

**HAUD OF HARGEISA-
BALLEYGUBADLEY & SALAHLEY
SOMALILAND**

**NUTRITION SURVEY
May-JUNE 2002**

FSAU/MOHL/UNICEF



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EXECUTIVE SUMMARY

With an economy heavily dependent on livestock, the residents of the Haud ecological setup have been invariably affected by the 'livestock ban' imposed by the Gulf States in November 2000 and which has continued to date. This has impacted on every level of Haud population from business people to livestock owners and to the community as well. Although there was generally good 2002 Gu season rainfall, areas like Salahley District received poor and sporadic rains. With little nutrition information currently existing from this ecological zone, it was important and worthwhile to determine the extent the prevailing livestock ban and localised rainfall failure have affected the welfare status of the Haud population.

The main objective of the survey was to determine the level of malnutrition among children aged below five years and also to establish some possible factors that might contribute to malnutrition in the area as well as to acquire baseline nutrition information for future reference. Using two-stage cluster sampling methodology, a total of 904 children between ages 6-59 months or measuring 65-110cm were examined. By way of anthropometric measurements (weight and height) the nutritional status of children was assessed. Other qualitative information were collected namely: Information related to morbidity particularly diarrhoea, ARI and malaria incidences two weeks prior to the survey; information on vitamin A supplementation, measles and polio vaccinations status were collected. Qualitative data was also collected utilising key informants and focus group discussion on food security and child care practices in order to gain understanding on local factors affecting nutrition in the Haud area.

The prevalence of global acute malnutrition, defined as W/H <-2 Z scores or oedema was 8.8% (95% C.I 7.1-10.9) and severe acute malnutrition defined as W/H <-3 Z-scores or oedema was 1.4% (95% C.I 0.6-2.2). No statistical difference was found between boys and girls in terms of malnutrition. The malnutrition rate was slightly higher among children aged below three years when compared to older children. Qualitative findings reveal that poorer households in both food economy groups within the Haud were the most affected by malnutrition.

Households undertook selling of more animals and borrowing from relatives and/or friends as the predominant mechanisms to survive in the event of hardship and stressful period. Many families reported selling their milk production to urban centres thus compromising the quantities allocated for the child. About 91% of the people of Haud of rely on Berkads for their sources of drinking water.

An analysis of contextual data suggests that although pastoralists have so far managed to cope with the adverse effects of the livestock ban and the sporadic water shortages, some adverse consequences are seen in the health and nutritional status of the population. However, it was also noted that these coping mechanisms are being stretched to the limit and in some circumstances becoming exhausted. Food security indicators are showing weakening in peoples' livelihood sources. Prices had started increasing at the time of the survey while water was becoming scarce after the below normal 2002 Gu rains in most parts of the region. Health services are also inadequate. As in most other parts of Somalia, exclusive breastfeeding is very rare and food for young children lacked variety. Further discussion and analysis following the survey recommend long-term strategies to maintain livelihoods and nutritional status which include improving access to safe drinking water; improving access to basic health services; working with communities to improve utilisation of food at household level and developing improved child-care practices. Addressing food security with appropriate longer-term strategies such as those addressing livestock health, marketing and prices and continuing to support advocacy and other efforts that aim to end the 'livestock ban' is also recommended.

SUMMARY TABLE OF FINDINGS

Indicator	Number	Percentage
Children under five years screened during the survey	904	
Male children in the sample	438	48.5
Female children in the sample	466	51.5
Global acute malnutrition Weight for Height <-2 Z-score or presence of oedema	80	8.8 (CI 7.1-10.9)
Severe acute malnutrition Weight For Height <-3 Z-score or presence of oedema	13	1.4 (CI 0.6-2.2)
Global chronic malnutrition Height for Age <-2 Z-score or presence of oedema	143	15.8 (CI13.5-18.4)
Severe chronic malnutrition Height for Age <-3 Z-score or presence of oedema	46	5.1 (CI3.8-6.8)
Children with diarrhoea in two weeks prior to the survey.	87	9.6
Children with ARI in two weeks prior to the survey.	136	15.0
Children with malaria in two weeks prior to the survey	31	3.4
Children receiving Vitamin A during six months prior to the survey.	563	62.3
Proportion of children immunised against Measles in last 6 months	190	22.2
Proportion of children vaccinated against polio in the April 2002	132	14.6
Proportion of children obtained at least 3 doses of OPV in last 1 year	453	50.1
Proportion of children stopped breastfeeding before 6 months n=780	171	21.9
Proportion of children not exclusively breastfeed for first 6 months	723	80
Proportion of Households depending on market food purchases as main food source	261	63.9
Proportion of Households relying on selling more selling more animals as main coping mechanism	167	40.5
Proportion of Households relying on borrowing as main coping mechanism	147	36.1
Proportion of Households relying on berkards as main source of water	372	91.3
Proportion of households that had moved to a different locality in the previous six months	5	1.2

1 INTRODUCTION

1.1 Survey Justification

With a population heavily dependant on livestock and livestock products, it has been reported that the Haud of Hargeisa Districts were likely to have been adversely affected by the impact of the 'livestock ban' imposed by some of the major importing countries in the Gulf Region. Both livestock owners and the many others depending indirectly on livestock as a contributing factor to their livelihood were presumed negatively affected.

In addition to this, the two districts experienced below normal rains in the 2001 Gu and Deyr rains, which further raised concerns about their food security. The agro-pastoral community has not been able to realise good crop production in the last two years.

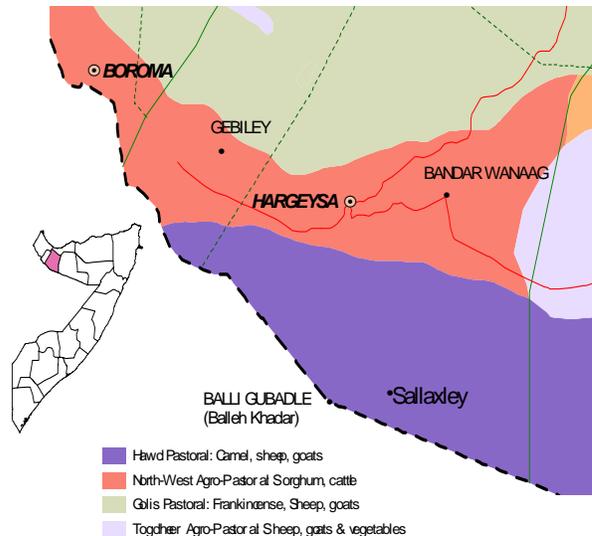
However, little information existed on the nutritional status of the population. This led the Ministry of Health and Labour (MOHL) in Somaliland and the Nutrition Working Group of the SACB to recommend a nutrition survey to assist in establishing the true state of the population.

1.2 Survey Objectives

- To assess the nutritional status in Salahley and Balley-Gubadley Districts based on anthropometric measurements of children between 6-59 months or 65-110cm.
- To determine the coverage of measles immunisation, polio vaccination and Vitamin A supplementation in the districts.
- To determine the incidences of diarrhoea, measles and ARI two weeks prior to the survey.
- To describe the possible causes of malnutrition in the region.
- To establish a baseline information on the nutritional status of the Region for future references.

2 BACKGROUND INFORMATION

The Haud of Hargeisa Region in this study refers to Balley-Gubadley and Salahley Districts. While Balley-Gubadley is located to the Southwest, Salahley District is to the south of Hargeisa, the principal town in NorthWest Region. The community living in these two districts and their surrounding villages are predominantly pastoralists though there are also agro-pastoral households in the region mainly involved in rainfed farming. Consequently, it is assumed the main livelihood source of the community is intricately connected to livestock trade. Thus, the 'livestock ban'¹ imposed the Gulf States in late 2002 is expected to have considerably eroded the residents' livelihood sources. The main water sources of these two Haud Districts are *berkads*. These are not permanent water sources and seasonally dry up in the *jilaal* season making purchasing of water highly expensive. Livestock therefore normally migrate towards Odweyne and/or Ethiopian zone V in search of pasture and water during these dry seasons.



2.1 Food Security Situation

Two major shocks – the continued livestock ban imposed by the Gulf States in late 2000 and below normal rainfall in subsequent seasons of 2001 and 2002 have affected the economy and negatively impacted on economic activities and people's sources of livelihood in Somaliland. The two districts in the Haud of Hargeisa have been invariably affected. The poor pastoralists (with few animals) and poor agro-pastoralists have been the most affected (previous FSAU Monthly Food Security Update).

Initially, the pastoral communities appeared to cope with livestock ban amid difficulties as both pasture and water was enough and the problem considered a temporary upset. However, persistent below normal rains in the previous two years led to inadequate pasture and water in most parts of the two districts. The pastoralists kept their migration patterns both towards the Haud of Togdheer and the Ethiopian Zone V in search of water and pasture. From 2001 up to the 2002 *jilaal* season, most livestock had moved to neighbouring regions. The agro-pastoralists were not able to harvest much cereal in these seasons. However, the onset of the 2002 Gu rains saw the return of livestock into the region. Agro-pastoralists also cultivated their land especially in Salahley District, though acreage cultivated reduced as the rains started late when farmers had began giving up cultivation. The rains however turned out to be inadequate for both pasture rejuvenation and crop production. The communities in the two districts have therefore been finding it increasingly challenging to cope. The assets are getting depleted with the amount of borrowing increasing. Milk sales among the pastoralists is minimal, neither are job opportunities available, mainly due to the below normal economic activities.

At the survey period, some pastoralists had began their normal migration patterns (mainly to the Ethiopian zone V) while the very poor in both the two food economy groups were engaging in bush activities like charcoal burning and firewood sales, practices that worsen the ongoing environmental degradation of resources in the region. Some of the residents have also migrated to the nearly urban centres of Hargeisa, Berbera and Gabiley. The pastoralists' livelihood is threatened further by the reportedly below normal pasture growth in the Zone V.

¹ Stoppage of livestock export from Somalia to the Gulf States especially to Saudi Arabia in September 2000

While 50 kg of imported wheat grain cost S/L Shs 30,000 in May 2001, it is currently selling at /L Shs 60,000 (double the price). The cereals are relatively scarce. This partly resulted from the closure of refugee camps in the Ethiopian Zone V. These camps provided fairly reliable sources of cereals to the residents of the Haud.

The food security situation still appears stable. Both livestock condition is good and terms of trade are still in favour of the pastoralists. However, the inadequate pasture and water is threatening livelihoods of the population while the pastoral assets continue to diminish. The poor agro-pastoralists are said to be currently more threatened and vulnerable than the pastoralists for they cannot readily migrate.

2.2 Economic activities

The main food economy group in the two districts is pastoral. The main livestock in the region are cattle and goat although cattle and sheep are also kept. These pastoralists are currently preoccupied with their search for water and pasture. The other food economy group are the agro-pastoralists. This latter food economy group are mainly involved in rainfed farming. The crops grown are sorghum and the "Khat". The latter used to be a good source of income to the agro-pastoralists in the area. However, the production is now limited due to poor rains.

Lack of employment opportunities is a major concern in the region. Livestock trade used to open opportunities to the residents like those transporting animals to the port, the herders of export quality livestock etc. However, these opportunities are no longer available. Further more, poor crop cultivation is also limiting farm employment.

There are some roadside economic activities like operating of a teashop and other small shops for the basic household commodities in the region. The major towns of the two districts (Salahley and Balley-Gubadley) also have some small businessmen mainly trading of the basic commodities required in the region. It is significant that the purchasing power of the population is so low that no major business can flourish.

2.3 Food consumption pattern

In normal seasons, family diet for the nomads is traditionally composed of milk and milk products, complemented by rice, grain, sugar, tea, and small amounts of meat. Both wild berries and fruits are also consumed. The milk consumption is normally high during the rainy season and reduces greatly in the dry season. It is also observed that the consumption of both meat and cereals goes up during the dry season when milk availability reduces. Purchases are normally made either in direct exchange for animals or income from sale of animals.

However, the nomadic consumption pattern has changed in the last couple of years. Currently, nomads in general are consuming reduced quantities of milk and selling more in order to purchase cereals and non-food items. The level of grain consumption has therefore become more items in the diet of the nomads. Slaughtering of animals for home consumption is very rare.

The agro-pastoral community in the Haud has a varying dietary pattern mainly depending on the wealth group. Cereals make up high proportion of the diet of the poor, whereas the middle and upper wealthy groups consume a more diversified diet, with a greater proportion of calories coming from milk and meat products. The balance between livestock and crop production of the family, the quality of land, and numbers of animals and the location (the proximity to the market) are all factors, which influence the consumption pattern among this group.

Currently, both the nomadic and agro-pastoral communities in the two districts consume *Lahooh/Anjera* for breakfast and rice with some milk/sauce for either lunch or dinner. Children are normally fed on milk if the family has got any livestock and/or tea with milk if they are poor families with little or no livestock.

2.4 Health Context

There are two health centres in the two districts (Salahley MCH/OPD in Salahley District and Balley-Gubadley MCH/OPD in Balley-Gubadley District), all supported by the Ministry of Health and Labour (MOHL) and most of the essential supplies from UNICEF-Hargeisa. There are also three health posts located in Gumburaha, Gummar, and B/Abbare villages of Balley-Gubadley District.

The health centres provide services like Antenatal care, deliveries, post natal services, immunisation, growth monitoring and promotion among other services. They also offer OPD services such as, treatment of common diseases and other common ailments as well as emergency services in cases of disease outbreaks such as cholera, measles, and meningitis e.t.c. Thus, the health posts serve as satellite points of health centres providing mostly basic curative services for minor ailments, preventive and health promotion services. The employees in these health posts are trained community health workers, and traditional birth attendants (TBAs).

2.5 Education

Balley-Gubadley district has a public elementary, intermediate, secondary school and a secondary boarding school. However, Salahley District does not have any public educational facility. The nomadic lifestyle in the area leads to disruptions in school attendances. Girls are normally disadvantaged in school as they are rarely allowed to walk long distance in search of education.

2.6 Environmental sanitation

With exception of Balley-Gubadley and Salahely towns, generally the area does not have designated sanitation facilities. Latrines are not available in the villages. This is partly due to their nomadic lifestyles. Thus bushes are used for waste disposal, both human and other domestic wastes. The few latrines that are available in the two towns are shared amongst the residents.

3 METHODOLOGY

Using the two-stage random cluster sampling methodology, a total of 904 children between ages 6-59 months (and/ or measuring 65-110 cm) were examined. 30 clusters were selected from a list of villages and rural settlements with respective population estimations.

3.1 Sampling procedure

Using a two-stage cluster sampling methodology, 30 clusters were randomly selected from the two Haud Districts of Hargeisa. Initially a sampling frame was constructed from which a representative sample could be drawn. A list of villages with their respective populations was used to construct cumulative population figures for the district. The population figures were initially received from the WHO population estimates. Ministry of Health and Labour (MOHL), UNICEF and FSAU field teams verified these figures for authenticity. The Ministry of Health and labour (MOHL) also estimated the population of villages/settlements not included in the WHO figures. An estimated population of 32,585 was used from which a cluster interval of 1,086 was calculated. Using random number tables a random number of 581 was chosen within the cluster interval to determine the first cluster. The subsequent clusters were determined systematically by adding the cluster interval (1,086) to the first randomly selected number. From the 30 randomly selected clusters, a total of 904 children between the heights/length of 65 and 110cm and 6-59 months old were screened during the survey.

3.1.1 Study population and sampling criteria

The study population consisted of people living in the districts and comprised all the children aged 6-59 months or measuring 65-110 cm for height/length. On the visit to each cluster, the centre was identified and a pen was spun to determine the direction to follow in the selection of the households with children aged 6 to 59 months. The total number of the households from the centre to the end was established and given numbers to enable random selection of the first household with a child of the required age or height. From the first household with a child aged 6-59 months, the same direction was followed to get the next household. On reaching the edge of the cluster the right-hand direction (clockwise direction) was followed until details of 30 children were collected from that cluster. If a cluster was exhausted of children before the required 30 children had been reached, a neighbouring area was randomly selected. All eligible children in the household were measured and if a child or primary caregiver was absent, an appointment was booked for a later visit in the course of survey.

3.2 Data collection

3.2.1 Anthropometric measurements

The anthropometric data were collected using the procedure stipulated by the WHO (1995) for taking anthropometric measurements. Adherence to this procedure was ensured. The protocol used was as follows:

Weight. Salter Scale with calibrations of 100g-unit was used. This was adjusted before weighing every child by setting it to zero. The female children would be lightly dressed before having the weight taken while clothes for the male children were removed. Two readings were taken for each child and the average recorded on the questionnaire.

Height. For height, a vertical or horizontal measuring board reading a maximum of 175cm and capable of measuring to 0.1cm was used to take the height or length of a child. The child would stand on the measuring board barefooted; have hands hanging loosely with feet parallel to the body, and heels, buttocks, shoulders and back of the head touching the board. The head would be held comfortably erect with the lower border of the orbit of the eye being in the same horizontal plane as the external canal of the ear. The headpiece of the measuring board was then pushed gently, crushing the hair and making

contact with the top of the head. Height/length was then read to the nearest 0.1cm. Two readings were recorded and the computed average used in the analysis.

Length. For children aged 6 to 24 months or between 65cm to 84.5cm length instead of height was taken. The child was made to lie flat on the length board. The sliding piece was placed at the edge of the bare feet as the head (with crushing of the hair) touched the other end of the measuring device. Then two readings were taken and the average computed.

3.2.2. Child age determination

Difficulties were encountered in determining the exact ages of children. Useful documents like growth monitoring/clinic attendance cards, or any other viable formal card were used when available. Calendars of events (see in the appendix) were also used as proxies to accurate age determination. Though not entirely accurate, ages were still regarded as important indicators though not used for anthropometric analysis and were approximate/average pointers. The nutrition indicator employed was *weight for height* as interest was in the wasting status (acute malnutrition).

3.2.3 Oedema

Defined as bilateral oedema on the lower limbs detected by gently pressing the feet to check if a depression is left after at least three seconds of pressing.

3.2.4. Morbidity and other variables examined

Diarrhoea: Diarrhoea was defined for a child having three or more loose or watery stools per day.

Measles: A child with more than three signs of the following was considered having measles: fever, and skin rash, runny nose or red eyes, and/or mouth infection, or chest infection

Acute Respiratory Infection (ARI): Asked as *oof wareen or wareento*. The signs asked included cough, rapid breathing and fever.

Suspected malaria/acute febrile illness: The signs to be looked for are periodic chills, fever, sweating and sometimes a coma.

Measles immunisation status – The caregiver/mother was asked whether the child had been given the measles jab (recall) or the information was simply recorded from the child's vaccination card.

Vitamin A supplementation – The mother/caregiver was asked in case the child did not have a vaccination card (recall). However, the interviewers depended on the child's vaccination card in case it was available.

Sex of household head – The mother/caregiver was asked to state the sex of the person who takes decisions regarding welfare of all household members.

3.3 Description of survey activities

Chronology of activities for the Haud survey

Major Activity	Dates. 2002
Preparation of tools, methodology & review of secondary data (Nairobi)	May 15-20 th
Training of enumerators and pre-testing	May 22-24 th
Cluster Identification	May 24 th
Collection of data	May 25-30 th
Entry of data and preliminary analysis	June 7-15 th
Presentation of preliminary results	July 1 st
Circulation of preliminary report	August

Six teams consisting of two enumerators and one supervisor conducted the survey with each team handling one cluster in a day. An elder from a particular village/cluster assisted the teams in identification of the cluster and its centre. Supervisors were seconded from the MOHL. Overall support, supervision and co-ordination was done by two FSAU nutritionists and one MOHL senior staff. MOHL assisted in the identification of the qualified enumerators who were selected on the basis of their experience with previous nutrition surveys and multi-indicator cluster surveys (UNICEF). About 10 out of the 12 enumerators were MOHL staff. Training of the enumerators and supervisors was conducted jointly by UNICEF, MOHL and FSAU.

3.4 Quality control procedures

A comprehensive training of enumerators and supervisors was conducted covering interview techniques, sampling procedure, inclusion and exclusion criteria, sources of errors taking of measurements, standardising the questions in the questionnaire, levels of precision required in measurements, diagnosis of oedema, handling of equipment, interview techniques and the general courtesy during the survey.

Rigorous standardisation of measurement and pre-testing of the questionnaire and equipment was carried out in one of the villages (not selected for data collection). Standardisation involved taking repeated measurement of 10 children by all the teams and comparing with some reference. Pre-testing also involved familiarising survey teams with village/cluster entry; administering the questionnaire, sampling procedure, correct taking of measurements and documentation. After the field exercise, views were exchanged to address the difficulties identified; appropriateness of the questions reviewed and necessary changes were made.

Quality of data was also ensured through (i) close monitoring of fieldwork by FSAU nutritionists, (ii) crosschecking of filled questionnaires on daily basis and (iii) daily review undertaken with the enumerators to address any difficulties encountered, (iv) progress evaluation was carried out according to the time schedule and progress reports shared with partners on regular basis, (v) continuous data cleaning after entry in the field that made it easy to detect any outliers/ mistakes and to replace or repeat households depending on magnitude of error and (vi) monitoring accuracy of equipment (weighing scales) by regularly measuring objects of known weights.

3.5 Data analysis

3.5.1 Entry, cleaning, processing and analysis

Data was entered and analysed using EPIINFO computer based package. Running and tabulating all variable frequencies was carried out as part of data cleaning. The EPINUT programme was used to convert the measurements (weight and height) into nutritional indicators and comparison made with the National Centre for Health Statistics (NCHS) references as designed by WHO (1983).

3.5.2. General characteristics of study population

Frequencies and cross-tabulations were used to give percentages, means and standard deviations in the descriptive analysis and presentation of general household and child characteristics.

3.5.3. Creation of nutritional status indices

The anthropometric measurement of weight and height were used to compute the W/H nutritional status indicators of the studied children. Weight For Height (W/H) expressed the weight of the child as a percentage of the expected weight for the standard child of that height as given by NCHS. WFH measures acute malnutrition or wasting. Using EPINUT Z-scores were generated and the anthropometric indicator, WFH, was used to classify children into categories of nutritional status as follows:

- < -3 Z-Scores or oedema = Severe acute malnutrition
- 3 Z-Scores \leq WFH < -2 Z-Scores = Moderate acute malnutrition
- < -2 Z-score or oedema = Global/total acute malnutrition
- \geq -2Z-Scores = Normal

4 SURVEY RESULTS

4.1 Characteristics of study population

A total of 913 children were surveyed. However, at data analysis level, 9 cases had some erratic values or were missing some key questions for analysis, thus the analysis were conducted on 904 children. The children came from 408 households randomly selected from Salahley and Balley-Gubadley Districts. About 51.5% (n=466) of the children were females while 48.5% (n=438) were males. The difference in proportions was not statistically significant. Of the households surveyed 74% were male-headed while about 26% were female-headed. The overall mean household size is 7.5 (SD=3.9).

Table 1: Distribution of study population by sex and age group

Almost all the households (99%) surveyed were residents of the two districts in the Haud of Hargeisa.

Age categories	Males	Females	Total
6-11 months	58 (13.2%)	66 (14.2%)	124 (13.7%)
12-23 months	77 (17.6%)	98 (21%)	175 (19.4%)
24-35 months	97 (22.1%)	95 (20.4%)	192 (21.2%)
36-47 months	80 (18.3%)	93 (20%)	173 (19.1%)
48-59 months	126 (28.8%)	114 (24.5%)	240 (26.5%)
Total	438 (48.5%)	466 (51.5%)	904 (100%)

4.2 Food source, income sources and coping strategies

Table 2: Current Socio Economic Status of Surveyed Household

		Households (no)	Percentage %
Main food source	Animal products	133	32.6
	Household crop products	10	2.4
	Purchases	261	63.9
	Remittance	3	0.7
	Begging	1	0.3
Main income source	Small business	95	23.3
	Casual work	32	7.9
	Salaried employed	44	10.8
	Sale of crops	12	2.9
	Sale of animals	212	51.9
	Remittance	12	3.0
	Others	1	0.2
Coping strategies	Sale of more animals	167	40.5
	Borrowing	147	36.1
	Remittance	13	3.1
	Splitting families	3	0.7
	Begging	2	0.5
	Food aid/Gift	68	16.7
	Wild food	7	1.8
	Others	1	0.2
Source of drinking water	Borehole	10	2.5
	Open wells	2	0.6
	Protected wells	3	0.7
	Berkads	372	91.3
	Stream water Catchment	21	5
Toilet availability	Access with toilet	48	11.8
Medical assistance	Seeking medical help	404	99
	Traditional healer	120	29.4
	Private clinic	175	42.8
	Public health facility	113	27.7
	others	1	0.2

Most of the surveyed children came from households relying on purchasing (about 64%) and animal products (about 33%) as the main food sources. The purchases normally include rice, sugar, wheat flour, pasta and other cereals. About 2.4% of the children were from households whose main source of food is crop products. Other sources include gifts and begging.

Sale of animals and livestock products, small businesses (mainly operating tea kiosks, selling "khat" and selling consumable items) and salaried employment at the demining camps are the main sources of income in the two Haud Districts about 52%, 23% and 8% of the children coming from household relying on those sources respectively.

The communities in these two districts relied on selling more animals (about 41%), borrowing from relatives and friends (36.1%) and food aid (about 17%) as their dominant survival strategies during stressful period.

4.3 Water and sanitation

As indicated in Table 2 berkads and stream/river catchment were the main water sources for the area residents. An overwhelming 91% of the children came from households relying on berkards for water. Presence of toilet is uncommon with only 12% of the children coming from households accessing toilet. All these children came from households in Balley-Gubadley and Salahley towns within the region. None was from the rural villages.

4.4 Health Services

Almost all the households (99.9%) surveyed reported seeking health care assistance when somebody within the household got unwell. About 43% seek health care assistance from private health institutions. The public health facilities are limited to the two district headquarters (Balley-Gubadley and Salahley) thereby making them inaccessible to many villages and pastoral settlements who live far away. About 28% sought health care services from public health facilities while about 29% seek traditional healing (including citing of Qoran) when they are unwell.

4.5 Nutritional Status

The results of the anthropometric analysis were obtained by using weight-for-height expressed as z-scores and percentage of the median of the reference population.

Table 3 Malnutrition prevalence using Weight for Height Z-scores versus Sex

Nutrition status Categories	Males		Females		Total	
	n	Proportion	n	Proportion	n	Proportion
Total malnutrition W/H Z-score <-2 + oedema	45	10.3% (C.I 7.7-13.6)	35	7.5% (C.I 5.4-10.4)	80	8.8% (C.I 7.1-10.9)
Severe malnutrition W/H Z-score <-3	8	1.8% (C.I 0.9-3.7)	3	0.6% (C.I 0.2-2.0)	11	1.2% (C.I 0.6-2.2)
Oedema	1	0.2%	1	0.3%	2	0.2%

The prevalence of global acute malnutrition defined as WHZ <-2 z-scores or oedema was 8.8% (95% C.I: 7.1-10.9). The prevalence of severe acute malnutrition defined as WHZ <-3 z-scores was 1.2% (95% C.I: 0.6-2.2).

Table 4: Distribution of nutritional status (using weight for height z-score) by sex

	Severe	Moderate	Total malnutrition	Normal
Males	8 (1.8%)	33 (7.5%)	41(9.4%)	397(90.6%)
Females	5 (1.1%)	34 (7.3%)	39(8.4%)	427(91.6%)
Total	13(1.4%)	67 (7.4%)	80 (8.8%)	824 (91.2%)

Although the results indicate that slightly more males were severely malnourished than females, this difference was not statistically significant (meaning that the slight difference could be caused by chance alone.)

Table 5 Malnutrition prevalence using Height for Age Z scores versus Sex

Nutrition status categories	Male		Female		Total	
	n	Proportion	n	Proportion	n	Proportion
Total malnutrition H/A <-2 Z-Score	76	17.4% (C.I 14-21.3)	67	14.4% (C.I 11.4-18)	143	15.8% (C.I 13.5-18.4)
Severe malnutrition H/A <-3 Z-Score	21	4.8% (C.I 3.1-7.4)	25	5.4% (C.I 3.6-7.9)	46	5.1% (C.I 3.8-6.8)

As shown on the table 4, the rate of stunting (an indicator of chronic malnutrition) was high.

Table 6 Nutrition status (using W/H Z-scores) according to age groups.

Age groups	Severe (<-3Z or oedema)	Moderate >=-3/<-2Z-s	Total malnutrition	Normal =>-2Z-scores	Total
6-11 months	3 (2.4%)	6 (4.8%)	9 (7.3%)	115 (92.7%)	124 (13.7%)
12-23month	6 (3.4%)	11 (6.3%)	17 (9.7%)	158 (90.3%)	175 (19.4%)
24-35month	2 (1.2%)	14 (7.3%)	16 (8.3%)	176 (91.7%)	192 (21.2%)
36-47month	1 (0.6%)	13 (7.5%)	14 (8.1%)	159 (91.9%)	173 (19.2%)
48-59month	1 (0.4%)	23 (9.6%)	24 (10.0%)	216 (90.0%)	240 (26.5%)
<i>Total</i>	<i>13 (1.4%)</i>	<i>67 (7.4%)</i>	<i>80 (8.8%)</i>	<i>824 (91.2%)</i>	<i>904 (100%)</i>

The difference in malnutrition levels across the different age groups was not statistically significant (Chi-square=13.7 Degree of freedom=8 and P value=0.09). Thus, no association was shown between the age group of a child and malnutrition. However, the older age group showed slightly (statistically insignificant) high level of malnutrition.

As indicated on Table 7, younger children showed a higher prevalence of severe malnutrition than the older children. However, there was no significant difference in the malnutrition rates of the younger (less than three years old) children and the older (three years and above old) ones.

Table 7: Nutritional status among Children aged <3 years & those >3 years

Age categories	Normal	Moderate	Severe	Total
6-35 months	449 (91.4%)	32 (6.5%)	10 ((2.0%)	491
36-59 months	375 (90.7%)	35 (8.4%)	3 (0.7%)	413
Total	824 (91.2%)	67 (7.4%)	13 (1.4%)	904 (100%)

4.6 Morbidity, Feeding Practices and Immunization Coverage

Table 8 Disease prevalence, immunization & child care characteristics

The incidences of acute respiratory infections, malaria and diarrhoea two weeks prior to the survey were 15%, 3.4% and 9.6% respectively. The coverage of vitamin A supplementation stood at 62%. This coverage is relatively low compared to other regions recently surveyed in Somaliland e.g. Sahil Region whose coverage was (90%).

The measles immunisation coverage among the eligible children (9 months and above) was a paltry 21%, one of the lowest recorded in Somaliland. The polio vaccination coverage among the children in April 2002 was about 15% while only a half of the children had received three doses of the polio vaccine in the past one year. These are the

lowest rates recorded in recent years in Somaliland and could be explained by the nomadic lifestyle of the residents. With the exception of the major towns in the two districts of the Haud i.e. Balley-Gubadley and Salahley, the rest of the villages had not received the last round of OPV at the time of the survey. Of those who missed the polio vaccination, majority (about 80%) reported that teams did not visit their households with less than 5% reporting being unavailable at the time of immunisation.

The results also show that only about 13.7% of children surveyed were still breastfeeding, most of whom were less than 11 months. Of the 780 children that had stopped breastfeeding, about 22% were breastfed only for the first six months of life while around 33% were breastfed between 6-11 months. Only 11% of the children are breastfed beyond 18 months while majority stopped breastfeeding at the age of 12 to 18 months. At least 80% of the children were introduced to foods other than breast milk within the first six months of their life. A significant 62% of children were introduced to foods other than milk before 3 months. This finding is relatively better than figures revealed in other surveys in Somaliland e.g. the Sahil and Sanag surveys (FSAU 2002) had more than 93% of the children being introduced to foods other than breastmilk within the first six months of life.

Qualitative information collected through focus group discussions with caretakers indicate that mothers introduce babies to water with sugar on the first day of a child's life. Mothers stop breastfeeding immediately they become or suspect pregnancy and/or when they are sick. Few mothers think that exclusive breastfeeding is healthier arguing that breast milk is only good when supplemented. Most mothers start giving food other than breast milk before the age of 2 - 4 months. Porridge and milk are the commonest foods babies are introduced to. The ingredients and composition of the porridge varies with household income and purchasing power. However, porridge is commonly prepared from maize, sorghum

Characteristics	n	Proportion (%)
<i>Disease prevalence and immunization</i>		
Children with ARI in the past two weeks	136	15
Children with diarrhoea in the past two weeks	87	9.6
Malaria in the past two weeks	31	3.4
Vitamin A supplementation in the past 6 months	563	62.3
Measles immunization N=853	190	22.3
OPV coverage in April 2002	132	14.6
Received at least 3 doses of OPV in the last one year	453	50.1
<i>Child Feeding</i>		
<i>Frequency of feeding</i>		
○ Once daily	6	0.7
○ Twice	30	3.3
○ 3-4 times	584	64.5
○ Five and above	285	31.5
<i>Age of stopping breastfeeding N=780</i>		
○ Less than 6 months	171	21.9
○ 6-11 months	258	33.1
○ 12-18 months	267	34.2
○ Above 18 months	84	10.8
<i>Age introduced foods other than breast milk</i>		
○ 3 months or less	563	62.3
○ 4-6 months	160	17.7
○ 7 months or more	181	20.0

and/or beans. The rest of the families normally consume meals 2 - 3 times a day. As with the children, cereals (maize, sorghum and rice) are normally consumed with some animal products mainly milk.

Table 9: Nutritional status and acute respiratory infections

Nutritional status	Acute respiratory infection		Total
	Yes	No	
Normal	121 (14.7%)	703 (85.3%)	824 (100%)
Moderate	13 (19.4%)	54 (80.6%)	67 (100%)
Severe	2 (15.4%)	11 (84.6%)	13 (100%)
Total	136 (15%)	768 (85%)	904 (100%)

There was no significant association between nutritional status and acute respiratory infection (Chi-square = 0.95, df = 2 and P-value = 0.62) among the children.

The survey results indicate that of the severely malnourished children, only about 8% had diarrhoea two weeks prior to the survey. There was no significant association between malnutrition and diarrhoea incidences (Chi-square = 3.43, degree of freedom = 2 and P-value = 0.18).

Table 10: Nutritional status and diarrhoeal incidence

Nutritional status	Diarrhoea incidences		Total
	Yes	No	
Normal	76 (9.3%)	748 (90.7%)	824 (100%)
Moderate	10 (14.9%)	57 (85.1%)	67 (100%)
Severe	1 (7.7%)	12 (92.3%)	13 (100%)
Total	87 (9.6%)	817 (90.4%)	904 (100%)

Table 11: Diarrhoeal episodes for young and old children

Age categories	Diarrhoea Yes		Diarrhoea No		Total	
	N	Proportion	N	Proportion	N	Proportion
6-35 months	64	13.0%	427	87.0%	491	100%
36-59 months	23	5.6%	390	94.4%	413	100%
Total	87	9.6%	817	90.4	904	100%

The younger children (less than three years) were 3.6 times more likely to have an incidence of diarrhoea two weeks prior to the survey as compared to their older counterparts (3 years and above). This is statistically significant at chi-square =14.374 and P value <0.001.

5 DISCUSSION

5.1 Food sources, income and coping mechanisms

The impact of the 'livestock ban' on pastoral livelihoods in Somalia and Somaliland has been well analysed and acknowledged in recent years. Rainfall charts and satellite images have shown reduced pasture and browse for all livestock following the widespread below normal GU rains in 2001, further affecting the pastoral livelihoods. Poor rainfall resulted in reduction of both pasture and water sources in 2001. Consequently, most livestock moved out of the neighbouring Ethiopian highlands and inland towards the Haud of Togdheer.

5.1.1 Food security situation since December 2001

The Deyr 2001 rainfall between November and December was described as relatively good. Livestock returned to the districts and many water sources and pasture were replenished. Milk production improved and exchange of livestock for cereals favoured the pastoralists. Recovery of pastures was below normal though there are prospects for calving and kidding of the available herd. The Gu 2002 rainfall between April and June was, however, below normal though many dry water points had replenished and livestock was around. Consequently some pastoralists have started moving out towards Ethiopia and towards the Haud of Togdheer. This has been manifested in increasing milk prices and other cereals in the two districts.

Most of the households reported purchases as the main source of food. Livestock and/or its products remained an important income source for these households. At the time of the survey, animal condition was stable with relatively good exchange rates for cereals.

5.1.2 Coping mechanisms

The fact that increasing livestock sales still remains an important (over 40%) coping strategy shows that pastoralists continue to earn their livelihood from their traditional resources and may explain why the frequency of feeding and even the nutritional status is still stable. However, the huge proportion of households depending on borrowing poses a considerable risk for the pastoralists. If the pasture and rainfall patterns continue to deteriorate, households resorting to borrowing may find it difficult to repay the borrowed assets. It could be a major drain in their assets that could offset the food security balance.

A significant proportion of households surveyed also report either gifts and remittance or wild food collection as alternative ways of coping. While gift as a coping mechanism is positively portrays an intact social network system, collection of wild food and bush products as main sources of income coupled with the recurrent droughts have disastrous effects on an already stressed and degraded environment.

5.2 Health

Health services in the two districts of the Haud are inadequate both in terms of quality and coverage. With only two MCHs to serve the expansive districts is simply not adequate. This is reflected in the low coverage of routine measles immunisation (overall 22%) as well as the generally low level of disease surveillance. The results also indicated a high proportion of households seeking healthcare assistance from traditional healers, a possible implication of the inadequacy for modern healthcare facilities. The proportion of households seeking assistance from public facilities is only a quarter of the population. Thus, almost three-quarters of the population seek healthcare from sources whose effectiveness in delivering health care services is difficult to ascertain. Currently, a health facility functions in Salahley District with limited outreach services. Support and supervision to the health services remains inadequate. Balley-Gubadley, with few health posts, is not any better in terms of supervision and general support.

The low measles vaccination coverage presents an additional risk to children who are at risk of inadequate food intake. Despite the massive campaign for polio immunisation, the coverage both during the last round of immunisation (April 2002) and proportion of children receiving the required three doses of polio vaccine remain glaringly low at about 15% and 50% respectively. It was not surprising to note that they did not get the vaccine because health providers did not visit their areas. The observation also points to a major challenge facing health providers in designing effective approaches of reaching the nomadic communities. The measles immunisation coverage was also relatively low compared to observations in other areas. Although measles immunisation coverage is fairly good at (62%), this levels still fall below the minimum coverage needed to ensure adequate herd immunity. Although the incidence of common child illnesses was relatively low, this should not be construed to mean a stronger health system. With still relatively stable nutritional status, most of the children still had enough immunity to fight the common illnesses.

The adverse practice of presenting sick children late at the health facilities when home remedies have failed has clear implications for nutrition and well being. Women have poor autonomy over their health seeking behaviour. This is so since women rarely control the household resources. With 74% of the households headed by males, any strategies aimed at improving utilisation of health facilities and childcare practices would be meaningless if fathers are not targeted.

5.3 Water and sanitation

The two districts of the Haud have no access to reliable water sources. Overwhelming majority (about 90%) of this community rely on *Berkads* and water catchments, which only fill in during rainy seasons. Over-dependence on rainfed water sources make the residents highly vulnerable to rain failures/below normal rains observed in the 2001 and 2002 GU seasons. Poor water sources at household level ultimately have negative child and mother care aspects at family level including breastfeeding patterns. The incidences of diarrhoeal diseases among children recorded during the survey as well as at the health facility in both Salahley and Balley-Gubadley are strongly associated with the reduced availability and quality of water for human consumption.

Management of water sources in the two districts continues to be problematic for both humans and animals. Ensuring that adequate and safe water is available for both humans and livestock involves issues related to participation of the community as well as appropriate planning to ensure that further degradation of the environment is curtailed. Degradation of vegetation remains a major feature in the districts originating from pressure exerted by the animals as well as deliberate destruction of forests for survival purposes (e.g. charcoal burning).

The low use of toilets/latrines was not surprising in a nomadic set up.

5.4 Child care practices

Childcare practices are of much concern as are potential food insecurity and weak health services in Salahley and Balley-Gubadley. Although the majority of the surveyed children (around 90%) were fed three or more times a day, this shows little about both quality and quantity of the foods, as the survey did not investigate the contents and amounts of meals consumed.

The scarcity of water at household level reported in the two districts has a negative bearing on childcare practices as principal caregivers spent quite sometime fetching water.

The typical meals for children in the two districts contain sorghum or maize or bread and tea. Milk is also prepared with cereals as porridge for children, when available. In most cases, especially during seasons of below normal rains and/or rainfall failures, these foods are deficient in the essential nutrients both in quantity and quality. Fruits and vegetables are rarely given to children. No doubt, mineral deficiencies

are common as was attested by the Somaliland's high prevalence of anemia amongst children (UNICEF anemia survey 2002). As reported in the FSAU-Nutrition surveillance commissioned food utilisation study (September 2002), the diets are grossly inadequate in micro-nutrients. Both vitamin A and C, and iron intake is extremely low especially for the poor pastoralists. The provision of sugar and water mixture to children during the first days of life is common throughout Somaliland. About 60% of the children in this survey had received food other than breast milk during the first three months of life. This practice undoubtedly has negative influence on the nutritional status and a potential to increase the incidences of morbidity amongst the children. Qualitative data collected during the survey reveals that lack of knowledge of better feeding and other sub-optimal childcare practices are common.

It has been observed that the family diet consumed by young children is usually simple and monotonous, dictated by local availability and price of foods in the market.

5.5 Nutritional status

With a total malnutrition rate (W/H < -2 z-score or oedema) of 8.8% and a severe acute malnutrition (W/H < -3 z-score or oedema) of 1.4%, the nutritional status of the children in the two Haud of Hargeisa Districts is one of the lowest recorded in Somaliland. Other previous surveys in the country had indicated malnutrition rates higher than 10% even when the situation was assumed to be relatively stable (see Sahil, Sanag and Burao surveys FSAU & UNICEF 2002 and Awdal survey 2001).

The data shows some overrepresentation of the older age group (48-59 months) representing at least a quarter of the children measured. While accurate determination of age is a common problem in situations where documentation is rare and literacy is low, the lack of significance in differences in malnutrition rates among age groups means that this overrepresentation does not affect the results of the survey. And although not significant, the younger children (less than three years) appeared more malnourished than their older counterparts. This reinforces the argument of inadequate childcare practices to be more associated with malnutrition at this point in time than any other factor. The higher number in the older age category would however suggest that a number of children who qualified within the height criteria were in fact over the age of five years and most likely stunted in growth. As was shown by the results, stunting rate was relatively high (nearly 16%).

Exclusive breastfeeding and sound complementary feeding practices are crucial for enhancing the nutritional and health status of infants and young children. Significantly high proportion (80%) of children was introduced food other than breast milk before six months of their life. This could greatly compromise a child's nutritional status if the weaning foods are of inadequate nutrients (both quality and quantity) as is normally the case among the poor pastoralists.

The relatively low moderate malnutrition observed is consistent for a population whose coping strategies have remained stable and where the prevalence of communicable diseases is not high. However, the balance could be negatively affected if food security indicators, healthcare services and childcare practices continue to be threatened as was observed during the survey. No comparative survey had been conducted in the region although recent surveys in Sahil and other parts of Somaliland indicate that malnutrition is widespread in Somaliland.

However, from the qualitative findings collected during the survey period, there could be a worsening nutritional situation in the Haud. Findings indicate that pastoralists have managed to cope at least for up to now mainly due to the presence of pasture and water availability that resulted from normal rainfall experienced in the past seasons. However, since 2001 the area has been receiving below normal rainfall. This has translated to below normal pasture rejuvenation with a significant bearing on the shortage of livestock feeds.

6 CONCLUSION AND RECOMMENDATIONS

The pasture and water had been exhausted in most areas of the Haud during the last Jilaal. There was also little foreign exchange inflow, hence leading to eroded purchasing power of the majority, owing to the continued livestock ban and below normal production in the region. Consequently most food and non-food items are inaccessible to many households. The very poor with few or no camels do not obtain enough milk. Milk production from shoats dried up during the dry jilaal spell. The poor agro-pastoralists as well as poor pastoralists mainly from Haud lowland are the most affected as the area did not receive enough rains and pasture was scarce. The depletion of pasture and drying up of water points is hastened by the concentration of animals in the region following the imposition of livestock ban. Food security is becoming weak very fast.

From the foregoing discussion, it appears that inadequate childcare practices, inadequate health services are major threats to stable nutritional status. As with other parts of Somalia, exclusive breastfeeding is rare. The reports also show that food security is gradually becoming threatened as the coping strategies continue to be diminished and households resorting to borrowing. The continued adverse effects of livestock ban and the sporadic water shortages, all have a potential effect on the nutritional status. Discussions and analysis with partners following the survey recommend long-term strategies to maintain livelihoods and nutritional status.

The recommendations include:

- ❖ Improving access to reliable and safe drinking water. The few existing wells should be rehabilitated.
- ❖ Improving access to basic health services. The existing health facilities should be equipped to offer outreach services and reach majority of the people.
- ❖ Addressing food security with appropriate longer-term strategies such as those addressing livestock health, marketing and prices.
- ❖ Working with communities to improve utilisation of food at household level and develop improved childcare practices. Nutrition education activities should be strengthened at community level.
- ❖ Continuing to support advocacy and other efforts that aim to end the livestock ban. Concerted multi-agency approaches to advocacy for the lifting of the ban should continue.

7 APPENDICES

Appendix 2

HAUD OF HARGEISA: NUTRITION SURVEY

Date _____ Team Number _____ Cluster Number _____ Name of

Village/Town/Section _____

Household Number _____ Name of the household head _____

Q1 What is the sex of the household head? 1=Male 2=Female

Q2 How many people live in this household (HH size) _____

Q3 How many children are below five years in this household (Number of < 5 years) _____

Q4. Present household residence status: 1= Residents 2= Internally displaced 3=Returnees
4=Others-specify)_

If answer to the above is 1, then move to Question 8. If the answer is 2 or 3 continue with question 5

Q5 Place of origin: _____

Q6 Duration of stay in months: _____

Q7 Reason for movement: 1= Insecurity 2=Lack of jobs 3= Food shortage 4=Water shortage
5=others; specify _____

Q8-13 Household background information

<p>Q8 Households main food source 1=Animal products from own production 2=Household crop production 3=Purchases 4=Remittances/Gifts 5=Begging 6=Wild foods collection 7= Others Specify _____</p>	<p>Q9 Households main income source 1=Small business 2=Casual work 3=Salaried employment 4= Sale of crops 5=Sales of animals and animal products 6=Remittances/Gifts 7=Others specify _____</p>	<p>Q10 How does this household survive during food shortages (coping strategies)? 1=Remittances/Gifts 2=Sale of more livestock 3=Splitting of the family 4=Begging 5=Borrowing 6=Food aid 7=Purchases 8=Wild food collection 8=Others specify _____</p>	<p>Q11 Source of drinking water 1=Borehole 2=Open wells 3=Protected wells 4=Berkads 5=Catchments/pond 6=Stream/river 7=Tap/piped water 8=Tanker/truck vendor 9=Others specify _____</p>	<p>Q12. What type of toilet does your family use 1= Pit latrines 2=Flash toilets 3=Bush/Open ground Observation Q12b Condition the facility if above. 1=Used and clean 2=Unused 3=Used and dirty 4=Others (specify) _____</p>
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Q14-18 Anthropometrics for all children aged 6 – 59 months (or 65 – 110cm) in the household.

Serial No	Name	Q14 Sex 1= M 2= F	Q15 Age in months	Q16 Oedema 1=Yes 2= No	Q17 Height (cm)	Q18 (kg)
1						
2						
3						

Q20-29 Morbidity, feeding and immunization status of children aged 6 – 59 months (or 65 – 110cm) in the household.

Sno	Name	Q20 Diarrhoea in last two weeks? 1= Yes	Q21 ARI in the last two weeks?	Q22 Malaria in the last two weeks?	Q23 Measles in last one month?	Q24 Vaccinated against measles? 1=In past six months (Card) 2= In past six months (Recall) 3=Before six months	Q25 Vitamin A provided in the last 6 months? 1= Yes 2= No	Q26 Are you breast Feeding the child? 1= Yes 2= No	Q27 If not breast Feeding, how old was the child when you stopped breast-feeding? 1= Less than 6 months

		2= No	1= Yes 2= No			4= Before six months (Recall) 5= Not vaccinated			2= 6 - 11 months 3=12 - 18 months 4=18 months or more	r s 2 r 3 r r
1				1= Yes 2= No	1= Yes 2= No					
2										
3										

Q30-32 POLIO IMMUNISATION CAMPAIGNS

Sno	Name	Q30:How many times did this child receive OPV in last 12 months	Q31 Did the child receive OPV in April 2002?1=Yes 2=NO	Q32 If the child missed OPV any was the reason for missing? 1=Child not at home 2=Child not at home 3=Caretaker sleeping 5=Vaccine considered unusable
1				
2				
3				

Q33: If child has been immunized against any of the immunisable diseases, what was the means of verification? 1=Cards 2=Recall 3=Others-specify-----

	Name	Means of verification
1		
2		
3		

Q34: when your child is sick, do you seek any medical assistance? 1=Yes 2=No

Q35: If yes, where? 1=Traditional Healer 2=Private clinic/pharmacy 3=Public health facility

4=Others-specify_____

Q36: If no, why?_____

Appendix 3

The calendar for Haud of Hargeisa Region Nutrition Survey

Month	Events	1997	1998	1999	2000	2001	2002
Jan.	Beginning of Jiilal		53 Eidul Fitri	41 Soonfur	29 Soonfur	17 Soonfur	4 Soonfur Somaliland referendum
Feb.	Mid of Jiilaal		52 Siditaal	40 Siditaal	28 Siditaal	16 Siditaal	3 Sidital
Mar.	End of Jiilaal		51 Arafo/Dul-Xaj	39 Arafo/Dul-Xaj	27 Arafo/Dul-Xaj	15 Arafo/Dul-Xaj	2 Arafo/Dul Xaj
Apr.	Beginning of Gu'		50 Sako	38 Sako	26 Sako	14 Sako	1 Sako
May	Mid of Gu'		49 Safar	37 Safar	25 Safar	13 Safar	Death of president Egal
Jun.	End of Gu'		48 Mawliid	36 Mawliid	24 Mawliid	12 Mawlid	
Jul.	Beginning of Xagaa	59 Malmadoone	47 Malmadoone	35 Malmadoone	23 Malmadoone	10 Malmadone	
Aug.	Mid of Xagaa	58 Jamadul-Awal	46 Jamadul-Awal	34 Jamadul-Awal	22 Jamadul-Awal	9 Jamadul-Awal	
Sep.	End of Xagaa	57 Jamadul-Akhir	45 Jamadul-Akhir	33 Jamadul-Akhir	21 Jamadul Akhir livestock export ban	8 Jamadul-Akhir	
Oct.	Beginning of Deyr	56 Rajab	44 Rajab	32 Rajab	20 Rajab	7 Rajab	
Nov.	Mid of Deyr	55 Shacbaan	43 Shacbaan	31 Shacbaan	19 Shacbaan	6 Shacbaan	
Dec.	End of Deyr	54 Ramadan	42 Ramadan	30 Ramadan & Eidul Fitri	18 Ramadan & Eidul Fitri	5 Ramadhan & EidulFitri	

Jiilaal
GU'
Xagaa
Deyr

