

District-Based Multiple Indicators Cluster Survey 2003-04



Government of Punjab
Planning and Development Department

In collaboration with

The Federal Bureau of Statistics
and

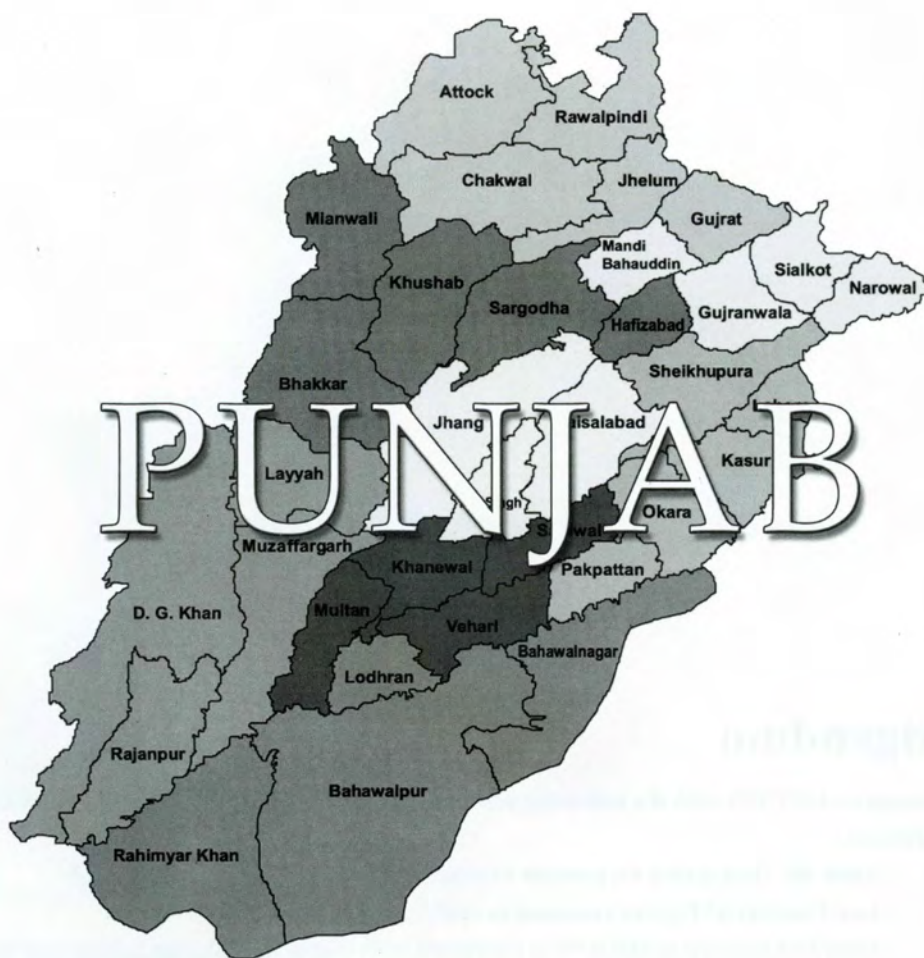
United Nations Children's Fund (UNICEF)

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Foreword

In the process of devolution and decentralization currently taking place throughout Punjab Province, statistically valid data is vital to measure key components of socio-economic development. These cover households, children and mothers in the domains of health, education, literacy and economic indicators.

Recognizing the need for a rapid household survey that covered all these elements and was internationally acceptable, the Government of Punjab selected the Multiple Indicators Cluster Survey (MICS) methodology to fill this gap. A methodology which has been successfully implemented in more than 70 countries in connection with the monitoring of the World Summit Goals for Children, it was used to produce the first ever comprehensive survey on human development at the district level in the Punjab.

The Government, through the the Planning and Development Board (P&D) and the Bureau of Statistics, is pleased to present the report of the Punjab MICS 2003-04. These results will make a valuable contribution to the devolution process in providing baseline data for district planning, implementation and monitoring of key human development indicators.

On behalf of the Government of Punjab, I would like to congratulate Dr. Shaheen Khan for her able leadership and all staff from all government departments, non-government agencies and the UNICEF team who participated in this huge effort. I would also congratulate the District and Town Nazims and District Coordination Officers who supported the survey to the benefit of their districts and towns. All involved did not spare any effort to make the survey a success.

We must ensure these efforts are not in vain. I am therefore encouraging government officials at provincial and district level and the academicians to make ample use of the information and analysis provided in this report to improve the planning, implementation and monitoring of social services for the people in Punjab.

Suleman Ghani
Chairman,
Planning and Development Board
Government of the Punjab

Acknowledgement

We feel proud to present the Punjab MICS 2003-04 report which for the first time ever provides valuable district-based data relating to social development throughout the province. The key findings of this survey compare well with the secondary data, validating not only the findings of the survey, but serve to build confidence of the users of this information about new areas unveiled here.

The Punjab MICS 2003-04 is an historic survey in terms of complexity, size and implementation modalities. The survey provides data for over 44 socioeconomic indicators at the provincial level, as well as for all 34 districts. Another unique aspect of this survey is that for the first time ever, the data for the six towns and Cantonment of Lahore has also been shown separately. The fieldwork covered 2,190 randomly selected survey sites spread over every part of the province, with interviews in 30,932 households involving 202,977 people. More than 700 people (both female and male) from over 15 departments/ organizations with varied level of expertise contributed during different phases of the survey. Punjab MICS 2003-04 sets an excellent example of accomplishment through coordinated efforts of several role players. The report is just a beginning of a process that will develop capacity and promote a culture for decision-making based on information. The capacity for conducting a household survey of this magnitude has also been developed in the province and will benefit the province in the years to come.

For a survey of this size and complexity, a response rate of over 99 per cent with an acceptable level of survey error is a remarkable achievement. This exceptional performance can only be attributed to the commitment, dedication and team work of all the key players.

I am grateful for the leadership of the Chairman and Secretary, Planning & Development Department, Punjab for undertaking this venture and for their continuous guidance in the planning and implementation. I would also like to express my appreciation for the efforts of my team and in particular, Senior Chief (SAP/DERA), Director General Bureau of Statistics, Director Punjab Economic Research Institute and the members of the Core Team for their untiring support during all stages of the process. The keen interest and contributions from the members of the Steering Committee and Planning & Coordination Group is acknowledged with thanks. A high level of commitment and ownership by one and all has been the driving force behind this survey

The UNICEF team including Provincial Chief and PM&E Officer, UNICEF Punjab and PM&E Chief and Project Officer, UNICEF Islamabad deserves special thanks for their continuous support and responsiveness to the needs of the project at every stage. The harmonious relationship is proof of the special partnership enjoyed between the Government of Punjab and UNICEF.

The Punjab MICS 2003-04 was also ably supported by the NGO/private sector. We would like to recognize the technical assistance of Dr. Alfred Zerfas, International Consultant for leading the process, Mr. Mohammad Akbar, Local Consultant for management support, Bunyad Literacy Community Council (BLCC) for monitoring and Eycon Solutions for their data management support. Their contribution is noteworthy not only for the successful completion of their assignments, but also the valuable role they played in building capacity and providing an example of a good public-private partnership.

The fieldwork of such a huge survey seemed daunting, but through the diligent efforts of the field teams made up of Regional Supervisors, Team Supervisors and Field Enumerators (both house listing and interviews) this difficult task was completed in record time without any major operational issue. The entire field team deserves much appreciation for this accomplishment. None of this would have been possible without the patient support of their families and co-workers who carried the extra burdens.

All district governments and line departments provided valuable support by contributing services of the staff and owning the process. The Federal Bureau of Statistics also contributed significantly in the design and listing stages and provided us with the first-ever district based sample.

Communities, local leadership and members of the sampled households generously devoted their time and resources to facilitate work of the survey teams.

We are indebted to the members of the sampled households for the confidence they placed in the government in sharing personal information. Through this message, I would like to reaffirm the commitment of the government that the information provided by the household remains in trust and will not be used for any purpose other than for their benefit.

Dr. Shaheen Khan
Chief Economist
Planning & Development Department, Punjab

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Acronyms and Abbreviations

ANC	Ante-Natal Care during pregnancy, also termed Pre-natal Care
ASFR	Age Specific Fertility Rate
BCG	Bacillus-Camille-Guerin – (BCG, Antigen used to prevent Tuberculosis)
BLCC	Bunad Literacy Community Council
BOS	Bureau of Statistics, Government of Punjab
DHDC	District Health Development Centre
DHS	Demographic and Health Survey
DOH	Directorate of Health, Government of Punjab
DPT	Diphtheria, Pertussis and Typhoid
EDO	Executive District Officer
EFA	Education For All
EPI	Expanded Programme of Immunization
FBS	Federal Bureau of Statistics, Government of Pakistan
FMT	Female Medical Technician
HH	Household
HIES	Household Integrated Economic Survey
HIV/AIDS	Human Immunodeficiency Virus - Acquired Immune Deficiency Syndrome
IDD	Iodine Deficiency Disorders
IMR	Infant Mortality Rate
LHV	Lady Health Visitor
LHW	Lady Health Worker
MDG	Millennium Development Goals
MICS	Multiple Indicators Cluster Survey
MCEB	Mean number of Children Ever Born
MOU	Memorandum of Understanding
NER	Net Enrolment Rate
NCHS	National Centre for Health Statistics
NIDS	National Immunisation Days
ORT	Oral Rehydration Therapy
ORS	Oral Rehydration Salts
PDS	Pakistan Demographic Survey
P&DD	Planning and Development Department

PERI	Punjab Economic Research Institute
PIDE	Pakistan Institute for Development Economics
PIHS	Pakistan Integrated Household Survey
PPM	Parts per Million
PRSP	Poverty Reduction Strategy Paper
PSU	Primary Sampling Unit
RHC	Rural Health Centre
Rs	Rupees (Pakistan)
SD	Standard Deviation
SPDC	Social Policy Development Centre
SPSS	Statistical Package for the Social Sciences
SSU	Secondary Sampling Unit
TBA	Traditional Birth Attendant
TFR	Total Fertility Rate
ToT	Training of Trainers
U5MR	Under Five Mortality Rate
UNDP	United Nations Development Programme
UNFPA	United Nations Fund for Population Activities
UNICEF	United Nations Children's Fund
WHO	World Health Organization
WSC	World Summit for Children

Executive Summary

The Punjab MICS 2003-04 Multiple Indicator Cluster Survey (MICS) is a household based survey on the situation of children and women. It is statistically representative at district and provincial level allowing for comparison between the 34 districts and 6 towns and Cantonment of Lahore. It was conducted from September 2003 to December 2003 by the Planning and Development Department (P&DD) Government of Punjab, with support from UNICEF. The Federal Bureau of Statistics (FBS) took the sample and did the household listing. A unique and demanding experience for the Provincial Government was completed in just over a year, from preparation to report phase.

The main objective of the survey is to provide new and reliable social and economic information on households, children and women to enable rational district-level planning in the devolution phase and base resource allocation on need. Results will support the Punjab Poverty Reduction Strategy, using a total of 44 specific indicators selected by the Provincial Government. This survey will also serve to benchmark the Millennium Development indicators and monitor progress on the achievement of these Goals.

Indicators

These indicators come under the following headings:

- Education (including literacy, primary and middle school enrolment, attendance, dropouts and distance from nearest school);
- Water/Sanitation (access to improved sources of water, adequate sanitation and methods of disposal);
- Women Health (maternal mortality estimate, coverage of pre-natal, births and post-natal care, awareness and knowledge of HIV/AIDS, contraceptive use, fertility and coverage by Lady Health Workers);
- Child Health (mortality rates, under-nutrition, breast and infant feeding, immunization, recent illness and health practitioner consulted for treatment);
- Child Protection (birth registration, child labour and runaways); and other concerns, such as Tuberculosis diagnosed in the past year.

Indicators of the Economic situation include household income (including agricultural income, remittances and zakat/donations), employment, household expenditure for food, health, education and non-food items and assets, such as land, livestock or house ownership with values, utilities and possessions.

Sample

The multistage cluster sample was done by the FBS. To ensure statistical validity, a reasonably large sample size (an average of 780 households and 55 sites) was selected for each district, including Lahore towns/cantonment, with a total size of 2,190 sites, 30,932 households and 202,977 subjects, by far the largest survey of this type ever conducted in Punjab. The biggest undertaking prior to this, the Pakistan Integrated Household Survey (PIHS-2001), covered 6,395 households, about one-fifth of the MICS survey.

Of the households sampled, 99% were found to be occupied (response rate); of these, 98% were successfully interviewed (i.e., 97% of the sample). The response rate was 99% for eligible women aged 15-49 and 99% for children under the age of five. The very high response rates are remarkable, considering the tight schedules and the extent of work required by survey and local staff.

Methods

In almost all cases, field staff was hired from each district, in consultation with the District Nazims, District Coordination Officers and Executive District Officers. All survey staff came from the Government, an essential step forward for local capacity building. Of the 375 staff, 71 (plus 9 Regional

Supervisors) came from the Punjab Bureau of Statistics (BOS), 244 from the Health Department (mainly Lady Health Visitors and Lady Health Supervisors), and the rest from Agriculture (Crop Reporting), Population Welfare, Social Welfare and other Departments.

To facilitate local preparations, training and fieldwork, the Punjab was divided into nine regions, each with 3-5 districts. The centre of each region was the focal point for training and field coordination, supported by the BOS Regional Supervisor, District Government and MICS core staff from Lahore. Training was standardized throughout several phases, firstly for Master trainers at the Lahore DHDC, moving on to the training of trainers, with final training in the field, under the guidance of a master trainer. For fieldwork, each basic team was made up of one man and two women, with two or three teams working together with a supervisor, depending on the expected workload. Listing was carried out by the FBS Sampling Section, Islamabad, the FBS Provincial Office and BOS staff.

Quality control was addressed during preparation, training, fieldwork, and office editing and data management. Extra staff, including an international and local consultant, further ensured quality. UNICEF also contracted Bunyad Literacy Community Council (BLCC), a local organization with expertise in survey methods, to monitor all phases of the survey, and especially the fieldwork. BLCC also re-surveyed a sub-sample of households visited and concluded that with few exceptions, the results were similar to those collected by field staff.

Eycon Solutions, an Islamabad-based agency, was hired to edit questionnaire data, enter and carry out post-entry data editing. For data entry a set of Microsoft Access user-friendly screens were developed which were the mirror image of the questionnaire. Checks were made on results for over 200 variable combinations of possible errors of missing values, inconsistencies and outliers (extremely unlikely findings). Out of over 1.5 million entries scanned, a total of 10,363 (0.7%) errors were found, of which 0.5% were field errors, 0.1% were at the time of editing and 0.1% were made during data entry. Of all errors, about one-third (33%) could be corrected. Those not corrected were identified for further checking by the MICS Secretariat and if still uncorrectable, were examined and were excluded from the analysis as they were found to be random.

After further checks during analysis, the final data set was deemed clean and handed over to MICS Secretariat and UNICEF in April 2004.

Results

The survey results are a suitable baseline for future monitoring at the district and provincial level. They provide information for at least one indicator for each of the eight Millennium Development Goals (MDGs) and several indicators for both the Punjab Poverty Reduction Strategy (PPRSP). Results are presented here for Punjab, but are also available for the all districts and the Lahore Towns/Cantonment.

Goals and Targets

The table below shows Millennium Development Goals and Targets, indicators and the results from the MICS. These results can be used for baseline data or for comparison with information in prior years. The advantage of a follow-up using a repeat MICS is that the same procedures and methods would be used as a basis of comparison.

Goal 1 - Eradicate Extreme Poverty and Hunger

The information available from MICS for this Goal pertains to the nutritional status of children. In Punjab, nearly one-third (34%) of children aged less than five years were malnourished, indicating a serious problem according to WHO. This also reflects the standard of living in the population.

Goal 2 - Achieve Universal Primary Education) and

Goal 3 Promote Gender Equality and Empower women

The goals deal mainly with education, underlying its importance for women. The ratio of female to male education in the indicators with results (net and gross primary enrolment) is about equal (0.90). The net enrollment rate in primary school is 51% with a gross enrolment of 88%, indicating that about

37% of the children who attend primary school are not of primary school age and older than 9 years).

The interpretation of the literacy sex ratio depends on whether the 10 years and over or 15-24 years age group is taken. The Census and the PIHS use the former, whereas the latter is an MDG indicator. MICS gives results for both these sub-populations i.e for 10 years and more (ratio of 0.70) and 15-24 years age (ratio of 0.83) allowing for comparison over time and for benchmarking future surveys.

The MDG indicator is a more sensitive indicator for change over 3-5 years due to its potential use for improving child education policy and programmes. Hence for medium-term monitoring it may be more suitable to use the MDG indicator.

Goal 4 - Reduce Child Mortality

Young child mortality (Under Five Mortality of 112 and Infant Mortality Rate of 77 per 1000 live births) is still unacceptably high by international standards. Put plainly, this means that about one of every 10 children die before their fifth birthday. On top of this, one third of children aged 12-23 months are not fully immunized against measles and other preventable infections (as shown by the EPI coverage survey). Further, the MICS highlights the high level of acute illnesses (diarrhoea, cough and fever), the low extent of exclusive breast feeding in early infancy and the absence of complementary foods in later infancy, which are all reflected in a malnutrition rate of 34% (underweight for age) in children aged under five years.

Goal 5 Improve Maternal Health

The data collected on maternal deaths needs to be further investigated before reliable estimates of maternal mortality can be made. The numbers obtained suggest that MMR is expected to be high, supported by the low percent (32%) of women's births attended by skilled health personnel. This is influenced by the lack of antenatal care with one-quarter of all pregnant women not consulting any attendant; and of those attending only 12% have more than six visits during pregnancy. Only one in three women (35%) with a child under 3 years of age was visited by a Lady Health Worker in the past month, although population coverage should be complemented by more comprehensive program information.

The contraceptive prevalence rate, using modern methods is low (27%). Further, although 77% of married women of childbearing age knew any method of how to avoid pregnancy, only 39% had ever used any method. This is reflected by a Total Fertility Rate of 4.70 births per woman, similar to that reported by the 2001 Pakistan Reproductive and Family Planning Survey conducted by National Institute of Population Studies (NIPS).

Goal 6 Combat HIV /AIDS, Malaria and Other Diseases

The prevalence of diagnosed tuberculosis (based on the respondent's reply and unverified by documents or tests) was 457 cases per 100,000 population, which approximates to over 400,000 cases, given a projected population in 2004 of 84.6 million. As the reported cases are likely to be only a fraction of those with tuberculosis, a realistic estimate would be much more, pointing to the extent of this as a public health issue and highlighting the need for further investigation.

Goal 7 Ensure Environmental Sustainability

Sustainable access to an improved water source (piped water, public standpipe or tap, borehole/hand pump, protected dug well, tube-well, protected spring) is within 2 Km of the household. The proportion of the population with such access is 98% in urban and 96% in rural areas, indicating that accessibility is not an issue for other than a few problem districts. However, this finding needs to be interpreted with care, as it cannot be inferred that the water is safe or that the quantity of water is adequate. Improved sanitation is defined as connected to a public sewer or to a septic system, the pour flush toilet, and a ventilated improved or closed traditional pit latrine; with access implied by the type of latrine used. The proportion of the population with improved sanitation access in urban areas is similar to that for water, but is much less for rural areas (43%). The report also considers methods of solid waste disposal, present in about 50% of urban (66% in Major Cities and 33% in other urban areas) and only 1% in rural area. Clearly, progress with regard to these indicators is required to improve the quality of life and health of the people of Punjab.

Goal 8 Develop a Global Partnership for Development

While this Goal may not be relevant for developing countries, information on some of the indicators was obtained from the data collected in MICS.

The unemployment rate of 15 to 24 year olds was 21% of which 23% was in urban areas and 20 % in rural areas. This follows the definition of the Labour Force Survey, which is being part of the active labour force, unemployed and seeking employment. The information on telephone connections and personal computer usage was obtained from the household module. The rate for telephone lines was 2 per 100 people. The rate for personal computer usage, was 3.3 per 1,000 people.

The following "input indicators" for monitoring in the Punjab Poverty Reduction Strategy Paper (PPRSP)¹ reported in the MICS are Gross Primary Enrolment Rate, Gross Primary Enrolment Rate (Female), Immunization of Children less than 2 years of age (from EPI Survey)², Antenatal Coverage by health professionals, Contraceptive Prevalence Rate and Access to Improved Sources of Drinking Water. The paper also addresses current data sources. It is important that the same criteria and methods be used for monitoring in the future.

¹ Punjab's Poverty Reduction Strategy Paper, Planning and Development Department, Government of Punjab, 2003

²Coverage Evaluation Survey.

Millennium Development Goals (PRSP For Punjab and Pakistan Included)

GOALS AND TARGETS	INDICATORS ADDRESSED BY MICS PUNJAB 2003-04	Punjab
Goal 1 Eradicate extreme poverty and hunger		
Halve, between 1990 and 2015, the proportion of people who suffer from hunger	Prevalence of underweight in children (under five years of age)	34
Goal 2 Achieve universal primary education		
Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling	Net enrolment ratio in primary education (excluding Katchis)	51
	Literacy rate of 15-to 24-year-olds (M/F/T)	75/62/68
	Gross Primary Enrolment rate (M/F/T)	93/83/88
	Gross Middle Enrolment rate (M/F/T)	50/45/48
	Gross Secondary Enrolment rate (M/F/T)	35/31/33
	Literacy Rate 10 years+ (M/F/T)	63/44/54
Goal 3 Promote gender equality and empower women		
Eliminate gender disparity in primary and secondary education preferably by 2005 and in all levels of education no later than 2015	Ratio of girls to boys in primary education (net)	0.93
	Ratio of girls to boys in primary education (gross)	0.89
	Ratio of girls to boys in secondary education (Middle-High) (gross)	0.88
	Ratio of literate females to males among 15-to 24-year-olds	0.83
	Share of women in wage employment in the non agriculture sector	0.19
Goal 4 Reduce child mortality		
Reduce by two-thirds, between 1990 and 2015, the under five mortality rate.	Under-five mortality rate	112
	Infant mortality rate	77
	Proportion of one-year old children immunized against measles (EPI)	66
Goal 5 Improve maternal health		
Reduce by three-quarters, between 1990 and 2015 the maternal mortality ratio	Maternal mortality ratio/100,000 live births (ESTIMATED)	300
	Proportion of births attended by skilled health personnel	32
	Coverage of Pre-natal care (by any health worker)	77
	Population covered by LHW's	35
	Total Fertility rate	4.70
Goal 6 Combat HIV / AIDS, malaria and other diseases		
Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases	Contraceptive prevalence rate (any method)	36
	Prevalence of tuberculosis/100,000	457
Goal 7 Ensure environmental sustainability		
Reduce by half the proportion of people without sustainable access to safe drinking water and basic sanitation	Proportion of population with sustainable access to improved water source (U/R) within household	94/90
	Population with access to improved sanitation (U/R)	95/43
Goal 8 Develop a global partnership for development		
In cooperation with developing countries, develop and implement strategies for decent and productive work for youth	Unemployment rate of 15 to 24 year olds	21
In cooperation with the private sector, make available the benefits of new technologies, especially information and communications technologies	Telephone lines per 100 people	2
	Personal computers owned per 100 people	0.33
	Mobile phones per 100 people	0.56
	Internet Connections per 100 people	0.14

Summary Results

The summary table gives more elaborate results for each of the 44 indicators.³ The first column has the most recent result for Pakistan. This can be compared with results for Punjab both from sources other than the MICS (Column 2, with references) and from MICS (Column 4). A further comparison between non-MICS and MICS results for Punjab confirms the level of agreement between the two.⁴ The next two columns show urban/rural results recognizing their important distinctions⁵, followed by the highest and lowest district result, to indicate the diversity throughout the province. In some indicators, the difference is as much as a factor of 10 times. An example of table interpretation is given in the footnote⁶.

Indicators are listed in the same order as the report and tables:

1. Education and Literacy.
2. Water and Sanitation
3. Reproductive Health of Women
4. Contraception and Fertility
5. Young Child Health and Nutrition
6. Child Protection
7. Tuberculosis
8. Economic Situation of Households

In this way those who have a specific interest can review this in the summary table as well as the relevant sections in the report.

³ Usually as a percentage, otherwise as indicated, such as Infant Mortality Rate as No. of Deaths per 1000 Live births before reaching one year of age, or as a amount in Rupees or Lakhs of Rupees.

⁴ Most often, the Pakistan Integrated Household Survey 2001. There is usually a good agreement between the MICS and other sources, taking into account the different time period and sampling variation. In those cases where there are differences, a possible explanation is different definitions, codes or methods

⁵ Results show major differences between areas, especially in child mortality, sanitation, literacy and education, maternal and child health care, health practices and many economic-related indicators.

⁶ Example:

Literacy Rate for 10 years and over: Pakistan =45%, Punjab (non-MICS) = 47% and MICS = 54%, Punjab MICS Major City = 75%, Other Urban = 67%, Rural = 47%; highest district result =80% and lowest = 34%.

Literacy Rate by Male/Female: Pakistan Male rate = 63% and Female rate = 44%, showing a ratio of males to females to males of 0.70 (44/63).

Major Summary Results - Punjab MICS 2003- 04

Results in percent, unless otherwise stated

Other Sources					MICS	Area			Range by District	
Report	Indicators	Pakistan	Punjab	Ref	Punjab	Major City	Other Urban	Rural	High	Low
A	LITERACY AND EDUCATION									
1	Literacy Rate (10 years and above)	45	47	¹	54	75	67	47	80	34
	Literacy Rate (10 years and above) M/F	58/32	57/36	¹	63/44	78/71	74/59	58/35	87/68	46/20
2	Adult Literacy Rate (15 years and above)				52	73	65	44	79	33
3	Net Primary School Enrolment Ratio	42	45	¹	51	65	62	47	74	30
	Net Primary School Enrolment Ratio M/F	46/38	47/43	¹	53/49	65/65	62/61	49/45	75/73	34/25
4	Net Primary School Attendance Rate	40	46	¹	51	65	61	47	74	30
	Gross Primary School Enrolment Ratio	72	76	¹	88	104	104	83	119	56
	Gross Primary School Enrolment Ratio M/F	83/61	84/69	¹	93/83	105/103	105/103	89/76	124/105	64/46
	Middle NER - Total	16	18	¹	18	31	26	14	37	8
	Middle NER- Boys/Girls	14/17	18/18	¹	19/18	29/33	25/28	15/13	36/39	5/8
	Middle GER - Total	41	45	¹	48	70	62	41	86	23
	Middle GER- Boys/Girls	35/45	46/43	¹	50/45	66/73	60/64	45/36	79/95	27/18
	Secondary (Middle to High) NER - Total				33	50	44	27	53	18
	Secondary (Middle to High) NER- Girls/Boys				35/31	47/53	42/45	31/23	58/45	22/14
5	Children Reaching Grade 5	-	52	⁸						
6	Dropouts to Grade 5	-	48	⁸						
7	Public School Attendance Rate (5 to17 years)		68	¹	64	33	49	74	89	24
8	Adequate Physical Access to School (in Village/Mullah)				82	89	92	79	100	55
	- Within 2 Km or 1/2 hour	88	89	¹	95	98	99	93	100	82
B	WATER AND SANITATION									
9	Use Of Improved Drinking Water	22	96	¹	97	98	99	96	100	81
10	Adequate Access to Improved Water (within dwelling)	79	89	¹	92	93	96	90	100	77
11	Adequate Sanitary Excreta Disposal	57	50	¹	58	98	92	43	100	58
12	Proper Disposal of Waste Water	16-51	15-58	¹	43	95	77	26	99	9
12	Proper Disposal of Solid Waste	19	12	¹	15	66	33	1	85	0
13	Washing Hands Adequately Before Food (with soap)		-----		41	78	59	30	88	13
13	Washing Hands Adequately After Latrine (with soap)		-----		55	87	73	45	94	15
C	WOMEN'S HEALTH									
14	Maternal Mortality Ratio (Estimate)	533	na	³	300					
14	Maternal Mortality- Number of Deaths				81	8	15	58	-----	-----
15	Antenatal Care By Skilled Health Worker	35	40	¹	44	73	55	37	88	24
16	Childbirth Care By Skilled Health Worker	24	16	^{1/4}	33	66	44	26	83	7
17	Post-natal Care by Skilled Health Worker	9	10	¹	30	60	40	23	76	8
	Awareness of HIV/AIDS		-----		39	65	55	26	79	19
18	Knows How to Prevent HIV/AIDS (of those aware)		-----		69	80	73	62	94	41
19	Contraceptive Prevalence (Modern Methods)(non pregnant)	19	22/17	¹	27	38	32	24	42	11
	Know How To Avoid Pregnancy		97	³	76	89	84	72	92	59
	Ever Use a Method to Avoid Pregnancy		31	³	39	54	46	33	59	13
20	Mean Number of Children Ever Born (15 - 49 Years) All Women	2.7	2.50	¹	2.32	2.02	2.27	2.39	3.11	1.74
21	Total Fertility Rate for Women 15 to 49		4.77	³	4.70	5.54	5.94	5.93	7.73	3.96
D	CHILD HEALTH AND NUTRITION									
22	Under-five Mortality Rate	103	115	^{3/11}	112	75	107	119	153	57
23	Infant Mortality Rate	82	92	¹	77	55	74	82	127	29
24	Underweight Children Under 5 Years	37	35	⁵	34	23	30	40	47	17
	Breastfeeding and Infant Feeding									
26	Exclusive Breastfeeding Rate (0-6m)	16	7	⁶	30	39	24	30	-----	-----
	Ever Breastfed (recall for children 0-2 years)	92	89	¹	96	-----	-----	-----	-----	-----
	Breastfed During Infancy (0-11 months)		-----		78	73	77	79	98	18
27	Continued Breastfeeding Rate (12-15 & 20-23 m)	88/56	84/48	⁶	79/47	75/39	26/40	80/51		
	Bottle Fed During Infancy (0-11months)	27	31	⁶	35	45	38	32	64	20
28	Timely Complementary Feeding Rate (6-9m)	31	24	⁶	44	55	48	41	75	15
29	Any Illness During Past 2 Weeks (Diarrhea)	12	12	¹	22	17	21	24	52	8

Major Summary Results - Punjab MICS 2003- 04 (continued)

Results in percent, unless otherwise stated

Report	Indicators	Other Sources			MICS				Range by District	
		Paki- stan	Punjab	Ref	Punjab	Major City	Other Urban	Rural	High	Low
30	Diarrheal Episodes in the Past Year				2.4	1.7	2.2	2.5	4.2	0.7
	Prevalence of Diarrhea in the Past Two Weeks				22	17	20	24	52	8
31	ORT Use (Includes ORS and ORT)	54	44	¹	43	46	48	40	67	25
	ORT Use (Includes ORS and ORT and Gruel)				59	61	61	59	65	40
	Health Practitioner Consulted for Recent Illness	82	86		59	72	68	57	100	26
32	Care-seeking Knowledge		-----		56	55	51	57	91	14
33	Children (6-59 months) Receiving Vitamin A Supplements (ever)		-----		87	89	85	87	97	36
34	Iodized Salt Consumption (any iodization detected)	13	17	⁹	8	24	11	4	39	1
37	BCG Scar (Immunization for Tuberculosis)		-----		81	87	86	79	94	61
	Full Immunization Coverage (EPI Survey 2002)	53	57	^{1/7}	(66)				(90)	(19)
35	Proportion of Population Covered by LHW s		-----		35	18	41	38	89	8
E CHILD PROTECTION										
36	Child Registration	29	45	¹⁰	82	88	84	81	98	44
37	Child in Hazardous Labour (5-9yr)		-----		0.1	0.1	0	0.1	0.6	0.0
	Child in Hazardous Labour (10-14yr)		-----		0.4	0.6	0.6	0.4	1.7	0.0
38	Run away Children		-----		0.1	0.1	0.1	0.1	0.4	0.0
F TUBERCULOSIS										
39	Suspected Tuberculosis Prevalence (total population)		-----		0.5	0.3	0.4	0.5	1.0	0.1
G ECONOMIC RELATED										
42	Family member working out side (Village, Town, Province, Country)				9.6	6.6	10.2	10.0	35.5	2.3
	Receive Remittance from Pakistan (% of households)				4.3	1.7	3.4	5.2	24	0
	Median Value of Remittance from Pakistan/month				3,101	3,687	4,178	2,923	6,665	500
	Receive Remittance from Abroad (% of households)				4.2	5.1	5.2	3.9	23	0
	Median Value of Remittance from Abroad/month				9,893	10,482	9,501	9,851	21,393	2,372
	Receive Zakat/ Donation (% of households)				3.8	3.5	5.1	3.6	8.4	0.9
	Median Value of Zakat/Donation/Month				1,349	2,019	1,613	1,142	3001	145
43	Unemployed and Seeking Work (10 Years+)				9	10	10	8	18	4
44	Ownership of Other Assets (Land, Live Stock, Business)									
	Percent of HH Who Own House				86	75	83	91	97	68
	Own House Valued Over Rs 1,00,000				53.1	93	78	42	97	18
	Mean Value of House in Rs Lakhs (if owned)				2.5	8.3	3.2	1.3	14.7	0.7
	Percent of HH who own land				32	4	11	42	52	2
	Own Land Valued Over Rs 1,00,000 (of 31% with land)				93	94	94	93	100	70
	Mean Value of Land in Rs Lakhs (if owned)				12	28	17	11	62	4
	Percent of HH Who have any Livestock				41		11	55	70	0.2
	Median Value of Livestock in Rs Lakhs (if owned)				67,230	73,419	50,230	67,852	169,835	32,132
	Percent of HH with no Utilities				16.6	0.7	2.3	22.7	45	0.2
	Percent of HH with no Possessions				8.8	0.8	2.3	11.8	29	0.2
	Mean Household Size		6.8	²	6.6	6.4	6.6	6.7	7.3	5.7
	Mean Number of Persons per Room		3.0	²	3.4	3.1	3.3	3.5	4.1	2.4

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- Fifth Population and Housing Census, 1998, Population Census Organization, Islamabad
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- 8 Punjab Poverty Reduction Strategy Paper 2003
- 9 Ahmed, AM and Nazir ZM., Performance Evaluation of the IDD Control Programme 2000-1, Nutrition Section, UNICEF Pakistan
- 10 Plan Int'l, South Asia, Pakistan Report, Birth registration in Pakistan, 2000/SPARC.
- 11 Pakistan Fertility and Family Planning Survey, 1996-97

Notes for Major Summary Table

1. Adult Literacy Rate (15 years+) {Major Indicator}: Neither the Population Census of 1998 or the PIHS reported on this age range (preferring 10 years+); however, this adult rate is used by the Education for All and the Human Development Report (UNDP).
2. Literacy rate (10 years+): The increase of about 7% since the 1998-9 Census (47% to 54%) averages about 1% yearly.
3. Adequate physical access to school: two results are given for review - in village/mullah and within 2 Km or 1/2 hour from the household.
4. Use of improved sources of drinking water {major Indicator}: The inclusion of "improved sources" is recommended to indicate the water is from a protected source but not necessarily safe.
5. Adequate access to improved drinking water {major Indicator}: "adequate" is defined as within the household as the results within 2Km are considered too high. The 89% figure from the PIHS is within the household and 100% for within 2km for Punjab.
6. Adequate use of sanitary excreta disposal {major indicator}: this includes any type of latrine in the household apart from a service or bucket latrine
7. Proper disposal of solid waste and waste water – either a sewerage connection or a septic tank
8. Maternal mortality estimate {major indicator}: maternal mortality ratio - Annual number of deaths of women from pregnancy related causes, when pregnant or within 42 days of termination of pregnancy, per 100,000 live births is based on a total of 81 deaths, which would provide a crude estimate for a Ratio of about 330. Careful review of this result is required prior to release.
9. Mean Children Ever Born (MCEB): This rate pertains to the number of births to all married women aged 15-49 on the survey, not a projection for the number after completion of their birth cycles (to 49 years).
10. Under 5 Mortality and Infant Mortality Rates {Major Indicators}: Results for Punjab overall are reliable. However, results for all districts are less reliable due to the small sample sizes.
11. Infant mortality rate/1000 live births: The PIHS 2001-2 reported an overall figure of 82/1000 live births and for Punjab at 92/1000.
12. Underweight prevalence of Children under 5 {Major Indicator}: 35% result from National Nutrition Survey 2002.
13. Birth weight below 2.5 Kg (in 5% of cases): this result is not presented, due to the very low response rate and a low % of low birth weight (expected to be of the order of 30%, similar to under nutrition rates)
14. Breastfed during infancy (0-11 months): during past 24 hours. Added to the narrow age range of 12-15 months, allowing more suitable sample sizes, by district.
15. Bottle fed during infancy (0-11months): Added indicator, important in controlling this common harmful practice.
16. Added solid/semi-solid foods (6-11 months): again derived from the past 24 hours. The time period was extended to from the standard 6-8 months for introduction of complementary foods to allow adequate sample sizes for districts.
17. ORT use: Two figures have been given by MICS: One figure relates to use of ORS and ORT, but not gruel, while the second figure includes gruel.
18. Health Practitioner consulted: The difference in definitions may account for the difference from PIHS result.
19. Care-seeking knowledge: mother able to mention at least 2 of 7 recognized signs for urgent care of the child
20. Iodized salt consumption: The result is for any salt iodized without consideration of the adequacy of the level of iodization.
21. BCG scar (under 5 year olds): The EPI Survey of 2003 reported 87% of children aged 12-23 months had BCG compared with MICS (81%). It is to be noted that MICS does not provide coverage figures for the other antigens. MICS Report quotes the results of the recent EPI Survey 2002, which gives coverage by different antigens.
22. Child in hazardous labour (5-9yr) Defined as any labour which includes hazardous jobs such as carpet weaving, soccer balls, surgical goods or tannery; or collects garbage. This indicator was separated into two age groups, due to the interest for each. Results are very low, although other types of work occur more often, as the report shows.
23. Unemployed and seeking work (10 years+): MICS 9% is consistent with that of the Pakistan Labour Survey 2001-2002.
24. Households with no utilities, and no possessions. Although no monetary value can be estimated, such households are deprived of basic needs. Major differences are reported among areas and districts.
25. Mean (average) number of persons per room: recommended as a useful indicator of over-crowding. Census results are given. Introduction

1 Introduction

Background of the Survey

The Government of Punjab, through the Planning and Development Department (P&DD) conducted a household survey from September to December 2003 to collect and act on information for key social and economic indicators in the province. This was to establish a credible baseline for district support timed with the start of the devolution plan. The key requirements of timeliness and extent, to cover all districts appropriately, demanded a well-tested methodology. The Multiple Indicator Cluster Survey (MICS) methodology was selected as a standardized approach. This has been used successfully in over 70 countries in preparation for national End Decade Reviews to monitor the pledges made at the World Summit for Children in 1990. This survey had already been conducted successfully in NWFP in late 2001. There was a need for a similar survey in Punjab, so UNICEF was requested to assist the survey, culminating in a Memorandum of Understanding with the Government of Punjab in late 2002.

The survey was coordinated and supervised by the Planning and Development Department (P&DD), Government of Punjab. The Technical Group, chaired by Director, PERI, comprised key technical staff on the survey including UNICEF. The Planning and Coordination Group, chaired by the Chief Economist P&DD, oversaw implementation.

Government provided staff and office space, support and computer facilities; accommodation in field areas where available and vehicle support, where possible through the District Health Development Centres. UNICEF provided equipment, technical support and funds.

Survey Objectives

Objectives were based on survey results and their application to ensure a continuing process for planning and monitoring at provincial and district levels. These were to:

- 1 Help establish a credible baseline for socio-economic status of the districts at the start of the decade and the devolution process, and to help the government develop plans and monitoring systems for the delivery of social services and indicators of well being.
- 2 Support the major shift from resources planning and distribution on the sole basis of population size to new impetus on the relative development among the districts.
- 3 Rectify data gaps in information systems from national surveys and sectoral databases; and address gender disparities and lack of uniformity in the distribution of resources among districts.
- 4 Prepare district profiles.
- 5 Build capacity at the provincial Bureau of Statistics, envisaged as the provincial hub for socio-economic data.

Indicators

The Government of Punjab through a consultative process involving all line departments selected a total of 44 indicators. These included economic-related (including expenditure, income and assets), infant and under five child mortality, under-nutrition, education, adult literacy, water and sanitation, ante-natal, birth and post-natal care, birth registration, feeding patterns, young child recent illness and sources of treatment, contraceptive prevalence and awareness of HIV/AIDS. The list is shown in Annex B, with definitions. (The original list has been re-ordered according to the sequence in this report and this sequence has been maintained throughout all tables to ensure consistency and ease of use). In a few cases, the indicators have been modified, usually to enhance the specificity (e.g. expansion of a household member working outside the household, to include receipt of remittances and zakat/donations; or breakdown assets – house, land and livestock values). An essential indicator for Education (Gross primary school enrolment ratio) was added in line with MDG and PPRSP targets. Other added items included Women's Health: Knows how to prevent HIV/AIDS (of those aware),

Child Health and Nutrition: Bottle fed during infancy (0-11months), Health Practitioner consulted for recent illness and BCG scar (under 5 year olds), Economic Situation of Households: Percent of HH with no possessions/no utilities, Mean number of persons per room.

Questionnaires

The questionnaires for the Punjab MICS 2003-04 were based on the MICS Model Questionnaire with some modifications and additions, according to the indicator selection by the Government of Punjab. A household questionnaire was administered in each household, with four major sections: household, household members, eligible women (ever-married, aged 15-49 years) and children less than five years of age.

From the revised MICS model English version, the questionnaires were translated into Urdu. These were pre-tested during 2002 and again in June 2003, with modifications in the wording and translation as required. To ensure correctness of the translation, the questionnaire was translated back into English. For details see the complete questionnaire in the Technical Report.

II Survey Methodology

Sample Design

The sample for the Punjab MICS 2003-04 was designed to provide estimates of socio-economic indicators for the province, for urban and rural areas, and for each of the 34 districts and 6 towns and Cantonment of Lahore (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 34 districts and Lahore towns/Cantonment. 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.

Lahore, with the largest population, had the greatest number of households (3,320), with the remaining districts from 2,040 in Faisalabad to 540 in Layyah.

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 indicators⁷. Full technical details of the sample are included in Annex A

Table 1: Sample Sizes (Number of Sites and Households)

No.	District	Sample Sites				Sample Households			
		Major Cities	Other urban	Rural	Total	Major Cities	Other urban	Rural	Total
1	Bahawalnagar		18	39	57		216	624	840
2	Bahawalpur	25	13	39	77	300	156	624	1,080
3	Rahimyar Khan		18	48	66		216	768	984
4	Dera Ghazi Khan		15	33	48		180	528	708
5	Layyah		13	24	37		156	384	540
6	Muzaffargarh		15	39	54		180	624	804
7	Rajapur		15	27	42		180	432	612
8	Faisalabad	72	18	60	150	864	216	960	2,040
9	Jhang		24	48	72		288	768	1,056
10	Toba Tek Singh		18	33	51		216	528	744
11	Gujranwala	46	16	33	95	552	192	528	1,272
12	Gujrat		15	33	48		180	528	708
13	Hafizabad		15	24	39		180	384	564
14	Mandi Bahauddin		15	27	42		180	432	612
15	Narowal		15	27	42		180	432	612
16	Sialkot	25	13	27	65	300	156	432	888
17	Kasur		24	36	60		288	576	864
18	Okara		15	36	51		180	576	756
19	Sheikhupura		24	51	75		288	816	1,104
20	Multan	44	10	39	93	528	120	624	1,272
21	Khanewal		15	39	54		180	624	804
22	Lodhran		15	24	39		180	384	564
23	Pakpattan		15	27	42		180	432	612
24	Sahiwal		15	36	51		180	576	756
25	Vehari		15	39	54		180	624	804
26	Rawalpindi	52	18	33	103	624	216	528	1,368
27	Attock		15	27	42		180	432	612
28	Chakwal		15	27	42		180	432	612
29	Jhelum		15	24	39		180	384	564
30	Sargodha	25	16	42	83	300	192	672	1,164
31	Bhakkar		15	24	39		180	384	564
32	Khushab		15	24	39		180	384	564
33	Mianwali		15	24	39		180	384	564
34	Lahore	210		50	260	2,520		800	3,320
34a	Gunj Buksh Town	46			46	552			552
34b	Shalimar Town	27		10	37	324		160	484
34c	Allama Iqbal Town	27		15	42	324		240	564
34d	Aziz Bhatti Town	17		11	28	204		176	380
34e	Nishtar Town	25		14	39	300		224	524
34f	Ravi Town	44			44	528			528
34g	Cantt Area	24			24	288			288
	TOTAL	499	528	1,163	2,190	5,988	6,336	18,608	30,932

⁷ Because 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 Punjab estimated the Infant Mortality Rate (IMR) as 92 per 1000 live births. For 3553 observations the 95% confidence interval result for IMR was 11.6 (twice the standard error), giving a range of 92 +/- 12 or 80 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. The confidence intervals are given in Annex F.

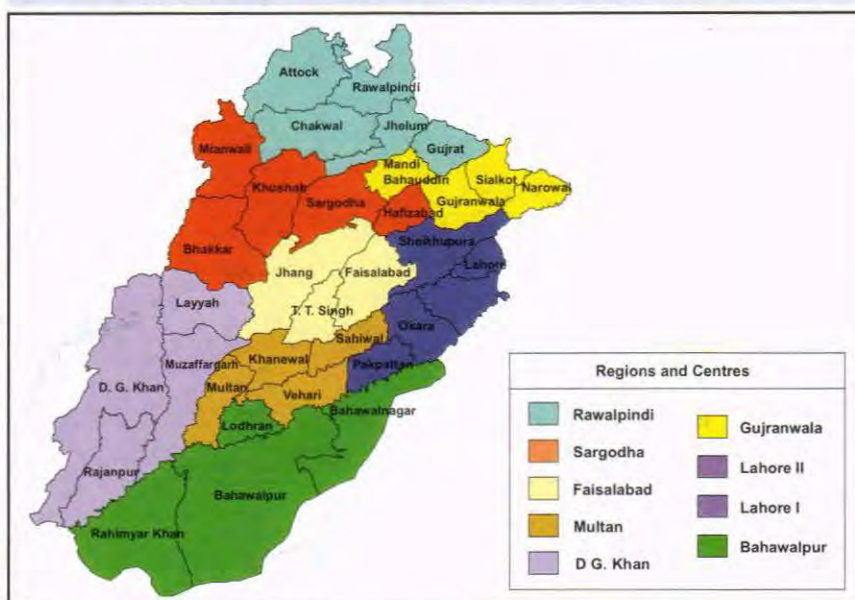
Listing

As in the other provinces conducting MICS, the Federal Bureau of Statistics (FBS)/Islamabad was responsible for providing the sample for Punjab and FBS/Lahore for conducting the listing of households, prior to sample selection. Training of BOS staff with field practice was conducted in FBS/Lahore. 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. The agency hired for monitoring (Bunyad Literacy Community Council - BLCC), verified listing in the field on a sample basis and reviewed listing quality. They reported that the listing was satisfactory.

Survey Preparation: District Orientations and Survey Staff selection

Due to the logistic and communication constraints in Punjab with its large population and diversity, the province was divided into nine regions, each with 3-5 districts. These are Rawalpindi, Sargodha, Faisalabad, DG Khan, Multan, Bahawalpur, Gujranwala; with Lahore Region and Lahore Towns (see map opposite). The Core team staff visited District Nazims, District Coordination Officers, EDOs and local leaders at each of the regional headquarters for orientations on MICS, and secondly to seek their support for hiring local staff and arranging local support.

Map 1- Regional Organization for the Survey Punjab MICS 2003-04



A total of 375 interviewers were deployed from Government departments. Of these, 71 (plus 9 Regional Supervisors) were from BOS, 244 from Health Department (118 Lady Health Visitors, 61 Lady Health Supervisors, 7 Lady Health Workers, and the remainder being medical technicians, nurses, dispensers and FMT's). Other departments contributing staff included Crop Reporting (14), Population Welfare (19), and Social Welfare (10). 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.

Training

Training was conducted according to a well-sequenced training plan. Master trainers were trained and provided an orientation on all aspects of the survey in Lahore. Subsequently, Training of Trainers was held in Lahore. The final training of enumerators was conducted in the DHDC in the nine field areas, with a master trainer in attendance. The training methods were standardized with a set of instructions and training aids. Each of these trainings lasted for 5-7 days and included fieldwork and evaluations. Subsequently, some additional training was required to increase the field staff numbers.

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.

Fieldwork

Fieldwork began on September 15, 2003 and continued for more than three months up to December 19, 2003. A Regional Supervisor from BOS was responsible for all aspects of fieldwork in his region, coordinating with the Field Supervisors in each district. Districts were surveyed in groups, with flexibility in timing to coordinate staff.

Each basic team was comprised of one male and two female interviewers. The male was responsible for team security and comfort, 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 Supervisor 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. All field staff was constantly reminded to check their work on a regular basis. Major concerns included selection of the sampled households, 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 of children and salt testing procedures.

Further, BLCC 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. 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, on average the results were similar to those collected by the survey field staff.

Data Management

Editing was continued on the receipt of forms at the BOS central office, 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 Microsoft Access user-friendly screens were developed in Microsoft Access which were the mirror image of the questionnaire. Over 200 "queries" 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 BOS senior staff for necessary actions. The relevant questionnaires were re-examined to correct any errors in transcription. Of over 1.5 million entries scanned, a total of 10,363 (0.7%) errors were found, of which 0.5% were field, 0.1% were editing and 0.1% were entry errors. Of all errors, about one third (33%) were either entry or editing errors and could be corrected.

After further corrections during preliminary analysis, the final data set was deemed clean and provided to MICS Secretariat and UNICEF in April 2004.

Response Rates

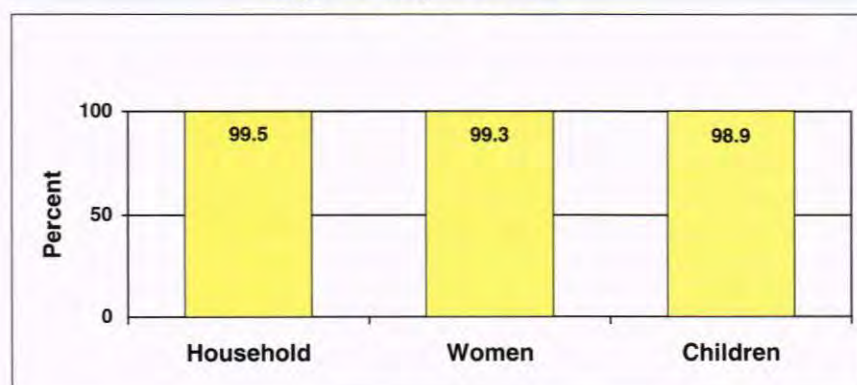
Of the 30,932 households selected for the Punjab MICS sample, 30,774 were found to be occupied (Table 2 and Figure 1) for a household response rate of 99.5%. Households successfully interviewed (i.e., household, eligible woman and children) numbered 30,432, being 98.4% of the total. These response rates were similar in rural and other urban areas, with major cities about 1% less. In the interviewed households, 28,587 eligible women (ever married and aged 15-49) were identified. Of these, 28,387 were successfully interviewed, yielding a response rate of 99.3%. In addition, 23,806 eligible children under age five were listed in the household questionnaire. Of these, 23,553 questionnaires were completed for a response rate of 98.9%. The very high response rates are remarkable, considering the tight schedules and the unprecedented degree of work required by survey and local staff.

Table 2: Number of Households, Women and Children with Response Rates

		Total	Rural	Other Urban	Major Cities	%Other Urban	% Major Cities
1	Sampled households	30932	18608	6336	5988	20.5	19.4
2	Occupied households	30774	18569	6316	5889	20.5	19.1
3	Completed households	30432	18381	6222	5829	20.4	19.2
Household response rate							
	Occupied households	99.5	99.8	99.7	98.3		
	Completed households	98.4	98.8	98.2	97.3		
4	Eligible women	28587	17340	5874	5372	20.5	18.8
5	Interviewed women	28387	17226	5820	5341	20.5	18.8
	Women response rate	99.3	99.3	99.1	99.4		
6	Children under 5 years	23806	15418	4485	3903	18.8	16.4
7	Interviews conducted for children under 5	23553	15290	4409	3854	18.7	16.4
	Child module response rate	98.9	99.2	98.3	98.7		

All sample sizes are unweighted - the actual sample. Weighting means multiplying each result in each of the 2190 sample sites by a number which adjusts that sample to population proportionality - see Annex A for details

Figure 1: Response rates



Efforts to Achieve High Response Rates

The most important strategy involved timely visits prior to the fieldwork to all Nazims; DCO's and key representatives throughout all districts. This was carried out through the nine BOS survey regional supervisors, supported by the Core Team in the central office. This allowed suitable orientation, identification of district government survey staff, and district-based planning to include schedules and logistic support. Other actions included the following:

1. Involvement of key local representatives during the fieldwork enabled optimal identification and response by selected households.
2. The household listing was done shortly before the fieldwork, allowing a short time span between these occasions. Further, several BOS staff did the listing as well as the field work, in conjunction with Federal Bureau staff;
3. During the preparation, training and field supervision, all staff was reminded of the paramount importance of selecting the sampled households and acquiring responses. This was reinforced by the independent monitoring agency.
4. One revisit was reported for household non-or incomplete responses in 12 per cent of cases, two or more in a further 4 per cent of the cases. This was primarily for household response (46 per cent of all revisits).
5. In special circumstances, such as in DG Khan, a site required added support from senior BOS staff to convince village representatives to accept the survey.

Missing Data

The percentage of cases with missing information on selected questions, based on the actual sample (unweighted) is shown in Table 3. This occurred in 2.7% of households for total income and less (0.2%) for expenditures. Missing values were found in 4.5% for literacy of household members aged 15 years and for school enrollment in 3.8% of children aged 5-17 years, in some cases being due to the respondent lacking information on other members (i.e., don't know).

Among eligible female respondents aged 15-49 years, missing values were uncommon (less than 1%) for given birth to a live child and knowledge about HIV/AIDS. The complete birth date of children (year, month and day) under five years was missing in 27.1% of cases. However, the year and month was missing in far less (12.4%), enabling precise age to the nearest month in 87.6% of children. There were 1.5% missing responses to recent diarrhoea and 7.5% of the children were not weighed, usually because of their absence.

Table 3: Percentage of Cases with Missing Information

			% missing	sample size
1	Total Household Income	Households	2.7	30,758
2	Total Household Expenditure	Households	0.2	30,758
3	Literacy	Household members over 15 years	4.5	123,646
4	Enrolled at School	Children aged 5-17 years	3.8	69,895
5	Given birth to a child born alive	Eligible women aged 15-49 years	0.5	28,387
6	Ever heard about HIV/AIDS	Eligible women aged 15-49 years	0.7	28,387
7	Complete Birth date of children	Children under 5 years of age		
	Year of birth only		0.7	23,553
	Year and Month		12.4	23,553
	Year, month and day		27.1	23,553
8	Diarrhoea in Last two weeks	Children under 5 years of age	1.5	23,553
9	Weight taken	Children under 5 years of age	7.5	23,553

Womens' year of birth was acquired in 65% of cases, both month and year in 38%. The survey also asked for the age at marriage and number of years since marriage for those without year of birth or stated age. This raised the percent of women with stated or confirmed age in years from 68% to 95%. For children, year and month of birth was sufficient to determine precise age – in 88% of cases.

The incidence of low birth weight cannot be estimated as only 5% of women responded that their children had been weighed at birth and of these only 15% were able to recall the weight of the baby at birth.

The effect of missing values on the results depends on their extent and direction. If less than 2%, missing values are unlikely to make any difference, whereas over 10% may be important. An example for literacy is given. Because the age distribution (a key determinant of literacy) of members with missing data approximated that for the non-missing, those missing were excluded from the analysis. This process is unlikely to have important changes in the provincial result. However some districts have a relatively high percent of missing cases, which have been taken into account (see technical notes in relevant sections).

Age and Sex Distribution of the Sample

The age distribution of the survey sample reflects a trend since the 1998 Population Census – The population under 5 years of age has declined from 14.6% (Census) to 13.2% (Pakistan Demographic Survey - PDS of 2001) to the current MICS (12.0%)⁸ (Table 4 & 5). This decline appears to be consistent with the decline in fertility levels in Pakistan⁹. This is also reflected in the reduction of the percent of children under 15 years of age and an increase in older age groups.

Table 4: Percentage of Age Distribution of the Sample

Punjab	Under 5 years	Under 15 years	15-64 years	65 years and over
Census 1998	14.6	43.2	53.5	3.4
PDS 2001	13.2	41.1	55.0	3.9
MICS 2003	12.0	39.6	55.5	4.8

Table 5: Distribution of Age of HH members by Sex

Age	Sex		Percent	Sample
	Male	Female		
Up to 1 year	2476	2336	2.5	4812
1 to under 5	9693	9294	9.5	18987
5 to 9 years	14297	13340	13.9	27637
10 to 14	14423	13434	13.7	27857
15 to 19	12610	11991	11.9	24601
20 to 24	9611	9252	9.0	18863
25 to 29	7043	6989	6.8	14032
30 to 34	5282	5818	5.5	11100
35 to 39	5535	5760	5.6	11295
40 to 44	4677	4202	4.3	8879
45 to 49	4010	2889	3.4	6899
50 to 54	3270	4470	3.7	7740
55 to 59	5268	4620	2.7	9888
60 to 64	469	290	2.6	759
65 & above	5736	3851	4.8	9587
Total	104400	98536	100	202936

Further, the dependency ratio¹⁰ (Table 6) has decreased.

Other demographic indicators, such as Sex Ratio for the total population and average household size are similar.

Table 6: Percentage Distribution of HHs with Dependency/Sex Ratio.

Punjab	Dependency Ratio	Sex Ratio	Household Size
Census 1998	85.6	108	6.8
PDS 2001	81.9	105	6.6
MICS 2003	80.0	106	6.6

It is useful to compare the population pyramids for the Pakistan Demographic Survey and the MICS (see Figure 2). Apart from probably minor differences the patterns are similar. (See also Figure 2a and 2b).

⁸ PIHS 2001 reported the 0-4's was 12.7% of the population of Pakistan; no information was available for Punjab.

⁹ Feeney, Griffith and Iqbal Alam, Fertility, Population Growth and Accuracy of Census Enumeration in Pakistan: 1961-1998, PIDE, UNFPA 2003

¹⁰ Dependency Ratio- Percent of population aged under 15 years + 65 and over divided by the percent aged 15-65 years

Figure 2: Population by Age and Sex: Punjab

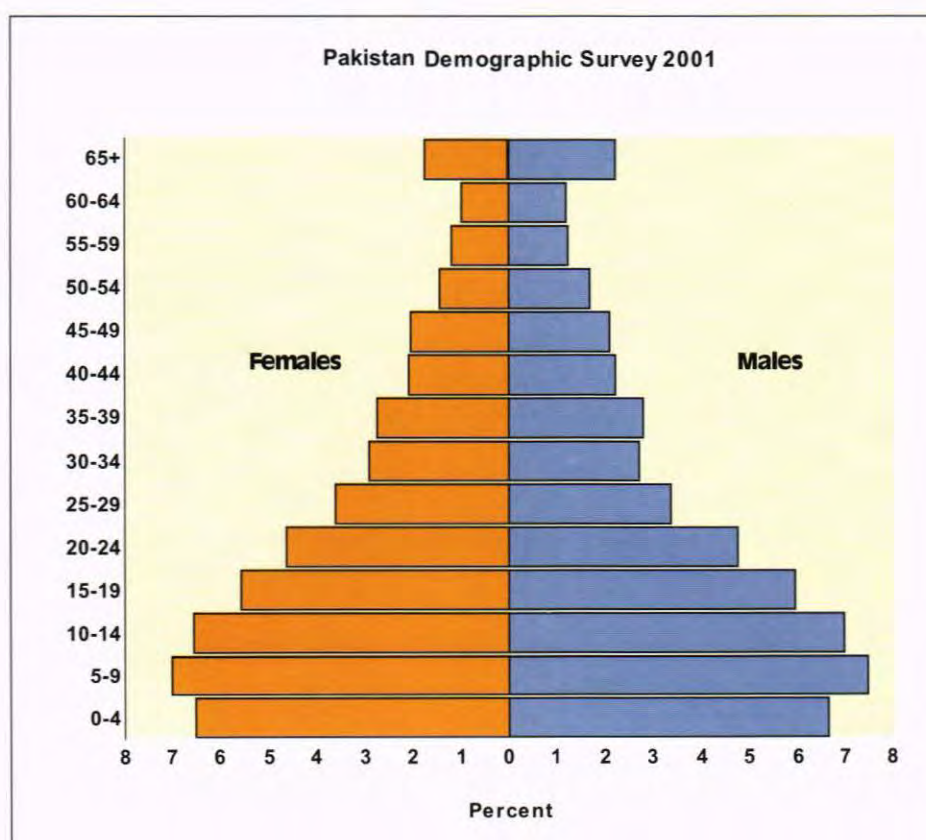
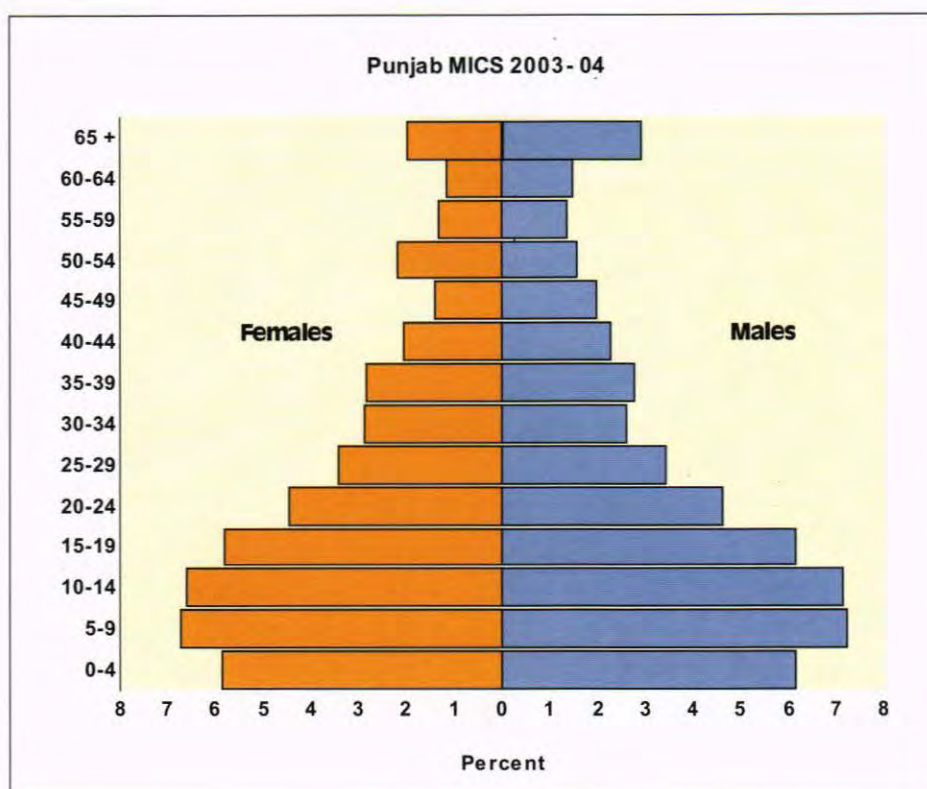
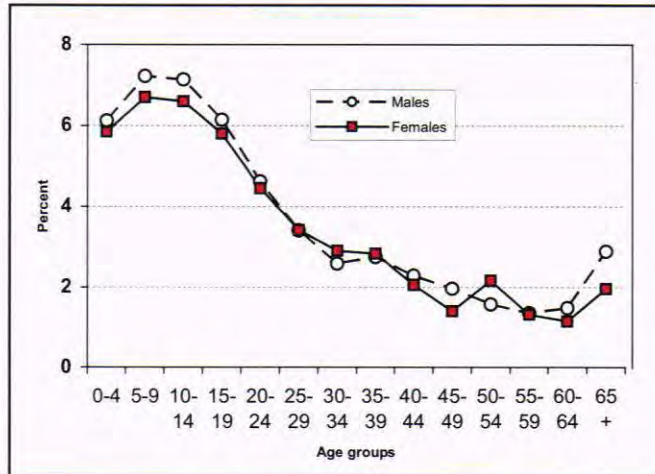


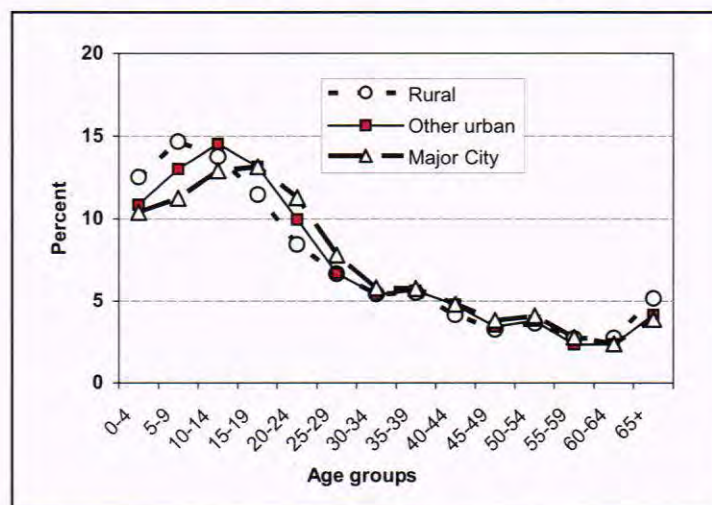
Figure 2a: Age and Sex Distribution of Sample



The age and sex distribution shows a greater percent of males as compared with females in the young (0-14 years) and the aged (65 years and above), accounting for the sex ratio of 106¹¹. (Figure 2a). Any differences in the other age groups are difficult to interpret. Also, the irregularity of the percent of females from the 45-49 to 50-54 year group could be due to age determination.

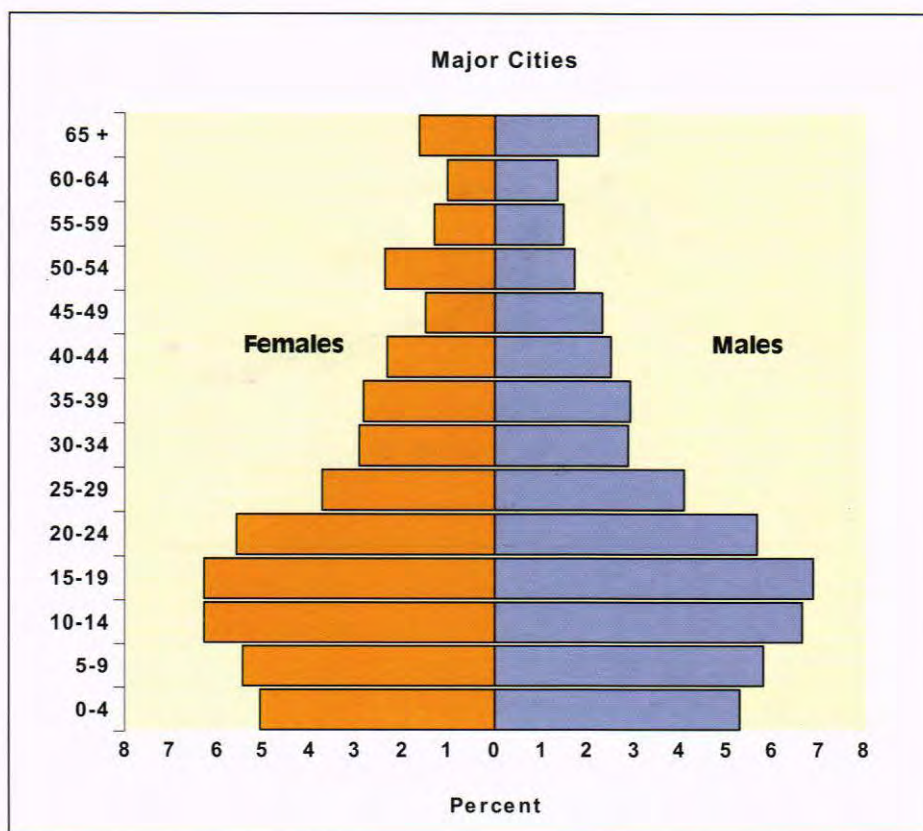
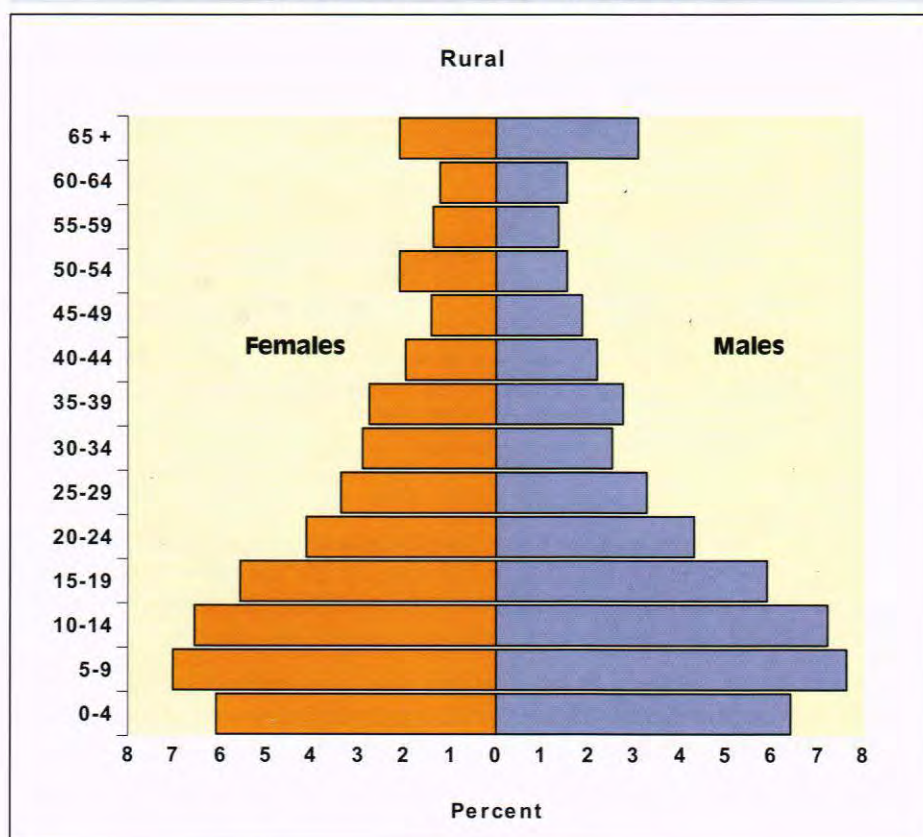
Age and sex distribution in rural areas showed an increased percent in children aged up to 9 years as compared with major cities (Figure 2b). The pyramid (Figure 2c) shows much narrower base for major cities over these younger age groups as compared with rural areas.

Figure 2b: Age Distribution of Sample by Area



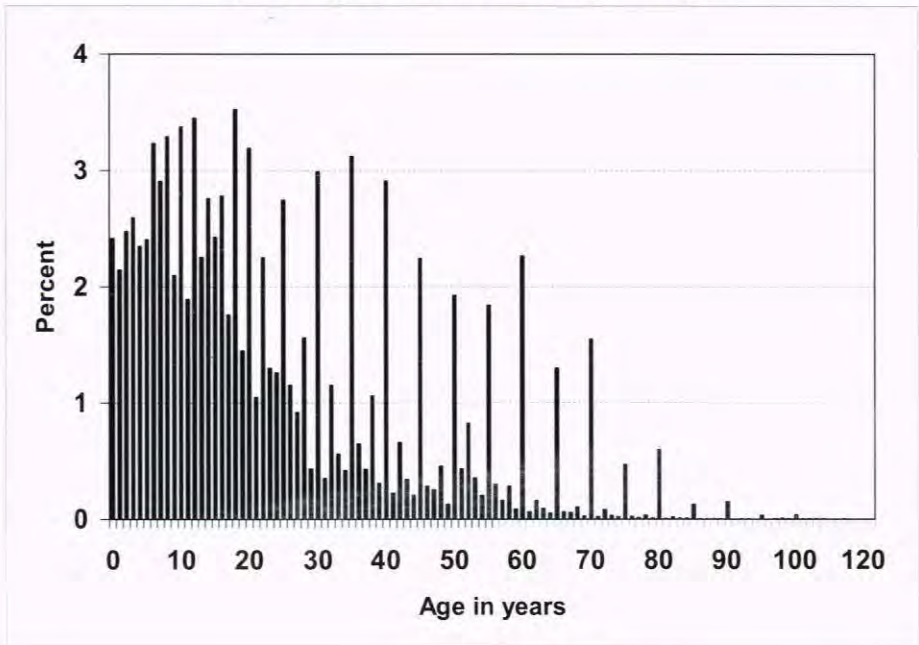
¹ Ratio of the number or percent of males multiplied by 100 divided by females = 51.5% * 100 divided by 48.5%.

Figure 2c: Population by Age and Sex



A common problem of misreporting of age occurs in Pakistan, as a proper registration of vital events of births and deaths is not in place. Due to low levels of literacy and as birthdays are generally not celebrated, this problem is further exacerbated. The lack of uniformity of the types of calendars used by the respondents (solar, lunar and local) is also a contributing factor. One common error, as was also found in the case of the Census and the Pakistan Demographic Survey is that ages are rounded off to the nearest figure ending in '0' or '5'. This “digital preference” produces age heaping (or bunching) at certain ages. The age distribution in (Figure 3) below for MICS shows such heaping at '0' at 20, 30, 40, 50, 60, 70 and 80 years and older. This can affect the results, especially if in one direction. One example is the heaping of females aged 45-49 to 50 years of age, which would exclude them from eligibility on the survey.

Figure 3 :Age Distribution of Punjab Sample



¹ Ratio of the number or percent of males multiplied by 100 divided by females = 51.5% * 100 divided by 48.5%.

Characteristics of the Household Population

Information on the household population and the survey respondents helps interpret the survey findings in terms of its demographic characteristics

Table 7 presents the percent distribution of households interviewed in the sample by background characteristics. About 70 percent of the households are rural, and 15% each are other urban and major city. Almost one-third of households had 6-7 members, with the average household size at 6.6 members, similar to that of the census (6.9), the PDS 2001 (6.6) and the PIHS 2001-2 (6.5). The average number of people per room (3.3) was slightly higher than the census (3.0). The average number of children under 5 years of age per household was 0.79, and of number of eligible women in each household was just under one (0.93).

Table 7: Percentage Distribution of Households by Background Characteristics

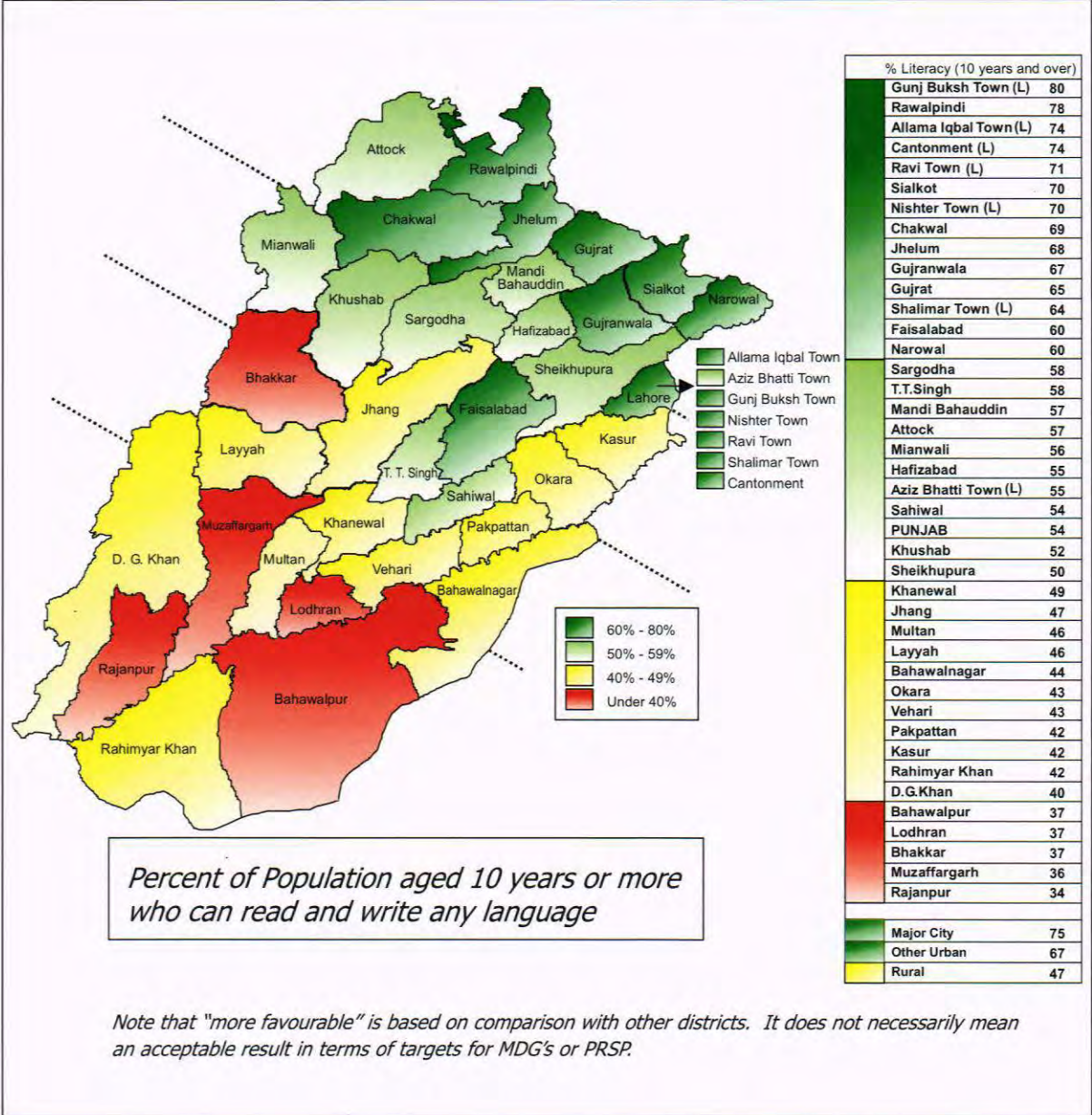
	Punjab	Rural	Other Urban	Major City
Percent of households in sample	100	71.2	14.2	14.6
Number of household members/household				
1	1.8	1.8	1.5	1.4
2-3	10.7	11.2	11.8	12.2
4-5	23.2	26.8	24.3	24.0
6-7	30.6	30.8	29.2	28.6
8-9	19.7	17.2	19.1	19.3
10+	14.0	12.1	14.1	14.5
Average	6.60	6.65	6.64	6.41
Average No. of People per room	3.35	3.47	3.27	3.07
Ave. No. of children under 5 per household	0.79	0.83	0.69	0.70
Ave. No. of children under 15 per household	2.62	2.71	2.29	2.48
Ave. No. of eligible women 15-49 per household	0.93	0.93	0.95	0.91
Unweighted Number	30758	18560	6314	5884

IV Results

Results from the survey are presented in the same order as that of the indicators. Tables are included at three levels: in the Executive Summary (Millennium Development and Punjab Poverty Reduction Strategy indicators, and Major Summary Results) in the report Chapters (mainly for Province, Major Towns/Other Urban/Rural and by Gender where relevant) and in the Annex, for summary and full details of all indicators. The chapters are grouped according to sectors, to allow ready reference. Their sequence is that of the indicator sequence.

Maps are included as required. These show district results for the indicator in sorted order. For a detailed explanation of maps, see Annex D.

Map 2: Literacy Rate (10 years and over)



1. Literacy and Education

Literacy

Literacy is a major cornerstone of human development and in the fight against poverty. Its influence spans many sectors - health, social and economic. The children of literate parents are much more likely to be educated and prepared for a better life and a literate population has better economic prospects than an illiterate one¹².

Using per capita income groups as a guide from the PIHS, the Punjab PRSP states that the literacy rate of the poor household heads in the Punjab is almost half the non-poor i.e. 26.6% for the poor and 50.4% for the non-poor. It also states that the literacy difference between the poor and non-poor is higher in urban areas where job opportunities for literate people increase.

Information on literacy was obtained by asking respondents whether they were able to read and write with understanding from a list of languages (including Urdu, English, Punjabi and Seraki), but excluding Quranic reading, if this was the only response.

1.1 Literacy Rate (10 years and over)

About half (54%) of the Punjab population 10 years and over is literate, with a disparity between males and females (63% vs. 44%). The 1998 Population Census and the PIHS 2001 -2002 reported a literacy rate of 47% (57% males vs. 35% females). The results can be compared as the survey used the same question and coding, as did the Census, although a different methodology was adopted. The findings from MICS suggest that the rates are improving.

Table 8: Literacy Rate (10 yrs+) by Gender and Area

	Punjab	Major City	Other Urban	Rural
Male	63	78	74	58
Female	44	71	59	35
Total	54	75	67	47

Similar patterns of gender disparities were found in rural areas (58% vs. 35%) and other urban areas (74% vs. 59%). The gender gap was least in major cities (78% vs. 71%). Literacy rates were highest in most towns of Lahore and Rawalpindi (over 70%) and least in Bahawalpur, Lodhran, Bhakkar, Muzaffargarh and Rajanpur Districts (under 40%).

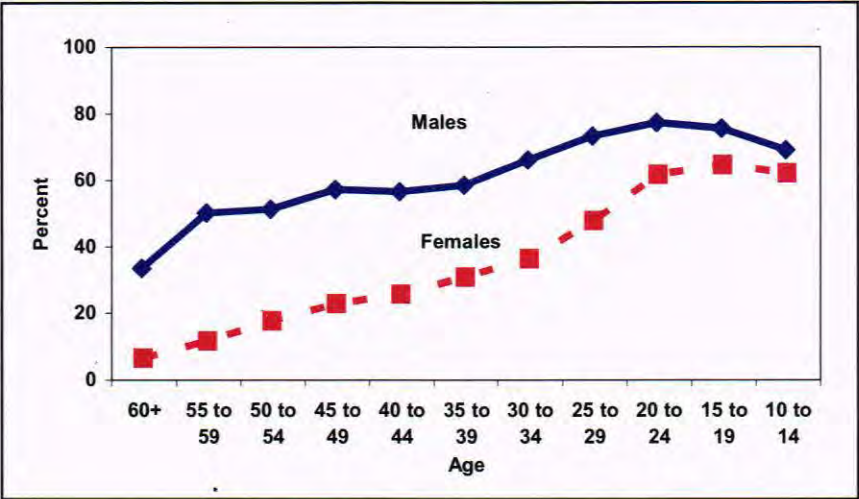
¹²Using per capita income groups as a guide from the PIHS, the Punjab PRSP states that the literacy rate of the poor household heads in the Punjab is almost half the non-poor i.e. 26.6% for the poor and 50.4% for the non-poor. It also states that the literacy difference between the poor and non-poor is higher in urban areas where job opportunities for literate people increase.

1.2 Literacy Rate (15 years and over)

About half (52%) of the population of Punjab aged 15 years and over is literate, with a disparity between males and females (62% vs. 40%). There is also similar gender disparity in rural areas (57 vs 31%), other urban (74 vs 55%) and in major cities (78 vs 68%). Literacy rates were highest in most towns of Lahore and Rawalpindi (over 67%) and lowest in Lodhran, Bahawalpur, Muzaffargarh, Bhakkar and Rajanpur Districts (under 35%).

The age distribution for literacy reflects the positive trend of increasing rates during the past decades (Figure 4). It would appear that in the younger age groups (10-14 years of age); female literacy rates are starting to catch up to those of males, with a difference of less than 10%. However the flattening of the rates in the younger age groups is a disturbing feature, suggesting that any literacy targets in the 80% range or higher will be difficult to reach based on the current situation. The apparent improvement in literacy rates is influenced by demography with younger groups more likely to be literate.

Figure: 4 Literacy Rate by Age and Sex - Punjab MICS 2003



The graph also allows an overview of the age-specific literacy rates. This is partly a reflection of lower literacy rates in older people¹³. Key age groups for monitoring progress are 10 and 15 years plus. In addition, the 15-24 years range is recommended for the MDG's and Education for All (EFA). Whereas there is only a minor difference between the 10 and 15 year olds of 2% for Punjab (i.e. 54 vs 52% respectively), the rate for 15-24 year olds is much higher (68%). Further, this 15-24 year old group is much more sensitive to recent change and reflects the effects of education on literacy. The information for 10 and 15 years plus will be useful mainly for longer-term results.

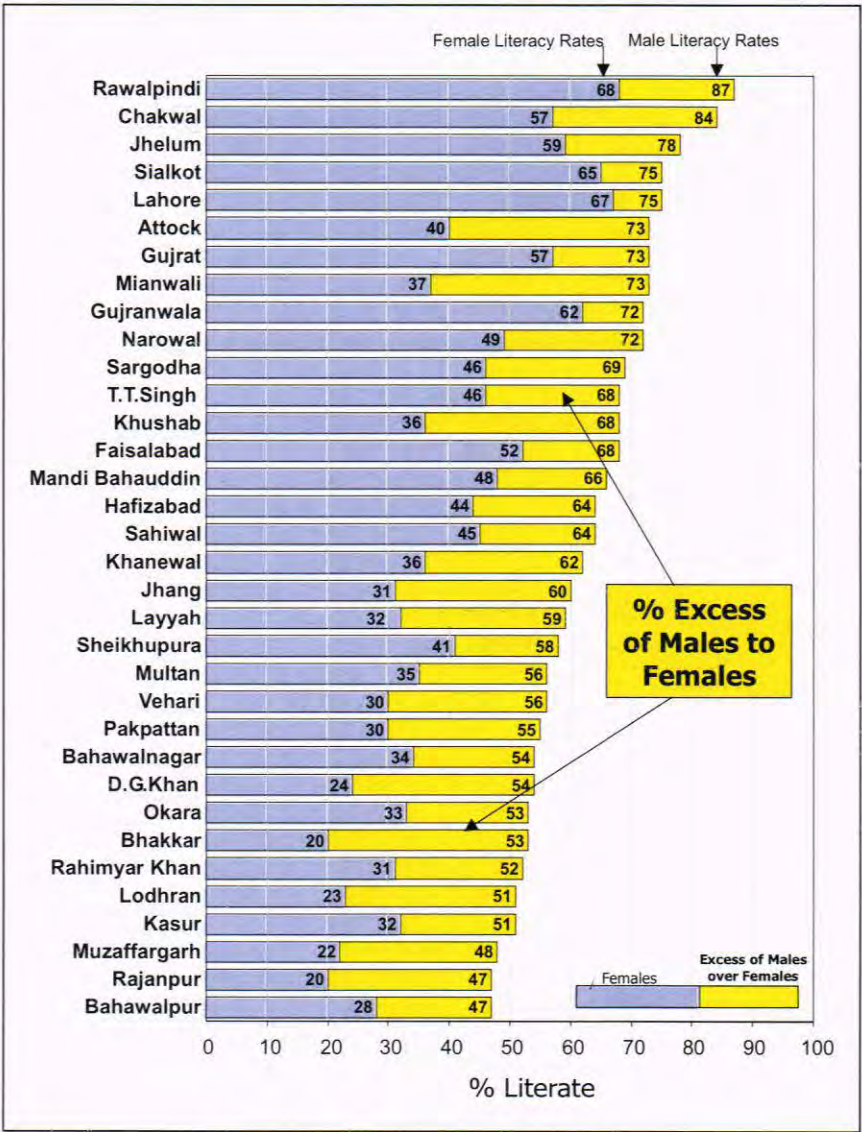
¹³ Further research might examine rates by district according to age groups.

Male-Female Differences in Literacy Rates.

Achievement of gender parity in education is a key MDG and PRSP goal. As indicated, the difference between male and female literacy rates appears to be decreasing over time. When districts are considered, it can be seen that this gap is closing with some districts achieving gender parity Figure 5 - (see “The closing gap”). The gap is narrowest for the younger age groups i.e. 10 years+ group as compared with the 15+ years. In the 15-24 age range, several districts already have achieved a higher literacy rate for females as compared with males, thereby improving the overall literacy rates (over 80%).

Looking at each district for the 10+ years group (Figure 5), the “gap” varies from 10% to over 30%. Note that because this is a sample survey these figures have a confidence interval of 5-10%, so that the estimates will be +/- 5 to 10%, depending on the sample size of each district. (See also Figures 6 and 7)

Figure 5: Literacy Rates for Punjab Districts -by Males and Females aged 10+ years
Ranked from Highest to Lowest Rates for Males



The Closing Gap – Improved Ratio of Female to Male Literacy for Population Aged 15-24 years
(each data point is a district result, combining % Female and % Male Literacy)

Figure 6: Male and Female Literacy Rates 10 years+ by District

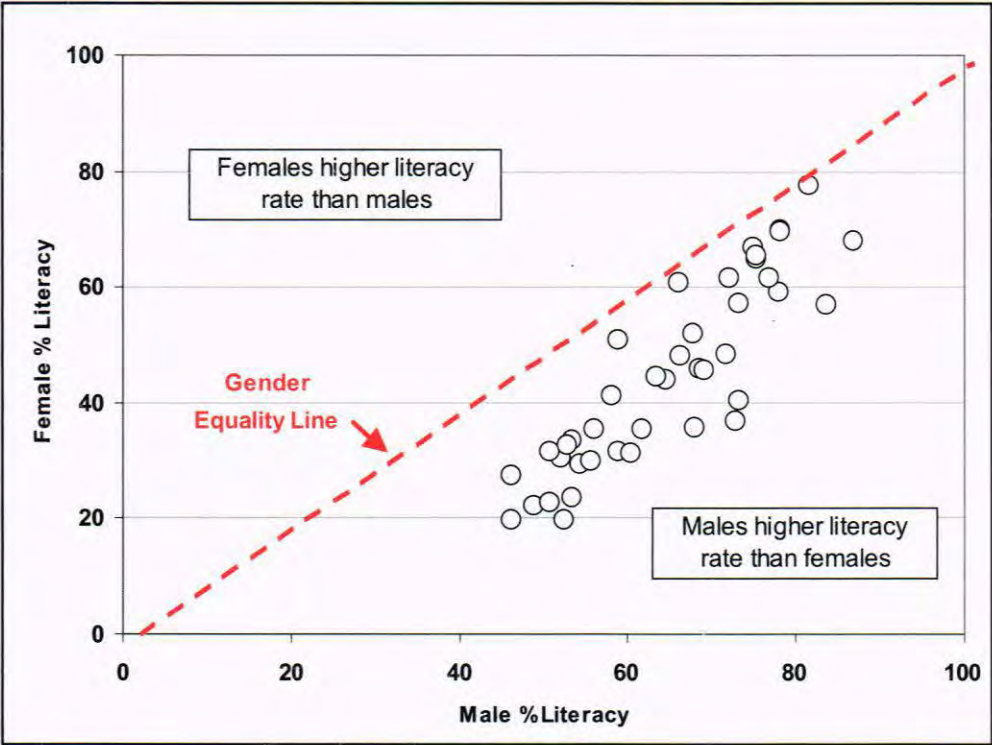
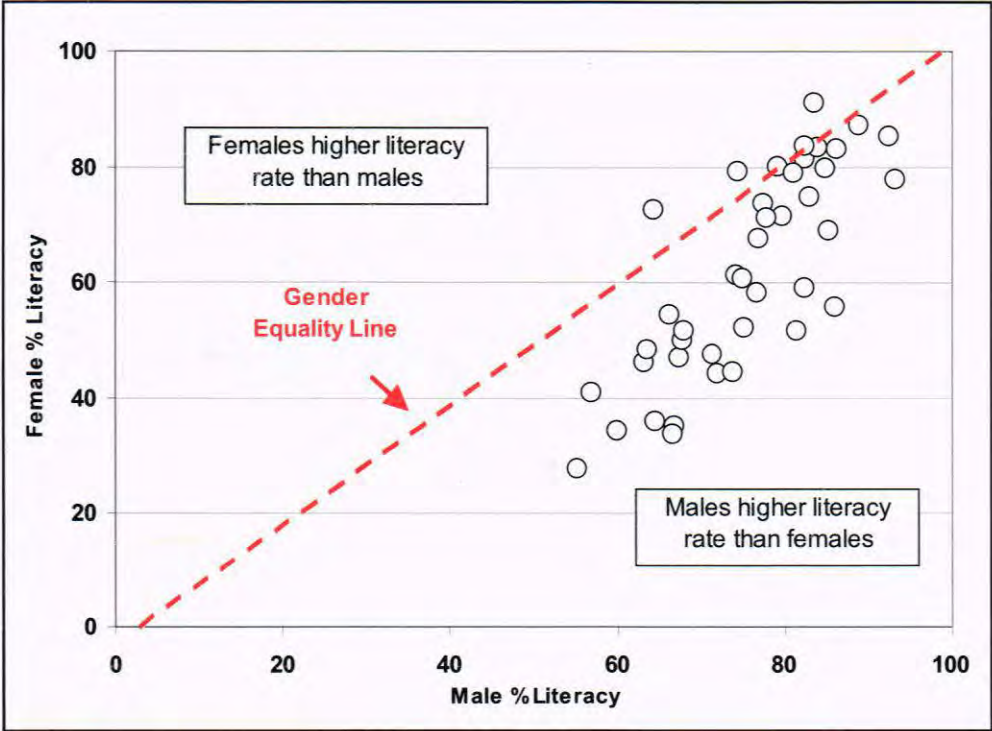


Figure 7: Male and Female Literacy Rates 15-24 yrs by District



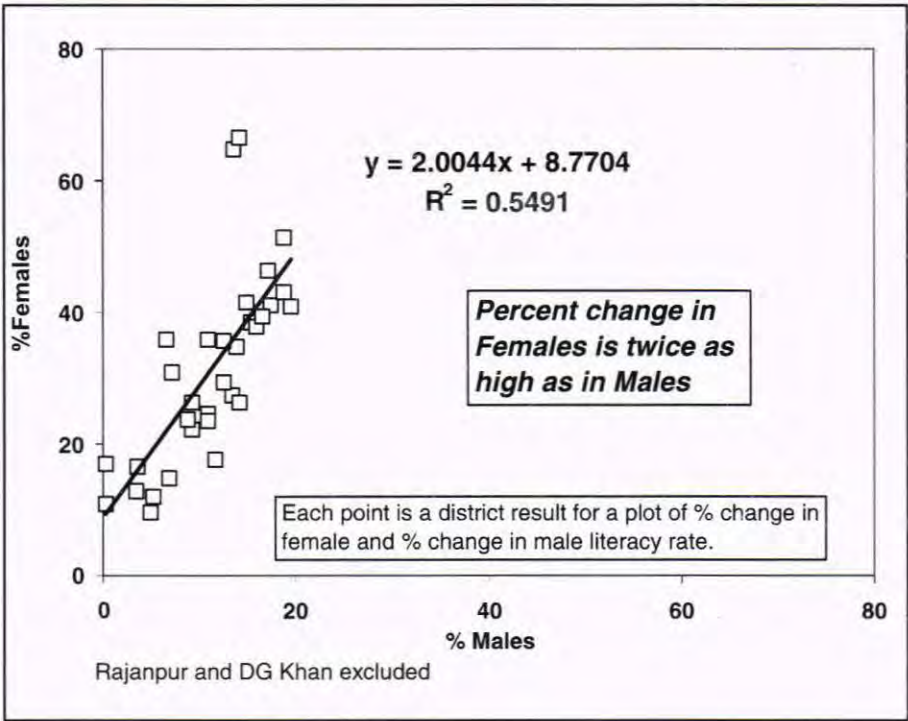
Changes in Literacy Rates Since the Census

It is useful to consider in more detail the changes in literacy rates since the census, both in total and by gender¹⁴. The overall change for Punjab is about 7% (47 to 54%). That for males is 6%, with 9% for females. Moreover the percentage changes for females more than doubles that for males (26% vs. 11%) showing a much faster improvement in the case of females. The estimates for literacy rate in the MICS, are 53.9 +/-1.0 or 52.9 to 54.9, based on a 95% confidence interval due to a sample being done. For districts, these range averages 5.0; hence comparisons by district require caution in interpretation (see Annex F on confidence intervals for more details). The figure below shows that almost all districts reflect the major percent changes in favour of females occurring in the Province. In Lahore district (not shown on the map), there has been a reduction in literacy rate in males (unlike the rest of Punjab) although that of females has increased. Although there should be some caution in the results (census and survey are different procedures), the consistency in the findings warrants attention.

Table 9 : % Literacy Rate (10yrs+) Changes Since the Census 1998

	Census	MICS	Change	% Change
Punjab	47	54	+7	+16
Male	57	63	+6	+11
Female	35	44	+9	+26

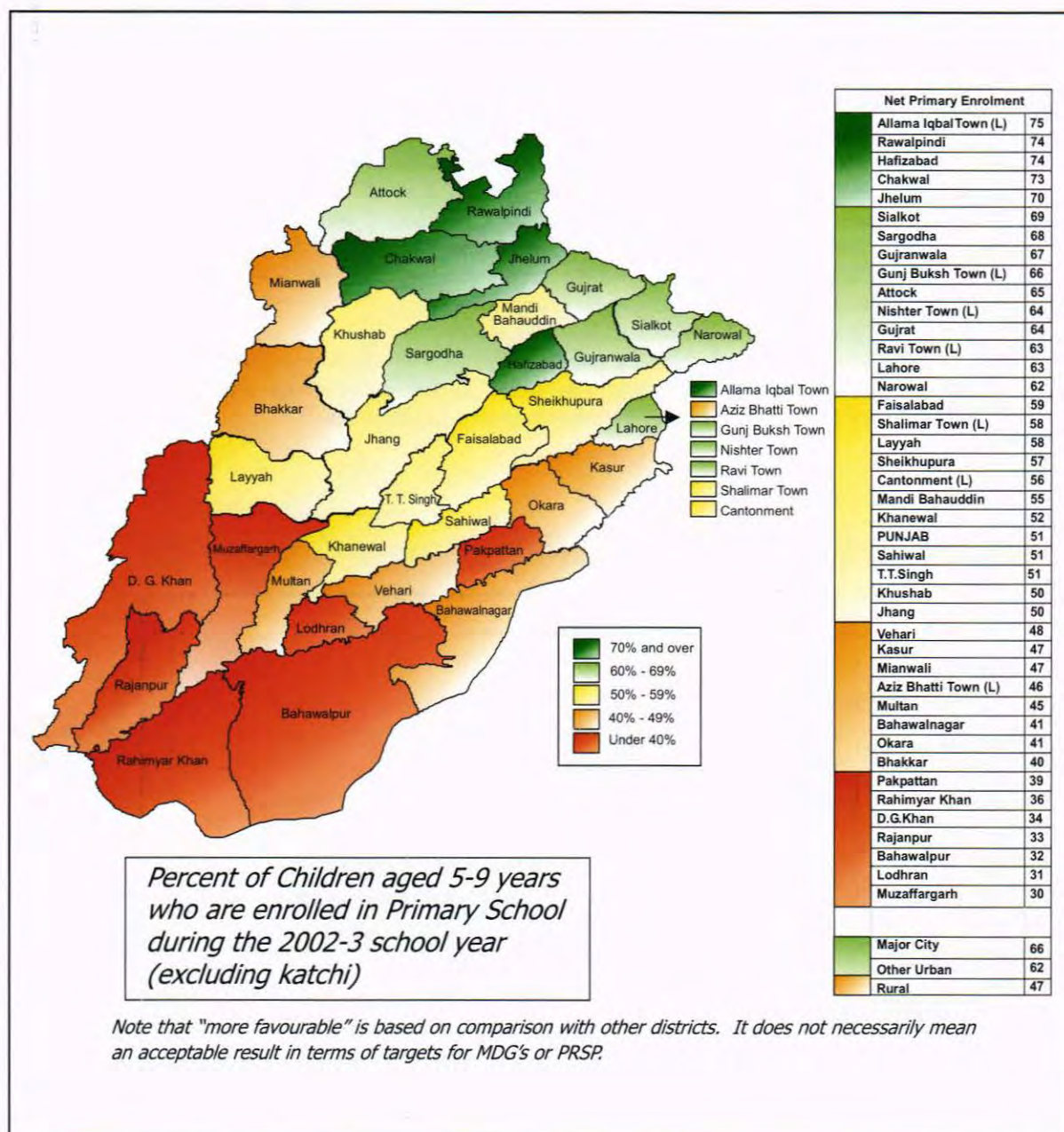
Figure 8: % Change in Literacy Rate (10 yrs*) by Gender and District



Note in the figure, a point represents each district result. The linear regression shows the relationship between “y” the % change in females and “x” that in males. Any point over the central diagonal (0 to 80) represents a percent change in females greater that in males.

¹⁴ The corresponding census results by provinces are as follows:
Punjab males 57.2% vs. females 35.1% with a female/male ratio of 0.61;
Sindh males 54.5% vs. females 35.8% ratio 0.66
NWFP males 51.4% vs. females 18.8% ratio 0.37
Balochistan males 34.0% vs. females 14.1% ratio 0.41 and
Pakistan males 54.8% vs. females 32.0% ratio 0.58

Map 3: Net Primary School Enrolment Rate



Education

Universal access to basic education and the achievement of primary education by Punjab's children is an extremely important goal and embraces those set by PRSP and MDG. Education is a vital prerequisite for combating poverty, empowering women, protecting children from hazardous and exploitative labour, promoting human rights, protecting the environment, and influencing population growth. Hence the level of education is a key indicator for development planning.

1.3 Completed education

Of the total adult population (15 years and above), 54% had ever completed any grade (i.e. from 1st grade or beyond) in school, ranging from 74% in major cities, 67% in other urban and 45% in rural areas; and from 64% in males to 41% in females.

1.4 Net Primary School Enrolment Rate¹⁵

About one half (51%) of children at primary school age (5-9 years) in Punjab were enrolled in primary school (excluding Katchi class) during the year 2002-2003. This net enrolment rate compares with 45% reported in the PIHS 2001. Enrolment varies greatly by area (major cities 65%, other urban 62% and rural 47%) (Table 10).

There are major differences among districts ranging from a high of over 70% in Rawalpindi, Chakwal, Jhelum and Hafizabad to under 35% in D.G.Khan, Rajanpur, Bahawalpur, Lodhran and Muzaffargarh.

The Map 3 (opposite page) illustrates the distinct geographic "banding" throughout Punjab from north to south as to highest to lowest enrolment rates. Of note is the situation in Lahore, which is not in the highest group. This is in part due to the low enrolment rates in Aziz Bhatti Town, which belongs to the next to lowest group.

There is no major difference in net enrolment rates for boys (53%) compared with girls (49%). This difference is reflected in the rural areas; in all urban areas rates for boys and girls were almost equal.

As the sample size for the 5-9 year group is much smaller as compared with 10+ or 15+ years group, detailed comparison between individual districts as has been done for literacy is not possible.

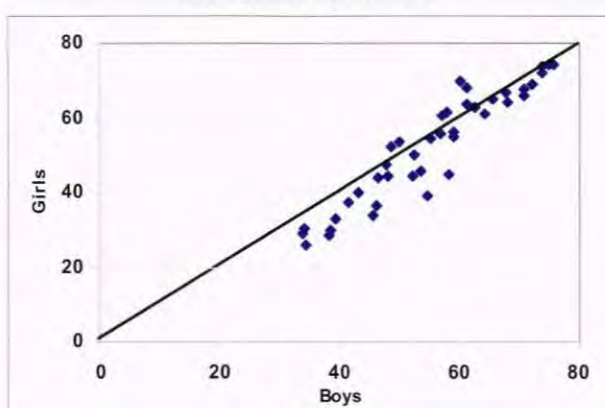
However, checking the pattern gives a good indication of district results (Figure 9). The Summary Table 1 in the Annex provides district -wise information.

This confirms that several districts already have a higher rate for girls as compared with boys; these tend to be those with higher total rates (over 60%)¹⁶. Of interest is the similar pattern shown for literacy rates of adults aged 15-24 years (see prior section).

Table 10: Primary School Enrolment Rate by Gender and Area

	Punjab	Major City	Other Urban	Rural
Male	53	65	62	49
Female	49	65	61	45
Total	51	65	62	47

Figure 9: Male and Female Primary School Enrolment by District



¹⁵Definition: The number of children aged 5-9 years who are enrolled at primary school (during the 2003-3 school year) divided by the total number of children aged 5-9 in the population, expressed as a percentage.

¹⁶Due to the nature of the sample, where the statistical confidence interval may range from 10% (i.e. +/- 5%) or more, it is not accurate to consider specific districts in this description. The pattern is helpful for assessing the current situation and for monitoring purposes.

1.5 Net Primary School Attendance Rate¹⁷

Attendance rates for children of primary school age (5-9 years) in Punjab are almost identical to that of enrolment. Also, there is a universal high rate of attendance at school. Almost all children attend school for most of the academic year (at least 4 months) and on a regular basis (most days of the week). This is the same throughout all areas and districts. (Table 11)

1.6 Gross Primary School Enrolment Rate

Gross enrolment rates are often favoured because they lend themselves to regular data collection from schools, as compared with net enrolment rates which require age and grade specificity which is not necessarily available from school records. Gross enrolment rates in primary school age (5-9 years) in Punjab were 88% during the year 2002-2003. (Table 12) This compares with 91% found in the PIHS 2001-2.

Gross enrolment is much higher in urban as compared with rural (104% vs. 83%) and in boys compared with girls (93% vs. 83%). There are major differences among districts from a high of over 115% in Gujrat, Jhelum, Rawalpindi and Sialkot to under 60% in Lodhran, Muzaffargarh and Rajanpur. Districts with a higher level of gross school enrolment also tend to have a higher ratio of girls.

The difference between the gross and net enrolment ratios indicates that there are over- age children in primary school i.e aged 10-17 years. For Punjab, this difference is 37%.

Table 11 : Primary School Enrolment and Attendance Rates

Punjab	Punjab	Major City	Other Urban	Rural
Enrol	51	66	62	47
Attend	51	65	62	47

Table 12 : Gross Primary School Enrolment Rate

Punjab	Punjab	Major City	Other Urban	Rural
Boys	93	105	105	89
Girls	83	103	103	76
Total	88	104	104	83

¹⁷ Definition: The number of children aged 5-17 years who are enrolled at primary school (during the 2003-3 school year) divided by the total number of children aged 5-9 in the population, expressed as a percentage.

1.7 Children reaching Grade 5 and Dropouts during Primary School years

Children reaching grade 5 of primary education is the percentage of a cohort of pupils who enrolled in the first grade of primary education in a given school-year and who eventually reach grade 5. Its purpose is to assess the “holding power” and internal efficiency of an education system. Conversely, it indicates the magnitude of drop-out before grade 5. This indicator is of particular interest because the completion of at least four years of schooling is commonly considered a pre-requisite for a sustainable level of literacy.

The ideal way to obtain a precise assessment of educational wastage is through the use of the true cohort method. This involves either a tracer (longitudinal) study to monitor the progress of a selected cohort of pupils through the education cycle, or through a retrospective study in order to retrace the flows of pupils through the grades in past years. The true cohort method, however, is costly and time-consuming, and it requires good and reliable school history with information on individual pupils. For this reason, this method is not yet widely used.

The MICS methodology entails a follow up of a child from one school year to the next and cumulates the results for the whole school cycle.

It was not possible to derive reliable results due to a problem with one of the questions relating to school enrolment in the year prior to that of the survey. For brief details please refer to the technical notes and for further details to the technical volume.

1.8 Public School Attendance Rate

Of all children enrolled in Primary School, 64% attended a Government school, 35% a Private school and 0.4% a Deni Madrissa. Attendance at a Government school was much higher in rural areas (74%) as compared with other urban (49%) and major cities (33%). (Table 14) Districts with the highest attendance were Bhakkar, Layyah, Bahawalnagar and Rajanpur (over 80%) and the lowest in Gujranwala (48%) and Lahore (34%).

Table 14 : Public School Attendance Rate (5-7yrs)

Punjab	Punjab	Major City	Other Urban	Rural
Boys	64	32	47	74
Girls	64	35	52	74
Total	64	33	49	74

1.9 Adequate physical access to school.

Any school within the ward or village was reported by 82% of households and those within 2Km in 95%, which is close to the recommended distance of 1.5 km. Of those within 2Km, 99% were in urban and 93% in rural areas. The lowest percent (under 85%) were in Muzaffargarh, Lodhran and D.G.Khan.

1.10 Change of school

Change of school was uncommon in most of Punjab, being about 2% from public to private and the same from private to public. (Table 15) There was little variation by area. Also variation by district was not major. For public to private, Mianwali (4.9%) had the highest change and Lodran (0.6%) the lowest. For private to public, Mandi Bahaiddin (4.4%) had the highest change and again Lodran (0.4%) the lowest.

Table 15: Change of School Last Year (5-17 years)

	Punjab	Major City	Other Urban	Rural
Public to private	2.1	2.1	1.5	2.2
Public to Public	2.3	2.7	2.1	2.3
Private to Public	2.0	2.9	3.0	1.5
Private to Private	2.1	3.1	4.6	1.3
No change	91.5	89.2	88.8	92.5

1. 11 Secondary School Enrolment

Net Enrolment

In Punjab, about one in five (18%) children aged 10-12 years are enrolled in Middle School (grades 6- 8), with urban greater than rural (26 vs.14%)¹⁸. There is little gender difference in all areas. These minor differences tend to favour girls in urban and boys in rural areas. (Table 15b)

Chakwal, Gunj Buksh Town (L), Allama Iqbal Town (L), Rawalpindi and Jhelum have the highest net enrolment rate in middle school (30% to 37%). The lower rate for Lahore (28%) is due to the level (18%) for Aziz Bhatti Town (L), a similar situation to that for primary school enrolment.

One reason for the low enrolments is that children aged 10-12 years are often in primary school (see Table 13 on page 34).

The pattern for net enrolment in Matric and Higher Secondary is similar to that for Middle School, but at lower levels. For example, in rural areas only 7% of girls aged 12-14 are enrolled in Matric and 5% of girls aged 15-17 are enrolled in Higher Secondary School.

Gross Enrolment

In Punjab, the Middle Gross Enrolment Rate (see definition below) is 48%. This is almost three times that of the Middle Net Enrolment Rate, due to the added children aged 13-17 attending Middle School. The urban/rural and male/female differences are still marked.

The Secondary Gross Enrolment Rate covers the whole of Secondary School (Grades 6-12); hence the gross enrolment is the same as the net, if the basis is all children of Secondary School age (10-17 years). Overall results are about 15 to 20% less than for Middle Gross because fewer children attend Matric and High Secondary as compared with the Middle Level.

Table 16: Secondary School Enrolment

Net Secondary School Enrolment				
	Punjab	Major City	Other Urban	Rural
Middle	18	31	26	14
Boys	19	29	25	15
Girls	18	33	28	13

Matric	11	20	17	8
Boys	12	19	15	10
Girls	11	21	18	7

Higher	10	19	16	6
Boys	9	15	14	7
Girls	10	24	17	5

Gross Secondary School Enrolment				
	Punjab	Major City	Other Urban	Rural
Middle	48	70	62	41
Boys	50	66	60	45
Girls	45	73	64	36
Secondary	33	50	44	27
Boys	35	47	42	31
Girls	31	53	45	23

¹⁸Definitions as follows:

Middle Net Enrolment Rate	% of children aged 10-12 enrolled in middle school in current school year
Middle Gross Enrolment Rate	% of children aged 10-17 enrolled in middle school in current school year divided by number of children age 10-12
Matric Net Enrolment Rate	% of children aged 13-14 enrolled in Matric in current school year
Matric Gross Enrolment Rate	% of children aged 10-17 enrolled in Matric in current school year divided by number of children aged 13-14
High Sec Net Enrolment Rate	% of children aged 15-17 enrolled in High Sec school in current school year
Secondary Gross Enrolment Rate	% of children aged 10-17 years enrolled in secondary school divided by the number of children aged 10-17 years.

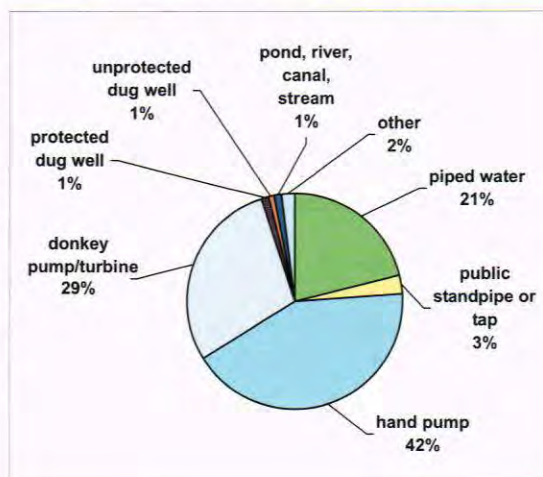
2. Water and Sanitation

2.1 Sources of Drinking Water

Availability of safe drinking water is a basic necessity for good health. Unsafe drinking water can be a significant carrier of enteric diseases (including typhoid) and parasites, such as roundworm. Drinking water can also be tainted with other bacteriological, chemical, physical and radiological contaminants with harmful effects on human health. Access to drinking water is also of prime consideration for women and children, particularly in rural areas, because they bear the primary responsibility for fetching water, often for long distances.

Goal 7 of the MDG (Ensure environmental sustainability) includes “to halve by 2015 the proportion of people without sustainable access to safe drinking water”. The MICS uses this as two major indicators: improved source and access. “Improved” is defined from a protected water source (piped water, public standpipe or tap, hand pump, donkey pump/turbine or protected dug well). Unimproved water is from an unprotected dug well, pond, river, canal or stream, as well as other less common sources such as vendor provided, tanker truck or bottled/ canned water. Punjab relies primarily on hand pumps (42%), followed by donkey pump/turbine (29%) and piped water (21%) – Figure 10.

Figure 10: Drinking Water Supply



The “improved source” does not necessarily imply safety. There is potential contamination from pumps and wells, especially outside the household. Even piped water quality can be compromised by leakages and in certain situations, come from suspect sources such as stagnant water. Further, the amount of water was not addressed in this survey, as responses could not be reliably standardized.

Adequate access implies availability either in the household or within 2 km and/or less than ½ hour away (i.e. there and back). Again, this does not necessarily imply sufficient amounts of water.

Based on the “improved” definition, almost the whole of Punjab (97%) of the population reported use of improved (or improved) drinking water, with 98-99% percent in urban/city and 96% in rural areas. The PIHS and Census (piped water at 24% vs 21% for the MICS) also report similar results. Most districts have at least 95% of households using “improved” water, with some (including Lahore) at 99-100%. A few districts (Rawalpindi and Attock) have 87-89% usage with the lowest in DG Khan (81%).

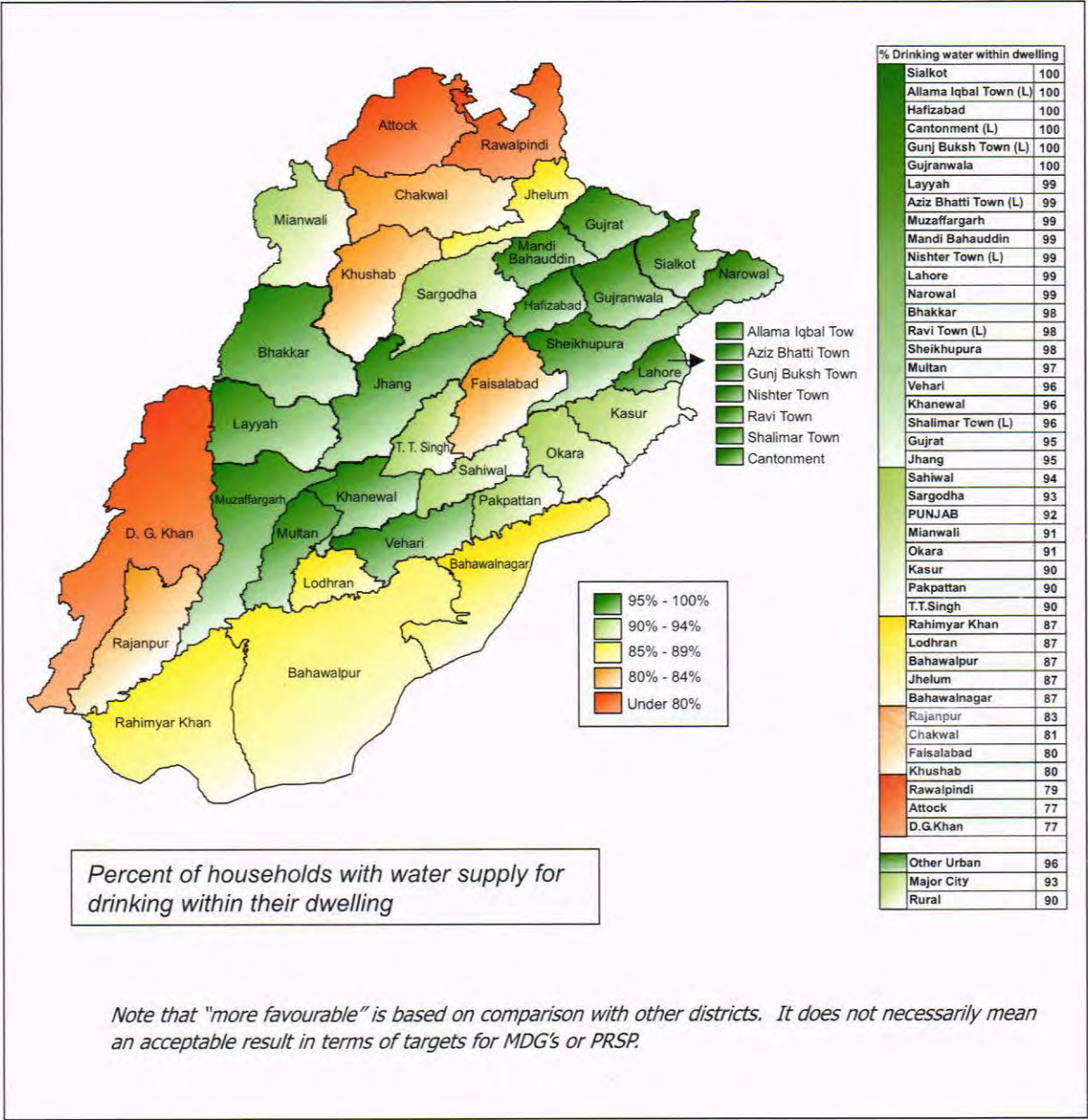
2.2 Access to Improved Drinking Water

Access to improved drinking water is also high: 97% within 2 Km from the household and 92% within the household. All Districts (apart from Attock, Rawalpindi and DG Khan) have at least 90% of households having this access. Access within the household varies more by district – those with less than 85% are Rajanpur, Rawalpindi, Faisalabad, Attock, Chakwal, Khushab and D.G.Khan (see map on the opposite page).

Table 17: Adequate Access to Improved water

% Access	Punjab	Major City	Other Urban	Rural
In Household	92	93	96	90
Within 2 Km	97	98	99	96

Map 4: Households with Improved Source of Drinking Water (within Dwelling)

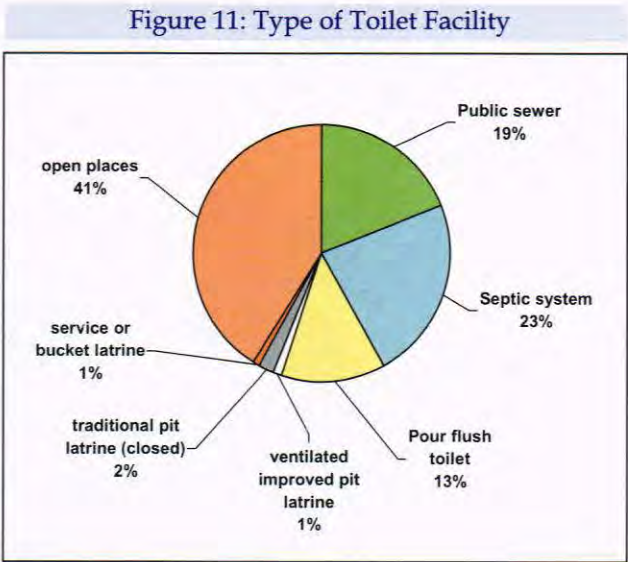


2.3. Sanitary Means of Excreta Disposal

Inadequate disposal of human excreta and personal hygiene is associated with a range of diseases including diarrheal diseases and typhoid.

Just over half of the households in Punjab (58%) have sanitary toilet facilities. Results from the PIHS 2001-2 were a little less (50%) although the codes in the PIHS are not identical.

These facilities include being connected to a septic system (23%), to a public sewer (19%), pour flush toilet (13%), traditional closed pit latrine, ventilated improved pit latrine or service/bucket latrine (4%); while open places or no latrine occurs in 41%. - Figure 11



Sanitary facilities were highest in major cities (98%) and other urban areas (92%) and least in rural areas (43%). (Table 18). All towns in Lahore have relatively high levels (over 90%), whereas D.G.Khan, Layyah, Muzaffargarh and Rajanpur have the lowest levels with less than 35%. The map (opposite page) suggests that those districts to the middle and southwest of Punjab appear to have the lowest prevalence of households with adequate sanitary facilities.

Table 18: Adequate Sanitary Facilities

Punjab	Major City	Other Urban	Rural
58	98	92	43

2.4 Disposal of Waste Water and Solids

Disposal of waste water is a guide to potential water contamination. Less than half (43%) of Punjab has proper disposal of waste water (sewerage connected with main line, sewerage connected with open drain or septic tank), ranging from 95% in major cities to 77% in other urban and 26% in rural areas. (Table 19).

Table 19: Proper Disposal of Waste Water and Solids

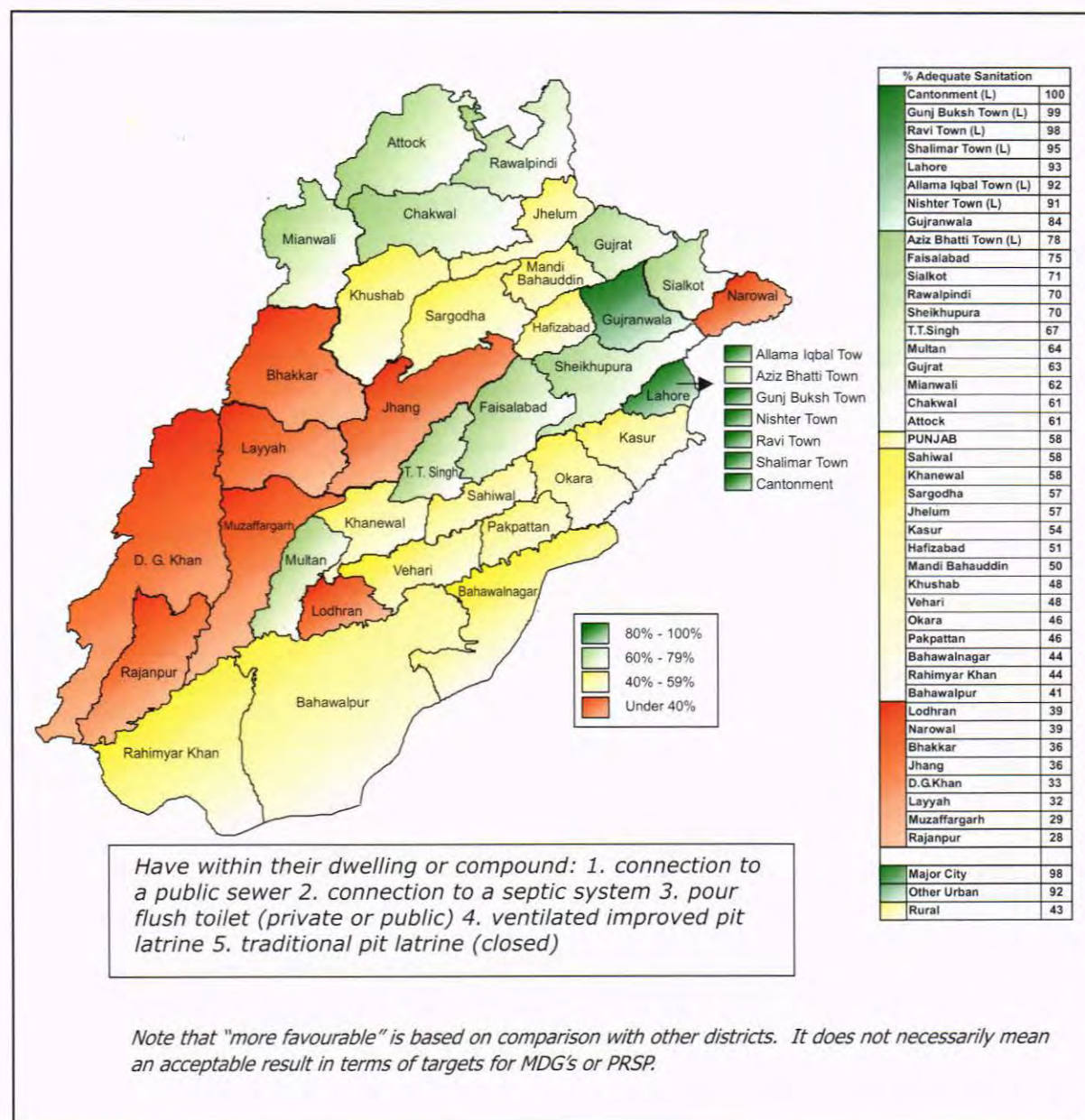
% House-holds	Punjab	Major City	Other Urban	Rural
Water	43	95	77	26
Solids	15	66	33	1

Only 15% of Punjab has proper disposal of waste solids (collected by any municipal institution, disposed of by solid waste management department or a private company vehicle collected from home). This ranges from 66% in major cities to 33% in other urban and only 1% in rural areas.

2.5 Washing Hands Adequately

The survey asked about the practice of washing hands adequately (all members using soap) in households. Of the total, 41% of the households reported that they use soap before eating food and 55% indicated that they wash their hands adequately after going to latrine. There was much variation between major cities, other urban and rural for adequate washing before eating food (78%, 59% and 30% respectively) and after using the latrine (87%, 73% and 45%).

Map 5: Households with Adequate Sanitation



3. Reproductive Health Care of Women

Goal 5 of the MDG's is to Improve Maternal Health by reducing by three-quarters, between 1990 and 2015, the maternal mortality ratio. Indicators for this goal are the maternal mortality ratio and proportion of births attended by skilled health personnel

3.1 Maternal Mortality Estimate

The number of deaths of women of child-bearing age (during pregnancy, labour or within six weeks after childbirth) in the past 5 years was 81 for Punjab, with 58 from rural areas, 15 from other urban and 8 from major cities¹⁹. During this period the number of live births in the Punjab sample was 23,580, with 15,305 from rural areas, 4,416 from other urban and 3,859 from major cities. The total adult (15 years+) mortality was 5128, (2866 male and 2262 female).

The estimation of the Maternal Mortality Ratio (MMR), number of deaths of women due to pregnancy-related causes per 100,000 births, requires a large sample size to get good results. Further investigation is recommended through verbal autopsies to identify the factors leading to these deaths. MICS allows for the proper identification of maternal deaths in sampled households – information which could be used to conduct follow-up visits by staff trained in this procedure.

The adequacy of the sample needs to be balanced with the level of precision required and the costs. While the sample for Punjab (over 20,000) should be sufficient, the confidence interval might be as much as 100 +/-, so an MMR estimate of 300 could have a range of 200-400.

At the request of P&DD, some provisional findings are presented. Based on 81 deaths, the crude estimate of the MMR is about 300/100,000 live births and for 72 deaths, about 260/100,000 live births – see Annex I for more details. This estimate may have to be modified according to the estimated number of abortions (PRHFPS reports 3% of total births), which would decrease the rate by this percent.

¹⁹ Nine of these deaths need to be verified as they were of women over 49 years of age.

3.2 Antenatal Care

Less than half (44%) of women aged 15-49 years with a live birth in the past three years consulted a skilled health worker (private or government hospital/clinic, Lady Health Visitor) for antenatal care. This ranged from 73% in major cities, 55% in other urban and 37% in rural areas. About three-quarters (77%) of all women consulted some health worker; and a significant 23 % had no health care during pregnancy, denying them crucial preparation for their newborn.

Table 20: Antenatal Care Consultation (%)

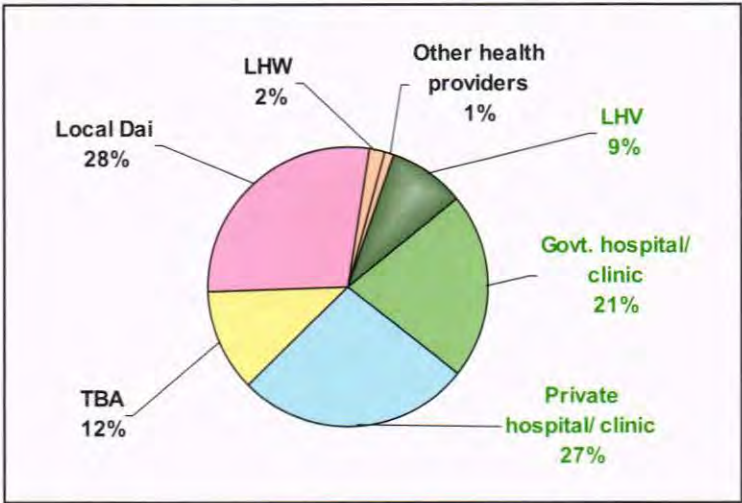
	Punjab	Major City	Other Urban	Rural
By skilled health worker	44	73	55	37
By any Health worker	77	93	85	73

All consultations were mainly with a local Dai (28%) and at a Private Hospital/Clinic (27%) followed by a Government Hospital/Clinic (21%), trained Dai (12%) and Lady Health Worker (2%) - Figure 12. Under "other", less than 1% consulted a Family Welfare or Reproductive health center. Those in major cities and other urban areas favoured mainly a private hospital/clinic (39% and 31%) whereas and in rural areas it was a local or trained Dai (47%). In nine districts, over 50% of women were attended by a Dai, usually untrained. In Shalimar Town, attendance by a Dai was also common (50%), but in almost all cases, she was trained.

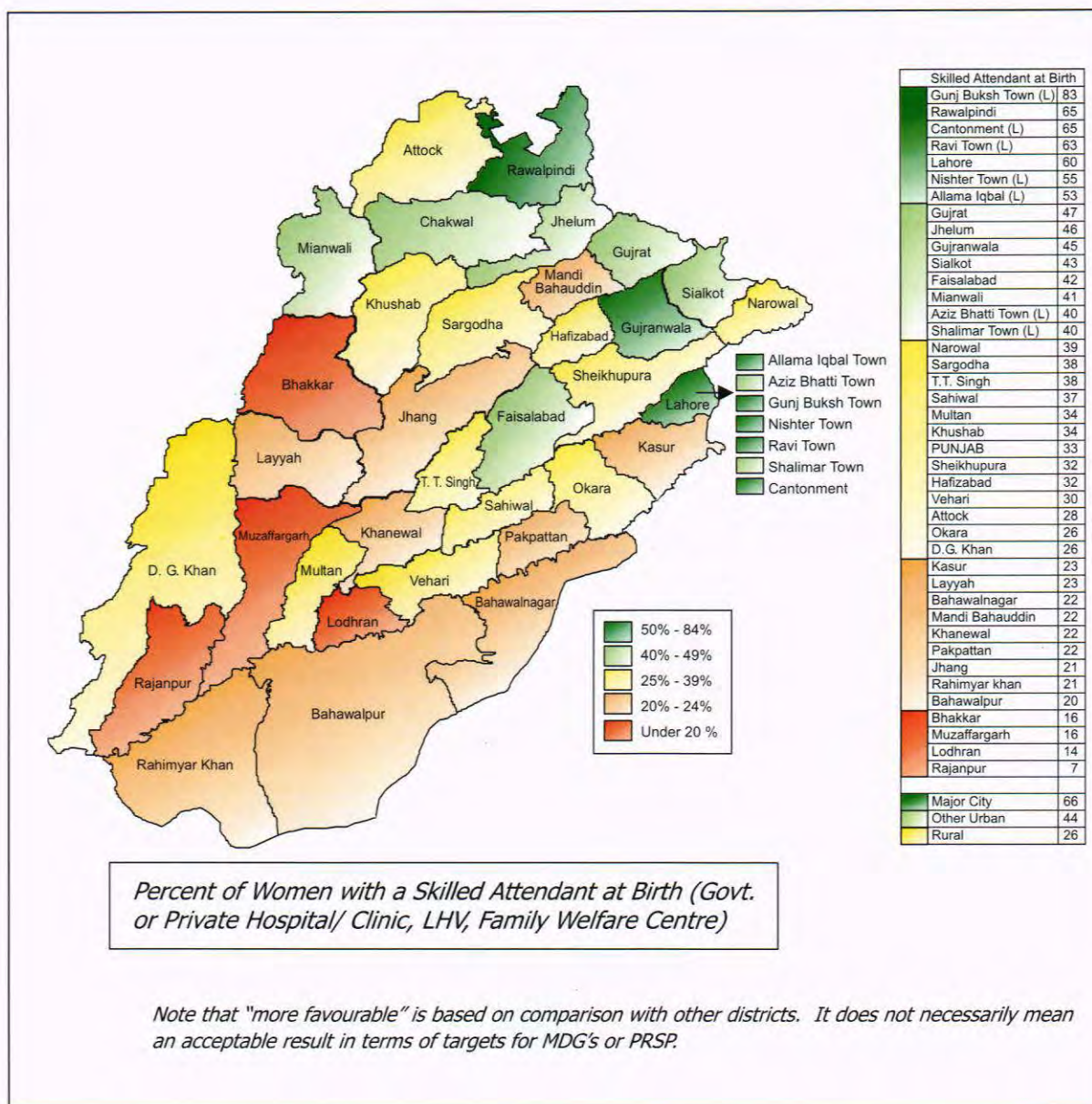
Districts and towns with the most consultations for a skilled worker (more than 70%) were Gunj Buksh Town (L), Cantt Area (L), Ravi Town (L), Rawalpindi and Jhelum and the least (under 25%) were Bahawalpur and Lodhran. Two towns in Lahore - Aziz Bhatti Town (50%) and Shalimar Town (46%) - had a consultation rate much lower than the other Lahore towns.

For those attending antenatal care, 50% had 1-3 visits during the last pregnancy, 34% had 4-6 visits and 16% over six visits.

Figure 12 : Consultation for Antenatal Care



Map 6: Women with Skilled Attendant at Birth



3.3 Birth Care

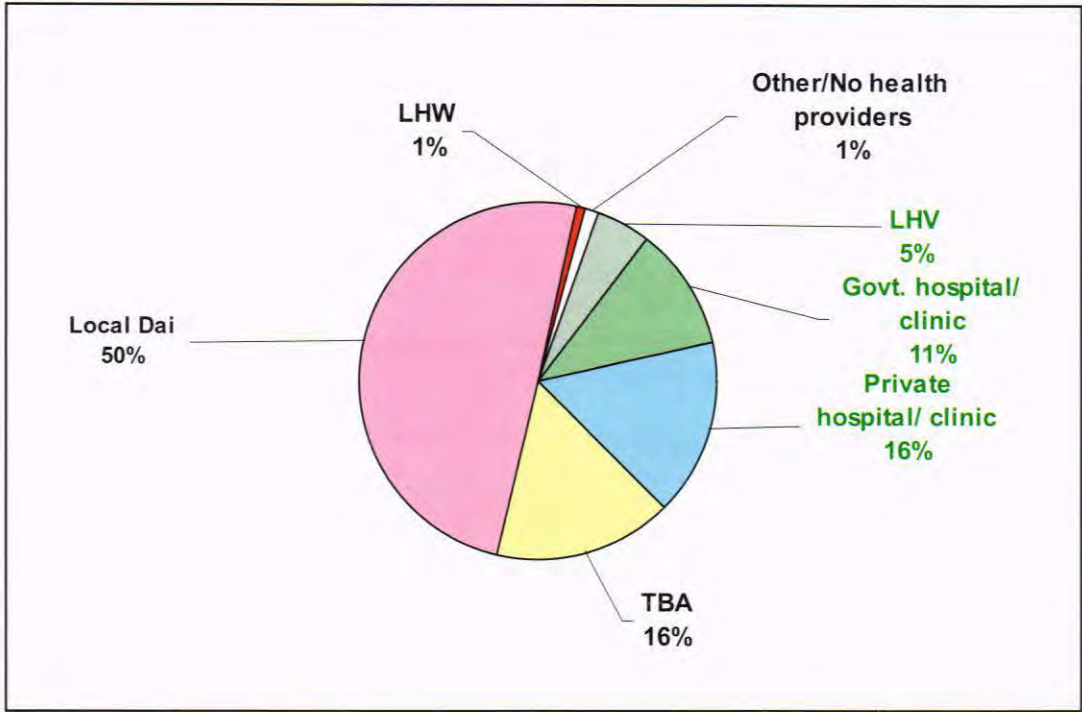
Just over one-third of women (33%) relied on assistance by a skilled health worker for their deliveries. This varied by city, urban and rural (66%, 44% and 26%). Almost all women were assisted by any health worker.

Table: 21 Birth Care Consultation (%)

	Punjab	Major City	Other Urban	Rural
By skilled health worker	33	66	44	26

Deliveries were mainly with a local Dai (50%) and at a Private Hospital/Clinic (16%) followed by a trained Dai (16%), Government Hospital/Clinic (11%) and Lady Health Visitor (5%)

Figure 13: Birth Care Consultation



Gunj Buksh Town (L), Ravi Town (L), Cantt Area (L) and Rawalpindi had the most consultations for a skilled worker (63% and above) and the least (under 20%) were Bahawalpur, Bhakkar, Muzaffargarh, Lodhran and Rajanpur (see Map 6 for more details)

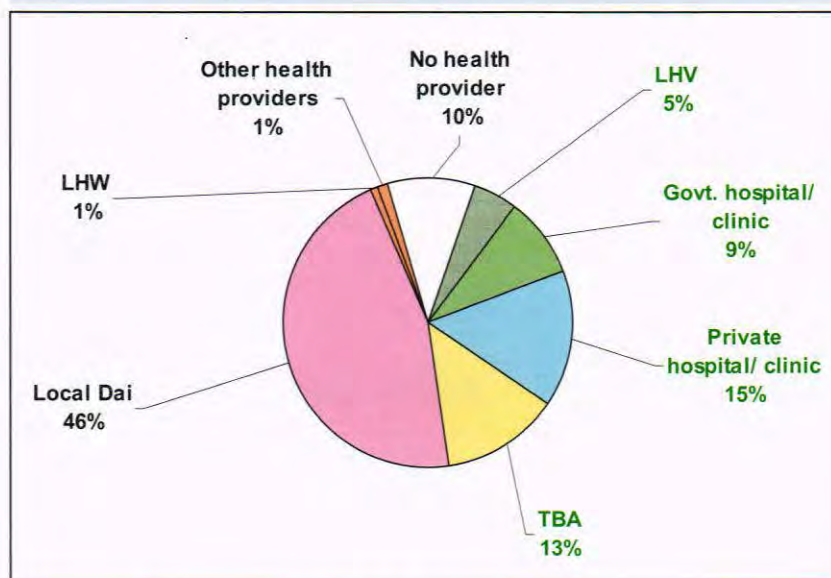
3.4 Post-natal Care

Assistance after delivery has a very similar pattern to that at delivery, but averages a little lower, with 30% using a skilled worker. The question did not indicate how long after delivery this assistance occurred; hence results may be an over-estimate. There is continuing reliance on a local Dai (46% of cases); and 10% of all women have no post-natal care whatsoever (Figure 14).

Table 22: Postnatal Care Consultation (%)

	Punjab	Major City	Other Urban	Rural
By skilled health worker	30	60	40	23
By any Health worker	90	89	87	90

Figure 14: Postnatal Care Consultation



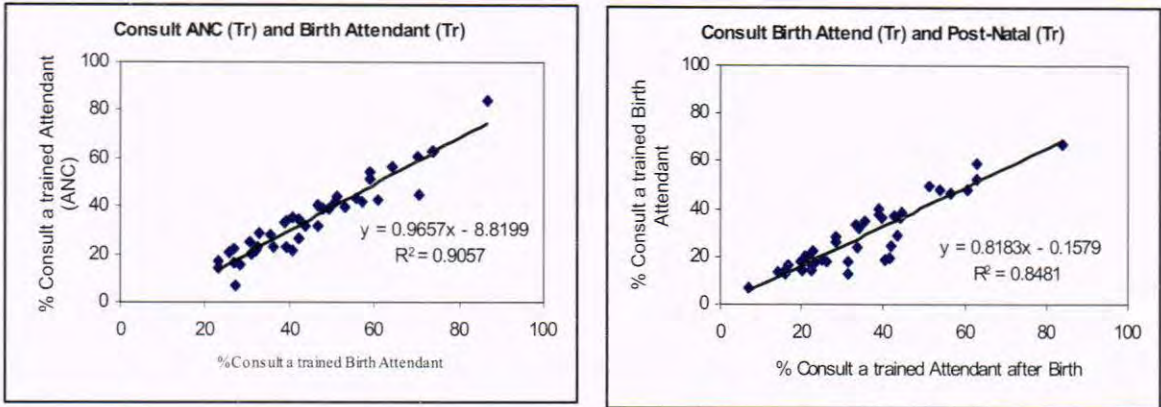
3.5 Relationship between antenatal, birth and postnatal care

It is useful to consider the comparative rates of care throughout the pregnancy-birth and post-birth cycle, by district. The figure shows the relationship between each cycle, according to type of care. The prevalence of skilled care remains about the same throughout. However, if all types of care are considered, this relationship is not apparent.

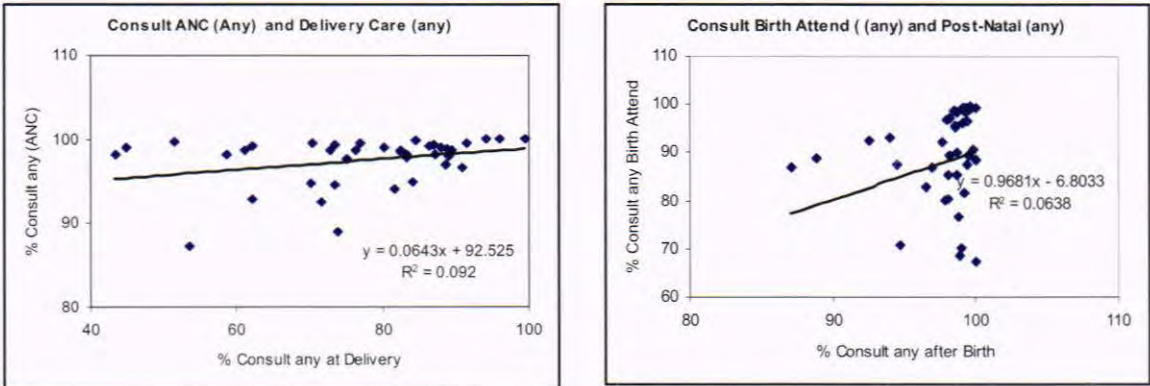
This comparison among districts suggests consultation with a skilled (vs any) health worker ensures better continuity of care. Thus, if a skilled worker is seen for antenatal care, women are more likely to attend a skilled worker during birth and postnatal, even though the rate of attendance may still be low.

Figure 15: Continuity of Maternal Care

Relationship between Consultation Rate for Antenatal,
Birth and Postnatal Care



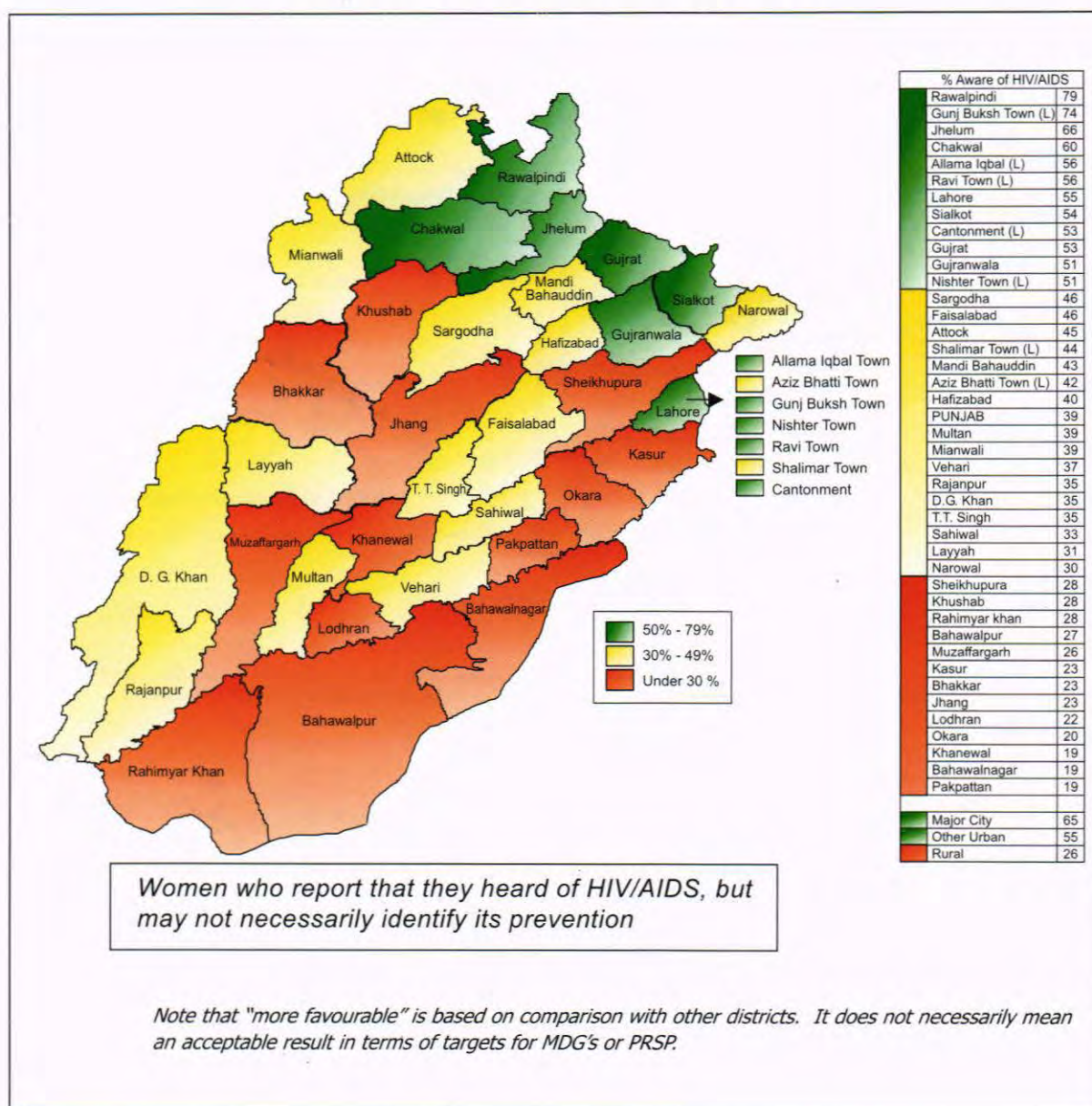
Skilled Health Worker



Any Health Worker

***This comparison among districts suggests
consultation with a skilled (vs any) health
worker better ensures continuity of care.***

Map 7: Women Aware of HIV/AIDS



3.6: HIV/AIDS

Less than half (39%) of all married women aged 15-49 years had heard of HIV/AIDS; 65% in major cities, 55% in other urban and 26% in rural areas. (Table 23). Rates for HIV/AIDS awareness were highest (over 60%) in Rawalpindi, Gunj Buksh Town (L) and Jhelum and lowest (under 20%) in Okara, Khanewal, Bahawalnagar and Pakpattan (Map 7). Awareness levels among the younger age group i.e aged 15-19 were 32%.

Table 23: Knowledge and Awareness on HIV/AIDS (%)

	Punjab	Major City	Other Urban	Rural
% Aware	39	65	55	26
% Know 2 ways to prevent*	69	80	73	62
% State possible for a healthy person to have AIDS virus*	68	76	71	63
% State Teacher with AIDS virus allowed to teach	57	65	59	52

* of those aware

Prevention of HIV/AIDS

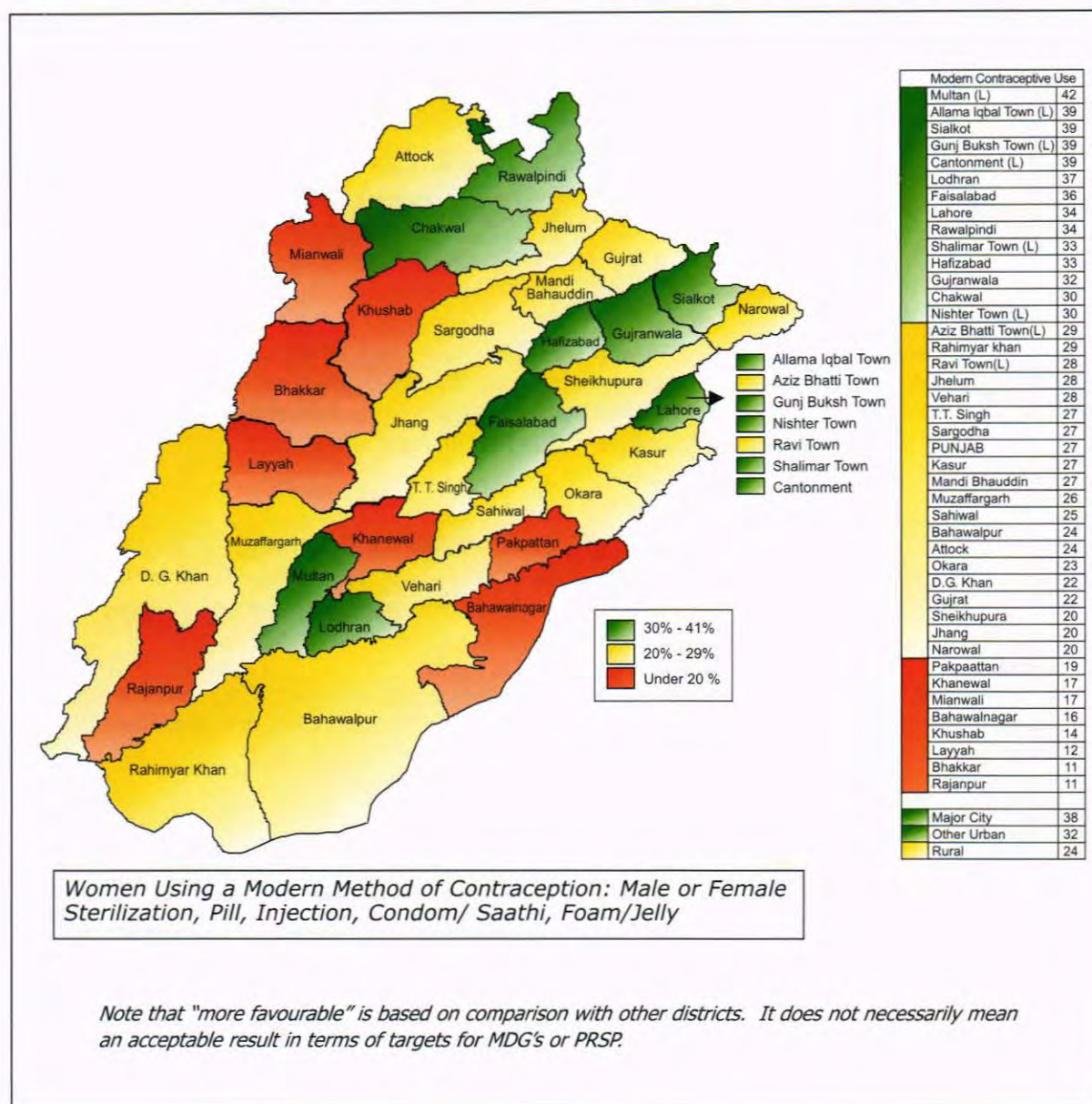
Of those having heard of HIV/AIDS, 69% could identify at least two key ways out of a possible three: safe practices, injections and blood transfusions to prevent HIV/AIDS. This was highest in major cities (80%) as compared with other urban (73%) and rural areas (62%). For Punjab, 82% could identify at least one key way to prevent HIV/AIDS and 50% identified all three ways.

Knowledge and Attitudes to HIV/AIDS

To ascertain the knowledge and attitudes to HIV/AIDS, women who had heard of HIV/AIDS were asked "Is it possible for a Healthy person to have the AIDS virus?" About two-thirds of them (68%) said yes, which suggests correct knowledge about the problems in identifying cases.

They were further asked "If a Teacher has the AIDS virus but is not sick, should he/she be allowed to continue teaching in school?" Over half (57%) said yes, which suggests a lack of discriminatory attitude to people with HIV/AIDS.

Map 8: Women Using a Modern Method of Contraception



4. Contraception and Fertility

4.1 Knowledge and Practices to Avoid Pregnancy

Of all married women aged 15-49 years, 76% indicated they knew something about any method to delay or avoid pregnancy, but far less – 39% stated they had ever used a method.

Table 24: Knowledge and Practices to Avoid Pregnancy

All Married Women	Punjab	Major City	Other Urban	Rural
% Know how to avoid pregnancy	76	89	84	72
% Ever use a method to avoid pregnancy	39	55	47	34

4.2 Current Use of Contraceptives

About one-quarter (27%) of non-pregnant married women aged 15-49 years currently use any modern method of contraception. This varied by city, urban and rural (38%, 32% and 24%).

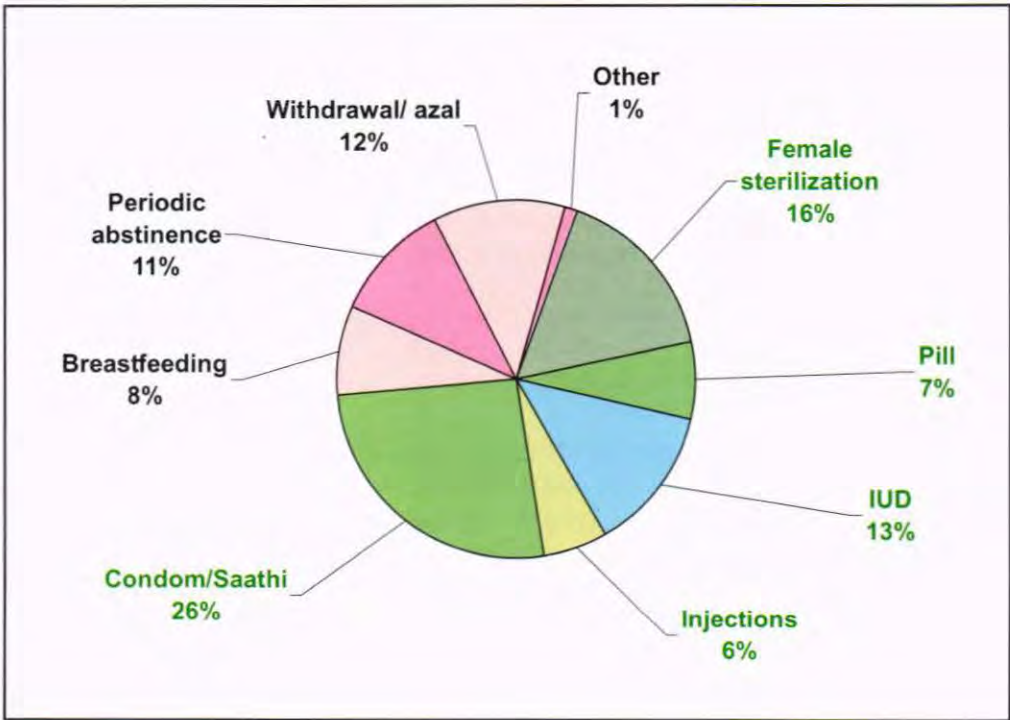
Table 25: Use of Contraceptives

Non-Pregnant Women	Punjab	Major City	Other Urban	Rural
% Modern Methods	27	38	32	24
% Any Method	36	52	43	32

District results range from the highest in Multan, Allama Iqbal Town, Gunj Buksh Town and Cantt Area (Lahore), and Sialkot (39-42%) and lowest in Khushab, Layyah, Bhakkar and Rajanpur (under 15%) - see map. The pattern appears different than the usual banding found for literacy. Levels of modern contraceptive use seem higher in the geographic “southern” areas than those of the geographic “central” areas, although they are still low. The questions for contraceptive use were different for ever users and current users. In some cases this may have led to misreporting (see Technical Notes).

Of all methods currently used by non-pregnant women, the most popular is condom/sathi (26%), female sterilization (16%) and IUD (13%), followed by withdrawal/azal (12%), periodic abstinence (11%), breast feeding (8%), pill (7%) and injections (6%) – Figure 16. It may be noted that breast-feeding is not an effective method unless it is exclusive and sustained.

Figure 16: Contraceptive Method Currently Used



4.3 Fertility Rates

The information on fertility was collected on the number the children ever born for all mothers aged 15-49 years at the time of survey. The Mean number of Children Ever Born (MCEB) or average number of total births per women aged 15-49 years (in 5 year intervals) indicates their birth history at one point in time.

For all women aged 15-49, the MCEB is 2.32, slightly less than that reported by the PRHFPS. (Table 26) Women in their early 30's have an average of 3.49 births, rising to 6.03 births for women aged 45-49 years. The MCEB was lowest in major cities and highest in rural areas. The MCEB for women towards the end of their childbearing, such as those aged 45-49 years, reflects a type of cumulative fertility over their reproductive lifetime²⁰. In the table, these represent the column under 45-49 years - i.e. 6.03 for Punjab compared with 6.47 for the PRHFPS. This is highest in rural areas (6.19) and lowest in major cities (5.43).

Table 26: Mean Number of Children Ever Born

Mean number of children ever born (MCEB) - to all women by age group - Punjab								
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	Total
MICS	0.05	0.59	1.99	3.49	4.78	5.41	6.03	2.32
PRHFPS	0.07	0.78	2.22	4.20	5.27	6.23	6.47	2.50

PRHFPS: Pakistan Reproductive Health and Family Planning Survey 2000-01

Mean number of children ever born (MCEB) - to all women by age group by area								
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	total
PUNJAB	0.05	0.59	1.99	3.49	4.78	5.41	6.03	2.32
Rural	0.06	0.66	2.05	3.54	4.80	5.48	6.19	2.39
Other Urban	0.03	0.47	1.98	3.52	4.99	5.46	5.94	2.27
Major City	0.02	0.43	1.73	3.20	4.45	5.06	5.43	2.02

Total Fertility Rate

The Total Fertility Rate (TFR) indicates how many children women are currently having. It is compiled from the Mean Number of Children Ever Born by age groups of women from 15-19 to 45-49, over a given time period, usually the past four years.

Indirect estimates for Total Fertility Rate (TFR) were derived, as it was not possible to collect information on the complete birth history for each woman. The Arriaga method was used to arrive at a TFR of 4.70, which compares well with the results obtained for Punjab from the Pakistan Reproductive Health and Fertility Survey (4.77). For Punjab, Age-Specific Fertility Rates (births per 1000 women) by five year intervals and Total Fertility Rate for 15-49 year olds are shown in Table 27. Fertility peaks at age group 25-29 (263 births per 1000 women). The experience of young women up to the age of 30 years is conventional to reflect estimates of current fertility derived from the past fertility levels.

The results for MCEB and indirect estimates of Total Fertility Rates by Punjab, major areas and Districts are included in the Annex Tables. For more details, refer to Technical notes in the Annex. The estimates of Indirect TFR range from 4.0 to 8.9 children per women. The lowest levels of indirect estimates of TFR appear to be for Attock, Guj Buksh Town, Khushab and Chakwal and the highest for DG Khan, Lodhran and Layyah districts. The differentiating factors for this difference could be explained by the varying degree of both socio economic development levels and in the use of family planning services.

Table 27: Age Specific and Total Fertility Rates

Age Groups	Age Specific*
15-19	66
20-24	218
25-29	263
30-34	200
35-39	116
40-44	55
45-49	17
TFR	4.70
* Based on adjustment factor for the age group 25-29 years	

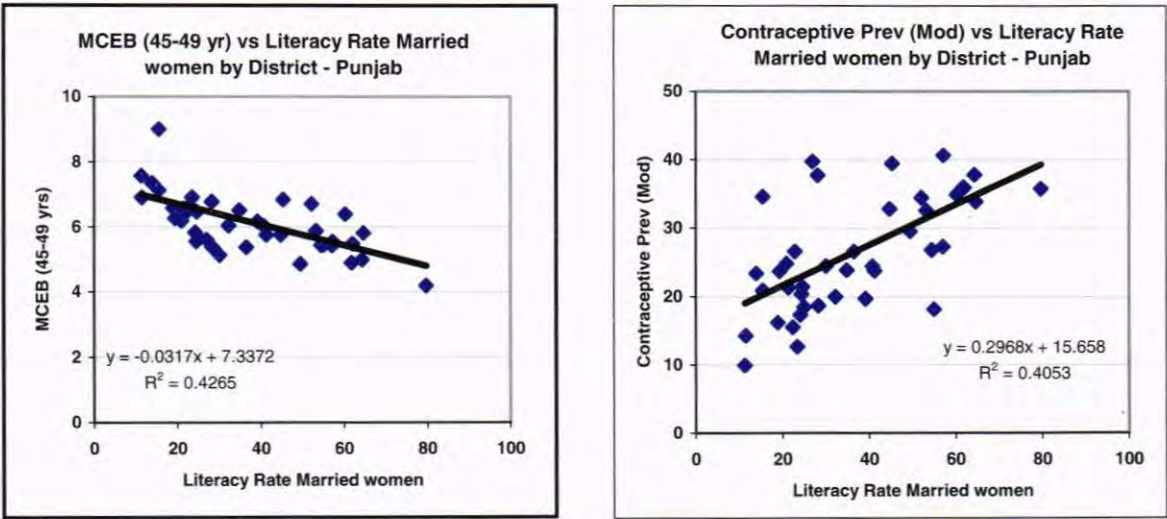
²⁰This cumulative fertility covers the lifetime reproductive performance of mothers and hence is limited to past fertility levels. It also has the limitation of possible understatement of children ever born due to recall problems of mothers at older age groups.

The relationship between MCEB (45-49 years) and indirect estimates of TFR by District is moderate, with a correlation coefficient (R^2) of 0.65.

However, there is no relationship between the district results for either percent of contraceptives used (either modern or any) with MCEB (45-49 years) or modified TFR. One explanation may be that the survey did not ask about the frequency or duration of contraceptive use, important factors related to fertility.

It is noteworthy that both MCEB (45-49 years) and Contraceptive Prevalence Rates are both moderately correlated with the literacy Rate of Married Women using district results (see figures below).

Figure 17: Correlation between MCEB, Contraceptive Prevalence and Literacy



5. Child Health

5.1 Under-Five and Infant Mortality Rates

The Millennium Decade Goal 4 is to reduce by two-thirds, between 1990 and 2015, the Under Five Mortality Rate (U5MR). The reduction in Infant Mortality Rate (IMR) by the same extent is implied. These indicators are also crucial to assess levels of human development

The Under Five Mortality rate is the probability of a child dying before its fifth birthday. The Infant Mortality Rate is the probability of the child dying before its first birthday. In MICS, Under Five and Infant Mortality rates are calculated based on indirect estimation techniques. The Brass method requires three types of data according to five year age intervals for women aged 15 to 49²¹ as follows: the Mean Number of Children Ever Born (MCEB) and the proportion of these children who are dead and the total female population of reproductive age.

The data used for this estimation is presented in Table 28 below. The last two columns i.e sex ratios of births and deaths - help to validate the data, with expected results of about one. The technique converts these data into probabilities of dying by taking account of both the mortality risks to which children are exposed and their length of exposure to the risk of dying. The mean number of children ever born (MCEB) rises from 0.05 among all women aged 15-19 years to 6.08 for those aged 45-49 years. The proportion of children dying/woman also rises from 0.01 in younger to 0.75 in older women, reflecting the increase in MCEB. The proportion of children dead of those born is about 0.10 (range 0.09 - 0.12) for all women's age groups. Sex ratios at birth (males/females) have a range 1.07 to 1.10, and for deaths range from 1.04 to 1.39. The Pakistan Demographic Survey of 1999 also reported a similar finding for Punjab - birth ratio of males/females as 1.08 and death ratios (0-4 years) of males/females as 1.26.

Table 28: Basic Information Required for Indirect Estimates of IMR and U5MR

Women information			Estimates				Sex ratios	
Women's age ranges	Number of all women	% Age distribution	MCEB/ all women	Proportion survivors/ women	Proportion died/ women	Children dead/born	Born boys/girls	Died boys/girls
15-19	11,990	25.6	0.05	0.04	0.01	0.12	1.07	1.04
20-24	9,241	19.7	0.59	0.54	0.05	0.09	1.07	1.39
25-29	6,992	14.9	1.99	1.82	0.19	0.09	1.10	1.22
30-34	5,821	12.4	3.49	3.13	0.36	0.10	1.06	1.05
35-39	5,756	12.3	4.78	4.27	0.52	0.11	1.06	1.17
40-44	4,204	9.0	5.41	4.84	0.60	0.11	1.09	1.22
45-49	2,889	6.2	6.03	5.33	0.75	0.12	1.08	1.11
	46,893	100.0	2.32	2.08	0.25	0.11	1.08	1.16

MCEB: Mean number of Children Ever Born

Mortality estimates were obtained using the United Nations QFIVE program. Based on previous estimates of infant and child mortality for Pakistan, the South Asia model life table was selected as most appropriate.

²¹ In Pakistan, these are eligible women (ever-married, aged 15-49 years)

²² The Direct method identifies the exact age at death, a major advantage over the indirect. However, it is sensitive to errors for exact ages at death, often difficult to derive in populations like Pakistan.

The data indicate that the Under- Five Mortality rate (U5MR) was 112 per 1000 and the Infant Mortality Rate (IMR) was 77 per 1000 live births between the years from 1997 to 2001 (Table 26).

This is lower than the results reported in the recent Pakistan Integrated Household Surveys (PIHS) for Punjab, although that survey used a different method (direct)²².

There are differences between rates in major cities as compared with other areas. For U5MR, these differences are probably significant (allowing for a confidence interval of +/- 20)²³.

Children of illiterate mothers have expected higher mortality rates than of literate mothers. There are no major sex differences.

Table 29 : Young Child Mortality Rates Punjab (weighted)

Averaged over the period from 1997-2001

	U5MR	IMR
PUNJAB	112	77
Rural	119	82
Other Urban	107	74
Major City	75	55
SEX		
Male	118	81
Female	105	73
MOTHER		
Illiterate	129	87
Literate	76	56
IMR: Infant Mortality Rate: Number of infant deaths per 1000 live births		
U5MR: U5 Mortality Rate: Number of deaths of children aged Under 5 years per 1000 live births		

It is useful to consider the rates by period, with some caution in the indirect method, which relies on correct women's ages and a stable fertility (Figure next page).

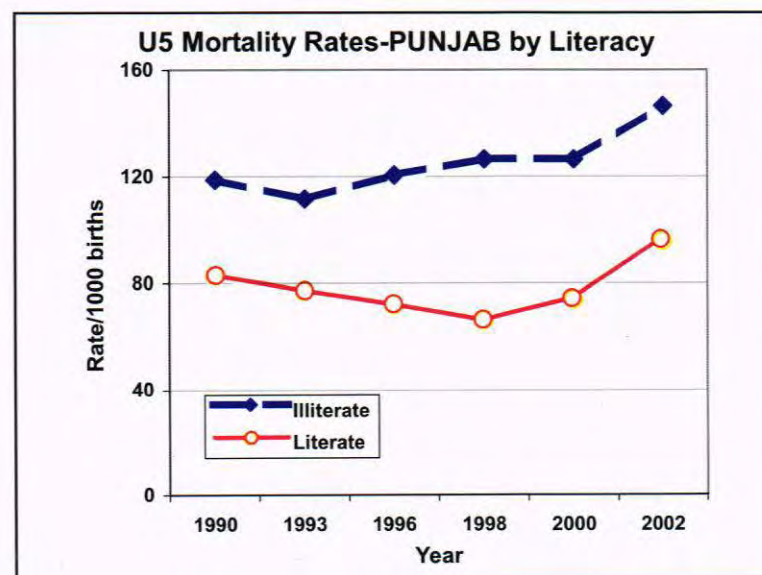
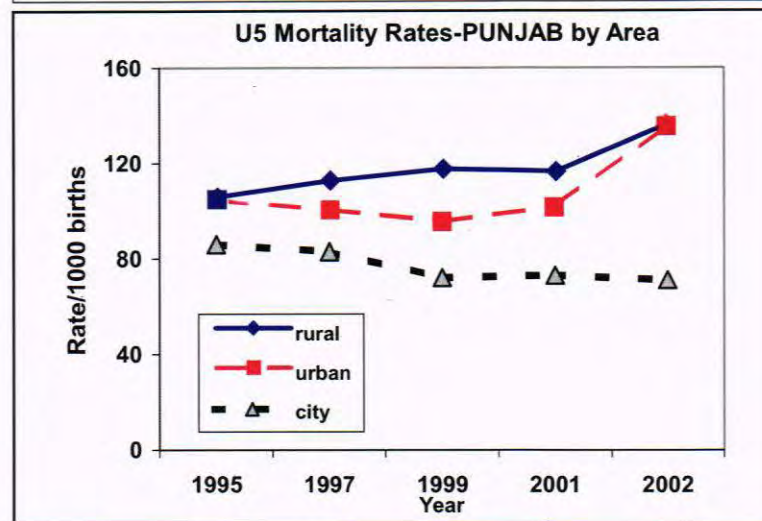
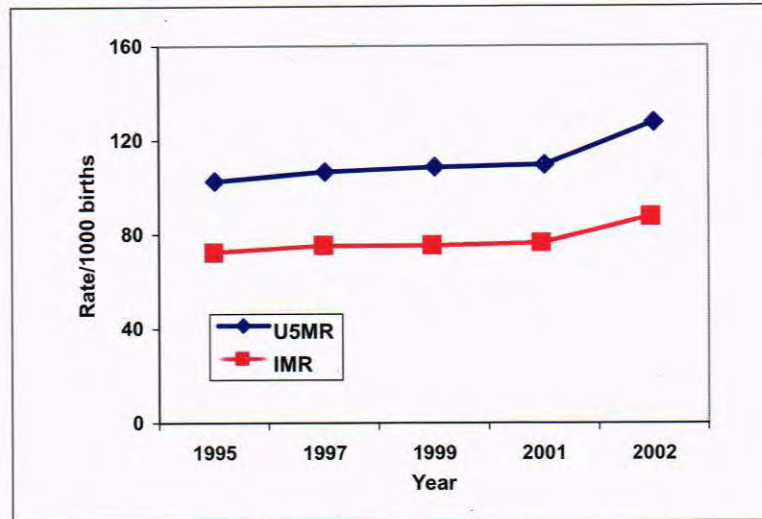
The years 1995 and 2002 (marked in decimals, by the programme output) correspond to an age range of women from 40 to 24 years²⁴

The first figure (for Punjab) shows little change by women's age group and year. The lower figure suggests that the rates for Under Five Mortality in major cities may tend to be reducing, unlike that for the other areas. This very important finding needs full verification through follow up studies (Figure 18)

²³ This interval is guided by the sample sizes and projected ranges, given the prevalence of about 10% or 10 per 1000.

²⁴ The results from the oldest (45-49) and youngest (15-19 years) age groups have been excluded as these appear the most unstable. Added reasons for exclusion of the 15-19 years data are the relatively low sample sizes.

Figure 18: Young Child Mortality Rates- PUNJAB



District Results

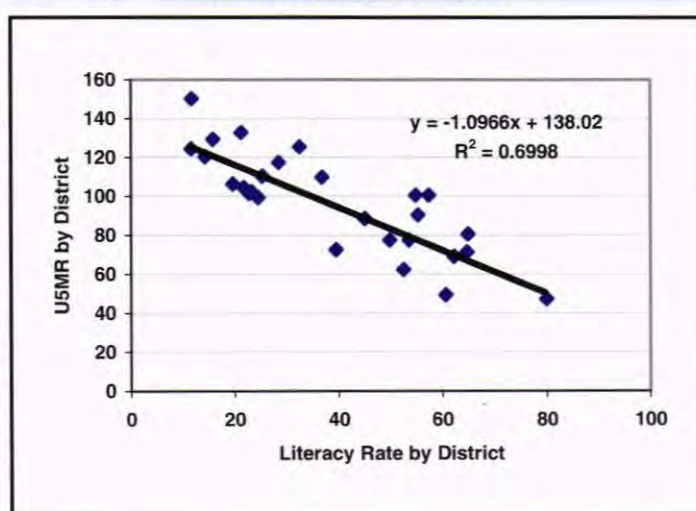
Results by district cannot be fully compared owing to expected wide confidence intervals, because of small sample sizes as compared with Punjab and major areas (rural, other urban and major city). However, attention can be directed to extreme difference, such as an U5MR in Sialkot and Lahore less than 70/1000 compared with Lodran, Okara, Sahiwal, Khanewal and Pakpattan. Five problem districts had an unexpectedly very low (Hafizabad, Layyah) or very high (Rawalpindi, Sheikhpura and M. Bahauddin) results for U5MR, also reflect in the IMR. However, other district results may have problems but not as striking as the above.

Attempts were made to adjust these “unexpected results”, using acceptable procedures, recognizing that any proxy is not a true replacement of the “true” result. One approach was to select the result from a neighbouring district with similar background (using a combination of other key indicators (e.g. literacy, education, improved water sources, etc) and use this as a proxy for the problem district or consider a group of districts (such as a “region”) and use their average result. However, it was difficult to form a reliable basis for selection.

A standard approach was to determine variables highly correlated with the U5MR and IMR, such as adult literacy and adjusts the mortality rates accordingly. After exploring the relationship between U5MR and adult literacy, mother’s literacy, primary school attendance, under-nutrition rates and adequate sanitation, that for mother’s literacy was chosen.

The figure shows a high correlation between Mothers’ Literacy rates and U5MR by districts ($R^2 = 0.70$ or $R = 0.83$). The formula relating Mothers’ Literacy to “predict” U5MR was applied to all districts. The results of the change can be seen in the reference to the five “problem” districts in Map 9.

Figure 19: U5MR and Literacy Rate of Married Women 15-49 year



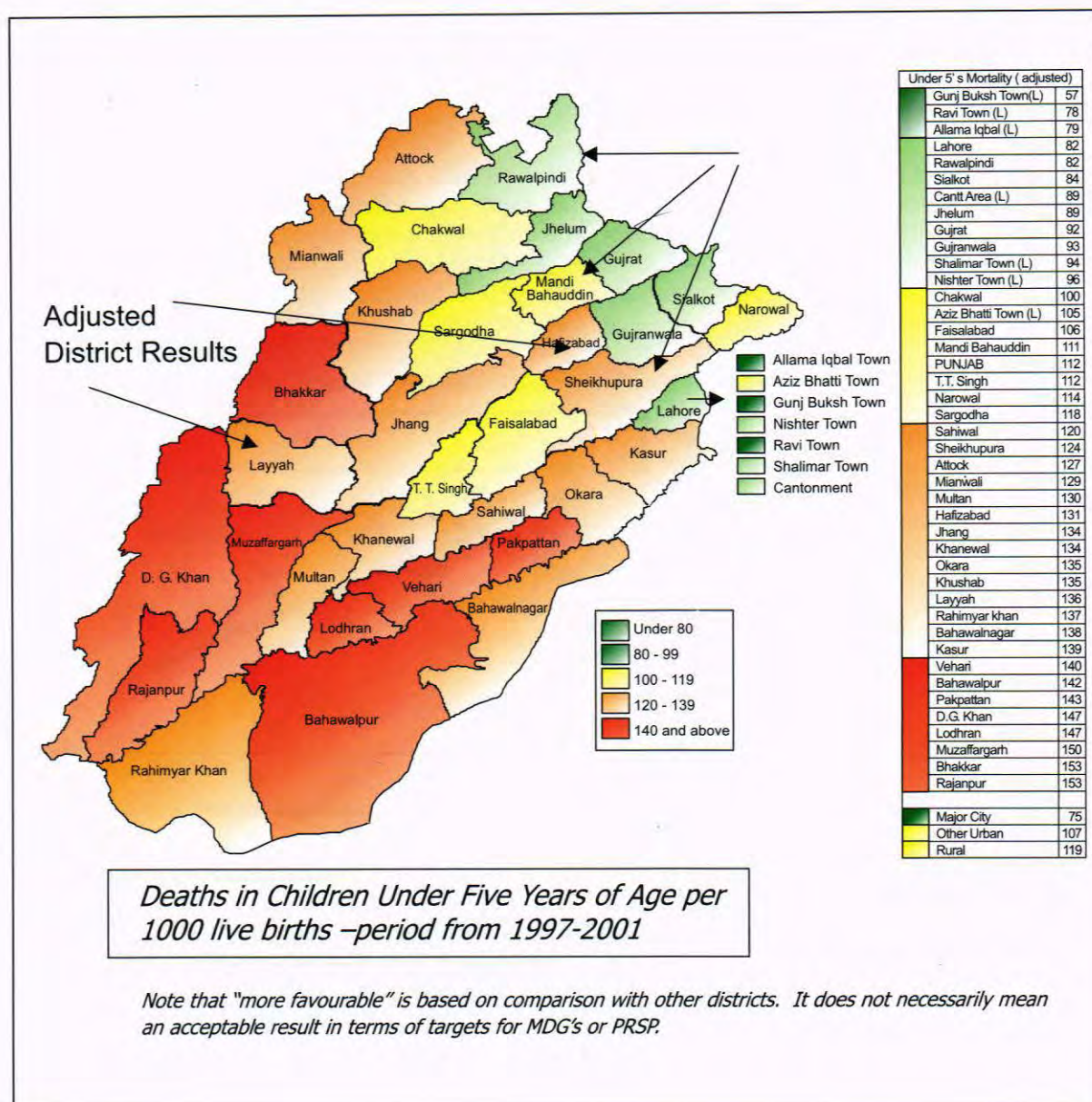
Three Lahore Towns (Gunj Buksh, Ravi and Allama Iqbal Towns) now have the lowest U5MR - less than 80/1000 live births. Districts with the highest U5MR (140/1000 live births and over) include Vehari, Bahawalpur, Pakpattan, D.G.Khan, Lodhran, Muzaffargarh, Bhakkar and Rajanpur. A similar procedure was applied for Infant Mortality rates, with the results shown in Map10.

Annex Tables compare the original with the predicted results for U5MR and IMR. The Technical notes provide more details for the rationale.

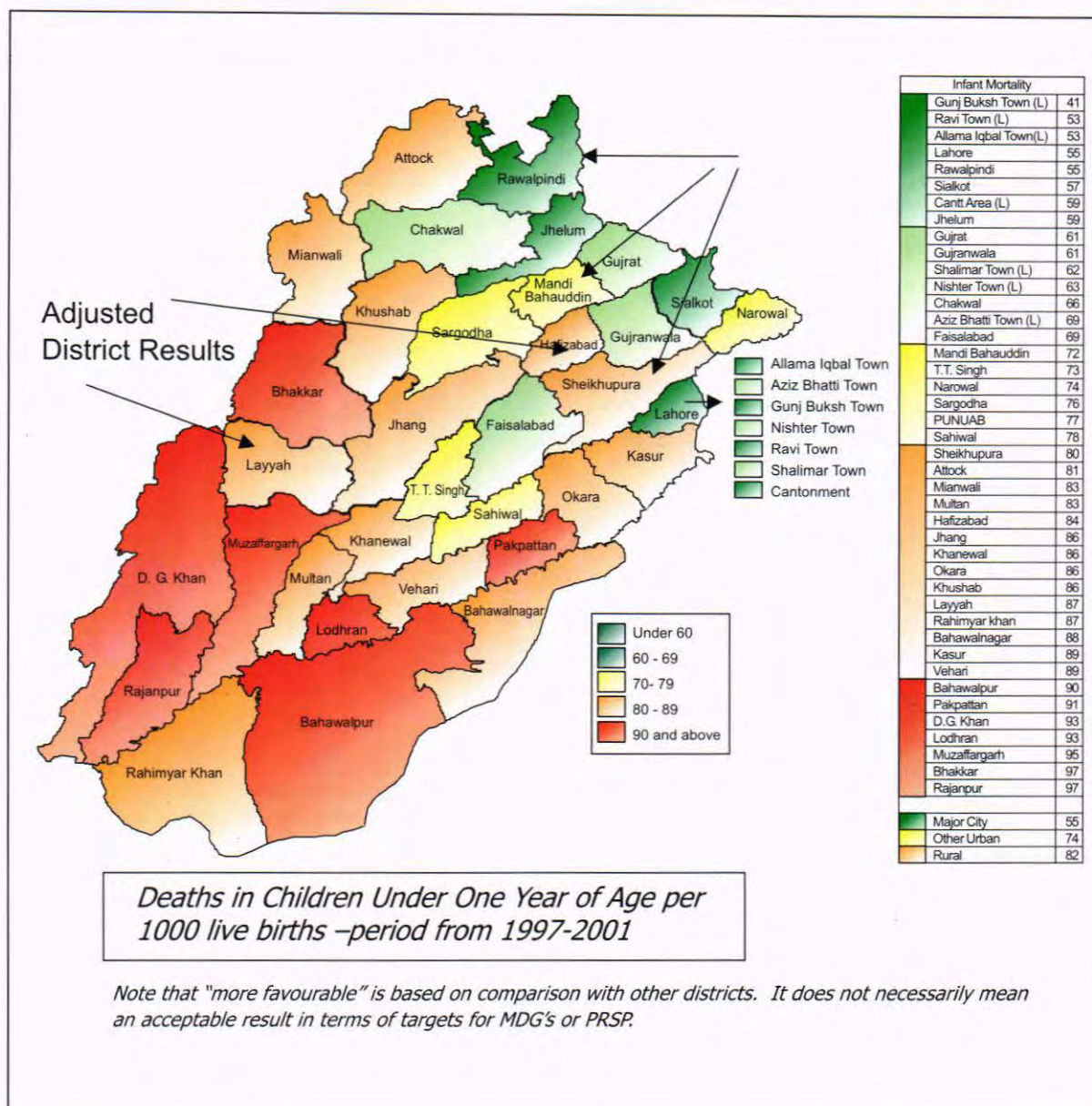
²³ This interval is guided by the sample sizes and projected ranges, given the prevalence of about 10% or 10 per 1000.

²⁴ The results from the oldest (45-49) and youngest (15-19 years) age groups have been excluded as these appear the most unstable. Added reasons for exclusion of the 15-19 years data are the relatively low sample sizes.

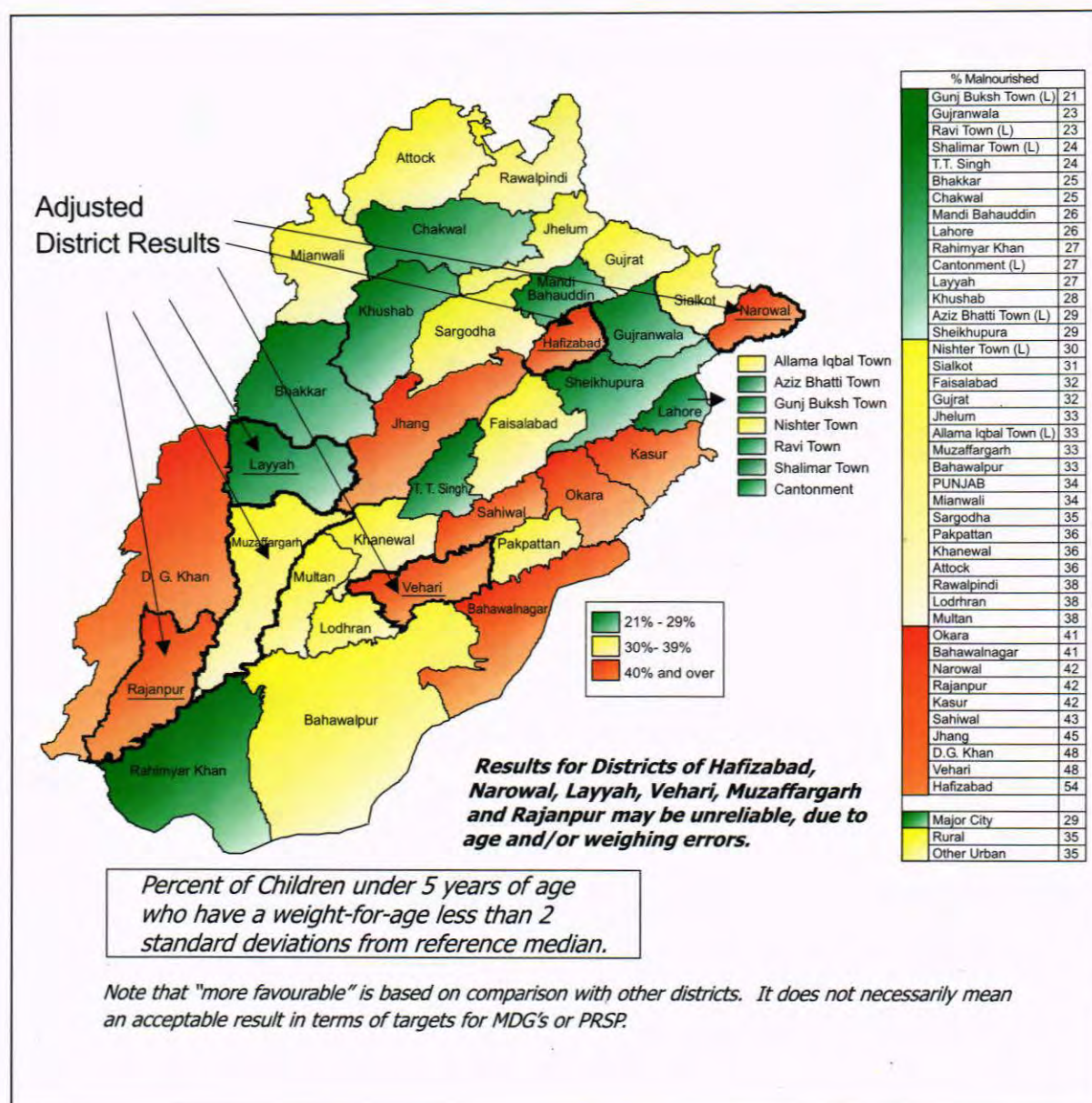
Map 9: Under Five Mortality Rate
(Using Literacy Rate of Eligible Women as a Predictor for All Districts)



Map 10: Infant Mortality Rates
(Using Literacy Rate of Eligible Women as a Predictor for All Districts)



**Map 11: Children Under Five years of Age Who are Malnourished
(Underweight-for-Age)**



5.2 Underweight Prevalence (Young Child Malnutrition)

The extent of underweight (also termed nutritional status) in a population of children aged Under-5 years is a reflection of their overall health and well-being. When children have no access to an adequate food supply, are exposed to repeated illness and lack care, they fail to reach their growth potential and are considered undernourished or malnourished.

The prevalence of underweight in children under five years of age is a key indicator for the MDG Goal 1: to eradicate extreme poverty and hunger. It has a special significance as the only indicator in this group pertaining to children. The others, dietary supply and income/consumption, are based on the total population.

In Punjab, one-third of children (34%) less than five years of age were underweight for their age. This compares with results for Punjab of 35% from the National Nutrition Survey 2001-2, for children aged 6-59 months. There are no major differences by area or gender. (Table 30)

Table 30: Underweight Prevalence (%)
Children Under 5 Years

Punjab	Punjab	Major City	Other Urban	Rural
Boys	36	31	37	37
Girls	33	28	33	34
Total	34	29	35	35

WHO has stated that a prevalence of over 30% indicates a very serious public health problem²⁶. As many as 25 of the 34 districts in Punjab are in this group²⁷. Further, within districts, there will be groups with unacceptably high rates of malnutrition.

District results vary widely, ranging from 48% in DG Khan (data from Hafizabad and Vehari districts, which have results of 54% and 48% are probably unreliable) to 21% in Gunj Buksh Town (see Map on opposite page). In the map, levels of underweight prevalence by geographic groups have a different pattern to that of literacy. Some districts in the central band for Punjab (in relation to north-south) have the highest under nutrition prevalence rates. As this indicator is sensitive to the precise age of the child, part of the reason may be due to the difficulty in acquiring precise age of the child (to the nearest month), which is required for proper estimation of underweight-for-age (see also later section on acceptable weights and ages)²⁸.

According to age, the lowest prevalence is in infants aged 0-5 months (23%). This increases at 6-11 months to 37% and remains at that level up to 5 years of age. Results relate to the age at which many children cease to be breastfed and/or fail to receive appropriate solid/semi-solid foods, while exposed to contamination in water, food, and environment. It is noteworthy that this survey found less than half the children received complementary foods in later infancy, i.e. in addition to breastfeeding. It is useful to refer to results from the National Nutrition Survey 2001-2 for the prevalence of stunting (which reflects chronic under nutrition) at 32% and of wasting (which reflects acute under nutrition) at 12% in Punjab. This reinforces the scope of the problem of malnutrition in young children, which undermines human development and contributes directly to young child mortality.

²⁶ Malnutrition is due to a combination of factors – inadequate feeding, illness and poor care being the immediate; low household food availability, health services and unsuitable environment (e.g. unclean water and inadequate sanitation) the underlying causes and poverty a major the basic cause.

²⁷ Even most of the other 10 districts have a serious problem of malnutrition (25% or higher prevalence).

²⁸ Results for Districts of Hafizabad, Narowal, Layyah, Vehari and Rajanpur may be unreliable, due to a relatively high percent of missing values (more than 30%) and/or precise age or weighing imprecision. Imprecision would occur when the results of weight are recorded to the nearest kilogram, instead of the nearest decimal (0.1 Kg).

Acceptable Weights and Ages

Acceptable weights and precise ages (to the nearest month) were achieved in over 80% of children, due in part to suitable probing which included a calendar of events. In some districts (e.g. Shalimar Town (L), Cantt Area (L), Aziz Bhatti Town (L), Gujrat and Rahimyar Khan) precise age was determined in over 95% of children; in others (Muzaffargarh, Vehari, Sahiwal, Layyah, Khanewal and Multan) this was less than 70%. In the latter districts, results for underweight should be interpreted with caution, due to the absence of 30% of children from the estimation. See Technical Notes in Annex J (pp 42-43) for more details.

Explanation of the Method for Deriving Nutritional Status.

In a well-nourished population, there is a reference or standard distribution of height and weight for children under age five. Malnourishment in a population can be gauged by comparing children to this standard distribution. The standard or reference population used is that recommended by UNICEF and the World Health Organization. Nutritional status indicators are expressed in standard deviation units (z-scores) from the median of this reference population²⁹. Weight for age is a measure of both acute and chronic malnutrition. Children whose weight for age is more than two standard deviations below the median of the reference population are considered moderately or severely underweight while those whose weight for age is more than three standard deviations below the median are classified as severely underweight.

²⁹ The reference population was derived from the surveys in the USA during the 1970's and represents a population of children with adequate health and diet. For the MICS, each child's weight was compared with the reference child's weight with the same age and sex. If the result is less than 2 standard deviations below that of the reference, the child is deemed malnourished (see figure 20 for further details)

Figure 20: Weight-for-Age Distribution

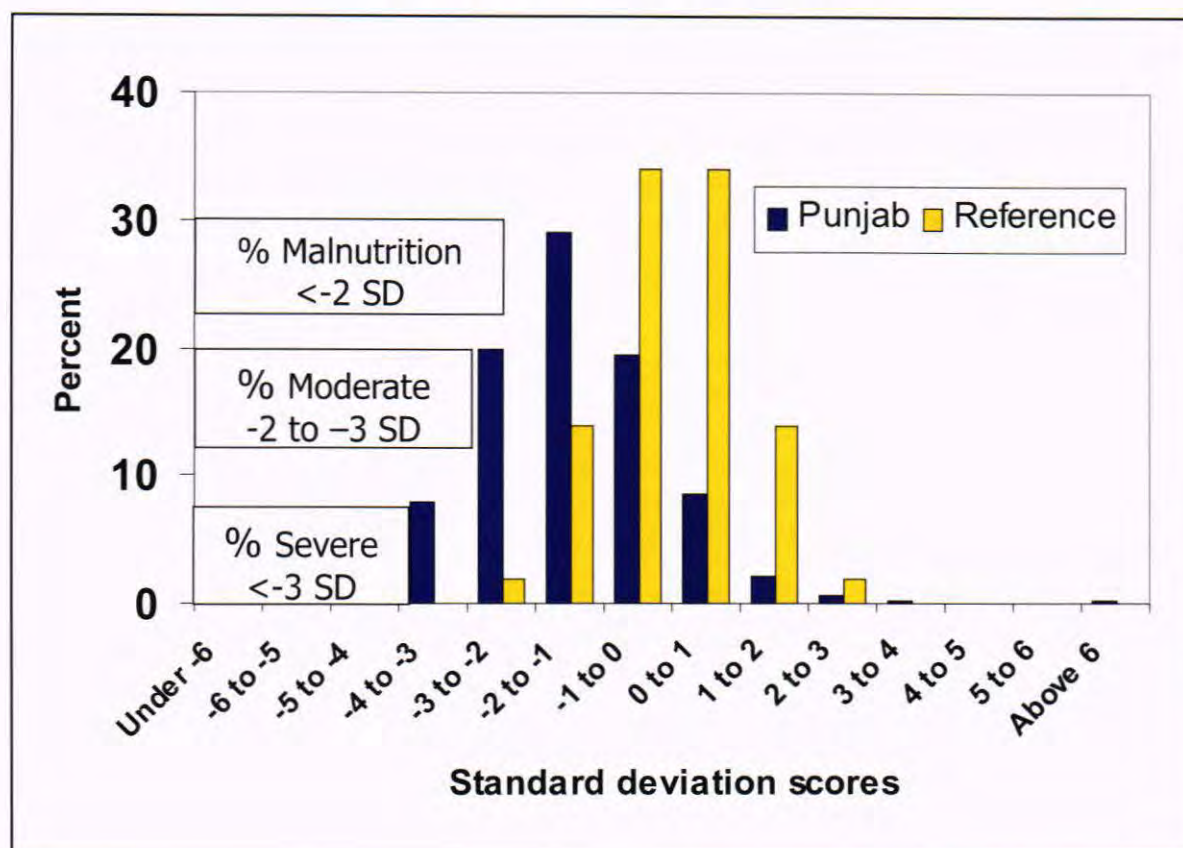


Figure 20 shows the distribution of the results for Punjab compared with the reference population. The vertical axis is the percentage of the population, the horizontal axis the standard deviation (SD or “z” score) values. These SD’s have been derived from the reference population whose results have a mean of zero and a standard deviation of 1. In this reference curve, -2 SD’s represent the cut-point for undernutrition or malnutrition (or under-weight for age). Hence the cumulative percent below -2 SD (in yellow) is the percent of the reference population, which is malnourished (2.3%)³⁰. For Punjab, the same criteria, below -2SD, (in blue) represents the percent malnourished for the province. The area below -2SD can be further divided in -2 SD to -3 SD representing “moderate malnutrition” and below -3 SD for “severe malnutrition”.

Note that the distribution for Punjab has a “normal” distribution with the tails gradually reducing in size. The same appropriate distribution was found for almost all districts and is good evidence that both the weights and ages were accurately determined.

5.3 Exclusive Breastfeeding

For Punjab, 30% of infants aged 0-5 months were exclusively breastfed in the past 24 hours.. Results appear more acceptable than the recall of mothers with children aged up to 2 years of age , in which 81% were found to be “exclusively” breastfed.

Breast, Bottle and Complementary Feeding

The percent of breastfeeding at 12-15 months of age is meant to reflect that for the end of the first year of age. Results showed that most (75%) of infants were breastfed at this period, with little difference between areas (76% in rural, 73% in other urban and 70% in major cities). (Table 31)

Comparisons among this group and those breastfed during infancy (i.e., from 0 to 11 months of age) show a slight variation of only 3% but the results have a consistent pattern across areas. However, there was major variation by districts, with Layyah and RY Khan having the highest level of breast feeding in infancy (over 95%), with the lowest in Kasur and Sheikhpura (38-40%). In the Cantt area of Lahore, only 18 per cent of mothers breastfed during infancy.

By contrast, over one-third (35%) of infants were bottle fed during the previous 24 hours of the interview, ranging from 45% in the cities to 32% in rural areas. More than half the infants in Cantt and Gunj Buksh Town were bottle fed. Bottle feeding increases the risk of illness and mortality and affects the quality of breastfeeding.

Less than one-half (44%) of infants aged 6-11 months received solid or semi solid (mushy) foods in the last 24 hours. These added foods are needed to ensure proper nutrition. There were major district variations from 75% to 15%.

Table 31: Breastfeeding by Age group

Breastfeeding age group	Punjab	Major City	Other Urban	Rural
12 to 15 months	79	75	76	80
0 to 11 months	78	73	77	79
20 to 23 months	47	39	40	51

5.4 Recent Young Child Illness

Respondents (child’s mother or caretaker) were asked whether the child had diarrhoea, cough with difficult breathing and/or high fever in the past two weeks.

a. Prevalence of Recent Illness

In Punjab, recent diarrhoea was the most common problem, occurring in 22% of children under five years of age, cough with difficult breathing occurred in 15% of children and high fever in 17%. The incidence of the three illnesses was more common in rural areas as compared with major cities. No sex differentials were observed in any area. (Table 32)

Diarrhoea prevalence was highest in DG Khan (52%) and Muzaffargarh (41%) and it was least common in Chakwal and Kasur (10-11%). Diarrhoeal episodes were least common in Lahore. Recent cough was most commonly noted in Muzaffargarh and Rajanpur (over 30%) and least likely in Kasur and parts of Lahore (5% or less). The incidence of high fever ranged from over 45% in D.G.Khan and Layyah and less than 3% in Pakpattan and parts of Lahore (for more details see Summary Table 7 in the Annex).

Table 32: Recent Illness (in the past 2 weeks)

	Punjab	Major City	Other Urban	Rural
Diarrhoea	22	17	21	24
Cough	15	12	15	16
High Fever	17	10	16	19
Episodes of diarrhoea	2.4	1.7	2.2	2.5

While these comparisons only reflect what was occurring during the past 2 weeks, and may differ at another periods, they reflect the extent of the problem, which was 40% for any recent illness in Punjab and underscores the importance of illnesses on child health and nutrition.

b. Number of Diarrhoeal Episodes in the Past Year

The information on the number of episodes is useful as it gives an idea of the extent of the problem over a longer period and overcomes any seasonal problem by considering the most recent period. For Punjab, these episodes averaged 2-3 times, being again more common in rural areas. In districts, the greatest number of episodes in the past year was in Rajanpur (4.1) and the lowest in Lahore (1.2). The relatively high extent of diarrhoea in infants and the peaking in the first year of life (Figure 21) have at least two important implications – the same pattern is found for malnutrition prevalence; as well as the high prevalence of bottle feeding, establishing the importance of exclusive breast feeding at this important early age.

Figure 21 : Recent Illness in Children Under 5 Years - by Age Group

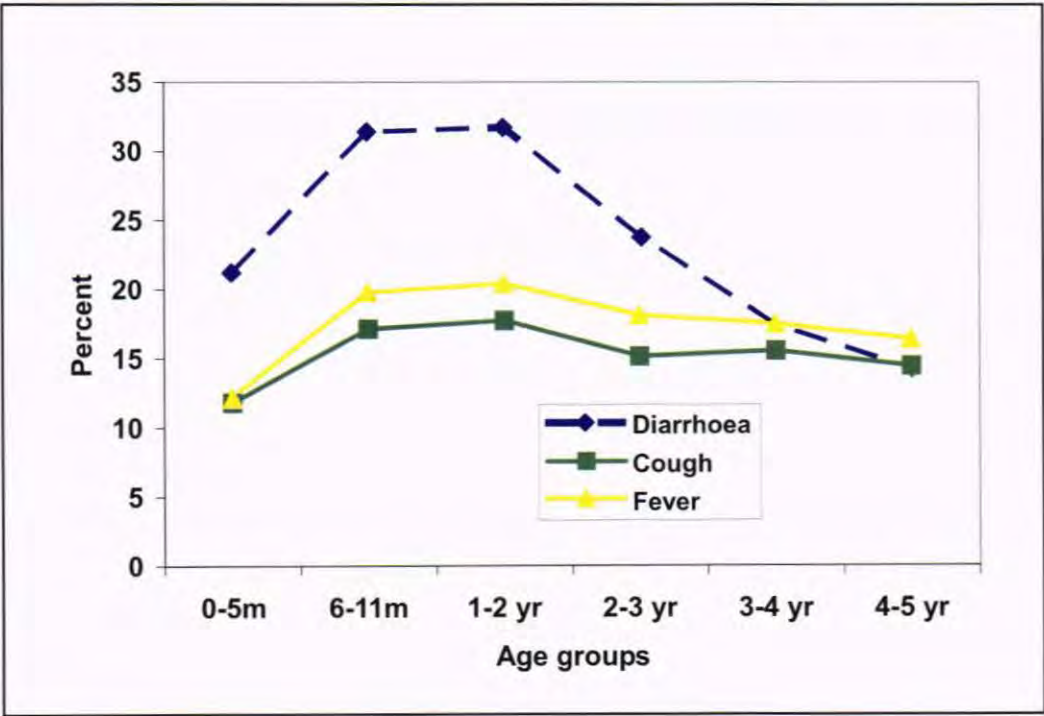
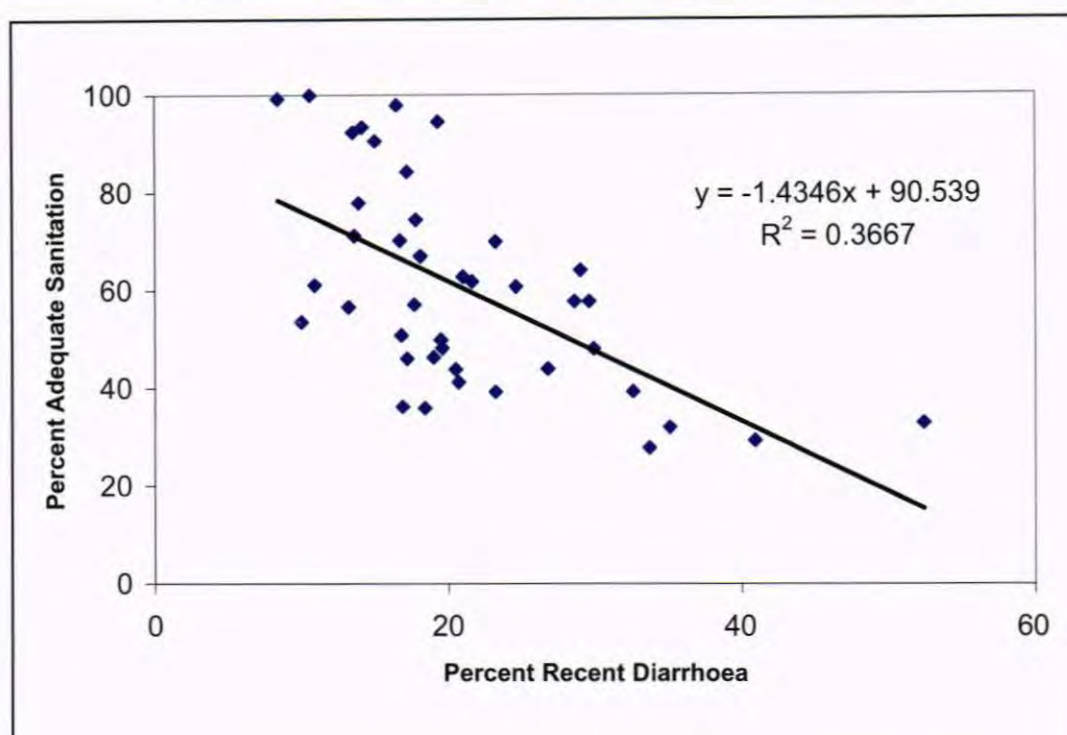


Figure 22 : Adequate Sanitation and Recent Diarrhoea by District



A fair relationship is seen for sanitation and diarrhoea showing that those districts with a greater percent of adequate sanitation tend to have a lower percent of children with diarrhoea (Figure 22). Other factors that influence the relationship, such as mother's interpretation of diarrhoea and its severity, have been discussed previously

c. ORT Use

Of those children with recent diarrhoea, 43% received an ORS packet solution or a salt solution/yoghurt (ORT). Slightly less (37%) received the ORS packet. And 59% received gruel, ORS packet or a salt solution.

Results for areas were almost the same, with a slightly less percent of children in rural areas receiving the recommended therapies. (Table 33). It would appear that about half the children do not receive a proper therapy for diarrhoea. This is essential to prevent dehydration and death as well as to maintain proper nutrition.

Table 33: Children Given Recommended Diet During Recent Diarrhea (%)

	Punjab	Major Cities	Other Urban	Rural
ORS	37	44	43	35
ORS or ORT	43	46	48	40
Gruel, ORS or ORT	59	61	61	59

³¹The Correlation Coefficient of $R^2 = 0.36$ or $R = 0.6$

d. Health Practitioner Consulted for Recent Illness

More than half (59%) of the children with recent illness were taken to a health practitioner, mostly to those in the private sector (40%). Only 19% were taken to a government facility, either a hospital or clinic (14%) or in 5%, an RHC (Rural Health Centre) or BHU (Basic Health Unit).(Table 34).

In rural areas, 36% consulted a private compounder compared with 22% in other urban and 16% in major cities. Of those with any illness, 3% of cases required admission to hospital, indicating the severity/complications of the illness and required response. (Table 34)

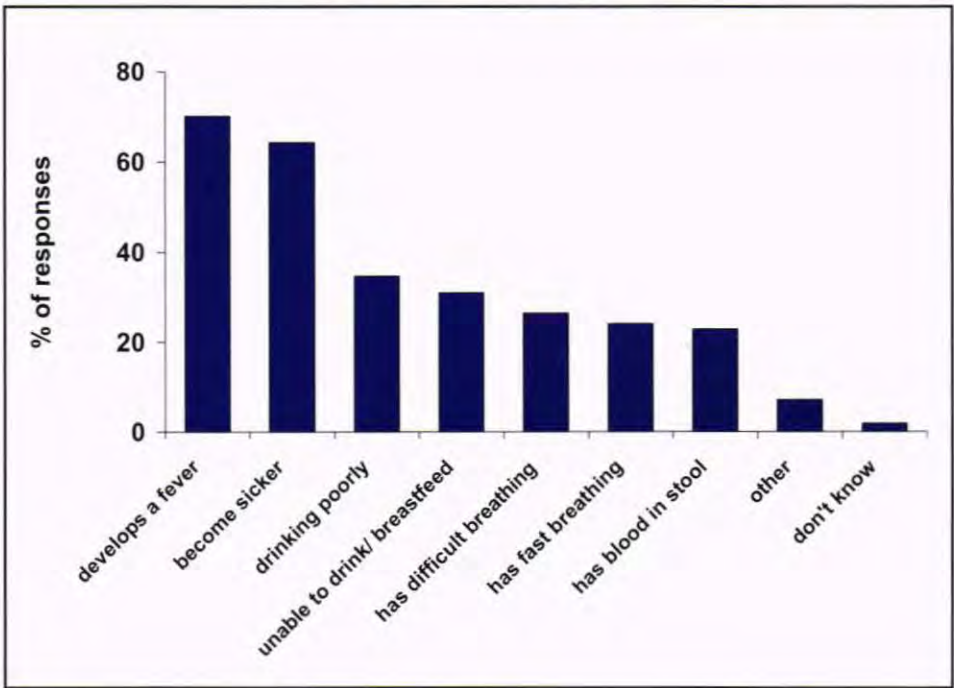
Table 34: Type of Facilities Attended for Child Recent Illness (%)

	Punjab	Major Cities	Other Urban	Rural
Private Doctor	40	55	51	38
Government Hospital/Clinic	14	16	15	14
RHU/BHU	5	1	2	5
Other	1	1	2	1
Private Compounder	33	16	22	36
No one	7	12	8	6
Needed admission to hospital	3	4	4	3

e. Care Seeking Knowledge

Of those who responded to the question to mothers or caretakers about what would be the reasons for taking the child to a health worker, 56% of mothers were able to identify three of the main symptoms of illnesses needing urgent care and 23% of them responded with at least four of the recommended signs. The most common response was “develops a fever” (70%), followed by “becoming sicker” (64%), “drinking poorly” (35%), “unable to drink/breastfeed” (31%), “has difficulty breathing” (26%), “fast breathing” (24%) and “blood in stool” (23%) (Figure. 23).

Figure 23: Signs for Illness Urgent Care



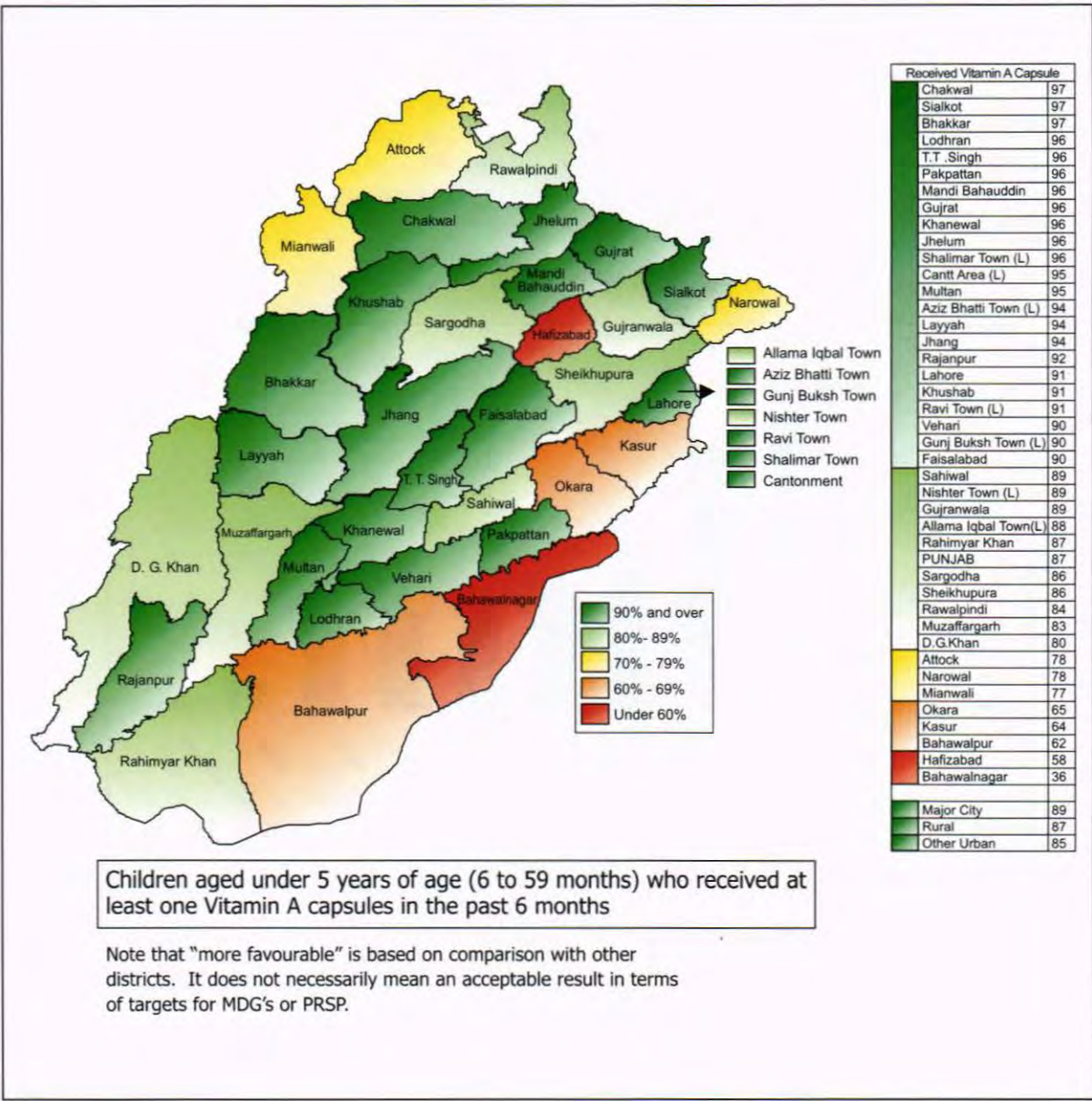
5.5 Prevention of Child Illnesses

a. Vitamin A Supplementation in Children Aged 6-59 Months.

Supplementation with Vitamin A has a demonstrable impact on the reduction of mortality of young children, where Vitamin A deficiency exists. About 87% of children aged 6-59 months had received one Vitamin A capsule. This was almost the same among rural, other urban and major cities. The range for districts (97% in Chakwal, Sialkot and Bhakkar to 36% in Bahawalnagar reflects the programmatic coverage, especially in relation to immunization. In Lahore, the range was from 96% in Shalimar Town to 88% in Allama Iqbal Town. Most of these children had received their capsule in the past 6 months and 94% of the children received Vitamin A supplementation during the National Immunization Days (NIDs). (See Map 12)

It should be noted that some of the extreme results (especially those with low coverage) may require caution in interpretation due to missing responses.

Map 12: Children Under 5 Years Receiving Vitamin A Capsules

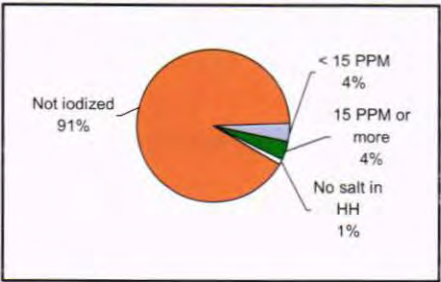


b. Salt Iodization

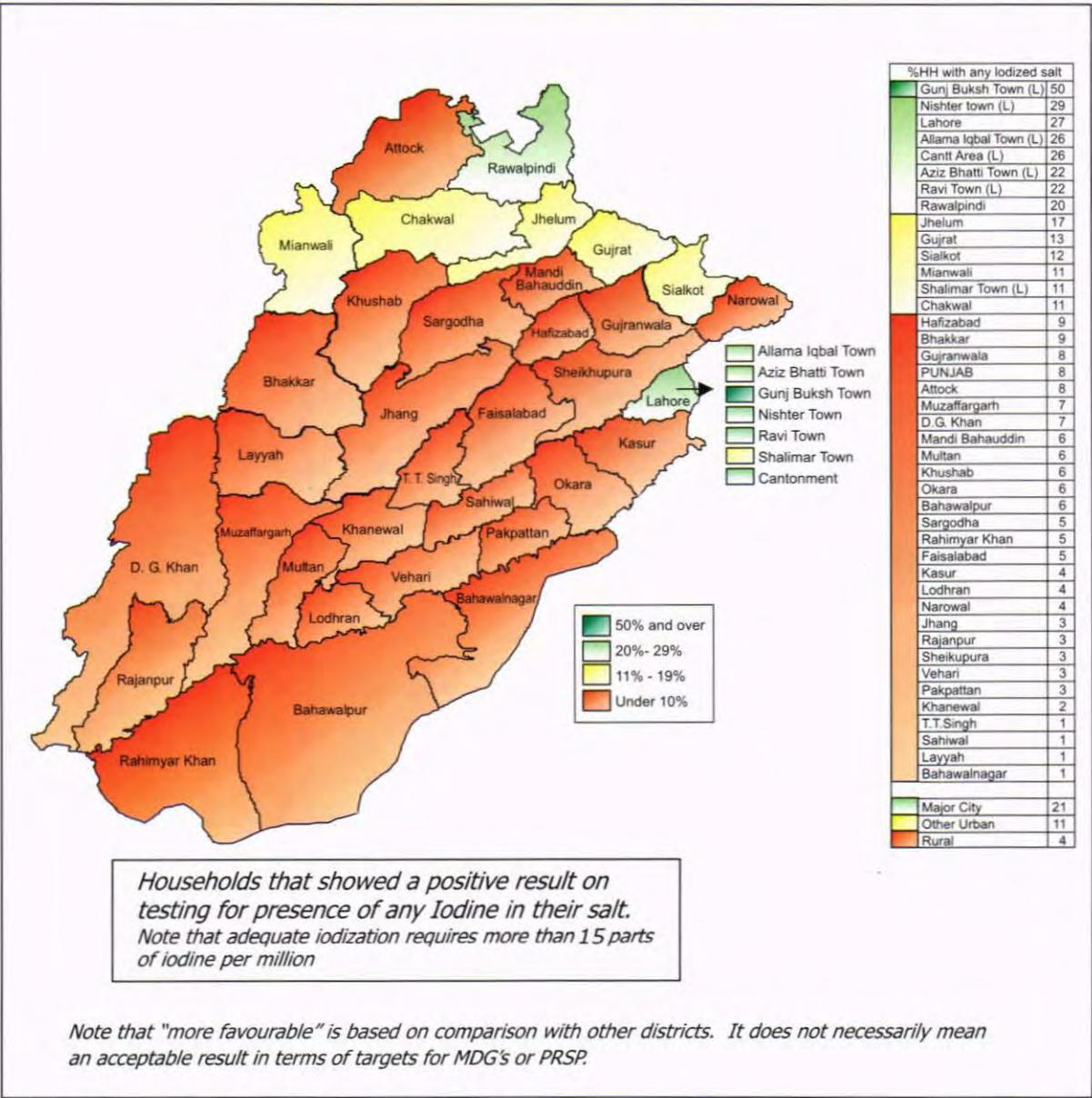
About one-half (52%) of households in Punjab were aware of the need for iodized salt. This ranged from 65% in urban to 46% in rural areas, with the highest results in Jhelum and Gujrat (over 80%) to the lowest in Bhakkar and Hafizabad (under 30%). The range in Lahore was wide: from a high of 88% in Cantt Area and Gunj Buksh Town to a low of 23% in Aziz Bhatti Town.

Testing for iodization found only 8% of households in Punjab who had any iodized salt. This ranged from 21% in major cities, to 11% in other urban and to 4% in rural areas. Most districts had a low percent of households with iodized salt demonstrated (see map). Lahore had the highest results (27%), with Khanewal, T.T.Singh, Sahiwal, Layyah and Bahawalnagar the lowest (fewer than 2%).

Figure 24: Result of Salt Test for Iodine



Map 13. Households Who Use Any Iodized Salt



c. BCG Scar and Immunization Coverage

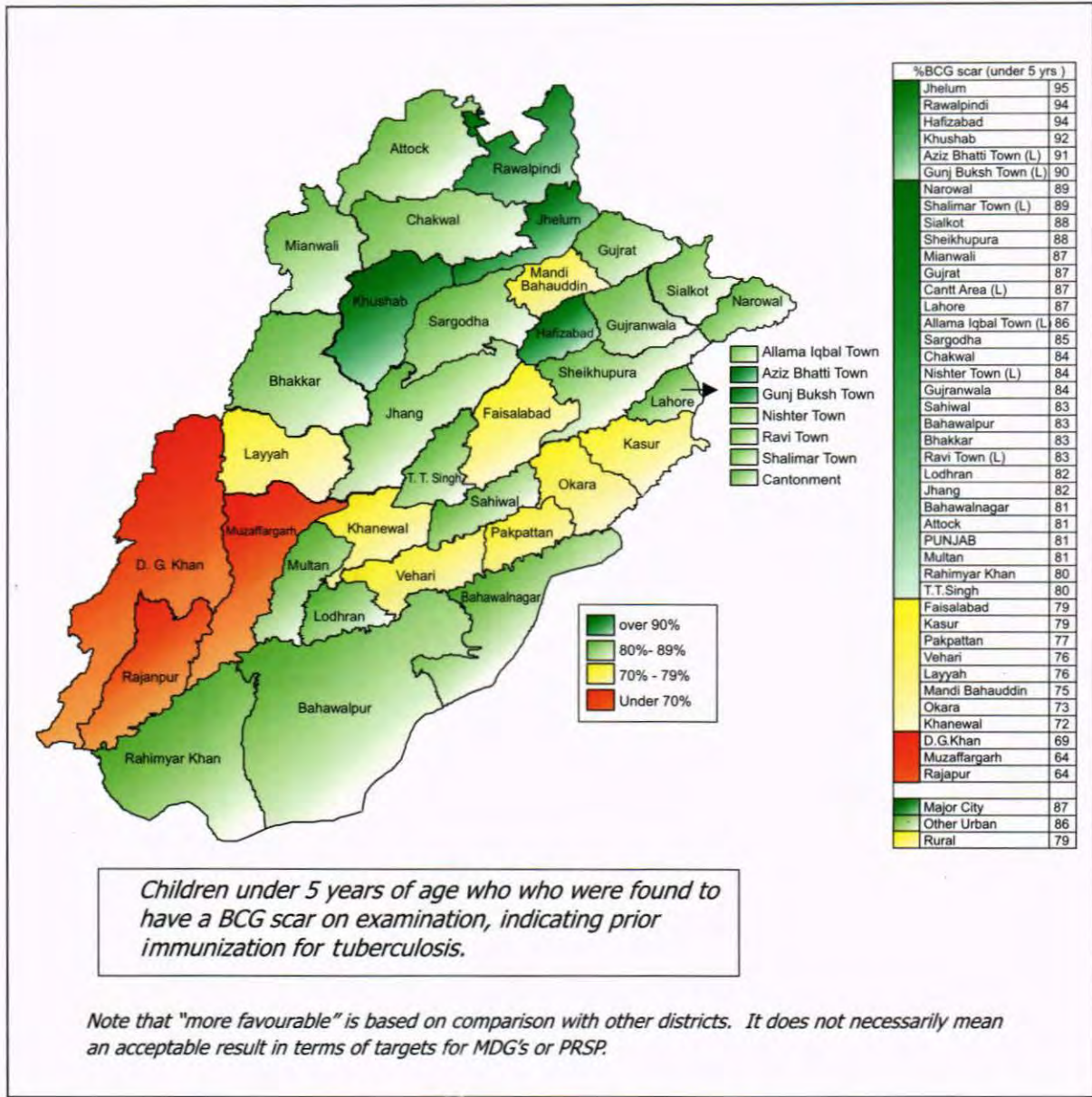
In the current MICS, a BCG scar was noted in 81% of children aged under five years, with no major differences between areas. For children aged 1-2 years, scar presence was 84%, almost the same as the EPI survey result for that age range (87%). (Table 35).

Scar presence ranged from 95% in Jhelum to a low of 64% in Muzaffargarh and Rajanpur (Map 14).

Table 35: Children Under 5 Yrs with BCG scar (%)

Punjab	Major City	Other Urban	Rural
81	87	86	79

Map 14. Children Under Five Years with a BCG Scar Seen



An EPI coverage survey was conducted throughout the Province in 2001 hence was not repeated in the MICS. The survey used standard WHO techniques, with a sample of 210 children aged 12-23 months and their mothers in each district (7 children for each of 30 clusters).

Table 36: EPI Survey Results for Punjab - % Coverage by Antigen

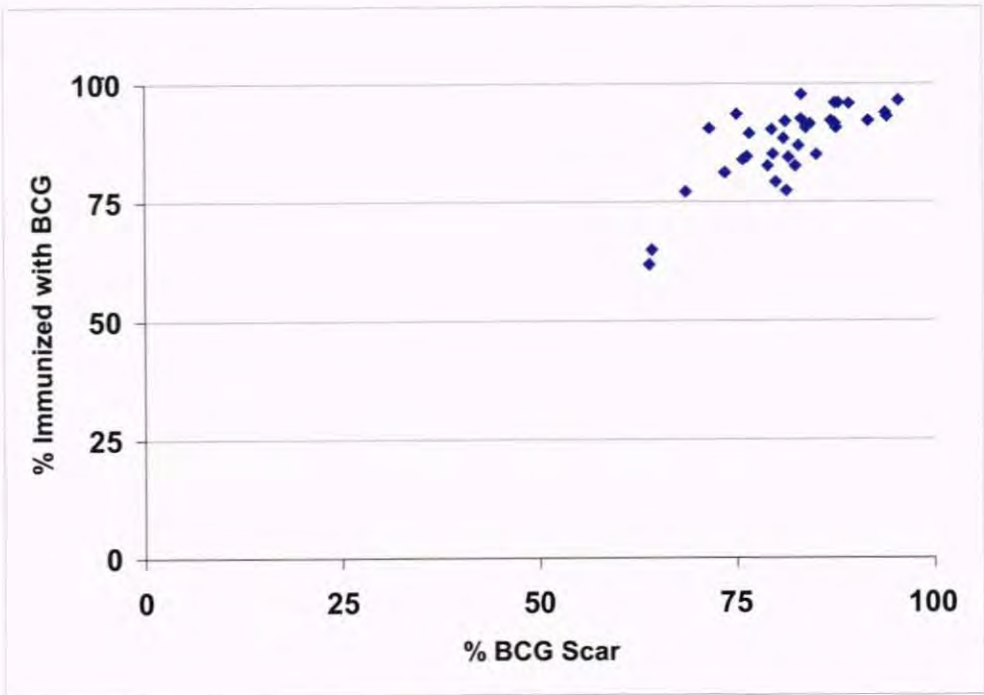
BCG	Measles	DPT1	DPT2	DPT3	Hep B1	TT2
87	66	79	74	66	4	63

Results from that survey show that BCG had the highest coverage (87%). (Table 36) About two-thirds of children had measles vaccine, with a similar result for three DPT (and OPV). These are the requirements for “full immunization”. Again, two-thirds of mothers during their last pregnancy had two doses of Tetanus Toxoid, the recommended number.

Coverage varied widely by district. The highest coverage for BCG (98%) was in Sahiwal; for measles (91%) in Jhelum; for at least 3 doses of DPT (98%) again Jhelum; and at least two doses of Tetanus Toxoid (91%) in Narowal. Rajanpur had the lowest coverage for all antigens, reaching a low of 19% for measles immunization.

Comparing the results for BCG Scar from the MICS with those of the EPI Survey shows a fair degree of agreement.

Figure 25: EPI survey and BCG Scar Comparisons



d. Recent Visit by a Lady Health Worker (LHW).

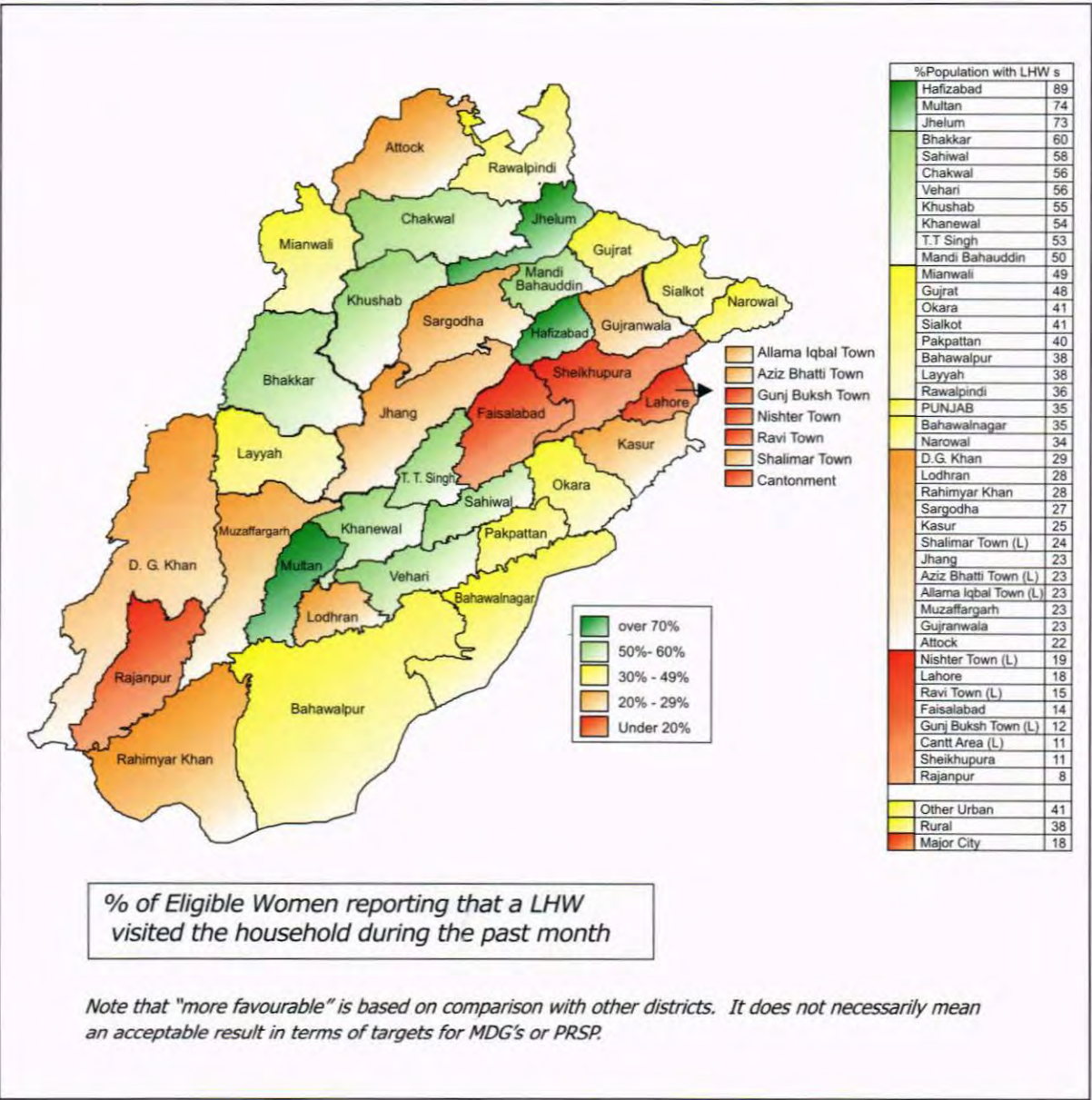
About one-third (35%) of households had been visited by an LHW in the past month (major city 18%, other urban 41% and rural 38%).

This was highest in Hafizabad, Multan and Jhelum (over 70%) and lowest in Sheikhupura and Rajanpur (under 12%) – Map 15. The most frequent service by the LHW was education and advice (43%), followed by provision of ORT, vitamins and basic medicines (28%) and weighing of children (16%).

Table 37: Per cent of Households with Recent Visit by a Lady Health Worker

Punjab	Major City	Other Urban	Rural
35	18	41	38

Map 15: Households Covered by Lady Health Workers (LHWs)



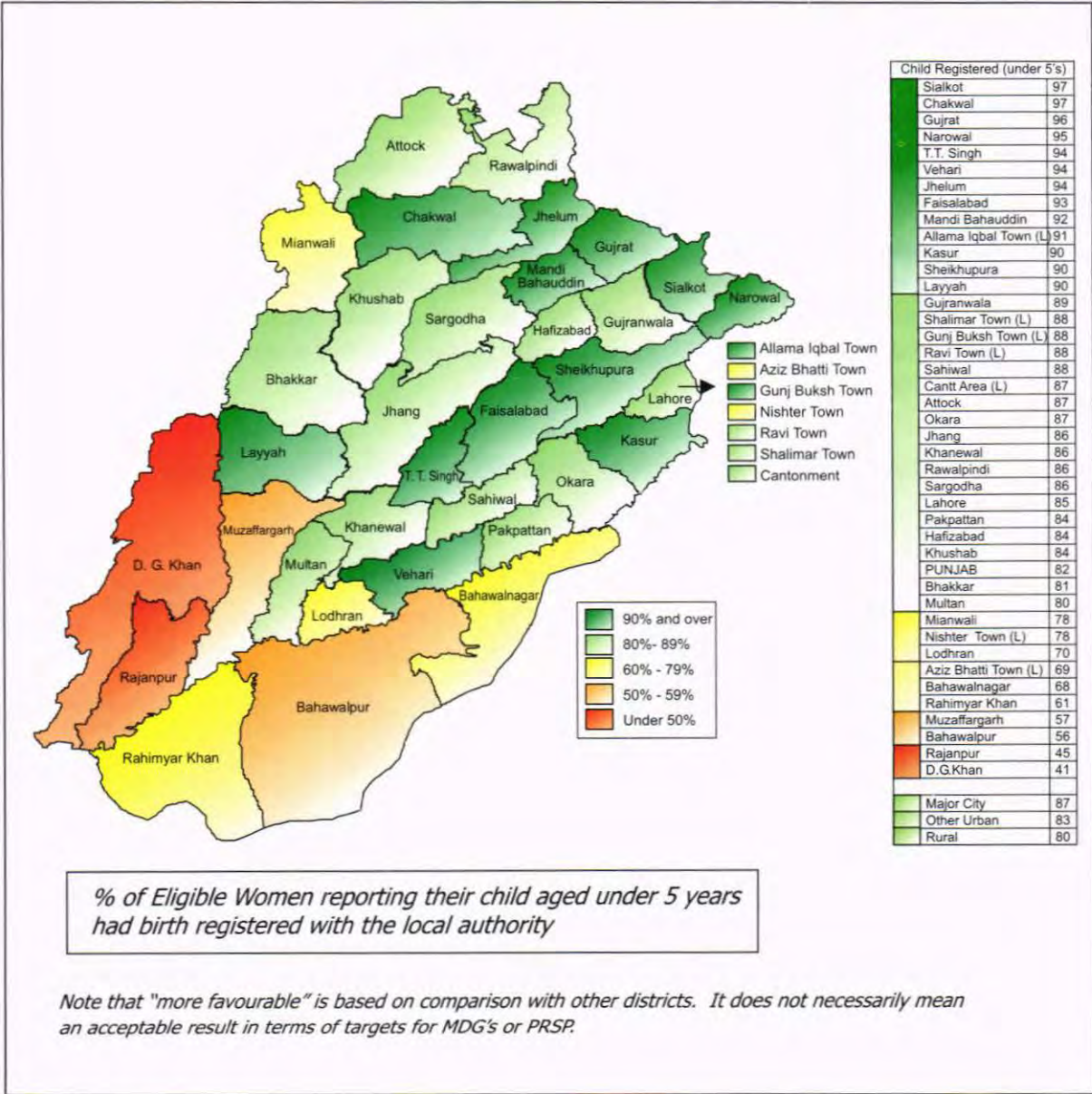
6 Child Protection

6.1 Child Registration

Most (82%) of children aged under five years had been registered with the local council, according to the mother or caretaker of the child. This was similar in all urban and rural areas; and for boys and girls.

Districts with the highest level of registered births were Sialkot, Chakwal, Gujrat and Narowal (over 95%), with the lowest being Rajanpur and D.G.Khan (under 50%) – Map 16. The most common reasons for not registering their child were the lack of awareness of the parents of the need (33%) or it was considered unnecessary (33%).

Map 16: Children Under Five Years with Birth Registered



6.2 Child Labour

Very few aged 5-9 and 10-14 years worked in hazardous jobs such as carpet weaving, making soccer balls, surgical goods or tannery industry; or collected garbage (0.1% and 0.4% respectively). In no district did this exceed 1%.

Other Employment for Children

Other specific areas of employment for children aged 5-9 years included the following: works outside the household, usually as a labourer (0.6%), unpaid family worker for at least 4 hours daily (9.1%). Children reported as "unemployed" was 18.7% and most (68.6%) of the children aged 5-9 years were students. Disability was not defined, relying on the respondent's perception. This was reported in 0.5% of these children.

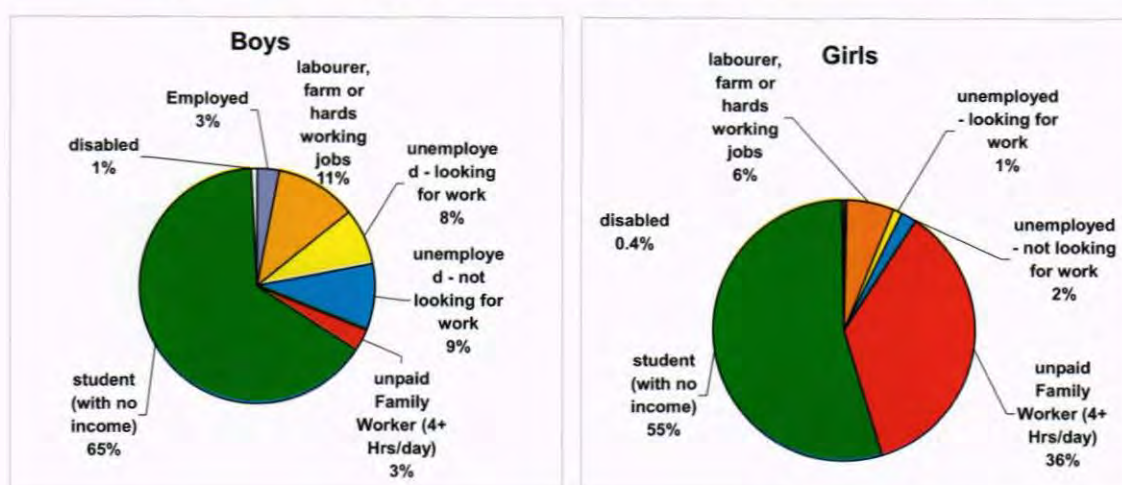
Similarly for children aged 10-14 the findings were as follows: works outside the household, usually as a labourer (4%), unpaid family worker for at least 4 hours daily (15%). Others were reported as "unemployed" (10%). Most (68%) of the children aged 10-14 years were students. There was also a similar result for disability in 0.5% of cases.

6.3 Child Employment Patterns

Children aged 10-17 years are included, to follow the guidelines of the ILO, which has a special interest in this age group.

The pattern of employment differed by gender (see figure 26). The percentage of boys who were unpaid family worker was 3% compared to girls at 16%. This was balanced by a higher percent of boys as compared with girls who were "unemployed" and who were students. Further, whereas only 3% of boys who attended school and also did extended household duties, 25% of girls at school performed similar duties.

Figure 26: Child Employment Patterns by Gender (Ages 10 to 17 Years)



7. Run away children

Very few children (less than 0.1%) were reported as run away or were abducted from home. This was consistent throughout all areas and districts. It is possible that household respondents were unwilling to state their child had left home in this way.

8. Tuberculosis

About one in 200 people (0.5%) had Tuberculosis diagnosed in the past year. The increase with age is noteworthy. The prevalence of reported TB ranged from 1% in those aged 50-59, to about 2% in those 70-79 and more than 3% in those 80 years and over. Older people must be considered as important carriers of the disease. Further, the reported cases form only a fraction of those not detected. There were no consistent gender differences in reported TB prevalence.

About one in 50 people (2.2%) had a recent chronic cough. Again, this was much higher in older age groups: at about 5% in those aged 50-59, to about 10% in those aged 70 years or more. A recent chronic cough is suggestive, but not diagnostic, of tuberculosis. In this analysis, for every 100 people with a recent chronic cough, about 15 were also reportedly diagnosed as having TB. On the other hand, few (about 1 in 1000) had no recent chronic cough and were diagnosed with TB. This has important implications for screening. However, responses may have been influenced by the recognition of those with TB about the association.

Table 38: Diagnosed as Tuberculosis

	Punjab	Major Cities	Other Urban	Rural
Male	0.5	0.3	0.4	0.5
Female	0.5	0.3	0.4	0.5
Total	0.5	0.3	0.4	0.5

Table 39: Cough past 3 weeks+

Male	2.3	1.4	2.3	2.4
Female	2.2	1.3	2.3	2.4
Total	2.2	1.4	2.3	2.4

9. Unemployment³²

The unemployment rate of 10 years and over in Punjab was 9%, with little difference between urban and rural. Rates were much higher for those aged 15 to 24 year and highest for 10-17 year olds. There were no differences in unemployment according to gender.

However there are major differences by gender in the percent employed in the active labour force. For example, in those aged 10 years and over for Punjab, 63% of males are in the active labour force, compared with only 11% of females.

Table 40: Unemployment Rates

Unemployment rates					Percent in Active Labour Force				
Total	PUNJAB	Major City	Other Urban	Rural	Total	PUNJAB	Major City	Other Urban	Rural
10+ years	9	10	10	8	10+ years	41	41	39	41
15+ years	8	7	9	9	15+ years	45	45	43	43
15 to 24 yr	21	22	23	20	15 to 24 yr	30	26	27	31
25 to 34 yr	5	7	7	4	25 to 34 yr	49	47	48	50
35 to 59 yr	1	1	1	1	35 to 59 yr	53	52	51	53
10 to 59 yr	10	10	12	9	10 to 59 yr	38	37	36	39
10-17 yr	33	36	37	32	10-17 yr	9	7	7	10

Males	PUNJAB	Major City	Other Urban	Rural	Males	PUNJAB	Major City	Other Urban	Rural
10+ years	10	10	11	9	10+ years	63	63	61	63
15+ years	8	8	10	9	15+ years	75	76	73	72
15 to 24 yr	23	24	25	23	15 to 24 yr	48	45	45	49
25 to 34 yr	6	7	8	5	25 to 34 yr	86	84	84	87
35 to 59 yr	1	1	1	1	35 to 59 yr	91	90	89	90
10 to 59 yr	11	11	12	10	10 to 59 yr	65	65	64	66
10-17 yr	42	37	41	41	10-17 yr	11	12	11	12

Females	PUNJAB	Major City	Other Urban	Rural	Females	PUNJAB	Major City	Other Urban	Rural
10+ years	4	6	5	3	10+ years	11	8	8	12
15+ years	2	2	4	5	15+ years	12	13	10	9
15 to 24 yr	6	11	10	4	15 to 24 yr	11	7	8	12
25 to 34 yr	1	6	2	1	25 to 34 yr	14	9	11	16
35 to 59 yr	0	1	0	0	35 to 59 yr	14	11	12	15
10 to 59 yr	4	6	5	3	10 to 59 yr	11	8	9	12
10-17 yr	9	20	17	8	10-17 yr	6	2	3	7

Unemployment follows the definition of the Labour Force Survey: which is part (1) of the active labour force (2) unemployed and (3) seeking employment. The active labour force comprises the following: 1 Govt. /semi govt. employee, 2 private employee, 3 self-employed, 4 employs others, 5 labourer 6 works in agriculture.

³² Calculations are as follows:

Number in Active labour force = Number employed in Active Labour Force+Number seeking employment)

zPercent Unemployed = Number seeking employment * 100 divided by Number in Active labour force

10. Indicators Related to Household Assets

Several household indicators were selected to reflect extent of assets in terms of house structure, outside connections and possessions (Pacca House, Utilities: Electricity, Gas, Telephone, Cable TV and At least one Utility; Possessions: Radio, Television, Personal Computer, Mobile phone, at least 3 possessions). It is useful to examine the results for these household indicators, recognizing that interpretations depend to some extent on the local context, such as whether in urban or rural areas (Table 41).

Table 41: Household Features by Areas (in percent of total)

	Pacca	Electricity	Gas	Telephone	Cable TV	At least one Utility	Radio	Television	Personal Computer	Mobile phone	3+ Possessions
Punjab	46	83	19	13	5	83	13	38	2	4	56
Rural	34	77	3	6	0	77	13	27	1	2	46
Other Urban	66	97	36	21	8	98	15	55	3	4	75
Major City	87	99	84	38	22	99	13	71	10	14	88

The results confirm the Rural, Other Urban and Major City differences, apart from radio. Hence differences among districts will depend on their urban/city population extent.

Table 42 reviews results by district. These are ordered according to degree of urbanization (i.e. % of the total population in urban areas, both other urban and in towns. In several districts, especially where urbanization is less, there is little difference in percentage terms of the total population in urban areas. In almost all indicators, districts with a higher degree of urbanization have a higher percent of pacca house, utilities and possessions.

There are exceptions. For example, Mandi Bahauddin has a relatively higher percent of pacca house and Chakwal a higher percent of electricity, gas and television ownership as compared with its order for degree of urbanization.

The survey estimated the value of assets for house, land and livestock. Interviewers estimated house value, based on type and size of house, and location. Land value was calculated from the type of land (irrigated, not-irrigated and uncultivated), area and value per unit. Livestock value was derived from number of animals³³ and unit value.

The order for Ravi and Shalimar Towns in Lahore although as expected for house value, appears lower than expected with regards to house plus land value. The highest land value appears to be from Aziz Bhatti Town, Mandi Bahauddin and Hafizabad.

³³ Adult Cows, Young Male and Female Cows, Buffalo, Young Male and Female Buffalo, Oxen/Male Buffalo, Camel/Horses, Asses/Mules, Sheep/ Goat, Poultry, Others

Table 42: Degree of Urbanization and Utilities/Possessions

		House	Utilities					Possessions				
Sorted by Urban	% Urban	Pacca	Electricity	Gas	Telephone	Cable TV	At least one Utility	Radio	Television	Personal Computer	Mobile phone	More than 3 Possessions
Punjab	29	46	83	19	13	5	83	13	38	2	4	56
Gunj Buksh Town (L)	100	92	100	89	54	31	100	22	79	14	23	90
Ravi Town (L)	100	86	99	81	33	20	100	6	72	5	7	82
Cantt Area (L)	100	85	99	87	36	30	100	8	75	9	11	91
Lahore	83	79	99	71	35	21	99	12	69	9	14	84
Shalimar Town (L)	80	73	100	68	22	8	100	18	71	3	10	85
Nishter Town (L)	68	72	98	57	34	19	98	6	57	13	18	76
Allama Iqbal Town (L)	66	80	99	69	42	28	99	13	68	16	22	84
Aziz Bhatti Town (L)	53	64	98	46	20	10	99	9	60	2	4	75
Rawalpindi	43	78	99	46	23	8	99	23	59	7	10	70
Faisalabad	41	56	96	30	18	9	96	9	43	2	3	72
Gujranwala	41	63	99	38	21	5	99	14	56	2	5	77
Multan	32	39	80	37	13	5	80	13	35	3	5	59
Sheikhupura	28	46	91	18	8	1	91	12	42	0	2	63
Khushab	27	38	81	0	9	1	83	11	35	1	1	45
Bahawalpur	26	31	55	12	6	3	56	13	19	1	1	34
Sialkot	26	66	98	20	22	5	98	10	61	2	5	81
Sargodha	26	38	92	16	13	2	92	13	37	2	4	59
Jhelum	25	52	95	16	17	3	96	25	54	3	6	64
Kasur	24	38	95	1	6	2	96	11	29	1	2	47
Okara	24	31	74	3	8	3	75	9	27	0	1	47
Gujrat	22	76	99	18	21	2	99	28	57	2	6	74
Bahawalnagar	22	33	74	1	7	1	76	9	21	0		39
T.T.Singh	22	39	94	13	14	2	94	13	42	2	1	68
Jhang	21	34	69	5	8	4	69	10	24	1	2	38
Hafizabad	21	34	97	3	9	2	97	14	40	1	3	62
Mianwali	20	41	85	5	10	1	87	10	44	2	1	52
Rahimyar Khan	18	36	65	12	5	1	65	10	22	1	2	36
Sahiwal	18	40	77	6	9	2	77	10	28	3	3	51
Attock	17	47	83	29	10	1	85	21	39	1	1	51
Vehari	16	34	72		7	2	72	13	29	1	2	50
Khanewal	16	26	68	6	6	1	68	14	25	1	1	50
Mandi Bahauddin	15	64	98	1	15	2	98	17	41	1	1	63
Pakpattan	15	30	76		3	2	76	7	25	1	0	45
Narowal	14	37	93	0	5	1	93	14	37	2	1	54
Bhakkar	13	24	55		3	0	55	6	16	0	0	28
Muzaffargarh	13	29	63	7	4	0	63	18	17	1	1	33
D.G.Khan	12	22	64	9	7	3	64	19	20	1	2	35
Layyah	12	28	56	0	3	0	56	18	14			35
Lodhran	12	33	68	1	4	1	68	8	16	1	1	36
Rajanpur	11	33	59		4	2	59	17	16	0	0	30
Chakwal	10	43	88	22	16	1	91	23	46	1	3	56

Districts and Towns are graded by percent urban: Over 80%, 40-79%, 20 to 39% and under 20%.

Table 43: Assets, Land and Livestock Value

Sorted by House+ Land Value		Mean Values for Assets (Rs Lakhs)				Sorted by Livestock value	
Indicator and Number		House	Land	House+Land	Live-stock	Indicator and Number	Live-stock
PUNJAB		2.1	3.8	5.9	0.28	PUNJAB	0.28
Rural		1.2	4.7	5.9	0.37	Rural	0.37
Other Urban		2.6	1.9	4.5	0.05	Other Urban	0.05
Major City		6.2	1.1	7.3	0.02	Major City	0.02
Aziz Bhatti Town (L)		3.8	9.3	13.1	0.25	Hafizabad	0.53
Can't Area (L)		10.1	1.3	11.4	0.00	Bhakkar	0.47
Allama Iqbal Town (L)		7.0	4.1	11.0	0.14	Mandi Bahauddin	0.45
Mandi Bahauddin		2.5	8.0	10.5	0.45	Jhang	0.44
Gunj Buksh Town (L)		8.7	1.2	9.9	0.00	Pakpattan	0.43
Lahore		6.7	2.8	9.5	0.07	Bahawalnagar	0.42
Hafizabad		1.5	7.2	8.8	0.53	Khanewal	0.40
Nishtar Town (L)		6.5	1.9	8.3	0.09	Okara	0.39
Sheikhupura		1.5	5.9	7.4	0.30	Layyah	0.38
Gujranwala		2.9	4.5	7.4	0.21	T.T.Singh	0.38
Sargodha		1.8	5.5	7.3	0.32	D.G.Khan	0.37
Khushab		2.0	5.4	7.3	0.23	Vehari	0.37
Ravi Town (L)		5.7	1.1	6.8	0.02	Kasur	0.35
Rahimyar Khan		1.1	5.3	6.4	0.32	Rahimyar Khan	0.32
Sialkot		3.2	3.1	6.3	0.26	Sargodha	0.32
Lodhran		0.9	5.4	6.3	0.30	Sahiwal	0.31
Rawalpindi		4.0	2.3	6.3	0.13	Narowal	0.30
Bhakkar		0.7	5.4	6.1	0.47	Bahawalpur	0.30
Gujrat		2.8	3.3	6.1	0.24	Sheikhupura	0.30
Jhang		1.2	4.9	6.1	0.44	Lodhran	0.30
Multan		2.6	3.4	6.1	0.17	Rajanpur	0.28
Khanewal		1.1	4.6	5.7	0.40	Sialkot	0.26
D.G.Khan		0.9	4.6	5.5	0.37	Aziz Bhatti Town (L)	0.25
T.T.Singh		1.6	3.8	5.4	0.38	Gujrat	0.24
Vehari		1.3	3.9	5.1	0.37	Jhelum	0.23
Faisalabad		2.2	2.7	4.9	0.18	Khushab	0.23
Layyah		0.6	4.3	4.9	0.38	Muzaffargarh	0.21
Bahawalpur		0.9	3.8	4.7	0.30	Gujranwala	0.21
Pakpattan		0.8	3.9	4.6	0.43	Mianwali	0.21
Jhelum		2.6	2.0	4.6	0.23	Chakwal	0.21
Chakwal		2.3	2.3	4.6	0.21	Attock	0.18
Attock		1.8	2.7	4.6	0.18	Faisalabad	0.18
Okara		1.0	3.5	4.5	0.39	Multan	0.17
Sahiwal		1.5	2.9	4.5	0.31	Allama Iqbal Town (L)	0.14
Muzaffargarh		0.7	3.7	4.4	0.21	Rawalpindi	0.13
Shalimar Town (L)		3.6	0.7	4.4	0.10	Shalimar Town (L)	0.10
Mianwali		1.5	2.8	4.3	0.21	Nishtar Town (L)	0.09
Rajanpur		0.7	3.4	4.1	0.28	Lahore	0.07
Bahawalnagar		0.8	3.1	3.9	0.42	Ravi Town (L)	0.02
Kasur		0.8	3.0	3.8	0.35	Can't Area (L)	0.00
Narowal		1.4	2.0	3.3	0.30	Gunj Buksh Town (L)	0.00

Annexes

Annex A: Sample Design

Government Of Pakistan
Federal Bureau Of Statistics
Sample Design Section
Islamabad

Subject: - Write Up Of Sample Design Adopted In Multiple Indicator Cluster Survey (MICS) Punjab, 2003-04.

Introduction:

The Government of Punjab in collaboration with UNICEF and technical assistance of Federal Bureau of Statistics has carried out Multiple Indicator Cluster Survey (MICS) to achieve the following objectives:

- i) To produce district level estimates to meet the requirements of policy makers and planners under the new system of devolution of power at district level.
- ii) To collect information on 44 Key Social Indicators to help measure progress and prepare profiles of administrative units of Punjab.
- ii) To develop plan and monitoring system for delivery of social services.

Universe:

The universe of this Survey consists of all urban and rural areas of Punjab defined as such by 1998 population census and changes made thereafter by the Provincial Governments. Some of the Cantonment areas being restricted areas have been excluded from the scope of this survey.

Sampling Frame:

A. Urban areas:

Federal Bureau of Statistics has developed its own sampling frame through Quick Count Record Survey. This frame is an area frame wherein each city/town has been divided into a number of small compact areas called enumeration blocks (E.Bs). Each enumeration block consists of an average of 200-250 households, with well-defined boundaries in the prescribed forms and maps thereof with physical features. Each Enumeration block has been divided into low, middle and high-income group, keeping in view the majority of households located in the enumeration block belonging to a particular income class. Similarly each enumeration block has been classified as residential, commercial and industrial in accordance with the predominance of an activity therein. This sampling frame now comprises all urban areas of the Punjab except Military restricted areas. The frame is regularly up-dated after every 5 to 7 years due to rapid growth in cities/towns/urban areas. It was updated last in 1995 and there are 12272 enumeration blocks in all urban areas of Punjab.

B. Rural areas:

The sampling frame for rural domain consists of list of villages/mouzas/dehs prepared by Population Census. Organization as a consequence of Population Census-1998. A village/mouza/deh is the smallest revenue estate identified by its name, had-bast number, cadastral map, and name of Tehsil, District & Province in which it is located. The rural sampling frame comprising 25876 villages/Mouzas/Dehs has been used for drawing the sample for Multiple Indicator Cluster Survey.

Stratification Plan:

A. Urban Domain:

i) Large Size City.

Rawalpindi, Gujranwala, Sialkot, Sargodha, Faisalabad, Lahore, Multan and Bahawalpur have been considered as large size cities. Lahore city has further been divided into seven towns. Each large sized cities/town of Lahore city constitutes a separate stratum which has further been sub-stratified according to low middle and high income groups based on the information collected in respect of each enumeration blocks at the time of demarcation/updating of urban areas sampling frame.

ii) Remaining Urban Area:

After excluding the population of Rawalpindi, Gujranwala, Sialkot, Sargodha, Faisalabad, Lahore, Multan and Bahawalpur cities from the respective Administrative District the remaining urban population of administrative district has been treated as separate strata. Thus each district in urban areas constitutes an independent stratum.

B. Rural Domain:

In the rural domain, each administrative district in Punjab Province has been treated as independent and explicit stratum except Lahore district, which has been further, stratified into 6 towns and Cantonment.

Sample size and its Allocation:

Keeping in view of the variability for the characteristics such as infant mortality rate, literacy rate, use of drinking water, contraceptive prevalence, total fertility rate, diarrhea cases and water and sanitation for which estimates are to be prepared, requirements of provincial government in terms of logistic cost, population distribution and main objectives of the survey, a sample of 30932 households has been considered appropriate to provide reliable estimates of population parameters within acceptable reliability limits. The entire sample of households ((SSUs) is drawn from 2190 Primary Sampling Units (PSUs) out of which 1163 are urban and 1027 are rural. The sample households have been allocated to 34 districts in proportion to their population according to the 1998 population census, however higher proportion of sample is allocated to the urban domain and to smaller district to get the district estimates with urban and rural breakdown of desired precision. The distribution of sample PSUs and SSUs in 34 districts are enclosed in the table on page 4.

Sample Design:

A two-stage stratified sample design has been adopted for this survey.

Selection of Primary Sampling Units (PSUs).

Enumeration blocks demarcated as part of urban sampling frame in urban domain, mouzas/dehs/villages whose lists were prepared by Population Census Organization at the time of 1998 Population Census have been taken as primary sampling units (PSUs). Sample PSUs from each stratum/sub-stratum have been selected with probability proportional to size. The numbers of households and population have been considered as measure of size pertaining to urban and rural domain respectively. Weight at first stage is inverse of probability of selection i.e. total measure of size of a stratum divided by measure size of a sample PSU.

Selection of Secondary Sampling Units (SSUs):

Based on actual listing undertaking in respect of each sample PSU by the Field Staff 16 and 12 households have been selected from rural and urban sample areas respectively adopting systematic

sampling technique with a random start. Households have been considered as secondary sampling units for urban while population has been taken as measure of size in respect to rural areas. Weight at second stage is computed as total listed households in a sample PSU divided by covered household in a sample PSU.

Estimation Procedure:

In order to build-up estimates of total and ratio etc and their variance, estimation procedure is given in the Technical Manual.

Number Of Sample Enumeration Blocks / Villages (PSUs) And Households (SSUs)
Allocated To Districts For MICS (Punjab) Survey.

S.No	LEVEL OF ESTIMATE/ STRATUM	PRIMARY SAMPLING UNITS (PSUs)			SECONDARY SAMPLING UNITS (SSUs)		
		URBAN	RURAL	TOTAL	URBAN	RURAL	TOTAL
1	2	3	4	5	6	7	8
	PUNJAB	1027	1163	2190	12324	18608	30932
1	Attock	15	27	42	180	432	612
2	Rawalpindi (Excl. City)	18	33	51	216	528	744
3	Rawalpindi City	52	0	52	624	0	624
4	Jhelum	15	24	39	180	384	564
5	Chakwal	15	27	42	180	432	612
1	Sargodha (Excl. City)	16	42	58	192	672	864
2	Sargodha City	25	0	25	300	0	300
3	Bhakkar	15	24	39	180	384	564
4	Khushab	15	24	39	180	384	564
5	Mianwali	15	24	39	180	384	564
1	Faisalabad (Excl. City)	18	60	78	216	960	1176
2	Faisalabad City	72	0	72	864	0	864
3	Jhang	24	48	72	288	768	1056
4	T.T.Singh	18	33	51	216	528	744
1	Gujranwala (Excl. City)	16	33	49	192	528	720
2	Gujranwala City	46	0	46	552	0	552
3	Gujrat	15	33	48	180	528	708
4	Sialkot (Excl. City)	13	27	40	156	432	588
5	Sialkot City	25	0	25	300	0	300
6	Hafiza Abad	15	24	39	180	384	564
7	Mandi Bahauddin	15	27	42	180	432	612
8	Narowal	15	27	42	180	432	612
1	Lahore*	210	50	260	2520	800	3320
2	Kasur	24	36	60	288	576	864
3	Okara	15	36	51	180	576	756
4	Sheikhupura	24	51	75	288	816	1104
1	Vehari	15	39	54	180	624	804
2	Sahiwal	15	36	51	180	576	756
3	Multan (Excl. City)	10	39	49	120	624	744
4	Multan City	44	0	44	528	0	528
5	Khanewal	15	39	54	180	624	804
6	Pakpattan	15	27	42	180	432	612
7	Lodhran	15	24	39	180	384	564
1	D.G.Khan	15	33	48	180	528	708
2	Rajanpur	15	27	42	180	432	612
3	Layyah	13	24	37	156	384	540
4	Muzaffargarh	15	39	54	180	624	804
1	Bahawalpur (Excl. City)	13	39	52	156	624	780
2	Bahawalpur City	25	0	25	300	0	300
3	Bahawalnagar	18	39	57	216	624	840
4	R. Y. Khan	18	48	66	216	768	984
1	Lahore*	210	50	260	2520	800	3320
	Allama Iqbal Town	27	15	42	324	240	564
	Aziz Bhatti Town	17	11	28	204	176	380
	Gunj Buksh Town	46		46	552		552
	Nishtar Town	25	14	39	300	224	524
	Ravi Town	44		44	528		528
	Shalimar Town	27	10	37	324	160	484
	Cantt Area	24		24	288		288

ANNEX B1:

List of Indicators for Multiple Indicators Cluster Survey (MICS) in the Punjab, 2003-04 (By Report sequence)

Indicators		Description
LITERACY AND EDUCATION		
1	Literacy rate	Proportion of population aged 10 years and older who are able, with understanding, to both read and write a short simple statement on their everyday life
2	Adult Literacy Rate	Proportion of population aged 15 years and older who are able, with understanding, to both read and write a short simple statement on their everyday life
3	Net primary school enrolment ratio	Proportion of children of primary-school age enrolled in primary school
4	Net primary school attendance rate	Proportion of children of primary-school age attending primary school
5a	Gross primary school enrolment ratio	Proportion of children of any age enrolled in primary school
6	Children reaching grade 5	Proportion of children entering first grade of primary school who eventually reach grade 5
6	Drop outs	Proportion of children in primary school who drop out (by year)
7	Public & Private School Attendance Rate (5-9)	Proportion of school age children studying in public/private schools
8	Physical Access to School	Distance to School in Kms.
WATER AND SANITATION		
9	Use of Improved drinking water	Proportion of population who use any of the following types of water supply for drinking: (1) piped water; (2) public tap; (3) borehole/pump; (4) well (protected/covered); (5) protected spring, (6) rainwater
10	Access to Improved drinking water	Proportion of population who have access to any of the following types of water supply for drinking: (1) piped water; (2) public tap; (3) borehole/pump; (4) well (protected/covered); (5) protected spring, (6) rainwater within a radius of 2 km or half an hour away
11	Use of sanitary means of excreta disposal	Proportion of population who have, within their dwelling or compound: 1. Connected to a public sewer 2. Connected to a septic system 3. Pour flush toilet (private or public) 4. Ventilated improved pit latrine 5. Traditional pit latrine (closed)
12	Disposal of waste water and Solid Waste	Proportion of households having different means of disposal of Waste water and solid waste
13	Washing Hands	Proportion of Population washing hands with with/without soap before meal and after using the toilet.
WOMEN		
14	Maternal mortality ratio (MMR)	Annual number of deaths of women from pregnancy related causes, when pregnant or within 42 days of termination of pregnancy, per 100,000 live births
15	Antenatal care	Proportion of eligible women (ever-married, aged 15-49 years) with a live birth in the last 3 years who were attended at least once during pregnancy by skilled health personnel
16	Childbirth care	Proportion of live births attended by skilled health personnel
17	Post-natal care	Percent of women who are seen by a health provider within 6 weeks of delivery
18	Awareness of HIV/AIDS	Percent of eligible women who report they have heard of HIV/AIDS
19a	Knowledge of preventing HIV/AIDS	Proportion of eligible women who correctly state at least two of the three main ways of avoiding HIV infection
20	Contraceptive prevalence	Proportion of eligible women who are using (or whose partner is using) a contraceptive method (either modern or traditional)
21	Fertility rate for women 15 to 49	Number of live births to women aged 15-49 per 1,000 women aged 15-49
21	Total fertility rate	Average number of live births per woman who has reached the end of her childbearing period
CHILD		
22	Under-five mortality rate	Probability of dying between birth and exactly five years of age, per 1,000 live births
23	Infant mortality rate	Probability of dying between birth and exactly one year of age, per 1,000 live births
24	Underweight prevalence	Proportion of under-fives who fall below minus 2 and below minus 3 standard deviation from median weight- for-age of NCHS/WHO reference population
25	Birth weight below 2.5 Kg	Proportion of live births that weigh below 2,500 grams
26	Exclusive breastfeeding rate	Proportion of infants under 6 months (180 days) who are exclusively breastfed
27e	Continued breastfeeding rate	Proportion of children aged 12-15 months and 20-23 months who are breastfeeding
28a	Bottle fed 0-11 months of age	Proportion of infants aged 0-11 months who were bottle fed in the past 24 hours
29e	Timely complementary feeding rate	Proportion of infants aged 6-9 months (180-270 days) receiving breast milk/complementary food
30	Any illness during past 2 weeks	Percent of children under five years of age with any illness in the past 2 weeks
31	Diarrhea cases	Average annual number of episodes of diarrhea per child under five years of age
32	ORT use	Proportion of children aged 0-59 months who had diarrhea in the last two weeks and were treated with oral rehydration salts or an appropriate household solution (ORT)
33	Health Practitioner Consulted for recent illness	Proportion of children aged 0-59 months with recent illness who consulted a health practitioner
34	Care-seeking knowledge	Proportion of caretakers of children aged 0-59 months who know at least two of the following signs for seeking care immediately: child not able to drink or breastfeed, child becomes sicker, child develops a fever, child has fast breathing, child has difficulty breathing, blood in stools
35	Children receiving vitamin A supplements	Proportion of children aged 6-59 months who received a high-dose vitamin A supplement in the last 6 months
36	Iodized salt consumption	Proportion of households consuming adequately iodized salt
37a	BCG Scar	Proportion of children aged up to 5 years with an observed scar of BCG immunization

Indicators		Description
38	Proportion of Population Covered by LHW s	Proportion of households visited by LHW during last one month.
39	Birth registration	Proportion of children aged 0-59 months whose births are reported registered
40	Child labour	Proportion of children in households aged 5-14 years who are currently working (paid or unpaid; inside or outside home)
42	Run away children	Proportion of children aged 5-17 years run away from their homes
43	Suspected T.B Incidence	Proportion of population continuously suffering from cough for more than three weeks
SOCIO-ECONOMIC		
44	Consumption Expenditure (below Rs750/pc/mth)	Official Poverty Line i.e. Rs. 750 per capita per month at 1988 -9 prices adjusted for subsequent inflation
	Consumption Expenditure pc Rs/month (mean)	Average per capita value in Rs of all expenditures per month (during the past year)
45	Total Income Rs/month/per cap (Mean)	Average per capita monthly value in Rs of all income during the past year - includes remittances/Zakat-donations- To cross check household consumption expenditure
46	Family member working out side (Village, Town, Province, Country)	Proportion of family member working out side Village / Town/ Province/ Country
46e	Receive Remittance from Pakistan	Percent of households that received any remittance from within Pakistan during the past year
	Mean value of Remittance from Pakistan/month	Average per capita monthly value in Rs of all remittances from within Pakistan during the past year
46e	Receive Remittance from abroad	Percent of households that received any remittance from abroad during the past year
	Mean value of Remittance from abroad/month	Average per capita monthly value in Rs of all remittances from abroad received during the past year
47e	Receive Zakat/ donation (% of households)	Percent of households that received any Zakat/donation during the past year
	Mean value of Zakat/donation/month	Average per capita monthly value in Rs of all Zakat/donations received during the past year
48	Employment status by type self, paid, employer, unpaid others	Proportion of family member by type of employment
48	Unemployed and seeking work (10 years+)	Percent of population who have no employment who are (1) seeking work (2) available for work and (3) are part of the "active work force" - defined by Labour Force Survey.
49e	Ownership of other assets (Land, Live stock, Business)	For assessing the proportion of population vulnerable to poverty
49e	Percent of HH who own house	Percent of household key respondents that report the house they live in is owned by them
	Own house valued over Rs 1,00,000	The percent of households who own a house with a stated or estimate current value of over Rs 1 Lakh
	Mean value of house in Rs Lakhs (if owned)	The average value in Rs Lakhs of the house owned by the household respondent
50e	Percent of HH who own land	Percent of household key respondents that report their household owns land
	Own land valued over Rs 1,00,000	The percent of households who own land with a stated or estimate current value of over Rs 1 Lakh
	Mean value of land in Rs Lakhs (if owned)	The average value in Rs Lakhs of the land owned by the household - stated or estimated
51e	Percent of HH who have any livestock	Percent of household key respondents that report their household owns any livestock
	Mean value of livestock in Rs Lakhs (if owned)	The average value in Rs Lakhs of the land owned by the household - stated or estimated
52a	Percent of HH with no utilities	Percent of households who have no electricity, gas, piped water or telephone
52a	Percent of HH with no possessions	Percent of households who have no possessions such as a radio, TV, sewing machine, air cooler, bicycle.
	Mean Household size	Average number of residents in the household
53a	Mean number of persons per room	Average number of household members per room used for living purposes

Note: "a" next to the indicator number means added indicator; "e" means enhanced

ANNEX B2

Original List of Indicators for Multiple Indicators Cluster Survey (MICS) in the Punjab, 2003-04

Indicators		Description
MAJOR		
1	Under-five mortality rate	Probability of dying between birth and exactly five years of age, per 1,000 live births
2	Infant mortality rate	Probability of dying between birth and exactly one year of age, per 1,000 live births
3	Maternal mortality ratio (MMR)	Annual number of deaths of women from pregnancy related causes, when pregnant or within 42 days of termination of pregnancy, per 100,000 live births
4	Underweight prevalence	Proportion of under-fives who fall below minus 2 and below minus 3 standard deviation from median weight-for-age of NCHS/WHO reference population
5	Use of Improved drinking water	Proportion of population who use any of the following types of water supply for drinking: (1) piped water; (2) public tap; (3) borehole/pump; (4) well (protected/covered); (5) protected spring, (6) rainwater
6	Access to Improved drinking water	Proportion of population who has access to any of the following types of water supply for drinking: piped water; public tap; borehole/pump; protected well; protected spring; rainwater within the radius of two Kms or half an hour time
7	Use of sanitary means of excreta disposal	Proportion of population who have, within their dwelling or compound: 1. Connected to a public sewer 2. Connected to a septic system 3. Pour flush toilet (private or public) 4. Ventilated improved pit latrine 5. Traditional pit latrine (closed)
8	Consumption Expenditure	Official Poverty Line i.e. Rs. 750 per capita per month at 1988-9 prices adjusted for subsequent inflation
LITERACY AND EDUCATION		
9	Net primary school enrolment ratio	Proportion of children of primary-school age enrolled in primary school
10	Net primary school attendance rate	Proportion of children of primary-school age attending primary school
11	Public & Private School Attendance Rate (5-9)	Proportion of school age children studying in public/private schools
12	Children reaching grade 5	Proportion of children entering first grade of primary school who eventually reach grade 5
13	Drop outs	Proportion of children in primary school who drop out (by year)
14	Physical Access to School	Distance to School in Kms.
15	Literacy rate	Proportion of population aged 10 years and older who are able, with understanding, to both read and write a short simple statement on their everyday life
16	Adult Literacy Rate	Proportion of population aged 15 years and older who are able, with understanding, to both read and write a short simple statement on their everyday life
WOMEN		
17	Antenatal care	Proportion of women aged 15-49 attended at least once during pregnancy by skilled health personnel
18	Childbirth care	Proportion of births attended by skilled health personnel
19	Post-natal care	Percent of women who are seen by a health provider within 6 weeks of delivery
20	Contraceptive prevalence	Proportion of women aged 15-49 who are using (or whose partner is using) a contraceptive method (either modern or traditional)
21	Fertility rate for women 15 to 49	Number of live births to women aged 15-49 per 1,000 women aged 15-49
22	Total fertility rate	Average number of live births per woman who has reached the end of her childbearing period
23	Knowledge of preventing HIV/AIDS	Proportion of Men/women who correctly state the three main ways of avoiding HIV infection

Indicators		Description
	CHILD	
24	Birth weight below 2.5 Kg	Proportion of live births that weigh below 2,500 grams
25	Exclusive breastfeeding rate	Proportion of infants under 6 months (180 days) who are exclusively breastfed
26	Timely complementary feeding rate	Proportion of infants aged 6-9 months (180-270 days) who are receiving breast milk and complementary food
27	Continued breastfeeding rate	Proportion of children aged 12-15 months and 20-23 months who are breastfeeding
28	Children receiving vitamin A supplements	Proportion of children aged 6-59 months who received a high-dose vitamin A supplement in the last 6 months
29	Any illness during past 2 weeks	Percent of children under five years of age with any illness in the past 2 weeks
30	Diarrhea cases	Average annual number of episodes of diarrhea per child under five years of age
31	ORT use	Proportion of children aged 0-59 months who had diarrhea in the last two weeks and were treated with oral rehydration salts or an appropriate household solution (ORT)
32	Care-seeking knowledge	Proportion of caretakers of children aged 0-59 months who know at least two of the following signs for seeking care immediately: child not able to drink or breastfeed, child becomes sicker, child develops a fever, child has fast breathing, child has difficulty in breathing.
33	Birth registration	Proportion of children aged 0-59 months whose births are reported registered
34	Child labour	Proportion of children in households aged 5-14 years who are currently working (paid or unpaid; inside or outside home)
35	Run away children	Proportion of children aged 5-17 years run away from their homes
	OTHER HOUSEHOLD	
36	House hold Income	To cross check household consumption expenditure
37	Ownership of other assets (Land, Live stock, Business)	For assessing the proportion of population vulnerable to poverty
38	Employment status by type self, paid, employer, unpaid others	Proportion of family member by type of employment
39	Family member working out side (Village, Town, Province, Country)	Proportion of family member working out side Village / Town/ Province/ Country
40	Suspected T.B Incidence	Proportion of population continuously suffering from cough for more than three weeks
41	Proportion of Population Covered by LHW s	Proportion of households visited by LHW during last one month.
42	Washing Hands	Proportion of Population washing hands with with/without soap before meal and after using the toilet.
43	Disposal of waste water and Solid Waste	Proportion of households having different means of disposal of Waste water and solid waste
44	Iodized salt consumption	Proportion of households consuming adequately iodized salt

ANNEX C: Additional Information on Questionnaire and Key Events

Household information included characteristics (type of house, ownership, number of rooms, house value), utilities and possessions, household size, access to local school, runaway children, expenditure (detailed food, health, education and household items), land owned (irrigated, non-irrigated, uncultivated with values), net agricultural income (crops, livestock and products), remittances and zakat/donations received with amounts, adult deaths in the past five years, sources of drinking water and distance away, type of toilet facility, disposal of waste water and solid waste, members washing hands before meal and after using latrine.

Information on household members included sex, age, marital status (15 years and over), woman and child eligibility, cough for at least the last three weeks, diagnosed as tuberculosis in the past year, ever enrolled at school and highest class completed (5 years and over), ability to read and write in any language (10 years and over), education (5-17 year olds) - school enrolment and class, attendance and frequency/duration, enrolled in previous year and whether passed, any change of school in the past year.

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

The questionnaire for women contains the following modules:

Age, year and month of birth, age at marriage and years since marriage (if birth date not known), young child mortality (based both on the indirect method (total number of sons and daughters born and died) and direct method (young child deaths in the past five years with age when died), maternal care - antenatal, birth and postnatal care, birth weight of last birth, visit by a lady health worker (LHW) in the past month and what was provided, contraceptive use - knowledge, ever used and current use with methods, and HIV/AIDS awareness, knowledge of prevention and attitudes to people with HIV/AIDS. The questionnaire for children under age five includes modules on the following: Age, date of birth, birth certificate, birth registration, vitamin A capsule received, how long ago and where, breastfeeding (up to two years of age) - ever and still breastfed, exclusively breastfed up to 6 months of age, and for children up to one year of age - types of liquids, milk and any solid or semi-solid food received in the past 24 hours, bottle use in the past 24 hours, recent illness (diarrhoea, cough with difficult breathing, high fever), who consulted and whether admitted to hospital, child weighing for nutritional status and immunization (BCG scar seen).

Key Events

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

April 2002:	Initiation of Government of PUNJAB dialogue with UNICEF
Oct 2002:	Approval of the Indicators by the Steering Committee
Nov 2002:	Signing of the MOU
Jan -June 2003:	Preplanning - administrative structure, budget, sample, questionnaire design, pre-testing, district orientations
July-August 2003:	Preparation - staff, logistics and training
July-Sept. 2003:	Listing for sample selection
Sept -Dec 2003:	Field work
Dec 2003 - Mar 2004	Editing, data entry and cleaning
April 2004 - June 2004	Secondary Data cleaning, analysis and reporting
August 2004	Report

ANNEX D: Explanation of Maps

(Using an example from Map on Literacy Rate)

Each map of Punjab has a standard format.

The Title is a very brief heading for the indicator reflected in the map.

The map includes all districts, which are shaded according to the results. The most favourable (as compared to other districts) are shaded green, followed by dark blue, then yellow and the least favourable red. The number of coloured divisions varies from 3 to 5, but the order remains the same. Lahore is presented twice: in the map as the complete district then by each town and Cantonment. Note a "favourable" result may not be so when compared with specific targets. It is used here only to compare district results.

On the right are the data for each district, sorted from highest to lowest for beneficial conditions (enrolment, literacy, coverage extent), or opposite for adverse conditions (such as mortality or undernutrition prevalence), with shades in the left column corresponding to map and legend. Punjab is included in the main table, as well as rural/other urban and city results. The data confirm the extent of differences among districts. In this example, while there is a noted difference in enrolment between the Gunj Baksh Town (80%) and Narowal (60%), there is little or no difference between Narowal (60%) and Sargodha (58%), despite the different shading. (See below for interpretation of data).

The legend denotes groups according to results, with data ranges.

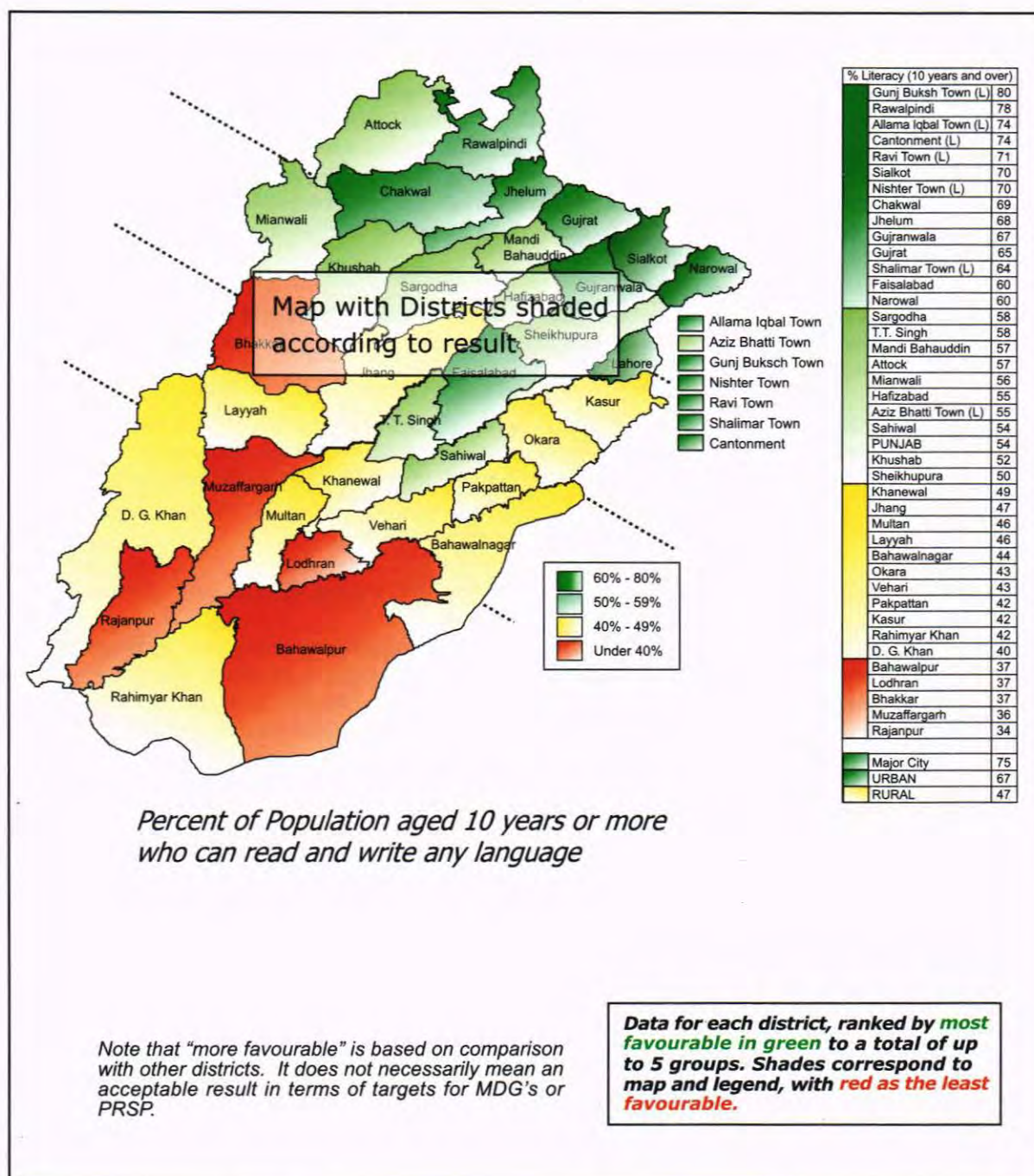
Under the legend is a brief explanation of the title for the indicator.

Interpretation of data

Data ranges take into account the conventional groups at 10 or 20% intervals, the range from highest to lowest and the likely confidence interval. In this example, groups are from 60-80% (highest) to under 40% (lowest).

The confidence interval for enrolment of 5-9 year olds on a district average is expected to be about +/- 5%, with a range of 10%. Hence a difference between two districts is statistically significant at the 95% level, if it is more than 10%. Hence districts within one group can be compared with that in another group, providing the difference is about 10% or more. A useful rule is to compare districts in one group with those in others, but skipping a group. In the example, any district in the dark green band has a more favourable prevalence than those in the yellow or red; likewise, districts in the yellow are better than those in the red. The problem mainly arises when comparing one district with another when the difference in prevalence rate is not major.

Explanation of the Maps Literacy Rate (10 years and Over)



ANNEX E: Composite ranking of Districts based on results for groups of selected key indicators

This approach provides a composite or summary rank for groups of eight key indicators: Adult Literacy and Primary School Enrolment, Under Fives Mortality Rate and Under-nutrition Prevalence, Adequate Water and Sanitation, Percent with Skilled Attendant at Birth and Modern Contraceptive Use. Each of these indicators reflects to the situation of the people, not institutions nor structures and thus each of them are either a key element of the MDG and/or pertain to a major aspect of human development. No specific economic indicators are used in this ranking, but these can be compared with the summary group.

Each district is ranked from the most favourable result to the least. Thus Gunj Buksh Town is ranked number 1 for Adult Literacy, having the highest prevalence (80%), while Rajanpur is ranked last (42nd) with the lowest prevalence (34%)¹.

The summary ranking is a basic sum of all ranks for the six indicators². The district with the lowest total sum is the top, while that with the highest sum is the bottom total rank. Scanning across results for all indicators allows a review of any consistent pattern. Further, shading the results (red shades have lower ranks) presents a visual pattern. Thus most of the results for the higher ranked districts have green shades, while those for the lower ranked are shaded red.

The summary table is an attempt to demonstrate patterns both among districts and indicators. This helps to confirm the relevance and utility of the results.

These results help fulfill a necessary but insufficient pre-requisite for planning and implementation. Optimal use of resources depends on knowledge of the district context, its physical (e.g. population density) and organizational structure, and economic, social and cultural factors. It should be noted that this is a relative ranking system and does not necessarily mean that a higher rank is acceptable. For example, a malnutrition rate of 30% or more, according to WHO indicates a serious nutritional public health problem and a problem if over 20%. Even those districts in the best rankings are still over 20% prevalence, indicating there is a problem.

The combined ranks are meant to summarize the results for the report. They do not necessarily reflect any official ranking for human development within Punjab. That is left up to the Government.

The last figure shows, as expected, that Lahore has the overall highest ranking. However, some of its Towns are lower than expected. For example, Aziz Bhatti Town is compromised by the relatively low Primary School Enrolment rate.

Apart from Lahore, Sialkot, Gujranwala and Rawalpindi have the highest rankings, the latter two affected adversely by the water supply situation. The lowest rankings are Vehari, Kasur, Muzaffargarh, Okara, Bhakkar, Bahawalpur, Bahawalnagar, Jhang, Pakpattan, Lodhran, D.G.Khan and Rajanpur (see map). Rajanpur has consistently the lowest ranking in four of the eight indicators.

It is of interest to compare rankings with that of the SPDC, done in 2001 (opp. Figure)³. These are very similar, with only Chakwal out of the top eight. Okara has a lower ranking in the MICS, with RH Khan, Layyah and Muzaffargarh higher as compared with the SPDC.

¹ Note that Lahore is included twice – once as a district and also as its components – 6 towns and Cantonment. Further, Punjab is included in the list to check its relative position in relation to the districts. This can be modified later, according to needs.

² Other methods to assess the sum of ranks (such as weighting the more important indicator results) can be used.

³ Note that parts of Lahore are not included in the SPDC ranking.

Some differences are to be expected, as the SPDC ranking was based on different indicators. There were four major areas: Literacy and education (out of school children); housing quality and congestion (wall and roof, single rooms and persons per room, etc); Residential housing services (electricity, cooking gas and piped water) and unemployment. Further, weights were applied to construct the "Deprivation Index".

Comparative Ranking - SPDC and MICS

	SPDC	MICS	
Lahore	1	1	Lahore
Sialkot	2	2	Sialkot
Rawalpindi	3	4	Rawalpindi
Gujranwala	4	3	Gujranwala
Faisalabad	5	8	Faisalabad
Gujrat	6	7	Gujrat
Jhelum	7	6	Jhelum
T.T.Singh	8	10	T.T.Singh
Attock	9	13	Attock
Sheikhupura	10	15	Sheikhupura
Narowal	11	9	Narowal
Mandi Bahauddin	12	12	Mandi Bahauddin
Multan	13	16	Multan
Chakwal	14	5	Chakwal
Hafizabad	15	14	Hafizabad
Kasur	16	24	Kasur
Sargodha	17	11	Sargodha
Sahiwal	18	20	Sahiwal
Khushab	19	18	Khushab
Okara	20	26	Okara
Vehari	21	23	Vehari
Mianwali	22	17	Mianwali
Khanewal	23	22	Khanewal
Bahawalnagar	24	29	Bahawalnagar
Jhang	25	30	Jhang
Bahawalpur	26	28	Bahawalpur
Rahimyar Khan	27	21	Rahimyar Khan
Pakpattan	28	31	Pakpattan
Bhakkar	29	27	Bhakkar
Lodhran	30	32	Lodhran
Layyah	31	19	Layyah
D.G.Khan	32	33	D.G.Khan
Muzaffargarh	33	25	Muzaffargarh
Rajanpur	34	34	Rajanpur

ANNEX F: Confidence Limits

Because the survey was a sample (selection) from a population, the estimates (such as prevalence) are not exact as would be the case for a census (everyone is included). Hence around each estimate is a range within which we can be statistically confident that the estimate lies within that range. The usual choice is 95% confident – i.e. if the same survey was repeated 100 times, the estimate would lie 95 times within the range. The range is smaller (or more precise) the larger the sample size and for this type of cluster sample, the more relative variation the result has within each site as compared with between sites.

The interpretation of statistical significance is illustrated for literacy rates by Districts and Towns on the next page. The 95% confidence limits are shown (the numbers show the lower limit and the width of the bar the interval. Thus for Gunj Buksh Town (shaded green at 70% and over), the range for literacy rate is 75 to 84% (about a result or estimate of 80%); for Gujrat (shaded blue at 60 to 69%) the range is 62 to 69% around an estimate of 65%. Obviously the rate in Gujrat (65%) is less than Gunj Buksh Town (80%); this is also supported statistically, where the upper part of the range for Gujrat (53%) is less than the lower part for Gunj Buksh Town (67%), i.e we are 95% confident that the estimate for Gujrat is less than for Gunj Buksh Town.

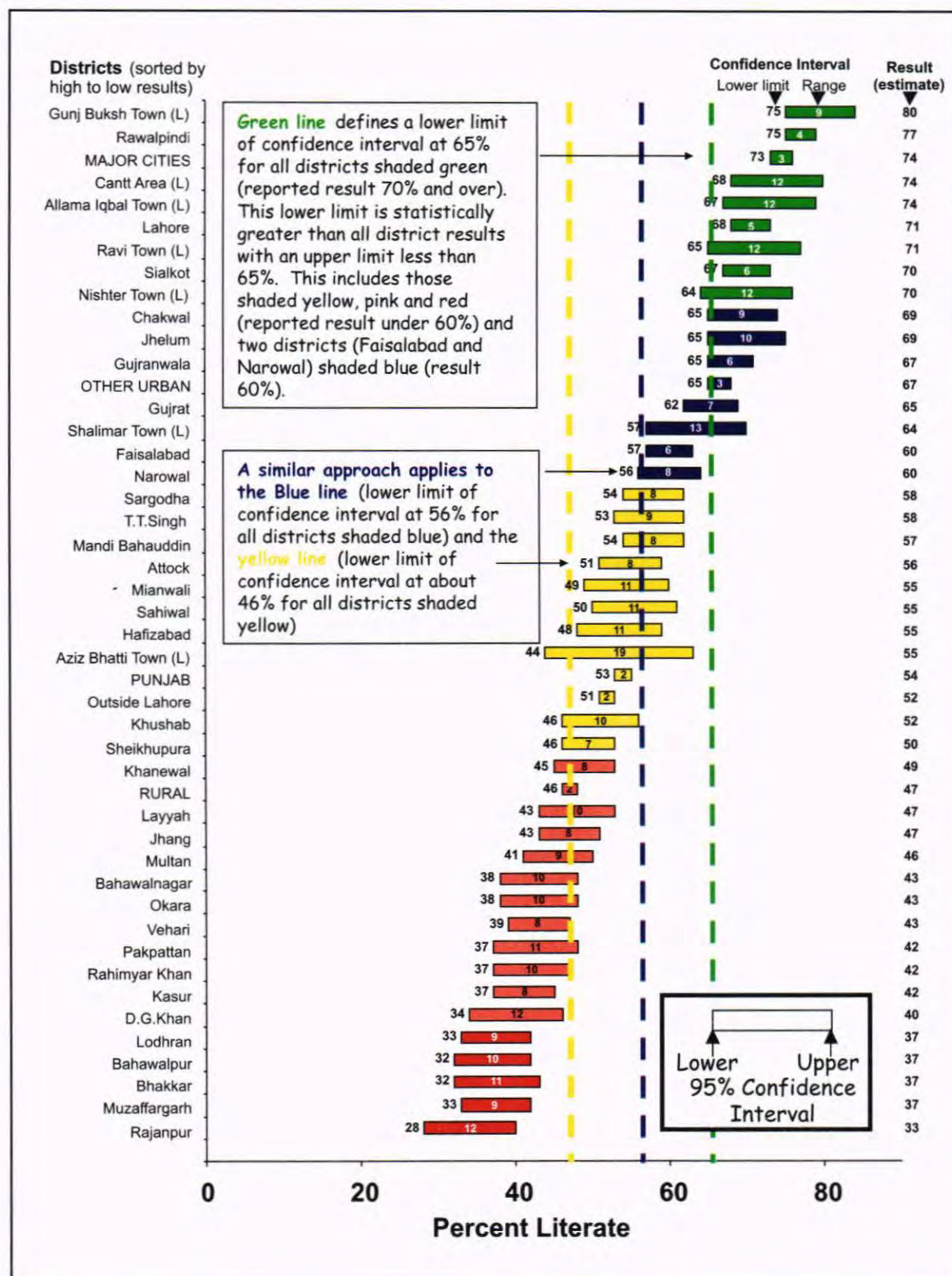
Rates for Chakwal to Narowal (shaded blue at 60-69%) are higher than all districts from Khushab and below. Rates for Sargodha to Sheikhpura (shaded yellow at 50-59%) are higher than all districts from RY Khan and below. The rates for Lodhran to Rajanpur are the lowest (red shading for results under 40%). However, their rates are statistically the same as rates for most of the districts in the pink shading (40-49%).

Hence, as a general rule, we are statistically confident in separating a district results in one group with those two places lower. Thus we can expect a rate for a district in the green shade to be statistically higher than those in yellow, pink and red; that in the blue higher than those for pink and red; in the yellow higher than a rate for a district in red. This is because the confidence range for literacy rates is about 10%, which the shades have ranges of 10% (i.e., 40-49, 50-59, and 60-69%). Shading in the maps is usually based on the 10% ranges.

The table indicates the ranges for selected indicators – by Punjab and major area and the median ranges for all Districts and Towns. Note that the ranges for Punjab and major areas are much less than that for districts. This allows reasonably precise estimates for conversion of percent estimates to total populations. In addition, comparisons with the census and other sources are much more statistically reliable at the level of Punjab and major areas.

Results for selected indicators are included in the Technical Volume.

Confidence Intervals – Literacy Rates 10 yrs+ Punjab MICS



Punjab MICS 2003-04 - Confidence Intervals

Worksheet	Indicator	Range for Confidence Intervals (at 95% significance)					
		PUNJAB	Rural	Other Urban	Major Cities	District (median)	Map interval
1	Literacy Rate of Population 10 years and over	2	2	3	3	10	10
	By sex	2	2	3	3	9	
2	Net Enrolment Rate (in Primary School) - by Sex	2	3	4	5	11	10
	By sex	3	3	6	6	14	
3	Reported Tuberculosis/100,000 Population	80	100	160	150	400	
	Cough for at least the last 3 weeks	0.2	0.3	0.4	0.4	1	
4	Received VitA capsule past 6 mths	1	2	3	3	7	10
	Underweight Prevalence	2	2	5	4	11	10
5	Diarrhea in past 2 weeks	2	2	3	3	9	
	Breastfed as Infant (up to 12m)	2	2	5	6	10	
6	Breastfed from 1 to 2 years	3	4	8	8	19	
	Birth Care by skilled attendant	3	3	6	6	14	10-15
7	Post Birth Care by skilled attendant	2	3	6	7	12	
	% Population Covered by LHW s	3	4	6	5	15	10-15
8	Contraceptive Prevalence (modern)	2	2	3	4	8	10
	Married Women 15-49 ys heard of HIV/AIDS	3	3	5	5	13	20
9	Improved Source of Drinking Water						
	In Household Premises	2	2	2	3	4	5
10	Within 2 Km	1	1	1	1	2	10
	Adequate Sanitation	3	4	3	1	16	20
11	Iodized Salt	1	1	2	4	5	10
	Computer in Household	0.5	0.3	1.1	2.9	2	
12	Electricity Supply to Household	2	3	1	1	14	
	Phone in Household	1	1	3	5	7	

Worksheet: refers to the Excel file in the Technical Volume

ANNEX G: Survey Validation

Third Party Independent Monitoring of MICS

TECHNICAL REPORT

1. Introduction

The Government of Punjab in collaboration with UNICEF carried out Multiple Indicator Cluster Survey (MICS) in 2003-04. Main objective was to collect information for key social and economic indicators in the province with the view to establish credible baseline for districts support at the outset of devolution plan. The survey was coordinated and supervised by Planning and Development Department, Government of Punjab, Director Punjab Economic Research Institute (PERI), Director General, Punjab Bureau of Statistics (BOS) and UNICEF.

Bunad Literacy Community Council (BLCC) was selected as a third party monitoring agency to support and report on the quality during all phases of the survey. The BLCC was to play a supportive role with the purpose of extending timely feedback to allow for fine tuning and corrective action.

2. Scope of Work for Monitoring of MICS

The scope of work for the monitoring was as under:

- a. Review of MICS technical and preliminary documentation to ascertain current position of the MICS survey planning.
- b. Review and provide feedback on the survey design including definition of indicators, sampling plans, survey instruments, field strategy and training material, plan and methodology.
- c. Monitor the household listing process during second-stage and provide feedback to UNICEF and P&D Department.
- d. Monitor the process of training of the trainers (TOT) and supervisory staff including supportive supervision of training process.
- e. Assess the quality of the listing and survey fieldwork including spot checks of the field operations, quality of interviews/measurements and questionnaire editing, etc.
- f. Assess the handling, control, entry and management process of the data and make recommendations for improvements. Also verify data sets after post entry cleaning and validation, as well as physically monitoring the data handling process.
- g. Provide comments on draft survey report prepared by Punjab Bureau of Statistics with a view to improve its quality.

3. Strategy for the Monitoring

Keeping in view the nature of its functions the monitoring being provided by BLCC was named as "Supportive Monitoring". It was not in fact conventional type of monitoring which is synonymous to "checking". Instead, the task before BLCC was to keep continuous watch on all the actions and processes of MICS, evaluate them and suggest timely corrective actions so that MICS methodology could be fine tuned for quality data collection.

Major components of the supportive monitoring strategy were to:

- c) Review, supervise, evaluate and provide technical support at the stages of planning, designing, sampling, devising survey instruments and training of staff using participatory approach;
- d) Monitor, provide technical support and assess the quality of field data collection through field visits and back checking of field data;
- e) Monitor and guide M/s Eycon at the stages of questionnaire editing, data entry, cleaning and analysis to minimize data errors;
- f) Review and comment on the quality of draft MICS report.

4. Third Party Assessment of MICS

While remaining within the limits of their scope of work the monitors tried their best to provide unbiased opinions and evaluations at various stages of MICS implementation. The monitors' feedback was always timely which was openly discussed and adopted. Throughout the process there was close harmony between the monitors and supervisors. Our input not only contributed towards improvement in the survey but also added confidence in the MICS data. The monitoring achievements are briefly discussed in this section.

4.1 MICS Documentation Review & Feedback on Survey Design

Soon after having agreement with the UNICEF the monitors reviewed MICS documentation including MICS manual, survey tools, list of indicators, list of sample clusters, all orders issued by P&D Dept., Government of the Punjab, BOS and other related agencies. Moreover, meetings were held with the concerned UNICEF staff at Lahore office, core team of BOS and Chief Economist in the P&D Dept., Government of the Punjab.

In the light of documentation review and meetings with the concerned staff the monitors assisted BOS in planning and designing of MICS. Major inputs at this stage were as follows:

- a) The monitors observed that Rural/Urban ratio in the sample was 60/40. Whereas, the population ratio in the Punjab was around 67/33. Similarly, the sampling ratios were also not proportionate to populations at district level. The point was discussed with the concerned staff of BOS. They sought clarification from Federal Bureau of Statistics (FBS). The FBS ensured to provide appropriate weights at the stage of data analysis to bring the results close to the population proportions.
- b) The questionnaire prepared by BOS was thoroughly reviewed by the monitors and improvements were suggested in almost every sections of the questionnaire with regard to structure, data, language and typographic errors.
- c) The monitors compared the list of indicators to be derived from the data being collected by using the survey tool. It was found that there were several indicators for which survey tool did not have adequate data. The BOS accordingly made required adjustments in the questionnaire as well as in the indicators.
- d) The training of trainers, supervisors and enumerators was closely monitored and assistance was provided to BOS in the final evaluation and selection of the field teams.

1. Literacy and Education

A. Literacy

The literacy rate in the MICS is derived from two questions:

- Can you read with understanding any of the following languages: 1 Urdu 2 English 3 Punjabi/Seraki 4 Other 5 Can't Read any 6 Quran 9 don't know
- Can you write with understanding any of the following languages, with a similar coding as read (excluding Quran).

Definition of illiteracy was any response for can't read (excluding Quran) OR any response for can't write. Editing checked that none of the multiple responses had both 5 (cant read/write) and any other response, which would be inconsistent.

Results for Punjab showed a rate for illiteracy of 54.0% in people aged 10 years or more, if missing values (4.5%) were excluded. Efforts were made in the analysis to reduce the number of missing values.

After checks for relationship of literacy with other correlated variables, such as age, highest school grade reached and ever enrolled at school, the most promising appeared to be the last choice in those age 10 years+:

If the person has never been enrolled in school, he/she is most likely to be illiterate (Table 1).

There is a case for replacing the missing values for illiteracy by never been enrolled. However, there

is no suitable complementary method for replacing missing values for literacy.

Table 1

Ever been to school	read and write (weighted percents)				sample
	illiterate	literate	missing	Total	
no	39.9	0.1	2.1	42.2	89464
yes	3.6	51.1	1.7	56.4	59734
missing	0.4	0.4	0.6	1.4	2294
	43.9	51.6	4.5	100.0	
sample	62229	82318	6945		151492

The percent of literacy in those with highest grade completed ranges from 81.2% (for Grade 3) to 96.3% (for Grade 5). Substitution for Grade 5 and beyond might be possible because of the high likelihood of literacy. This would result in a reduction of missing cases of about 0.4%. However, this still leaves some 1.3% without any recourse. If the above substitutions were done, the total missing values would be reduced to about 2.0% (from 4.5%). The literacy rate for Punjab would also be reduced from 54.0 to 52.0%.

However, after review, it is recommended that the substitution not be made for the following reasons:

Although we can identify illiterates, we cannot identify all those literate and missing (there is an overlap in highest grade reached and literacy – some of the subjects whose highest grade was 2-4 were literate.

Consistency: Substitution has not been applied for Balochistan, Punjab and NWFP MICS.

Special consideration might be given to those districts with a relatively high percent of missing values, such as Hafizabad (29%) and Sargodha (12%).

Table 2

Highest grade completed	read and write (weighted percents)				sample
	illiterate	literate	missing		
Katchi	63.3	36.7	366		1231
1	50.7	49.3	362		1742
2	36.6	63.4	517		3593
3	18.8	81.2	453		4708
4	8.7	91.3	303		5760
5	3.7	96.3	293		16975
6	1.2	98.8	66		5026
7	1.0	99.0	41		4715
8	0.7	99.3	76		11560
Total	9.6	90.4	2477		55310

ANNEX J: Technical Notes

1. Literacy and Education
 - A. Literacy
 - B. Education 5-17 year old children
 - C. Children Reaching Grade 5 and Dropouts during Primary school years
 - D. Education Matrix
2. Water and sanitation
3. Young Child Mortality
4. Women's Health
5. Contraceptive Use
6. Fertility Rates
7. Children Under five years of age
8. Malnutrition (Underweight-for-age) in children under five years of age.

⁴ Nine of these deaths were in women over the age of 49.

An important issue is one of recall; is there a difference in the numbers reported by year? It appears that there are less numbers reported in earlier years (1999-2000) for both groups, as well as 2001 for the non-pregnant related. This influences the interpretation of the findings – a possible under-estimate if the whole five-year period of recall is taken⁵.

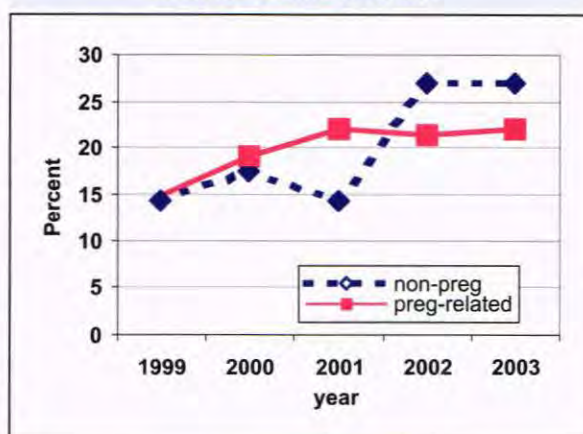
Crude estimates of Maternal Mortality

The numerator is the number of women aged 15-49 who died of pregnancy-related deaths in any given year.

The denominator for Maternal Mortality ratio is the total number of births for the population over the same period; the ratio being the number of women's deaths per 100,000 births.

The total births is the number of children aged up to 5 years for all women 15-49 years plus half the deaths over this period = $23806 + 1190$ (U5MR=100) = 24996.

Year of Women's deaths



Crude estimates of Maternal Mortality (women aged 15-49)

Unweighted				Weighted			
Past 5 years				Past 5 years			
births	Preg-nancies	deaths	rate per 100,000 births	births	preg-nancies	deaths	rate per 100,000 births
(1) 23806	24996	81	324	8368435	8786857	24286	276
(2) 23806	24996	72	288	8368435	8786857	21004	239
Past 3 years				Past 3 years			
births	Pregnanci-es	deaths	rate per 100,000 births	births	preg-nancies	deaths	rate per 100,000 births
(3) 13948	14645	46	314	4952163	5199771	14376	276

* pregnancies = live births* 1.05

The first row (1) is based on all women (n=81) reporting a maternal death, including 9 over the age of 49. The second row (2) includes only those women aged 15-49 years (n=72). The third row (3) is based on the past 3 years, due to a likely improved recall and inclusion of only women aged 15-49 years. The unweighted ratio for this group is 314 and the weighted 276 maternal deaths for 100,000 births. One disadvantage of using weights is the relatively small number of deaths, resulting in a possible instability for very high or low weights.

The tentative ratios and rates can be rounded to the nearest 50, and based on other studies with a similar sample size, a confidence interval included (About 100).

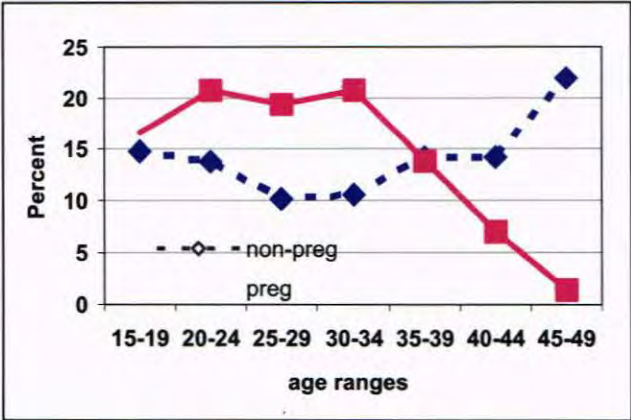
⁵ On the other hand, taking less years (say the last 3) would reduce the total numbers, already low. Further the period was from the month of the survey (September-December 2003), so that the percent for 2003 is based on 9-12 months rather than a whole year. Although the month of death could not be estimated, the low percent in 1998 (9% of the total - not indicated in the graph) could be partly due to that whole year not being included.

ANNEX I: Maternal Mortality Estimation

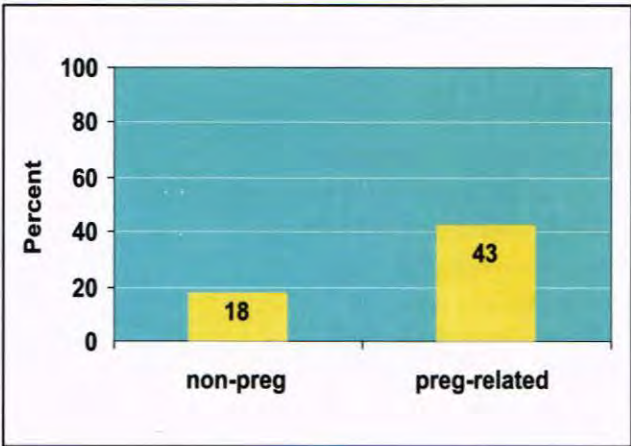
Comparisons are done between the 81 Nine of these deaths were in women over the age of 49. women who died during pregnancy-related deaths and those who died in conditions unrelated to pregnancy (350 total). As expected, the age distributions are quite distinct (fig 26). For pregnancy-related, the highest percent died aged 15-34 years of age, for non pregnancy-related, the highest percent is in the 45-49 year age group.

A greater percent of women with pregnancy-related deaths died in hospital as compared with non pregnancy-related (43% vs 18%). However, this is still less than half of all deaths, a situation which reflects delayed care and is unacceptable.

Age distribution of women's deaths



Percent dying in hospital



⁴ Nine of these deaths were in women over the age of 49.

ANNEX H: Data Management Assignment

During the planning phase of Punjab MICS 2003, the Government of Punjab realized that the handling and processing of MICS data (more than 30 thousand forms) would be beyond the existing capacity of the department and it would be further stretching the resources of Bureau of Statistics that was already overburdened with pressing demand for routine data by P&D. It was therefore decided in a review meeting held under the chairpersonship of the Chief Economist that the data management should be outsourced to private sector agency having required resources and expertise in undertaking such complex and voluminous data processing.

The assignment was designed to achieve the following objectives:

1. To develop a Comprehensive "Data Management Plan"
2. To perform pre-entry manual processing (checking/scrutiny of forms)
3. To carry out data entry in computer (with over 99% accuracy)
4. To clean data through computerised consistency checking
5. To perform preliminary tabulations and frequency distributions
6. To provide readily usable dataset of the survey in electronic form for subsequent in depth analysis.

An important aspect of this assignment was to maintain very high quality standards throughout the data processing phases. M/S Eycon Solutions was therefore asked to institute an internal quality assurance mechanism based on complete documentation of every step performed as well as close supervision and monitoring of the process.

In addition to this, a third-party monitoring was commissioned by hiring Bunyad Literacy Council, Lahore (the same agency also monitored survey field work) to assist the Bureau of Statistics in achieving the following:

1. Review M/S Eycon Solution's methodology and tools including software;
2. Spot check each step of data processing; and
3. Certify the quality of work performed by Eycon.

The Bureau of Statistics coordinated the efforts of data processing and guided the agency on technical issues such as policy on data editing, and referring back to field in case of inconsistent responses.

The MICS data entry software, developed in Microsoft Access 2000 and earlier used in NWFP in 2001 was adapted for the purpose of MICS Punjab. However, due to major differences in the two questionnaires, the entry screens had to undergo major changes, as well as some additional functions were built into this version.

A significant feature of the software was "intelligent" data entry that restricted erroneous data entry through the application of 142 range checks, 25 logical skips, and 19 conditional entries in addition to structural arrangements and interface features to minimize entry errors.

The data entry software was extensively reviewed by: a) International MICS Consultant; b) independent monitoring agency; and c) MICS Core Group comprising BOS and UNICEF officials.

Office editing of data and computerised data entry started on 1st and 10th December, 2003 respectively and completed on March 6, 2004. Secondary data cleaning continued during the data review process jointly undertaken by the International Consultant, and Eycon during tabulation and preliminary analyses

For further details, readers are referred to "Punjab MICS 2003 Data Management (Technical Volume)" by Eycon Solutions.

4.7. Back Checking of Questionnaires

The monitors were supposed to back-check data by taking 10% of the MICS sample and revisiting the selected respondents. This stage was implemented through following steps:

- a) Development of a checklist comprising variables, values of which do not significantly change due to change of respondents and lapse of time;
- b) Taking 10% of the MICS sample randomly as a sub-sample for back-checking;
- c) Deployment of 6 field teams for the task. Each team comprising one female and one male;
- d) Transferring data from the MICS questionnaires on the checklist;
- e) Re-interviewing the respondents in the sub-sample;
- f) Comparison of recorded data with the survey information to see gap between the two data sets. The evaluation criterion was that lesser the gap between the two data sets more will the MICS data be reliable.

The collected data was analyzed on computer and found that data in overwhelming majority of the sample cases was comparable. As a result, MICS data was evaluated as reasonably reliable and accurate.

4.8. Other Supportive Actions

The monitors participated in a number of meetings and provided technical support for data analysis methodology. Moreover, two versions of MICS draft report were reviewed and suggestions made to improve the quality of presentations and to remove the inconsistencies/mistakes in the drafts.

5. Conclusion

The MICS research team and monitors worked in complete harmony and at no stage any misunderstanding took place. The monitors' role was supportive from the day one due to which the research team and field staff did not develop negative suspicions against the monitors. Due to better understanding between the teams the quality of data improved, and the project fully reaped the benefits of third party independent supportive monitoring.

The acceptable level of error in the data (field plus entry errors) was set at one percent. After applying more than 200 logical and range tests and having recourse to original questionnaires it was established that total level of error in the data was 0.83% consisting of 0.52% response error, 0.25% editing and 0.06% data entry errors. Keeping this in view the monitors are satisfied that the MICS data is reasonably clean, accurate and reliable for estimation of selected socio-economic indicators for this study.

4.4. Supportive Monitoring of Field Operations

BLCC deputed 6 teams, (One male and one female each) for supportive monitoring and spot-checking of the field operations. The monitors visited all the BOS teams working in the field for at least once and performed following tasks:

- a) Spot checking of the field operations;
- b) How the enumerators introduce themselves to the sample Households;
- c) How they put questions;
- d) What was the surroundings when the interviews were held;
- e) Whether sensitive questions were put in privacy;
- f) Whether the enumerators completed all the relevant modules;
- g) Time spent in one interview;
- h) Whether sample households were selected as per listings
- i) A sample of filled-in-questionnaires was checked at regional office and mistakes were pointed out/discussed with the teams.

Following was the major input of the field monitors:

- a) Field teams had confusions on some of the issues, which the monitors discussed with them and clarified;
- b) The monitors found minor inconsistencies in the filled-in-questionnaires, which were pointed out to the field teams;
- c) In some of the places teams were found not using salt testing kits. It was in case of negative answer from the household regarding the use of iodized salt. The monitors however, advised the teams that the salt must be tested using the kit even if there is negative answer;
- d) The field teams generally expressed enthusiasm for the survey. However, in some of the cases this enthusiasm was turning into haste, which was pointed out, and the need for maintaining the balance was emphasized.

4.5. Short Surprise Visits to the Field

After supportive monitoring of MICS field teams, the BLCC monitors paid an additional (surprise) visit to the field. The purpose was to provide technical support to the MICS field teams and to show extended presence in the field so that MICS teams remain alert and active.

4.6. Monitoring Data Entry and Cleaning Process

The BLCC monitored data editing, entry and cleaning process. The input was provided by the monitors at the stages of:

- a) Questionnaire editing by M/s Eycon;
- b) Development of the users friendly and intelligent data entry software;
- c) Data management during entry and data cleaning;
- d) Manual spot checking of a small sample of entered data;
- e) Developing logical and range checks (more than 200 for MICS) for data cleaning;
- f) Assessing quality of data set to ensure that it is reasonably clean and reliable for analysis to estimate the indicators.

- e) While the BOS was planning for field operations, the monitors coordinated with the core team and extended all possible assistance to make the field plans perfect and functional.

4.2 Checking of Listings

Initially it was planned that the household listings would be physically checked by the monitors in 10 percent of the sample clusters. However, during the introductory meetings, the Chief Economist P&D advised to apply more than one methods to check the listings. She was of the view that the listings should be reviewed in the office on 100 percent basis, and physically check in the field on sample basis. The monitors, therefore, used both methods to assess the quality of the listings.

4.2.1 Office Review of listings

The review of household listings for 2,190 clusters was a huge task within a short time in hand. The number of households in each listing ranged between 16 to more than 800. BLCC inducted an expert of this field who had practical experience of listings and sampling. He reviewed the listings in each sample cluster and checked for any inconsistency and inaccuracy of systematic sampling procedure. Legibility of hand written information in the listings, completeness and variation in the size of clusters were also checked and commented.

During office checking the listing was generally found perfect. However, there were mistakes in some of the cases in rounding of sampling intervals. Similarly, in some of the listings household type codes were doubtful. But the number of such cases was small due to which no perceptible affects on the quality of data were expected.

Another problem which was found in the listing was wide difference in the size of clusters. The range was 16 to 828 households. Majority of the clusters was, however, within 200-350. Around 200 clusters were such which were having less than 150 or more than 350 households. This variation was attended by providing appropriate weights by FBS.

4.2.2. Field Checking of Listings

The field checking of listings was done on sample basis. During field checking first household was selected at random in each sample cluster and more than 20 consecutive households were checked for accuracy of listings. In this exercise the listings were found to be correct except in 5 percent of the cases where some of the households were missed. Although this was a mistake yet it being random was not going to affect MICS data in any case.

4.3 Monitoring of Field Staff Training

The training of field staff was conducted in two steps. At first step "Training of Trainers (TOT)" was conducted. BLCC deputed two experts to monitor this training who attended all 6 days of the training. One of the two monitors of TOT was educationist and the other was the public health expert. The monitors found TOT as satisfactory. The participants were found capable enough to conduct training of enumerators except one who was replaced by BOS when indicated by the monitors.

The training enumerators was conducted by the Master Trainers produced in TOT. They conducted trainings of enumerators at old divisional head quarters. The BLCC experts attended each of the training of enumerators for at least two days. These trainings were generally found to be good except at two places i.e., D.G. Khan and Lahore-2. The BOS repeated these trainings to fill the gap.

An alternate consideration is to consider a person illiterate when he/she cannot read and the response for write is missing or when he/she cannot write and the response for read is missing. For Punjab, this would reduce the percent of missing from 4.4% to 2.8% and the literacy rate for 10 years plus from 54.0 to 53.1% (see table).

% Literacy 10 years +			
% Write			
no	yes	missing	Total
31.7	0.3	1.6	33.6
11.9	51.6	0.5	64
0.1	0.0	2.2	2.3
43.7	51.9	4.4	100

One problem is that the adjustment cannot be made for literacy (i.e. those who can read, but write is missing - in 0.5% of cases), because write could be present or absent. However, it might be useful to apply this to Hafizabad, where the missing values are major, and to a lesser extent for Sargodha.

read+write (1)			
			51.6
not read or not write	= 31.7+0.3+11.9		43.9
			4.4
yes (exc miss)	= 51.6 * 100/ (100-4.4)		54.0

In the case of Hafizabad, the revised literacy rate for 10 years+ would be 43.1% (prior 54.1%), with a reduction of missing values from 29.2% to 11.2%; and for Sargodha the revised literacy rate would be 54.1% (prior 58.2%) with a reduction of missing values from 12.2% to 5.7%.

read+write (2) - includes relevant missing			
			51.6
not read or not write	= 31.7+0.3+11.9+0.1+1.6		45.6
	= 4.4-0.1-1.6		2.8
yes (exc miss)	= 51.6 * 100/ (100-2.8)		53.1

B. Education 5-17 year old children

Secondary Data cleaning was done to check missing values and inconsistencies

The following are key variables (see questionnaire)

- I. HL9 "Has HH member ever been enrolled at school?"
- II. HL10 "What was the highest class (name) completed".
- III. ED13 "Was HH member (5-17 years) was enrolled at school at any time this year?"
- IV. ED14 "What is the class currently (HH member 5-17 years old) at school".
- V. ED19 "Was HH member 5-17 years old enrolled in the previous school year?"
- VI. ED20 "Did HH member 5-17 years old pass the last year class? "

I "Has HH member ever been enrolled at school?"

schools. Analysis for ever been enrolled should exclude both these.

New variable HL9a for ever enrolled, put yes (code=1) if highest class completed was given and HL9 not equal to 1, put missing if no response and aged 5 years or more.

II "What was the highest class (name) completed". been enrolled at school

The following are based on children aged 5-17 years.

III "Was HH member (5-17 years) enrolled at school at any time this year?"

New variable ED13a:

Put missing if no response and aged 5-17 years

Put 1 (enrolled) if any positive response for ED14 "What is the class currently (HH member 5-17 years old) at school" and other education variables (ed15 to ed18) on attendance and school type (apart from Deeni Madrassa). Analysis for enrollment excludes Katchi and religious classes.

IV ED14 "What is the class currently (HH member 5-17 years old) at school".

Put missing (1) if no response and ed13a=1 (was enrolled in school)

Put enrol missing (2) if enrolled in school missing.

Issue of missing values:

Whereas missing values for currently enrolled can be identified, those for current grade have two components (1) Grade not known when enrolled and (2) whether enrolled unknown. In the second, we do not know which of these were truly not enrolled (hence grade not applicable) or truly enrolled (with grade expected, but missing). Hence this second group has a separate missing status.

Check consistency of HL10 "What was the highest class (name) completed" and ED14 "What is the class currently (HH member 5-17 years old) at school". These are the two key variables for estimating dropouts (see below for more details).

One expects that the highest class completed is one class less than class currently enrolled. This was not the case in 3.1% of responses, in 2.4% it was the same class, in 0.4% it was a higher class and in 0.3% it was a lower class.

If the highest class completed was the same class as enrolled, assume a repeater and code as such (2.4% of cases). The inconsistencies (0.7%) were not changed as it was unclear which was correct: highest class completed or class currently enrolled. However, review of the fieldwork indicated for some responses, the word "completed" was misinterpreted as currently enrolled at school.

V ED19 "Was HH member 5-17 years old enrolled in the previous school year?"

VII. ED20 "Did HH member 5-17 years old pass the last year class? "

These questions (combined with whether currently enrolled and grade) are required for results about Children Reaching Grade 5 and Repeaters/dropouts during Primary school years.

C. Children Reaching Grade 5 and Dropouts during Primary school years

These are children who fail to advance to the next year in primary school. Ideally, it is best to follow up each child throughout the whole of the primary school cycle. The MICS obtained the result for each child from one school year to the next⁶.

The methods for determining internal efficiency and 'wastage' in education 'Wastage' refers to the combined effect of grade repetition and dropout. requires some form of cohort (follow-up) analysis, with the same pupil over the complete cycle (such as grade 1 to 5) to include or exclude repetition of a grade). The alternative is to use the same child from one class to the next, and then combined the results for each class cycle to form a complete cycle from grade 1 to 5.

The MICS methodology provides the last option. The questions 19 and 20 (about enrolled last year) are linked with current enrollment (this school year) to determine whether a child continued schooling and advanced to the next grade, stayed in the same grade or did not pass (repeater) or dropped out.

Education Questions - Punjab MICS

Ever Enrolled (5 years +)		Current Enrolled (5-17 yr)		Enrolled Last Year (5-17 yr)	
9	10	13	14	19	20
Has (name) ever been enrolled at school?	What was the highest class (name) completed?	Was (name) enrolled in school at any time this year?	Which class is (name) enrolled? write the class	Was (name) enrolled in the previous school year?	Did (name) pass in the previous school year?
1 yes 2 no 2 no 9 DK (If no or DK, go to Col 9)	(1 to 16 or greater) Put 00 FOR less than 1st or Katchi 99 for DK	1 yes 2 no 2 no 9 DK (If no or DK, go to Col 9)	(1 to 12) Put 00 FOR less than 1st or Katchi 99 for DK	1 yes 2 no 2 no 9 DK (If no or DK, go to next child)	1 yes 2 no 2 no 9 DK

The results for each child are cumulated from Grade 1 to 5 (Grade 1-2, 2-3, 3-4, and 4-5). In the MICS manual, children reaching grade 5, is defined as the proportion of children entering first grade of primary school who eventually reach grade 5. The question on enrolment in the previous school year was required for ALL respondents, whether enrolled in the current school year or not. This question had no response in 7% of cases; in 9 districts this was over 10% and in Hafizabad 30%. Most of the non responses were those who were not enrolled this year.. Hence, the usual MICS estimate for failing to reach Grade 5 during Primary School (which requires current and last year enrolment) was not reliable.

This was found to be the case when results showed very low rates in several districts in which higher rates were expected. A further problem was that the grade of children enrolled in the previous school year was not known if they were not enrolled in the current year.

Various analytic methods were used to derive indirect estimates of dropouts. One used a combination of questions 9, 10, 13 and 14 (ever enrolled, highest class completed, currently enrolled and current class). In this way the grade cycle was "forced" for a child from one proxy year to the next. The problem is that we don't know the year or child's age when the highest grade was completed, if the child was not enrolled in the current or prior year or if this information is missing. For this reason, the age group of 10-12 years was selected to minimize the possibility that a child had dropped out in a year prior to the current school year.

Thus, the analysis used a "short cut" for each child by asking about the highest grade "completed" and whether currently enrolled. The resulting "cohort" is for different children over different periods of time. Combining this "mini-cohort" provides an estimate for grade cycle dropouts. Apart from this substitution, the method is very sensitive to respondent problems.

⁶ For each child enrolled in a Primary School grade, two questions were asked: Was he/she enrolled in school last year. If so, did he/she pass the class last year? Those who passed were assumed to advance to the next year; those who did not pass were assumed not to advance – i.e. were repeaters for that grade. The results for each grade were combined to determine whether a child initially enrolled in Grade 1, reached Grade 5.

⁷ 'Wastage' refers to the combined effect of grade repetition and dropout.

Another method used a reconstructed cohort of grades, as recommended by UNESCO Institute of Statistics, Bangkok, that uses grade-wise enrolment in two consecutive years as well as repeaters by grade. Enrolment in the year previous to the current year had to be estimated indirectly. Also there was an underestimate of children enrolled in each grade in the prior year as compared with the current year.

For further details, please refer to the technical volume.

D. Education Matrix - This is not presented in the report, but is available on request.

This matrix includes ALL children aged 5-17 years as to current enrolment status, never enrolled, or previously enrolled but not currently.

Missing values have two sources:

(1) Response is currently enrolled but don't know the grade

(2) No response for currently enrolled.

Grades are grouped as follows: Less than 1 or Katchi (0); Primary (1-5); Middle (6-8); Matric (9-10); High sec (11-12) and Religious.

Ages are grouped as follows: 5-9, 10-12, 13-14 and 15-17. Note these are the ages at the time of the survey and deal with completed years (e.g. 5-9 means reached at least 5th birthday up to 9th birthday, but not 10th).

The tables are in the form of a matrix – grades by age group

The output are in weighted numbers, which reflect the actual total populations of children and numbers in each grade (this may be a underestimate as the population base was related to the census and should be corrected if possible according to district projections).

There are two types of tables:

- (1) Grade groups by age groups
- (2) Single grades by single ages
- This provides the required information for all education-related indicators for children aged 5-17 years.
- It is simple and visual for technical and lay people.
- Also, it deals with numbers of children to allow comparisons with findings from other sources, such as EMIS and school census.
- Moreover, it can be applied to any administrative unit from household to within or total village/mullah to union councils to districts.

Only four key questions need be asked:

(1) "Has HH member (5-17 years) ever been enrolled at school? "

(2) "What was the highest class (name) completed".

(3) "Was HH member (5-17 years) was enrolled at school at any time this year?"

(4) "What is the class currently (HH member 5-17 years old) at school",

As well as completed age and gender.

If pre-school education is required, the age group should begin at 3 or 4 years, but the type of school/kindergarten/etc should be clearly indicated.

The same matrix has been applied for urban/rural, Lahore/other districts and each district/town in Punjab, all by gender (see Technical Volume).

Note in the file, various worksheets rearrange the key data for different types of use.

An example is shown for Punjab using the total population of children aged 5 to 17 years. It also illustrates that 37% percent of “over-age” children (10 to 17 years) are enrolled in Primary School, explaining the large difference between Prim NER (51%) and Prim GER (88%).

Education status Punjab – Total population of children aged 5 to 17 years

School ages							
School levels	5 to 9	10 to 12	13 to 14	15 to 17	Total	Indicators	%
<1 or Katchi	1,520,145	84,740	8,030	2,273	1,615,188		
Primary	4,791,543	3,138,934	562,749	168,858	8,662,085	Prim NER	51.0
Middle	34,182	1,081,771	1,157,423	567,454	2,840,831	Prim GER	88.1
Matric		40,509	380,740	899,834	1,321,082	Middle NER	18.2
High sec			19,838	432,870	452,709	Middle GER	47.7
Religious	15,699	13,001	6,052	8,133	42,885	Matric NER	11.2
Never enrolled	2,760,723	1,294,377	780,265	1,107,705	5,943,070	Matric GER	38.9
Not enrolled	265,631	300,006	479,106	1,326,937	2,371,679	High NER	9.6
DK enrolled class	114,732	67,394	57,325	107,074	346,524	Sec NER	33.0
DK enrolled	334,770	138,908	90,864	299,385	863,928	Missing	4.9
Total	9,837,426	6,159,641	3,542,392	4,920,522	24,459,982		

Prim NER	% of children aged 5-9 who are enrolled in primary school in the current school year
Prim GER	% of children aged 5-17 enrolled in primary school in the current school year divided by number of children aged 5-9
Middle NER	% of children aged 10-12 who are enrolled in middle school in the current school year
Middle GER	% of children aged 5-17 enrolled in middle school in the current school year divided by number of children aged 10-12
Matric NER	% of children aged 13-14 who are enrolled in Matric in the current school year
Matric GER	% of children aged 10-17 enrolled in Matric in the current school year divided by number of children aged 13-14
High NER	% of children aged 15-17 who are enrolled in High Sec school in the current school year
Sec NER	% of children aged 10-17 who are enrolled in Secondary school (Gr 6-12) in the current school year
Missing	No information on enrolment status (denominator is all children of the designated age group)

2. Water and sanitation

Improved Sources and access to drinking water (see questionnaire section below)

a. Use of improved source of drinking water

The Technical Committee for the survey recommended that the term "safe" water be changed to "improved sources" of water, and emphasize in the report this does not imply quantity and quality.

Water from so-called "improved" sources can readily become contaminated and unsafe for human use.

Hence, efforts to better safety and amounts of drinking water are still essential for adequate health.

Further, the section applies only for drinking water, not other sources.

Codes and definition

These follow the recommendations of WHO (also see site) that because of the difficulties in measuring safe water, improved sources be used as a proxy.

The following codes for improved sources were used:

1 piped water, 2 public standpipe or tap, 3 hand pump, 4 donkey pump/ turbine 5 protected dug well 7 protected pond

The following are not improved sources: 6. Unprotected dug well 8. Unprotected pond 9. River, canal or stream 10. Vendor provided 11. Tanker truck provision 12. Bottled 13 Other

Other sources were uncommon (1.0% of the total sample).

Analytic methods

Initially, inconsistencies and missing values were explored.

For the Province, there were 111 missing values or don't know (0.3% of the total). This was highest in Layyah (2.6%) and Muzaffargarh (2.8%). There was no means to convert these results and they were treated as missing (i.e. not included in the analysis). However, this relatively low percent would not make an important difference in the results.

Rarely, (in 54 cases or 0.2% of the sample), the source of water was inconsistent with being on the household premises (e.g. river, canal or stream). Even so, being non-improved sources, this does not influence the results; hence they were kept for the analysis to be included for non-improved sources.

8. WATER AND SANITATION MODULE					
<i>This module is to be administered once for each household visited. Record only one response for each question. If more than one response is given, record the most usual source or facility.</i>					
WATER					
1. WHAT IS THE MAIN SOURCE OF DRINKING WATER FOR MEMBERS OF YOUR HOUSEHOLD? (CIRCLE ONE)	Piped water	1	Protected pond	7	Other (specify) 13
	Public standpipe or tap	2	Unprotected pond	8	
	Hand pump	3	River, Canal, Stream	9	
	Donkey pump/Turbine	4	Vendor provided	10	No response 97
	Protected dug well	5	Tanker truck	11	Don't know 99
	Unprotected dug well	6	Bottled water	12	
2.. Is this water source on the premises?			1 Yes 2 no If yes 5		
3. WHAT IS THE DISTANCE IN KM. TO GET DRINKING WATER? Less than ½ km.....1 More than 2 km.....4 ½ to 1 km.....2 Don't Know..... 9 1 to 2 km.....3			4. How long does it take to go there, get drinking water, and fetch water home? No. of minutes..... DK..... 999		

b. Access to Drinking Water

How far away and how long does it take to collect your water for one day (include waiting periods), within radius of 2 Km or within half an hour?

We presented two sets of results for improved sources– one for within household, the other up to 2Km or up to ½ hour away (there and back), based on the indicator definition.

Again, results on access should be interpreted in the same way as the note made for “improved” sources. There were 1.9% of missing cases for the combination of source and access. This was similar in rural, other urban and major cities, and was highest in Mianwali (6.8%), Kasur (4.8%) Hafizabad (4.6%) and Layyah (4.4%).

In the province, only 0.4% of households had their drinking water source 1-2 Km and 0.3% 2 Km or more away, with similar findings for time (up to 1 hour away – there and back). There were minor inconsistencies among water on premises and distance/time noted, amounting to less than 0.5% of the total sample. No changes were made to standardize all responses because it was not clear which responses were more likely to be correct.

Analysis used the variable “water on premises” (ws02) as the basis for determining access within household. Payment for water (under the Expenses module) was used as a consistency check.

c. Availability and Use of Sanitary Means of Excreta Disposal

The following codes were used for sanitary means:

Proportion of population who have within their dwelling or compound: 1. Connected to a public sewer 2. Connected to a septic system 3. Pour flush toilet 4. Ventilated improved pit 5. Traditional pit latrine (closed).

The following are not sanitary means 6. Service or bucket latrine (where excreta are manually removed) 7. Open-air latrine (in compound) 8. Public latrine 9. Open places

d Disposal of Wastewater

The following codes were used:

Adequate: Sewerage connected with main line, Sewerage connected with open drain, Septic Tank

Inadequate: pit latrine in or outside house

e Disposal of Solid Waste

Adequate: collected by any municipal institution, disposed of by solid waste management department, private company vehicle collected from home

Inadequate: in open streets, in open fields

f. Washing Hands – We Asked Two Questions to Acquire the Results:

Percent of HH washing hands with/without soap before meal by all, some or no hh member

Percent of HH washing hands or after using the toilet by all, some or no hh member

Adequate practices:

For before meal, all hh members should wash hands with soap.

For after using the toilet, all hh members should wash hands with soap

3. Child Mortality Module

This was restricted to women who had at least one live birth. Secondary editing ensured that the numbers of children alive, died and total were consistent for each woman. Information on the total number of women aged 15-49 by 5 year intervals was extracted from the members' module. This was also re-checked by merging the members and women's files.

The output from the Q5 programme⁸ Punjab, using median age of maximum births as the default (27), is shown in the table.

Some issues are as follows:

Taking each ref date to check a trend seems unsuitable, as there is a distinct increase in rates, which is unlikely.

The result for 15-19 is quite different than the rest and suggests instability, especially related to the low number of live births and deaths in this age group. The upward trend still remains, even after excluding this group.

The method used in the analysis has been to average the results (marked in bold) from the reference date corresponding to the age groups 20-24 up to 35-39. This pertains to the late 1990's (about 1997 to 2002), which is fairly recent. A basic average results in 77 for IMR.

Another reason for averaging the result is that the government requires results for each district, where the women's actual sample sizes are much less (in 10 districts under 600 and a further 13 under 800 eligible women). However, it has been indicated that the district results may be unstable due to relative low sample sizes. Based on the "averaging technique" results for IMR range in districts/towns from 29 to 127 and U5MR from 37 to 203 per 1000 live births. In most of the districts/towns, results are close to expected based on other information (level of development, literacy, etc). However, in five of the districts results are much lower or higher than expected, even allowing for a probable confidence interval of 20. There is an expected differential for IMR between major city, other urban and rural (e.g. 55, 74 and 82 respectively) and literate/illiterate adults (56 and 87).

One assumes the results cannot be presented as such, otherwise they would be misinterpreted. One option is to combine districts into larger groups, such as "regions". However, regions are often based mainly for administrative purposes and the districts within may not be of a similar nature. Further, districts do not expect their results to be derived from other districts. The option selected was to use literacy rate of married women as a predictor of young child mortality for districts (see main report for more details).

The summary Tables in the Annex show both the original and adjusted results.

Punjab Prov - South Asian model

Age	Ref date	Q (1)
15-19	2002.8	0.118
20-24	2001.9	0.086
25-29	2000.7	0.075
30-34	1999.1	0.074
35-39	1997.2	0.074
40-44	1994.7	0.072
45-49	1991.4	0.075
		Q (5)
15-19	2002.8	0.185
20-24	2001.9	0.126
25-29	2000.7	0.108
30-34	1999.1	0.107
35-39	1997.2	0.105
40-44	1994.7	0.102
45-49	1991.4	0.109

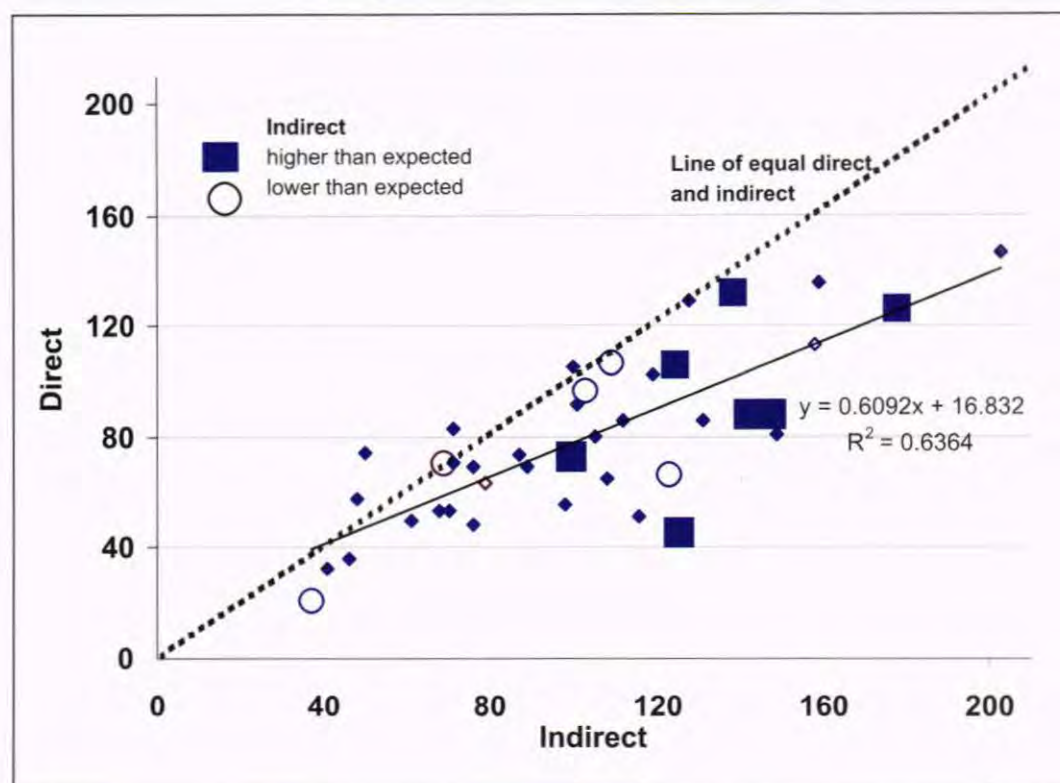
⁸ QFIVE – United Nations Program for Child Mortality Estimation, Department of International Economic and Social Affairs, United Nations, New York, 1990. Population Studies No. 107.

The following summarizes the checks of validity for Young Child Mortality

Check of Validity for Young Child Mortality

	Check of Validity	Results
1	Womens age ranges (15-19, 20-24, & 45-49)	Consistent throughout all districts
2	Mean Children Ever Born (MCEB) by woman's ages	Consistent throughout almost all districts
3	Proportion deaths by woman's age ranges	Consistent throughout almost all districts
4	Total births and deaths per each woman	Thoroughly edited to correct inconsistencies
5	Sex birth ratio	Sex birth ratio of 1.16 for males to females (range 0.90 to 1.46 by districts) - Results seem reasonably acceptable.
6	Sex death ratio	Sex death ratio of 1.08 for males to females (range 0.95 to 1.15 by districts). Results seem reasonably acceptable.
7	Review of sample sizes for precision estimates (assuming an U5MR of about 100/1000 live births)	Expected confidence interval for those smaller districts (sample=600) of about +/- 35, i.e. relatively imprecise; for those with a sample of 1000 of about +/- 25, for other urban and major cities (sample 6,000) to about +/- 10 and for Punjab of about +/- 5. This has to be taken into account for district result comparisons.
8	Indirect and Direct Methods - comparisons of results	Direct results were less than Indirect, especially for responses by older women and for female deaths (<i>see graph below</i>).
9	Comparison of district results with social rankings as indicated in Annex of the report.	Sheikhupura, Rawalpindi, Mandi Bahauddin, Gujranwala, Khanewal, Mianwali, Sahiwal and T.T.Singh had a ranking of U5MR at least 10 places higher than social ranking Layyah, Hafizabad, Bahawalnagar, Bahawalpur, Jhang, Kasur and Rajanpur had a ranking of U5MR at least 10 places lower than social ranking

Comparison Direct and Indirect U5MR



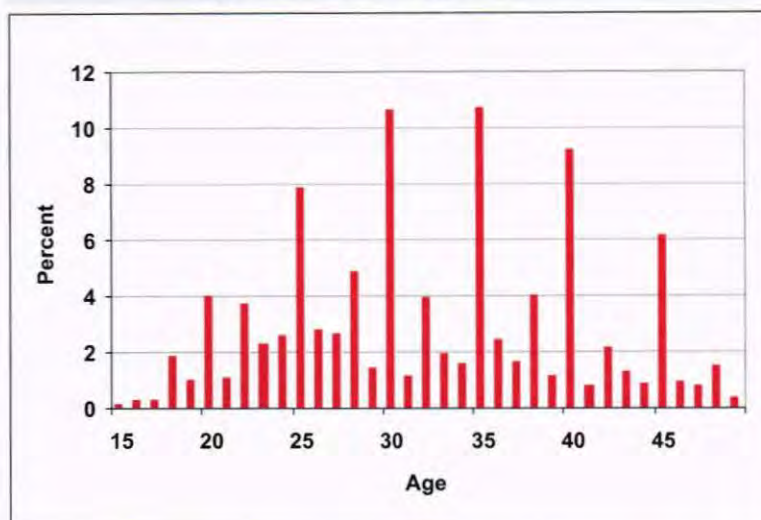
Each data point represents a district result for direct and indirect mortality rates.

4. Women's Health

The following checks were used to address problems in age determination to the nearest year: (1) Month and Year of Birth and (2) Age when married/number of years since married.

The initial stated age was amended as required. Even so, there was age heaping (clumping) to 5 years intervals (see figure). It is recommended that in future surveys the upper age limit for screening women be 50, instead of 49. This would allow later checks to verify a more correct age at the 45-49 age group.

Age Distribution Eligible Women



Module

This was restricted to women who had a live birth in the past 3 years. The intended skip pattern for any consultation for antenatal care (Q2a) to whom seen (Q2b) required identification of missing values and correcting inconsistencies. A missing response for any consultation was converted into yes if there was a response for whom seen (it is assumed the interviewer acquired further information, but did not change the lead response to yes).

There were two groups of missing values: (1) missing in any consultation (i.e. no response when live birth in the past 3 years) and (2) missing in whom seen when consultation occurred. For assistance with delivery and postnatal check up, missing values occurred when there was no response for whom seen when the woman had a live birth.

Because of the similar responses for birth and postnatal check up, it is possible that the response for check up may not be reliable. For example, a re-visit on the same day for delivery may have been interpreted as a check up, even though no further visit occurred.

All missing values were not included in the final analysis. However, in those districts where the percent of missing values was relatively high (i.e. over 5%), it is possible that some of the non-responses might be interpreted as a "no" response. However, it was not possible to separate the two.

Visit from an LHV

Although responses were meant to be limited to those LHW's who work in the village, from the analysis it appears that almost all women were asked this question.

5. Contraceptive Use

Note that the selection is different from the Maternal Care Module – i.e. all women aged 15-49 who are currently married. The question flow was as follows:

Q Cs4 - Have you used any of the contraceptive methods? (all married women, including those pregnant)

Q Cs5 - Are you or your husband presently using any method to delay or avoid pregnancy? (all married women, excluding those pregnant) followed by

Q Cs6 - Which method(s) are you using?

This led to a significant number of pregnant women being misclassified, by inclusion in the question on current use and method used. Of 3247 pregnant women (8% of the sample), 16% were reported using any method, 52% not using any method and the remainder 32% were not reported (as intended) in contraceptive method⁹. A further analysis that excluded those unintended responses for pregnant women resulted in a modern contraception rate of about 5% higher than if all responses were included. Whether these women were actually pregnant could not be corroborated in the analysis. It is possible that responses in Q Cs6 may have pertained to Q Cs4, resulting in an over-estimate of current use. Further, the question pertaining to contraceptive use differed in Q Cs4 (any contraceptive method) and Q Cs5 (any method to delay or avoid pregnancy), which may have added to the misclassification problem.

If it is assumed that few of the 12% pregnant woman were currently using any modern contraceptive method, then the revised rate for all married women would be less than that reported (i.e. about $27 * 0.88$ or 24%).

The following steps were done in the analysis:

1. Include only married non-pregnant women aged 15-49 years,
2. Restrict responses for contraceptive type (Q Cs6) to a yes answer to Q Cs5.
3. If never used a contraceptive method (Q Cs4=2), assume not currently using (i.e. make Q Cs5=2).

Note: the question “Are you pregnant now?” is better placed just before the question on current contraceptive use. This should reduce the misclassification problem.

A summary of the results for inconsistencies is listed below.

Inconsistencies in data - contraception

	sample	%
Never used but using contraception now	600	3.8
Total never used	15943	

Pregnant but using contraception now	352	10.8
Total pregnant	3247	

Using now but no response to type	105	1.1
Total using now	9755	

Not using now but response to type	2715	17.1
Total not using now	15846	

Missing using now but response to type	153	8.8
Total missing using now	1729	

⁹ Note: the question “Are you pregnant now?” is better placed just before the question on current contraceptive use. This should reduce the misclassification problem.

6. Fertility Rates

The information on Mean Children Ever Born (MCEB) by all women aged 15-49 years can be used to estimate the current levels of fertility through indirect fertility estimation techniques. These were developed by Mortara and Brass and later extended by Arriaga to estimate Total Fertility Rates even under the changing conditions of fertility¹⁰. These techniques are appropriate for Punjab where fertility levels are declining and information on MCEB by age of mothers at one or more points in time is available. For Provincial estimates, the recent Pakistan Reproductive Health and Fertility Survey 2000-1 (PRHFS) provides the data for the first and that from the MICS the second point in time. Information for TFR by district cannot use the PRHFS data, as these are appropriate only for Punjab. Hence a modified TFR for one point in time has been estimated for districts and major areas of Punjab. The detailed method of estimation is shown in the table below.

Application of Arriaga's Approaches for Estimation of Age Specific Fertility Rates

Punjab Province Total Fertility Rate (TFR)										
Based on Number of Children Ever Born at one point in time and the age pattern(s) of Fertility (Brass) Sept 2003										
					Cumulation of			Age Specific Fertility Rates based on adjustment factor for the age group		
Age Groups	Mean Children Ever Born (MCEB)	Fertility Consistent with MCEB (ASFR)	Fertility Pattern by Age at Survey Date *	Fertility Pattern by Age at Birth of child	ASFR	Fertility Pattern by Age at Birth	Adjustment Factors	20-25	25-30	20-30
			Recorded	Calculated						
15-20	0.05	0.037	0.053	0.066	0.037	0.066	0.560	0.057	0.066	0.062
20-25	0.59	0.210	0.204	0.217	0.247	0.283	0.871	0.189	0.220	0.204
25-30	1.99	0.305	0.264	0.263	0.551	0.546	1.010	0.229	0.265	0.247
30-35	3.49	0.285	0.208	0.199	0.836	0.745	1.123	0.174	0.201	0.187
35-40	4.78	0.204	0.122	0.116	1.040	0.861	1.208	0.101	0.117	0.109
40-45	5.41	0.101	0.060	0.055	1.141	0.916	1.246	0.048	0.055	0.052
45-50	6.03	0.037	0.021	0.016	1.177	0.932	1.263	0.014	0.017	0.016
Mean age of childbearing			29.51	27.64						
Total Fertility Rate			5.89	4.66				4.06	4.70	4.38
* Copied from PRHFS (2000-1)										
ASFR	Age Specific Fertility Rate									

The results for MCEB and Indirect Total Fertility Rates (MTFR) by Punjab, major areas and Districts are included in the Annex Tables.

The Indirect TFR for Punjab (5.98) is higher than the TFR based on estimates done at two points in time (4.70). Hence the district indirect TFR results, which used one point in time for estimates are higher than what would be expected if the two points estimate were possible

¹⁰ Arriaga E. (1983). "Estimating Fertility from Data on Children Ever Born By Age of Mother", International Research Document No. 11 (United States Bureau of Census, Washington DC).

¹¹ District results range from 3.96 to 8.90, with median at 5.92, higher than the TFR of 4.70 for Punjab.

9. Children under five years of age

The Child module was done for children aged below 5 years (i.e. had not yet reached their 5th birthday). They were identified in the Household members module and confirmed in the child section. Interviewers were female members of the survey team and the person interviewed the mother or caretaker of the child. The child was required only for the weighing and BCG scar. Components were as follows:

1. CHILD INFORMATION - Age, date of birth, birth certificate, birth registration
2. BREAST, BOTTLE AND COMPLEMENTARY FEEDING; breastfeeding (up to two years of age) - ever and still breastfed, exclusively breastfed up to 6 months of age, and for children up to one year of age - types of liquids, milk and any solid or semi-solid food received in the past 24 hours, bottle use in the past 24 hours
3. VITAMIN A - Received a capsule, how long ago and where (Health Centre, Polio National Immunization Day)
4. RECENT CHILD ILLNESS - Diarrhea, cough with difficult breathing, high fever; who consulted and whether admitted to hospital; What given for diarrhea; number of episodes of diarrhea during the past year
5. ANTHROPOMETRY - Weighing for nutritional status
6. IMMUNIZATION - BCG scar seen.

A total of 23,553 children were included in the module (99% of eligible children).

The IDs of the child in the Household members and child modules were consistent. The child's age in Household members module was checked against the corrected age in the child's module and changed as required.

The major issues related to precise age (using birth date at least to the nearest month); missing values, consistency between related variables (e.g. correct age identified for breast feeding components) and outliers (extreme results).

Precise Age (to the nearest month).

While the year of birth was almost complete (99% of cases), the month was present in 88%.

could not have nutritional status (weight-for-age) imputed, as this requires age to the nearest month. Districts in the table that were most affected by missing precise ages are listed in the table.

District	% Missing
Multan	47
Layyah	40
Khanewal	39
Vehari	32
Sahiwal	31
Okara	28
Muzaffargarh	24
D.G.Khan	23
Jhang	21
Pakpattan	21

Missing cases

The influence of missing cases depends on whether they would have given a different result if included.

For example, if the missing were more in illiterate women then results would be an under-estimate (underweight for age is more likely in children with illiterate mothers).

The other problem is the reduction in the effective sample size, which results in less precision in the results and a wider confidence interval.

The lack of precise age also affects results that require age in months. This includes continued breast feeding at 12-15 and 20-23 months and added foods from 6-9 months.

Further, some misclassification of age-related results (such as breast feeding under 2 years of age) would be affected, as the computed age (based on date of birth minus interview date) may differ from the manually calculated age.

Two age-computed variables were used. The first was for "precise age" [var agec2] - i.e. to the nearest month (88% of cases). The second, revised age in years included the precise age result to replace any different age in years [br4] to finish with a new age in years [br4a]. This covered all the children, apart from 18 cases whose age in years was unknown.

Missing values (and don't know) for other variables are listed below. Unlike the age problem, these are unlikely to affect the results (apart from breastfeeding).

	% Missing	% Don't know
Ever Breastfed under 2 years of age	11.5	
Exclusive Breastfeeding (recall)		13.5
Breastfeeding under 1 years of age	21.6	
Birth certificate	0.7	0.8
Child registered	0.9	1.7
Any diarrhea during past 2 weeks	1.5	
Weight	6.7	(4.7 not present)
BCG Vaccination Scar	7.9	

Apart from the reduction of sample size and precision of the results, missing values are unlikely to modify results for breastfeeding, unless some of these were actually no breastfeeding and were not recorded. If so, this would reduce the percent of ever breastfed. We can expect the ever breastfed result for the province to be in the range of about 95%, hence that for the survey (97%) is close. Results for districts/towns could be presented in categories (e.g. 95%+, 90-94%, under 90%) rather than percents or qualify the actual results with a note regarding the problem.

As for all breastfeeding variables, about 10% were misclassified (wrong age group – 2 years +) included. This suggests that interviewers were unclear about the age criteria for this section. Any future surveys must be aware of this problem.

Breastfeeding

Exclusive breastfeeding

"Has [name] been exclusively breastfed for six months since his/her birth? That is nothing apart from breast milk?" – asked about children aged up to 2 years.

The pattern of results indicates this was generally asked of women who had ever breastfed; hence missing cases (3.1%) is less of a problem. However, results were unexpectedly high (81%). Attempts were made to derive exclusive breast feeding estimates from the question on any foods/fluids in the past 24 hours [bf41 to bf45]. This gave a result of 30% which is more acceptable. However, as copied from the MICS manual, there was no code for nothing apart from breast milk and it was not possible to separate missing values from this implied group (nil added).

Continued breastfeeding

"If yes (ever breast fed) is he/she still being breastfed?"

As per MICS manual, estimates are for children aged 12-15 and 20-23 months of age to reflect the prevalence of breastfeeding at the end on the first and second year of life. Because of the narrow age range, results cannot be given by district/town.

Other Variables

Solid foods 6-9 months.

This is part of a multiple response question for children aged less than 1 year "Since this time yesterday, did he/she receive any of the following: vitamin, tonic or other medicine; plain water; sweetened, flavoured water or fruit juice or tea or infusion; ORS/ nimkol; tinned, powdered or fresh milk or formula; some other drink/ liquid; solid/ semi solid food; don't know".

Again, only provincial and urban/rural results are possible.

Bottle feeding (0-11 months)

Results for province are as expected, although 9% missing cases.

Young child illnesses.

Results are probably reliable as there were relatively few missing cases and the diarrhea; cough and fever corresponded to the illness group.

Birth Certificate, Child Registration and BCG Scar.

Results are acceptable as there were relatively few missing cases

Malnutrition (Underweight-for-age) in children under five years of age.

Weight, sex and age to the nearest month were converted to weight-for-age indices [waz] using the Anthro programme in EpiInfo.

Some of the results for % underweight for age (undernutrition prevalence) are unexpected for certain districts – as discussed with the MICS Secretariat.

A re-analysis checked for both missing values (due mainly to missing precise ages – to the nearest month, but also missed weighing or outliers).

Missing values are unlikely to influence results for Punjab as there is no indication of overall bias. Further, the agreement of Punjab's results with those of the recent National Nutrition Survey is encouraging.

However, for certain districts where missing values exceed 30%, there may be problems – Layyah, Muzaffargarh, Mianwali, Okara, Sahiwal and Vehari.

Hafizabad is a special case, where the prevalence of severe underweight far exceeded that of moderate – a sign of problem measures and/or precise age.

The districts with unexpected results (Bhakkar, RY Khan, Rawalpindi and Narowal), had relatively few missing values, hence are less likely to be influenced.

Alternative Results for Nutritional Status

A standard approach was to determine variables highly correlated with the Undernutrition prevalence, such as adult literacy and adjusts the undernutrition rates accordingly. After exploring the relationship between U5MR and adult literacy, mother's literacy, Primary School attendance, under-nutrition rates and adequate sanitation, that for mother's literacy was chosen.

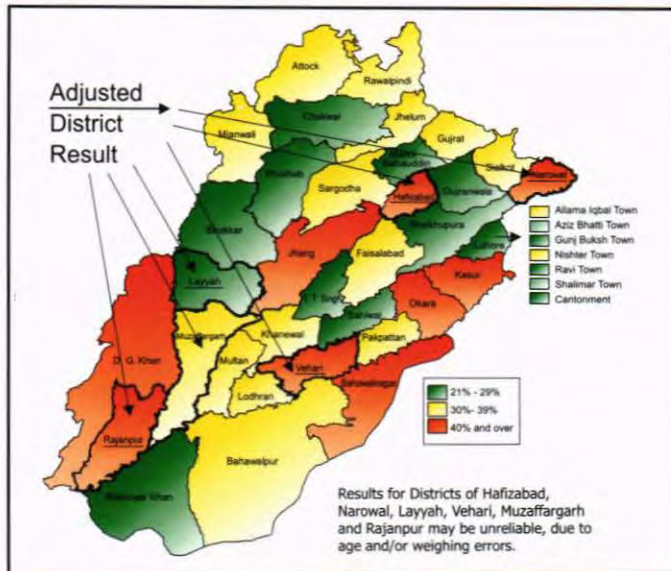
The figure shows a fair correlation between Mothers' Literacy rates and U5MR by districts (R squared = .70 or R = .83)... The formula relating Mothers' Literacy to "predict" U5MR was applied to all districts. The results of the change can be seen in the reference to the five "problem" districts in Map 11.

% Underweight-age and missing values

District Ranking	underweight-age	missing
Punjab	34.1	20.1
Major City	29.5	15.5
Rural	34.8	21.3
Other Urban	35.1	17.5
Gunj Buksh Town (L)	21.0	11.8
Gujranwala	23.3	17.0
Ravi Town (L)	23.3	6.8
Shalimar Town (L)	24.0	1.9
T.T.Singh	24.4	7.7
Bhakkar	24.9	8.5
Chakwal	25.4	6.0
Mandi Bahauddin	25.6	18.4
Lahore	25.9	8.2
Rahimyar Khan	26.6	5.1
Cantt Area (L)	26.7	2.7
Layyah	26.9	40.4
Khushab	28.4	12.0
Aziz Bhatti Town (L)	29.2	4.6
Sheikhupura	29.3	22.1
Nishter Town (L)	30.1	14.8
Sialkot	30.6	9.0
Faisalabad	32.2	22.8
Gujrat	32.3	4.8
Jhelum	32.7	7.7
Allama Iqbal Town (L)	33.2	9.4
Muzaffargarh	33.5	31.6
Bahawalpur	33.5	7.9
Mianwali	34.3	29.5
Sargodha	34.9	21.1
Pakpattan	35.8	23.0
Khanewal	35.8	40.7
Attock	35.9	22.3
Rawalpindi	37.6	16.7
Lodhran	38.2	15.1
Multan	38.3	47.6
Okara	40.7	29.8
Bahawalnagar	41.5	17.1
Narowal	41.6	13.1
Rajanpur	41.8	9.3
Kasur	42.4	19.4
Sahiwal	42.6	35.2
Jhang	45.0	24.9
D.G.Khan	47.9	23.1
Vehari	47.9	31.9
Hafizabad	54.1	21.5

Children Under 5 Years of Age Who are Malnourished

Original Results

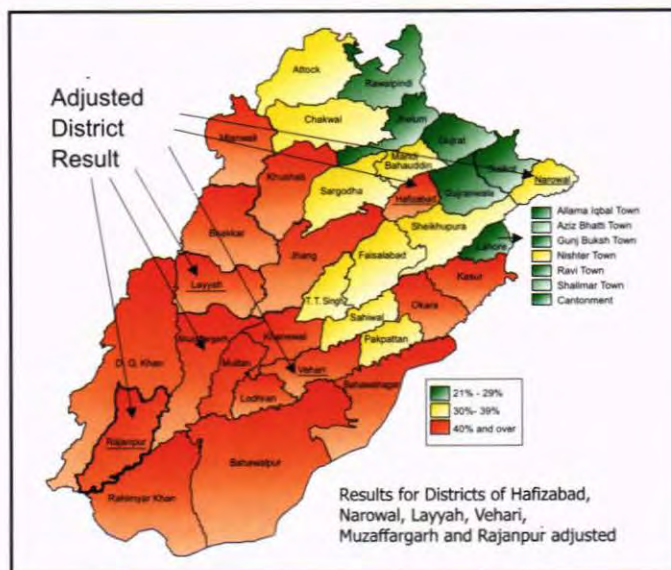


% Children Malnourished

Sorted by Prior	Prior	Revised
Gunj Buksh Town (L)	21	17
Gujranwala	23	28
Ravi Town (L)	23	24
Shalimar Town (L)	24	29
T.T.Singh	24	34
Bhakkar	25	47
Chakwal	25	30
Mandi Bahauddin	26	34
Lahore	26	25
Rahimyar Khan	27	42
Cantt Area (L)	27	27
Layyah	27	42
Khushab	28	42
Aziz Bhatti Town (L)	29	32
Sheikhupura	29	38
Nishtar Town (L)	30	29
Sialkot	31	26
Faisalabad	32	33
Gujrat	32	28
Jhelum	33	27
Allama Iqbal Town (L)	33	24
Muzaffargarh	33	46
Bahawalpur	33	44
Mianwali	34	40
Sargodha	35	36
Pakpattan	36	44
Khanewal	36	41
Attock	36	39
Rawalpindi	38	25
Lodhran	38	45
Multan	38	40
Okara	41	41
Bahawalnagar	41	42
Narowal	42	35
Rajanpur	42	47
Kasur	42	43
Sahiwal	43	37
Jhang	45	41
D.G.Khan	48	45
Vehari	48	43
Hafizabad	54	40

Bold: changes over 10%

Revised results - Literacy Rate of eligible women as predictor



ANNEX K: Summary Tables - Contents

Contents

1	Literacy and Education
2	Literacy and Education (continued)
3	Water and Sanitation
4	Eligible Women
5a/b	Eligible Women (continued)
6	Children Under 5 Years
7	Children Under 5 Years (illness-related)
8	Children Under 5 Years (Preventive and Protection)
9	Economic Information
10	Economic Information (continued)
11	Other results - Household Features; Tuberculosis and Cough

Tables are ordered as per region

Summary Table 1: Education Indicators for Punjab, Area, District and Lahore

(Results in percent, unless otherwise indicated)

No.	Area and District	Literacy Rate 10 years +			Literacy Rate	Net Primary School Enrolment			Net attendance rate
		Total	Male	Female	Adults - 15 years+	Total	Boys	Girls	
	PUNJAB	54	63	44	52	51	53	49	51
	Rural	47	58	35	42	47	49	45	47
	Other Urban	67	74	59	63	62	62	61	61
	Major City	75	78	71	71	65	65	65	65
1	Bahawalnagar	44	53	34	41	40	43	38	40
2	Bahawalpur	37	46	28	34	32	34	30	32
3	Rahimyar Khan	42	52	31	40	36	39	32	36
4	D.G.Khan	40	53	24	36	34	38	29	34
5	Layyah	46	59	32	41	57	59	56	57
6	Muzaffargarh	36	49	22	33	30	34	25	30
7	Rajanpur	34	46	20	31	33	38	28	33
8	Faisalabad	60	68	52	57	59	57	60	58
9	Jhang	47	60	31	43	49	53	45	49
10	T.T.Singh	58	68	46	56	51	52	50	51
11	Gujranwala	67	72	62	61	67	67	66	66
12	Gujrat	65	73	57	60	64	61	67	63
13	Hafizabad	55	64	44	51	73	74	72	73
14	Mandi Bahauddin	57	66	48	53	54	55	54	54
15	Narowal	60	72	49	55	61	60	63	61
16	Sialkot	70	75	65	66	69	71	67	68
17	Kasur	42	51	32	37	47	48	46	45
18	Okara	43	53	33	39	41	46	36	41
19	Sheikhupura	50	58	41	48	56	59	54	56
20	Multan	46	56	35	45	44	45	43	44
21	Khanewal	49	62	36	45	51	58	44	51
22	Lodhran	37	51	23	35	31	33	29	31
23	Pakpattan	42	54	30	39	39	41	36	38
24	Sahiwal	54	63	45	50	51	50	53	50
25	Vehari	43	56	30	41	48	51	43	47
26	Rawalpindi	78	87	68	70	74	75	73	73
27	Attock	57	73	40	51	64	65	64	64
28	Chakwal	69	84	57	62	72	73	71	71
29	Jhelum	68	78	59	64	70	72	68	70
30	Sargodha	58	69	46	49	67	70	65	67
31	Bhakkar	37	52	20	33	39	45	34	39
32	Khushab	52	68	36	46	49	48	51	49
33	Mianwali	56	73	37	48	46	54	38	46
34	Lahore	74	75	67	67	62	62	62	62
34a	Gunj Buksh Town (L)	80	82	78	76	65	66	63	64
34b	Shalimar Town (L)	64	66	61	60	58	57	60	58
34c	Allama Iqbal Town (L)	74	78	70	69	74	75	73	74
34d	Aziz Bhatti Town (L)	55	59	51	53	45	47	44	45
34e	Nishtar Town (L)	70	77	62	63	64	59	69	64
34f	Ravi Town (L)	71	75	66	69	62	64	59	62
34g	Cantt Area (L)	74	78	70	72	55	55	56	55
No.	Area and District	1			2	3			4
	Indicator	Total	Male	Female	Adults - 15 years+	Total	Boys	Girls	Net attendance rate
		Literacy Rate 10 years +			Literacy Rate	Net Primary School Enrolment			

Summary Table 2: Education Indicators for Punjab, Area, District and Lahore (cont)

Results in percent, unless otherwise indicated

No.	Indicator	Gross primary school enrolment rate			Reach Grade 5 (10-12 years)	*Dropout rate to Grade 5 (10-12 years)	**Public School Attendance Rate (5-17 years)	Access to School (less than 2 Km)
		Total	Boys	Girls	Total	Total		
	Area and District	5					7	8
	PUNJAB	88	93	83			64	95
1	Rural	83	89	76			74	93
2	Other Urban	104	105	103			49	99
3	Major City	104	105	103			33	98
1	Bahawalnagar	75	81	70			83	91
2	Bahawalpur	62	70	54			69	86
3	Rahimyar Khan	63	72	52			75	89
4	D.G.Khan	61	74	48			75	82
5	Layyah	93	98	87			87	95
6	Muzaffargarh	56	65	45			73	85
7	Rajanpur	56	64	45			83	89
8	Faisalabad	106	106	106			59	97
9	Jhang	80	88	71			75	94
10	T.T.Singh	92	92	91			69	99
11	Gujranwala	111	115	108			48	99
12	Gujrat	119	116	124			60	99
13	Hafizabad	98	104	92			71	98
14	Mandi Bahauddin	105	109	100			72	98
15	Narowal	98	97	99			67	98
16	Sialkot	115	116	114			57	98
17	Kasur	75	79	71			61	95
18	Okara	80	92	68			60	93
19	Sheikhupura	101	105	97			57	98
20	Multan	80	84	76			59	92
21	Khanewal	88	100	75			78	90
22	Lodhran	57	64	48			73	82
23	Pakpattan	73	79	66			78	94
24	Sahiwal	89	85	93			77	97
25	Vehari	79	88	70			74	95
26	Rawalpindi	118	121	115			53	98
27	Attock	106	109	104			61	94
28	Chakwal	109	115	102			68	94
29	Jhelum	118	126	111			70	99
30	Sargodha	102	107	98			70	98
31	Bhakkar	87	108	63			88	86
32	Khushab	88	84	91			73	95
33	Mianwali	84	100	68			74	95
34	Lahore	99	101	98			34	99
34a	Gunj Buksh Town (L)	101	98	104			41	99
34b	Shalimar Town (L)	94	89	100			29	100
34c	Allama Iqbal Town (L)	114	124	105			42	100
34d	Aziz Bhatti Town (L)	83	92	75			40	100
34e	Nishtar Town (L)	101	100	103			31	99
34f	Ravi Town (L)	104	111	97			24	100
34g	Canth Area (L)	93	91	95			34	100
No.	Area and District	5			6	6	7	8
		Total	Boys	Girls	Total	Total		
	Indicator	Gross primary school enrolment rate			Reach Grade 5 (10-12 years)	Dropout rate to Grade 5 (10-12 years)	Public School Attendance Rate (5-17 years)	Access to School (less than 2 Km)

*Dropout rate is estimated at (100-Reach Grade 5)

**Primary School

(District results for Reaching Grade 5 and drop outs not estimated)

Summary Table 3: Water-Sanitation related Indicators for Punjab, Area, District and Lahore

Results in percent, unless otherwise indicated

No.	Area and District	Drinking Water			Sanitation	Waste disposal		Wash Hands adequately	
		Improved sources	Access (in household) - improved sources	Access (within 2Km) - improved sources	Adequate Sanitation	Proper Disposal of Waste Water	Proper Disposal of Solids	Before eating food	After going to latrine
	PUNJAB	97	92	97	58	43	15	41	55
1	Rural	96	90	96	43	26	1	30	45
2	Other Urban	99	96	99	92	77	33	59	73
3	Major City	98	93	98	98	95	66	78	87
1	Bahawalnagar	95	87	95	42	26	8	30	40
2	Bahawalpur	97	87	97	41	23	11	34	54
3	Rahimyar Khan	98	87	98	44	22	10	26	49
4	D.G.Khan	81	77	81	33	16	11	21	24
5	Layyah	100	99	100	32	9	4	19	29
6	Muzaffargarh	100	99	100	29	13	5	16	23
7	Rajanpur	90	83	90	29	16	14	13	15
8	Faisalabad	95	80	95	75	69	25	48	67
9	Jhang	98	95	98	36	35	8	38	49
10	T.T.Singh	97	90	97	67	39	6	55	67
11	Gujranwala	100	100	100	84	66	24	52	77
12	Gujrat	97	95	97	63	27	6	27	51
13	Hafizabad	100	100	100	51	52	12	57	69
14	Mandi Bahauddin	100	99	100	50	65	4	27	45
15	Narowal	99	99	99	39	16	2	60	70
16	Sialkot	100	100	100	71	37	12	65	78
17	Kasur	98	90	98	54	43	7	36	47
18	Okara	98	91	98	46	44	5	32	55
19	Sheikhupura	99	98	99	70	55	5	28	39
20	Multan	99	97	99	64	47	27	42	47
21	Khanewal	99	96	99	58	30	7	34	48
22	Lodhran	93	87	93	39	17	5	18	25
23	Pakpattan	98	90	98	46	43	4	30	57
24	Sahiwal	98	94	98	58	42	10	49	64
25	Vehari	98	96	98	48	29	12	46	58
26	Rawalpindi	89	79	88	70	54	27	46	65
27	Attock	87	77	86	61	42	4	31	41
28	Chakwal	92	81	92	61	30	5	28	42
29	Jhelum	95	87	94	57	42	4	44	57
30	Sargodha	99	93	99	57	59	8	49	65
31	Bhakkar	100	98	100	36	15	0	21	43
32	Khushab	91	80	90	48	31	2	34	34
33	Mianwali	96	91	95	62	28	12	36	56
34	Lahore	100	99	99	93	88	56	79	86
34a	Gunj Buksh Town (L)	100	100	100	99	98	85	88	94
34b	Shalimar Town (L)	98	96	98	95	95	33	78	92
34c	Allama Iqbal Town (L)	100	100	100	92	74	66	76	82
34d	Aziz Bhatti Town (L)	99	99	99	78	73	33	71	77
34e	Nishter Town (L)	100	99	100	91	82	48	76	78
34f	Ravi Town (L)	99	98	99	98	98	60	78	87
34g	Cantt Area (L)	100	100	100	100	99	61	84	89
No.	Area and District	9	10a	10b	11	12	12	13	13
Indicator	Improved sources	Access (in household) - improved sources	Access (within 2Km) - improved sources	Adequate Sanitation	Proper Disposal of Waste Water	Proper Disposal of Solids	Before eating food	After going to latrine	
		Drinking Water			Sanitation	Waste disposal	Wash Hands adequately		

Summary Table 4: Results for Eligible Women for Punjab, Area, District and Lahore

No.	Indicator	Maternal Mortality		Ante-natal Care		Birth Care		Post-birth Care		HIV/AIDS	
		Pregnancy-related deaths (number)	Live births past 5 years (number)	By skilled attendant	By any attendant	By skilled attendant	By any attendant	By skilled attendant	By any attendant	Aware of HIV/AIDS	*Knowledge of prevention
No.	Area and District	14		15		16		17		18	19
	PUNJAB	81	24,615	44	77	33	99	30	90	39	69
1	Rural	58	16,050	37	73	26	99	23	90	26	62
2	Other Urban	15	4,606	55	85	44	100	40	87	55	73
3	Major City	8	3,959	73	93	66	100	60	89	65	80
1	Bahawalnagar	2	631	31	75	22	98	21	91	19	72
2	Bahawalpur	4	851	25	56	20	99	19	98	27	53
3	Rahimyar Khan	7	889	27	74	21	100	20	100	28	65
4	D.G.Khan	4	731	47	75	26	99	19	93	35	86
5	Layyah	0	521	37	70	23	100	22	100	31	80
6	Muzaffargarh	4	807	33	61	16	99	14	95	26	70
7	Rajanpur	2	753	29	38	7	100	8	82	35	41
8	Faisalabad	2	1,461	54	89	42	100	32	78	46	69
9	Jhang	1	850	32	77	21	100	16	88	23	70
10	T.T.Singh	0	551	49	87	38	100	36	99	35	78
11	Gujranwala	3	1,096	53	90	45	100	40	91	51	54
12	Gujrat	4	581	62	84	47	100	38	82	53	67
13	Hafizabad	3	442	33	75	32	99	32	99	40	84
14	Mandi Bahauddin	3	531	45	62	22	99	22	81	43	44
15	Narowal	6	606	52	89	39	99	38	98	30	89
16	Sialkot	3	731	62	84	43	100	41	91	54	79
17	Kasur	0	780	30	84	23	100	21	99	23	64
18	Okara	1	646	31	59	26	100	22	87	20	76
19	Sheikhupura	5	940	43	81	32	100	25	71	28	59
20	Multan	3	1,043	39	83	34	99	34	99	39	85
21	Khanewal	3	685	34	76	22	100	20	98	19	68
22	Lodhran	3	440	24	86	14	100	13	100	22	68
23	Pakpattan	0	508	32	46	22	99	20	69	19	73
24	Sahiwal	1	576	45	73	37	100	30	86	33	65
25	Vehari	1	698	39	83	30	100	27	100	37	64
26	Rawalpindi	4	877	73	92	65	99	59	86	79	64
27	Attock	1	398	45	71	28	96	25	72	45	59
28	Chakwal	0	347	59	86	44	98	33	60	60	56
29	Jhelum	2	391	72	90	46	99	45	89	66	62
30	Sargodha	1	802	43	83	38	99	38	99	46	82
31	Bhakkar	0	430	28	51	16	100	13	100	23	74
32	Khushab	3	412	48	62	34	97	22	65	28	40
33	Mianwali	0	399	55	72	41	94	39	95	39	54
34	Lahore	5	2,220	67	92	60	100	55	90	55	85
34a	Gunj Buksh Town (L)	0	366	88	99	83	100	76	90	74	81
34b	Shalimar Town (L)	2	413	46	94	40	100	27	67	45	91
34c	Allama Iqbal Town (L)	0	306	63	88	53	100	53	97	56	92
34d	Aziz Bhatti Town (L)	1	247	50	87	40	100	41	100	42	70
34e	Nishtar Town (L)	0	375	60	89	55	100	55	92	51	93
34f	Ravi Town (L)	1	321	76	87	63	99	61	96	56	72
34g	Cantt Area (L)	1	194	73	96	65	100	65	100	53	89
No.	Area and District	14		15		16		17		18	19
	Indicator	Pregnancy-related deaths (number)	Live births past 5 years (number)	By skilled attendant	By any attendant	By skilled attendant	By any attendant	By skilled attendant	By any attendant	Aware of HIV/AIDS	*Knowledge of prevention
		Maternal Mortality		Ante-natal Care		Birth Care		Post-birth Care		HIV/AIDS	

*Knowledge of HIV/AIDS prevention - correctly states at least 2 major activities (of safe sex, injections and blood transfusion)

Summary Table 5A: Results for Eligible Women for Punjab, Area, District and Lahore

	Indicator	Contraceptive Prevalence (any method)	Contraceptive Prevalence (modern)	Know how to avoid pregnancy	Ever use any method to avoid pregnancy
No.	Area and District		20		
	PUNJAB	36	27	76	39
1	Rural	32	24	72	34
2	Other Urban	43	32	84	47
3	Major City	52	38	89	55
1	Bahawalnagar	33	16	57	35
2	Bahawalpur	33	24	71	36
3	Rahimyar Khan	48	29	82	50
4	D.G.Khan	27	22	76	30
5	Layyah	16	12	68	16
6	Muzaffargarh	30	26	62	32
7	Rajanpur	12	11	63	16
8	Faisalabad	45	36	82	46
9	Jhang	23	20	71	25
10	T.T.Singh	35	27	83	35
11	Gujranwala	45	32	77	46
12	Gujrat	35	22	81	39
13	Hafizabad	41	33	82	47
14	Mandi Bahauddin	30	27	78	33
15	Narowal	22	20	68	23
16	Sialkot	48	39	88	49
17	Kasur	33	27	68	35
18	Okara	30	23	65	34
19	Sheikhupura	27	20	55	28
20	Multan	61	42	92	59
21	Khanewal	24	17	80	24
22	Lodhran	48	37	80	51
23	Pakpattan	25	19	71	26
24	Sahiwal	35	25	70	36
25	Vehari	45	28	81	49
26	Rawalpindi	37	34	84	48
27	Attock	31	24	77	33
28	Chakwal	35	30	85	41
29	Jhelum	35	28	84	44
30	Sargodha	34	27	82	37
31	Bhakkar	12	11	78	13
32	Khushab	16	14	59	23
33	Mianwali	19	17	65	23
34	Lahore	50	34	87	54
34a	Gunj Buksh Town (L)	49	39	93	58
34b	Shalimar Town (L)	44	29	91	67
34c	Allama Iqbal Town (L)	35	30	85	50
34d	Aziz Bhatti Town (L)	42	28	79	44
34e	Nishter Town (L)	58	39	74	43
34f	Ravi Town (L)	56	29	90	48
34g	Can'tt Area (L)	72	36	88	65
No.	Area and District		20		
	Indicator	Contraceptive Prevalence (any method)	Contraceptive Prevalence (modern)	Know how to avoid pregnancy	Ever use any method to avoid pregnancy

Summary Table 5B: Results for Eligible Women for Punjab, Area, District and Lahore (cont)

	Indicator	Mean Children Ever Born (MCEB) - All Women 15-49								MCEB Married Women 15-49	Completed Fertility Rate	Indirect Total Fertility Rate
No.	Area and District	21										22
		15-19	20-24	25-29	30-34	35-39	40-44	45-49	total	total	45-49 yr	
	PUNJAB	0.05	0.59	1.99	3.49	4.78	5.41	6.03	2.32	3.77	6.03	4.70/5.89*
1	Rural	0.06	0.66	2.05	3.54	4.80	5.48	6.19	2.39	3.78	6.19	5.93
2	Other Urban	0.03	0.47	1.98	3.52	4.99	5.46	5.94	2.27	3.90	5.94	5.94
3	Major City	0.02	0.43	1.73	3.20	4.45	5.06	5.43	2.02	3.58	5.43	5.54
1	Bahawalnagar	0.04	0.60	1.98	3.61	5.27	5.38	6.58	2.43	3.79	6.58	5.80
2	Bahawalpur	0.04	0.96	2.43	3.68	5.35	6.14	6.34	2.74	4.07	6.34	6.92
3	Rahimyar Khan	0.10	0.75	2.22	4.25	5.06	5.91	6.73	2.57	3.83	6.73	5.93
4	D.G.Khan	0.19	1.24	2.97	4.27	6.07	6.38	9.08	3.11	4.19	9.08	8.90
5	Layyah	0.09	0.71	2.31	3.71	5.09	6.84	6.99	2.74	3.86	6.99	7.73
6	Muzaffargarh	0.14	1.06	2.72	4.00	5.58	5.73	7.43	2.82	4.06	7.43	6.40
7	Rajanpur	0.20	1.09	2.76	4.16	5.49	6.16	7.64	3.04	4.01	7.64	6.69
8	Faisalabad	0.02	0.41	1.70	3.03	4.45	5.07	5.83	2.06	3.68	5.83	5.79
9	Jhang	0.06	0.75	2.06	3.00	4.40	4.71	5.72	2.27	3.50	5.72	5.33
10	T.T.Singh	0.03	0.36	1.88	3.34	4.90	5.50	6.10	2.39	4.02	6.10	6.25
11	Gujranwala	0.01	0.42	2.00	3.61	4.57	5.47	5.51	2.11	3.66	5.51	5.93
12	Gujrat	0.02	0.42	1.83	2.95	4.17	4.85	5.52	2.05	3.27	5.52	5.50
13	Hafizabad	0.01	0.24	1.24	2.59	4.00	4.93	5.68	2.02	3.40	5.68	5.54
14	Mandi Bahauddin	0.02	0.51	1.79	2.62	4.49	5.05	5.83	2.18	3.73	5.83	6.10
15	Narowal	0.04	0.50	2.17	3.57	5.00	5.60	6.25	2.17	3.67	6.25	6.31
16	Sialkot	0.02	0.47	1.92	3.51	4.51	5.44	6.47	2.21	3.85	6.47	5.77
17	Kasur	0.04	0.54	2.31	4.29	5.58	6.19	6.64	2.76	4.42	6.64	6.68
18	Okara	0.05	0.58	2.18	3.77	5.05	5.52	5.63	2.45	3.79	5.63	6.16
19	Sheikhupura	0.04	0.55	2.07	3.66	5.17	6.11	6.12	2.43	4.09	6.12	6.83
20	Multan	0.05	0.73	2.17	4.08	5.03	5.83	6.84	2.54	3.94	6.84	5.92
21	Khanewal	0.03	0.67	2.13	3.63	4.76	5.73	6.55	2.33	3.90	6.55	6.14
22	Lodhran	0.14	1.03	2.53	4.35	5.60	6.70	7.20	2.65	3.99	7.20	7.13
23	Pakpattan	0.06	0.80	2.08	4.35	5.35	6.18	6.66	2.76	4.31	6.66	6.10
24	Sahiwal	0.05	0.68	1.84	3.24	5.08	5.59	6.59	2.31	4.04	6.59	6.35
25	Vehari	0.04	0.72	2.08	3.81	5.26	5.47	6.27	2.56	3.95	6.27	5.76
26	Rawalpindi	0.03	0.45	1.57	2.79	4.03	4.47	4.98	1.96	3.30	4.98	4.95
27	Attock	0.05	0.57	1.89	2.82	4.02	4.55	5.21	2.13	3.39	5.21	3.96
28	Chakwal	0.03	0.38	1.59	2.75	3.77	4.46	4.94	1.93	3.22	4.94	4.97
29	Jhelum	0.01	0.51	1.58	2.77	4.42	5.05	5.50	2.02	3.39	5.50	5.76
30	Sargodha	0.03	0.53	1.81	3.09	3.99	5.04	5.45	2.05	3.49	5.45	5.47
31	Bhakkar	0.04	0.57	1.49	3.33	4.59	6.09	6.98	2.19	3.55	6.98	7.53
32	Khushab	0.03	0.25	1.41	2.72	3.64	4.43	5.90	1.94	3.27	5.90	4.84
33	Mianwali	0.04	0.40	1.38	3.26	3.99	5.09	5.45	1.93	3.47	5.45	5.17
34	Lahore	0.03	0.47	1.78	3.27	4.42	4.98	5.56	2.03	3.59	5.56	5.36
34a	Gunj Buksh Town (L)	0.04	0.51	1.26	3.19	3.70	4.14	4.27	1.74	3.07	4.27	4.20
34b	Shalimar Town (L)	0.02	0.63	2.18	3.39	5.11	5.29	5.96	2.30	3.88	5.96	6.20
34c	Allama Iqbal Town (L)	0.02	0.33	1.73	3.21	4.53	4.81	5.07	1.90	3.61	5.07	5.35
34d	Aziz Bhatti Town (L)	0.02	0.41	1.85	3.71	3.92	5.56	6.92	2.13	3.85	6.92	5.47
34e	Nishtar Town (L)	0.08	0.56	2.53	3.24	4.07	4.87	6.79	2.23	3.78	6.79	5.78
34f	Ravi Town (L)	0.03	0.38	1.86	3.32	4.72	5.16	5.90	2.09	3.63	5.90	5.72
34g	Cantt Area (L)	0.00	0.39	1.65	3.03	4.36	5.33	5.63	1.90	3.62	5.63	5.33
No.	Area and District	21										22
	Indicator	Mean Children Ever Born (MCEB) - All Women 15-49								MCEB Married Women 15-49	Completed Fertility Rate	Indirect Total Fertility Rate

Mean children Ever Born: Average number of children born to women aged 15-49 since they started having children

Completed Fertility Rate

Based on all women aged 45-49

*Indirect Total Fertility Rate TFR

This could not be reliably estimated, due to lack of a complete birth history

The result of 4.70 for Punjab relies partly on the ASFR of a 2001 survey (see Technical Notes)

Summary Table 6: Children Under 5 Years for Punjab, Area, District and Lahore

No.	Indicator	Mortality Rates				Malnutrition		Infant Feeding			
		*Under 5 Year Olds (U5MR)		Infants (IMR)		**Under-weight prevalence		***Exclusive breastfed (0-6m)	Breast fed (0-11 months)	Bottle fed (0-11 months)	Added foods (6-11 months)
No.	Area and District	22		23		24		26	27	28	29
	PUNJAB	112		77		34	34	30	78	35	44
1	Rural	119		82		35	40	29	79	32	41
2	Other Urban	107		74		35	30	24	77	38	47
3	Major City	75		55		29	23	39	73	45	55
		Initial	Adjusted	Initial	Adjusted	Initial	Adjusted				
1	Bahawalnagar	100	138	70	88	41	42	-	48	25	15
2	Bahawalpur	105	142	73	90	33	44	-	87	30	38
3	Rahimyar Khan	101	137	71	87	27	42	-	96	23	24
4	D.G.Khan	128	147	87	93	48	45	-	95	33	25
5	Layyah	127	136	85	87	27	42	-	98	41	72
6	Muzaffargarh	119	150	81	95	33	46	-	81	29	37
7	Rajanpur	123	153	84	97	42	47	-	93	20	28
8	Faisalabad	87	106	63	69	32	33	-	88	36	40
9	Jhang	109	134	75	86	45	41	-	91	38	50
10	T.T.Singh	147	112	97	73	24	34	-	94	48	48
11	Gujranwala	99	93	70	61	23	28	-	80	45	64
12	Gujrat	89	92	63	61	32	28	-	79	40	42
13	Hafizabad	135	131	90	84	54	40	-	83	29	47
14	Mandi Bahauddin	102	111	70	72	26	34	-	89	44	40
15	Narowal	71	114	52	74	42	35	-	74	35	41
16	Sialkot	48	84	36	57	31	26	-	89	45	44
17	Kasur	103	139	72	89	42	43	-	40	26	60
18	Okara	159	135	103	86	41	41	-	76	26	56
19	Sheikhupura	113	124	77	80	29	38	-	39	30	42
20	Multan	116	130	80	83	38	40	-	81	42	47
21	Khanewal	183	134	117	86	36	41	-	79	36	37
22	Lodhran	158	147	104	93	38	45	-	93	33	25
23	Pakpattan	203	143	127	91	36	44	-	85	34	51
24	Sahiwal	177	120	114	78	43	37	-	81	37	47
25	Vehari	131	140	89	89	48	43	-	89	31	40
26	Rawalpindi	67	82	48	55	38	25	-	81	36	52
27	Attock	71	127	53	81	36	39	-	77	23	33
28	Chakwal	76	100	53	66	25	30	-	89	31	63
29	Jhelum	99	89	69	59	33	27	-	74	40	46
30	Sargodha	108	118	75	76	35	36	-	53	30	32
31	Bhakkar	149	153	98	97	25	47	-	79	30	35
32	Khushab	98	135	69	86	28	42	-	89	34	45
33	Mianwali	142	129	94	83	34	40	-	80	28	56
34	Lahore	68	82	50	55	26	25	-	69	42	50
34a	Gunj Buksh Town (L)	46	57	34	41	21	17	-	65	58	48
34b	Shalimar Town (L)	76	94	55	62	24	29	-	67	37	40
34c	Allama Iqbal Town (L)	70	79	50	53	33	24	-	85	44	52
34d	Aziz Bhatti Town (L)	50	105	37	69	29	32	-	79	43	75
34e	Nishtar Town (L)	61	96	46	63	30	29	-	77	20	39
34f	Ravi Town (L)	79	78	55	53	23	24	-	74	38	74
34g	Cantt Area (L)	41	89	29	59	27	27	-	18	64	67
No.	Area and District	22		23		24		26	27	28	29
Indicator		Under 5 Year Olds (U5MR)		Infants (IMR)		Under-weight prevalence		Exclusive breastfed (0-6m)	Breast fed (0-11 months)	Bottle fed (0-11 months)	Added foods (6-11 months)
		Mortality Rates		Malnutrition		Infant Feeding					

*U5MR and IMR for districts have been adjusted. See text for adjustment procedures. Initial unexpected results are bold.

**An alternative underweight prevalence is presented in the Technical Notes

***Insufficient Sample sizes for Exclusive Breastfeeding in Districts

Summary Table 7: Children Under 5 Years for Punjab, Area, District and Lahore (cont)

	Indicator	Recent illness (in the past 2 weeks)			Illness-related results				Care-seeking knowledge of mother
		Diarrhoea	Cough with difficult breathing	High Fever	Episodes of diarrhoea past year	ORS/ORT use	Consult any health provider	Admitted to Hospital	
No.	Area and District	30	30	30	31	32	33		34
PUNJAB		22	15	17	2.4	43	59	3.0	56
	1 Rural	24	16	19	2.5	40	57	2.8	57
	2 Other Urban	21	15	16	2.2	48	68	3.6	51
	3 Major City	17	12	10	1.7	46	72	4.3	55
	1 Bahawalnagar	27	18	32	2.2	55	58	2.4	47
	2 Bahawalpur	21	15	23	2.4	34	37	1.8	50
	3 Rahimyar Khan	21	21	27	2.5	51	65	1.7	50
	4 D.G.Khan	52	30	45	3.4	41	54	4.5	80
	5 Layyah	35	23	43	2.3	28	93	2.1	91
	6 Muzaffargarh	41	35	37	3.1	40	57	4.5	74
	7 Rajanpur	34	32	33	4.2	57	58	1.8	80
	8 Faisalabad	18	10	10	2.7	37	49	6.7	59
	9 Jhang	18	13	18	2.2	46	43	5.1	69
	10 T.T.Singh	18	13	12	2.3	46	43	5.0	78
	11 Gujranwala	17	10	10	2.2	48	67	1.4	36
	12 Gujrat	21	20	10	2.3	34	77	3.0	44
	13 Hafizabad	17	10	12	1.7	43	65	1.2	63
	14 Mandi Bahauddin	20	13	12	2.7	40	65	1.2	40
	15 Narowal	23	22	35	1.7	44	81	2.5	56
	16 Sialkot	14	12	13	1.9	57	70	1.8	53
	17 Kasur	10	3	5	1.6	28	51	0.0	47
	18 Okara	19	9	7	1.6	45	57	0.0	43
	19 Sheikhupura	23	13	13	2.3	42	44	0.8	62
	20 Multan	29	14	12	3.1	57	36	1.9	71
	21 Khanewal	30	14	15	3.3	34	76	2.4	40
	22 Lodhran	33	20	26	3.1	45	62	3.0	46
	23 Pakpattan	17	6	2	1.8	35	26	1.1	41
	24 Sahiwal	29	21	22	3.3	34	57	3.1	32
	25 Vehari	30	12	20	2.9	44	38	3.8	69
	26 Rawalpindi	17	12	8	1.8	50	93	1.3	43
	27 Attock	25	22	18	1.8	34	92	5.9	66
	28 Chakwal	11	12	8	1.8	40	100	0.0	29
	29 Jhelum	13	15	14	2.1	24	71	1.9	48
	30 Sargodha	18	13	11	2.1	43	61	2.4	54
31 Bhakkar	17	13	24	2.8	34	56	0.0	53	
32 Khushab	20	15	9	2.2	29	52	5.0	21	
33 Mianwali	22	15	22	2.4	33	74	14.6	50	
34 Lahore	14	11	8	1.2	41	78	4.6	56	
34a	Gunj Buksh Town (L)	8	5	4	1.6	30	80	0.0	81
34b	Shalimar Town (L)	19	17	7	1.0	41	85	4.6	57
34c	Allama Iqbal Town (L)	14	12	10	1.7	47	93	7.6	36
34d	Aziz Bhatti Town (L)	14	13	10	0.7	33	62	3.0	14
34e	Nishtar Town (L)	15	5	7	0.9	37	97	6.0	30
34f	Ravi Town (L)	17	17	15	1.2	42	62	5.8	44
34g	Cannt Area (L)	11	7	2	1.3	67	100	0.0	80
No.	Area and District	30	30	30	31	32	33		34
	Indicator	Diarrhoea	Cough with difficult breathing	High Fever	Episodes of diarrhoea past year	*ORS/ORT use	Consult any health provider	Admitted to Hospital	Care-seeking knowledge of mother
		Recent illness (in the past 2 weeks)			Illness-related results				Care-seeking knowledge of mother

*ORT use (includes Rehydration Solution and Oral Rehydration Therapy, but not gruel)

Summary Table 8: Child Preventive/Protection Measures for Punjab, Area, District and Lahore

No.	Area and District	Preventive						Protective			
		Vit A	Iodized Salt		Immunization		LHW's				
		Children (to 5yr) receiving Vitamin A	User knowledge	% any iodized salt	* % Fully Immunized (12-23m)	BCG scar (child under 5 years)	% Population Covered by LHW's	Child Registered (under 5's)	Child hazardous labour (5-9yr)	Child hazardous labour (10-14yr)	Run away children
	PUNJAB	35	36	36	37	37	38	39	40	41	42
		87	52	8	66	81	35	82	0.1	0.4	0.1
1	Rural	87	46	4		79	38	80	0.1	0.4	0.1
2	Other Urban	85	64	11		86	41	83	0.0	0.6	0.1
3	Major City	89	67	21		87	18	87	0.1	0.6	0.1
1	Bahawalnagar	36	35	1	65	81	35	68	0.0	0.0	0.1
2	Bahawalpur	62	47	6	61	83	38	56	0.2	0.4	0.4
3	Rahimyar Khan	87	56	5	43	80	28	61	0.0	0.2	0.0
4	D.G.Khan	80	43	7	37	69	29	41	0.3	0.3	0.0
5	Layyah	94	42	1	63	76	38	90	0.0	0.0	0.0
6	Muzaffargarh	83	45	7	41	64	23	57	0.1	1.0	0.2
7	Rajanpur	92	35	4	19	64	8	45	0.5	0.5	0.0
8	Faisalabad	90	51	5	71	79	14	93	0.1	0.8	0.1
9	Jhang	94	44	3	61	82	23	86	0.1	0.4	0.1
10	T.T.Singh	96	38	1	70	80	53	94	0.6	1.1	0.2
11	Gujranwala	89	53	8	74	84	23	89	0.0	0.2	0.0
12	Gujrat	96	81	13	81	87	48	96	0.0	0.4	0.2
13	Hafizabad	58	19	9	69	94	89	84	0.0	0.1	0.2
14	Mandi Bahauddin	96	47	6	74	75	50	92	0.0	0.0	0.0
15	Narowal	78	34	4	86	89	34	95	0.0	0.6	0.2
16	Sialkot	97	56	12	89	88	41	97	0.0	0.0	0.2
17	Kasur	64	46	4	62	79	25	90	0.0	1.7	0.1
18	Okara	65	41	6	60	73	41	87	0.1	0.8	0.0
19	Sheikhupura	86	48	3	69	88	11	90	0.1	0.6	0.0
20	Multan	95	70	6	74	81	74	80	0.1	0.5	0.3
21	Khanewal	96	51	2	72	72	54	86	0.0	0.0	0.2
22	Lodhran	96	33	4	56	82	28	70	0.0	0.0	0.0
23	Pakpattan	96	51	3	72	77	40	84	0.0	0.0	0.2
24	Sahiwal	89	57	1	82	83	58	88	0.0	0.0	0.0
25	Vehari	90	64	3	67	76	56	94	0.0	0.2	0.1
26	Rawalpindi	84	78	20	74	94	36	86	0.0	0.5	0.0
27	Attock	78	59	8	67	81	22	87	0.0	0.6	0.0
28	Chakwal	97	75	11	79	84	56	97	0.0	0.3	0.2
29	Jhelum	96	82	17	90	95	73	94	0.0	0.0	0.0
30	Sargodha	86	35	5	58	85	27	86	0.2	0.4	0.1
31	Bhakkar	97	24	9	61	83	60	81	0.0	0.0	0.1
32	Khushab	91	42	6	79	92	55	84	0.0	0.6	0.2
33	Mianwali	77	33	11	65	87	49	78	0.0	0.3	0.1
34	Lahore	91	61	27	**57/72	87	18	85	0.0	0.5	0.0
34a	Gunj Buksh Town (L)	90	88	50		90	12	88	0.0	1.4	0.0
34b	Shalimar Town (L)	96	53	11		89	24	88	0.0	0.2	0.0
34c	Allama Iqbal Town (L)	88	72	26		86	23	91	0.0	0.0	0.0
34d	Aziz Bhatti Town (L)	94	23	22		91	23	69	0.0	0.7	0.0
34e	Nishtar Town (L)	89	52	29		84	19	78	0.0	0.4	0.0
34f	Ravi Town (L)	91	50	22		83	15	88	0.0	0.8	0.5
34g	Cannt Area (L)	95	88	26		87	11	87	0.0	0.0	0.0
No.	Area and District	35	36	36	37	37	38	39	40	41	42
	Indicator	Children (to 5yr) receiving Vitamin A	User knowledge	% any iodized salt	% Fully Immunized (12-23m)	BCG scar (child under 5 years)	% Population Covered by LHW's	Child Registered (under 5's)	Child hazardous labour (5-9yr)	Child hazardous labour (10-14yr)	Run away children
		Vit A	Iodized Salt		Immunization		LHW's	Protective			
		Preventive									

*Fully Immunized - Measles completed (information from EPI survey 2002)

**Lahore data: Given first as Total, followed by Metropolitan Lahore

Summary Table 9: Economic Information for Punjab, Area, District and Lahore

No.	Indicator	Income per cap		Received remittances				Zakat/Donations		*Mean Remit for all HH		Zakat
		% Below Rs 750/month	Average (Mean)/month	% from Pakistan	Average (Mean)/month	% from Abroad	Average (Mean)/month	% received	Average (Mean)/month	from Pakistan	from abroad	for all
	Area and District	45	45	46	46	46	46	47	47			
	PUNJAB	39	1385	4.3	3,101	4.2	9,893	3.8	1,349	133	130	51
	Rural	44	1206	5.2	2,923	3.9	9,851	3.6	1,142	152	113	41
	Other Urban	35	1385	3.4	4,178	5.2	9,501	5.1	1,613	144	215	82
	Major City	20	2259	1.7	3,687	5.1	10,482	3.5	2,019	64	187	71
1	Bahawalnagar	58	977	2.5	1,787	0.8	13,529	2.6	876	45	14	23
2	Bahawalpur	66	863	3.3	2,061	0.8	5,529	1.9	1,157	68	17	22
3	Rahimyar Khan	63	974	2.4	2,167	1.6	10,625	3.2	689	52	35	22
4	D.G.Khan	59	878	0.6	2,554	5.1	7,858	0.9	145	16	131	1
5	Layyah	51	989	5.1	3,969	0.6	3,628	1.8	871	203	24	15
6	Muzaffargarh	60	904	3.7	2,384	0.8	3,955	2.0	780	88	19	15
7	Rajanpur	66	793	0.2	2,788	2.0	5,862	2.7	812	5	57	22
8	Faisalabad	34	1296	1.4	2,498	2.4	5,938	3.9	1,678	35	59	65
9	Jhang	38	1290	3.1	4,185	1.2	6,504	2.7	1,489	128	51	41
10	T.T.Singh	28	1379	2.9	2,366	3.8	7,400	4.9	2,156	69	89	106
11	Gujranwala	30	1603	2.1	2,702	7.0	10,823	4.2	1,114	56	190	47
12	Gujrat	31	1625	11.4	4,254	23.1	12,099	6.3	1,422	486	982	90
13	Hafizabad	35	1390	3.7	1,124	1.6	21,393	1.6	1,268	42	18	20
14	Mandi Bahauddin	27	1661	9.3	3,387	13.0	12,135	5.7	1,091	313	442	63
15	Narowal	31	1185	7.5	1,636	3.5	8,164	4.0	1,617	122	58	64
16	Sialkot	15	1711	1.4	1,600	16.5	11,195	3.3	1,662	22	264	56
17	Kasur	50	959	2.3	2,641	0.6	8,775	5.5	946	60	16	52
18	Okara	50	1017	2.9	1,492	2.1	6,339	8.4	1,255	43	32	105
19	Sheikhupura	27	1843	0.7	1,506	1.3	10,235	3.1	876	10	19	27
20	Multan	36	1754	1.9	2,523	2.7	8,065	2.6	793	47	69	21
21	Khanewal	32	1475	2.9	2,011	1.8	9,626	3.6	1,108	58	36	40
22	Lodhran	55	1070	2.1	1,968	1.1	12,197	3.4	1,701	41	22	57
23	Pakpattan	49	1071	4.2	2,853	1.0	2,372	5.0	1,493	121	28	74
24	Sahiwal	45	1111	4.1	2,316	2.3	6,787	4.3	1,326	96	54	56
25	Vehari	36	1155	7.5	2,132	2.2	5,684	5.5	1,850	161	47	102
26	Rawalpindi	26	1729	7.2	3,971	9.0	8,955	2.4	1,156	288	356	27
27	Attock	52	969	15.5	2,837	7.2	4,815	6.4	975	441	205	62
28	Chakwal	35	1209	24.3	3,431	6.0	15,746	6.9	1,106	835	205	77
29	Jhelum	21	1509	15.3	3,813	14.1	10,009	5.4	2,231	585	539	120
30	Sargodha	40	1385	3.5	6,665	2.8	12,236	4.2	1,088	233	184	45
31	Bhakkar	46	1103	4.4	2,184	0.1	5,000	1.7	673	95	1	12
32	Khushab	36	1357	10.7	3,180	2.5	6,724	3.1	2,483	339	81	78
33	Mianwali	47	1271	10.6	2,949	1.8	7,292	3.8	760	313	52	29
34	Lahore	20	2449	1.3	3,631	3.8	10,046	3.7	2,402	48	138	89
34a	Gunj Buksh Town (L)	12	2481	1.7	3,326	6.4	8,768	6.7	2,143	56	211	143
34b	Shalimar Town (L)	25	2356	1.3	2,895	3.2	9,439	5.7	1,573	37	94	90
34c	Allama Iqbal Town (L)	17	3432	1.5	3,742	4.7	10,410	1.7	2,843	56	177	48
34d	Aziz Bhatti Town (L)	25	1393	1.3	936	2.6	7,074	2.8	1,262	12	24	36
34e	Nishtar Town (L)	25	2658	0.1	500	2.7	12,936	1.5	1,118	1	13	17
34f	Ravi Town (L)	20	1771	2.3	4,412	3.3	9,069	5.2	2,388	103	144	123
34g	Cantt Area (L)	23	2631	0.8	2,752	3.0	10,560	1.1	3,001	23	83	33
	Area and District	45	45	46	46	46	46	47	47			
No.	Indicator	% Below Rs 750/month	Average (Mean)/month	% from Pakistan	Average (Mean)/month	% from Abroad	Average (Mean)/month	% received	Average (Mean)/month	from Pakistan	from abroad	for all
		Income per cap		Received remittances				Zakat/Donations		Mean Remit for all HH		Zakat

*Note the two estimates - for those receiving and for all households (last 3 columns)

Summary Table 10: Economic Information for Punjab, Area, District and Lahore

No.	Indicator	% Own house with value	Own house value over Rs 1 Lakh (who own house)	Mean house value Lakhs	% Own agriculture land	Own land valued over Rs 1 Lakh (who own land)	Median Land value (who own land) Lakhs	Mean Land value (who own land) Lakhs	% Have Livestock	Mean Livestock value (who own livestock) Rs
	Area and District	49	49	49	50	50	50		51	51
	PUNJAB	86	53	2.5	32	93	5	12	41.1	67,230
	Rural	91	42	1.3	42	93	5	11	54.9	67,852
	Other Urban	83	78	3.2	11	94	7	17	10.9	50,230
	Major City	75	93	8.3	4	94	9	28	2.2	73,419
1	Bahawalnagar	85	29	1.0	37	93	5	8	59.7	69,594
2	Bahawalpur	88	26	1.1	41	97	4	9	48.2	62,353
3	Rahimyar Khan	87	23	1.3	40	93	6	13	60.1	53,446
4	D.G.Khan	94	20	1.0	43	91	4	11	48.5	77,020
5	Layyah	87	18	0.7	49	93	5	9	63.9	58,956
6	Muzaffargarh	92	19	0.7	43	94	4	9	36.1	58,975
7	Rajanpur	92	21	0.7	40	90	5	9	56.0	50,533
8	Faisalabad	89	65	2.5	27	98	6	10	27.0	65,613
9	Jhang	88	42	1.4	39	93	6	13	56.6	77,154
10	T.T.Singh	91	55	1.8	32	99	6	12	45.8	82,233
11	Gujranwala	90	69	3.2	27	98	9	17	23.7	88,374
12	Gujrat	94	85	3.0	40	94	4	8	43.1	55,819
13	Hafizabad	91	51	1.7	33	97	10	22	41.9	127,328
14	Mandi Bahauddin	91	73	2.7	39	96	12	20	57.0	78,394
15	Narowal	97	49	1.4	49	86	2	4	56.3	54,020
16	Sialkot	90	77	3.6	36	89	4	9	40.5	63,220
17	Kasur	83	26	1.0	26	94	6	11	36.5	95,516
18	Okara	83	36	1.2	34	95	5	10	50.6	76,944
19	Sheikhupura	85	63	1.8	26	99	9	23	35.3	83,897
20	Multan	87	55	3.0	19	99	9	18	26.5	64,434
21	Khanewal	83	53	1.4	32	98	6	14	54.5	73,906
22	Lodhran	92	27	1.0	38	99	6	14	56.6	52,230
23	Pakpattan	82	26	1.0	37	93	5	11	60.1	70,827
24	Sahiwal	83	53	1.8	29	99	5	10	43.7	69,985
25	Vehari	91	35	1.4	38	97	6	10	53.3	68,869
26	Rawalpindi	68	94	5.9	34	84	3	7	32.1	39,531
27	Attock	84	70	2.2	34	72	3	8	47.1	38,549
28	Chakwal	90	87	2.5	43	70	2	5	53.3	38,567
29	Jhelum	90	86	2.9	44	79	2	5	46.7	48,550
30	Sargodha	87	58	2.1	27	97	9	21	41.0	77,786
31	Bhakkar	92	21	0.8	52	93	5	10	70.4	66,692
32	Khushab	92	57	2.1	41	90	4	13	32.6	69,476
33	Mianwali	82	53	1.8	34	78	2	8	40.5	51,711
34	Lahore	78	86	8.6	8	94	11	36	6.4	113,393
34a	Gunj Buksh Town (L)	70	97	12.5	2	100	10	62	0.4	44,164
34b	Shalimar Town (L)	84	84	4.3	7	92	5	10	9.2	107,356
34c	Allama Iqbal Town (L)	77	79	9.1	11	97	11	37	8.2	169,835
34d	Aziz Bhatti Town (L)	85	77	4.5	16	92	20	58	19.8	125,738
34e	Nishtar Town (L)	85	74	7.6	11	97	10	18	9.4	94,887
34f	Ravi Town (L)	74	95	7.7	5	85	6	25	3.7	50,474
34g	Cantt Area (L)	69	94	14.7	3	85	17	45	1.2	32,132
	Area and District	49	49	49	50	50	50		51	51
	Indicator	% Own house with value	Own house value over Rs 1 Lakh (who own house)	Mean house value	% Own agriculture land	Own land valued over Rs 1 Lakh (who own land)	Median Land value (who own land)	Mean Land value (who own land)	% Have Livestock	Mean Livestock value (who own livestock)

Note for all households, multiply the results by the percent owning.

Summary Table 11: Other Results for Punjab, Area, District and Lahore

No.	Indicator	Unemployment			Household Characteristics			*Tuberculosis and cough		
		Unemployed and seeking work (10 yr+)	% in active labour force (10yr+)	% with no utilities (electricity, etc)	% HH with no poss-essions	Mean No. people per room	Household size	Diagnosed as TB past year	Diagnosed as TB past year/ 100000	Cough for past 3 weeks
	Area and District	48	48	53	53	53		43	43	
	PUNJAB	9	38	17	9	3.4	6.6	0.5	457	2.2
	Rural	8	39	23	12	3.5	6.7	0.5	503	2.4
	Other Urban	10	36	2	2	3.3	6.6	0.4	354	2.3
	Major City	10	37	1	1	3.1	6.4	0.3	329	1.4
1	Bahawalnagar	6	43	24	17	3.4	6.5	0.4	430	3.5
2	Bahawalpur	7	51	44	28	3.7	6.4	0.5	521	3.1
3	Rahimyar Khan	5	50	35	20	3.8	6.9	0.6	565	4.4
4	D.G.Khan	11	35	36	20	4.0	6.9	0.6	590	2.0
5	Layyah	11	36	44	21	3.7	6.8	0.2	233	0.9
6	Muzaffargarh	11	37	37	19	3.8	6.8	0.6	596	1.9
7	Rajanpur	12	45	41	24	4.2	6.9	0.5	499	2.0
8	Faisalabad	7	37	4	2	3.2	6.6	0.4	376	1.9
9	Jhang	5	39	31	7	3.1	6.3	0.3	281	1.4
10	T.T.Singh	9	38	6	2	3.2	6.7	0.5	543	2.6
11	Gujranwala	12	34	1	1	3.0	7.0	0.3	281	2.1
12	Gujrat	12	32	1	1	2.7	6.4	0.3	331	1.9
13	Hafizabad	9	38	3	3	3.2	6.6	0.5	478	1.0
14	Mandi Bahauddin	14	34	2	1	3.0	6.6	1.0	979	3.9
15	Narowal	8	34	7	5	3.2	7.3	0.3	331	1.7
16	Sialkot	9	32	2	1	2.9	6.9	0.3	277	1.5
17	Kasur	9	36	4	4	4.1	6.7	0.6	602	1.9
18	Okara	7	37	25	19	3.7	6.5	1.0	1024	2.4
19	Sheikhupura	7	37	9	7	3.9	7.0	0.4	442	1.5
20	Multan	6	42	20	5	3.7	6.8	0.6	576	2.0
21	Khanewal	5	42	32	6	3.5	6.9	0.6	565	2.5
22	Lodhran	4	51	32	16	3.6	6.8	0.4	361	3.6
23	Pakpattan	6	37	24	18	3.8	6.5	0.7	721	1.4
24	Sahiwal	9	38	23	5	3.6	6.6	0.6	594	4.0
25	Vehari	5	46	28	6	3.7	7.0	0.4	450	3.0
26	Rawalpindi	15	32	1	2	2.6	6.2	0.4	396	1.2
27	Attock	18	32	15	12	2.8	6.3	0.5	518	2.2
28	Chakwal	18	30	9	7	2.4	5.7	0.2	220	0.4
29	Jhelum	13	31	4	4	2.7	6.2	0.5	540	2.0
30	Sargodha	11	36	8	7	3.1	6.4	0.3	342	3.0
31	Bhakkar	7	36	45	28	3.1	6.3	0.4	384	5.0
32	Khushab	14	35	17	14	2.9	6.2	0.3	318	4.2
33	Mianwali	14	33	13	8	3.4	6.9	0.2	223	3.2
34	Lahore	9	37	1	1	3.3	6.3	0.3	328	1.1
34a	Gunj Buksh Town (L)	8	35	0	0	3.2	6.1	0.1	87	0.5
34b	Shalimar Town (L)	9	40	0	0	3.7	6.8	0.3	252	0.8
34c	Allama Iqbal Town (L)	11	35	1	2	2.9	6.1	0.6	607	1.2
34d	Aziz Bhatti Town (L)	10	37	1	2	3.6	6.3	0.2	177	2.0
34e	Nishtar Town (L)	11	38	2	2	3.3	6.5	0.2	150	0.5
34f	Ravi Town (L)	10	36	0	1	3.3	6.3	0.7	738	1.9
34g	Canth Area (L)	10	34	0	0	3.1	6.3	0.2	172	1.5
	Area and District	48	48	53	53	53		43	43	
	Indicator	Unemployed and seeking work (10 yr+)	% in active labour force (10yr+)	% with no utilities (electricity, etc)	% HH with no poss-essions	Mean No. people per room	Household size	Diagnosed as TB past year	Diagnosed as TB past year/ 100000	Cough for past 3 weeks
		Unemployment		Household Characteristics			Tuberculosis and cough			

*Tuberculosis - pertains to the total population

District-wise MDG Results for Punjab

All results in percent, except for Ratios, Mortality and Possessions

No.	Punjab	Major Areas			Districts																																Lahore Towns									
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16																	17	18	19	20	21	22	23	24	25	26
		Rural	Other Urban	Major City	Bwn	Bhw	Ryk	Dgk	Lay	Mzf	Rjp	Fsb	Jha	Tts	Gjw	Guj	Hfz	Mdb	Mrw	Sia	Kas	Oka	Shk	Mul	Nar	Lod	Pak	Sah	Veh	Raw	Att	Chk	Jhl	Sar	Bha	Khu	Mia	Lah	Gun	Sha	All	Azb	Nis	Rav	Can	
Goal 1 Eradicate extreme poverty and hunger																																														
Halve, between 1990 and 2015, the proportion of people who suffer from hunger																																														
1	Prevalence of underweight in children (under five years of age)	34	40	30	23	42	44	42	45	42	46	47	33	41	34	28	28	40	34	35	26	43	41	38	40	41	45	44	37	43	25	39	30	27	36	47	42	40	25	17	29	24	32	29	24	27
Goal 2 Achieve universal primary education																																														
Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling																																														
2	Net enrolment ratio in primary education (m)	53	49	62	65	43	34	39	38	59	34	38	57	53	52	67	61	74	55	60	71	48	46	59	45	58	33	41	50	51	75	65	73	72	70	45	48	54	62	66	57	75	47	59	64	55
3	Net enrolment ratio in primary education (f)	49	45	61	65	38	30	32	29	56	25	28	60	45	50	66	67	72	54	63	67	46	36	54	43	44	29	36	53	43	73	64	71	68	65	34	51	38	62	63	60	73	44	69	59	56
4	Net enrolment ratio in primary education (tot)	51	47	62	65	40	32	36	34	57	30	33	59	49	51	67	64	73	54	61	69	47	41	56	44	51	31	39	51	48	74	64	72	70	67	39	49	46	62	65	58	74	45	64	62	55
5	Gross Primary Enrolment rate (m)	93	89	105	105	81	70	72	74	98	65	64	106	88	92	115	116	104	109	97	116	79	92	105	84	100	64	79	85	88	121	109	115	126	107	108	84	100	101	98	89	124	92	100	111	91
6	Gross Primary Enrolment rate (f)	83	76	103	103	70	54	52	48	87	45	45	106	71	91	108	124	92	100	99	114	71	68	97	76	75	48	66	93	70	115	104	102	111	98	63	91	68	98	104	100	105	75	103	97	95
7	Gross Primary Enrolment rate (tot)	88	83	104	104	75	62	63	61	93	56	56	106	80	92	111	119	98	105	98	115	75	80	101	80	88	57	73	89	79	118	106	109	118	102	87	88	84	99	101	94	114	83	101	104	93
8	Net enrolment rate in secondary education (m)	35	31	42	47	29	22	25	27	33	24	21	39	33	40	40	43	39	38	42	44	33	27	32	26	29	22	25	30	31	54	51	58	49	42	28	39	47	45	50	37	48	36	47	45	
9	Net enrolment rate in secondary education (f)	31	23	45	53	23	20	19	16	20	12	15	38	19	31	44	44	33	33	36	45	20	20	31	22	24	14	19	27	22	51	30	45	51	34	16	29	34	50	52	47	57	44	44	48	60
10	Net enrolment rate in secondary education (tot)	33	27	44	50	26	21	22	22	27	19	18	38	26	35	42	44	36	35	39	45	27	24	31	24	27	18	22	28	27	53	41	51	50	38	23	34	41	47	51	42	52	39	46	46	54
11	Literacy Rate 10 years+ (m)	63	58	74	78	53	46	52	53	59	49	46	68	60	68	72	73	64	66	72	75	51	53	58	56	62	51	54	63	56	87	73	84	78	69	52	68	73	75	82	66	78	59	77	75	78
12	Literacy Rate 10 years+ (f)	44	35	59	71	34	28	31	24	32	22	20	52	31	46	62	57	44	48	49	65	32	33	41	35	36	23	30	45	30	68	40	57	59	46	20	36	37	67	78	61	70	51	62	66	70
13	Literacy Rate 10 years+ (tot)	54	47	67	75	44	37	42	40	46	36	34	60	47	58	67	65	55	57	60	70	42	43	50	46	49	37	42	54	43	78	57	69	68	58	37	52	56	74	80	64	74	55	70	71	74
14	Literacy rate of 15-to 24-year-olds (m)	75	71	82	82	67	57	63	67	68	60	55	77	72	80	82	86	77	83	85	89	64	68	74	66	75	64	74	77	71	92	86	93	85	75	66	82	81	79	84	74	81	64	78	82	84
15	Literacy rate of 15-to 24-year-olds (f)	62	53	85	76	47	41	46	35	50	35	28	74	44	72	81	83	68	75	69	87	49	52	61	55	52	36	45	58	48	85	56	78	80	61	34	59	52	80	84	79	79	73	71	84	91
16	Literacy rate of 15-to 24-year-olds (tot)	68	62	83	79	57	49	55	52	59	48	42	76	59	76	82	85	73	79	77	88	57	60	68	61	64	50	59	68	60	89	71	85	82	68	51	71	66	80	84	77	80	68	75	83	88
Goal 3 Promote gender equality and empower women																																														
Eliminate gender disparity in primary and secondary education preferably by 2005 and in all levels of education no later than 2015																																														
17	Ratio females/males: Net enrolment ratio in primary education	0.93	0.90	0.98	1.00	0.90	0.88	0.83	0.76	0.95	0.74	0.73	1.05	0.85	0.95	0.98	1.10	0.98	0.98	1.04	0.95	0.98	0.79	0.91	0.95	0.77	0.86	0.88	1.07	0.85	0.98	0.99	0.97	0.95	0.93	0.75	1.06	0.69	1.00	0.96	1.05	0.98	0.93	1.17	0.93	1.01
18	Ratio females/males: Gross enrolment ratio in primary education	0.89	0.85	0.99	0.98	0.86	0.77	0.72	0.66	0.89	0.69	0.71	1.00	0.81	1.00	0.94	1.07	0.89	0.92	1.03	0.98	0.90	0.74	0.92	0.90	0.75	0.75	0.84	1.08	0.79	0.95	0.95	0.89	0.88	0.92	0.59	1.08	0.68	0.96	1.07	1.11	0.85	0.82	1.04	0.87	1.05
19	Ratio females/males: Net enrolment ratio in secondary education	0.88	0.73	1.08	1.12	0.78	0.89	0.77	0.61	0.61	0.50	0.72	0.99	0.58	0.78	1.11	1.03	0.85	0.88	0.87	1.03	0.60	0.73	0.95	0.85	0.84	0.63	0.77	0.90	0.70	0.95	0.59	0.77	1.03	0.80	0.56	0.75	0.73	1.11	1.03	1.27	1.19	1.23	0.94	1.08	1.20
20	Ratio of literate females to males among 15-to 24-year-olds	0.83	0.74	1.04	0.93	0.70	0.72	0.73	0.53	0.74	0.58	0.50	0.96	0.62	0.90	0.99	0.97	0.88	0.90	0.81	0.99	0.76	0.77	0.83	0.82	0.70	0.56	0.60	0.76	0.67	0.93	0.65	0.84	0.94	0.81	0.51	0.72	0.64	1.01	1.00	1.07	0.97	1.13	0.92	1.02	1.09
21	Women in wage employment (non-agricultural) -% female to total	0.19	0.22	0.15	0.13	0.37	0.44	0.43	0.06	0.07	0.15	0.30	0.10	0.11	0.13	0.10	0.09	0.03	0.07	0.14	0.07	0.13	0.11	0.12	0.23	0.36	0.55	0.18	0.20	0.36	0.07	0.04	0.17	0.11	0.06	0.05	0.14	0.05	0.13	0.12	0.21	0.14	0.07	0.11	0.08	0.19
Goal 4 Reduce child mortality																																														
Reduce by two-thirds, between 1990 and 2015, the under five mortality rate.																																														
22	Under-five mortality rate	112	119	107	75	138	142	137	147	136	150	153	106	134	112	93	92	131	111	114	84	139	135	124	130	134	147	143	120	140	82	127	100	89	118	153	135	129	82	57	94	79	105	96	78	89
23	Infant mortality rate	77	82	74	55	88	90	87	93	87	95	97	69	86	73	61	61	84	72	74	57	89	86	80	83	86	93	90.6	78	89	55	81	66	59	76	97	86	83	55	41	62	53	69	63	53	59
24	Proportion of one-year olds immunized against measles (EPI)	66	na	na	na	61	61	43	37	63	41	19	71	61	70	74	81	69	74	86	89	62	60	69	74	72	56	72	82	67	74	67	79	90	58	65	79	65	57-72	na	na	na	na	na	na	na
Goal 5 Improve maternal health																																														
Reduce by three-quarters, between 1990 and 2015 the maternal mortality ratio																																														
25	Maternal Mortality Ratio per 100,000 births	300																																												
26	Proportion of births attended by skilled health personnel	32	26	44	66	22	20	21	26	23	16	7	42	21	38	45	47	32	22	39	43	23	26	32	34	22	14	22	37	30	65	28	44	46	38	16	34	41	60	83	40	53	40	55	63	65
27	Coverage of Pre-natal care (by any health worker)	77	73	85	93	75	56	74	75	70	61	38	89	77	87	90	84	75	62	89	84	84	59	81	83	76	86	46	73	83	92	71	86	90	83	51	62	72	92	99	94	88	87	89	87	96
28	Population covered by LHW's	35	38	41	18	35	38	28	29	38	23	8	14	23	53	23	48	89	50	34	41	25	41	11	74	54	28	40	58	56	36															

