Summary Results for Core Indicators of Bi-annual Nutrition Surveys Conducted in 3 Woredas of Tigray Region

Introduction: The government, particularly DRMFSS, in collaboration with key actors, recognized the importance of conducting nutrition surveys on regular basis with the ultimate aim of monitoring unusual changes and early detection of malnutrition, health and food insecurity situation of a given community and initiate timely response in order to prevent malnutrition before the situation turns into a crisis. With the financial support from potential donors, two seasons were selected for this purpose, namely the harvest and the hunger season; hence the survey was termed as bi annual nutrition survey.

Conducting nutrition surveys bi-annually (during harvest and before the onset of hunger season) has become indispensible to carry out periodic monitoring of nutrition situation in all regional states and to establish nutrition information system or data base at national level to serve as and triangulate with other early warning indicators as well as complement the routine nutrition information collected with other sources (ie TFP, CBN and CHD and trigger timely response accordingly.

The selection of the survey Woredas, in Tigray, as it was done in other regions, were based on the chronic food insecurity situation as suggested by DRMFSS. Hence, three survey Woredas were selected from Tigray region using the selection criteria set by the government. The three survey Woredas, are Raya Azebo, Saesi Tsaeda Emba and Tanqua Abergele. These three survey Woredas had been classified as hotspot priority number one for the past consecutive years. These Woredas will be surveyed twice a year (during October/November, during the harvest season considered as a period of normalcy and during March/April, before the hunger season) over time in order to look at trends. Data collected from this survey will primarily serve for early warning purposes. The result will inform decision makers of the situation on the ground; it will help monitor the any unusual changes in the nutritional situation of the given population and help trigger timely appropriate response.

As a result, the bi annual nutrition survey was conducted in the three survey Woredas between 15 April and 14 May 2014 for the fourth time.

General Objectives: The main objective of this survey is to assess the nutrition, health, food security situation and contextual factors in the three survey Woredas and determine determinants of the existing nutrition and food security status of the rural population. Data from the bi annual nutrition survey is also expected to provide trend analysis through time and serve as early warning tool; bench mark for monitoring purposes and to initiate timely response.

Specific Objectives: The survey has the following specific objectives

- To estimate the current prevalence of acute malnutrition in children aged 6-59 months (65-110cm length/height when age in unknown)
- To estimate the retrospective Crude (CDR) and Under five death rates (U5DR)
- To estimate morbidity among under five children;
- To assess the food security situation of the surveyed population at the time of the survey

- To estimate Measles, BCG vaccination and Vitamin A supplementation for children 9-59 months and 6-59 months respectively
- To assess the association between contextual factors collected during the survey and nutrition situation in the survey Woreda.
- To make recommendations based on survey findings
- To serve as nutrition information systems, monitoring and early warning (surveillance tool) when conducted bi annually for long period of time

Methodology

Study Area: the survey was conducted in 42, 48 and 60 clusters of Raya Azebo, Saesi Tsaeda Emba and Tanqua Abergele Woreda respectively.

Study Period: The survey was conducted between April and May 2014

Timing of the Survey: The survey was conducted just before the beginning of the hunger season, this particular month is expected to be poor in terms of food availability and access since majority of the rural communities are expected to finish their food stock reserved for consumption.

Study Population

Nutrition status: All children aged 6 - 59 months (65 - 110 cm height when age is not known) in households selected for anthropometric survey were included. Anthropometric measurements and oedema were taken from these children.

Mortality rate: All household members in all sampled households were included in the mortality component of the survey.
Contextual factors: Household specific contextual data collected from all households were included in the anthropometric and mortality survey. Additionally, community level contextual information was also collected through focus group discussion in all sampled Kushet (Gottes).
Study Design: The survey was a cross sectional in nature where data and information is collected at particular point and time. A two-stage random cluster sampling method using ENA SMART methodology was employed. The sample sizes were calculated using ENA for SMART software (November 2011 version). Kushet (Gottes or Villages) the smallest geographical unit in the region was considered as Clusters.

Sample Size: Emergency Nutrition Assessment (ENA) for SMART software November 2011 is used for sample size calculation for anthropometry, household and mortality

Core Indicators	Survey Woredas		
	Saesi Tsaeda Emba	**Raya Azebo**	**Tanqua Abergele**
A. Training and Field Work Schedule			
Training survey team (including field test)	**15-17 April 2014** **3 days**	3-6 May 2014 4 days	01 - 04 May 2014 **4** days
Field work (data collection)	24 April-2 May 2014 9 days including filed test	7-13 May 2014 7 days	05 -14 May 2014 **10 days**
B. Demographic Characteristics			
Estimated Woreda Population	**166,337**	**164,135**	**107,109**
Number of Households	**33,603**	**45,866**	**23,873**
Under Five population	**25,283** 15.2% of total population	**24,948** 15.2% of total population	**16,280** 15.2% of total population
Average HH size	**4.95**	**4.4**	**4.4**
Average size of U5 children	**0.77**	**0.54**	**0.68**
Number of Tabias (Kebeles)	**27** 25 rural and 2 urban	**20** 18 rural & 2 urban	**20** 19 rural and 1 urban
Number of Kushets (Villages /Gottes)	**112**	**79**	**72**
Randomly selected clusters using SMART	**48**	**42**	**60**
Farming system	Mixed Farming 100% Kiremt dependent	Mixed Farming Kiremt and Belg dependent	Mixed Farming 100% Kiremt dependent
Livelihood Zone	Located in both Eastern Platue and Atsbi Wonberta Highland Livelihood Zones. 98% is mid highland and 1% low and 1% highland	Raya Valley Teff & Sorghum L.Z 15% mid highland and 85% lowland	Middle Tekeze L.Z. 95% lowland & 5% mid highland
HH sample size (based on SMART)	**860**	**732**	**1032**
HH sample size (Actual)	**852**	**729**	**996**
U5 sample size(based on SMART)	**547**	**424**	**595**
Total U5 sampled (Actual)	**574**	**586**	**838**
Total Clusters Covered	**42**	**48**	**60**

Number of HHs surveyed per day	**18**	**18**	**17/8**
Number of Survey Teams	**6**	6	**6**
Number of Actual Survey Days	**7**	**8**	**10**
C. Anthropometry Result			
GAM (Wasting) based on Z-Score (<-2 z-score and/or oedema)	**8.8 %** (6.6 - 11.7 95% C.I.)	**5.0 %** (3.5 - 6.9 95% C.I.)	**10.7 %** (8.2 – 13.8) (95% C.I.)
MAM (Wasting) based on Z-Score (<-2 z-score and >=-3 z-score, no oedema)	**7.9** % (5.8 - 10.7 95% C.I.)	**4.8** % (3.4 - 6.7 95% C.I.)	**9.8 %** (7.7 – 12.5) (95% C.I.)
SAM (Wasting) based on Z- Score (<-3 z-score and/or oedema)	**0.9** % (0.4 - 2.1 95% C.I.)	**0.2** % (0.0 - 1.3 95% C.I.)	**0.8 %** (0.4 – 1.9) (95% C.I.)
GAM based on percentage of Median (< 80% and/or oedema)	**4.6 %** (3.1 - 6.7 95% C.I.)	**1.9 %** (1.0 - 3.4 95% C.I.)	**6.1** % (4.4 – 8.4) (95% C.I.)
MAM based on percentage of median (<80% and >= 70%, no oedema)	4.6 % (3.1 - 6.7 95% C.I.)	1.7 % (0.9 - 3.2 95% C.I.)	**5.5** % (4.0 – 7.6) (95% C.I.)
SAM based on percentage of median (<70% and/or oedema)	0.0 % (0.0 - 0.0 95% C.I.)	0.2 % (0.0 - 1.3 95% C.I.)	**0.6** % (0.3 – 1.4) (95% C.I.)
MUAC based on international cut-off point Proxy GAM based on MUAC (< 125 mm and/or oedema)	**9.9 %** (7.6 - 13.0 95% C.I.)	**8.2 %** (6.0 - 11.1 95% C.I.)	**18.0** % (15.2 – 21.2) (95% C.I.)
Proxy MAM based on MUAC (< 125 mm and >= 110 mm, no oedema)	8.6 % (6.5 - 11.2 95% C.I.)	6.7 % (4.8 - 9.1 95% C.I.)	**16.8** % (14.1 – 20.0) (95% C.I.)
Proxy SAM based on MUAC (< 110 mm and/or oedema)	1.4 % (0.6 - 3.2 95% C.I.)	1.5 % (0.6 - 3.7 95% C.I.)	**1.2** % (0.6 – 2.4) (95% C.I.)
MUAC based on national cut-off points Proxy GAM based on MUAC	**3.3 %**	**4.4 %**	**6.7 %** (5.1 – 6.8) (95% C.I)

(< 120 mm and/or oedema)	(2.1 - 5.3 95% C.I.)	(2.7 - 7.1 95% C.I.)	
Proxy MAM based on MUAC (< 120 mm and >= 110 mm, no oedema)	1.9 % (1.1 - 3.5 95% C.I.)	3.1 % (1.8 - 5.2 95% C.I.)	**5.5** % (4.1 – 7.4) (95% C.I)
Proxy SAM based on MUAC (< 110 mm and/or oedema)	1.4 % (0.6 - 3.2 95% C.I.)	1.4 % (0.5 - 3.6 95% C.I.)	**1.2** % (0.6 – 2.4) (95% C.I)
Prevalence of Stunting based on height-for-age z-scores (<-2 z-score)	**41.9 %** (37.1 - 47.0 95% C.I.)	**25.6 %** (21.9 - 29.6 95% C.I.)	**45.3 %** (40.4 – 50.3) (95% C.I.)
Prevalence of Moderate Stunting based on height-for-age z-scores (<-2 z-score and >=-3 z-score)	**28.1** % (24.5 - 32.1 95% C.I.)	**19.3** % (16.4 - 22.7 95% C.I.)	**30.3 %** (26.7 – 34.2) (95% C.I.)
Prevalence of Severe Stunting based on height-for-age z-scores (<-3 z-score)	**13.8** % (11.1 - 17.1 95% C.I.)	**6.2** % (4.6 - 8.4 95% C.I.)	**15.0 %** (11.9 – 18.8) (95% C.I.)
Prevalence of underweight based on weight-for-age z-scores (<-2 z-score)	**41.1 %** (36.2 - 46.1 95% C.I.)	**25.0 %** (21.5 - 28.9 95% C.I.)	**43.8 %** (38.9 – 48.9) (95% C.I.)
Prevalence of moderate underweight based on weight-for-age z-scores (<-2 z-score and >=-3 z-score)	**33.3** % (28.8 - 38.2 95% C.I.)	**21.8** % (18.5 - 25.5 95% C.I.)	**33.7 %** (30.0 – 37.5) (95% C.I.)
Prevalence of Severe Underweight based on weight-for-age z-scores (<-3 z-score)	**7.7** % (5.5 - 10.7 95% C.I.)	**3.3** % (2.2 - 4.9 95% C.I.)	**10.2 %** (8.0 – 12.9) (95% C.I.)
D. Mortality			
Number of HH to be included (based on SMART)	**213**	**366**	**191**
Number of population to be included (based on SMART)	**991**	**1549**	**878**
Number of HHs (Actual)	**852**	**729**	**996**

Number of population included (Actual)	**4808**	**3974**	**5573**
Recall Period	**90 days**	**90 days**	**90 days**
Crude Mortality Rate (CMR)	**0.07** (0.02-0.22) (95% CI)	**0.08** (0.03-0.26) (95% CI)	**0.06** (0.02- 0.19) (95% CI)
Under Five Mortality Rate (U5MR)	**0.00** (0.00-0.00) (95% CI)	**0.18** (0.02-1.40) (95% CI)	**0.12** (0.02- 0.88) (95% CI)
E. Illness, Immunization and Vitamin A supplement Coverage			
Prevalence of Illness	**7.9%**	**16.0%**	**14.0%**
BCG Vaccine Coverage	**88.8%**	**67.6%**	**76.3%**
Vitamin A Supplementation Coverage	**95.9%**	**95.7%**	**97.0%**
Measles Vaccine Coverage **i. On Card** **ii. Mother recall** **iii. Both on card + mother recall**	 **76.1%** **17.3%** **93.5%**	 **21.1%** **70.9%** **92.0%**	 **42.6%** **53.7%** **96.3%**
F. WASH & ITN			
Toilet Coverage and utilization	**62.8%** **(**48.7 % functional & clean)	**80.1%** **(**78 % functional & clean)	**77.9%** **(69**% functional & clean)
Safe drinking water coverage	**77.4%**		**81.2%**
ITN coverage and utilization	**33.5% (82.3)%**	**42.6%(72.6)%**	**63.9% (53.4)%**
G. Food Security Situation			
Contextual data analysis result	Household and community data analysis in progress	Household and community data analysis in progress	Household and community data analysis in progress
Food Security Status (Based on Meher assessment report conducted b/n 26 Nov & 11 Dec. 2013)	Below normal and estimated crop production has been 36,477.3 tons. Yield reduced by 10% compared to last year's production 4 Kebeles or PA's are identified as pocket areas of concern	Normal and estimated crop production has been 107,682.5 tons, a very significant increase (562%) as compared to last year's production 6 Kebeles or PA's are identified as pocket areas of concern	Below normal and crop production has been 82,455 tons. It has showed an increased in yield (by 40%) as compared to last year's production 6 Kebeles or PA's are identified as pocket areas of concern
H. Conclusion and Recommendation			
Level of Malnutrition (Stage of Alert)	**Acceptable**	**Acceptable**	**Poor**

Nutrition and food security interventions being implemented	59,552 PSNP & 13,391 Relief beneficiaries are being assisted at the moment No TSF service available 33 OTP sites and two SC are currently operational	53,972 PSNP & 62143 Relief beneficiaries are being assisted at the moment 10182 (mothers & children) TSF beneficiaries being assisted 22 OTP sites and one SC are currently operational	34,956 PSNP & 13,507 Relief beneficiaries are being assisted at the moment 5822 (mothers & children) TSF beneficiaries being assisted 19 OTP sites are currently operational
Gap or number of beneficiaries in need of food assistance until next harvest (based on November 2013 Meher Assessment Findings and Report)	33,000 beneficiaries are in need of food assistance for the next 9-12 months	27,910 beneficiaries are in need of food assistance for the next 9-12 months	20,300 beneficiaries were in need of food assistance & currently being supported by the government & partners
Recommendations			