TURKANA NUTRITION SURVEY SUMMARY REPORT

December 2011

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EXECUTIVE SUMMARY

Introduction

Turkana County reported critical levels of acute malnutrition (Global Acute Malnutrition 37.4% in Turkana North East) in April 2011 and was consequently classified under emergency. A multi-sectoral response including scale up of High Impact Nutrition Interventions and Blanket Supplementary Feeding were put in place to prevent mortality and reduce malnutrition rates. A second round of nutrition survey was implemented in Turkana Central, South, North East and North West in December 2011. The main objective was to determine the current rates of acute malnutrition among children aged 6-59 months and factors linked to malnutrition.

Specific objectives

- To determine the prevalence of acute malnutrition among under five year old children, pregnant and lactating women
- To determine the Infant and Young Child Feeding Practices (IYCF) among children 0-23 months of age;
- To investigate household food security and food consumption practice;
- To estimate crude and under-five mortality rates;
- To estimate morbidly rates of children below five years; and
- To determine the proportion of households with access to safe water and sanitation

Methodology

- Survey design: Cross sectional
- Target Population: Children 6-59 months of age in order to determine their nutritional status. In addition, children 0-23 months old to assess infant and young child feeding (IYCF) practices as well as women of the reproduction age (15-45 years) to establish their nutritional status.
- Calculation of sample size (including rationale for estimation of prevalence, precision, design effect, household size, nutrition vs. mortality sample size...)
- Anthropometry and mortality sample consisted of 35 clusters

Selection of clusters

A two-stage cluster survey, proportional to population size, using the smallest geographical administration (sub-location) was used. The sampling unit/cluster was sub-location because of lack of population statistics at the village level. The selection of clusters was done by random method using ENA for SMART. Sub-locations with more than 1 cluster were sub-divided using random methods.

Selection of the households

The definition of a household was a shelter or more whose residents ate from the same “cooking pot”. Epi method was used to select households.

Selection of children for anthropometry

All children between 6-59 months of age staying in the selected household were included in the sample. The respondent was the primary care giver of the index child/children. If a child and/or the caregiver was temporarily absent, then the survey team re-visited the household to collect the data at an appropriate time.

Selection of children for assessment of IYCF practices

The IYCF sample was achieved by including all children in the age category 0-23 months of age as they were found in the households visited. The target per cluster was 5 children 0-5 months and 7 children 6-23 months. In case the required sample size was not realized from the number of households visited, more households were visited and the children sampled in a similar manner to those for the anthropometric survey (described above) until the required sample was realized.

Selection of women for determination of nutritional status

All women in the reproductive age (15-49 years) in the identified households were enlisted in the study and their MUAC measurements taken.

SUMMARY RESULTS

Demographic characteristics

	TURKANA CENTRAL	TURKANA SOUTH	TURKANA NORTH EAST	TURKANA NORTH WEST
Demographic Household Characteristics	**N=704**	**N=523**	**N=597**	**N=581**
Mean (sd) household size	5.6	5.4	5.8	5.5
Total population	3910	2827	3449	3207
Males	2030	1389	1777	1572
Females	1880	1438	1672	1626
Sex ratio	1.1	0.96	1.1	0.97
Total Underfive population	1125	921	1118	944

Malnutrition and mortality results

	TURKANA CENTRAL	TURKANA SOUTH	TURKANA NORTH EAST	TURKANA NORTH WEST
Wasting (WHO 2006)	**N=752**	**N=875**	**N=934**	**N=858**
Global Acute Malnutrition (GAM)	16.9% (14.2%-19.9%)	15.5% (12.6%-19.0%)	13.7% (10.3%-18.0%)	9.7% (7.4%-12.5%)
Severe Acute Malnutrition (SAM)	3.1% (1.8%- 5.2%)	2.2% (1.5%- 3.1%)	3.2% (2.0%- 5.2%)	2.6% (1.5%- 4.5%)
Underweight (WHO 2006)	**N=758**	**N = 874**	**N = 946**	**N= 859**
Prevalence of global underweight	25.3% (21.8%-29.2%)	23.1% (19.4%-27.3%)	21.0 %(16.3% -26.7%)	15.9% (13.2%-19.1%)
Prevalence of severe underweight	6.1% (4.5%- 8.2%)	5.3% (3.9%- 7.0%)	4.7 %(3.1% - 6.9%)	4.1% (2.7%- 6.1%)
Stunting (WHO 2006)	**N = 705**	**N = 813**	**N = 909**	**N = 821**
Prevalence of global stunting (<-2 z-score)	26.4% (23.4%-29.6%)	23.0% (19.4%-27.0%)	22.9 %(18.6% - 27.9%)	23.0% (19.1%-27.4%)
Prevalence of severe stunting (<-3 z-score)	7.4% (5.5%- 9.8%)	5.2% (3.7%- 7.2%)	6.8 %(5.2% - 8.9%)	7.8% (5.7%-10.6%)
Prevalence of acute malnutrition (Percent median WHO 2006)	**N = 768**	**N = 885**	**N = 961**	**N = 870**
Prevalence of Global Acute Malnutrition (<80% and/or oedema)	6.6 %(4.7% - 9.8%)	4.6 %(3.4% - 6.4%)	6.0 %(4.0% - 9.5%)	4.7 %(3.2% - 7.2%)
Moderate Acute Malnutrition(<80% and >= 70%, no oedema)	5.9 %(4.2% - 8.5%)	4.3 %(3.2% - 5.9%)	5.3 %(3.6% - 8.1%)	4.4 %(3.0% - 6.5%)
Severe Acute Malnutrition (<70% and/or oedema)	0.8 %(0.3% - 2.0%)	0.3 %(0.1% - 1.1%)	0.7 %(0.2% - 2.2%)	0.3 %(0.1% - 1.1%)
Prevalence of Acute malnutrition MUAC	**N=768**	**N=885**	**N=960**	**N=870**
Severe under nutrition < 115 mm	1.3% (0.6%- 2.6%)	0.8% (0.4%- 1.8%)	2.2% (1.3%- 3.7%)	5.7% (4.0%- 8.2%)
Moderate ≥115–<125 mm	9.4% (6.8%-12.8%)	9.8% (7.7%-12.4%)	16.3% (11.9%-21.8%)	8.5% (6.8%-10.6%)

Global Acute Malnutrition ≤125 mm	10.7% (7.9%-14.3%)	10.6% (8.4%-13.4%)	18.4% (13.5%-24.6%)	14.3% (11.6%-17.4%)
MORTALITY	**Central**	**South**	**North East**	**North West**
Crude Death Rate (CDR)	1.38(0.78-1.98)	0.60(0.37-0.83)	1.26(0.66-1.86)	0.61(0.33-0.89)
Underfive Death Rate (U5DR)	0.60(0.13-1.08)	0.48(0.0-1.1)	0.45(0.04-0.87)	0.0(0.0-0.0)
Maternal Malnutrition	N=623	N=320	N=440	N=498
Pregnant and Lactating mothers by MUAC:Wasted <21 cm	46(7.3%)	31(9.7%)	63(14.3%)	35(7.0%)

Morbidity, immunization and supplementation results

	TURKANA CENTRAL	**TURKANA SOUTH**	**TURKANA NORTH EAST**	**TURKANA NORTH WEST**
Child morbidity (<59 months old)	**N= 1107**	**N= 891**	**N= 1042**	**N= 1175**
Illness yes	**58.9%**	**55.4%**	**41.6%**	**59.5%**
Diarrhoea (watery and bloody)	32.2%	16.8%	25.7%	54.5%
Fever (alone or in combination with other symptoms)	74.8	31.5%	52.5%	67.9%
ARIs (cough and cough with difficult breathing)	46.3	20.6%	33.9%	63.9%
Zinc supplementation(Diarrhoea cases)	11(8%)	3(2.8%)	4.7%	0%
Immunization of children 6-59 months old	**N=752**	**N= 905**	**N= 1042**	**N= 1175**
OPV1 (card and recall)	90.9	91.5%	62.6%	84.5%
OPV3 (card and recall)	76.4	70.9%	52.4%	62.1%
Measles (children ≥ 9 -59 months	88.7	80%	89.2%	77.7%
Fully Immunized (children 12-23 months)				
Vitamin A supplementation	**N= 828**	**N=695**	**N=815**	**N=925**
Children 6-59 months old	67.6%	68.3%	87.4%	76.9%
Children 6-11 months	64.9%	55.5%	81.6%	66.2%
Children 12-59 months old who received twice in the last 1 year	68.2%	70.4%	88.8%	79.1%
Deworming once in the last 6 months(12-59 months)	38.3%	47.2%	73.6%	54.5%
Maternal Malnutrition	N=623	N=320	N=440	N=498
Pregnant and Lactating mothers by MUAC:Wasted <21 cm	46(7.3%)	31(9.7%)	63(14.3%)	35(7.0%)
Iron supplementation among pregnant women	8(19.5%)	9(34.6%)	0%	0%

Infant and Young Child Feeding Practices & Food consumption

	TURKANA CENTRAL	TURKANA SOUTH	TURKANA NORTH EAST	TURKANA NORTH WEST
Breastfeeding Practices	0-5 months N=277	0-5 months N=271	0-5 months N=231	0-5 months N=237
Put to breast within 1 hour (0-23 months)	35.9%	55.2%	67%	38.4%
Exclusive breastfeeding	64.3%	40.2%	52.4%	63.7%
Complementary Feeding Practices	6-23 months N=347	6-23 months N=357	6-23 months N=331	6-23 months N=360
Timely complementary Feeding rate (Children 6-9 months who received breast milk and semisolid/solid food)	30(29%)	113(27.4%)	29 (30%)	101(43%)
Dietary diversity: Consuming 3+ food groups out of 7 groups (breastfed children)	96(31.7%)	61(19.1%)	59(18.6%)	77(25%)
Dietary diversity: consuming 4+ food groups out of 7 groups (non-breastfed children)	14(34.1%)	9(25.7%)	2(16.7%)	9(18.8%)
Dietary diversity: consuming 3+ or 4+ food groups (breastfed and non-breastfed respectively)	110(31.7%)	70(19.6%)	61(18.4%)	86(24.8%)
Meal Freq: At least 3+ times a day for 6-23 months old (breastfed children)	64(21.1%)	69(21.6%)	43(13.5%)	23(9.2%)
At least 4+ times a day of children 6-23 moths (non-breastfed children)	2(4.9%)	5(14.3%)	0(0%)	1(2.4%)
At least 4+ times a day of children 6-23 moths (non-breastfed children) and At least 4+ times a day of children 6-23 moths (non-breastfed children)	66(19.0%)	75(20.7%)	43(13%)	24(9.3%)
Household Food Consumption	**N=704**	**N=523**	**N=597**	**N=581**
Number of meals normally eaten per day by the household				
• 3 meals	24.3%	22.2%	24.7%	17.6%
• 2 meals	42.3%	36.0%	49.3%	51.7%
• 1 meal	31.9%	41.3%	25.6%	30.1%
Households who had the following number of meals eaten the day preceding the survey:				
• 4 and above	3.7%	0.3%	0.8%	1.4%
• 3 meals	20.6%	12.3%	17.8%	13%
• 2 meals	38%	36.2%	51.9%	44.1%
• 1 meal	36.7%	49.6%	29.3%	41.1%
• 0 meal	1%	1.7%	0.2%	0.4%

CONCLUSION

Malnutrition rates have significantly reduced in Turkana County within a period of six months following scale up of life saving nutrition interventions. Turkana North East which was most affected, has reported three times reduction in both Global Acute Malnutrition (37.4% to 13.7%) and Severe Acute Malnutrition (9.4% to 3.2%).

Under five mortality rates have fallen below alert levels (less than 2/10,000/day) from as high as 3.4/10,00 0/day in May 2011.

Morbidity among under five children revealed that half of the children had been sick in previous two weeks to the survey. The common ailments reported were diarrhea, acute respiratory infection and fever. These findings are similar to April 2011 report indicating that morbidity had not reduced. It should be noted that hand washing with soap was low (less than 20%), access to latrine (15%) and access to mosquito net (50%). However, children under five sleeping under mosquito net were good (63-90%) in households that owned mosquito nets.

High Impact Nutrition Interventions including exclusive breastfeeding, complementary feeding and vitamin A supplementation are being implemented to enhance the nutrition status of children. Vitamin A supplementation among children 6-59 months in Turkana North East was above 80% while other districts almost met the target of 80%. Exclusive breastfeeding rate was above 50% in Central, North West and North East. Dietary diversity and meal frequency among children 6-23 months is still poor. Zinc supplementation among diarrhea cases was below 10% in most districts. Iron supplementation among pregnant women requires strengthening given that stock outs and low demand was reported.

Through a network of over 126 outreach sites hundreds of children were screened and referred for treatment in Outpatient Therapeutic Program (OTP) and Supplementary Feeding Program (SFP). Between May and October 2011, over 5,893 severely and 8,912 moderately malnourished children were admitted for treatment.

Food aid beneficiaries within the last three months doubled in all districts. North East reported the highest 408(70%) compared to 157(26.8%) reported in May 2011. The number of three meals consumed within the last 24 hours increased marginally. However dietary diversity remained at 3 on a scale of 12 indicating that economic access to food had not improved. FEWSNET report in November 2011 predicted gradual improvement in food security in pastoral areas due to above normal short rains, livestock return leading to milk availability and better terms of trade. The Kenya meteorological department (January 2012) has forecasted sunny and dry conditions in the first quarter of 2012. This is likely to impact negatively on water availability.

Blanket Supplementary Feeding Program targeting 113,134 children was implemented to prevent children from being malnourished. By September 43,966 children had been reached. Households with malnourished children and Pregnant and Lactating Women were linked to General Food Distribution and Food for Assets to improve their resilience.

In addition to maintaining nutrition therapeutic programs, there is need to improve complementary feeding, iron supplementation among pregnant women, access to food, hygiene and sanitation, prevention and management of illnesses such as diarrhea.