West Bank and Gaza - Multiple Indicator Cluster Survey 2014

United Nations Children's Fund, Palestinian Central Bureau of Statistics, Ministry of Health

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Sampling

Sampling Procedure

The primary objective of the sample design for the Palestinian MICS was to produce statistically reliable estimates of most indicators, at the national level, for urban, rural and camps areas. Urban, rural and camps areas in each of the governorates were defined as the sampling strata.

A multi-stage, stratified cluster sampling approach was used for the selection of the survey sample.

The sample size for the Palestinian MICS was calculated as 11,125 households. For the calculation of the sample size, the key indicator used was stunting prevalence among children age 0-4 years.

The number of households selected per cluster for the Palestinian MICS was determined as 25 households, based on a number of considerations, including the design effect, 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 sample households per cluster, we obtain a sample of 445 clusters.

The 2007 census frame was used for the selection of clusters. Census enumeration areas were defined as primary sampling units (PSUs), and were selected from each of the sampling strata by using systematic pps (probability proportional to size) sampling procedures, based on the number of households in each enumeration area from the 2007 Population and Housing Census frame. The first stage of sampling was thus completed by selecting the required number of enumeration areas from each of the sixteen governorates, separately for the urban, rural and camps strata.

Since the sampling frame (the 2007 census) was not up-to-date, a listing of households was conducted in all the sample enumeration areas (EAs) prior to the selection of households. For this purpose, listing teams were formed who visited all of the selected enumeration areas and listed all households in these enumeration areas. The listing was conducted in 416 enumeration areas; this excludes 29 sample EAs in Jerusalem within the barriers J1. A total of 266 EAs were updated in the West Bank area and 150 EAs in the Gaza Strip. A 5-day training took place during the first week of September in order to provide the fieldworkers with the skills needed for conducting the listing in the sample EAs for the Palestinian Multiple Indicator Survey 2014. The main listing field work was conducted during the period September - October, 2014.

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 Central Statistical Office, where the selection of 25 households in each enumeration area was carried out using random systematic selection procedures.

The sampling procedures are more fully described in "Palestinian Multiple Indicator Cluster Survey 2014 - Final Report" pp.203-207.

Response Rate

Of the 11,125 households selected for the sample, 10,568 were found to be occupied. Of these, 10,182 were successfully interviewed for a household response rate of 96.3 percent.
In the interviewed households, 13,964 women (age 15-49 years) were identified. Of these, 13,367 were successfully interviewed, yielding a response rate of 95.7 percent within the interviewed households.
There were 7,919 children under age five listed in the household questionnaires. Questionnaires were completed for 7,816 of these children, which corresponds to a response rate of 98.7 percent within interviewed households.
Overall response rates of 92.2 and 95.1 are calculated for the individual interviews of women and under-5s, respectively.

Weighting

The Palestinian MICS sample is not self-weighting. Essentially, by allocating equal numbers of households to each of the regions, different sampling fractions were used in each region since the sizes 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 the particular sampling stratum and PSU.

A final component in the calculation of sample weights takes into account the level of nonresponse for the household and individual interviews. The adjustment for household nonresponse in each stratum is equal to: 1/RRh
where RRh is the response rate for the sample households in stratum h, defined as the proportion of the number of interviewed households in stratum h out of the number of selected households found to be occupied during the fieldwork in stratum h.

The non-response adjustment factors for the individual women, men, and under-5 questionnaires were applied to the adjusted household weights. Numbers of eligible women and under-5 children were obtained from the roster of household members in the Household Questionnaire for households where interviews were completed.

The design weights for the households were calculated by multiplying the inverse of the probabilities of selection by the non-response adjustment factor for each enumeration area. These weights were then standardized (or normalized), one purpose of which is to make the weighted sum of the interviewed sample units equal to the total sample size at the national level. Normalization is achieved by dividing the full sample weights (adjusted for nonresponse) by the average of these weights across all households at the national level. This is performed by multiplying the sample weights by a constant factor equal to the unweighted number of households at the national level divided by the weighted total number of households (using the full sample weights adjusted for nonresponse). A similar standardization procedure was followed in obtaining normalized weights for the individual women, men, and under-5 questionnaires. Adjusted (normalized) household weights varied between 0.226 and 2.316 in the 445 sample enumeration areas (clusters).

Sample weights were appended to all data sets and analyses were performed by weighting households, women, or under-5s with these sample weights.

Questionnaires

Overview

The questionnaires for the Generic MICS were structured questionnaires based on the MICS5 model questionnaire with some modifications and additions. Household questionnaires were administered in each household, which collected various information on household members including sex, age and relationship. The household questionnaire includes List of Household Members, Education, Child Discipline, Household Characteristics, Water and Sanitation and Salt Iodization.

In addition to a household questionnaire, questionnaires were administered in each household for women age 15-49 and children under age five. The questionnaire was administered to the mother or primary caretaker of the child.

The women's questionnaire includes Woman's Background, Fertility/Birth History, Desire for Last Birth, Maternal and Newborn Health, Post-natal Health Checks, Contraception, Unmet Need, Marriage and HIV/AIDS.

The children's questionnaire includes Child's Age, Birth Registration, Early Childhood Development, Breastfeeding and Dietary Intake, Immunization, Care of Illness and Anthropometry.

The questionnaires are based on the MICS5 model questionnaire. From the MICS5 model English version, the questionnaires were customised and translated into Arabic and were pre-tested in December, 2013 in 4 clusters, out of each cluster 25 households were selected for interview, 25 households in Al-Bireh city and 25 households in Ramallah city (Urban), 25 households in Abu-Qash village (rural) and 25 in Al-Jalazoun refugee camp (refugee camps). The clusters were covered Ramallah governorate in the central of the West Bank. Based on the results of the pre-test, modifications were made to the wording and translation of the questionnaires. In addition to the administration of questionnaires, fieldwork teams tested the salt used for cooking in the households for iodine content, observed the place for handwashing, and measured the weights and heights of children age under 5 years.

Data Collection

Data Collection Dates

Start	End	Cycle
2014-03	2014-04	N/A

Data Collection Mode

Face-to-face [f2f]

DATA COLLECTION NOTES

Training for the fieldwork was conducted for 16 days in February /2014. Training included lectures on interviewing techniques and the contents of the questionnaires, and mock interviews between trainees to gain practice in asking questions. Towards the end of the training period, trainees spent 2 days in practice interviewing in Jenin, Tulkarm, Nablus, Ramallah, Jerusalem, Bethlehem and Hebron governorates in the West Bank, and Gaza, Deir El-Balah, Khan Yunis governorates in Gaza Strip.

The data were collected by 28 teams; each was comprised of 4-5 interviewers, one editor, one measurer and a supervisor. Fieldwork began in March/2014 and concluded in April/2014.

Data Collectors

Name	Abbreviation	Affiliation
Palestinian Central Bureau of Statistics	PCBS	

SUPERVISION

There is one supervisor for each of the 28 data collection teams in the field.

Data Processing

Data Editing

Data were entered using the CSPro software, Version 5.0. All the questionnaires were entered by using desktop computers, this process was done by 46 data entry operators and 2 data entry supervisors. For quality assurance purposes, all questionnaires were doubleentered and internal consistency checks were performed. Procedures and standard programs developed under the global MICS programme and adapted to the Palestinian Multiple Indicator Cluster Survey questionnaire were used throughout. Data processing began simultaneously with data collection in February 2014 and was completed in July 2014. Data were analysed using the Statistical Package for Social Sciences (SPSS) software, Version 19. Model syntax and tabulation plans developed by UNICEF were customized and used for this purpose.

Data Appraisal

Estimates of Sampling Error

Sampling errors are a measure of the variability between the estimates from all possible samples. The extent of variability is not known exactly, but can be estimated statistically from the survey data.

The following sampling error measures are presented in this appendix for each of the selected indicators:
- Standard error (se): Standard error is the square root of the variance of the estimate. For survey indicators that are means, proportions or ratios, the Taylor series linearization method is used for the estimation of standard errors. For more complex statistics, such as fertility and mortality rates, the Jackknife repeated replications method is used for standard error estimation.
- Coefficient of variation (se/r) is the ratio of the standard error to the value (r) of the indicator, and is a measure of the relative sampling error.
- 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 based on the same sample size. The square root of the design effect (deft) is used to show the efficiency of the sample design in relation to the precision. A deft value of 1.0 indicates that the sample design of the survey is as efficient as a simple random sample for a particular indicator, while a deft value above 1.0 indicates an 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, with a specified level of confidence. For any given statistic calculated from the survey, the value of that statistic will fall within a range of plus or minus two times the standard error (r + 2.se or r – 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, programs developed in CSPro Version 5.0, SPSS Version 21 Complex Samples module and CMRJack1 have been used.

Sampling errors are calculated for indicators of primary interest, for the national level, for urban, rural and camps areas and for the West Bank and Gaza Strip. Three of the selected indicators are based on households members, 10 are based on women, and 2 are based on children under 5.

Other forms of Data Appraisal

A series of data quality tables are available to review the quality of the data and include the following:

- Age distribution of the household population
- Age distribution of eligible and interviewed women
- Age distribution of children under 5 in household and children under 5 questionnaires
- Birth date reporting: Household population
- Birth date and age reporting: Women
- Birth date and age reporting: Under-5s
- Birth date reporting: Children, adolescents and young people
- Birth date reporting: First and last births
- Completeness of reporting
- Completeness of information for anthropometric indicators
- Heaping in anthropometric measurements
- Observation of birth certificates
- Observation of vaccination cards
- Respondent to the under-5 questionnaire
- Selection of children age 1-17 years for the child labour and child discipline modules
- School attendance by single age
- Sex ratio at birth among children ever born and living
- Births by periods preceding the survey
- Reporting of age at death in days
- Reporting of age at death in months

The results of each of these data quality tables are shown in appendix D in document "Palestinian Multiple Indicator Cluster Survey 2014 - Final Report" pp.218-236.

Related Materials

Questionnaires

Palestine Multiple Indicator Cluster Survey 2014 - Questionnaire

Title	Palestine Multiple Indicator Cluster Survey 2014 - Questionnaire
Country	Palestine
Language	English
Description	Household questionnarie Women questionnarie Children questionnaire
Filename	State of Palestine 2014 MICS_English_Questionnaire.pdf

MICS 5 Changes to MICS5 Questionnaires since June 9, 2013

Title	MICS 5 Changes to MICS5 Questionnaires since June 9, 2013
Language	English
Filename	http://mics.unicef.org/tools

Reports

Palestine Multiple Indicator Cluster Survey 2014 - Report

Title	Palestine Multiple Indicator Cluster Survey 2014 - Report
Author(s)	Palestinian Central Bureau of Statistics United Nations Children's Fund (UNICEF)
Date	2015-12-01
Country	Palestine
Language	English
Filename	https://mics-surveys-prod.s3.amazonaws.com/MICS5/Middle%20East%20and%20North%20Africa/State%20of%20Palestine/2014/Final/State%20of%20Palestine%202014%20MICS_English.pdf

Palestine Multiple Indicator Cluster Survey 2014 - Key Findings (English)

Title	Palestine Multiple Indicator Cluster Survey 2014 - Key Findings (English)
Author(s)	Palestinian Central Bureau of Statistics United Nations Children's Fund (UNICEF)
Date	2015-02-01
Country	Palestine
Language	English
Filename	https://mics-surveys-prod.s3.amazonaws.com/MICS5/Middle%20East%20and%20North%20Africa/State%20of%20Palestine/2014/Key%20findings/State%20of%20Palestine%202014%20MICS%20KFR_English.pdf

Palestine Multiple Indicator Cluster Survey 2014 - Key Findings (Arabic)

Title	Palestine Multiple Indicator Cluster Survey 2014 - Key Findings (Arabic)
Author(s)	Palestinian Central Bureau of Statistics United Nations Children's Fund (UNICEF)
Date	2015-02-01
Country	Palestine
Language	Arabic
Filename	https://mics-surveys-prod.s3.amazonaws.com/MICS5/Middle%20East%20and%20North%20Africa/State%20of%20Palestine/2014/Key%20findings/State%20of%20Palestine%202014%20MICS%20KFR_Arabic.pdf

Technical documents

MICS 5 Survey Plan Template

Title	MICS 5 Survey Plan Template
Language	English

Filename   http://mics.unicef.org/tools

MICS 5 Supply Procurement Instructions

Title   MICS 5 Supply Procurement Instructions
Language English
Filename http://mics.unicef.org/tools

MICS 5 Fieldwork Duration, Staff, Data Processing and Supply Estimates Template

Title   MICS 5 Fieldwork Duration, Staff, Data Processing and Supply Estimates Template
Language English
Filename http://mics.unicef.org/tools

MICS 5 Indicator List

Title   MICS 5 Indicator List
Language English
Filename http://mics.unicef.org/tools

MICS 5 Changes to Indicator List since June 9, 2013

Title   MICS 5 Changes to Indicator List since June 9, 2013
Language English
Filename http://mics.unicef.org/tools

MICS 5 Sample Size Calculation

Title   MICS 5 Sample Size Calculation
Language English
Filename http://mics.unicef.org/tools

MICS 5 Household Selection Template

Title   MICS 5 Household Selection Template
Language English
Filename http://mics.unicef.org/tools

MICS 5 Manual for Mapping and Household Listing

Title   MICS 5 Manual for Mapping and Household Listing
Language English
Filename http://mics.unicef.org/tools

MICS 5 Sample Weight Calculation Template

Title   MICS 5 Sample Weight Calculation Template
Language English
Filename http://mics.unicef.org/tools