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Project reports
PR-AF-afgmics97

Afghanistan

Afghanistan: Mutiple Indicator Baseline, 1997

CIETinternational

The 1997 Afghanistan Multiple Indicator Baseline

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TERMS USED IN THIS REPORT

Terms are listed to assist readers, especially those not fully conversant with the report topics. They are specific for this report and may differ in other situations

Anthropometry	Body measurement; in this survey height, weight, age and Mid-Upper Arm Circumference (MUAC) were used
Child care practices	Household practices (including breastfeeding), health, stimulation, etc for the child -- especially aged under five years
Food security	Sufficient food and prospects of sufficient food. In this survey several indicators were used, including sufficient food in the last week, purchase of food and sale/trade of household goods for food
Internally Displaced	(IDPs) Living in the area for less than two years
MUAC	Mid-Upper Arm Circumference, used as an indicator of acute malnutrition in early childhood
NGOs	Non-Governmental Organizations
School attendance	Children going to school at the time of the survey, distinct from enrolment
Targeting	Special effort to reach with food aid (e.g. vulnerable groups)
Weighted average	Since the sample includes seven focus districts, it requires adjustment to come into line with the population estimates

ACKNOWLEDGMENTS

The measure of true success of this baseline survey rests with the fieldworkers. They worked diligently, frequently in difficult conditions. Thanks are also due to the field coordinators for their effective facilitation and supervision skills and the key informants who provided needed information and guidance for working in such circumstances.

UNICEF field staff contributed considerably in the feedback workshops, as did numerous other organizations involved. Special recognition goes to Mr Jan Scholten of UNICEF, who steered the process from beginning to end, and to Mr Bashizi Bashige, for his constant support.

The 1997 Afghanistan Baseline Survey was commissioned by UNICEF who also provided logistical support. It was this support that made the fieldwork possible in the difficult conditions of Afghanistan today. Technical support for fieldwork, analysis and reporting was provided by Sergio Paredes, Charles Whitaker, Pervez Shaukat and Neil Andersson of *CIETinternational* and does not necessarily represent the views of UNICEF.

CIETinternational

Peshawar March 1997

THE 1997 AFGHANISTAN MULTIPLE INDICATOR BASELINE

The 1997 Afghanistan Survey establishes a framework of 96 sentinel communities representing the five operational regions of the country. In addition to the baseline indicators development and relief concerns -- including health, nutrition, education, food security, water and sanitation -- it offers an operational interface for dialogue with households and communities in this war-torn country. Gender is a special concern, as are ethnicity and levels of access to basic services. The data produced and the interface with the communities will facilitate fine tuning of humanitarian relief under the changing conditions of Afghanistan. In the course of the baseline, capacity building was initiated that will eventually increase sustainability of this type of work in the future. A flexible periodic scheme is proposed to monitor in greater depth each of the areas touched upon in this survey.

The study population . . . . . 66,596 people
11,750 households
96 sentinel communities
25% of respondents were female
3% were male-absent households

Internally displaced people 1.5%
Over last 10 years, almost the whole population has shifted

Occupation household head . . . . . 41% farmers
15% unemployed
28% in Kabul unemployed

Our biggest problem . . . . . 42% say money
16% say food
9% say health
8% say water
6% education

Water supplies . . . . . piped water - urban 12%
- rural 0.1%

Sanitation . . . . . Latrine - urban 25%
- rural 8.4%

Adult literacy . . . . . male - urban 37%
- rural 25%
female - urban 13%
- rural 3%

School attendance . . . . . male - urban 48%
age 7-12 years - rural 38%
female - urban 25%
- rural 7%

Vaccination . . . . . TT last pregnancy 49%
received 3 doses 10%

Child vaccination . . . . . Measles 12-23m 46%
BCG 37%
Polio3 7%
DPT3 6%

Breast feeding . . . . . Ever breastfed 98%
Exclusive for 4 months 25%

Care of common childhood illness
No/less liquids with ARI 28%
No/less liquids with diarrhoea 25%
No/less food with diarrhoea 50%
Use ORT in some form 33%

Child malnutrition . . . . . MUAC<12.5cm 26%
Acute malnutrition (wt/ht) 25%
Chronic malnutrition (ht/age) 52%

Vitamin A deficiency 12-23m 7.2/1000
more common in Kandahar, Jalalabad
12% aged 6-35m received capsule

Iodisation of salt . . . . . Visible goitre 7.5/1000
in Kabul 13/1000
salt iodised in 11/96 communities

Food security . . . . . sold food last year 10%
Kandahar: sold food last year 25%
sufficient food last week 42%
have no wheat stores 18%
own arable land 38%

Mortality . . . . . MMR 1992-1996 393/100,000
Mothers 45-49 are at 5 times the risk

IMR 1994 140-150/1000

Media . . . . . >50% listen to the BBC

Background

The fluidity of conditions in Afghanistan presents an ongoing challenge for relief or development agencies. Planners and programme managers lack reliable information on changing priorities and the coverage or impact of the actions they undertake. Worse than this, the chronically weak information has reinforced a peculiar culture of using data in planning; people are so used to hearing numbers with no empirical base, that the word 'estimate' has come to be little more than 'guess'. Tiny nutritional surveys of a few communities, in absence of a more reliable data base, have in the past been extrapolated to national level; in the case of vaccination, existing routine data gleaned from the very patchy public services have been used to provide national coverage figures.

In this setting, a national MICS baseline has to do more than overcome the logistical challenge of reaching out to the poorest and most remote communities. In the face of a culture of planning based on anecdote, political preference and, at best, intuition, the challenge is to make these data useful -- and to have them used in decision-making.

Part of the task is to demonstrate how different results have different implications for decisions. For example, although the plight of some target groups (like the internally displaced people) is well appreciated by those on the ground, quite how to proceed or when to discontinue dealing with their multiple problems is not always clear. The lack of institutions and processes of governance preclude conventional monitoring and evaluation that might permit adjustment and adaptation of existing strategies.

Another part of the task is to establish a forum for discussion of evidence. Among the objectives of monitoring and evaluation is to produce reliable timely data to orient planners, while stimulating dialogue on the situation of children and women. When this dialogue can be based on real evidence of programme impact, it stands a better chance to lead to improved allocation of financial and human resources for children and women.

Another part of the measurement challenge is to look upstream from the indicators, beyond the narrow "get indicators" objective of a multiple indicator cluster survey (MICS). If behaviours are to be influenced to bring about positive changes, the causalities behind the indicators have yet to be identified, through in-depth fact-finding and analysis. Sentinel community surveillance (SCS) allows planners and managers access to both quantitative and qualitative data from the communities, permitting bench-marking of key indicators. At the same time, through the participatory techniques employed, it helps to build systematically the community voice into planning.

The present multiple indicator baseline was started in January 1997. It provided an opportunity to initiate the 100-site sentinel scheme in Afghanistan. At approximately six monthly intervals (subject to approval and funding) the same communities will be revisited to collect and to discuss evidence on the situation of children and women.

Objectives

1. To establish a national multiple indicator baseline of indicators of the World Summit Goals; these reflect the magnitude of the key problems;

2. To strengthen the capacity of community- based assessment and analysis at the national, district and community levels, while producing actionable data on priority problems, their solutions and their costs;

3. To build the community voice into planning through representative indicators, community participation in fact-finding and through the community-led identification of solutions.

Strategies

1. The inter-sectoral UNICEF effort in Afghanistan will use the evidence generated by the scheme, and promote inclusion of community-led solutions emerging from the scheme into the relief and development process.

2. Community workers identified in each region, including religious leaders, health workers and teachers, will be drawn into the interaction in future.

3. Measurement of indicators with in-depth analysis will be repeated over the next two years to monitor the outcome and impact of relief and development processes. This will help to optimise and to target specific interventions.

4. UNICEF will attempt to draw other agencies into the initiative, advocating with data that emerge from the scheme on behalf of children.

METHODS

Introduced in Afghanistan for monitoring the social costs of land mines in 1994, sentinel community surveys (SCS) were originally conceived in the mid-1980s as a capacity building process that produced accurate, detailed and actionable data rapidly and at low cost[1] [2]. Ordinarily, SCS focuses on the use of epidemio-logical data in local or national planning[3] [4]. This may be at the level of a municipality, a city[5], a state[6], a number of provinces[7] or an entire country[8].

A representative panel of communities is selected and followed over time. Household surveys and institutional reviews permit consideration of the interface between community and services; focus group discussions and local authority meetings are held in each of the communities in the panel. Follow-up measurement in the same place and, consequently, impact estimation is straightforward[9]. Abundant household occurrence data (some 12,000 households in this scheme) can be compared between sites, and over time. The large household data set obtained from the same communities permits linking of quantitative and qualitative information in individual sites; it is also possible to examine what goes on behind the indicators.

Overview of the research process

This initial 100-community baseline multiple indicator baseline will be followed by two cycles per year, during which time an operational interface with the communities will be reinforced. The process for establishing the multiple indicator baseline was:

1. Based on data from the last census projections, UN operational regions were stratified by district to provide a framework for second stage district level selection. In each operational area, a district scheme was established (the focus district identified by UNICEF). The sample thus covered: 68 sites (100-120 households /site) selected to have a national representation; nested within this and contributing to the national sample are seven district schemes (5-8 sites per district) in the five operational regions.

2. With input from UNICEF, CIET developed all instruments and field testing of:

a. Household questionnaires in Pashto and Dari
b. Key informant interviews
c. Calendar for identification of date of birth of children under 3 years
d. Appointment slips to invite and control attendance to anthropometry measurement
e. Guide for interviewers training
f. Data entry formats

3. In consultation with UNICEF, CIET selected and trained field coordinators to provide the continuity and interface with local authorities. These coordinators were the technical focal point for the project in each region.

4. Survey teams successfully contacted 96 of the 100 selected communities, for collection of data.

5. In the early stages of analysis a workshop was held and data presented to counterparts in other humanitarian agencies and NGO partners.

Selection of sites

Two quite distinct processes were used for selecting sentinel sites, one for the seven nested focus districts and one for the sample intended to be representative at national level.

The seven focus districts were selected purposively based on programme priorities and interaction with counterparts. In each of these, weighted by population, 5-8 sentinel sites were selected by UNICEF programme staff, using updated lists of communities in each district. In each district, the selection was balanced to reflect the urban/rural proportions and geographic diversity.

In addition to the seven UNICEF focus districts, a further 68 districts were selected, using a multistage proportional stratified sample, based on population projections from the 1988 census. The provinces in each of the five operational regions (Herat, Jalalabad, Kabul, Kandahar and Mazar) were listed, and coded administrative units in each province stratified by population size and density (criteria taking into account urban/rural divisions).

From these lists, 68 survey districts were selected randomly, the number being proportional to the stratum represented of the population projections, using the codes of the administrative units. In each

of these districts, a second stage selection was made to identify the sentinel site. This was done from updated lists of communities where these were available, respecting an overall urban/rural balance (22 out of the 100 sites were urban).

Apart from the focus districts, where urban/rural and geographic diversity were the main criteria, the sample was thus proportional to estimated population distribution in terms of operational regions, urban/rural divisions, population density and size. In each site, around 120 households were to be interviewed, in order to optimise the balance between travel and interviewing time.

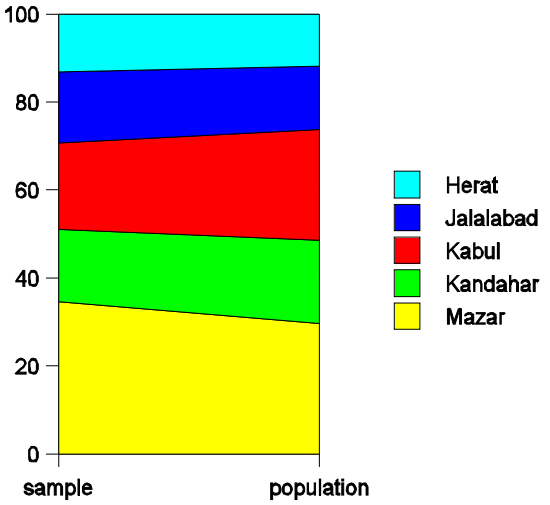
In practice, some sites returned more households and others less; four sites could not be contacted. As represented in Figure 1, sample data were adjusted by raising factors to bring them back in line with population estimates. Adding in the focus districts required a second set of raising factors, illustrated graphically in Figure 2. Thus, focus districts in the sample were "scaled down" to represent only the proportion they should do in the real population.

The objective of a nested sample is to deliver results on both focus districts and the country, using the same logistical operation and fieldwork processes. In order to get interpretable data for the district, a sufficient number of sites must reflect the different conditions each focus district; the national sample admits only one site for each of 68 districts. Among users unfamiliar with nested samples, this gives rise to a reasonable concern that the focus districts might bias the national indicator. To avoid this, if focus districts turn out to be dissimilar to the rest of the sample, the district samples must be either down-weighted, or simply excluded.

If they are (a) the same, (b) down-weighted or (c) excluded, they cannot bias the sample.

Implicit in the term "nested sample" is that the sample is chosen, the fieldwork executed and the data analysed in such a way as to ensure that the nested districts do not bias the national sample. The components of the nested sample can thus be considered separately or, with certain strict precautions (a, b or c above), they can taken together. For every indicator reported, we checked whether the presence of the focus districts made a significant difference to the national sample. In most instances, results with the focus districts included were roughly the same as without the focus districts. This indicates, consistent

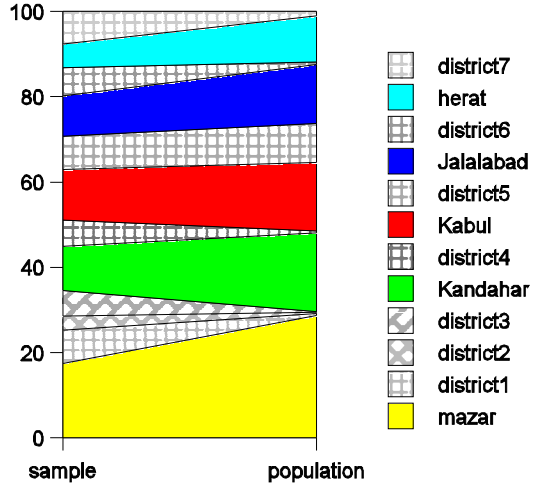
Weighting of sample
by 1988 population projections



with UNICEFs reason for choosing them, that these are more or less average districts. Weighted indicators were generated with Epi-Info's CSAMPLE macro.

The stratification allows for maximal representation of different districts (one cluster/district), aggregating to a proportional representation of the population and urban/rural divisions within each of five regional administrative areas. District divisions coincide with some but not all ethnic and ecological divisions, and one administrative boundary, so this helps to balance the factors one might be concerned

Weighting of sample
Incorporating the focus districts
(Districts weighted to population estimates)



about in stratification.

However, since the sample frame in Afghanistan is questionable, the resulting sample can reasonably be questioned. This is in the nature of data-poor countries; it is the starting point -- not the verdict -- of evaluation. This is why three steps are added to the approach.

First, the size of the SCS sample permits breakouts of many indicators by ethnicity, ecology, urban/ rural, access to services and administrative boundaries (to an extent this is contemplated in the five operational regions by which the sample preserves proportionality, and around which the work was organised). Thus, while we may have more than rough estimates of the proportion of the population are from ethnic group A, B or C (since they may have been displaced differently over the 17 years since the last census), we can make useful and accurate estimates of education, vaccination or malnutrition differences between the ethnic groups. Usually this is more interesting than proportional representation in a compound indicator.

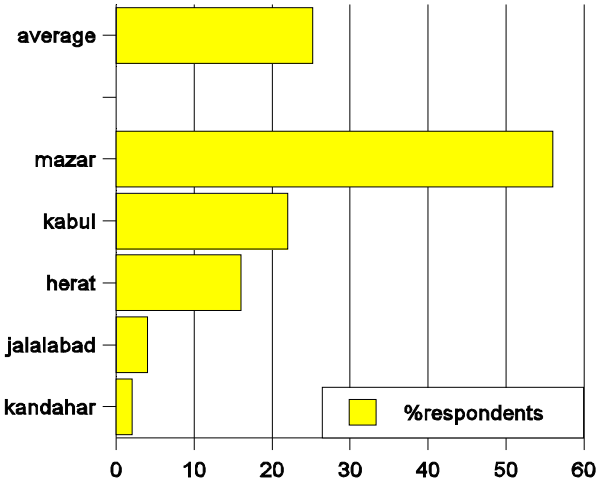
Second, since the scheme anticipates returning to the same panel of sentinel communities to monitor change, a error of unknown magnitude caused by the weak sampling frame will be replicated in the followup – thus, the change monitored is a very accurate reflection across the sample, even if the sample is slightly "off centre" from the real unknown population. This is particularly important advantage for impact estimation over time.

Third, some users find it helpful to see the extremes in any indicator: if, for example, no cluster among 96 returns a vaccination coverage above 70%, it is unlikely that the national average is in reality 70%.

Urban/rural categorisation
The sample used the prevailing UN listing of urban and rural communities. In the absence of real population data, it is not clear how accurate these lists are. In the discussion of MICS results with UN agencies, one agency expressed the belief that the sample was “too rural”, since results were less optimistic than some others. For comparison with other sources, important indicators are broken out by urban and rural divisions.

Despite the already more pessimistic picture than presented from official data, there is a strong indication the MICS indicators are if anything an optimistic reflection, since they deal with residential communities. In the CIET 1994 survey, there was a separate sub-sample of nomads, who in general were worse off than residential communities.

Female respondents: % of households



The fieldwork took place from January to April 1997, covering 96 of the 100 sites that could be contacted in this period. Four communities could not be contacted due to snow or impassable roads. No community refused to have the survey take place (although problems were experienced in Kandahar).

Gender issues

Characteristic of field surveys in South Asia are the gender issues that create an important series of biases: women cannot travel as interviewers in the same way as men; men are more likely to be respondents to household questionnaires; men are less likely to know what is going on with children and women, and may be motivated differently in furnishing answers. In some settings, male respondents do not even acknowledge the existence of some female members of their households.

Through its experience in South Asia, CIET has developed an approach to gender to reduce these biases and, where they occur, helps to quantify them. The first step is to attempt to optimise the participation of women. Where ever possible, female interviewers are employed; in Afghanistan,

this was virtually confined to the Mazar region, where 19 out of 24 interviewers were female. In the other regions, this strategy was unsuccessful.

Second, since at least some women answer in each region, *stratification of responses to questionnaires* is a key step, permitting analysis of differences in responses by sex of respondent (see Figure 3). Thus, for example, maternal mortality as reported by men is compared with that reported by women. The same holds for vaccination, breast-feeding and water supplies. The argument is simple: if male and emale respondents say the same thing, then a gender bias does not affect that particular response. The difference illuminates gender biases at household level, from under reporting of female children through to breast feeding practices.

Third, the epidemiological backbone of SCS permits analysis of *gender-related risk and resilience*. All indicators are analysed for gender differences.

Thus, the few female headed households identified (n347) can be compared with male-headed households, male children can be compared with female children with respect to education, child care, vaccination, malnutrition or mortality. In combination, these techniques help to identify and to quantify some of the larger gender biases. They do not deal with them completely.

Table 1 The study population

	Herat	Jalalabad	Kabul	Kandahar	Mazar	Total
Total study population	8720	10751	13101	10931	23092	66595
Total number of HH	1589	1720	2244	2046	4151	11750
Number of sites	13	14	18	17	34	96

Table 2 Characteristics of the sample households

	Herat	Jalalabad	Kabul	Kandahar	Mazar	
Average number of people / dwelling	5	6	6	5	5	5
Households with no male >15 years	2%	1%	5%	1%	4%	3%
Households with children < 5 years	68%	68%	62%	55%	63%	63%

Table 3 Age and sex of study population

	Herat		*Jalalabad*		*Kabul*		*Kandahar*		*Mazar*		*TOTAL*	
	M	F	*M*	*F*	*M*	*F*	*M*	*F*	*M*	*F*	*M*	*F*
<1 year	141	139	140	133	164	151	130	127	394	395	969	968
1 - 4 y	699	663	806	793	973	940	782	723	1,680	1,610	4,940	4,729
5 - 14 y	1,497	1,385	1,931	1,882	2,373	2,311	1,742	1,447	3,632	3,620	11,175	10,645
15 - 49 y	1,693	1,778	2,094	2,116	2,386	2,750	2,611	2,361	4,546	5,113	13,330	14,118
50 - 64 y	303	220	363	254	496	284	431	315	891	585	2,484	1,658
65 + y	146	56	176	63	215	58	191	71	403	223	1,131	471
Total	4,479	4,241	5,510	5,241	6,607	6,494	5,887	5,044	11,546	11,546	34,029	32,566

Table 4 Indicators of internally displaced people (IDPs) using the 2 year cut-off

	Herat	*Jalalabad*	*Kabul*	*Kandahar*	*Mazar*
Ratio displaced: residents	*1:363*	*1:176*	*1:49*	*1:227*	*1:312*
Percentage of population	*0.3%*	*0.6%*	*2%*	*0.4%*	*0.3%*
% households with displaced	0.8%	2.3%	2%	2%	0.6%

Results

Table 1 represents the study population in the five regions, including over 60,000 people in nearly 12,000 households. There were slightly over 5 people per household (Table 2) and only 3% of households were reported as being without adult males -- essentially female-headed. Two households in three had children under the age of five years.

Table 3 and Figure 5 portray the population structure in Afghanistan. As could be expected after a protracted war, there are considerably fewer men than women aged 15-49 years. A noteworthy finding is the apparent "disappearance" of women over the age of 50 years. In part this may be explained by underestimation of the age of older women; given the expected male mortality during the war, however, this is probably only a part of the story. There may be an issue for further investigation.

Field supervisors, when asked about the finding said "We do not often see old women in Afghanistan".

Figure 5 portrays the principal ethnicities in each of the regions: in Kabul and Herat, the Tajik ethnicity predominates; in Jalalabad and Kandahar, it is the Pashtoon; and in Mazar, there is a fairly even mix of Pashtoon, Tajik, Uzbec and Turkman ethnicities. These data provide a valuable context for understanding differentials in education and child care.

The demographic structure of the sample population

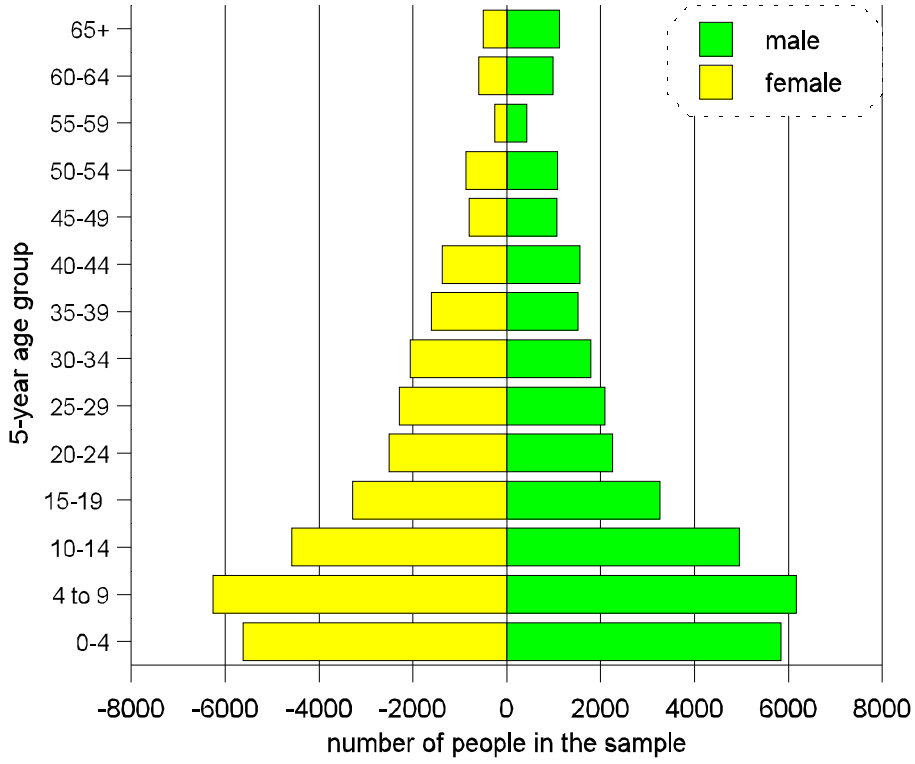
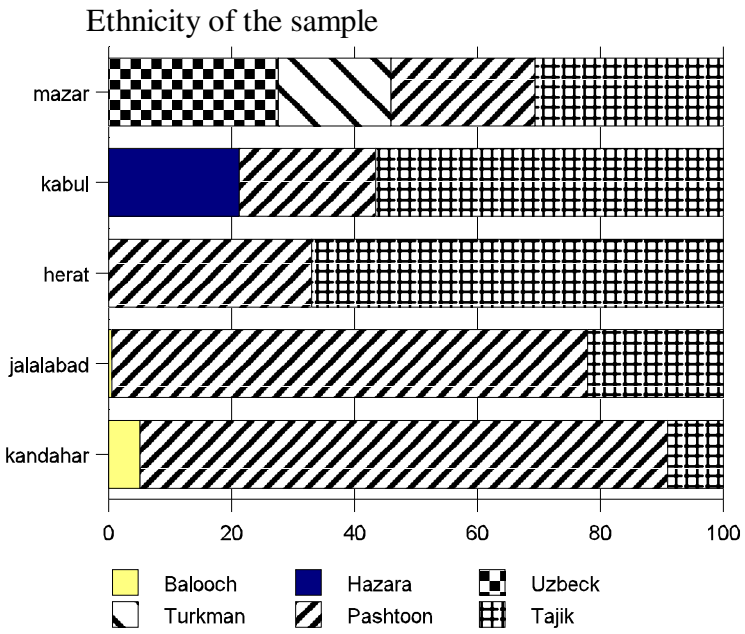


Table 4 shows the proportion of internally displaced people (IDPs) as a proportion of the population in each region. Less than one percent of the population could be classified as "displaced", a feature of the long standing nature of the conflict (since they had been in the same place for more than 10 years, they were officially resident, although many will have come from other places). With the exception of Kabul (2%), less than one half a percent qualifies for this status, using a definition of two years. This clearly underestimates the problem of displacement; using other definitions, virtually the whole population is displaced.



Reported occupation of the head of each household is portrayed in Table 5. The commonest occupation is in agriculture, even in the Kabul region, where 28% said they were unemployed.

Respondents were asked what their biggest problem was in the moment of the baseline enquiry. In other emergency settings, this question has proved useful for establishing priorities for relief and development agencies. Table 6 reflects the answers in the five regions. In Jalalabad and Herat, around one in five mentioned food; the proportion mentioning food in other regions was much lower. Health was prominent in Herat. Around one in ten households said that drinking water was their biggest problem, with some variation between regions (5% in Kabul, 12% in Herat).

Table 5 Main occupation of the householder (% of households interviewed)

	Herat	Jalalabad	Kabul	Kandahar	Mazar	Total
Farmer	53%	33%	25%	55%	44%	41%
Unskilled labourer	*26%*	*29%*	*25%*	*12%*	*14%*	*20%*
Self employed	8%	3%	4%	8%	6%	6%
Unemployed	4%	14%	28%	6%	16%	15%

Table 6 What is your biggest single problem (% of households interviewed)

	Herat	Jalalabad	Kabul	Kandahar	Mazar	Total
Economic problems	*31%*	*50%*	*59%*	*36%*	*31%*	*42%*
Food related issues	*21%*	*30%*	*9%*	*12%*	*15%*	*16%*
Health facilities	*20%*	*2%*	*5%*	*6%*	*12%*	*9%*
Education	*10%*	*2%*	*6%*	*5%*	*6%*	*6%*
Drinking water	*12%*	*9%*	*5%*	*8%*	*10%*	*8%*
Roads	*3%*	*2%*	*2%*	*6%*	*4%*	*3%*

Water and Sanitation

Table 7 provides summary data on water supplies, stratified by urban and rural areas. In each of the regions, there was a notable difference in access to water from protectable sources, rural areas typically having one half the access of urban areas (26% in rural communities in Mazar, to 54% in rural Kandahar). This is not to say the sources *were* protected; they *could* be protected in an appropriately implemented programme.

There was an interesting and important gender difference in reporting of access to water from rivers, ponds and, supposed to be less contaminated, springs. Male respondents tended to list the source as "river" or "pond"; female respondents were more specific, stating more precisely where in the river they drew the water from. In assessing the access to potable water, this distinction is all important.

The time reported for fetching water ranges from four to 19 minutes. In general, Kabul being the exception, it takes longer in rural than in urban areas. Table 8 summarizes the average time to the available water sources in each region.

Table 9 reflects the means of disposal of solid wastes. In Afghanistan there are essentially four sanitation modalities: open field latrines, pit/flush options, open vaults (sometimes leading to the street) and 'enclosed floors' (essentially a small area of the compound where faecal matter accumulates, eventually dries and is removed by the women or female children).

Respondents were asked to specify if they used a flush latrine, referred to as *camode;* pit latrine known as *kenarabe-chah-dar;* enclosed floor known as *deran* or *khandaqu*; open vault (known as *kenarab* or *beit-ul-khalah*); close vault (with a little door in front the outlet seen from the street), or if they use the field (known as *sahara-gasht*). The way this question was translated prompted the respondent to answer what he used as the toilet facility. If his answer is *sahara*, the interviewers asked what facility he has for his home.

These sanitation technologies carry quite different health risks for residents and for the (invariably female) cleaners. In households using field/open latrines, 53% of children under the age of three years were reported to have suffered diarrhoea recently; 57% with enclosed floor or vaults to the street; 43% with flush latrines and 49% with pit latrines.

Taking regions into account by stratification, a child in a house with a pit or flush latrine was 50% more resilient to diarrhoea than a child in a household with another type of toilet (odds ratio 1.5, 95%CI 1.22-1.7). Before acting on this sort of data, it would be necessary to consider other factors determining diarrhoea, including hygiene and water supply.

Table 7 Water supplies, urban and rural (% of households interviewed)

Wells	Herat		Jalalabad		Kabul		Kandahar		Mazar		Total	
	U	R	U	R	U	R	U	R	U	R	U	R
1. Protected				8	15	4		1		1	3.8	2.6
2. Bore with pump		1			2						0.5	0.1
3. Open	98	30	31	31	64	22	97	41	52	26	66.1	29.0
Piped water												
4. House connection			21		6				11		7.7	0.0
5. Communal tap			2	1	12				2		3.9	0.1
Surface water												
6. Spring		32	45	5	1	29		23		3	6.6	17.1
7. Stream	1	14		45		20	2	23	18	48	5.9	31.8
8. Canal				4					7	11	2.1	3.9
9. River		19		5		25		10	2	4	0.6	12.3
10. Pond		4							7	7	2.1	2.6

Table 8 Average time to fetch water (distance in minutes by source of water)

Wells	Herat		Jalalabad		Kabul		Kandahar		Mazar		Total	
	U	R	U	R	U	R	U	R	U	R	U	R
1. Protected				9	26	12		8		12	25	10
2. Bore with pump		8			17		4	4				
3. Open	10		5	8	11	8			9	21	10	11
Piped water												
4. House connection`												
5. Communal tap			11	4	20				9		17	
Surface water												
6. Spring		28	13	12	11	19		15		28	13	21
7. Stream	14	21		13		11	18	11	12	15	12	14
8. Canal				28					13	17	13	18
9. River		17		9		19		54	14	24	14	25
10. Pond		11								25		23

Table 9 Sanitation: means of excreta disposal (% of households interviewed)

	Herat		Jalalabad		Kabul		Kandahar		Mazar		Total	
	U	R	U	R	U	R	U	R	U	R	U	R
	n616	**n245**	**n256**	**n1106**	**n760**	**n1230**	**n238**	**n1448**	**n727**	**n2811**	**2597**	**6840**
Open field toilet	5	77	41	64	1	11	14	15	14	34	13.5	34.0
Flush latrine			37				5	2			6.1	0.4
Pit latrine	32	9	9		1				39	17	17.1	6.2
Vault latrine closed	8	1	1			2			2	4	1.7	1.8
Vault latrine open	55	13	13	31	98	85	35	31	42	41	52.2	45.3
Deran*				4		2	46	52	2	3	9.3	11.8

*compounds use a small paved area surrounded on 3 sides by low walls; excreta build up, dry and are eventually moved
Region totals do not add up to 100% as there were a few other less common options

Table 10 Ability of householder to read and write (% of households interviewed)

	Herat		Jalalabad		Kabul		Kandahar		Mazar			
	U	R	U	R	U	R	U	R	U	R	U	R
Male head of HH	28	16	52	41	42	27	36	21	31	22	37.28	25
Female head of HH	0	0	12	9	4	0	0	0	15	5	7.18	2.76
Women 15-49 years	15	2	10	8	15	1	12	4	12	2	12.83	2.97

Table 11 School attendance of children aged 7-12 years URBAN areas

	Herat		Jalalabad*		Kabul		Kandahar		Mazar		Total	
	M	F	M	F	M	F	M	F	M	F	M	F
Total children	**n368**	**n360**	**n123**	**n133**	**n465**	**n437**	**n117**	**n66**	**n379**	**n393**	**1452**	**1389**
% children enrolled	41	27	52	23	56	37	43	8	49	34	**48**	25
...of these, % attending in 1375	**63**	**7**	**47**	**45**	**84**	**74**	**92**	**60**	**94**	**94**	**76**	**56**

* children in Jalalabad range 6-11

Table 12 School attendance of children aged 7-12 years RURAL areas

	Herat		Jalalabad*		Kabul		Kandahar		Mazar		Total	
	M	F	M	F	M	F	M	F	M	F	M	F
Total children	**n114**	**n98**	**n655**	**n292**	**n823**	**n755**	**n641**	**n540**	**1477**	**1346**	**3710**	**3031**
% children enrolled	0	0	45	8	44	8	32	5	31	6	38	7
...of these % attending in 1375	**0**	**0**	**84**	**27**	**87**	**79**	**92**	**41**	**91**	**92**	**88**	**60**

Figure 6
Male ability to read and write
(% of householders)

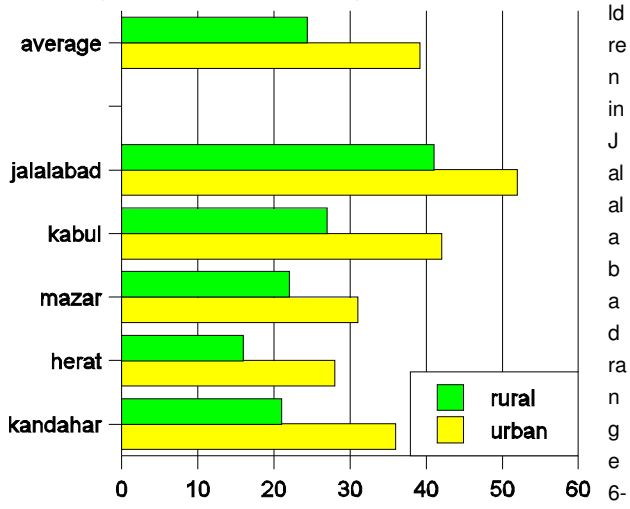
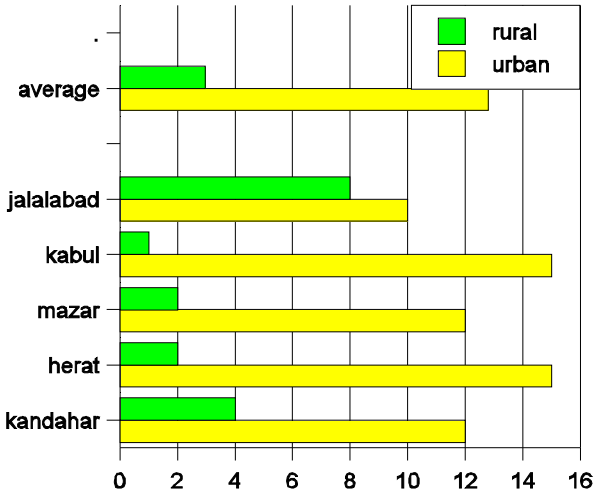


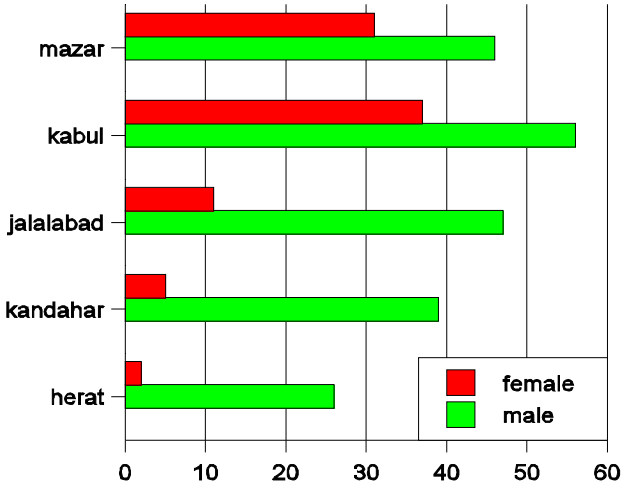
Figure 7
Female ability to read and write
(% of women aged 15 - 49 years)



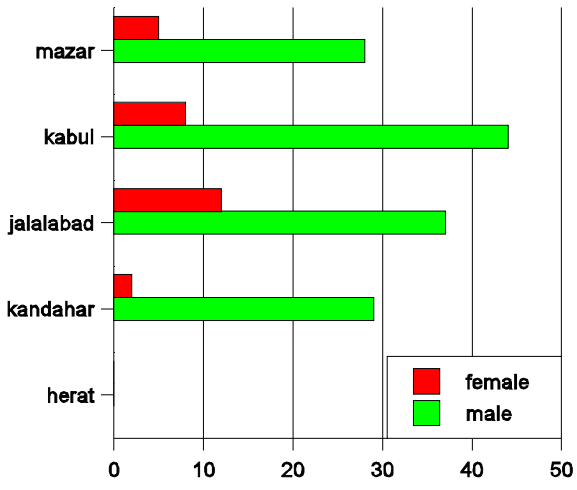
Figures 6 illustrates the urban/rural divide in literacy among male householders -- 39% in urban areas and 24% in rural areas say they know how to read and write. Very few female headed households were identified (3%). However, female literacy could be gauged from the questioning of all female occupants aged 15-49 years (above that age, literacy can be expected to be much lower). Figure 7 illustrates that less than 5% of rural women and not more than 13

School attendance of children aged 7-12 years (Figures 8 and 9) reflect the hopelessness of the situation. The impact of the campaign against female education is very evident; the next generation of women is apparently assured of a level of literacy at least as low as their mothers. Interestingly, despite the ban on female education, a tiny fraction of female

Figure 8
Urban areas: % of children aged 7-12 years attending school



Rural areas: % of children aged 7-12 years attending school



% (only 10%) of urban women in this age group know how to read and write.

children in Herat and Kandahar do attend school. These are the illegal informal schools maintained

underground by mothers who defy the law against female education.

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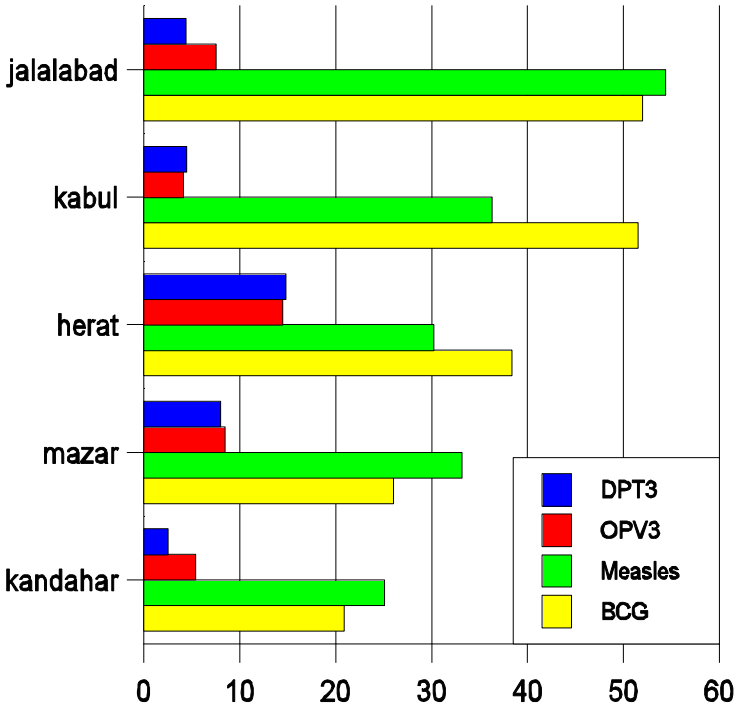
Vaccination coverage

Table 13 (below) reveals that more than one half of women in reproductive age had *never* received anti-tetanus toxoid. A very low proportion had received more than one dose; only 3% had received three doses during their last pregnancy. Coverage with TT was highest in Kabul, lowest in Herat.

Figure 10 illustrates the room for improvement in coverage of childhood vaccinations. Weighting the sample for representativeness across the country, including the effects of the vaccination campaign immediately before this survey, 37% of children aged 12-23 months were vaccinated against measles and have received BCG. Less than 10% have received the full course of vaccines against polio, diphtheria, pertussis and tetanus. Given the very poor nutritional state of the children, this speaks of a worrying situation for the children of Afghanistan.

Figure 10
Coverage with vaccination
% of children aged 12-23 months
DPT3, OPV3, measles and BCG



The coverage estimates contradict the optimistic view of official service-based data; several explanations have been offered in the discussion of these discrepancies with those in charge of vaccination programmes in the country. It is possible that the MICS survey data includes more children without access, in effect a different population to those eventually reflected in the official institution-based data. Only 22 sentinel communities surveyed had easy access to the dramatically reduced health services in the country. In these places, coverage was more consistent with official and WHO data.

It is also possible that some children were vaccinated without the respondent's knowledge, particularly considering that three in five respondents were male. This seems unlikely to provide a full explanation, since very similar coverage levels were reported by male and female respondents.

A further explanation offered was that the indicator used to determine vaccination status -- respondents were simply asked if the child had been vaccinated -- is less reliable than the vaccination card. In this survey, vaccination cards were also reviewed. One quarter to one half of children had the cards: in Kandahar 25%, Mazar 38%, Herat 41%, Kabul 47% and Jalalabad 57%. Analysis of coverage, based on the cards, presents a still less optimistic picture.

Table 13 Tetanus Toxoid coverage of women aged 15-49 without children (NP) and last pregnancy (LP)

		Herat		Jalalabad*		Kabul		Kandahar		Mazar		Total	
		NP	LP	NP	LP	NP	LP	NP	LP	NP	LP	NP	LP
	n	361	1461	591	1404	838	1860	740	1575	1464	3492	3994	9792
DOSES	none	59%	49%	95%	57%	70%	43%	83%	59%	64%	51%	73%	51%
	1	14%	19%			17%	26%	7%	19%	9%	16%	10%	23%
	2	15%	17%			.0 7	19%	7%	16%	14%	18%	7%	15%

	3+	11%	15%			5%	12%	4%	5%	12%	14%	7%	10%

* in Jalalabad women were only asked whether they had received TT vaccine

Table 14 Vaccination coverage (% of children 6-35months in households interviewed)

		Herat		Jalalabad		Kabul*		Kandahar		Mazar		Wt. Average	
		M	F	M	F	M	F	M	F	M	F	M	F
number of children	(n=)	486	464	597	549	623	585	512	461	1220	1095	3438	3154
BCG	1 dose	39%	38%	52%	52%	51%	52%	21%	20%	28%	25%	37%	36%
DPT	1 dose	16%	15%	40%	39%	36%	36%	15%	11%	20%	19%	25%	24%
	2 doses	13%	13%	5%	8%	8%	10%	7%	8%	12%	12%	9%	10%
	3 doses	14%	16%	5%	3%	4%	4%	3%	1%	8%	8%	6%	6%
Oral Poliomyelitis Vaccine	1 dose	36%	30%	41%	37%	54%	51%	18%	15%	22%	21%	34%	31%
	2 doses	17%	18%	13%	17%	17%	20%	11%	13%	13%	13%	14%	16%
	3 doses	13%	16%	8%	7%	4%	4%	5%	5%	8%	9%	7%	8%

*Coverage in Kabul was evaluated soon after the 1997 polio immunisation campaign

Table 15 Measles Vaccination Coverage (% coverage <35 months)

		Herat		Jalalabad		Kabul		Kandahar		Mazar		Weighted average	
		M	F	M	F	M	F	M	F	M	F		
Vaccination coverage 1 dose	< 9 m	3%	11%	10%	4%	9%	9%	2%	6%	7%	8%	6%	8%
	9-11 m	7%	8%	10%	15%	7%	4%	12%	8%	7%	10%	8%	9%
	12-23 m	58%	48%	47%	43%	49%	42%	35%	52%	46%	44%	46%	45%
	24-35 m	32%	45%	32%	37%	35%	45%	52%	33%	40%	39%	39%	40%

Table 16 Measles Vaccination Efficacy (children <35 months)

	Herat		Jalalabad		Kabul		Kandahar		Mazar		Weighted average
	M	F	M	F	M	F	M	F	M	F	
Measles rate unvaccinated (A)	9%		5%		4%		10%		8%		7%
Measles rate vaccinated (B)	5%		5%		5%		7%		4%		5%
Measles vaccine efficacy*	44%		0%		0%		30%		50%		29%

*Vaccine efficacy = (A-B)/A

Table 14 provides more detail on vaccination coverage; there is notably no gender gap. Table 15 shows the effect of the campaign, focusing on 12-23 year olds, in the months immediately preceding the survey. This age groups has measurably higher coverage rates than others.

Among the explanations offered for the considerably lower than official reports of vaccination coverage was that the interview, being lengthy, could have precipitated a "negative-halo" -- with respondents saying "no" to all questions. The interview was indeed lengthy, as are all MICS surveys (this survey used a shortened version). The concern that later questions might get less reliable, however reasonable, must be balanced against the EPI charts held by the mothers. These show even lower coverage. It also does not easily explain the range of vaccination coverage (from zero to around 90%) across the different clusters -- the measles questions were in the same position in the questionnaire for all those interviewed.

Like most others surveys of vaccine coverage, this

survey shows a drop off of coverage between vaccine doses. In attempting to explain the more pessimistic picture emerging from this MICS, it was suggested that the finding of higher coverage with measles vaccine than with BCG detracts from the survey's credibility. But, immediately prior to the survey, there was a measles vaccination campaign covering certain specific age groups. To the considerable credit of those conducting the campaign, particularly given the very difficult field conditions, the positive effect of the campaigns shows in the measles vaccine coverage indicators.

Measles occurrence is cyclical; some years have lower levels than others. In pre-epidemic years, we often see quite low levels of occurrence, particularly after several years of low occurrence, between epidemic peaks, when people are less used to diagnosing it. In Afghanistan, we might be looking at a pre-epidemic situation. Given the state of malnutrition of the Afghani children, the appallingly low vaccination coverage rates must be expected to have devastating health consequences.

Comment on measles efficacy

Table 16 draws attention to a worrying possibility: there is little evidence of a protective effect of the vaccine in most of the regions. The efficacy data were analysed as follows: a 2x2 was constructed of children vaccinated (yes/no) and those who suffered measles (yes/no). From those who were vaccinated and who had suffered measles, those who suffered measles before the vaccination were removed from the analysis. Efficacy was calculated among the remainder, by dividing the risk difference by the risk among the unvaccinated.

One explanation given by WHO for the low efficacy was that "cases with history of immunization in whom the disease occurred before getting the vaccine should be included in the non-immunized group during the analysis". This was not done; they were excluded from the analysis: having suffered the disease before the potential protection of the vaccine, the position was, they are not available for protection. In practice, with fairly low occurrence and coverage rates, excluding them or adding them to the non-immunised case group makes less difference than in an epidemic situation.

Another plausible explanation given for the apparently low measles vaccine efficacy is the quality of diagnosis of measles. This is an appropriate concern, particularly outside the epidemic context when the differential diagnosis is tricky. In the context of a MICS survey, the household diagnosis was "spongy", with errors in both directions. This was checked for a male-female bias, since male respondents might know less about their small children than do female respondents. There is little difference in efficacy, based on male and female reports, though the diagnosis remains spongy.

One expects the diagnosis to be equally unreliable -- in both directions -- from urban area to urban area, and from rural area to rural area. Yet many respondents in some communities respond one way, while in another community many respond another way. Formal statistical testing indicates this is not a chance occurrence; and if it is not due to chance, there could be another explanation. One plausible explanation worth considering, just as one considers all the other explanations for the discrepancy between these data and the WHO estimates, is that the vaccine works in some places and not in others.

It would infinitely preferable to base an efficacy study on clinical diagnosis by a seasoned professional; it would be still more preferable to have the diagnosis backed up with antibody studies. However, in many parts of Afghanistan reached by this survey, there is little or no access to health care -- which could be related to the issue of efficacy. Only 22 of the 96 clusters had same-day access to health care.

Vaccination before the age of 9 months is associated with higher rate of vaccine failure and cases may occur among these children even when the vaccine is not suspect. Our efficacy estimations were stratified by age, showing some interesting trends of declining efficacy across different cohorts. Disregarding the age group 0-9 months, the efficacy in the older age groups improves slightly..

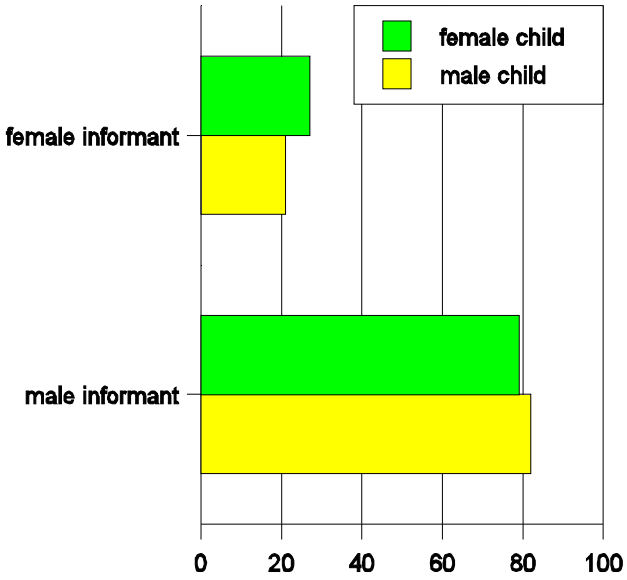
The mild post vaccination reaction to measles vaccination was offered as another explanation. There is no reason to expect that recognition of this rash will be different in the places were vaccine efficacy was higher than in the places where vaccine efficacy was lower. The main finding of this MICS is the *heterogeneity* of efficacy. The error rate due to the post-vaccination rash should be more or less constant if the vaccine is working equally well everywhere, which leaves to be explained the difference between higher and lower efficacy

clusters. In previous uses of this approach to estimating efficacy (Liberia, Somalia, Honduras and Mexico), questions were included on the date of illness and the date of immunization; this does indeed make the picture clearer.

In the final analysis, these data cannot replace biological determination of the vaccine efficacy. They were never intended to do so. However, the efficacy estimates obtained in Afghanistan are lower than in any other country where similar imperfect techniques have been applied.

The data are presented as a worrying preliminary finding worthy of mature and responsible questioning of the vaccine. It should be possible to begin by observation of vaccination procedures and the return of part-used vials of vaccine. It is also possible, on a sample basis, to do in-depth clinical enquiries into the case definition. The technology is also available for testing the efficacy directly by sero-conversion

Figure 11
Exclusive breast feeding (to 4 months)
Differences between male and female informants
(% of children said to breastfeed)



Breast-feeding

There was a striking difference in reporting from male and female informants in relation to breast feeding (Figure 11). Males tended to overestimate the extent of exclusive breast-feeding, claiming that four out of five children benefitted up to four months of age. Women, who undoubtedly had better information about this, reported that only one in five children benefitted in this way. Male informants were under the impression that male children benefitted fractionally more than girl children; female informants gave a clear indication that more girl children benefitted from exclusive breast feeding. Male and female opinions were more similar in relation to the average age of stopping breast feeding (17 months) and the proportion who had never benefitted from breast feeding (5%). Table 17 also offers the regional breakouts of these data.

Table 17 Breast feeding (% of children in households interviewed)

	Herat		Jalalabad		Kabul		Kandahar		Mazar	
	M	F	M	F	M	F	M	F	M	F
Av. age BF exclusively	6m	5m	9m	10m	7m	7m	7m	8m	8m	7m
Av. age supplem. feeds	6m	6m	7m	8m	6m	5m	8m	6m	6m	6m
Av. age stop BF	18m	18m	18m	16m	17m	17m	15m	15m	18m	17m
Children never BF	0%	0.4%	0.5%	0.2%	0.5%	0.2%	2%	1%	2%	2%

Table 18 Recent respiratory disease (children 0-3 years of age)

	Herat	Jalalabad	Kabul	Kandahar	Mazar	Total
% with ADD in last 14 days	19%	26%	22%	15%	20%	20%
% with ARD in last 14 days	10%	38%	20%	14%	23%	21%

Table 19 Management of common childhood illness Acute diarrhoeal disease (children 0-3 years in households interviewed)

		Herat	Jalalabad	Kabul	Kandahar	Mazar	Total
No/less liquids while ill with ARI		35%	43%	51%	34%	30%	38%
No/less liquids ill with diarrhoea		23%	29%	30%	19%	22%	25%
ORT	wheat salt soln.	1%	3%	4%	5%	1%	3%
	ORS	28%	47%	33%	49%	19%	33%
Average days starting ORT		1 day	1 day	0.6 day	1.0 day	0.5 day	0.8
No / less food during illness		52%	46%	65%	39%	44%	50%

*** a child given ORT on the first day is 3 times more likely to have short duration diarrhoea than one given ORT later*

Table 20 Costs of treatment of common childhood illness (children 0-3 years of age)

Average (Afg) spent on		Herat	Jalalabad	Kabul	Kandahar	Mazar	Total
Treatment of ARI	Male	98,000	114,000	39,000	111,000	166,000	105,600
	Female	129,000	86,000	62,000	95,000	168,000	108,000
Treatment of diarrhoea	Male	71,000	84,000	42,000	116,000	170,000	96,600
	Female	70,000	85,000	40,000	90,000	116,000	80,200

Care of common childhood illnesses

Tables 18-20 summarise important characteristics of common childhood illnesses. These are very common conditions, affecting one child in five in the two weeks prior to the survey (Table 18). Dangerous care practices were widespread (Table 19): two out of five children with ARIs had liquids stopped or curtailed; this practice is more common where western medicine is practised (Kabul and Jalalabad), a finding with obvious programme implications. Around one third of the children with diarrhoea were also managed in this way. As much as one half had food withheld. Among those who received ORT, there was also a variable practice in how soon it was implemented.

In some cases, it was possible to show a direct relation between early use of ORT and duration of diarrhoea. In Kandahar, for example, there is a demonstrable benefit to be had by encouraging earlier use of ORT: a child who received ORT on the first day of illness was three times as likely to have an episode of short duration, compared with a child who was treated later in the episode.

Figure 12 and Table 20 illustrate the notable gender gap in expenditure on diarrhoea; no such gender gap is apparent in the treatment of acute respiratory conditions.

Figure 12
Gender gap in expenditure on illness
(Afgs x1000 spent treating last episode)

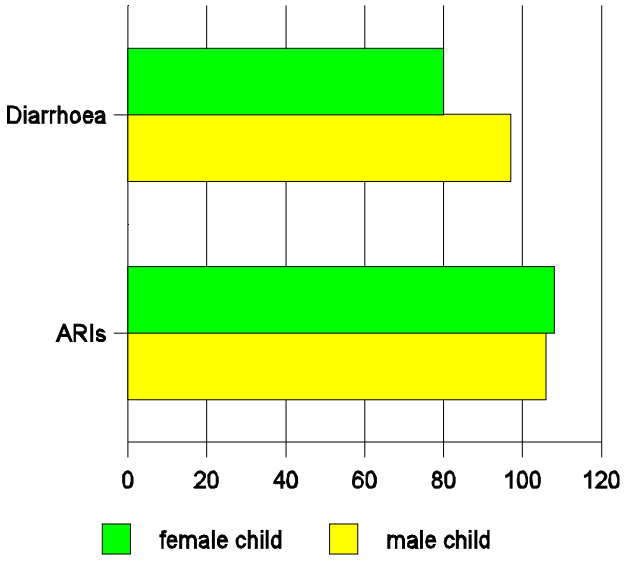


Table 20 Anthropometry (% of children aged 6-35 months in households interviewed)

	Herat		Jalalabad		Kabul		Kandahar		Mazar		Total	
	M	F	M	F	M	F	M	F	M	F	M	F
MUAC<12.5 cm (1)	25%	28%	24%	26%	23%	31%	36%	39%	18%	20%	24%	28%
Acute malnutrition (2)	21%	16%	28%	24%	28%	24%	37%	32%	18%	18%	26%	23%
General malnutrition (3)	56%	47%	57%	57%	53%	46%	58%	51%	38%	35%	50%	45%
Stunting (4)	57%	43%	55%	50%	50%	48%	64%	59%	48%	45%	54%	49%

1. MUAC = mid upper arm circumference, an indicator of acute malnutrition
2. Acute: % falling more than 2SD from the international median of weight for height
3. General: % falling more than 2SD from the international median of weight for age
4. Stunting: % falling more than 2SD from the international median of height for age

Physical evidence of malnutrition

All children contacted in nearly 12,000 households were requested to attend a measuring post on the day following the household interviews. There, their exact ages were verified using a chart listing all major social events that could help fix their month of birth. Their height and weight was measured using standard techniques. The scale used was the UNICEF solar-powered electronic model. Mid upper arm circumference (MUAC) used UNICEF anthropometric tapes, permitting millimeter readings. Data were analysed using Epi-Info.

Although there were dramatic differences across regions (see Table 20), overall one in five children showed evidence of acute malnutrition (weight for height more than 2sd from international median) and one half showed evidence of severe stunting (height for age more than 2sd from the median).

These data indicate considerably higher levels of malnutrition, acute and chronic, than have hitherto been documented in Afghanistan. In particular, three earlier surveys give a considerably more optimistic picture. The three surveys are based in four cities . The first covered Jalalabad city and IDP camps (July 1996); the second covers Kabul City, the Bamyan provincial capital and Mazar city (November 1996); and the third, by Action Contra la Faim (AFC), covered Kabul City (December 1996). This renders direct comparison with the MICS difficult, since it covers both urban and rural areas in all five regions (Herat and Kandahar are worse off and not included in the three 1996 surveys).

The age groups of the WHO and ACF studies (6-59 months) are more comprehensive than in the 1997 MICS (6-35 months). This could explain some of the measured differences between the 1996 surveys

Figure 13
Stunting 0-3 years
(% <2sd height for age)

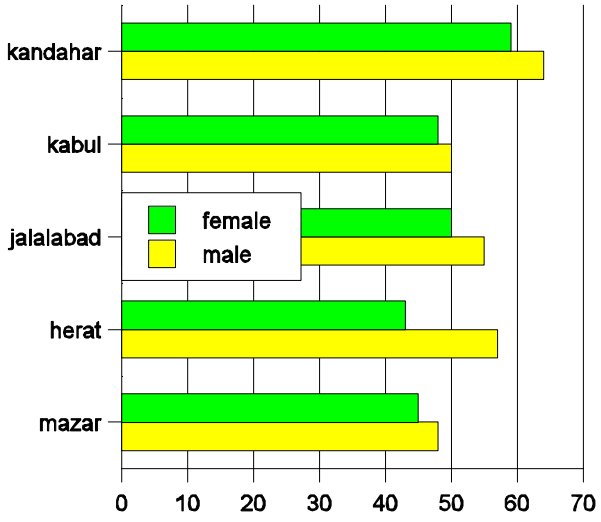
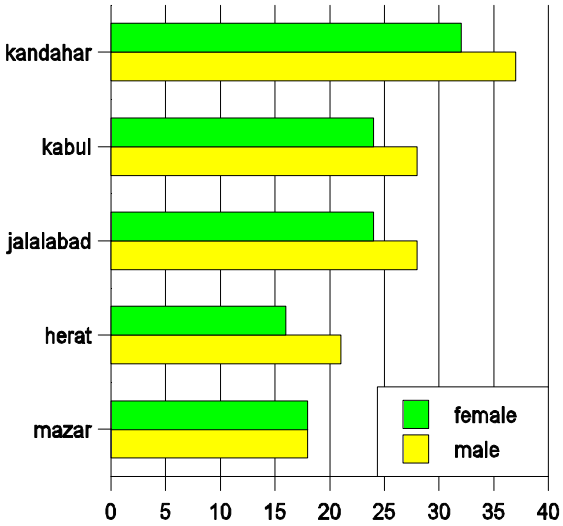


Figure 14
Acute malnutrition (0-3 years)
(% <2sd weight for height)



and the 1997 MICS, since measurable physical malnutrition is less common in the fourth and fifth years of life.

There are also certain methodological differences in selection of children that might account for some of the differences: for example, the MICS measured "all children of 6-35 months, excluding none" from all households interviewed; in the ACF study, only one child was measured per family -- there is no indication how the child was selected -- and the WHO surveys gave no details how selection of children was done.

It is possible to generate MICS data from cities, which probably represent the nutritionally better off children. However, there are sufficiently interesting differences between the 1996 surveys themselves to indicate that further comparisons may be of limited value. The WHO 1996 Kabul City study has very different results from the ACF 1996 Kabul City study, although both used the 30 cluster methods and were completed only a month apart in the same town. In the WHO Kabul study, acute malnutrition (weight/height) in the city was 11% of 6-59 month olds -- 16% of 6-23 month olds; it was only 5% in the ACF study. Stunting (height/age) was not reported in the WHO study and was 55.2% in the ACF study (a few percentage points difference from the 1997 MICS for Kabul City).

In summary, from such details as are available, there are several factors that may help to explain differences among results of the earlier three surveys and the UNICEF-supported MICS:

1. The three 1996 surveys are urban, excluding Herat and Kandahar whereas the 1997 MICS is national in scope.

2. The age groups in the three 1996 surveys include under 5s, while the MICS covers under 3s where malnutrition is more common. The 1996 surveys could feasibly produce data for the 6-35 month olds but sample sizes are so small as to render interpretation difficult.

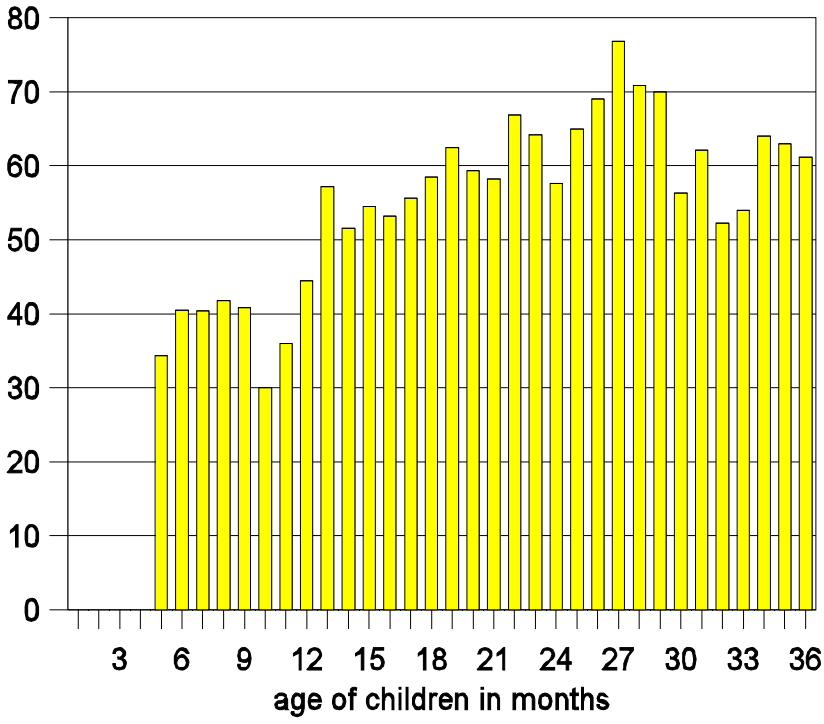
3. The selection of participating children was different: ACF measured only one child per family without specifying how that child was chosen; WHO surveys do not specify how they selected children; the 1997 MICS included all children aged 6-35 months in all households interviewed.

4. Different types of scales were used to weigh the children. The WHO surveys used the older Salter scales; the ACF study does not specify and the MICS used the UNICEF solar-powered digital scales. It is possible the necessary recalibration of the older scales could account for some of the dramatic differences in acute malnutrition in the WHO and ACF surveys in Kabul.

5. One of the few reported results in all three 1996 surveys that does not depend on these scales -- stunting in the ACF Kabul sample -- is virtually the same as the 1997 MICS estimate for stunting in Kabul. The WHO studies declined to report on stunting, despite having the age and height data available; it may be interesting to review the reasons for the data being withheld and to evaluate the extent to which they support the MICS results.

It is also possible that different techniques for taking the age of the child could affect the estimations. It is

Figure 15
Stunting and age of child
(% children <2sd height/age)



well recognised that more accurate ages are associated with higher (and more correct) malnutrition estimates; if a survey rounded ages down to the nearest year of six month period, this affects malnutrition estimates dramatically.
An argument sometimes heard where high levels of child stunting are found, is that the comparison with international standards is inappropriate. Following this argument, a local standard adjusted to the local population should be used. To obtain insight into the genesis of stunting, this was analysed separately for each month of age. Figure 15 shows the increasing stunting as children grow up, demonstrating that stunting is produced *actively* through the first two years of life (no measurements are available for the first four months of age).

From the age of five months (the age the measurement started in this survey), rates of stunting increased from 30% to nearly double those levels by 18 months of age. There is a suggestion of slight 'recovery' as children reach toddler age (after 24 months) when they can begin to get some food for themselves.

Vitamin A deficiency

Respondents were asked whether each child had experienced night blindness; this was done by prior identification of the local name for night blindness, using this in direct questioning. It is usual that, where no local name exists and the condition is unrecognised, it is not a widespread problem. In Jalalabad and Kandahar regions, around three percent of children were reported to suffer night blindness (see Table 21).

In the other three regions, virtually no children were reported with this condition. Respondents were shown a Vitamin A capsule of the type given out in supplement programmes. Considering all children under the age of three years, around one in ten (12%) had received a capsule (6% in Mazar, 22% in Jalalabad).

There was some evidence of targeting the programme to children with more night blindness. In the two regions where night blindness was common (Jalalabad and Kandahar), higher coverage of vitamin distribution was attained.

Iodisation of salt

Because it was anticipated that very few households would have access to iodised salt, community level monitoring was done instead of household monitoring; samples of salt were purchased from shops in each community and tested using the standard kit. In four communities of Herat and nine from Kandahar was there adequate iodisation.

The most frequent reports of recognisable goiter came from Kabul, where 13 cases were reported for every 1000 people. This is certainly an underestimate, based as it is on visible goiter recognised by the respondent. No attempt was made to verify those that were reported, or to test those said not to have a goitre.

Table 21 Vitamin A deficiency and supplements (children 0-3 in households interviewed)

	Herat	Jalalabad	Kabul	Kandahar	Mazar	Total
Children<3y night blindness (n=)	2	20	6	27	4	
aged 12-23 months	0	6	2	9	2	
Children received Vitamin A caps*	16%	14%	9%	22%	6%	12%
aged 12-23 months	15%	21%	6%	17%	5%	11%

* Respondents were shown a Vitamin A capsule

Table 22 Goitre and iodisation of salt (number of people affected in households interviewed)

	Herat	Jalalabad	Kabul	Kandahar	Mazar	Total
goitre visible	37	60	184	63	153	497
population	8702	10731	13101	10915	23092	66541
RATE /1000	4.7	5.6	13	4.9	7	7.5

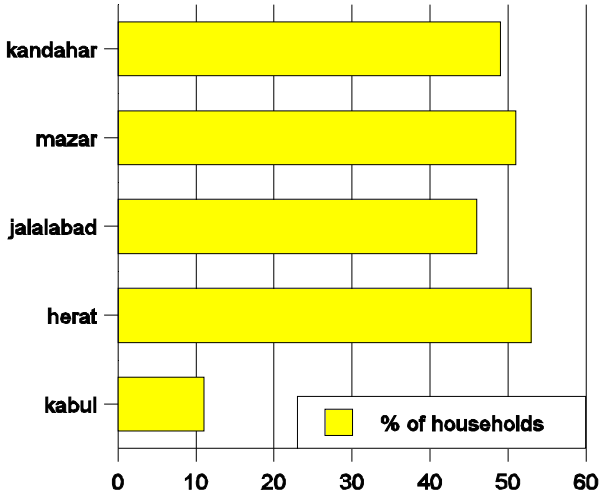
Food security

Figure 16 shows one of the surprising findings of this baseline survey: no less than 42% of households across the sample reported that they had sufficient food in the week prior to the survey. The relevance of this is not that the remainder did *not* have sufficient food; some might not have. The question is relevant because very few respondents would be motivated to say they had sufficient food when in fact they did not have sufficient.

There was quite dramatic heterogeneity across different regions in the proportion claiming to have sufficient food. Insofar as this reflects food security, households in Kabul were in the worst position; this is probably because of the dissociation in Kabul from the agricultural productive base. Most other regions returned to levels of 40-50%.

Table 22 illustrates the expenditure on food in the last week, another indicator of food security. Expenditure was higher in Mazar and Kandahar; in Kandahar a significant proportion also *sold* food in the last year, indicating a possible excess of supply over needs. In all regions, those who bought food tended to buy "basics", ghee, wheat and rice (Table 23).

Figure 16
Report of sufficient food last week
(% of households saying they had sufficient)



Trading of goods for food is a useful indicator, in some settings, of food security. Kabul had more than ten-fold the valueof goods traded for food than did Kandahar. Wheat storage is another indicator of food security (Table 24). One household in five (18%) said they had no wheat stores. Among those who did, reserves were substantial, an average of 26kg per household.

Table 23 Expenditure on food in the last week

		Herat	Jalalabad	Kabul	Kandahar	Mazar	Total
Av spent on food last week		Afs.338,000	Afs.416,000	Afs.396,000	Afs.513,000	Afs 644,000	461,400
Main item bought	Ghee	24%	32%	20%	29%	30%	27%
	Wheat / rice*	44%	8%	20%	9%	20%	19%
	Wheat flour	29%	56%	57%	52%	35%	46%
Av cash value traded for food		Afs.9,600	Afs.16,000	Afs.173,000	Afs.82,000	Afs.49,000	65,920
HH **sold** food last year		2%	5%	8%	25%	9%	10%

Table 24 Indicators of food security (% of households interviewed)

	Herat	Jalalabad	Kabul	Kandahar	Mazar	Total
Households that received food aid last month	0.8%	0.5%	1%	0.4%	1%	0.8%
Av. amount food aid received last month	78 kg	18 kg	39 kg	64 kg	18 kg	43 kg
Average of wheat flour in households	25 kg	25 kg	14 kg	42 kg	26 kg	26 kg
Households without wheat flour	30%	11%	32%	4%	12%	18%

Table 25 Food aid coverage of vulnerable groups (% of households interviewed that received food)

	Herat	Jalalabad	Kabul	Kandahar	Mazar	Total
Households with children < 5 years	0.7%	0.5%	1%	0.4%	1%	1%
Female headed households	0%	0%	1%	5%	3%	2%
Households with displaced	0%	6%	0%	0.5%	0%	1%
Households with disabled	0%	12%	5%	0.4%	12%	7%
Head of households is unemployed	2%	0.4%	1%	2%	1%	1%
Head of household is in the army	0%	0%	0%	7.7%	2.1%	2%

Shaded area is compatible with some measure of targeting: more of these households receive food aid

Table 26 Arable land (% of households interviewed and area under cultivation)

	Herat	Jalalabad	Kabul	Kandahar	Mazar	Total
Households with cultivable land	38%	40 %	32 %	40 %	40 %	38%
Average under cultivation	2792 m²	2770 m²	1591 m²	7510 m²	6559 m²	4244 m²
Av. not cultivable due to landmines	115 m²	207 m²	496 m²	2699 m²	48 m²	713 m²

Table 27 Key informant data: agriculture

96 sentinel sites		Herat	Jalalabad	Kabul	Kandahar	Mazar	Total
With irrigation system		12	1	11	15	25	64
With cultivable land		13	12	13	16	30	84
Sites where households own land	Most own	-	4	2	5	3	14
	Some own	-	2	2	1	1	6
	Few own	13	5	9	10	27	64

Table 28 **Estimates of maternal mortality in 1996 (deaths reported last year / children 0-11m + IMR)**

	Herat	Jalalabad	Kabul	Kandahar	Mazar	Total
Av age of maternal deaths	24	28	28	29	27	27.4
Estimated Maternal Mortality Ratio* 1992-6 per 100,000 births	172	145	229	502	420	393/100,000

** Ratio : maternal deaths / (children <1 year plus IMR); data aggregated for last five years*

The Afghanistan food aid programme does not include direct handouts, except to a tiny proportion of the population. There is only very slight concentration of this in households of the more vulnerable groups (Table 25), indicating limited targeting of handouts.

Mortality and war damage

Reports on the age and sex of land mine victims reveal that some 8-10 men were affected for every woman . The age most affected is 15-49, consistent with military activity. This does not mean that children and older people, particularly older women, are *not* affected. One victim in ten was a child and a second victim in ten was a woman.

Estimates of maternal mortality rested on the following questions: Has any woman from this household died because of pregnancy or childbirth (yes/no). If yes, what was her age? What year did it happen? With this direct form of questioning, one usually expects an underestimate of mortality. Table 28 shows the *ratio* of maternal deaths in relation to the number of children under the age of one year. Ordinarily, maternal mortality is expressed as a

ratio of the number of births: this would mean number of children under the age of one year, plus number of children who were born but who did not live to their first birthday (infant mortality plus stillborn).Across the entire sample, the maternal mortality ratio was 393 per 100,000, being significantly higher in rural than in urban areas. The rates reported by female responders were very similar to those reported by males.

Figure 17 illustrates the uneven risk at different ages, expressed as a ratio of children aged less than one year. These estimates would be higher than those that take into account infant mortality, but comparisons between age groups will be more precise. The staggeringly high maternal mortality of older mothers – approximately five times the other age groups – could help explain the virtual disappearance of older women in Afghanistan. This is worthy of closer investigation.

Figure 17
Maternal mortality ratio 1991-1996
deaths/1000 children <1 year

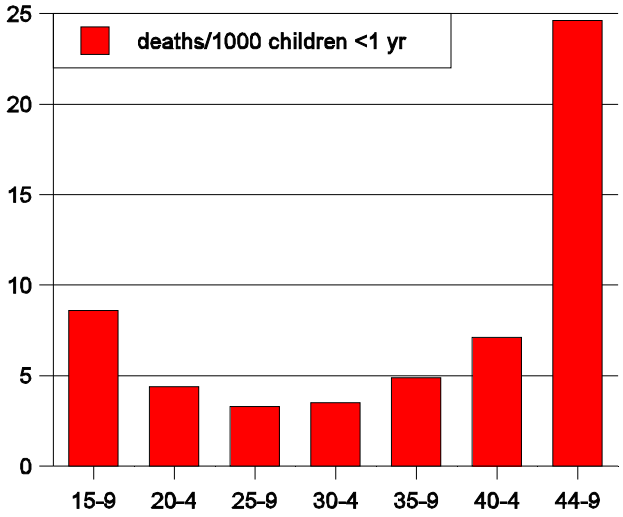
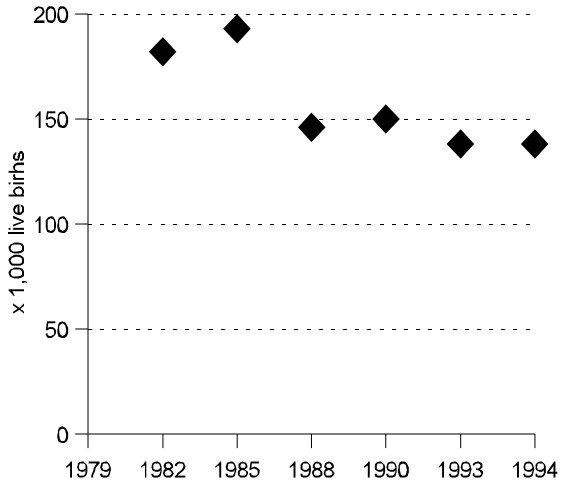


Figure 18
Infant mortality trend 1978-1994



Infant mortality was estimated using the Brass technique, which relates survival of children born to the age structure of the female population. The inferences for infant mortality depend on demographic assumptions that are almost certainly invalid in the Afghan context. However incorrect the assumptions are, they are likely to be equally incorrect from year to year. Thus while absolute levels may be subject to errors, the trend over the years is likely to be reliable. Infant mortality in Afghanistan has been more or less constant since the late 1980s (Figure 18).

Table 29 Key informant data: population movement

96 sentinel sites	Herat	Jalalabad	Kabul	Kandahar	Mazar	Total
Number of sites visited	13	14	18	17	34	96
Number of urban sites	4	2	7	2	7	22
Total estimated population	50420	178500	138850	362950	280700	1,011,420
Total displaced settled	2160	16490	42415	965	1932	63,962
Total migrated people	3720	53189	21500	15040	4649	98,098

Table 30 Key informant data: community facilities

96 sentinel sites	Herat	Jalalabad	Kabul	Kandahar	Mazar	Total
With electricity	-	1	1	-	5	7
With primary school	5	12	14	9	19	59
With health center	1	5	5	3	8	22

Table 31 Channels of communication (% of key informants interviewed)

		Herat	Jalalabad	Kabul	Kandahar	Mazar	Total
How people receive information	Radio	12	12	16	14	27	
	Personal/meet	1	1	1		5	
Most popular radio station	BBC	12	3	12	16	29	
	Kabul Radio	1	1	1	1		
	Others	1	8	5			
Best way to feed back results	Radio	7		2	7	3	
	Personal/oral	5	10	14	3	14	
	Meeting	1	3	-	2	16	

Media

Each households were asked whether members listened to the BBC news: as shown in Figure 18, the majority said 'yes'. Except in Kandahar, where three out of four households listen to the BBC, this is higher in urban than rural areas.

Key informants were also asked how people in each community received information. An important part said they listened to the radio (12% in Herat and Jalalabad, 27% in Mazar).

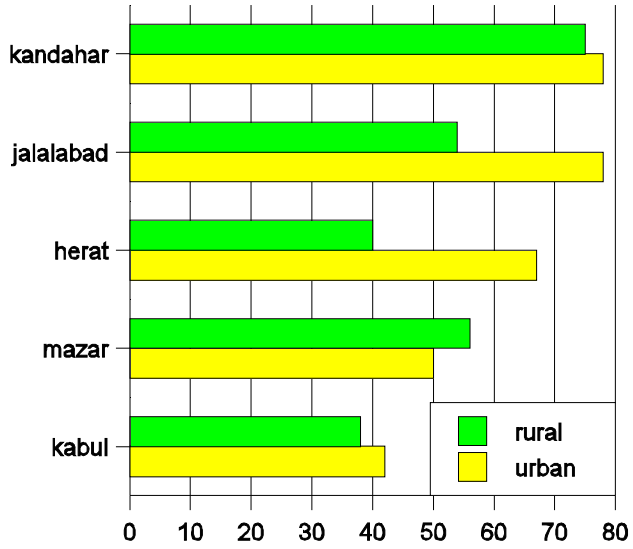



Figure 19
% of households that listen to the BBC