Ghana - Multiple Indicator Cluster Survey (MICS3) 2006, Third Round

Ghana Statistical Service (GSS) - Government Of Ghana

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Overview

Identification

ID NUMBER
GHA-GSS-MICS3-2006-v1.1

Version

VERSION DESCRIPTION
Version 01 was the uploaded version without filling the literial questions in the variables

Version 1.1 (September 2014) the literal questions provided with some editing done to study

PRODUCTION DATE
2008-08-01

Overview

ABSTRACT
The Multiple Indicator Cluster Survey (MICS) 2006 is a national sample survey designed to provide information on population, maternal and child health, child survival, reproductive health, nutrition, AIDS and sexually transmitted infections (STIs) in Ghana. MICS 2006 has different target population and involved interviewing a randomly selected group of men and women who are between 15 and 49 years of age. The women were asked questions about their background, the children they have given birth to, their knowledge and use of family planning methods, the health of their children, reproductive health, and other information that are helpful to policy makers and administrators in health and family planning fields. The men were asked questions about their background, the children they have fathered, their marriage status and sexual behaviour, and other information which were helpful to policymakers and administrators in health fields.

The questionnaires are based on the MICS model questionnaires and modified to fit the Ghanaian survey standards and conditions. The questionnaires were pre-tested in the Greater Accra Region in June 2006. The training for the pre-test was conducted by GSS staff for 22 interviewers for 13 days. This was followed by the formation of four teams consisting of a supervisor and four interviewers that conducted the pilot survey in four selected localities (2 urban and 2 rural) in the same region to test the entirety of survey procedures. Based on the results of the pre-test and pilot, further modifications were made to wording and flow of the questions and the survey plan. A copy of MICS 2006 questionnaires is provided in Appendix F.

In addition to the administration of questionnaires, fieldwork teams tested the salt used for cooking in the households for iodine level, and measured the heights and weights of all children less than 5 years (0-59 months).

Survey objectives

The MICS is part of a worldwide survey program, originally developed to measure progress towards an internationally agreed set of goals that emerged from the 1990 World Summit for Children. The MICS 2006 has the following primary objectives:

To provide up-to-date information for assessing the health situation of women and children in Ghana;

To present the current level of knowledge and behavioural indicators regarding HIV/AIDS and malaria;

To furnish data needed for monitoring progress toward the Millennium Development Goals, and the goals of A World Fit for Children (WFFC) as a basis for future action; such as the US President's Emergency Plan for AIDS Relief (PEPFAR).

To contribute to the formation of baselines for the GPRS II and the Ministry of Health (MoH) Plan of Work 2007-2011, and to provide progress monitoring for other policies and programmes in Ghana;

To contribute to the improvement of data and monitoring systems in Ghana and to strengthen technical expertise in the design, implementation, and analysis of such systems.

This report is based on the Ghana Multiple Indicator Cluster Survey, conducted in 2006 by Ghana Statistical Service and the Ministry of Health. The survey provides valuable information on the situation of women, men and children in Ghana. It was

based largely on the need to monitor progress towards goals and targets emanating from recent international agreements, the Millennium Declaration, adopted by all 191 United Nations Member States in September 2000 and the Plan of Action of A World Fit for Children, adopted by 189 Member States at the United Nations Special Session on Children in May 2002.

Content

Four sets of questionnaires were used in the survey to solicit the appropriate responses:

household questionnaire which was used to collect information on all de jure household members, and dwelling, and household characteristics and to identify eligible individuals;

women's questionnaire administered in each household to all women aged 15-49 years;

men's questionnaire administered in every third selected household to all men aged 15-49 years;

under-5 questionnaire, administered to mothers or caretakers of all children under five years living in the household.

The questionnaires included the following modules:

Household Questionnaire:

Household Listing

Education

Water and Sanitation

Durability of Housing

Malaria-related questions

Child Labour

Child Discipline

Disability

Salt Iodization

Women Questionnaire:

Child Mortality

Tetanus Toxoid

Maternal and Newborn Health

Marriage and Union

Security of Tenure

Contraception

Attitudes towards Domestic Violence

Female Genital Mutilation/Cutting

Sexual Behaviour

HIV knowledge

Men Questionnaire:

Marriage and Union

Sexual Behaviour

Contraception

HIV/AIDS and other Sexually Transmitted Infections (STIs)

Under-five Questionnaire:

Birth Registration and Early Learning

Child Development

Vitamin A

Breastfeeding

Care of Illness

Malaria

Immunization

Anthropometry

KIND OF DATA
Sample survey data [ssd]

UNITS OF ANALYSIS
Individuals

Scope

NOTES
The survey collected a wide variety of information about households and the individual members of the household. These information include:

1. Household information: Individual members, head of household, sex, age, marital status, relation to head of household, education, water and sanitation, working children, child discipline, disability and salt iodization

2. Children under 5 years: breastfeeding, care of illness, malaria, immunization, and anthropology

3. Women 15-49 years: infant/child mortality, tetanus toxoid, maternal and newborn health, marriage/union, contraception, female genital mutilation, attitude towards domestic violence, sexual behavior, and HIV/AIDS

4. Men 15-49 years: reproduction, marriage, sexual behavior, HIV/AIDS, sexually transmitted infections and attitudes toward domestic violence

TOPICS

Topic	Vocabulary	URI
DEMOGRAPHY AND POPULATION [14]	CESSDA	http://www.nesstar.org/rdf/common
HEALTH [8]	CESSDA	http://www.nesstar.org/rdf/common
SOCIETY AND CULTURE [13]	CESSDA	http://www.nesstar.org/rdf/common
EDUCATION [6]	CESSDA	http://www.nesstar.org/rdf/common
employment [3.1]	CESSDA	http://www.nesstar.org/rdf/common

Topic	Vocabulary	URI
fertility [14.2]	CESSDA	http://www.nesstar.org/rdf/common
censuses [14.1]	CESSDA	http://www.nesstar.org/rdf/common
morbidity and mortality [14.4]	CESSDA	http://www.nesstar.org/rdf/common
PSYCHOLOGY [17]	CESSDA	http://www.nesstar.org/rdf/common
LABOUR AND EMPLOYMENT [3]	CESSDA	http://www.nesstar.org/rdf/common

Coverage

GEOGRAPHIC COVERAGE (1)
National

GEOGRAPHIC COVERAGE (2)
Regional

UNIVERSE
1. All women age 15-49 years

2. All men age 15-49 years

3. All children under 5 years

4. All househld members

Producers and Sponsors

PRIMARY INVESTIGATOR(S)

Name	Affiliation
Ghana Statistical Service (GSS)	Government Of Ghana

OTHER PRODUCER(S)

Name	Affiliation	Role
Ministry of Health	Government Of Ghana	Source funding and releasing staff for secretariat and field work

FUNDING

Name	Abbreviation	Role
United Nations Children's Fund	UNICEF	Financial and technical assistance
(US) President's Emergency Plan for AIDS Relief	PEPFAR	Financial and technical assistance
Dutch Government		Financial and technical assistance

Metadata Production

METADATA PRODUCED BY

Name	Abbreviation	Affiliation	Role
Ghana Statistical Service	GSS	Government Of Ghana	Documention of the Study

DATE OF METADATA PRODUCTION
2014-09-13

DDI DOCUMENT VERSION

Version 01 was the uploaded version without filling the literial questions in the variables

Version 1.1 (September 2014) the literal questions provided with some editing done to study

DDI DOCUMENT ID
DDI-GHA-GSS-MICS3-2006-v1.1

Sampling

Sampling Procedure

The sample for the MICS 2006 was designed to provide estimates on a large number of indicators of the health status of women, men, and children at the national level, for urban and rural areas, as well as for the 10 administrative regions in the country.
A representative probability sample of 6,302 households was selected nationwide. The list of enumeration areas (EAs) from the Ghana Living Standards Survey 5 (GLSS5) served as a frame for the MICS sample. The frame was first stratified into the 10 administrative regions in the country, then into urban and rural EAs. 660 EAs {-281 urban and 379 rural}

1) Twenty households per EA were selected
2) 25 per EA for rural EAs in Northern, Upper East and Upper West.
3) All women aged 15-49 and children less than 60 months in these selected households were eligible for interview.
4) Males in every selected third household aged 15-49 were also eligible for interview.
5) This is different from DHS whereby males aged 15-59 are eligible for interview.

The MICS 2006 used a two-stage stratified sample design. At the first stage of sampling, 300 census enumeration areas (124 urban and 176 rural EAs) were selected. These are a sub-sample of the 660 EAs (281 urban and 379 rural) selected for the GLSS 5 and fisheries. The clusters in each region were selected using systematic sampling with probability proportional to their size. The distribution of EAs between regions is not proportional to the 2000 Population and Housing Census, mainly due to over-sampling in the number of EAs for Northern, Upper East and Upper West Regions.

A complete household listing exercise covering all the GLSS 5 EAs was carried out in May through July 2005 with a few selected EAs listed early 2006. At the second stage, a systematic sampling of households was selected based on this list. The MICS households were selected systematically from the household listing provided by GLSS 5 after eliminating from the list households previously selected by the GLSS 5 (15 regular with 5 replacement). The reason for selecting different households is that the GLSS 5 interviews are long and demanding for respondents. It therefore seemed preferable to keep the two household samples separate in order to avoid respondent fatigue and possible high rates of refusal in the households falling in both samples as they were being conducted concurrently. For the MICS, 20 households per EA were selected in all the regions except in Northern, Upper East and Upper West regions, where 20 households per EA were selected in urban EAs and 25 households selected from rural EAs. The objective of this exercise was to ensure an adequate number of complete interviews to provide estimates for important population characteristics with acceptable statistical precision per region. Due to the disproportional number of EAs and different sample sizes selected per EA among regions, the MICS 2006 household sample is not self-weighting at the national level. For reporting national level results, sample weights are used. A more detailed description of the sample design can be found in Appendix A.

Sample Size and Sample Allocation

The sample size for MICS 2006 was calculated as 6,300 households using basically the same sample of clusters selected for DHS 2003, as well as for similar sample size. The resulting number of households from this exercise was a minimum of about 500 (except for Upper West Region) households which is the sample size needed in each region - thus yielding about 6,500 in total. The average cluster size in MICS 2006 was determined as 20 households (except in rural clusters in Northern, Upper East and Upper West Regions with 25 households) based on a number of considerations, including the budget available, and the time that would be needed per team to complete one cluster. Dividing the total number of households by the number of households per cluster, it was calculated that the selection of a minimum of about 25 clusters would be needed in each region.

The allocation of the total sample size to each of the ten regions follows almost same allocation than the DHS 2003. Therefore, a minimum of 25 clusters were allocated to each region, with the final sample size calculated at 6,300 households and 300 clusters in total. In each region, the clusters (primary sampling units) were distributed to urban and rural domains, proportional to the size of urban and rural populations in that region. The table below shows the allocation of clusters to the sampling domains.

Table SD.1: Allocation of Sample Clusters (Primary Sampling Units) to Sampling Domains

Region	N clusters	Urban clusters	Rural clusters
Western	29	11	18
Central	26	10	16
Greater Accra	43	38	5
Volta	24	6	18

Eastern 32 11 21
Ashanti 47 24 23
Brong Ahafo 24 9 15
Northern 30 8 22
Upper East 24 4 20
Upper West 21 3 18

Total 300 124 176

Sampling Frame and Selection of Clusters

The frame for MICS 2006 is the DHS 2003 sample frame (also being a sub sample of the 660 clusters for the Ghana Living Standard Survey GLSS-5), selected systematically and PPS (probability proportional to size) The first stage of sampling was thus completed by selecting the required number of enumeration areas from each of the urban and rural areas separately, as well as for each of the ten regions separately

Listing Activities

Since the sample frame (the 2000 Population and Housing Census) was not up to date, household lists in all selected enumeration areas were updated prior to the selection of households during DHS 2003 and the 2005/2006 GLSS 5 samples. A complete household listing exercise covering all the GLSS 5 EAs was carried out May through July 2005 with a few selected EAs listed early 2006. At the second stage of selection, a systematic sampling of households was done from such list

Selection of Households

Lists of households were prepared by the listing teams in the field for each enumeration area. The households were then sequentially numbered from 1 to n (the total number of households in each enumeration area) at the Ghana Statistical Service, where selection of 20 households in each enumeration area was carried out using systematic selection procedures

Deviations from Sample Design

No deviation of the original sample design was made

Response Rate

Response rates are important as high non-response may affect the reliability of the survey results. Table HH.1 presents information on the results of the household and individual interviews. A total of 6,302 households were selected for the MICS. Of these, 6,264 were found to be occupied and interviews were completed for 5,939 households which represent s a 95 percent response rate. A total of 6,240 women age (15-49) were identified from every selected household and then interviewed, while 1,909 eligible men (age 15-49) from every third selected household were identified for the individual interviews. Interviews were successfully completed for 5,891 women and 1,743 men, yielding response rates of 94 percent and 91 percent respectively. In addition, 3,545 children under five years were listed in the households. Questionnaires were completed for 3,466 children corresponding to a response rate of 98 percent. Taking into account the non-response at the household level, the overall response rates for women, men and children under five were 90 percent, 87 percent and 93 percent respectively.

Regional differentials in response rates regarding household interviews, eligible women, and children were similar (over 90 percent, respectively). However, overall response rate for women, men and children varied slightly by place of residence. The response rates are higher for the rural than the urban sample and among women than men. The main reason for non-response among households and eligible individuals was the failure to find these individuals at home despite several visits to the households.

Table HH.1: Results of household and individual interviews
Numbers of households, women, men, and children under five by results of the household, women's, men's and under-five's interviews, and household, women's, men's and under-five's response rates, Ghana, 2006
Area Region Total
Urban Rural Western Central Gt Accra Volta Eastern Ashanti B.A Northern U East U West
Sampled households 2,480 3,822 580 520 861 480 641 940 480 710 580 510 6,302
Occupied households 2,470 3,794 577 520 856 478 637 936 476 706 574 504 6,264

Interviewed households 2,327 3,612 561 510 802 447 589 881 442 673 561 473 5,939
Household response rate 94.2 95.2 97.2 98.1 93.7 93.5 92.5 94.1 92.9 95.3 97.7 93.8 94.8

Eligible women 2,546 3,694 560 434 939 414 606 850 471 824 632 510 6,240
Interviewed women 2,385 3,506 537 426 859 375 565 808 452 790 598 481 5,891
Women response rate 93.7 94.9 95.9 98.2 91.5 90.6 93.2 95.1 96.0 95.9 94.6 94.3 94.4
Women's overall r r 88.3 90.4 93.2 96.3 85.7 84.7 86.2 89.5 89.1 91.4 92.5 88.5 89.5

Eligible men 739 1,170 165 121 277 133 176 303 133 260 193 148 1,909
Interviewed men 660 1,083 154 118 237 117 163 272 120 248 179 135 1,743
Men response rate 89.3 92.6 93.3 97.5 85.6 88.0 92.6 89.8 90.2 95.4 92.7 91.2 91.3
Men's overall resp rate 84.1 88.1 90.8 95.7 80.2 82.3 85.6 84.5 83.8 90.9 90.7 85.6 86.6

Eli children under-five 1,030 2,515 319 263 330 245 346 426 245 595 399 377 3,545
Mother/ctaker Interviewed 1,012 2,454 316 262 326 236 337 415 242 576 389 367 3,466
Child response rate 98.3 97.6 99.1 99.6 98.8 96.3 97.4 97.4 98.8 96.8 97.5 97.3 97.8
Childoverall res rate 92.6 92.9 96.3 97.7 92.6 90.1 90.1 91.7 91.7 92.3 95.3 91.4 92.7

Weighting

Sample weights were appended to all data sets and analyses were performed by weighting each household, woman, man or under-5 with these sample weights-(hhweight, Chweight)

Calculation of Sample Weights

The MICS 2006 sample is not self-weighted. Essentially, by allocating not a proportionally numbers of households to each of the regions, different sampling fractions were used in each region since the size of the regions varied. For this reason, sample weights were calculated and these were used in the subsequent analyses of the survey data.

The major component of the weight is the reciprocal of the sampling fraction employed in selecting the number of sample households in that particular sampling domain:

$$W_h = 1 / f_h$$

The term f_h, the sampling fraction at the h-th stratum, is the product of probabilities of selection at every stage in each sampling domain:

$$f_h = P_{1h} * P_{2h} * P_{3h}$$

where P_{ih} is the probability of selection of the sampling unit in the i-th stage for the h-th sampling domain, i.e.,

P_{1h} is the selection probability in the GLLS 5 survey;
P_{2h} is the sub selection rate for clusters used in the 2005 Ghana survey from GLLS 5 survey; and
P_{3h} is the sub selection rate for households in the cluster.

Since the estimated numbers of households per enumeration area prior to the first stage selection (selection of primary sampling units) and the updated number of households per EA were different, individual sampling fractions for households in each EA (cluster) were calculated. The sampling fractions for households in each EA therefore included the probability of selection of the EA in that particular sampling domain and the probability of selection of a household in the sample EA.

A second component which has to be taken into account in the calculation of sample weights is the level of non-response for the household and individual interviews. The adjustment for household non-response is equal to the inverse value of:

RR = Number of interviewed households / Number of occupied households listed

After the completion of fieldwork, response rates were calculated for each sampling domain. These were used to adjust the sample weights calculated for each cluster. Response rates in MICS 2006 are shown in Table HH.1 in this report.

Similarly, the adjustment for non-response at the individual level (women, men, and under-5 children) is equal to the inverse value of:

RR = Completed women's (or under-5's) questionnaires / Eligible women (or under-5s)

Numbers of eligible women, men, and under-5 children were obtained from the household listing in the Household Questionnaire in households where interviews were completed.

The unadjusted weights for the households were calculated by multiplying the above factors for each enumeration area. These weights were then standardized (or normalized), one purpose of which is to make the sum of the interviewed sample units equal the total sample size at the national level. Normalization is performed by multiplying the aforementioned unadjusted weights by the ratio of the number of completed households to the total unadjusted weighted number of households. A similar standardization procedure was followed in obtaining standardized weights for the women's, men's, and under-5's questionnaires. Adjusted (normalized) weights varied between [lowest weight] and [highest weight] in the 300 enumeration areas (clusters).

Questionnaires

Overview

The questionnaires were developed in English from the MICS3 Model Questionnaires, and were translated into the various languages where data were collected. After an initial review the questionnaires were translated back into English by an independent translator with no prior knowledge of the survey. The back translation from the local languages version was independently reviewed and compared to the English original. Differences in translation were reviewed and resolved in collaboration with the original translators. Among the local languages used were: Akan, Eve, Ga, Dagbani and Nzema

The English and local languages questionnaires were both piloted as part of the survey pretest

1. Household information: Individual members, head of household, sex, age, marital status, relation to head of household, education, water and sanitation, working children, child discipline, disability and salt iodization
2. Children under 5 years: breastfeeding, care of illness, malaria, immunization, and anthropology
3. Women 15-49 years: infant/child mortality, tetanus toxoid, maternal and newborn health, marriage/union, contraception, female genital mutilation, attitude towards domestic violence, sexual behavior, and HIV/AIDS
4. Men 15-49 years: reproduction, marriage, sexual behavior, HIV/AIDS, sexually transmitted infections and attitudes toward domestic violence

Data Collection

Data Collection Dates

Start	End	Cycle
2006-08-05	2006-11-25	3 Months

Time Periods

Start	End	Cycle
2006		5 Years

Data Collection Mode

Face-to-face [f2f]

DATA COLLECTION NOTES

1. A pilot survey was conducted to assess the quality and completeness of the survey instrument. The outcome of the pilot survey was used to review the survey methodology, questionnaire, maps, manuals, training strategy, qualification and skills of interviewers & supervisors and other survey instruments.
2. Two-week training was organized
3. 90 people participated in the survey training, to serve as supervisors, editors, interviewers, and data entry clerks.
Each team was made up of:
Supervisor 1
Editor 1
Interviewers 4
Driver 1
1) All trainees participated in comprehensive interviewer training, including taking measurements of height and weight.
2) Towards the end of training period, participants spent 3 days conducting interviews in 16 EAs (8 urban, 8 rural).
3) Nine teams were formed for data collection, each consisting of a supervisor, editor, four interviewers and a driver.
4) Fieldwork took place over three months between August and November 2006.

The principal objective was to train them to understand and equip themselves with the necessary knowledge and skills to undertake the survey work

A. Collecting Materials for Fieldwork
Before the teams left for the field, the supervisor collected adequate supplies of the materials the team needed in the field. These items are listed below:

Fieldwork documents:
Supervisor's and Editor's Instructions
Interviewer's Instructions
Maps and household listing forms for all clusters in the assigned area
Letters of introduction
Questionnaires
Supervisor's/Editors Control Sheets
Interviewer's Control Sheets
Interviewer's Progress Sheets
Supplies:
Blue pens for interviewers
Red pens for the editor and supervisor
Clipboards, briefcases
Paper clips, scissors, string, staplers and staples, cello tape, etc.
Envelopes to store completed questionnaires
B. Monetary Advances For Field Expenses

The supervisor ensured that each team had sufficient funds to cover expenses for the team. Funds were distributed according to the procedures established by the survey director, if these have not been included in the per diem that is given directly to the interviewers.

The supervisor arranged for a system to maintain regular contact with the central office staff they left for the field. Regular contact was needed for supervision of the team by central office staff, payment of team members, and the return of

completed questionnaires for timely data processing.

C. Arranging Transportation And Accommodations

It is the supervisor's responsibility to make all necessary travel arrangements for his/her team, whenever possible, in consultation with the central office. The supervisor was responsible for the maintenance and security of the team vehicle. The vehicle was used exclusively for survey-related travel, and when not in use, it was kept in a safe place. The driver of the vehicle took instructions from the supervisor.

In addition to arranging transportation, the supervisor was charge of arranging for food and lodging for the team. At their wish, interviewers made their own arrangements, as long as these did not interfere with fieldwork activities.

D. Contacting Local Authorities

It was the supervisor's responsibility to contact the regional, district, local, and village officials before starting work in an area. Letters of introduction were provided, but tact and sensitivity in explaining the purpose of the survey will help win the cooperation needed to carry out the interviews.

E. Using Maps To Locate Clusters

A major responsibility of the field supervisor and of the editor was to assist interviewers in locating households in the sample. The field coordinator/Survey coordinator provided the supervisor with a copy of the household listing for the sample and/or maps of the clusters in which his/her team will be working. These documents enable the team to identify the cluster boundaries and to locate the households selected for the sample. The representatives of the sample depended on finding and visiting every sampled household.

Maps were generally needed during all stages of a survey, since they provide a picture of the areas in which interviews are to be carried out and, therefore, help to eliminate errors such as duplication or omission of areas. Moreover, maps helped the supervisor, editor, and interviewers to determine the location of sample areas, the distance to them, and how to reach selected households or dwellings.

Each team was given general cluster maps, household listing forms, and, for urban areas, sketch maps and written descriptions of the boundaries of selected areas. A cluster is the smallest working unit in any census or survey operation that can easily be covered by one enumerator. It has identifiable boundaries and lies wholly within an administrative or statistical area. The general cluster maps may show more than one cluster. Each cluster was identified by a number (e.g., EA-05). Symbols are used to indicate certain features on the map such as roads, footpaths, rivers, localities, boundaries, etc. If symbols are shown on the map, the supervisor and editor should know how to interpret them by using the legend.

In most clusters, the boundaries follow easily recognizable land features such as rivers, roads, railroads, swamps, etc. However, at times boundaries are invisible lines. The location and determination of invisible boundaries calls for some ingenuity, particularly in rural areas.

On reaching a locality-EA/cluster, the team visited the chiefs and opinion leaders to greet them and explain their mission/- the objectives of the survey and solicit their support.

Average time spent on completing one household was 3 hours and each team spent 3 days in one EA/cluster. English together with local languages was used to conduct the interview. In a situation where the respondent does not understand English and the Interviewer does not understand the native language, an interprator was used for free or fee.

Five field monitoring teams made up of three persons were formed to monitor and validated the work of the interviewers and supervisors with the sole aim at ensuring high quality work

Data Collectors

Name	Abbreviation	Affiliation
Ghana Statistical Service	GSS	Office of the President

SUPERVISION

A. Responsibilities of the Field Supervisor

The field supervisor was the senior member of the field team. He/she was responsible for the well-being and safety of team members, as well as the completion of the assigned workload and the maintenance of data quality. The field supervisor received his/her assignments from and reported to the field coordinator/Survey coordinator. The specific responsibilities of the field supervisor were to make the necessary preparations for the fieldwork, to organize and direct the fieldwork, and to spot-check the data collected in the Household Questionnaire.

Preparing for fieldwork required that the field supervisor:
(1) Obtained sample household lists and/or maps for each area in which his/her team were working and discuss any special problems;
(2) Became familiar with the area where the team was working and determine the best arrangements for travel and accommodations;
(3) Contacted local authorities to inform them about the survey and to gain their support and cooperation;
(4) Obtained all monetary advances, supplies, and equipment necessary for the team to complete its assigned interviews. Careful preparation by the supervisor was important for facilitating the work of the team in the field, for maintaining interviewer morale, and for ensuring contact with the central office throughout the fieldwork.

In organizing field work, organizing fieldwork requires that the field supervisor adhered to certain basic procedures:
(1) Assign work to interviewers, taking into account the linguistic competence of individual interviewers, and assure that there is an equitable distribution of the workload;
(2) Ensure that the correct households are selected for man's interviews;
(3) Maintain fieldwork control sheets, and make sure that assignments are carried out;
(4) Make spot checks of the Household Questionnaire by conducting household interviews according to the procedure on page 22;
(5) Regularly send completed questionnaires and progress reports to the field coordinator/Survey coordinator and keep headquarters informed of the team's location;
(6) Communicate any problems to the field coordinator/Survey coordinator;
(7) Take charge of the team vehicle, ensuring that it is kept in good repair and that it is used only for project work;
(8) Make an effort to develop a positive team spirit; a congenial work atmosphere, along with careful planning of field activities, contributes to the overall quality of a survey.
(9) Go through a sample of completed questionnaires checked by the editor to make sure they are complete and internally consistent;
(10) Sit in at least one interview per interviewer per week to ensure that the interviewers are asking the questions in the right manner and correctly recording the responses;
(11) Meet with team members at the end of each day's work to discuss problems encountered;
(12) Assist interviewers to solve difficult problems and revise concepts and procedures.

B. Responsibilities of the Editor

The specific duties of the editor were to monitor interviewer performance and to make anthropometric measurements of children under five years of age. Close supervision of interviewers and editing of completed interviews is essential to assure that accurate and complete data were collected. As the collection of high-quality data was crucial to the success of the survey, it is important that mature, responsible adults were recruited as editors to execute their duties with care and precision. This was especially important during the initial phases of fieldwork, when it is possible to eliminate interviewer error patterns before they become habit.

Monitoring interviewer performance requires that the editor:
Observe several interviews every day;
Edit all completed questionnaires in the field; editing must be completed prior to leaving the sample area. To the extent possible, the field supervisor should assist the editor in performing this task so that all interviews are field edited while still in the sample area;
(3) Conduct regular review sessions with interviewers and advise them of any problems found in their questionnaires;
(4) Put completed questionnaires from a sample area in order and pack them up to be sent to the central office.

In Ghana MICS 2006 survey, (a) the editor assumed the role of measurer, (b) interviewers identify children to be measured and arrange for the editor/measurer to come to the household with the equipment, and (c) the editor carries out the anthropometric measurements with the interview assisting. Making anthropometric measurements of children is the responsibility of the editor and requires that he/she follows the procedures for weighing and measuring specified in Appendix of this manual. Anthropometric measurements was carried out by editor and another person who were trained to perform these tasks, and special measuring board and scales, which were provided to each interviewing team, should be used.

II Preparing For Fieldwork

A. Collecting Materials For Fieldwork

Before leaving for the field, the supervisor was responsible for collecting adequate supplies of the materials the team needed in the field. These items were:

Fieldwork documents:
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Interviewer's Instructions
Maps and household listing forms for all clusters in the assigned area
Letters of introduction
Questionnaires
Supervisor's/Editors Control Sheets
Interviewer's Control Sheets
Interviewer's Progress Sheets

Supplies:
Blue pens for interviewers
Red pens for the editor and supervisor
Clipboards, briefcases
Paper clips, scissors, string, staplers and staples, cello tape, etc.
Envelopes to store completed questionnaires
First aid kit

Monetary Advances for Field Expenses

The supervisor ensured that each team had sufficient funds to cover expenses for the team. Funds were distributed according to the procedures established by the survey director, if these have not been included in the per diem that is given directly to the interviewers.

The supervisor arranged for a system to maintain regular contact with the central office staff they left for the field. Regular contact was needed for supervision of the team by central office staff, payment of team members, and the return of completed questionnaires for timely data processing.

C. Arranging Transportation and Accommodations

It is the supervisor's responsibility to make all necessary travel arrangements for his/her team, whenever possible, in consultation with the central office. The supervisor was responsible for the maintenance and security of the team vehicle. The vehicle was used exclusively for survey-related travel, and when not in use, it was kept in a safe place. The driver of the vehicle took instructions from the supervisor.

In addition to arranging transportation, the supervisor was charge of arranging for food and lodging for the team. At their wish, interviewers made their own arrangements, as long as these did not interfere with fieldwork activities.

D. Contacting Local Authorities

It was the supervisor's responsibility to contact the regional, district, local, and village officials before starting work in an area. Letters of introduction were provided, but tact and sensitivity in explaining the purpose of the survey will help win the cooperation needed to carry out the interviews.

E. Using Maps to Locate Clusters

A major responsibility of the field supervisor and of the editor was to assist interviewers in locating households in the sample. The field coordinator/Survey coordinator provided the supervisor with a copy of the household listing for the sample and/or maps of the clusters in which his/her team will be working. These documents enable the team to identify the cluster boundaries and to locate the households selected for the sample. The representatives of the sample depended on finding and visiting every sampled household.

Maps were generally needed during all stages of a survey, since they provide a picture of the areas in which interviews are to be carried out and, therefore, help to eliminate errors such as duplication or omission of areas. Moreover, maps helped the supervisor, editor, and interviewers to determine the location of sample areas, the distance to them, and how to reach selected households or dwellings.

Each team was given general cluster maps, household listing forms, and, for urban areas, sketch maps and written descriptions of the boundaries of selected areas. A cluster is the smallest working unit in any census or survey operation that can easily be covered by one enumerator. It has identifiable boundaries and lies wholly within an administrative or statistical area. The general cluster maps may show more than one cluster. Each cluster was identified by a number (e.g., EA-05). Symbols were used to indicate certain features on the map such as roads, footpaths, rivers, localities, boundaries, etc. If symbols were shown on the map, the supervisor and editor knew how to interpret them by using the legend.

In most clusters, the boundaries follow easily recognizable land features such as rivers, roads, railroads, swamps, etc. However, at times boundaries were invisible lines. The location and determination of invisible boundaries calls for some ingenuity, particularly in rural areas.

Assigning Work To Interviewers

The following proved helpful to the supervisor in assigning work:

(1) Make daily work assignments. Made sure each interviewer has enough work to do for the day, taking into account the duration of an interview and the working conditions in the area. The field coordinator/Survey coordinator advised on how many interviews to assign per day.
(2) It was necessary to assign more interviews than an interviewer can actually do in one day because some households and/or women had not been available to interview at the time of the interviewer's visit. Sometimes there were as many as three or four of these cases a day for a particular interviewer. In general, Supervisors assigned fewer households at the beginning of fieldwork, to allow time for discussion of problems and for close supervision.
(3) Distributed work fairly among the interviewers. Work was assigned taking into account the capabilities and strengths of each interviewer, but never consistently assigning more difficult workloads to certain interviewers. Some interviewers were unlucky and consistently drew difficult assignments.
(4) Ensured that each interviewer had all the required information and materials for completing the work assignment.
(5) Maintained complete records each day using the control sheets. All assignments and work completed by each interviewer and for each work area were carefully monitored for completeness and accuracy.
(6) Ensured that all selected households and eligible women and children for that cluster had been interviewed before leaving an area.
(7) Finally, it was the responsibility of the supervisor to make sure that the interviewers fully understood the instructions given to them and that they adhered to the work schedule. The work schedule was prepared in advance by the central office and adherence to it is crucial to avoid overruns in the total amount of time and money allocated for the fieldwork. Supervisors also monitored the work of each interviewer to assess whether she was performing according to the standards set by the central office.

Data Processing

Data Editing

Data editing is very important measure to enhance data quality. In the MICS survey, data editing occurs at three levels:

1. Field editing by interviewers and supervisors-At all the clusters that data were collected, interviewers andsupervisors revisited households to collected information which was either left out, uncompleted and not clear. Thus, data were validated at the field
2. Office editing-The purpose of office editing which was carried out under the MICS survey was to ensure that field data collection had conformed to the laid down principles and procedures. Necessry codes, names, values were provided
3. Data cleaning and imputation. This stage offered the data processing officers to run further checks that ensured consistency. In a situation where inconsistencies were huge, field monitors were sent back to the field for verification of data that had been collected and thereafter, the necessary corrections made
4. Individual data files were also checked for completeness and consistency

Other Processing

Data were captured using the CSPro software. The data were entered on 10 computers by 10 data entry operators and two data entry supervisors. In order to ensure quality control, all questionnaires were double entered and 4 secondary editors complemented the efforts of entry supervisors to perform internal consistency checks. Procedures and standard programmes developed under the global MICS Project and adapted to the Ghana questionnaire were used throughout the processing. Data processing began shortly after the commencement of fieldwork on 23rd August, 2006 and lasted for three months.

Data were analyzed using the Statistical Package for Social Sciences (SPSS) software program and the model syntax and tabulation plans developed by UNICEF.

The data capture at GSS takes the following forms:

1. Manual data entry
2. Scanning

Data editing of the captured data usually consisted of:

1. Verification or double entry
2. Consistency checks
3. Structure edits
4. Quality Control

Data Appraisal

Estimates of Sampling Error

The sample of respondents selected in MICS2006 is only one of the samples that could have been selected from the same population, using the same design and 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. The extent of variability is not known exactly, but can be estimated statistically from the survey results.

The following sampling error measures are presented in this appendix for each of the selected indicators:
Standard error (se): Sampling errors are usually measured in terms of standard errors for particular indicators (means, proportions etc). Standard error is the square root of the variance. The Taylor linearization method is used for the estimation of standard errors.
Coefficient of variation (se/r) is the ratio of the standard error to the value of the indicator
Design effect (deff) is the ratio of the actual variance of an indicator, under the sampling method used in the survey, to the variance calculated under the assumption of simple random sampling. The square root of the design effect (deft) is used to show the efficiency of the sample design. A deft value of 1.0 indicates that the sample design is as efficient as a simple random sample, while a deft value above 1.0 indicates the increase in the standard error due to the use of a more complex sample design.
Confidence limits are calculated to show the interval within which the true value for the population can be reasonably assumed to fall. For any given statistic calculated from the survey, the value of that statistics will fall within a range of plus or minus two times the standard error (p + 2.se or p - 2.se) of the statistic in 95 percent of all possible samples of identical size and design.
For the calculation of sampling errors from MICS data, SPSS Complex Samples module has been used. The results are shown in the tables that follow. In addition to the sampling error measures described above, the tables also include weighted and unweighted counts of denominators for each indicator.

Sampling errors are calculated for indicators of primary interest, for the national total, for the regions, and for urban and rural areas. All indicators presented here are in the form of proportions. Table SE.1 shows the list of indicators for which sampling errors are calculated, including the base population (denominator) for each indicator. (Tables SE.2 to SE.14 in the main report, attached; show the calculated sampling errors.

Other forms of Data Appraisal

Using SPSS software, basic data consistency checks were made and the necessary gaps were rectified

Related Materials

Questionnaires

Multiple Indicator Cluster Survey (MICS3) Household Questionnaire 2006

Title	Multiple Indicator Cluster Survey (MICS3) Household Questionnaire 2006
subtitle	MICS3 HH 2006
Author(s)	Ghana Statistical Service (GSS)
Date	2014-09-13T13:40
Country	Ghana
Contributor(s)	Ghana Statistical Service (GSS) , Ministry of Health (MoH) , UNICEF
Publisher(s)	Ghana Statistical Service (GSS)
Description	Household information: Individual members, head of household, sex, age, marital status, relation to head of household, education, water and sanitation, working children, child discipline, disability and salt iodization
Table of contents	1. The questionnaires included the following modules: § Household Questionnaire: § Household Listing § Education § Water and Sanitation § Durability of Housing § Malaria-related questions § Child Labour § Child Discipline § Disability § Salt Iodization 2. Women Questionnaire: § Child Mortality § Tetanus Toxoid § Maternal and Newborn Health § Marriage and Union § Security of Tenure § Contraception § Attitudes towards Domestic Violence § Female Genital Mutilation/Cutting § Sexual Behaviour § HIV knowledge 3. Men Questionnaire: § Marriage and Union § Sexual Behaviour § Contraception § HIV/AIDS and other Sexually Transmitted Infections (STIs) § Under-five Questionnaire: § Birth Registration and Early Learning § Child Development § Vitamin A § Breastfeeding § Care of Illness § Malaria § Immunization § Anthropometry
Filename	Document/Questionnaire/Household Questionnaire.pdf

Multiple Indicator Cluster Survey (MICS3) Men's Questionnaire 2006

Title	Multiple Indicator Cluster Survey (MICS3) Men's Questionnaire 2006
subtitle	MICS3 MQ 2006
Author(s)	Ghana Statistical Service (GSS)
Date	2014-09-13T08:30
Country	Ghana
Language	English
Contributor(s)	Ghana Statistical Service (GSS) , Ministry of Health (MoH) , UNICEF
Publisher(s)	Ghana Statistical Service (GSS)
Description	Men 15-49 years: reproduction, marriage, sexual behavior, HIV/AIDS, sexually transmitted infections and attitudes toward domestic violence
Filename	Document/Questionnaire/men.pdf

Multiple Indicator Cluster Survey (MICS3) Women's Questionnaire 2006

Title	Multiple Indicator Cluster Survey (MICS3) Women's Questionnaire 2006
subtitle	MICS3 WQ 2006
Author(s)	Ghana Statistical Service (GSS)
Date	2014-09-13T13:30
Country	Ghana
Language	English
Contributor(s)	Ghana Statistical Service , Ministry of Health (MoH) , UNICEF
Publisher(s)	Ghana Statistical Service
Description	Women 15-49 years: infant/child mortality, tetanus toxoid, maternal and newborn health, marriage/union, contraception, female genital mutilation, attitude towards domestic violence, sexual behavior, and HIV/AIDS
Filename	Document/Questionnaire/Women Questionnaire.pdf

Multiple Indicator Cluster Survey (MICS3) Children's Questionnaire 2006

Title	Multiple Indicator Cluster Survey (MICS3) Children's Questionnaire 2006
subtitle	MICS3 CQ 2006
Author(s)	Ghana Statistical Service (GSS)
Date	2014-09-13T13:45
Country	Ghana
Language	English
Contributor(s)	Ghana Statistical Service (GSS) , Ministry of Health (MoH) , UNICEF
Publisher(s)	Ghana Statistical Service (GSS)
Description	Children under 5 years: breastfeeding, care of illness, malaria, immunization, and anthropology
Filename	Document/Questionnaire/Children Questionnaire.pdf

Other materials

Multiple Indicator Cluster Survey (MICS3) Report 2006

Title	Multiple Indicator Cluster Survey (MICS3) Report 2006
subtitle	MICS3 REPORT
Author(s)	Ghana Statistical Service (GSS)
Date	2014-09-13T13:50
Country	Ghana
Language	English
Contributor(s)	Ghana Statistical Service (GSS) , Ministry of Health (MoH) , UNICEF
Publisher(s)	Ghana Statistical Service (GSS)
Description	The study about children, women and men health, education, reproduction, child motality,environment, child development, child protection ,HIV/AIDS, contraction, and other situation in Ghana