Kyrgyz Republic - Multiple Indicator Cluster Survey 2018

National Statistical Committee, United Nations Children's Fund

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Overview

Identification

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Version

VERSION DESCRIPTION
- v01: Edited, anonymous datasets for public distribution.

Overview

ABSTRACT
The Government of the Kyrgyz Republic, with support from UNICEF finalized and launched a Multiple Indicator Cluster Survey (MICS 6) in 2018. The survey provides statistically sound and internationally comparable data essential for developing evidence-based policies and programmes, and for monitoring progress toward national goals and global commitments. Data and information from MICS6 provides credible and reliable evidence for the Government of Kyrgyz Republic draw a comprehensive picture of the lives of children and women in Kyrgyzstan and monitor progress towards Sustainable Development Goals (SGDs). It helps the government and its stakeholders to understand disparities and the wider development challenges in the country.

The 2018 Kyrgyzstan MICS has as its primary objectives:

- To provide high quality data for assessing the situation of children, adolescents, women and households in Kyrgyzstan;

- To furnish data needed for monitoring progress toward national goals, as a basis for future action;

- To collect disaggregated data for the identification of disparities, to inform policies aimed at social inclusion of the most vulnerable;

- To validate data from other sources and the results of focused interventions;

- To generate data on national and global SDG indicators;

- To generate internationally comparable data for the assessment of the progress made in various areas, and to put additional efforts in those areas that require more attention;

- To generate behavioural and attitudinal data not available in other data sources.

KIND OF DATA
Sample survey data [ssd]

UNITS OF ANALYSIS
- Individuals

- Households

Scope

NOTES
The scope of Kyrgyz Republic MICS 2018 includes:

- HOUSEHOLD: list of household members, education, household characteristics, social transfers, household energy use, water and sanitation, handwashing, and salt iodisation.

- WOMEN: women's background, mass media and ICT, fertility/birth history, desire for last birth, maternal and newborn health, post-natal health checks, contraception, unmet needs, attitudes towards domestic violence, victimisation, marriage/union, adult functioning, HIV/AIDS, and tobacco use.

- CHILDREN: child's background, child labour, child discipline, child functioning, parental involvement, and foundational learning skills.

- CHILDREN UNDER 5: under-five's background, birth registration, early childhood development, child discipline, child functioning, breastfeeding and dietary intake, immunisation, care of illness, and anthropometry.

Coverage

GEOGRAPHIC COVERAGE
The sample for the Kyrgyz Republic MICS 2018 was designed to provide estimates at the national/area/sub-population level, for urban and rural areas. Specifically, the sample for the Kyrgyz Republic MICS 2018 survey included 7 regions and two cities of the country: Batken, Jalal-abad, Issyk-kul, Naryn, Talas, Chui region and Bishkek, Osh cities.

UNIVERSE
The survey covered all de jure household members (usual residents), all women age 15-49 years, and mothers (or caretakers) of children 0 to 17 years living in the houshold. Additionally a basic skills assessment was administered to children age 7 - 14 years.

Producers and Sponsors

PRIMARY INVESTIGATOR(S)

Name	Affiliation
National Statistical Committee	Kyrgyz Republic
United Nations Children's Fund	UNICEF

FUNDING

Name	Abbreviation	Role
United Nations Children's Fund	UNICEF	
United States Agency for International Development	USAID	
United Nations Population Fund	UNFPA	

Metadata Production

METADATA PRODUCED BY

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

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Sampling

Sampling Procedure

SAMPLING FRAME

A two-stage, stratified cluster sampling approach was used for the selection of the survey sample. The sampling frame was based on the 2009 Country Census of Population and Housing. The primary sampling units (PSUs) selected at the first stage were the enumeration areas (EAs) defined for the census enumeration. After conducting the listing of households in the sample enumeration areas, in a random systematic sample of 20 households was selected in each EA.

SAMPLE SIZE AND SAMPLE ALLOCATION

The overall sample size for the 2018 Kyrgyz Republic MICS was calculated as 7,200 households. For the calculation of the sample size, the key indicator used was the underweight prevalence among children age 0-4 years. Since the survey results are tabulated at the regional level, it was necessary to determine the minimum sample size for each region. Variables considered to determine the minimum sample size for the region: underweight prevalence, design effect, and mean household size (more details are provided in Appendix A in the report available in related materials.

The estimated sample size requirements for obtaining a relative margin of error of 10% for stunting prevalence of children under-five (with a 2014 estimate of 13%, and calculated sample size of 6,858 households). It is also necessary to determine the sample size for each region, although sometimes the requirements for the level of precision are relaxed for sub-national domains. So, all regional level sample size estimates were also done for regions of the Kyrgyz Republic for stunting children (calculated sample size of 7,466 households).

It was also desired to have about minimum of 70 and max 110 "Children age 12-23 months" in every region (only 60 reserved for Osh city). Based on a review of the 2014 results, and above requirements, it was decided to have a minimum of sample size of 400 households and a maximum sample size of 1,300 HHs for Bishkek. These calculations resulted a final sample size of 7,200 households within 360 clusters.

Within each region, the sample EAs are allocated to the 30% urban and 70% rural strata proportionately to the number of households in each stratum, except for two urban strata Bishkek and Osh city since they do not have any rural strata. The purpose of this disproportionate allocation is to have more cases in urban domains of such regions since their actual proportion of rural is very high already. This allocation of the sample results in an urban sample of 174 sample EAs and 3,480 households, and a rural sample of 186 EAs and 3,720 households, which should be sufficient for providing reliable estimates for the urban and rural domain at the national level.

SELECTION OF ENUMERATION AREAS (CLUSTERS)

Census enumeration areas were selected from each of the sampling strata by using systematic probability proportional to size (pps) sampling procedures, based on the number of households in each enumeration area from the 2009 Census frame. The first stage of sampling was thus completed by selecting the required number of sample EAs from each of the nine regions, separately for the urban and rural strata.

LISTING ACTIVITIES

Given that there had been many changes in the households enumerated in the 2009 Census, a new listing of households was conducted in all the sample enumeration areas prior to the selection of households. For this purpose, listing teams were trained to visit all the selected enumeration areas and list all households in each enumeration area. Listing of households and enumeration areas was done by the National Statistical Committee from May to July 2018. One team was trained in each area. The segmentation procedures were applied in only two of the enumeration areas with large size in the city of Bishkek. EAs were divided in almost three equal size segments and one of them was selected randomly in which full listing and selection procedures were implemented.

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 Mhi (the total number of households in each enumeration area) at the National Statistical Committee, where the selection of 20 households in each enumeration area was carried out using random systematic

selection procedures. The MICS6 spreadsheet template for systematic random selection of households was adapted for this purpose.

Response Rate

Of 7,200 households selected for the sample, 7,065 were found occupied. Of these, 6,968 were successfully interviewed for a household response rate of 98.6% percent.

In the interviewed households, 5,826 women age 15-49 years were identified. Of these, 5,742 women were successfully interviewed, yielding a response rate of 98.6 percent within the interviewed households.

There were 3,552 children under 5 listed in the household questionnaires. Questionnaires were completed for 3,546 children under 5, which corresponds to a response rate of 99.8 percent within interviewed households.

A sub-sample of children age 5-17 years was used to administer the questionnaire for children in this age group. Only one child has been selected randomly in each household interviewed, and there was a total of 7,470 children age 5-17 years listed in the household questionnaires. Of these, 3,897 children (5-17 years) were selected, and questionnaires were completed for 3,889 which corresponds to a response rate of 99.8 percent within the interviewed households.

Overall response rates of 97.2 percent, 98.5 percent, 98.4 percent were calculated for the individual interviews of women, children under 5, and children age 5-17 years, respectively.

Weighting

The Kyrgyz Republic 2018 MICS sample is not self-weighting. Essentially, by allocating an equal number of households to each of the domains, different sampling fractions were used in each domain since the number of households in the Census frame varies by domain. For this reason, sample weights were calculated and used in the subsequent analyses of the survey data.

The major component of the weight is the reciprocal of the overall sampling probability employed in selecting the number of sample households in that particular sampling stratum.

Since the number of households in each enumeration area (PSU) from the 2009 sampling frame used for the first stage selection and the updated number of households in the EA from the listing are generally different, individual overall probabilities of selection for households in each sample EA (cluster) were calculated. Details provided in Appendix A5 of the report available in related materials.

A final component in the calculation of sample weights takes into account the level of non-response for the household and individual interviews. The adjustment for household non-response in each stratum is equivalent to the inverse of the response rate for the sample households per stratum (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.

Similarly, adjustment for non-response at the individual level (women and under-5 children) for each stratum is is equivalent to the inverse of the response rate for the individual questionnaires in stratum h, defined as the proportion of eligible individuals (for example, women age 15-49 years or under-5 children) in the sample households in stratum h who were successfully interviewed.

After the completion of fieldwork, response rates were calculated for each sampling stratum. These were used to adjust the sample weights calculated for each cluster.

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

In the case of the questionnaire for children ages 5-17 years, in each sample household, one child was randomly selected from all the children in this age group recorded in the list of household members. The household weight for the children age 5-17 years is first adjusted based on the response rate for this questionnaire at the stratum level. Once this adjusted

household weight is normalised as described in Appendix A5 of the report available in related materials, it is multiplied by the number of children age 5-17 years recorded in the list of household members. Therefore, the weights for the individual children age 5-17 years vary by sample household. This weighting of the data for the children age 5-17 years old is implemented in the tabulation programs for the corresponding tables.

The Kyrgyz Republic 2018 MICS full (raw) weights for the households were calculated by multiplying the inverse of the probabilities of selection by the non-response adjustment factor for each stratum. These weights were then standardised (or normalised), 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. Normalisation 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 non-response). A similar standardisation procedure was followed in obtaining standardised weights for the individual women, and under-5 questionnaires. Adjusted (normalised) household weights varied between 0.1835 and 3.927 in the 360 sample enumeration areas (clusters).

Sample weights were appended to all data sets and analyses were performed by weighting the data for households, women, under-5s, 5-17-year olds and water quality testing with these sample weights.

Questionnaires

Overview

Four questionnaires were used in the survey: 1) a household questionnaire to collect basic demographic information on all de jure household members (usual residents), the household, and the dwelling; 2) a questionnaire for individual women administered in each household to all women age 15-49 years; 3) an under-5 questionnaire, administered to mothers (or caretakers) of all children under 5 living in the household; and 4) a questionnaire for children age 5-17 years, administered to the mother (or caretaker) of one randomly selected child age 5-17 years living in the household.

Additionally, for all children age 0-2 years with a completed Questionnaire for Children Under Five, the Questionnaire Form for Vaccination Records, was used to record vaccinations from medical vaccinations card (form No 63).

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, availability of water and soup, measured the weights and heights of children age under 5 years. Details and findings of these observations and measurements are provided in the respective sections of the report. Further, the questionnaire for children age 5-17 years included basic skills that are necessary for learning (reading and mathematics assessment) administered to children age 7-14 years.

The questionnaires were based on the MICS6 standard questionnaires.2 From the MICS6 model Russian version, the questionnaires were customised and translated into the Kyrgyz language and were pre-tested in the Chui region and Bishkek during May, 2018. Based on the results of the pre-test, modifications were made to the wording and translation of the questionnaires.

Data Collection

Data Collection Dates

Start	**End**	**Cycle**
2018-09	2018-11	N/A

Data Collection Mode

Face-to-face [f2f]

Data Collection Notes

Training for the fieldwork was conducted for 24 days in August, 2018. Training included lectures on interviewing techniques and the contents of the questionnaires, and mock interviews between trainees to gain practice in asking questions. Participants first completed full training on paper questionnaires, followed by training on the CAPI application. The trainees spent 21 days the theory and practice in office and three days on a full pilot survey in Kojoyar, Semenovka, Temirovka and Grigorievka villages of the Issyk-kul region. The training agenda was based on the template MICS6 training agenda.

Measurers received dedicated training on anthropometric measurements for a total of 13 days, including 9 days in field practice and pilot survey. Field Supervisors attended additional training on the duties of team supervision and responsibilities.

The data were collected by 9 teams; each was comprised of 5 interviewers, one driver, one measurer and a supervisor. Fieldwork began in September and concluded in November 2018.

Data was collected using tablet computers running the Windows 10 operating system, utilising a Bluetooth application for field operations, enabling transfer of assignments and completed questionnaires between supervisor and interviewer tablets.

Team supervisors were responsible for the daily monitoring of fieldwork. Mandatory re-interviewing was implemented on one household per cluster. Daily observations of interviewer skills and performance was conducted.

During the fieldwork period, each team was visited multiple times by survey management team members and field visits were arranged for UNICEF MICS Team members. Throughout the fieldwork, field check tables (FCTs) were produced weekly for analysis and action with field teams. The FCTs were customised versions of the standard tables produced by the MICS Programme.

After completion of fieldwork data collection, concerns arose with regard to the quality of data on the access to Internet in the Talas region and on child mortality level in the Batken region.

Comparing the information on the availability of mobile phones in households of Talas region, information on the use of mobile communication (calls, social networks, etc.) from other studies in Talas region, it was concluded that the collected data characterize only the availability of fixed Internet only. Low rates of child mortality in Batken region were not directly explained - perhaps some women did not want to talk about these cases and/or interviewers did not focus on the explanation of the concept of "live birth" during the very first weeks of the survey.

Therefore, after in-house discussion, it was decided to re-visit women aged 15-49 in the Batken region and households the Talas region. During revisiting, the data on internet access have been clarified, as well as several additional cases of death of children were identified, including in women who at the moment of the interview did not reside in the surveyed household (these cases were not included in the final database). The re-visiting conducted in February 2019 had allowed to make informed corrections to the original database.

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administered in each household to all women age 15-49 years; 3) an under-5 questionnaire, administered to mothers (or caretakers) of all children under 5 living in the household; and 4) a questionnaire for children age 5-17 years, administered to the mother (or caretaker) of one randomly selected child age 5-17 years living in the household.

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Supervision

Field Supervisors attended additional training on the duties of team supervision and responsibilities. A supervisor was included in each data collection team.

Team supervisors were responsible for the daily monitoring of fieldwork. Mandatory re-interviewing was implemented on one household per cluster. Daily observations of interviewer skills and performance was conducted.

Data Processing

Data Editing

Data were received at the central office of National Statistical Committee via the Internet File Streaming System (IFSS) integrated into the management application on the supervisors' tablets. Whenever logistically possible, synchronisation was daily. The central office communicated application updates to field teams through this system.

During data collection and following the completion of fieldwork, data were edited according to editing process described in detail in the Guidelines for Secondary Editing, a customised version of the standard MICS6 documentation.

Data were analysed using the Statistical Package for Social Sciences (SPSS) software, Version 24. Model syntax and tabulation plan developed by UNICEF were customised and used for this purpose.

Other Processing

Unique identifiers such as location and names collected during interviews were removed from datasets to ensure privacy. These anonymised data files are made available on the MICS websites and can be freely downloaded for legitimate research purposes. Users are required to submit final research to entities listed in the included readme file, strictly for information purposes.

The process of archiving of data and survey tools were accomplished during the survey period. Full data, SPSS syntaxes and other related documentation were archived in Kyrgyzstan and published at the web-page of the National Statistical Committee www.stat.kg

Data Appraisal

Estimates of Sampling Error

The sample of respondents selected in the 2018 Kyrgyz Republic Multiple Indicator Cluster Survey 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 based on the actual sample selected. 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 replication 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 which contains the true value of the indicator for the population, with a specified level of confidence. For MICS results 95% confidence intervals are used, which is the standard for this type of survey. The concept of the 95% confidence interval can be understood in this way: if many repeated samples of identical size and design were taken and the confidence interval computed for each sample, then 95% of these intervals would contain the true value of the indicator.

For the calculation of sampling errors from MICS data, programs developed in CSPro Version 6.3 and SPSS Version 24 Complex Samples module have been used.

The results are shown in the tables that follow. Sampling errors are calculated for SDG indicators for which SEs can be calculated, and several other MICS indicators.

In addition to the sampling error measures described above, the tables also include weighted and unweighted counts of denominators for each indicator. Given the use of normalized weights, by comparing the weighted and unweighted counts it is possible to determine whether a particular domain has been under-sampled or over-sampled compared to the average sampling rate. If the weighted count is smaller than the unweighted count, this means that the domain had been oversampled.

For the following indicators, however, the unweighted count represents the number of sample households, and the weighted counts reflect the total population living in these households.

- Access to electricity

- Primary reliance on clean fuels and technologies for cooking, space heating and lighting

- Use of basic drinking water services

- Use of safely managed drinking water services

- Handwashing facility with water and soap

- Use of basic sanitation services

- Safe disposal in situ of excreta from on-site sanitation facilities

- Population covered by social transfers

Documentation

Reports

Kyrgyz Republic 2018 Multiple Indicator Cluster Survey Findings Report

Title Kyrgyz Republic 2018 Multiple Indicator Cluster Survey Findings Report
Country Kyrgyz Republic
Language English
Filename Kyrgyzstan MICS 2018_English.pdf

Kyrgyz Republic 2018 Multiple Indicator Cluster Survey Findings Report_Russian

Title Kyrgyz Republic 2018 Multiple Indicator Cluster Survey Findings Report_Russian
Country Kyrgyz Republic
Language Russian
Filename Kyrgyzstan MICS 2018_Russian.pdf

Kyrgyz Republic 2018 Multiple Indicator Cluster Survey Findings Report_Kyrgyz

Title Kyrgyz Republic 2018 Multiple Indicator Cluster Survey Findings Report_Kyrgyz
Country Kyrgyz Republic
Language Kyrgyz
Filename Kyrgyzstan MICS 2018_Kyrgyz.pdf

Kyrgyz Republic 2018 Multiple Indicator Cluster Survey Snapshot Report

Title Kyrgyz Republic 2018 Multiple Indicator Cluster Survey Snapshot Report
Country Kyrgyz Republic
Language English
Filename Snapshot_English.pdf

Kyrgyz Republic 2018 Multiple Indicator Cluster Survey Snapshot Report_Russian

Title Kyrgyz Republic 2018 Multiple Indicator Cluster Survey Snapshot Report_Russian
Country Kyrgyz Republic
Language Russian
Filename Snapshot_Russian.pdf

Kyrgyz Republic 2018 Multiple Indicator Cluster Survey Snapshot

Report_Kyrgyz

Title   Kyrgyz Republic 2018 Multiple Indicator Cluster Survey Snapshot Report_Kyrgyz
Country   Kyrgyz Republic
Language Kyrgyz
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