

Sample Design

The sample for the Balochistan MICS 2004 was designed by the Federal Bureau of Statistics, Islamabad to provide estimates of socio-economic indicators for the province, for urban and rural areas, and for each of the 25 districts and 2 towns of Quetta (Table 1). The rural part of the sample was taken from the 1998 census, the urban frame from a 1995 update, as part of the regular updates every 5-7 years.

The sample was selected from several strata (defined sub-groups of the population): both the major cities, other urban and rural areas from each of the 25 districts and two Quetta towns. The sampling was conducted in two stages. At the first stage, within each stratum, census enumeration blocks were selected with probability proportional to size. After a household listing was carried out within the selected enumeration areas, a systematic sample of 16 households in rural and 12 households in urban areas was drawn at the second stage.

Quetta, with the largest population, had the greatest number of households (1,008), while the remaining households, 9,668 coming from the remaining districts. The sample size was selected to ensure that each district had a sufficient number of sites and households to ensure adequate precision of results for major indicators⁶.

Full technical details of the sample are included in Annex A.

⁶Because the survey is based on a sample (selection) from a population, the estimates for selected indicators (such as percent or prevalence) are not exact as would be the case for a census (everyone is included). The precision of a sample result for an indicator shows how close it would be to the result if a census were done. The greater the sample size, the more precise is the result for that indicator (other factors include the expected prevalence, the level of confidence required and an adjustment for the type of sample).

The ideal sample size to address the most important indicators has to be balanced with the resources available for the survey. For example, the PIHS for Balochistan estimated the Infant Mortality Rate (IMR) as 82 per 1000 live births. For 1420 observations the 95% confidence interval result for IMR was 22 (twice the standard error), giving a range of 82 +/- 22 or 60 to 104. This number of observations per district far exceeds available resources, hence we can expect reliable estimates for province or urban/rural but not by district. The same problem occurs with sub-sets of the population, such as breastfeeding for infants, due to the reduced sample sizes. However, we do expect adequate precision (+/- 5) for most of the key indicators. These will be presented in the Technical Report.

Even districts with the smallest populations still need an adequate sample size for acceptable precision for most key indicators. Hence the sample sizes among districts are not proportional to their population size. Weighting (multiplying the results by the required factor) is used to restore the results to population proportionality.

Table 1: Number of Households and Sites in Sample

Balochistan MICS 2004 - Sample						
District	Households			Sites		
	Rural	Urban	Total	Rural	Urban	Total
Awaran	352		352	22		22
Barkhan	320	24	344	20	2	22
Bolan	224	108	332	14	9	23
Chaghi	272	120	392	17	10	27
Dera Bugti	304	48	352	19	4	23
Gwadar	176	192	368	11	16	27
Jaffarabad	272	132	404	17	11	28
Jhal Magsi	320	24	344	20	2	22
Kalat	272	108	380	17	9	26
Kech	304	144	448	19	12	31
Kharan	304	84	388	19	7	26
Khuzdar	256	156	412	16	13	29
Killa Abdullah	272	108	380	17	9	26
Killa Saifullah	352	48	400	22	4	26
Kohlu	336	24	360	21	2	23
Lasbela	256	192	448	16	16	32
Loralai	304	108	412	19	9	28
Mastung	272	120	392	17	10	27
Musa Khail	352		352	22	0	22
Nasirabad	288	120	408	18	10	28
Panjgur	304	96	400	19	8	27
Pishin	304	72	376	19	6	25
Quetta-Chiltan	272	276	548	17	23	40
Quetta-Zarghoon	64	396	460	4	33	37
Sibi	288	168	456	18	14	32
Zhob	288	120	408	18	10	28
Ziarat	336	24	360	21	2	23
Total	7664	3012	10676	479	251	730

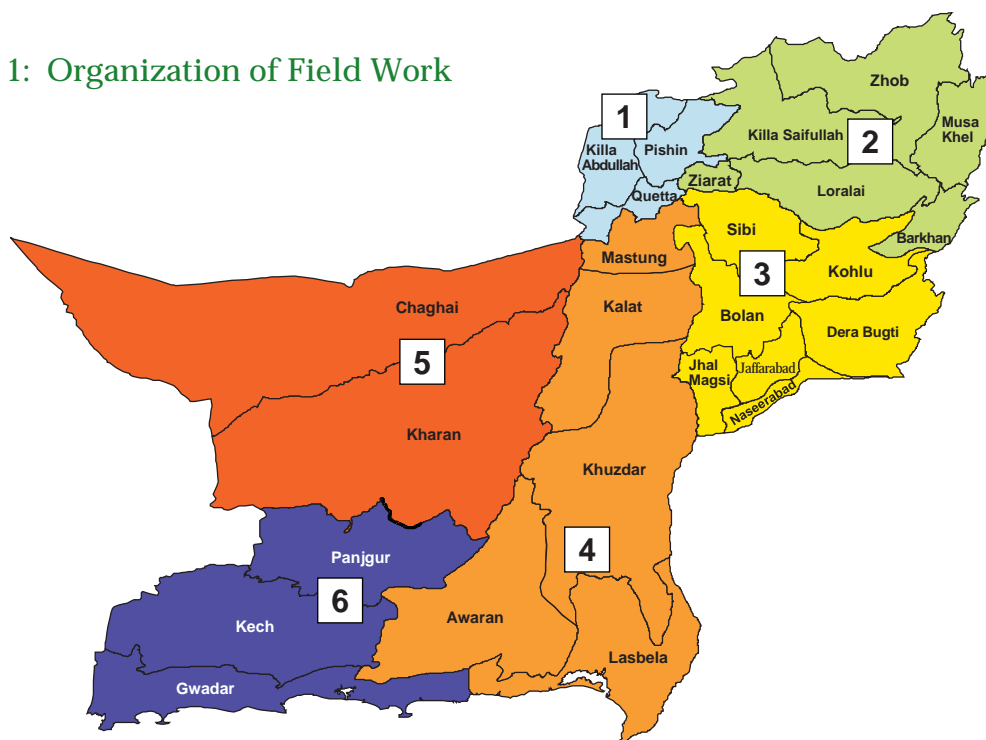
Listing

As in the other provinces conducting MICS, the Federal Bureau of Statistics (FBS)/Islamabad was responsible for providing the sample for Balochistan for conducting the listing of households, prior to sample selection. A major problem was the staff shortage with the FBS/Quetta, which required recruitment of additional staff, such as those used for the Economic Census. Staff for listing came from FBS/Quetta and Balochistan regional office and additional staff from Sindh was deployed for Lasbela and other districts bordering Sindh. Training of BOS staff with field practice was conducted in FBS/Quetta. This was followed by a combined FBS/BOS listing in the first few sites, to enhance the training. Listing was conducted to ensure a complete coverage of the households within the clusters to draw the allotted number of households to be enumerated. The lists also served to locate households thus also allowing for proper supervision and checking. In a few cases due to migration and difficult access, the listing required modification. The problems were resolved with the involvement of the MICS Secretariat and the FBS offices in Islamabad and Quetta. The agency hired for monitoring (Bunyard Literacy Community Council - BLCC), verified listing in the field on a sample basis independent and reviewed listing quality.

Survey Preparation: District Orientations and Survey Staff selection

Due to the logistic and communication constraints in Balochistan with its very large size and population diversity, the province was divided into six regions (Quetta, Loralai, Sibi, Khuzdar, Chaghai and Mekran) based on geographic, cultural and language similarities. The Core Team visited District Nazims, District Coordination Officers, EDOs, Media and Civil Society Organizations at each of the regional headquarters to provide an orientation on MICS, to hire local staff and arrange for local support. At the Region and District centres, the concerned Nazims and DCOs appointed a Regional Focal Person and District Focal Persons to facilitate the MICS process within their regions and districts.

Map 1: Organization of Field Work



Staff

The total number of interviewers was 325, with 65% from the Government and the remainder from the private sector. Most of the Government staff came from Education (mainly teachers) and Health Departments (mainly Lady Health Visitors, Lady Health Supervisors and Lady Health Workers, the remainder being Medical Technicians, Nurses, and Dispensers). Other staff came from Population Welfare, Social Welfare and Agriculture Departments. Seven senior staff from Balochistan Bureau of Statistics was appointed District Supervisors. Regional Technical Coordinators with appropriate qualifications and field experience were selected from the private sector by the P&DD. Enumerators were recruited in the districts, through coordination with the local authorities. In the few districts, where required staff was not available, recruits were brought in from a neighbouring districts. They were also hired from civil society organisations to fill any gaps in government staff, especially for females.

Training

Training was conducted according to a well-sequenced training plan. First, 12 Master trainers were trained and provided an orientation on all aspects of the survey by the International consultant and the Provincial Coordinator in several sessions at Quetta. Subsequently, a Training of Trainers was held for 28 trainers at Quetta. The final training of enumerators was conducted by these trainers in their respective regions for six days. The training methods were standardized with a set of instructions and training aids. Each of these trainings lasted for 6 days and included fieldwork and evaluations. The field trainers were selected for skills, understanding of local cultures and languages. All field training was supervised and supported by a Provincial Master Trainer. Additional trainings were held at Dera Bugti due to local needs and in Quetta to increase the field staff numbers.

Fieldwork

Fieldwork began in Mastung and Panjgur districts on November 14, 2003 and continued throughout the province for more than 10 weeks. A Regional Supervisor was responsible for all aspects of fieldwork in his region, coordinating with the Field Supervisors in each district. Special care was required for security, logistics, local sensitivities and migration. These occurred mainly in districts of the north-eastern part of the province.

Each basic team was comprised of one male and two female interviewers. The male was responsible for team security and logistics, locating households and making introductions (with local help as required). He also administered the household part of the questionnaire, interviewing the household head or key male adult. The females were responsible for interviewing eligible women (ever-married and aged 15 to 49 years) for both the woman's module and child sections of the questionnaire, and the weighing of children. Male and/or female interviewers completed the sections on income, expenditure and education, depending on the respondent. All interviewers were responsible for editing, both at household interview completion and at the end of the day's work.

Usually two teams worked together with one supervisor. Teams were expected to complete one cluster (12 households) in urban areas in a day and one cluster (16 households) in rural areas in two days. Occasionally, additional time was needed. In some remote "difficult" areas, three teams worked in a cluster to ensure that the clusters could be completed in time. Teams were expected to revisit households where a key respondent or eligible woman/child was not present at the first visit, up to a maximum of three times.

Supervisors had to ensure that the surveyed households corresponded to those sampled, completeness and quality of work, keeping to schedules, transport, and accommodation as required and local arrangements. They reported to the Regional Focal Person and Regional Technical Coordinator on a regular basis.

Quality Control

Ensuring the quality of the survey was a very important aspect both in preparation, training, fieldwork and data management. Regional Technical Coordinators (RTCs) visited teams regularly to ensure survey quality and supervised interviews, using standardized editing checklists. The RTC's met regularly with MICS Secretariat Core team (including the national and international consultants) in Quetta and in the field. All field staff was constantly reminded to check their work on a regular basis. Major concerns included selection of the sampled household, ensuring all household members were included, proper selection of the eligible women and children, questions asked as directed in a neutral manner, attention to proper age verification, correct weighing and salt testing procedures.

Further, Bunyad Literacy Community Council (BLCC) - an NGO with prior experience of the MICS in Punjab were hired as a monitoring agency to support and report on the staff training and fieldwork quality. BLCC were associated in all phases of the survey i.e from reviewing the list of indicators, questionnaires, listing, fieldwork, data management and review of the draft report. They played a supportive role, providing timely feedback to allow for fine-tuning and corrective actions. The field staff hired by BLCC to review the performance of the fieldwork consisted of six teams (each of one male and one female) who visited a 10% sample of sites with two households per site. In the early stages a number of problems, especially relating to the above named major focus areas, were identified and corrected on site. The timely feedback and practice yielded better results and improved the quality of the survey. Results were similar to those collected by the survey field staff

BLCC used a shorter questionnaire, based on the regular one, to re-survey a fresh sample of households, after field staff had completed the site. The BLCC report indicated that with few exceptions, the results were similar to those collected by the survey field staff

Data management

Editing was continued on the receipt of forms at the MICS Secretariat, according to set of agreed procedures with the Government of Punjab. UNICEF, in consultation with the Government of Punjab, hired an Islamabad-based agency, Eycon Solutions, to do data editing, data entry and post-entry editing. For data entry a set of Microsoft Access user-friendly screens were developed which were the mirror image of the questionnaire. Over 200 "queries"⁷ were carried out (mostly developed by BLCC the monitoring agency), attending to possible errors of missing values, inconsistencies and outliers (extremely unlikely findings). All errors were communicated to the MICS Secretariat for necessary actions. The relevant questionnaires were re-examined to correct any errors in transcription.

Of over 900,000 entries scanned, a total of 13,357 (1.5%) errors were found, of which 1.1 % were field, 0.1% were editing and 0.4% were entry errors. Of all errors, 0.5% were either entry or editing errors and could be corrected.

Further checks, especially for correct ages, consistency and outliers were done after basic tabulations of the data, using SPSS. Based on these findings, the final data set was deemed clean and handed over to MICS Secretariat and UNICEF in April 2004.

⁷Checks on data consistency and outliers.

Constraints

The major constraints were related to the large area of the province, difficult terrain and the sparse population in many rural areas, making communication and logistics difficult. The volatile security situation in some districts, especially in the north-east of the province, caused delays and problems, especially with female interviewers. Migration in some sites created difficulty in identifying the selected households. There was a lack of response due to local cooperation in some sites, such as in Dera Bugti and Ziarat. The low level of literacy made it difficult to identify certain responses, such as ages, especially in young children. Much of the staff selected were not presently experienced in household surveys of this type and required optimal training and supervision. Above all, there was an unprecedented degree of work required by survey and local staff in a restricted time frame.

Key Events

The key events in the survey planning and implementation were as follows:

Feb 2003:	Initiation of Government of Balochistan dialogue with UNICEF
May 2003:	Signing of MOU between P&DD, UNICEF/Quetta and FBS
July 2003:	Finalization of the Indicators by the Working Group
July-Aug 2003:	Preplanning – administrative structure, budget, sample, Questionnaire design, pre-testing, district orientations
Aug-Sept 2003:	Preparations – staff, logistics and training
Sept-Nov. 2003:	Listing for sample selection by Federal Bureau of Statistics, Islamabad
Nov 2003 -Jan 2004:	Field work; Field Monitoring and Back Checking
Jan 2004 – April 2004:	Editing, data entry and cleaning by Eycon Solutions
Apr 2004 – May 2004:	Data analysis and Reporting
June 2004:	Draft Report
July 2004:	Technical Discussions on Draft Report
Nov 2004:	Draft Report Approval by the Steering Committee
June 2005:	Final Report Approval by the Steering Committee