

**NUTRITION
SURVEY REPORT
HARGEISA RETURNEE/IDP AREAS**

**UNICEF and the Ministry of Health and Labour in collaboration
with FSAU**

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March 13, 2003

1 Executive Summary

UNICEF and the MOHL (Ministry of Health and Labour), in collaboration with FSAU conducted a nutrition survey in February in eight areas of Hargeisa town. The purpose of the study was to determine the current nutritional status of children aged 6 – 59 months and to compare the results with those of an earlier survey conducted in June 2001.

Using a two-stage cluster sampling methodology, a total of 913 children aged 6 – 59 months were surveyed in eight returnee/IDP settlements of Hargeisa. Nutritional status assessments were based on weight and height measurements. Moreover, information relating to diarrhoea and ARI incidence two weeks prior to the survey, Vitamin A supplementation and measles vaccination status of the children were also collected.

1.1 Nutrition

Data analyzed in EPI Info for nutritional status suggests a global acute malnutrition rate of 15.3% (WH/HT <-2 z-scores and/or oedema), a severe malnutrition rate of 3.8% (WT/HT <-3 z-scores and/or oedema), and Oedema was at 0.9 per cent.

1.2 Immunization

Information collected on immunization during the survey indicates that about 61 per cent of the children had been immunized against measles, out of which 17 percent had been vaccinated within the six months prior to the survey and around 44 before the past six months. Around 38 per cent of the study children were not immunized at all against measles. Vitamin A supplementation during the past six months stood at about 48 per cent.

1.3 Child diseases

Morbidity levels during the two weeks prior to the survey were at about 27 and 21 per cent for diarrhoea and ARI (acute respiratory infections) respectively. There was almost universal health seeking behaviour with about 99 per cent of household reporting that they do seek assistance when a child is sick. Private pharmacies/clinics were the most likely place that these households would go to for assistance (50 per cent). The public health facility followed closely behind at about 46 per cent.

1.4 Household characteristics

It appears that of the households interviewed only 9 per cent are female headed. 90 per cent of the households reported their residential status as residents. Casual employment was the main income source for about half of the study households, while purchases was reported as the main food source by over 90 per cent.

1.5 Water and environmental sanitation

The main source of drinking water for these households was reported as public tap (92.3 percent). Only about 53 per cent of households reported owning a toilet.

2 Summary of findings

Indicator	Percentage
Number of boys in the sample	52.0
Number of girls in the sample	48.0
Global acute malnutrition according to Weight For Height Index in Z-Score or presence of oedema	15.3
Severe acute malnutrition according to Weight For Height Index in Z-Score or presence of oedema	3.8
Oedema	0.9
Proportion of children with diarrhoea in two weeks prior to the survey	27.2
Proportion of children with ARI in two weeks prior to the survey	21.0
Proportion of children supplemented with Vitamin A in six months prior to the survey	48.1
Proportion of children immunised against Measles	61.5
Proportion of female-headed households	9.1
Proportion of households reporting their residential status as residents	90.0
Proportion of households reporting their residential status as returnee and IDPs	8.5
Proportion of households with public tap as the main source of drinking water	60.0
Proportion of households owning a toilet	53.9

3 Background Information

The survey was conducted in eight returnee/IDP settlements within Hargeisa town. The eight areas are Daami, State House, Stadium, Sinai, Sheikh Nur, Aw Aden, Mohamed Moge, Ayaha,. The latter four areas are purely returnee/resettlement camps, while Daami is the traditional sector of town inhabited by minority groups. The State House area could be classified as an IDP camp though the inhabitants are more likely to describe themselves as residents. Stadium and Sinai sectors have pockets/clusters of poorer households that can be also be called IDPs. These eight areas comprise both formal and informal resettlement areas.

3.1 Health context

A number of international organizations such as UNICEF, ICD and CARE have been supporting the ministry of Health and Labour in its efforts to provide adequate health services to the returnee/IDPs/ resettlement areas of Hargeisa town. Currently, there are five mother and child health centres functioning in these areas. All the five health centers also provide adult out patient clinics. Edna Maternity Hospital is also close to the some of the settlements such as the Stadium. The availability of drugs and the working hours of the health facilities in the area have improved over the last year with a regular supply of drugs from the international organizations and improved supportive supervision, as well as coordination mechanism through the regional health office of Hargeisa.

Inadequate systematic outreach health services for the risk groups and lack of utilization of exemption policy within the cost recovery approach are the two major challenges for the health services in the returnees/IDP settlements. The poorest in those locations are constrained in paying service charges and for drugs as their resource base is limited and meager incomes are devoted to food. Health care is probably a secondary issue to them. The communities in Ayaha, Aw Aden and Sinai can best be served through well organized out reach care systems.

3.2 Nutrition

Efforts to improve nutritional surveillance, infant/child feeding and caring practices have been ongoing in some of the settlements such as Mohamed Moge, Ayaha, Stadium and Sinai for the past few years. UNICEF and other organizations supported the regional health office of Hargeisa and local women groups in community based nutrition promotion activities. 60 traditional birth attendants were trained on the promotion and management of breastfeeding. 30 community based nutrition promoters selected from the various population categories such as teachers, women groups, and sheiks were also trained on basic nutrition and basic communication skills to implement growth monitoring activities at household levels in their respective locations. Also around 1,000 mothers were provided orientation sessions and practical demonstrations on appropriate infant/child feeding.

WFP supports supplementary feeding programmes in Edna Maternity Hospital and Daami village/camp. WFP also supports feeding of school children in Ayaha and Mohamed Moge in which about 300 school children are provided two meals a day.

Dealing with the severely malnourished cases remains a challenge for the nutrition interventions in the area. Mothers with severely malnourished children are often reluctant to be referred or admitted to the Hargeisa Hospital as their other children would be left unattended to if they admitted in hospital with one child .

3.3 Water and sanitation

Water has been scarce in Hargeisa over the past few months and hardest hit are always these returnee/IDP areas as they are on the outskirts. Some settlements like Ayaha are still not connected, though the extension of the Hargeisa system to the area has just started. Others like Sinai and Mohamed Moge need extension of existing systems. Water prices in some of these areas are five times higher than the prices in other parts of the town and often long lines of 20 liters water containers are observed at water kiosks. Currently there are 70 kiosks in these areas, sixty of them privately owned.

Settlements like Dami, Staduim, Statehouse and Ayaha, the latest formal area, have significantly fewer latrines than the other more formal settlements. Non-Somalilanders living in these areas use latrines at lower rates than households originally from Somaliland.

3.4 Food Security characteristics

Since 1997 to date, UNHCR in collaboration with the Ministry of Resettlement, Rehabilitation and Reconstruction (MRRR) has supported voluntary repatriation of over 200,000 individuals mainly from the neighbouring camps in Ethiopia. An equally large number of people are also estimated to have resettled in Somaliland without going through the formal repatriation processes. It is estimated that more than 80 000 (Inter-agency assessment June 2002) of the returnees have chosen to settle in Hargeisa town mainly occupying the outskirts of the town. Earlier studies in the settlement areas (UNICEF nutrition survey 2001, IRC led inter-agency assessment 2002) revealed widespread lack of basic services, overcrowding and poverty especially in the informal settlements. The continued population influx in Hargeisa and limited resources available for effective solutions still pose immense challenges to the agencies and local authorities in Somaliland.

Findings from an urban household economy assessment conducted by FEWS-NET one week after this survey reveal that poor households in Hargeisa have low income levels (less than two dollars a day). Expenditure on foods (meat, milk, vegetables etc) other than cereals was revealed minimal, low remittances amongst the group and vulnerability to seasonal fluctuations in employment at construction sites and fluctuations on exchange rates were also reported. With an average household size of about 7 people (FEWS-NET urban assessment), the poor households depend on less than two dollars a day (just about a third of a dollar per person per day) far below the global comparisons.

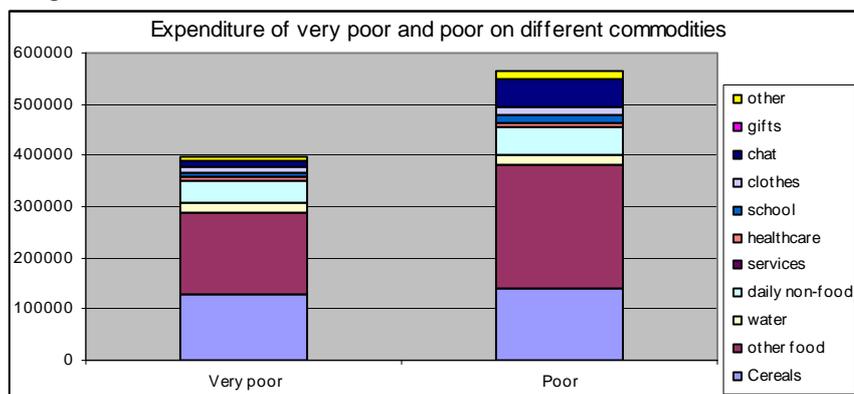
The cost of water was more than triple the prices reported in the more permanent residents of Hargeisa. For example, while a 20-litre jerrican was about SL800 in Ayaha, it was only SL 200 in permanent settlements of Mohamed Mooge.

Comparison of the 1998 HH economy survey results with 2003

Wealth groups 1998	% of HHHs	Income per day /Shs	Income per day USD Exchange Sls3,850
Very poor	3 - 7%	5,000 – 13,000	\$ 1.3 - \$ 3.4
Poor	20 – 25%	13,000 – 25,000	\$ 3.4 - \$ 6.5
Middle	40 -50%	25,000 – 35,000	\$ 6.5 – \$ 9.1
Better off	20 – 25%	>35,000	> \$ 9.1
Wealth groups 2003	% of HHHs	Income per day SL/sh	Income per day USD
Very poor	5-10	<15,000	<\$2.2
Poor	25-30	15-25,000	<2.2 - \$3.7
Middle	45-55	25-80,000	\$3.7 - \$11.9
Better off	10-20	>80,000	> \$11.9

As revealed here, the very poor and poor are slightly larger in number and worse off in dollar terms in 2003 than in 1998 while the middle income bracket covers a wider range in 2003 than in 1998.

From the household economy assessment, the very poor and poor, many of whom reside in the settlements camps but spread all over town, have small expenditures, have limited access to basic services like healthcare, good housing etc due to cost etc. The figure below shows the expenditure pattern of the poor and the very poor in Hargeisa.



The essential food items normally include rice, wheat flour, maize, sorghum, sugar and vegetable oil. Small quantities of vegetables (eg. Tomatoes,

potatoes etc), meat, tea leaves are bought by these groups. The main non-food items like water, charcoal, kerosene, soaps, second-hand clothes, and schools. The other non-food items bought in small quantities include chat and health care services.

The main sources of food are purchases from the market as well as gifts especially from the very poor households. At least 50% of purchases on food is on cereals and about 10% is expenditure on sugar. Expenditure on vegetables is quite negligible.

The very poor and the poor residents of Hargeisa are mainly involved in small-scale petty trade (eg selling vegetables, milk and prepared food), casual work mainly in the construction industry, unskilled labour transportation business using donkey carts and

wheelbarrows and also engaging children in some work like shoe-shining in town for income avenues.

These residents have vulnerable to shocks such as the exchange rate fluctuations that normally leads to increased imported food costs as has been witnessed in the recent past years, the declining opportunities in the construction sector that resulted from the livestock ban, and recurrent restrictions on trade restrictions with Ethiopia e.g. when duties on “chat” trade was raised.

4 Survey Objectives

The following were the objectives of the survey:

- To determine the nutritional status of children aged 6–59 months in eight disadvantaged areas of Hargeisa town.
- To compare the current nutritional status of the children to the results of the survey conducted in the same area in June 2001.
- To determine the incidence of diarrhoea, measles and ARI among study children
- To determine factors associated with the nutritional status of children aged less than five in eight disadvantaged areas of Hargeisa
- To measure measles vaccination and vitamin A supplementation coverage in the study areas.

5 Methodology

5.1 Sampling methodology

A two-stage cluster sampling methodology was used. Population estimates were obtained from the Inter Agency Resettlement Areas Assessment report of 2002. A table of cumulative population and attributed numbers was developed, and clusters selected based on proportional to population size of the clusters. The sampling interval was determined by dividing the total population by 30. The calculated cluster interval was 1885. A random number selected within the cluster interval was used to determine the location of the first cluster. The next and subsequent clusters were determined by adding the cluster interval to the preceding random number selected.

The second stage of sampling was carried out in the cluster to select the first and subsequent households. Each team went to the middle of the assigned cluster location, guided by survey guides selected from the community, and determined a random direction by spinning a pencil. All households along the direction selected to the border of the cluster were counted and assigned numbers on a piece of paper. The survey guide randomly selected the first household to be visited from among those numbers. Subsequent households were selected on the basis of proximity following the nearest entrance. All eligible children in each household visited were measured and weighed. If a caregiver or child was absent an appointment was made and the household revisited until the child was examined.

A total of 913 children were examined for weight for height. Their caregivers were interviewed as to whether the children had received vitamin A or measles vaccination

in the past 6 months, or had suffered from diarrhoea or ARI incidents two weeks prior to the survey.

5.2 Mortality

A proxy indication of mortality was taken retrospectively to provide some idea on the health situation of the population. The mortality assessment was done concurrently with nutrition survey in which a 30 by 30 cluster sampling methodology was used. The survey methodology used for the nutrition survey was adopted with the exception that households were selected as the second sampling unit. The selection of clusters and households were the same as for nutrition survey. At least 30 households were randomly selected in each cluster and the mortality questionnaire administered to a responsible member of that household. **All households within the selected cluster were eligible for inclusion** in the mortality survey, whether there was an under-five or not. Households were systematically surveyed until the 30th household. Each household surveyed was asked the composition of their members in two parts;- those members less than 5 years and the total number of household members. The household was then asked how many if any of the household members had died in the last one year. The mortality questionnaire is appended in the report. All households with and with no under-five child at the time of the survey were included in the survey.

The overall mortality was calculated by taking the total number of deaths multiplied by a factor (10,000). This was divided by the population of the surveyed households using the formulae below:

$$MR = n / \{ [(n+N) + N] / 2 \}$$

Where n = total number of persons reported dead in the households surveyed

N = total number of people living in those households at the time of survey

The mortality was calculated retrospectively for the past 3 **months**, the recall period. Mortality rates per 10,000 persons per day were obtained by dividing the figure above by 93 days that was used as the recall period. Calculation of under-five mortality rates was done using the same formulae but with a denominator of under-five children in the surveyed households.

In case a member had died, the household was asked to explain the signs and symptoms of the person before he/she died.

Mortality rates can be interpreted according to the following reference

- For under-five years old children
 - Under-five mortality rates ≥ 2 deaths/10,000/day indicate a situation of alert
 - Under five mortality rate ≥ 4 deaths/10,000 children/day indicate an emergency
- For the total population
 - Mortality rates ≥ 1 deaths/10,000 persons/day indicate an alert situation
 - Mortality rates ≥ 2 deaths/10,000 persons/day indicate an emergency.

5.2 Sample size

The target population was children 6-59 months (or heights between 65 – 110 cm) as children in this age group are considered to be particularly vulnerable to malnutrition. In order to provide valid estimates of the prevalence of malnutrition in children with a 95% confidence, a minimum of 900 children were to be examined, 30 children to be randomly selected from each of 30 clusters.

5.3 Training of Enumerators and Pre-testing

Enumerators were trained for three days on objectives of the survey, study population, sampling procedure, accurate ways of collecting anthropometric data and interviewing procedures. Field practice was also carried out to refine the interviewing techniques before proceeding with actual data collection.

5.4 Data Collection and analysis

The trained enumerators administered the questionnaire to mothers or primary caregivers of selected households. If a mother or caregiver was absent an appointment was made and the household revisited until the interview was completed.

Six teams were used to collect the data. Each team consisted of two enumerators and one supervisor. Data collection lasted five days. During the data collection phase, each questionnaire was thoroughly checked by the field supervisors for omissions and inappropriate responses. UNICEF and FSAU survey coordinators and supervisors were accompanying the teams during household interviews.

Data entry and analysis was done in EPI INFO6. The planning committee comprising MOHL Nutrition Department, UNICEF and FSAU discussed the preliminary results.

6 Presentation of the Survey Results

6.1 Demographic Characteristics of Study Households

The demographic characteristics of the households that were surveyed is provided in the table below. Of the total households surveyed about 9 per cent are female headed. Exactly 90 per cent of the sample consider themselves as residents of Hargeisa town. About half of the sample (47.2 per cent) reported casual work (masonry, carpentry, metal work, house help, etc) as their main income source. About a quarter of the surveyed households (24%) reported small business (donkey carts, brick making, tailoring, shoemaking, wheelbarrow shops, small shops, etc.) as the main income source. About 94 per cent of the households reported purchasing (acquisition of food through purchasing) as their main food source.

Less than 54 per cent of the households that were surveyed reported having a toilet. The main source of drinking water reported was public tap (more than 92 per cent). This water is normally bought from the private taps around the settlements or

alternatively fetched by traders (using hand and donkey carts) and sold to the residents. Almost all the surveyed households (98.8 per cent) said that they seek assistance in case a child becomes ill. The primary place to seek assistance was reported as a private clinic/pharmacy (50.0 per cent of households) with public health facilities closely following behind at about 46 per cent.

Demographic characteristic	%
Household Head's Sex	
➤ Female	9.1
➤ Male	91.9
Residential Status	
➤ Residents (2 or more years in the area)	90.0
➤ IDPs (Somalia or elsewhere in Somaliland)	2.6
➤ Returnee (Ethiopian camps or elsewhere Ethiopia)	5.9
➤ Other	1.4
Income Sources	
➤ Small business	24.0
➤ Casual work	47.2
➤ Salaried employment	11.6
➤ Sale of crops	0.2
➤ Sales of animals and animal products	2.0
➤ Remittances	7.5
➤ Brokerage	2.6
➤ Others	4.9
Food sources	
➤ Animal products from own production	0
➤ Household crop production	0.6
➤ Purchases	94.1
➤ Gifts	1.4
➤ Begging	3.5
➤ Wild foods collection	
➤ Others	0.4
Coping mechanism	
PLIZ CHECK THIS OUT	
Remittance/gifts	21.1
Sale of more livestock	0.8
Splitting of family	0.6
Begging	7.5
Borrowing	64
Food aid	0.4
Purchases	3.9
Wild food collection	1
Sanitation Facility	
Own Toilet	53.9
Does not own a toilet	46.1

Main source of drinking water:	
➤ Tap/piped water, incld. tanker/truck vendor	92.3
➤ Berkad	7.7
Where assistance is sought in case of child illness	
➤ Traditional/religious healer	3.5
➤ Private clinic/pharmacy	50.0
➤ Public health facility	45.9
➤ Other	0.6

6.2 Distribution of children by age and sex

The analysis shows that 475 (52 per cent) of the study children were boys 438 (48 per cent) were girls.

Age in months	Girls		Boys		Total	
	n	%	N	%	n	%
6 – 11	40	40.8	58	59.2	98	10.7
12 – 23	91	47.2	102	52.8	193	21.1
24 – 35	90	46.9	102	53.1	192	21.0
36 – 47	117	57.4	87	42.6	204	22.3
48 – 59	100	44.2	126	55.8	226	24.8
Total	438	48.0	475	52.0	913	100

6.3 Distribution according to age and weight/height index in z-score or oedema

Age in months	<-3 Z-Scores		≥-3 and < -2		≥-2 Z-Scores		Oedema	
	n	%	n	%	n	%	n	%
6 – 11	4	4.1	6	6.1	88	89.8	0	0.0
12 – 23	7	3.7	31	16.2	153	80.1	2	1.0
24 – 35	6	3.2	23	12.1	161	84.7	2	1.0
36 – 47	3	1.5	18	8.9	181	89.6	2	1.0
48 – 59	6	2.7	26	11.6	192	85.7	2	0.9
Total	26	2.9	104	11.5	775	85.6	8	0.9

6.4 Distribution by sex according to weight/height index in z-score

Child sex	<-3 Z-Scores		≥-3 and < -2		≥-2 Z-Scores		Total	
	n	%	n	%	n	%	n	%
Male	11	2.3	63	13.4	395	84.2	469	51.8
Female	15	3.4	41	9.4	380	87.2	436	48.2
Total	26	2.9	104	11.5	775	85.6	905	

6.5 Distribution of study children by nutritional status

Nutritional status	n	%
Oedema	8	0.9
Severe malnutrition (less than -3 z-score)	26	2.9
Moderate malnutrition($<-3 \leq$ WFH <-2 z-score)	104	11.5
Normal	775	85.6

6.6 Indicators

	Proportion (%)	95% Confidence Interval (%)
Global acute malnutrition (less than -2 z-score or oedema)	15.3	12.0 – 18.6
Severe acute malnutrition (<-3 z-scores or oedema)	3.8	2.0 – 5.6
Oedema	0.9	

	Proportion (%)	95% Confidence Interval (%)
Oedema	0.9	
Global acute malnutrition (less than -2 z-score)	14.4	12.2 – 16.9
Severe acute malnutrition	2.9	1.9 - 4.2

6.7 Interpretive analysis

Distribution according to age and nutritional status

Global acute malnutrition (less than -2 z-score)

Age in months	Proportion (%)	95% Confidence Interval (%)
6-23 months (<2 yrs)	16.6	12.5 – 21.4
24-59 months (≥ 2 yrs)	13.3	10.8 – 16.3

Severe acute malnutrition (less than -3 z-score)

Age in months	Proportion (%)	95% Confidence Interval (%)
6-23 months (<2 yrs)	3.8	1.9 – 6.7
24-59 months (≥ 2 yrs)	2.4	1.4 - 4.1

6.8 Analysis of Risk factors

Morbidity prevalence, measles vaccination and Vitamin A coverage rates

Diseases	N	%
Diarrhoea (n=913)	248	27.2
ARI (n=913)	192	21.0
Measles immunisation (n=913)	562	61.5
Vitamin A (n=913)	439	48.1

The overall incidence of diarrhoea among the study children in the two weeks before the study was just above 27 per cent. About one fifth of the study children (21 per cent) were also suffering from acute respiratory infections during the two weeks preceding the survey. Measles vaccination coverage was reported at about 61.5 per cent, while about 48 per cent received Vitamin A supplementation.

Table: Feeding practices

	N	(%)
Are you breastfeeding child-<24 months (n=291):		
Yes	111	38.1
No	180	61.9
Age when child stopped breastfeeding -<2years (n=291)		
0-6 months	36	20
7-11 months	57	46.1
12 months or more	61	33.9
Weaning age -<24 months (n=291)		
0-6 months	259	89
7 months or more	32	11
Feeding frequency (n=912):		
Once	8	0.9
2 times	202	22.1
3 times	629	69
4 or mores times	73	8

6.9 Mortality Results

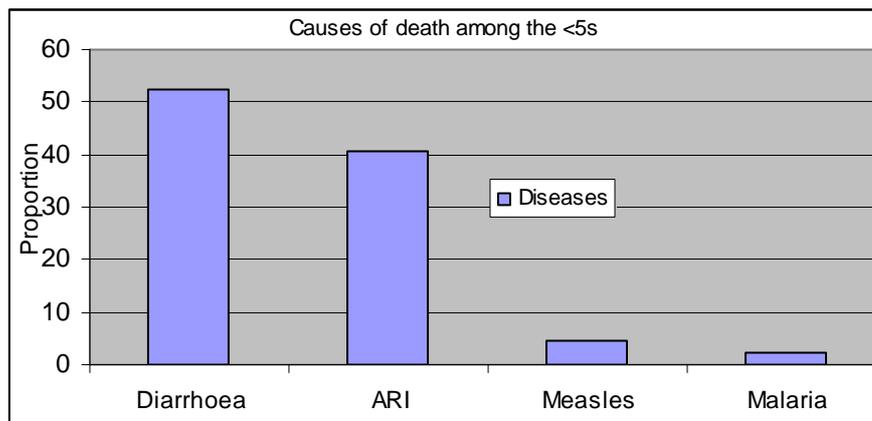
A total of 902 households were surveyed for mortality indicator.

Mortality rates;

For children aged 0-69 months (under-five mortality rate)
 Under five population in surveyed households =1,420
 Number of under five deaths 39
 Under five mortality rate =2.9 deaths per 10,000 children per day

For the total population
 Total population in surveyed households =5,859
 Total number of deaths in the households =60
 CMR =1.1 deaths per 10,000 persons per day

Main cause of death among under-fives



Diarrhoea was the leading cause of the death among the under fives followed by ARI. The respondents also mentioned measles as a significant cause of death.

7 Discussion of findings

Looking at the results of the same study conducted in these areas in 2001, there is an improvement in severe acute malnutrition rate (compare 3.8 to 5.1 in 2001 with no overlap of confidence intervals). This could mean that the nutrition-related interventions that have been on-going in these areas in the aftermath of the 2001 study have had an impact and severe malnutrition cases sent for referral. Global acute malnutrition rates remain more or less the same (compare 15.1; confidence interval at 13.8-8.0 with 15.3; confidence interval at).

The proportion of children aged 48-59 months were higher compared to other age groups. Might it have been due to biasness or simply many stunted children?

It seems that more girls than boys are suffering from severe malnutrition (compare 2.3 to 3.4 per cent respectively). However, one cannot conclude that a common pattern as there is no evidence to support any implications regarding feeding practices of girls and boys.

There is a substantial decrease in the number of children supplemented with vitamin A as compared with the findings of the previous study. This indicator has gone down from a high 74.6 per cent to less than 50 per cent. One likely explanation is that the last NID campaign was held in April 2002 and the survey question asked specifically about supplementation in the last six months. Along with MCH supplies, mass vitamin A supplementation is provided along with NID campaigns.

On a more positive note, measles vaccination coverage has gone up by almost 8 per cent since the 2001 survey (compare 53.6 to 61.5).

On household demographics, the findings are more or less in line with those of the previous study. As in the 2001 study, the majority of the sample considered themselves residents of Hargeisa town. For the purposes of this study, residents were defined as those people living in the area for two or more years. Casual employment is still reported as the leading income source while purchases was the main food source for the overwhelming majority of households.

Considering that Hargeisa is the capital of the self declared Republic of Somaliland, the proportion of households owning a sanitation facility remains less than desirable, at about 54 per cent. This means that a significant number of households (about 46 per cent) have no toilet facilities in their homes and this raises serious questions about how human excreta is disposed of. Public tap, again was the main source of drinking water. However, there are serious water shortages all over Hargeisa and these areas being on the extremities are probably hardest hit with some of them not having an adequate supply system. Even where there is an adequate supply system, prices are too high these days due to the overall shortages, implying that many households are not getting enough water and maybe even be drawing from unsafe source. Moreover, drinking water storage practices are less than optimal. The cost of water was more than triple the prices reported in the more permanent residents of Hargeisa. For example, while a 20-litre jerrycan was about SL800 in Ayaha, it was only SL 200 in permanent settlements of Mohamed Mooge.

Other studies conducted in other major urban settlements found that the proportion of households storing drinking water separately was quite low (28 and 13 per cent in Borama and Erigavo respectively). A combination of the above factors (inadequate methods of human excreta disposal, improper storage/collection of drinking water and inadequate water supplies) could explain why about 27 per cent of the study children suffered from diarrhoea two weeks prior to the study.

Limited food accessibility due to income deficits; poor childcare/feeding practices, inadequate sanitary facilities and disease incidences, all appear to contribute to the persistent poor nutritional status of the population in resettlement areas of Hargeisa.

Most households purchase most of their foods while casual work and petty businesses like operating kiosks, roadside selling of “khat”, tailoring etc were the dominant income sources. Findings from an urban household economy assessment conducted by FEWS-NET one week after this survey reveal that poor households in Hargeisa have low income levels (less than two dollars a day). Expenditure on foods (meat, milk, vegetables etc) other than cereals was revealed minimal. Low remittances amongst the group and vulnerability to seasonal fluctuations in employment at

construction sites and fluctuations on exchange rates were also reported. With an average household size of about 6.4 people revealed in the survey results and 7 people according to FEWS-NET urban assessment, the poor households depend on less than two dollars a day (just about a third of a dollar per person per day) is far below the global comparisons. The inter-agency assessment in 2002 also reported low intake of the relatively expensive proteins, fruits and vegetables. For example almost a half of the residents could only eat meat once or less in a month while about 40% of the families reported never purchasing/consuming milk (inter-agency assessment 2002).

Exclusive breastfeeding was uncommon at about 11% only while separation of the young children from their principal caretakers (mothers) for a great part of the day while mothers worked outside home (mainly in the petty businesses in town), was common. There appeared indications of significant association between the observed malnutrition and diseases: diarrhoea and acute respiratory infections that could confirm communicable diseases still represent a major problem that calls for continued support for comprehensive health and nutrition intervention programmes.

8 Recommendations

Based on the evidence of the findings it can be said that the nutrition-related interventions of the last one and half years are having an impact as seen by the decreasing levels of severe malnutrition rates.

However, it seems that sanitation practices in these areas are less than optimal due to lack of access to sanitation facilities. Water is also in short supply in some of these settlements like Ayaha, Sinai and parts of Mohamed Moge. Even where there is an adequate system prices are too high these days resulting from the overall shortages in Hargeisa supply.

The following recommendations are made based on the results of the survey:

- To continue and expand the community based nutrition programme in these areas, and include establishment of nutrition rehabilitation centres which will address cases of moderate and severe malnutrition;
- To establish home based nutrition surveillance in all eight settlements which would also contain an efficient distribution system for micro-nutrient supplements such as vitamin A and iron/folic acid;
- To initiate hygiene and sanitation awareness-raising activities in these areas with a view to creating behaviour change. Special focus should be placed on the areas resided by non-Somalilanders;
- To extend the water supply system and water kiosk network in order to reduce water shortages in the above mentioned settlements;

- To enhance and expand poverty alleviation activities such as income generating and labour intensive projects with a view to reducing food insecurity in these populations as poverty is a fundamental cause of malnutrition.

Annex 1: Population Estimates of Survey Areas and Assigned Clusters

Location	Population estimate	Cumulative Population	Assigned clusters
Aw Aden	3,461	3,461	1,2
Ayaha	3,136	6,597	3,4
Daami	10,484	17,081	5,6,7,8,9
M.Mooge	7,351	24,432	10,11,12,13
Sh. Nur	17,886	42,318	14,15,16,17,18,19,20,21,22,23
Sinai	4,728	47,046	24,25
Stadium	5,068	52,114	26,27,28
State House	4,434	56,548	29,30
Total	56,548		

Annex 2: Local Events Calendar – 2003

	1998	1999	2000	2001	2002	2003
Jan	61	49 Ciiddi Ramadaan ee kal shanaad	37	25	13	1
Feb	60	48	36	24	12	
March	59	47	35	23	11	
April	58	46	34	22	10	
May	57	45	33	21 U codeyntii Dastuurka	9 Mowliid Geeridii Cigaal	
June	56	44 Mowliidkii kal afraad	32 Mowliid	20 Mowliid kal Saddexaad	8	
July	55 Mowliidkii kal shanaad	43	31	19	7	
August	54	42	30	18	6	
Sept	53	41	29	17 Duqenta daaraha Mareykanka	5 Rajab	
Oct	52 Rajab	40	28	16 Shacbaan	4 Shacbaan	
Nov	51 Shacbaan	39 Shacbaan	27 Shacbaan	15 Bilowgii Ramadaantii kal hore	3 Ramadaantii ugu dambaysay	
Dec	50 Ramadaan shanaad	38 - Ramadaanti kal afraad	26 Ramadaantii kal saddexaad	14 Ciiddii Ramadaan	2 Ciiddii Ramadaan	

