

**DISASTER PREVENTION AND PREPAREDNESS COMMISSION
(DPPC)**

**NUTRITION SURVEY REPORT
OF
CHEWAKA RESETTLEMENT AREA
BEDELE WOREDA, ILLUBABUR ZONE**

May 2004,
ADDIS ABABA

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Summary Report of Nutrition Survey of Chewaka Resettlement Area

Bedele woreda, Illubabor zone, Oromiya Region, from March 30--April 16, 2004.

BACKGROUND:

Chewaka resettlement area is located in Bedele woreda of Ilibabor zone, Oromiya region. The site established at the end of 2003 and is about 90km far from Bedele town in the Northwest direction. The area is situated at an altitude of 1250 m.a.s.l and is categorized under lowland (kola) agro- ecological zone.

There are about 67,623 people living in this resettlement area. The resettlement programme was done by two phases where 8000 households settled in the first phase and 6000 households in the second phase. The majority of the interviewed households (99.3%) are male-headed and the rest (0.7%) female-headed.

The resettlement area has seven major sub-sites and further sub divided into 26 smaller administrative units (kebeles) where each of them included in the sampling frame for this nutrition survey.

According to the information obtained from Bedele woreda Agricultural Office, the re-settlement area has fertile and wide farmland potential and is mainly known with *Meher* production season. Oromiya Food Security Bureau together with the settlers is now clearing the land for farming and some hectares of land is already ploughed for the coming *Meher* planting. This will enable at least some of the settlers to have their own production in the coming production year.

There are seven satellite clinics (health posts) and one referral health centre equipped with essential drugs and 23 health professionals. However, these health facilities are reported to have less number of health professionals as compared to the number of people seeking health services currently.

There is no school in the resettlement area and hence, school-age children are not getting access to education at the time of the survey. All the seven major sites are accessible by dry weather road but it will be difficult during rainy season.

A small local market is emerging at the centre of the resettlement area but the resettlers have very low purchasing power. The numbers of grinding mills installed are very few compared to the number of resettlers. One-grain mill is installed / major sub-site and a person has to wait from one to two weeks to get the service.

Inadequate potable water supply is reported in some of the sites. The team also observed that some of the re-settlers particularly the latecomers have poor sheltering condition and lack cooking utensils.

Methodology:

The standard two-stage cluster sampling methodology was used to select the sample from all the under five population living in the seven major resettlement sites. Anthropometric and qualitative data are collected after selecting the samples. Minimum of 30 children from each of the 30 clusters were measured and a total of 933 under five children were measured in Chewaka resettlement area.

Main Objectives:

The following were the major objectives of survey in chewaka resettlement area:

- to estimate the prevalence of acute malnutrition among under five children and know the root causes of malnutrition in the survey areas.
- to identify the prevalent diseases in the area with in the two weeks period prior to the interview and estimate retrospective mortality rates in the population over the last three months prior to the survey in the resettlement area.
- to make necessary recommendations for intervention measures.

Major findings:

The following table indicates the results of nutritional and health status of (Chewaka resettlement area) the survey area:

Table 1: Anthropometric Survey Results in 30-by-30 clusters

	6 - 59 months, N=933	6 - 29 months, N=391
Prevalence of global acute malnutrition (<-2 z-score and/or oedema)	(93) 9.8% (95% C.I.=(7.1,12.5)	(56) 14.3% (95% C.I.=9.4,19.2)
Prevalence of severe malnutrition (<-3 z-score and/or oedema)	(18) 1.93% (95% C.I.=(0.68,3.18)	(13) 3.3% (95% C.I.=0.75,5.85)
The prevalence of oedema	(10) 1.07%	(7) 1.8%

Table 2: Prevalence of Morbidity and Mortality Indicators

	(% of occurrence	Remarks
Illness Prevalence in children 6-59 months	(190), 20.36%	Diarrhoea -the major cause of illness
Crude Mortality Rate	0.73 deaths/10,000/day	
Under five Mortality Rate	2.65 deaths/10,000/day	

Conclusion:

Generally, the nutritional status of the resettlers is poor in Chewaka resettlement area at the time of this survey. Many severely malnourished children and adults (pregnant and lactating mother, etc) in poor physical condition were observed during the house-to-house assessment in the surveyed sites. About 50 of the malnourished children were sent to the nearby Metu hospital for therapeutic feeding programme. At the time of the survey, other 42 severely malnourished children were admitted in the Therapeutic Feeding Center (TFC) opened at the center (site 2) of Chewaka resettlement area.

The current prevalence of Global Acute Malnutrition is estimated at 9.8%(with 95%CI.7.1-12.5) and Sever Acute Malnutrition Rate at 1.9% (with 95% CI 0.7- 3.2) respectively. According to the DPPC Emergency Nutrition Assessment Guideline (DPPC, December 2002), this malnutrition level can be considered as serious as it is coupled with many aggravating factors such as poor household food availability, high prevalence of illness, high under five mortality rate (2.65 deaths/10000/day), lack of

diversified diet and cooking utensils, inadequate potable water supply both in quantity & quality, etc.

Further more, the resettlers and their children have no clothes to wear except a single blanket provided to each households. Those households with many family members pointed out that they are suffering from cold due to lack of clothes and proper sheltering. The numbers of grinding mills installed are very few compared to the number of resettlers. Hence, the settlers forced to eat boiled or roasted grain such as maize, which is less efficient alternative method to get the nutritional contents of the food items especially for the children.

Currently, all the resettlers are totally dependent on relief food assistance. Yet, the settlers are complaining for the delay of the general ration distribution. On top of 10-15 days of general ration distribution delay, they did not receive supplementary food except one time prior to this survey. All these factors have contributed for the current malnutrition prevalence and under five mortality rates observed in the resettlement area and needs special attention.

6. Recommendations

Given the nutrition survey results and other qualitative indicators, the survey team recommends the following for immediate action in Chewaka resettlement area:

- Continue complete general food ration distribution (cereal, pulse, & oil) regularly on a monthly basis,
- Provide supplementary food for all under five children, lactating & pregnant women, and other vulnerable groups,
- Establish targeted supplementary feeding program (take-home) to assist moderately malnourished children;
- Provide plastic sheet coverings for about 6000 households, as they are under poor sheltering conditions due to lack of roof-thatching grass,
- Strengthen the TFC opened at site -2 with essential drugs, materials and trained manpower for better management and treatment of severely malnourished children,
- Install adequate grain mills in the resettlement area,
- Establish adequate storage facilities (rub-hall),
- Strengthen the capacities of the health facilities with medical supplies and manpower needs
- Open primary schools at nearby places using the available resources,
- Strengthen the development of adequate potable water points,
- Provide blankets, clothes and household utensils for those who did not yet received

1.0 INTRODUCTION

In response to the observed signs malnutrition in Chewaka resettlement area, a nutrition survey team composed of the Federal and Oromiya Region Disaster Prevention and Preparedness Commissions, the Zonal DPPD and Health Department has conducted a 30 by 30 cluster nutrition survey from March 30 to April 16, 2004 to quantitatively assess the health and nutritional status of the resettlers.

1.1 BACKGROUND

Chewaka resettlement area is located in Bedele woreda of Ilibabur zone, Oromiya region. The site established at the end of 2003 and is about 90km far from Bedele town in the Northwest direction. The area is situated at an altitude of 1250 m.a.s.l and is categorized under lowland (kola) agro- ecological zone.

There are about 67,623 people living in this resettlement area. The under five population is estimated to be 13,525 (based on 20% of the total population). The resettlement programme was done by two phases where 8000 households settled in the first phase and 6000 households in the second phase. The settlers were previously living in East and West Hararghe zone of Oromiya region. The majority of the interviewed households (99.3%) are male-headed and the rest (0.7%) female-headed

1.1.1 Basic Infrastructure Facilities:

Health facilities:

There are seven satellite clinics in each of the seven sub-resettlement sites equipped with essential drugs and two health professionals. There is also one referral health centre established at sub site 2 with none 9 health professionals. These clinics are reported to have less number of health professionals as compared to the number of people seeking health services currently but no report of drug shortage at the time of the survey.

School:

There is no school in the resettlement area and hence, school-age children are not getting access to education at the time of the survey.

Dry weather Roads:

All the seven major sites are accessible by dry weather roads but it will be difficult during rainy season. Road construction is under way to communicate the sub sites to each other.

Market place:

A small local market is emerging at the centre of the resettlement area but the resettlers have very low purchasing power. One sub site (site 2) is near to the Bedele town and use Dabo town market place for buying their basic needs such as oil, salt, and sugar.

Water supply:

Problem of potable water supply is reported in some of the sites. Even the number of pipe water constructed are inadequate both in quantity & quality. Most hand-dug wells were abandoned due to the peak dry season and over consumption. The magnitude of problem varies from one sub-site to the other. In sub-sites 6 and 7 resettlers are forced to use water from unprotected sources travelling a long distance.

Housing condition:

Some of the re-settlers particularly the latecomers have poor sheltering condition and lack cooking utensils. There is lack of roof-thatching grass to cover the houses. The rainy season is approaching yet some of them are living in an open filed (suffering under sun, rain, and cold in the open air, eg.in sub-site seven). The team also observed that the people are spending the night (sleeping) on bare (floor, earth, ground). No any form of bedding was provided such as palm-weave (Resettlers used grass as bedding). Some of them are using scanty sacks. This can expose them to insect bit and to cold.

On the other hand, the resettlers were provided (have got) only with Kettle, cooking pot, and Jeri cans. They lack most basic utensils such as cooking/roasting pan */mitad/*, cups, and plates as home utensils. This has contributed to the current malnutrition level observed in the areas.

Storage:

Seven stores were built in the seven major sub sites. Piles of pre-positioned maize sacks and famix were observed. The available stores are not sufficient to accommodate the pre-positioned grain for the whole 26 kebeles. Additional stores are very important to store and protect the grain from spoilage. Stock management problem was also observed in the stores.

2.0 Survey Objective

The following were the major objectives of this survey in Chewaka resettlement **area:**

- to estimate the prevalence of acute malnutrition among under 5 children.
- to know the root causes of malnutrition in the survey areas.
- to identify the prevalent diseases in the area with in the two weeks period prior to the interview.
- estimate retrospective mortality in under 5 children and total population in the last 3 months prior to this survey.
- to estimate vaccination coverage
- make recommendations for intervention measures.

2.1 Survey methodology

The standard two-stage cluster sampling methodology was used to select the sample from all the seven major settlement sites. Athropometric and qualitative data are collected after selecting the samples. Minimum of 30 children from each of the 30 clusters were measured and a total of 933 under five children were measured.

2.1.1 Sampling Procedures and Sample Size.

The smallest geographical units considered were the 26 sub sites (kebeles) of Chewaka resettlement area. The list of all the sub sites (kebeles) and their respective population figures were obtained from Bedele Woreda Administration Office. The number of under five populations for each kebele was determined based on the population proportion of 20%. The cumulative population and the sampling interval determined by dividing the total under fives population by the total number of clusters. The thirty clusters were randomly selected by assigning probability proportion to population size of the sub sites. A total of 933 children were measured whose age was between 6 to 59 months and height of 65 to 110cm.

2.1.2 Selection of households and children

The lists of names of the smaller sub sites (considered as PAs) with the number of households were obtained from Bedele Woreda Administration Office. The locations of the thirty clusters were assigned randomly based on probability proportional to population size of each PAs.

The leader of each PA was contacted on arrival in a site where a cluster or clusters have been assigned. Then, the centre was located as the starting point and a direction was chosen by spinning a pencil and all the houses in this direction were counted up to the end of the outer perimeter of the sub site. The first household visited was selected by drawing a random number between 01 and the number of houses counted while walking up to the outer perimeter of the cluster.

Every subsequent nearest household was visited by proximity and all children aged 6 to 59 months were measured till measuring a minimum of 30 children in a cluster. If the child's age was unknown it was measured if its height was between 65-110cm. Since the sub sites are close to each other it was easy to call the absent child from the neighbouring PAs to be included in the house for anthropometric measurements. All children in the last house were measured though the total number of measured children became 30.

However, those malnourished children admitted both in Metu Hospital and the Therapeutic Feeding Centre opened at the resettlement area were not measured. All the other socio-economic data including mortality and household food security data were taken even if there are no under five children in a house.

2.1.3 Training and Supervision

There were three survey teams, each of them consisting of 2 data collectors and a team leader. The survey team was composed of staff from Federal and Oromiya DPPC, and three health professionals from Bedele health institutions (working in the resettlement area). Each team leaders were also responsible for supervising sampling and anthropometric measurement techniques, interview and data recording procedures.

Brief discussion was made on the following major topics before starting the actual 30 by 30 cluster nutrition survey: -

- ◆ Sampling techniques and procedures
- ◆ Anthropometric measurement techniques
- ◆ Recognition of malnutrition signs and symptoms
- ◆ Data collection, recording and interview techniques, and
- ◆ Questionnaire

2.2 Data Collected

Anthropometric data

Nutritional Indicators - Weight for height and/or oedema were used as the indicators for moderate and severe malnutrition.

2.2.1 Weight

Weight of children was measured to the nearest 0.1 kg (100 gms at an eye level) using a hanging Salter scale (maximum 25 Kgs). The scale was checked with a pre-determined 1 kg measuring stone each day, and was calibrated to zero before each measurement.

2.2.2 Height (Length)

The length /height of each child was measured to the nearest 0.1 cm using the measuring board. Those children less than 85 cm in length /<24 months of age/ were measured in recumbent position while the height of children measuring 85cm and above to a maximum of 110 cm /children >24 months of age/ were measured in standing position.

2.2.3 Age

Children 6 to 59 months of age were measured in this survey. Only children under 110cm inclusive and over 65 cm inclusive were measured. Age of a child was estimated by mothers/ family members/ with the help of data collectors.

2.2.4 Oedema

The presence of nutritional oedema was determined by pressing either feet or both legs for three seconds. If a shallow bilateral depression in either feet or legs remained after the pressure was released it was recorded as positive oedema. Only bilateral oedema was considered to be an indicator of sever malnutrition (kwashiorkor).

2.2.5 Retrospective morbidity of children

Mothers or caretakers were asked whether or not their children had been sick in the fifteen days prior to this survey. Illness was defined as diarrhea (loose stools more than 3 times per day), cough (Coughing or difficulty breathing), fever and / or malaria, measles or “other”.

2.2.6 Vaccination status and coverage

This survey was conducted in a resettlement area established before three months. According to the Woreda Health office, measles and meningitis vaccinations were given to the settlers in the form of a vaccination campaign. Some of the children have already taken BCG and measles vaccinations before coming to this resettlement site and have cards.

BCG status: The presence of a BCG scar was checked by the health professionals and recorded as positive for BCG vaccination.

Measles vaccination: A completed vaccination card for measles was recorded as positive for measles vaccination. If a child did not have a card, mothers or caretakers were asked to confirm whether or not their children had had a measles vaccination on the left hand at the age of 9 months or above.

2.2.7 Exclusive Breast-feeding

Mothers were asked how old the child was being measured when they started to give them any food or liquid other than breast milk.

2.3 Mortality Data

The number of deaths during the three months prior to interview (90 days recall periods) was recorded retrospectively for all households even in the absence of under-five children. Crude mortality and under-5 mortality rates were calculated using household data information from the survey. Cause of death was recorded if known.

2.4 Household and key informant questionnaires

Household and key informant questionnaires were used to collect information on the current food security situation in the resettlement area. The questionnaires were developed based on the background information obtained from Bedele woreda Agricultural Office and primarily focused on possible causes of malnutrition, food security situation, human health, crops/livestock condition, water and pasture availability, relief operation, and other socio-economic data. The household questionnaires were filled in every third household and the mortality in every house.

2.5 Data Analysis

Initial analysis was done by hand at field level. After data entry and cleaning, it was analysed using EPI-INFO version 6.04b. The EPINUT program in EPI-Info was used for analysing the anthropometric data. All 933 children were considered for analysis.

3.0.Results

3.1 Anthropometric Results: Children

Global Acute Malnutrition (GAM) is defined as <-2 z scores weight-for height and/or oedema where as Severe Acute Malnutrition (SAM) is defined as <-3z scores weight for height and/or Oedema.

Table 1: Distribution of age and sex of sampled, 6-59 months of age, 933 children

	Boys		Girls		Total	Ratio	
	no.	%	no	%	no.	%	Boy:Girl
6-17 months	97	53.6	84	46.4	181	19.4	0.86
18-29 months	109	51.9	101	48.1	210	22.5	0.93
30-41 months	116	45.3	140	54.7	256	27.4	1.2
42 -53 months	110	56.7	84	43.3	194	20.8	0.76
54 - 59 months	45	6.4	47	51.1	92	9.9	1.04
Total	477	51.1	456	48.9	933	100	0.95

Table 2: Prevalence of acute malnutrition based on weight for height z-scores and/or oedema

	6 - 59 months, N=933	6 - 29 months, n=391
Prevalence of global malnutrition (<-2 z-score and/or oedema)	(93) 9.8% (95% C.I.=(7.1,12.5)	(56) 14.3% (95% C.I.=9.4,19.2)
Prevalence of severe malnutrition (<-3 z-score and/or oedema)	(18) 1.93% (95% C.I.=(0.68,3.18)	(13) 3.3% (95% C.I.=0.75,5.85)

The prevalence of oedema is=(10) 1.07%

Table 3:Prevalence of malnutrition by age based on weight for height z-scores and oedema

Age (mths)	Severe Malnutrition (<-3z-score)		Moderate Malnutrition (>=-3and<-2 z-score)		Normal (> =-2 z-score)		Oedema		TOTAL	
	no.	%	no.	%	no	%	no.	%	no.	%
06 - 17	3	1.7	20	11.0	155	85.6	3	1.7	181	19.4
18 - 29	3	1.4	23	11.0	180	85.7	4	1.9	210	22.5
30 - 41	1	0.4	20	7.8	232	90.6	3	1.2	256	27.5
42 - 53	0	0.0	10	5.2	183	94.8	0	0.0	193	20.7
54 - 59	1	1.1	2	2.2	89	96.7	0	0.0	92	9.9
Total	8	0.9	75	8.0	839	90.0	10	1.1	932	100

Table 4: Distribution of acute malnutrition and oedema based on weight for height z-scores

	<-2 z-score	>=-2 z-score
Oedema present	Marasmic Kwashiorkor No. (0) (0.0%)	Kwashiorkor No. (10) (1.1%)
Oedema absent	Marasmic No. (83) (9.0%)	Normal No. (839) (91.0%)

Table 5: Prevalence of acute malnutrition based on the percentage of the median and/or oedema

	6 – 59 months n=(932)	6 - 29 months n=(391)
Prevalence of global acute malnutrition (<80% and/or oedema)	(62) 6.65% (95% C.I.=4.39,8.9)	(40) 10.2% (95% C.I.=6.03,14.43)
Prevalence of severe acute malnutrition (<70% and/or oedema)	(11) 1.18% (95% C.I.=0.2,2.16)	(8) 2.04% (95% C.I.=0.6,4.02)

The prevalence of oedema is n=(10) (1.07%)

Table 6: Prevalence of malnutrition by age based on weight for height medians and oedema

Age (mths)	Severe Malnutrition (<70% median)		Moderate Malnutrition (>=70% and <80% median)		Normal (>=80% median)		Oedema		TOTAL	
	no.	%	no.	%	no	%	no.	%	no.	%
06 - 17	1	0.6	17	9.4	160	88.4	3	1.7	181	19.4
18 - 29	0	0.0	15	7.1	191	91.0	4	1.9	210	22.5
30 - 41	0	0.0	14	5.5	239	93.4	3	1.2	256	27.5
42 - 53	0	0.0	3	1.6	190	98.4	0	0.0	193	20.7
54 - 59	0	0.0	2	2.2	90	97.8	0	0.0	92	9.9
Total	1	0.1	51	5.5	870	93.3	10	1.1	932	100

Table 7: Mean percentage of the median weight-for-height

	6-59 months, N=(933)	6-29 months, n=(391)
Mean percentage of weight-for-height median	(92.0%) (95% C.I.=89.53,94.47)	(90.0%) (95% C.I.=85.8,94.2)

3.2 Children's morbidity

Table 8: Prevalence of reported illness in children in the two weeks prior to interview (n=190)

	6-59 months, N=933
Prevalence of reported illness (n=190)	20.4 %

Table 9: Symptom breakdown in the children who reported illness in the two weeks prior to interview (n=317)

	6-59 months	
Diarrhoea	296	93.3%
Cough	7	2.2%
Fever	5	1.6%
Measles	0	0.0%
Other	9	2.8%
TOTAL	317	100%

3.3 Vaccination Results

Table10: Vaccination coverage: BCG for 6-59 months and Measles for 9-59 months

	BCG, n=932	Measles (With card) n=0	Measles (With card or Confirmation from mother) n=874	DPT/Polio=932 (Mothers confirmation)
YES	(181) 19.4 (95% C.I.15.8, 23.0)	(0) 0.0% (95% C.I.)	(815) 93.2% (95% C.I.=90.85,95.55)	(573) 61.5%

3.4 Retrospective Mortality Results (over three months prior to interview)

Crude Mortality Rate	0.73 deaths/10,000/day
Under-five Mortality Rate	2.65 deaths/10,000/day

The Crude Mortality Rate (CMR) for the total population is estimated at 0.73 deaths/10,000/day.

The under-five Mortality Rate (U5MR) for the population is estimated at 2.65 deaths/10,000/day

3.5 Household Socio-economic data of Chewaka resettlement Area

1.Head of household (N=287)

99.3% (n=285) of the household are male headed
0.7% (n=2) of the household are female headed

2. Normal food at this time of the year.

95.8% of the population had Maize as their normal food at this time of the year.
0.3% of the population had Sorghum as their normal food at this time of the year
1.4% of the population had Wheat as their normal food at this time of the year
2.4% of the population had Relief food as their normal food at this time of the year

3. Main foods in the past four weeks.

98.3% of population had maize as main food.
1.4% of population had wheat as main food.
0.3% of population had *Teff* as main food.

4. Most important source of the main food at this time of the year.

85.0% of population sourced their main food from their own production.
15.0% of population sourced from free food.

5. Main source of main food in the last four weeks

99.7% Sourced from their free food.
0.3% Sourced from other sources.

6. Main source of food over the next three month

100.0% will source their main food from free food distribution.

7. Animal Possession

99.6% of the people do not animal at all.

0.4% of the people have animal of any kind (one shoat).

8. House hold involved in income generating activities in the last 3 months

None of them have been involved in income generating activities.

9. (a) Age of start weaning food (240 households)

71.5% start weaning their children from 4-6 months.

27.5% start weaning their children from 7-12 months

0.5% starts weaning their children from 12-18 months

0.5% start weaning their children from less than four months age.

b) Feeding of children on average

7.5% feed their children once a day.

78.2% feed their children 2-3 times a day.

13.0% Feed their children 4-5 times a day.

1.3% Feed their children more than 5 times a day.

c) Reason for not feeding the child more often.

4.3% of the people have no time to feed

95.7% of the people have no food to feed their child

d) Preparation of special food for 6-59 months age(n=218)

10.1% of the people prepare special food for their young child.

89.9% of the people do not prepare special food for their young child.

10) Literacy of the mother

95.2% of the mothers can not read and write.

4.8%Of mothers can read or write.

11) Source of water

33.0%use water from river

19.7%use water from spring

24.0%use water from pipe water

0.3%use water from pump well

15.0%use water from pond.

8.0%use water from other sources

12) Distance travel to the water point.

41.0% of the people travel <30 minutes to fetch water.

35.7%Of the people travel 30 minutes-1:00 hour

14.3%Of the people travel 1:00-2:00 hours

4. Discussion

4.1 Nutritional Status

The anthropometric measurements were taken from 933 children whose height range is from 65 to 110cm. The sex ratio and age distribution (male 477, female 456) indicate that the sample was representative and unbiased.

Generally, the nutritional status of the resettlers is poor in Chewaka resettlement area. Many severely malnourished children and adults (pregnant and lactating mother, etc) having poor physical condition were observed during the house-to-house assessment in the surveyed sites. About 50 of the malnourished children were sent to the nearby Metu hospital for therapeutic feeding programme. In addition to this, other 42 severely malnourished children were admitted in the Therapeutic Feeding Center (TFC) opened at sub -site 2 of Chewaka resettlement area.

The current prevalence of Global Acute Malnutrition (<-2 Z-scores weight for height and/or oedema) is estimated at 9.8%(with (95%CI.7.1-12.5) and Sever Acute Malnutrition Rate (<-3 Z-scores weight for height and/or oedema) at 1.9% (with 95% CI 0.7- 3.2) respectively. According to the DPPC Emergency Nutrition Assessment Guideline (DPPC, December 2002), this malnutrition level can be considered as serious as it is coupled with many aggravating factors such as poor household food availability, high prevalence of illness, high under five mortality rate (2.65 deaths/10000/day), lack of diversified diet and cooking utensils, inadequate potable water supply both in quantity & quality, etc. All these malnourished children admitted to the Therapeutic Feeding Center and hospitals were not included in this survey. If those admitted malnourished children had been included in the sample, the result would have indicate a critical situation.

Further more, the resettlers and their children have no clothes to wear except a single blanket provided to each households. Those households with many family members pointed out that they are suffering from cold due to lack of clothes and proper sheltering. The numbers of grinding mills installed are very few compared to the number of resettlers. Hence, the settlers forced to eat boiled or roasted grain such as maize, which is less efficient alternative method to get the nutritional contents of the food items especially for the children.

4.2 Food Security

Almost all the resettlers interviewed sourced their main staple from free food distribution of maize and wheat during and three months prior to the survey period. Some times there is delaince relief food distribution and they don't have any other source of income to supplement/or fill the gap. Hence, the resettlers specially the vulnerable groups are easily liable for malnutrition and other health problems even in a few days of relief food distribution deliance. According to the survey teams' observation, the current food security situation is poor and can easily deteriorate with deliance of general ration distribution and occurrences of common/prevalent disease out breaks.

Agriculture

According to the information obtained from Bedele woreda Agricultural Office, Chewaka resettlement area has fertile and wide farmland. The area is mainly known with *Meher* production season.

Oromiya DPPC, Oromiya Health, Water and Food Security Bureau are trying to provide the necessary assistance for the resettlers and are trying to address their problem. Particularly, the Oromiya Food Security Bureau together with the resettlers are now clearing the land for farming and some hectares of land is already ploughed for the coming *Meher* planting season. This will enable at least some of the households (resettlers) to have their own production in the next harvesting season.

Livestock

Only 0.4% of the interviewed households owned an animal (only shoat). According the Woreda agricultural experts' explanation, the area is under the trypanosomiasis belt and needs to establish and capacitate veterinary institutions for rearing livestock and get benefits.

Relief Assistance:

Currently, all the resettlers (estimated at 67,265 population) are totally dependent on relief food assistance.

The population were receiving dry ration per household size according to the DPPC relief distribution guideline. However, as the woreda officials' explained, due to continuous resettling program the number of resettlers coming to the area has increased in the last three months but the amount of relief food allocated to the site is not proportional to the number of resettlers living in the sites. On top of this, the settlers are complaining for the delay of the general ration distribution in the month of March (between end of February and beginning of March 2004).

According to the Bedele woreda officials report, resettlers were forced to stay for more than 10 to 15 days with out getting ration and they did not receive any supplementary food for under five children and other vulnerable groups except one time prior to this survey. This in turn contributed to the current food and nutrition insecurity situation and high under five-mortality rate observed in Chewaka resettlement area.

The roads leading to the settlement area are dry weather roads, which will be difficult to transport any kind of food aid during rainy season. In addition to this, shortage of grain storages was reported from the officials and the community. Therefore, early preposition of the relief food aid to the sites and construction of better storage facilities are highly recommended by the survey teams.

4.3 Human Health & Care

No unusual human disease outbreak was reported in the survey areas at the time of the assessment. However, there is an increased report of water born diseases and high prevalence of illness.

Mortality rate:

The prevalence of Crude Mortality Rate (CMR) is estimated at 0.73 deaths/10,000/day while Under Five Mortality Rate (U5MR) is 2.65 deaths/10,000/day. Comparing with the standard benchmarks (WHO 2000), the Crude mortality rate is under control but the prevalence of under five-mortality rate can be classified as serious. Diarrhoea is reported to be the leading cause of death in the under five children.

Morbidity:

About 33.9% of the interviewed mothers or caretakers reported that their children had been sick in the two weeks prior to this survey. Diarrhoeal diseases were reported to be the leading causes of morbidity among the under five children. This indicates that there is high risk of mortality among the under five children in Chewaka resettlement area particularly in sub site 6 and 7 where potable water is inadequate.

Vaccination Coverage:

The survey result indicates that BCG vaccination coverage as confirmed with the presence of BCG scar is estimated at 19.4% where as is On the other hand, measles and DPT/Polio vaccination coverage as confirmed with mothers' confirmation is estimated at 93.2% and 61.5% of the measured children respectively. The BCG vaccination coverage rate is very low compared with the national coverage¹, which is 50.97% for BCG.

Mothers caring practice:

Interviews with mothers or child caretakers indicate that about 71.5% of them introduce weaning food for their children starting at the age of 4-6 months but 89.9% of the them do not prepare special food for their young child. On the other hand, 78.2% of the respondents feed their children less than 3 times a day because of lack of food (as 95.7% of the respondents replied). These figures indicate that most of the children are not getting weaning food at the right time because of shortage of supplementary food for children.

In this survey only 4.8 % of the interviewed mothers could read or write. This low level of maternal literacy and lack of supplementary food could have been contributed to poor health and nutritional status of children observed in Chewaka resettlement area.

¹ Health and Health related indicators, planning and programming department, MOH October 2000, page 9

General health care in the area.

Chewaka resettlement area has one referral health centre established at sub-site 2 and seven satellite clinics. In each sub-site there is one satellite clinic equipped with essential drugs and two health professionals. The health centre has about 9 health professionals, one sanitarian and other supporting staffs. However, these health facilities are reported to have less number of health professionals as compared to the number of people seeking health services currently. Currently no reported epidemics but high malarial epidemic is the concern (fear of) of many of the health professionals and woreda officials in the coming rainy season.

Some of the re-settlers particularly the latecomers have poor sheltering and housing condition and lack cooking utensils, which ultimately resulted in poor health and nutrition condition. Only 0.7% of the respondents are getting pipe water and some of many of the community leaders indicated the problem of potable water supply both in quality and quantity.

5. Conclusion:

Generally, the nutritional status of the resettlers is poor in Chewaka resettlement area at the time of this survey. Many severely malnourished children and adults (pregnant and lactating mother, etc) having poor physical conditions were observed during the house-to-house assessment in the surveyed sites. About 50 of the malnourished children were sent to the nearby Metu hospital for therapeutic feeding programme. At the time of the survey, other 42 severely malnourished children were admitted in the Therapeutic Feeding Center (TFC) opened at the center (sub site 2) of Chewaka resettlement area.

The current prevalence of Global Acute Malnutrition is estimated at 9.8%(with 95%CI.7.1-12.5) and Sever Acute Malnutrition Rate at 1.9% (with 95% CI 0.7- 3.2) respectively. According to the DPPC Emergency Nutrition Assessment Guideline (DPPC, December 2002), this malnutrition level can be considered as serious as it is coupled with many aggravating factors such as poor household food availability, high prevalence of illness, high under five mortality rate (2.65 deaths/10000/day), lack of diversified diet and cooking utensils, inadequate potable water supply both in quantity & quality, etc.

Further more, the resettlers and their children have no clothes to wear except a single blanket provided to each households. Those households with many family members pointed out that they are suffering from cold due to lack of clothes and proper sheltering. The numbers of grinding mills installed are very few compared to the number of resettlers. Hence, the settlers forced to eat boiled or roasted grain such as maize, which is less efficient alternative method to get the nutritional contents of the food items especially for the children.

Currently, all the resettleres are totally dependent on relief food assistance. Yet, the settlers are complaining for the delaince of the general ration distribution. On top of 10-15 days of general ration distribution deliance, they did not receive supplementary food except one time prior to this survey. All the these factors have contributed for the current malnutrition prevalence and under five mortality rates observed in the resettlement area but it is difficult to say about nutritional status deterioration as this 30 by 30 cluster survey is the first of its kind in this resettlement area.

6. Recommendations and Priorities

Given the nutrition survey results and other qualitative indicators, the survey team recommends the following for immediate action in chewaka resettlement area:

- Continue complete general food ration distribution (cereal, pulse, & oil) regularly on a monthly bases,
- Provide supplementary food for all under five children, lactating & pregnant women, and other vulnerable groups,
- Establish targeted supplementary feeding program (take-home) to assist moderately malnourished children;
- Provide plastic sheet coverings for about 6000 households, as they are under poor sheltering conditions due to lack of roof-thatching grass,
- Strengthen the TFC opened at site –2 with essential drugs, materials and trained manpower for better management and treatment of severely malnourished children,
- Install adequate grain mills in the resettlement area,
- Establish adequate storage facilities (rub-hall),
- Strengthen the capacities of the health facilities with medical supplies and manpower needs for providing better health services
- Open primary schools at nearby places using the available resources,
- Strengthen the development of adequate potable water points,
- Provide blankets, clothes and household utensils for those who did not yet received

Annex-1: Classification of Acute Malnutrition:

A) At Individual Level

Acute Malnutrition Using WFH	Percentage of the Median	Z-scores
Normal	> 80%	> -2 z-scores
Moderate	<80% to >= 70%	<-2 z-scores to >= -3 z-scores
Severe	<70 % and/or oedema	< -3 z-scores and/or oedema

B) At the Population Level

- **Severe Acute Malnutrition (SAM) rate:** Acute severe malnutrition, as indicated in the above table, expresses the percentage of children who are <70% of the median WFH or < -3 z-scores and/or oedema.
- **Global Acute Malnutrition (GAM) rate:** Acute global malnutrition expresses the sum of acute severe malnutrition and acute moderate malnutrition.
- Classification of severity of malnutrition in a community, based on the prevalence of wasting, for children under 5 years of age. (Emergency Nutrition Guideline, December 2002)

Indicators	Alert stages
Global acute malnutrition prevalence >20% and /or SAM >=5%	CRITICAL
Global acute malnutrition prevalence 15-19% and aggravating factors	
Global acute malnutrition prevalence 15-19%	SERIOUS
Global acute malnutrition prevalence 10-14% and aggravating factors	
Global acute malnutrition prevalence 10-14%	POOR
Global acute malnutrition prevalence 5-9 % and aggravating factors	
Global acute malnutrition prevalence 2-9%	Normal for a chronically malnourished population

NB: 95 % Confidence Interval has to be considered to compare the results with the alert stages.

Potential aggravating factors include:

- Poor household food availability (due to a poor harvest, high market prices or insecurity)
- Where the population is entirely dependent on food aid (for example in a refuge camp) a general food ration providing less than 1900 kcal/person/day.
- Epidemics of measles, cholera, shigella and other important communicable diseases.
- Inadequate shelter and severe cold.
- Low levels of measles vaccination and vitamin A supplementation.
- Inadequate water supplies, etc