (MOS) are the number of households in the EAs as listed in MIS 2000. In all 98 EAs were selected with pps out of 215 EAs.

At the second stage of sampling, the households were systematically selected from a fresh list of occupied households prepared at the beginning of the survey's fieldwork (i.e. listing of households for the selected EAs). Overall 2000 valid households were drawn systematically.

The sample is not self-weighting because it was stratified by districts.

## Response Rate

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Of the 2,126 households selected for the Botswana AIDS Impact sample, 2,023 were found occupied. Of these, 1,781 were successfully interviewed, yielding a household response rate of 88.0 percent. The response rates in urban and rural areas were 90.3 percent and 85.8 percent respectively. In the interviewed households, 4,728 eligible persons aged 10-64 years were identified. Of these, 4,494 were successfully interviewed, yielding a response rate of 95.1 percent.

# Questionnaires

## Overview

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Household Questionnaire : A household questionnaire was administered in each selected household, which collected information on various topics related to HIV/AIDS on household members including sex, age, marital status, education, water and sanitation, and orphanhood status.

The Household questionnaire contains the following topics:

- Demographic characteristics: Age, sex, marital status, place of usual living and citizenship.
- Education
- Parental survival and fostering
- Economic activity
- Deaths in household
- Care and support for sick people
- Water and sanitation

Individual Questionnaire: The individual questionnaire for the 2001 Botswana AIDS Impact Survey was based on the UNAIDS Model Questionnaire with some modifications and additions. Some of the modifications include lowering the age limit of the eligible persons to 10 years, increasing the upper limit to 64 years and modifying some questions in order to adapt the questionnaire to Botswana situation. In addition to the household questionnaire, questionnaires were administered in each household for men and women aged 10-64 years. The individual questionnaire for men and women contains the following topics:

- Marriage and cohabiting partnerships.
- Sexual history and behaviour.
- Sexually transmitted diseases.
- Knowledge about HIV/AIDS and exposure to interventions.
- Attitudes towards people living with HIV/AIDS and HIV testing.
- Child bearing and antenatal care.

Community Questionnaire : The community questionnaire aimed to obtain information a) about the perceived impact of AIDS on the community, b) the problems caused by AIDS, and c) the coping mechanism and responses developed by the community.

## Data Collection

### Data Collection Dates

Start	End	Cycle
2001-01-18	2001-03-05	N/A

### Data Collection Mode

Face-to-face [f2f]

#### DATA COLLECTION NOTES

##### Fieldwork

The field-staff was trained from 4 th January to 18 th January 2001. The data were collected by fifteen teams; each comprising of four interviewers (two males and two females), one driver, and a supervisor. There were a total of 98 blocks (EAs) and each team was assigned an average of 5-8 blocks. The fieldwork started on the 20 th January and ended on the 5 th January 2001. During the fieldwork two questions related to sexual behaviour especially sexual partners were dropped due to high rate of refusals experienced.

## Data Processing

### Data Editing

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Before data entry was carried out, the questionnaires were edited to check if all the relevant questions have been responded to and coded according to the codes designed for the study. Data entry was carried out between February and March, 2001 by 8 data entry operators under the supervision of one programmer/supervisor. Consistency checks on the data set as per the Computer Edit Specifications designed by the subject matter specialist were performed. Data editing began in April and finished in June, 2001. The data tabulation and analysis was completed at the end of November.

## Data Appraisal

### Estimates of Sampling Error

#### SAMPLING ERRORS

Two types of errors affect the estimates from a sample survey: (1) non-sampling error, and (2) sampling errors. Nonsampling errors are the results of mistakes made in implementing data collection and data processing, such as failure to locate and interview the correct household, misunderstanding of the questions on the part of either the interviewer or the respondent, and data entry errors. Although numerous efforts were made during the implementation of the BIAS to minimise these type of errors, non-sampling errors are impossible to avoid and difficult to evaluate statistically.

Sampling errors, on the other hand, can be evaluated statistically. The sample of respondents selected in the BIAS is only one of many samples that could have been selected from the same population, using the same sample design and expected size. Each of these samples would yield results that differ somewhat from the results of the actual sample selected. Sampling errors are a measure of the variability between all possible samples. Although the degree of variability is not known exactly, it can be estimated from the survey results. A sampling error is usually measured in terms of standard error for a particular statistic (mean, percentage, etc.), which is the square root of the variance. The standard error can be used to calculate confidence intervals within which the true value for the population can reasonably be assumed to fall. For example, for any given statistic calculated from a sample survey, the value of that statistic will fall within a range of plus or minus two times the standard error of that statistic in 95 percent of all possible samples of identical size and design.

If the sample of respondents had been selected as a simple random sample, it would have been possible to use straightforward formulae for calculating sampling errors. However, the BIAS sample is the results of a stratified two stage design, and, consequently, it was necessary to use more complex formulae.

Sampling errors for selected variables for the country as a whole, are presented in the table given below. In addition to the value (R) of type of statistic (mean, proportion) and standard error (SE) for each variable, the tables includes the weighted number (WN) of cases on which the statistic is based, the relative standard error (the standard error divided by the value of the statistic) and the 95 percent confidence limits ( $R \pm 2SE$ ). The confidence limits may be interpreted by using the following example: the overall estimate of the proportion who ever heard HIV/AIDS (R) is 0.935 and its standard error is 0.054. To obtain the 95 percent confidence interval, twice the standard error is added to and subtracted from the estimate of R,  $0.935 \pm 2 * 0.054$ . Thus, there is a 95 percent probability that the true value of R lies between 0.827 and 1.043.

Note: See detailed sampling error calculation which is presented in 2001 BIAS-I final report.