

Proposal for Conducting Nutrition and Mortality Survey In:

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&

Tanqua Abergele Woredas

of Tigray Regional States, Ethiopia

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1. Background Information

1.1 Tanqua Abergele: is one of the 34 rural and 14 urban Woredas of Tigray regional states. It is located in Central Zone at a distance of approximately 115 Km away from Mekelle, the capital city of Tigray regional state and 898 from Addis Ababa. Yechilla is the capital city of Tanqua Abergele Woreda. Administratively, it is divided into 20 Tabias (Kebeles) and 72 Kushet (Villages or Gottes) with a total population of 107,109 out of which 52,772 (50.3%) are males and 54,337 (49.7%) are females. The population density is 0.72/ha or 137 people/square km. There are 23,873 (19,679 male and 4,194 female headed) household heads and 16,231 children under five years of age.

Tanqua Abergele shares a border with Abergele and Amhara region to the South, Degua Tembien and Sahirti Samre to the East, Kola Tembien to the North, and Woreda Tselemti to the West. It is located with an altitude range of 938 -2,201 meters. Annual average rainfall ranges between 210 and 700 mm. The annual temperature is between 28 and 40°C.

Tanqua Abergele Woreda covers an area of 144,564 hectare (ha) of which 31,418 ha is arable. Out of 115,091 ha 29,498 is used for growing crops, 37,890 ha is pastureland, 15,381.5 is covered by natural forest, 29,452 ha is covered with bushes and shrubs and 950 ha of land is covered with residential areas.

Tanqua abergele lies in Middle Tekeze Livelihood Zone. It is a dry, lowland (*kolla*) agro-ecological zone. The terrain is undulating, hills alternating with plains and valleys. Most villages are surrounded by mountains. Vegetation cover is made up of scattered acacia trees, riverine forests, and bush scrub. Rainfall is a low and erratic 350-550mm per year. Agro-ecologically, 95% is lowland (***Kolla***) and 5% mid highland.

Agricultural production is 100% *kiremti* rains dependant. Water for human consumption is collected from springs, minor rivers and seasonal pools. The production system is mixed farming on low lying plains, valleys and foothills. The main crops grown are staple Sorghum, Maize, Teff, Sesame and Flax (oil seed). Land for cultivation is generally available, but the soil is infertile and stony. Teff, a labor intensive crop, a high value cereal, is the main cash crop. Soil infertility and recurrent drought conditions are the main reasons why this zone is chronically food insecure. Smut and shoot fly pests are the biggest hazards to crop production. Smut affects Maize and Sorghum, and shoot flies attack Teff. Striga weed is a parasitic weed that also attacks Sorghum, and has the potential to reduce yields by 30%.

Cattle and goats are the main livestock types reared in the zone. Livestock are important both as a source of food and income and also for draught power. Cattle are highly valued possessions that are rarely sold. Goats are more frequently sold and slaughtered during festive seasons in April (*Fasika*), and September (*Meskerem*). Communal grazing lands and crop residues provide feed for livestock, under the supervision of young boys. During the wet season, the sources of water for livestock are seasonal pools and minor rivers. The rainy season brings both an increase in pasture and the onset of the milk production season. Residents in this zone consume both cattle and goat milk. The main hazards to livestock ownership are shortage of pasture, bovine and ovine *pasteurellosis*, black leg and anthrax. Other important economic activities in the zone are honey sales and gum arabic sales.

The Woreda has got functional 05 health center, 17 health posts, 12 pharmacies and 1 rural drug vendor. A total of 76 health personnel are currently working in the Woreda. The above stipulated health facilities are staffed with: 14 Health Officer, 14 nurses/midwives, 9 pharmacist 8 laboratory technicians, 31 health extension worker and 16 support staff and 619 Voluntary Community Health Worker (VCHW).

At the moment, there are 34,956 PSNP beneficiaries in the Woreda out of which 29,035 (14,722 male and 14,313 female) and 5,921 (2,878 male and 3,043 female) are engaged in public work and direct support respectively. There are 13,507 beneficiaries (9,613 male and 10,413 female) receiving emergency relief food. Currently, there are a total of 5,822 (2,357 children under five and 3,465 pregnant and lactating mothers) TSF beneficiaries in the Woreda.

1.2 Saesi Tsaeda Emba: This Woreda is one of the 34 rural and 14 urban Woredas of Tigray regional states. It is located in Eastern Zone at a distance of approximately 78 Km away from Mekelle, the capital city of Tigray regional state and 783 km from Addis Ababa. Freweini is the capital city of Saesi Tsaeda Emba Woreda. Administratively, it is divided into 28 (26 rural and 2 urban) Tabias or Kebeles and 116 Kushet (108 rural and 8 urban villages) with a total population of 166,337 out of which 78,487 (47.2%) are males and 87,849 (52.8%) are females and 21,314 are urban and 139,550 are rural dwellers. Geographically, the Woreda is located at latitude 13°55'00" up to 14°23'30" North longitude 39°28'30" up to 39°53'00" East. The population density is 134 people/square km. There are 39,072 household heads and 24,675 children under five years of age. Agro ecologically, 98.3% of the Woreda is mid highland while 1.3% highland and 0.5% lowland.

Saesi Tsaeda Emba Woreda shares a border with Kilete Awlaelo Woreda to the South, Atsbi Wonberta Woreda and Dalol Wereda of Afar regional state to the East, Ganta Afeshum and Gulomekeda and Irob Woredas to the North, and Hawzen Woreda to the West. It is located with an altitude range of 1500 and 2950 meters. Annual average rainfall ranges between 329 and 643 mm. The annual temperature is between 20 and 27°C. Agro-ecologically, 98% is mid highland (*Weinadega*) while 1% is lowland (*Kolla*) and highland (*degua*) as well.

Saesi Tsaeda Emba Woreda covers an area of 116,086.5 hectares (ha) of land of which 20,127 is arable and 87,394 is not. Out of the total hectare of land 20,127 ha is used for growing crops, 4,056 ha is pastureland, 46,698 ha is covered by natural forest, 12,791 ha is covered with bushes and shrubs, 4,656 woodland and 4,509 ha is covered with residential areas.

Saesi Tsaeda Emba is located in two livelihood zone, namely the eastern plateau and Atsbi Wonberta highland livelihood zones.

A. Eastern Plateau Livelihood Zone: It has mild to high temperatures typical of its *woina dega* (midlands) elevation, and has moderate to high density population. Rainfall is on average 300 to 400mm per year. This is an area with heavily deforested plains, and the remaining vegetation is predominantly scattered bush, and acacia trees. Cactus grows wild in the backyards of most homes. The production system is mixed farming with crop and livestock production. Agriculture is dependent on the *Kremti* rains that fall from June to mid-September. The soils are sandy and of low fertility, giving only minimal yields without fertilizer. The major food crops cultivated are

barley, *hanfets* (mixture of Wheat and barley), Wheat and Maize. *Hanfets* and Wheat also serve as cash crops, in addition to cactus. Cactus is consumed during the wet season.

This livelihood zone faces chronic food shortages because of the poor quality of soil and insufficient land. The main hazards to crop production are rust and shoot fly. Rust affects barley and Wheat, and shoot fly attacks Maize. Livestock ownership is important for livelihoods in this zone. The main livestock reared are cattle and sheep. Cattle are the more valuable livestock as a source of draught power and cash income. Cattle ownership is particularly important because in addition to maintaining household productivity, they provide a safety net: they can be sold in bad years and earn the household relatively significant income. For these reasons, households normally avoid selling productive cattle. Sheep are kept in greater numbers than cattle and provide more regular access to income for the household. They are mainly sold and consumed during the festival periods. Pasture is available in communally owned grazing lands and watering is at springs or streams. Straw is also used for cattle feed. The main hazards to livestock production are anthrax, ovine pasteurellosis, and black leg. Anthrax mainly affects cattle, shoats (sheep and goats) and donkeys; ovine pasteurellosis affects shoat and black leg affects cattle. The livestock production season starts with livestock births and milk production at the outset of the rainy season. The lactation period lasts for 6 months from June to November. During this time, households make butter that is sold. Cattle are sold in August, December and January.

The main hazards to crop production are recurrent shortage of rain, sporadic hailstorms and recurrent attacks by crops pest: rust and shoot fly. Rust affects barley and Wheat, and shoot fly attacks Teff. The main hazards to livestock production are anthrax, ovine pasteurellosis, and black leg. Anthrax mainly affects cattle, shoats and donkeys, ovine pasteurellosis affects shoats, and black leg affects cattle.

B. Atsbi Wonberta Highland Livelihood Zone: It has a *Dega* agro-ecology between 2300 and 3200m above sea level, and has mild temperatures consistent with this altitude. It is a region with captivating mountains alternating with wide plains. Years of deforestation have left shrubs as the predominant vegetation cover, particularly in the low lying areas. Recent afforestation efforts have introduced eucalyptus trees which serve to prevent land degradation and provide income for the community. Annual rainfall is between 400 and 600mm. This livelihood zone is a mixed farming area with crop production and modest livestock holdings. The farming season is dependent on the *Meher* rains that start in June, and last until September. The lack of suitable farming land and declining soil fertility, triggered by extensive land degradation, both diminish the prospects of improving food production in the zone.

The main crops produced in the area are Wheat, Barley, Hanfetse and pulses. Population pressure and erratic rainfall patterns combined with the lack of suitable land for crop cultivation all contribute to make Atsbi a food insecure zone. The major hazards to crop production are: rust which affects the cereals, and drought.

The main livestock reared are cattle, sheep and goats (shoats), poultry and equines. Livestock holdings are modest because of limited availability of pasture and drinking water. Livestock are important for draught power, and for providing food and income. Cattle are the more valuable

livestock, typically owned by the middle and better-off households. Milk sold as butter provides an additional income sources. Oxen and mature females are productive assets, which are rarely sold but rather kept for possible sale in a bad year. Shoats are traded more regularly, particularly during festival seasons. The main hazards affecting livestock are pasteurellosis, a disease mainly affecting shoats, and black leg, foot and mouth, and anthrax, which mainly affect cattle.

The Woreda has got functional 07 health center, 26 health posts, 3 Clinic and 5 Drug shop and 2 drug vendor. A total of 93 health and 86 supporting staffs are currently working in the Woreda. The above stipulated health facilities are staffed with 09 Health Officer, 13 nurses and midwife, 13 pharmacist, 9 lab technician, 49 health extension worker and 893 Voluntary Community Health Worker (VCHW) and 86 supporting staffs. There are 121 OTP sites and 01 Stabilization Centre. Top five diseases for adults are malaria, ARI, eye infection, wound and dyspepsia and for children under five include diarrhea, pneumonia, malnutrition and eye disease. Malaria is the biggest threat to human health in the zone. It is associated with the onset and off set of rain in May and June, and also in September and October. The problem is worsened by the limited health facilities in the region.

Currently, there are 59552 PSNP beneficiaries in the Woreda out of which 50,985 (24,961 males and 26024 females) and 8,567 (3225 male and 5342 female) are engaged in public work and direct support respectively. There are 13,391 beneficiaries (7274 male and 6117 female) receiving emergency relief food. The total numbers of beneficiaries enrolled in TSF program are 1138 (684 children under five and 454 pregnant and lactating mothers).

1.3 Raya Azebo: Raya Azebo Woreda is one of the 34 rural and 14 urban Woredas of Tigray regional states. It is located in Southern Zone of Tigray at a distance of approximately 120 Km from Mekelle, the capital city of Tigray regional state and 648 Km from Addis Ababa. Meihoni is the capital city of Raya Azebo Woreda. Administratively, the Woreda is divided into 18 rural and 2 urban Tabias and 79 Kushet with a total population of 164,135 out of which 54,098 (59.4%) are males and 68,332 (41.6%) are females. The population density is 0.8/ha or 85 people/square km. There are 45,966 (52.9% male and 47.1% female headed) household heads and 24,948 children under five years of age.

Raya Azebo shares a border with Raya Alamata Woreda and Amhara region to the South, Megale and Yalene Wordas of Afar regional state to the East, Hintalo Wajirat and Alaje to the North, and Alaje, Endamohoni and Ofla to the West. It is located with an altitude range of 1,400-2,300 meters. Annual average rainfall ranges between 286.2 and 836.7 mm. The soil is mostly fertile clay loam. The annual temperature is between 18 and 26°C. Agro-ecologically, 85% is mid highland (*Weinadega*) while 15% is lowland (*Kolla*). Topographically, 75-85% of the Woreda is plain and 15-25% covers undulating mountains and rugged terrain.

Raya Azebo Woreda covers an area of 176, 867 hectare (ha) of which 44,746 ha is used for growing crops, 15,617 ha is pastureland, 28,328 ha is covered by cactus (Beles), 30,927 is covered by natural forest, 28,328 ha is covered with bushes and 29959 is covered with woodland and 30,534 ha is covered with residential areas. 70% of the soil of the Woreda is fertile clay loam, 15% clay and 15% sandy.

Raya Azebo lies in Raya Valley Teff and Sorghum Livelihood Zone of Tigray. Farming activities depend on the February to May *Belg* rains and the July to September *Kiremti* rains. The main crops cultivated are Sorghum, Teff and Maize. Sorghum is the staple food, and Teff is produced for both food and cash income. The availability of sufficient farmland and fertile soils makes the area well suited for high crop production. However, this potential is limited by erratic rainfall and pest attacks. Surplus crop production is recorded whenever there is good rain fall. The pests commonly attacking crops are smut that affects Sorghum and Maize, shoot fly's that affects Teff, and Striga weed that attacks Sorghum and reduces yields by up to 30%.

The main harvest season (*Meher*) is from October – December. The consumption year starts with green consumption of Maize in September. The main Teff crop is harvested in October, followed by Sorghum and Maize harvest in November.

Cattle, goats and sheep (shoats) are reared in the zone. Livestock are important as a source of draught power, income and food. Shoats sell provide income for household. Cattle are rarely sold, kept as an income safety net to reduce the risks associated with bad years. Income is also earned from butter and skins sale. Cattle milk and butter provide food for human consumption. The main livestock hazards are black leg, which affects cattle, bovine pasteurellosis, and anthrax.

The Woreda has got functional 08 health center, 15 health posts, 22 pharmacies, 14 Clinic and 08 vendor drug shop. A total of 162 health and 88 supporting staffs are currently working in the Woreda. The above stipulated health facilities are staffed with 18 Health Officer, 70 nurses and midwife, 21 pharmacist, 10 laboratory technicians, 43 health extension worker, 80 support staff, 2 sanitarians and 923 Voluntary Community Health Worker (VCHW).

There are 55,581 PSNP beneficiaries in the Woreda out of which 48,115 (21911 males and 26204 females) and 7466 (2795 male and 4671 female) are engaged in public work and direct support respectively. There are 22,924 beneficiaries (11,830 male and 11,094 female) receiving emergency relief food. The total numbers of beneficiaries enrolled in TSF program are 1411.

2. Justification: For many years, nutrition surveys coordinated by the Federal ENCU have been focused more on determining the nutritional status of given or specific communities at a particular time and confirm reports of deteriorating food security, to serve as a baseline or monitor or evaluate the implementation of nutrition programmes at a particular point in time. Therefore, they are irregular and with limited scope. Hence, they could not serve as benchmarks or monitoring tool that determines the progression of nutrition and food security situation of the community over a long period of time. Additionally they rapidly lose relevance as majority of the data collected reflect the survey period.

Hence conducting nutrition surveys bi annually (during harvest and before the onset of hunger season) has become indispensable 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. Therefore, the surveys that will be conducted in three Woredas of Tigray regional

state is one of the two biannual nutrition surveys scheduled to be conducted in October/November and March/April. Bi annual nutrition survey in Tigray was conducted in three survey Woredas for the first time in November and May 2012. The first round survey for 2006 EFY was conducted in December 2013 and the second round is schedule to be conducted in April/May 2014.

3. Survey Objectives

3.1. General Objectives: The main objective of this survey is to assess the nutrition, mortality and contextual factors and food security status of Tanqua Abergele, Sasei Tsaeda Emba and Raya Azebo Woredas for trend analysis and serve as early warning tool and bench mark for monitoring purposes and to initiate timely response.

3.2. 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 is unknown) in the three selected Woredas;
- To estimate the retrospective crude death rates in the entire population in the respective Woredas.
- To estimate morbidity among under five children in the three Woredas;
- To estimate Measles, BCG vaccination and Vitamin A supplementation for children 9-59 months and 6-59 months respectively
- To assess the current food security situation of the surveyed population
- To assess the association between contextual factors collected during the survey and nutrition situation in the three Woredas.
- To make recommendations based on findings
- To serve as nutrition information systems, monitoring and early warning (surveillance tool) when conducted bi annually for long period of time

4. Methodology

4.1 Study Area: the survey will be conducted in all rural Kushet (Villages or Gottes) of the three Woredas (Please see Annex III for Selected Clusters using ENA SMART software)

4.2 Study Period: The survey will be conducted in the three Woredas consecutively starting from 15 April to 14 May 2014 (See the details of survey schedule in Annex II)

4.3 Timing of the Survey: The survey will be conducted between April and May 2014, just at the beginning of the hunger period. Compared with the harvest season, this particular month is expected to be worst in terms of food availability and access since majority of the rural communities are expected to finish food stock used for consumption.

4.4 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 will be included. Anthropometric measurements and oedema will be taken from these children.

Mortality rate: All household members in all sampled households will be included in the mortality component of the survey.

Contextual factors: Household specific contextual data will be collected from all households included in the anthropometric and mortality survey. Additionally, community level contextual information will also be collected through focus group discussion in all sampled Kushet (Gottes).

4.5 Study Design: The survey will be 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 will be employed. The sample sizes are calculated using ENA for SMART software (November 2011 version). Kushet (Gottes or Villages) the smallest geographical unit in the region are considered as Clusters.

4.6 Sample Size: Emergency Nutrition Assessment (ENA) for SMART software November 2011 is used for sample size calculation for malnutrition and mortality. Sample sizes for nutritional status and mortality are separately calculated as described below.

4.6.1 Sample Size for Malnutrition: As shown in Table 1 below, the GAM prevalence rate of 8.2, 8.0 and 6.5 were used for Tanqua, Raya and Saesi respectively, from the results of bi annual nutrition surveys conducted in May 2013 in the three survey Woredas to calculate the sample size.

Table 1: Prevalence of Malnutrition for the Three Selected Woredas

Woreda	Global Acute Malnutrition	Date of Survey
Tanqua Abergele	8.2 % [95% CI:6.7 – 10.0]	May 2013
Saesi Tsaeda Emba	8.0 % [95% CI:6 – 10.6]	May 2013
Raya Azebo	6.5 % [95% CI:4.7 – 8.8]	May 2013

The Design effect: Tanqua Abergele and Raya Azebo Woredas are situated in one livelihood zones. The populations these two Woredas are more or less equally affected within the clusters but the malnutrition rate in Tanqua Abergele Woreda significantly vary from cluster to cluster. Hence, the design effect of 1.7 for Tanqua and 1.5 for Raya were used to determine the sample size for nutrition survey. A design effect of 1.6 is used for Saesi as this particular Woreda is located in two different livelihood zones, hence, differences among clusters is expected.

Desired Precision: Precisions of 3% is used to obtain an accurate estimate of malnutrition prevalence in all the study Woredas. This level of precision is also tolerable according to the emergency interim nutrition national guideline.

Table 2: Sample Size Calculation for Anthropometry

Survey Woredas	Tanqua Abergele	S.Tsaeda Emba	Raya Azebo
Survey Population	107,109	166,337	164,135
Total number of under five children	16,280	25,283	24,948
Proportion of Children U5	15.2%	15.2%	15.2%
Average Household Size	4.84	4.95	4.4
Malnutrition (GAM) Prevalence	8.2	8.0	6.5
Desired Precision	3	3	3
Design Effect	1.7	1.6	1.5
Non response rate	6	6	6
# of Households to be included in the Survey	1032	860	732
# of Children to be included for Anthropometry	595	547	424
Number of Clusters to be selected	60	48	42
Number of Survey Teams	6	6	6
House hold sample size per cluster /day	17/18	18	17/18
Number of children for Anthro per cluster / day	10	11.4	10.3
Number of Actual Survey Days (including filed test)	11	9	8

4.6.2. Sample Size for Mortality: The sample size for the Mortality component was also calculated using ENA-SMART software new version of November 2011 .. As shown in Table 3, the latest may 2013 CDR figures from nutrition survey results were taken to calculate sample size for mortality

Table 3: CDR results from Nutrition Surveys

Woreda	Date of Survey	CDR (Death/10,000/day)
Tanqua Abergele	May 2013	0.10 (0.04 - 0.26) (95% CI)
Saesi Tsaeda Emba	May 2013	0.12 (0.05 – 0.30) (95% CI)
Raya Azebo	May 2013	0.20 (0.09 - 0.46) (95% CI)

Table 4: Sample Size Calculation for Mortality

Survey Woredas	Tanqua Abergele	S.Tsaeda Emba	Raya Azebo
Survey Population	107,109	166,337	164,135
Estimated Crude Mortality Rate (Rate/10000/day)	0.10	0.12	0.20
Desired Precision	0.3%	0.3%	0.3%
Design Effect	1.7	1.6	1.5
Recall Period	90 days	90 days	90 days
Non response rate	6	6	6
Number of Households to be included in the Mortality Survey	192	213	366
Number of Population to be included in Mortality Survey	878	991	1549
Number of Clusters to be selected	60	48	42
Number of Survey Teams	6	6	6
Sample Size (# of Households) Per Cluster /Day	17	18	18
Number of Actual Survey Days (including one day field test)	11	9	8

The sample size for anthropometry in all three Woredas is much higher than the sample size for mortality. Therefore, as shown in Table 5 below, the maximum or larger sample sizes in this case anthropometry sample sizes are 1032, 864 and 756 will be used as common sample sizes in terms of households for both anthropometry and mortality for Tanqua, Saesi and Raya respectively.

Table 5: Summary of Sample Size & Number of Clusters

Woreda	Tanqua Abergele	Saesi T. Emba	Raya Azebo
1. Household Questionnaire	1032	860	732
2. Children for Anthropometry	660	548	448
3. Households for Mortality	192	213	366
4. Final Sample Size	1032	864	756
5. Number of selected clusters	60	48	42
6. Survey teams per Woreda	6	6	6
7. Sample Size per cluster per day	17	18	18
8. Actual survey date (including 1 day of field test)	11	9	8

4.7 Sampling Method

4.7.1 Random Selection of Cluster (First Stage Sampling): Each *Village/Gotte* locally known as *Kushet* in each Woreda will form the cluster sampling frame, and the clusters to be sampled will be selected with Probability Proportional to Size (PPS). All rural Kushet of the

three survey Woredas with their respective population size will be entered in to the ENA software; the software will then automatically selects the clusters to be sampled in each **Kebeles** locally known as **Tabias** of Tanqua Abergele, S.T. Emba and Raya Azebo Woredas. The lowest geographical units called **Kushet** were randomly selected from each Tabias of the survey Woredas. A total of 60, 48 and 42 clusters will be selected from Tanqua, Saesi and Raya Woredas respectively.

4.7.2 Random Selection of Households (Second Stage Sampling): As depicted in the Table 5 above, the 1032, 864 and 756 sample households in the three survey Woredas will be selected using systematic random sampling. In each sampled cluster the total number of households will be identified through the support of local administration office, voluntary community health workers and agriculture extension agents to calculate the sampling interval and determine the number of houses to be included in the survey. Preliminary contact with Woreda health and agriculture and rural development officers has confirmed that the population settlement of the communities in few Kushet are concentrated where as in majority of the selected clusters or Kushet are very thinly spread which requires lots of travelling from one hillside to the other which makes it very difficult to exhaustively count each houses and assign a given number. By the time the survey team finishes counting and assigning each and every household; they are already exhausted and may not be in a position to conduct anthropometric measurement and administer the questionnaires. To balance this and avoid compromising data quality, employing systematic random sampling would be an ideal or practical.

For random sampling, the total number of households will be divided by the sample size (in our case 18 HHs per team per day) for that particular Kushet or Village to determine the sampling interval. Using table of random number, the first sample will be identified from the sampling interval. The survey team will start the work from the first randomly selected house and then continue by adding the value of the sampling interval to the first, second, third etc and will continue until the survey team reaches the required sample size per day per cluster per team.

Children Selection: Within selected households, all children 6-59 months, or 65-110 cm when age is not known, will be included in the anthropometric measurement of the survey to determine their nutritional status.

4.8. Data Collection Methods and Tools

4.8.1. Data Collection Methods: The following information will be collected

- Anthropometry {sex, age(in months), weight, height/length, oedema, MUAC(in mm)} for children aged 6-59 months,
- Vaccination information (measles, BCG, and Vitamin A supplementation)
- Feeding programme information (estimated coverage of TSF and OTP)
- Morbidity: Incidences of childhood illnesses in the last 2 weeks prior to the survey
- Mortality: Crude and U5 mortality rates over the past three months
- Household Information: such as food security information at household level regarding consumption, harvests, prices, WASH etc

- Community information: rainfall status, condition of livestock, condition of forage, water availability, accessibility of health services, history of outbreak (human/livestock) and status of most recent harvest;

4.8.1.1 Anthropometric Data:

Age of the Index Child: Age of the children (in months) will be estimated based on birth dates recorded in immunization cards, birth certificates or baptismal certificates when they are confirmed by the children's mothers or primary caretakers for their accuracy, if this is not possible, age of the child will be estimated based on maternal recall of exact birth dates or ages in completed months; or using local seasonal event calendar developed by the community or by comparing with an index child whose exact age (months) or birth date is already known. Children date of birth will be recorded in the anthropometric questionnaire.

Height or Length: Length will be taken for children below the age of two years or 85 cm when age is not known, these will be measured lying horizontally on the height measuring board while **height** will be taken for children of two years age and above or 87 cm and above when age is not known, their height will be taken while standing. Height and length will be measured using ShorrBoard® made by Weigh and Measure LLC, Maryland USA.

Before taking the height/length, subjects will be requested to take off their shoes (if wearing them) and stand in a plankfort¹ position against the height board, which has been placed on a flat level surface. Trained data collectors will take height measurements, with acceptable accuracy and precision. Height will be recorded in the nearest 0.1 cm. The survey teams will strictly follow the 6 and 10 steps for measuring the length and height of the child respectively recommended by DRMFS/ENCU emergency nutrition interim guideline and reflected in the “**Ten Steps**” survey manual (See page 14 -17) to measure length/height of the index child.

Weight: Weight of the survey subjects will be measured by using a calibrated 25 kg hanging Salter scale recorded to the nearest 0.1 Kg. All subjects will be weighed nude to ensure accuracy of weight measurements. Weighing scales will be calibrated before every weight measurement. The survey teams will strictly follow the 12 steps recommended by DRMFS/ENCU emergency nutrition interim guideline and reflected in the “**Ten Steps**” survey manual (See page 18 -20) to measure weight of an index child. Standardization test will also be carried out to determine precision and accuracy results of the survey teams and see if the result meets minimum criteria set by the SMART recommendation.

Nutritional Oedema will be diagnosed by applying a moderate finger pressure just above the ankle on the inside of the leg where the shinbone is below the skin, or on the tops of the feet. If there is oedema, an impression remains for some time (at least three seconds, the time spent to verbally count the numbers: one hundred one, one hundred two and one hundred three) where the oedema fluid has been pressed out of the tissue. The child will only be recorded as oedematous if both feet present with pitting oedema. The child should only be recorded as oedematous if both feet clearly have oedema. Any suspected oedema case will be reported and verified by the survey supervisors.

Mid Upper Arm Circumference (MUAC): will be measured using the standard MUAC tape a three color coded (red, yellow, green) flexible, non-elastic tape, graduated with 1 mm precision. MUAC will be measured at the mid-point of the left mid upper arm of all children 6-59 months old. The reading of the measurement will be from the window of the tape measure and recorded to the nearest 0.1cm. The survey teams will strictly follow the 10 steps recommended by DPPC emergency nutrition interim guideline reflected in the “*Ten Steps*” survey manual (See page 21 - 22) to measure MUAC of the index child.

4.8.1.2 Morbidity: Retrospective morbidity data over the two weeks prior to the survey will be recorded for each sampled child. For children reported as being sick during the recall period utilization of health service and reasons hindering health service utilization will be collected from the caretaker. Definitions of the most common illness will be provided in the manual to ensure is defined the same throughout the survey.

4.8.1.3 Mortality: Crude death rate will be assessed for sampled households. Apart from considering the number of people currently in the household, those who were present at the beginning of the recall period, birth and deaths will be recorded. The method takes into account the number of people who joined or left the households during the recall period. The number of deaths during the **90** days preceding the start of the survey will be recorded. Details of how to measure mortality has been provided in the survey manual that will be provided to each team leader during the survey.

4.8.1.4 Assessment of Immunization Status

BCG vaccination status – the presence of a vaccination scar on the upper arm (on either arm) will be recorded as a positive result for BCG vaccination.

Measles vaccination status- each child’s mother/caretaker will be asked if the child has received a measles vaccine. The team will check for the child’s vaccination card first, and where not possible the mother will be asked to recall.

4.8.1.5 Household Questionnaire: Heads of sampled households will be interviewed to understand about household’s food security situation. Information about source of staple food, status of most recent harvests and source of household income will be gathered. Additionally data regarding food utilization, child feeding practice, household sanitation and utilization of MCH services will be collected from the selected households.

4.8.1.6 Community Questionnaire: Focus group discussions at community level will be conducted in all selected clusters about the availability and price of staple food, utilization and protection of natural resources such as water availability, condition of livestock and availability of forage, and any human or cattle epidemics.

4.8.1.7 Contextual Data: Contextual data or secondary information from health, agriculture, planning and finance and water office will also be collected to triangulate the data and to support findings of the assessment.

4.8.2. Data Collection Tools: Survey tools that will be utilized to conduct the nutrition survey such as anthropometric, mortality, IYCF and contextual data are developed for bi-annual surveys. All the necessary tools and equipments that are of standard quality and recommended by SMART software and DPPC interim national emergency nutrition guideline. (Please refer Annex I for complete list of survey tools and equipments).

5. Survey Organization and Management

5.1. Meeting with Woreda Officials: The organization of the bi annual survey started by briefing experts of the regional health bureau and MANTF member organizations. Survey team coordinators from the Regional EWRFS/ENCU visited the three survey Woredas and manage to meet Woreda officials from Administration, Health, Agriculture and Rural development and Finance and Planning Offices to brief about the survey objectives and the methodology that will be employed and to seek for their support. Nutrition Survey coordination team composed of 6 technical experts (two from ENCU/EWRFS and four from the survey Woredas (Administration, Health, Agriculture and Planning & Finance Offices) were identified and assigned to carry out all the necessary ground works. These activities, among others, include identify duties and responsibilities of each team member, develop survey schedule, develop selection criteria and identify potential candidates for recruitment of the survey team, provide secondary information from their respective offices, identify venue for training, list all rural Kshets in the Woreda with their respective population size and calculate sample size and identify clusters.

5.2 Survey Team Recruitment: Six teams of four people each, one team leader, one interviewer and two enumerators or measurers will be employed to conduct the survey. The survey teams will be selected based on their academic achievement, technical skill, health status and previous work history. 12 enumerators, responsible for anthropometric measurement and mortality and three team leaders will be selected from Woreda health sector. Six interviewers to administer the household questionnaire and other additional three team leaders will be selected from Woreda agriculture sector. The six team leaders from both sectors will be responsible to lead the team and administer community questionnaire as well. Three supervisors who will provide regular monitoring and supportive supervision will be deployed from regional ENCU/EWRFS.

The six survey guide who will be responsible to guide the survey team and supporting in carrying the anthropometric equipment will be recruited from each Kshet (sampled cluster) by Woreda administration office. Three data entry clerks who will be responsible for data entry and cleaning will be recruited from the each Woreda and Information analyst from RENCU will supervise the data clerks and analyze the data. One survey coordinator from RENCU will be responsible to coordinate, supervise and lead the training and actual field work. One finance officer and one accountant from EWRFS will be in charge of paying outstanding bills and per diems.

5.3 Training the Survey Team: Prior to the data collection, three days training (both theoretical and practical sessions) will be provided to the six survey team (team leader, interviewer and

enumerators). Regional ENCU will take the responsibility of training the survey team. The training will cover relevant topics such as malnutrition and its classification, nutrition assessment techniques, data collection procedures, interviewing and measurement techniques, standardization of anthropometric measurements and assessment of children's age. Starting from the training date until the end date of data collection, expert from Regional ENCU and Woreda Health and Agriculture and Rural Development Offices will be actively engaged on the survey. Besides, on the fourth date of the training session, the data collection forms and questionnaires will be pilot tested in few Kushet (Gottes) not selected to be part of the larger survey, to ensure that the interviewers and respondents understand the questions and that interviewers follow correct protocols in the survey areas. Printed copy that contains duties and responsibilities of each survey team (team leader, interviewer, enumerator and local guide) will be given to help the team understands their roles and responsibilities very clearly. (Please refer pages 4 to 7 of the “*Ten Steps*” Surveyor's Guide)

5.4 Calibration, Standardization and Pre-test

Salter scales used for measuring the weight of an index child will be measured against a known standard weight to make sure that the equipment is properly working and displaying the correct readings. Standardization test will also be carried out to see the accuracy and precision results of the survey team. The objective of a standardization test is to assess whether or not the enumerators are taking the measurements in a standard and accurate way, and to test their precision in taking measurements. For this purpose two batches of 10 children between 6 and 59 months will be used.

Each measurer will measure 10 children twice with rest period in between. The same children will be measured by the supervisor twice. Then for each enumerator, the difference between the two measurements is calculated to assess the precision, and a mean of the measurement is calculated to assess the accuracy. ENA software will be used to calculate precision and accuracy of height and weight measurements. Then the measurers scoring acceptable levels of precision and accuracy will be selected to take anthropometric measurements during the actual data collection.

Team members with inadequate precision and accuracy will be retrained commented on their mistakes and take separate test with another 10 children. If their new score becomes acceptable they will be assigned as enumerators. Otherwise they will be shifted to collect community and household questionnaire, mortality information and assist measurers.

After finishing the standardization and field test, the six team leaders will be identified and assigned to each team to lead the work.

5.5 Conducting the Survey: Team leaders will guide the teams in the field. The team leaders will ensure that teams' performances are quality and activities are going smooth within the teams. Additionally, there will be 3 supervisors from the region who will be monitoring and providing supportive supervision.

Upon arrival into a Kushet or a village, the teams will contact the village leaders and the team leader will be responsible to brief the Kushet leader about the survey objectives; what information is going to be collected and from whom; how the study households are going to be selected and what support is needed from them before starting the actual survey. Then the teams will ask for cooperation to get list of eligible households; visit households; and conduct the actual survey.

It is also important to note that during the preliminary discussion with Woreda administration, it has been agreed that the Woreda is going to write an official letter and let the Tabia (Kebele) and Kushet (Village) leaders know about this important activity ahead of the survey date so that the community of the selected clusters would know in good time to provide the required support. Besides, the survey coordination team had already agreed the local guides would be recruited from leaders of either the selected Tabias or Kushet and will be given orientation to help them easily facilitate this particular assignment. Woreda administration office has already taken the responsibility of identifying potential candidates. The Tabia or Kushet leaders will either be present during the household visit or they can assign someone familiar to the villagers to guide the team. In moving from one selected household to another, the village leader or someone he/she delegates will guide the team. All interviews will be done in the respective households with heads of households or their spouse.

5.6. Data Quality: To ensure the data collected from the field are of good quality, survey teams who have got the knowledge and skills, work experience and the stamina will be recruited from the three survey Woredas. Three days of quality training (two in class room and one practical session in the field). One day before the actual survey, field test of questionnaires and anthropometric tools will be carried out. Besides, the survey team will be encouraged to thoroughly read and use the “*Ten Steps*” Survey Manual or Guide prepared by the regional ENCU nutrition specialist to serve as reference materials. Frequent supportive supervision and monitoring activities and plausibility test will be conducted on daily basis to improve data collection techniques.

Each questionnaire and data sheet will be checked before the survey team leaves the cluster and each night prior to the data entry. The data will be entered on daily basis and missing or flag data will be identified. Based on the results survey coordinator and information analyst will give feedback to the supervisor or team leader of that particular team and advise to go back to the households with missing or dubious results. Clusters with unusual findings will be revisited by different team and the survey coordinator to clarify the reports.

6. Ethical Considerations: All relevant stakeholders will be informed of the study objectives, methods and their roles. Verbal consent will be sought from the study subjects on the day of survey and they will be requested to participate in the study. The identity of the participants will be kept anonymous. Those who do not wish to participate in the survey will be respected for their self-determination / decisions. In survey areas, the interviewers will introduce themselves and establish rapport. All the information collected will be treated as strictly confidential. All

children diagnosed as severely or moderately malnourished based on MUAC or with oedema will be referred to a nearby health facility. Each team will be provided with referral sheets. A copy of the proposal will be provided to the regional and Woreda authorities as reference material.

7. Data Entry and Analysis

7.1. Data Entry: Daily checking will be conducted on each questionnaire and data sheet prior to the data entry which will be done every night. The Anthropometry and mortality data entry and analysis will be done using ENA for SMART software November 2011 version. EPI info will be used for entry of morbidity, household and community questionnaire, which cannot be done in the SMART programme.

7.2. Data Analysis: The data entry and analysis will be done using ENA-SMART new version of November and Epi-Info soft wares. Feedback also will be given every day by the Information analyst and survey coordinator. ENA SMART software of November 2011 version will be used to analyze the data. Data analysis is automatic and a results summary is generated instantly. Epi-Info software will also be used to analyze contextual data.

8. Report Writing and Dissemination of Survey Results: The preliminary results/findings of the survey will be shared among key stakeholders. The preliminary report will include description of the methodology, the prevalence of global and severe acute malnutrition, crude and under five mortality rates, vaccination coverage, morbidity prevalence, key IYCF practices, and summary of household food security status indicator. Draft narrative result of the survey will be submitted to FENCUC and UNICEF within three weeks time after completion of the survey. Then following the feedback from FENCUC and UNICEF, the report will be revised and updated. The reports of the survey will use existing secondary data to support the findings of the assessment or triangulate survey findings.

The final report of the survey will be compiled using the reporting template recommended by the SMART methodology and the national emergency nutrition interim guideline and will be submitted to the FENCUC within three to four weeks after completion of field work. The findings of the study will include the prevalence of malnutrition both GAM and SAM, morbidity, crude (CDR) and under five death rates (U5DR), vaccination, food security and other relevant information. The report will also be shared with other key stakeholders at Woreda, regional and federal levels

8. Reference

Emergency Nutrition Interim Guidelines. ENCU/DPPA, September 2008.

Nutrition Survey Results of Tigray Region from FENCU Data Base

Manual or Guide for Survey Teams: the “*Ten Steps*” prepared by Tigray Regional Emergency Nutrition Coordination Unit (ENCU)/ Early Warning Response and Food Security Core Process, Bureau of Agriculture and Rural Development (BoARD), Mekelle, Tigray.

Statistical Bulletin published by Planning and Finance Office of for 2004/2005 EC from the THREE selected Woredas.

Relevant information extracted from Woreda Strategic Planning document from Administration Offices of the THREE survey Woredas

Health information extracted from the THREE survey Woredas Health Offices

Agriculture Data extracted from the Annual Plan and Report Document from Agriculture and Rural Development Offices of the THREE survey Woredas

Information collected through Key Informant Interviews from Health, Agriculture and Planning and finance Offices of the three survey Woredas.

The Sixteen Livelihood Zone documents of Tigray Regional State

The SMART Protocol (2005). Measuring Mortality, Nutrition Status, and food Security in Crisis Situations: SMART methodology version 1. April 2005. Available at: www.smartindicators.org. Accessed 19 September 2008

SMART Methodology (2006). Measuring Mortality, Nutrition Status, and food Security in Crisis Situations: SMART methodology version 1. April 2006. Available at: www.smartindicators.org.

The SMART software November 2011 Version.

10. Annexes

Annex I: Survey Tools

Description	Item	Quantity Per Survey Team	Remark
Weighing	Weighing scales (Salter or Digital)	2	M
	Standard weight (for Calibration)	1	M
	Weighing pants	2	M
Measuring	Height board	1	M
	Height stick	1	M
MUAC	MUAC tapes	2	M
Forms or questionnaire	Schedule cluster list & date of survey	1	M
	Anthropometry questionnaire	2/day/team	M
	Mortality questionnaire	1/day/team	M
	Household questionnaires	17/day/team	M
	Community questionnaire	1/day/team	M
Stationery	Folders/file box	1	M/O
	Laptop (for data entry & analysis)	2	M
	Clipboard	2/survey team	M
	Ball Pen	2	M/O
	Pencil	2	M
	Eraser	1	M
	Sharpener	2	M
	Notebook	1	M/O
	Calculator	1	M/O
	Bag Pack	1	M
Reference documents	Surveyor's manual	1	M
	Official letter of introduction	1	M
	Calendar of events	1	M
	WFH reference tables	1	M/O
	Random number table	1	M/O
	Referral forms	3	M
	Map of the area	1	O
Logistics	Vehicle	1/ team	M
	Fuel	Tbd	M
	Per diem	165/person/day	M
	Sign in (attendance) sheet	Tbd	M
Key: M = Mandatory O = Optional M/O = It can be either of the two			

Annex II: Training and Field Work

Woreda	Anticipated Travel & Survey Date		Vehicle Movement		# of days
	Starting	Ending	From	To	
S.T. Emba	15/4/2014	17/4/2014	Training		3 days
	24/4/2014	02/5/2014	Filed test and field work		9 days
T. Abergele	30/4/2014	03/5/2014	Training and filed test		4 days
	04/5/2014	14/5/2014	Field work		10 days
Raya Azebo	03/5/2014	06/5/2014	Training and filed test		4 days
	07/5/2014	13/5/2014	Field Work		7 days

Note: The survey will be conducted between 15 April to **May 14 2014**

Annex III: Cluster Selection

A. Selected Clusters for Saesi Tsaeda Emba Woreda

Note: 54 Clusters will be randomly selected using SMART software on 24/4/ 2014 (when training the survey team)

B: Selected Clusters (Kushet) of Raya Azebo Woreda

Note: 48 Clusters will be randomly selected using SMART software on 6/5/ 2014 (while training the survey team)

C: Selected Clusters (Kushet) of Tanqua Abergele Woreda

Note: 60 Clusters will be randomly selected using SMART software on 03/5/ 2014 (While training the survey team)

Annex IV: Charts

Chart 1: Middle Tekeze Livelihood Zone Seasonal Calendar

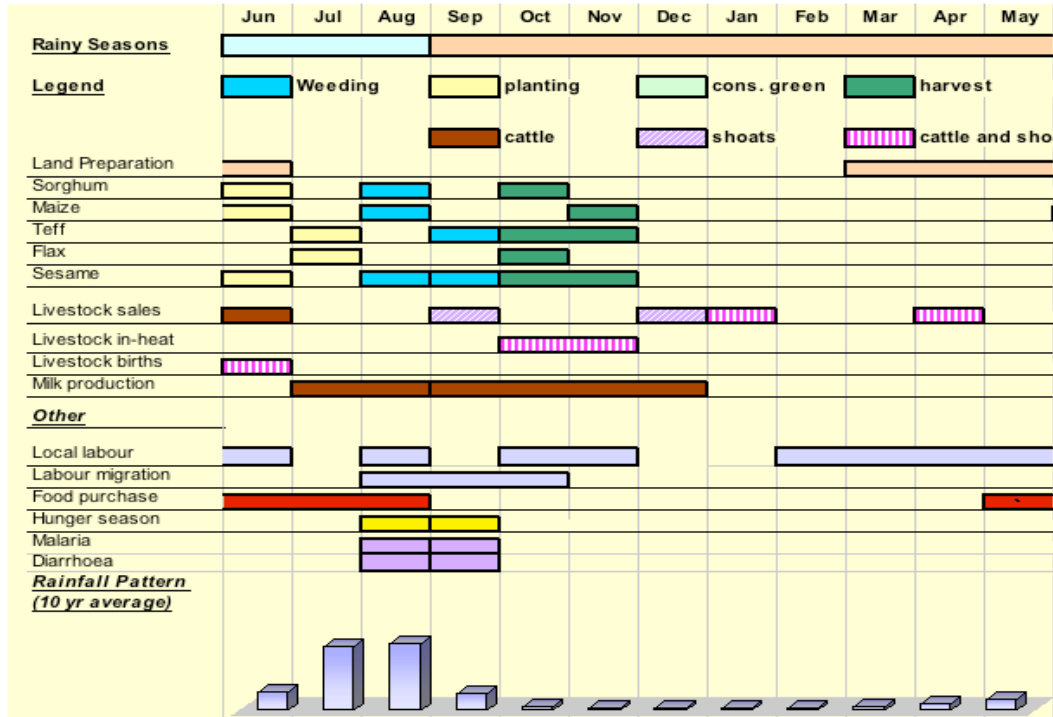


Chart 2: Eastern Platue Livelihood Zone Seasonal Calendar

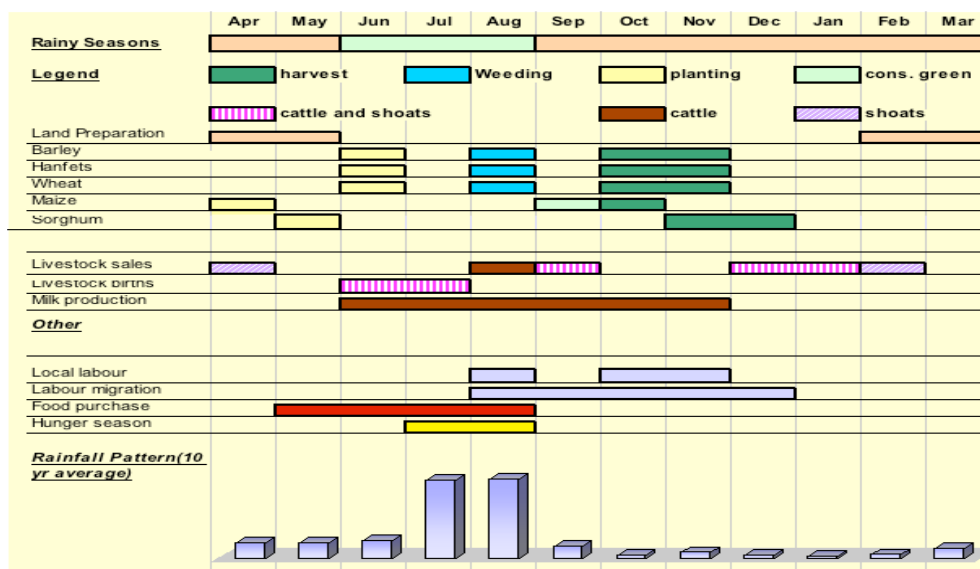


Chart 3: Atsbi Wonbertal Highland Livelihood Zone Seasonal Calendar

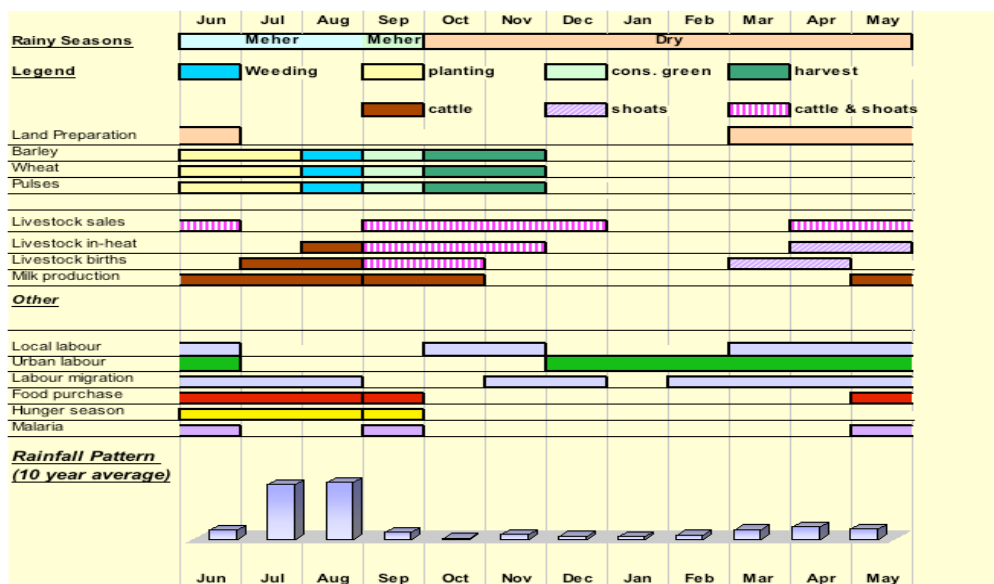
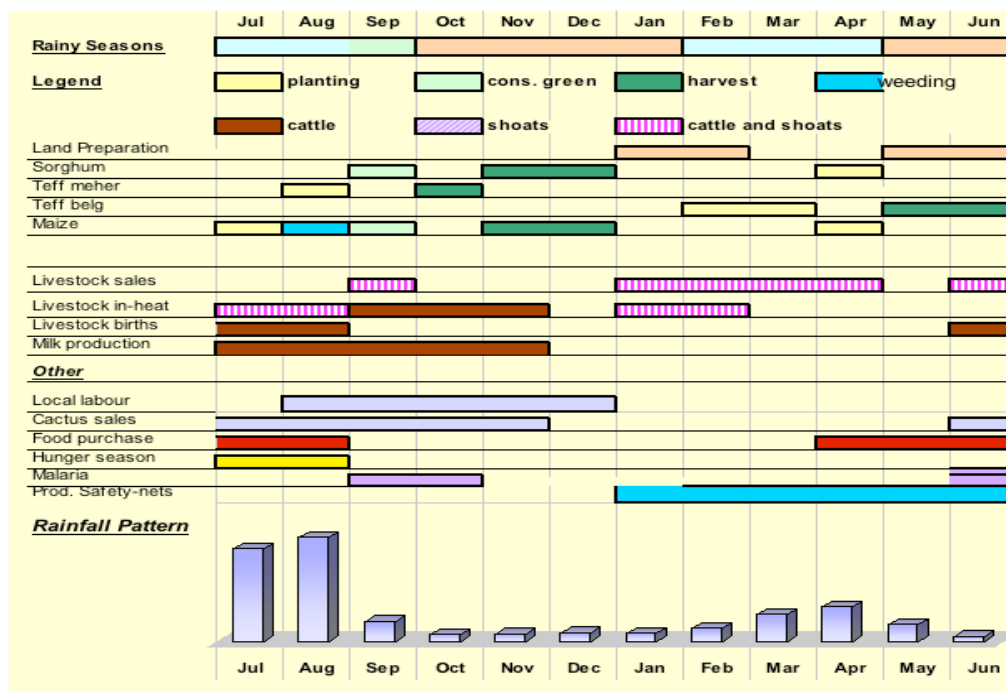


Chart 4: Raya Velley Teff & Sorghum Livelihood Zone Seasonal Calendar



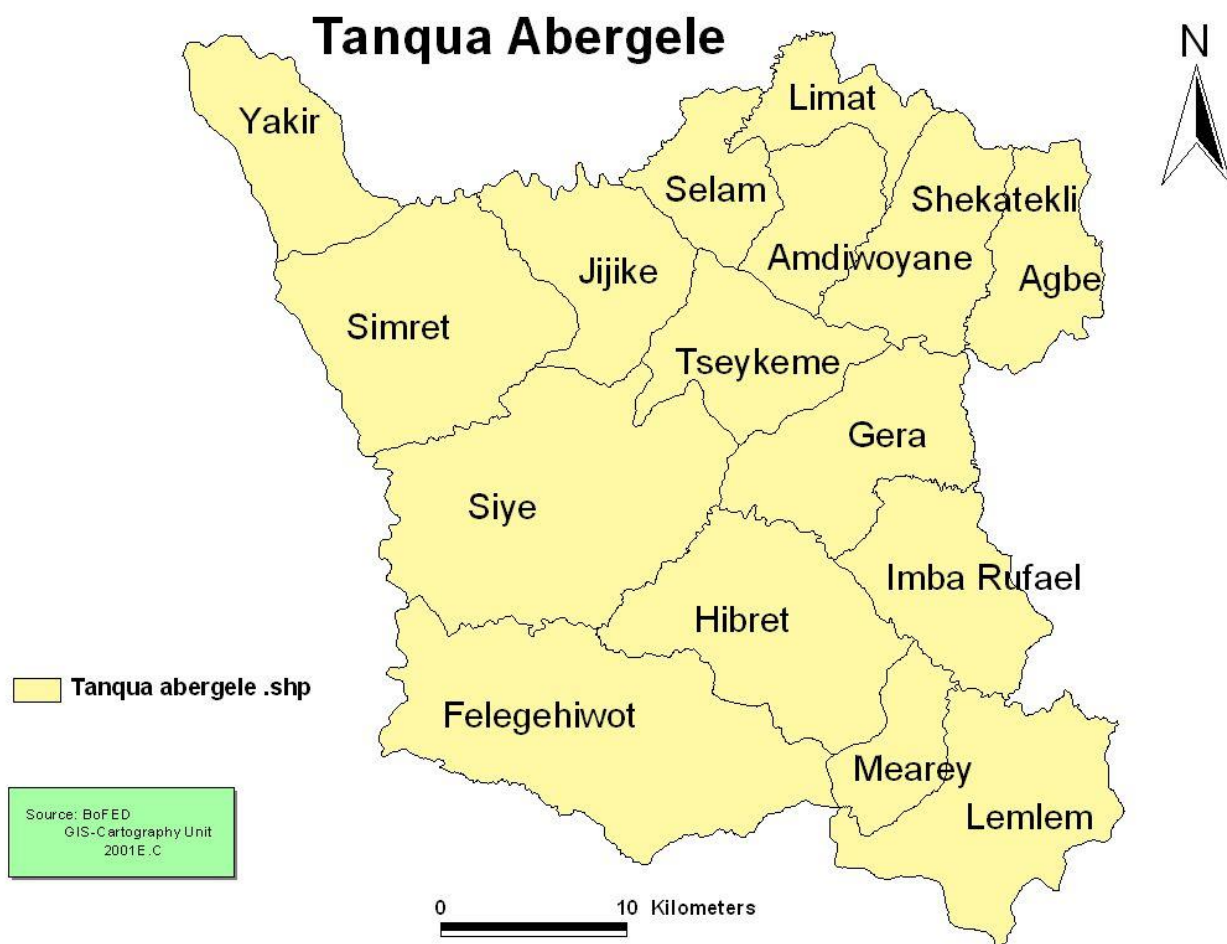
Annex V: Map of Survey Woredas

A. Map of Raya Azebo Woreda

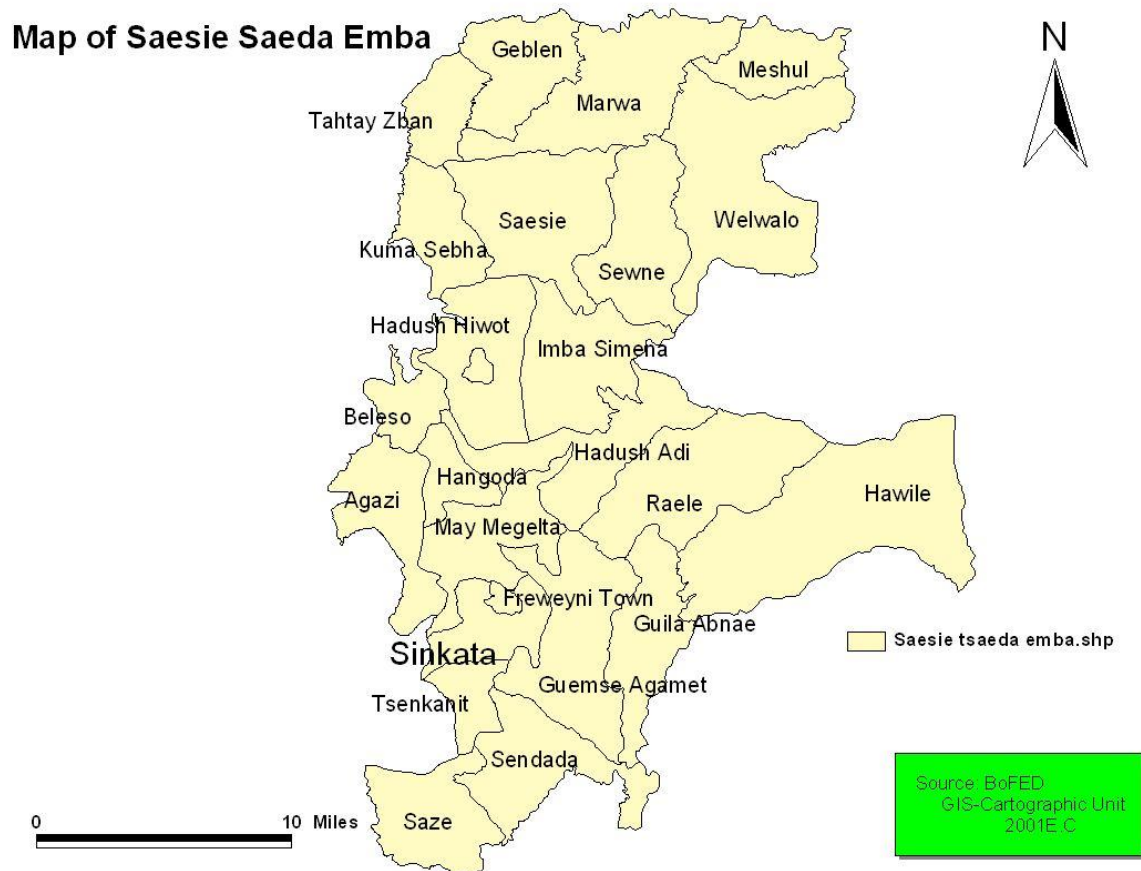
Raya Azebo



B. Map of Tanqua Abergele Woreda



C. Map of Sasei Tsaeda Emba Woreda



Annex VI: Survey Questionnaires

Woreda Household Questionnaire for Seasonal Nutrition Survey

Household Information

(To be administered to all households, all woredas)

(1) Date: _ _ / _ _ / _ _ _ _ (dd/mm/yyyy) (2) Region: _____ (3) Woreda: _____

(4) Tabia: _____ (5) Kushet: _____ 6) Cluster number: _____

(7) Household Number: _____ (8) Team number: _____ (9) Interviewer Name: _____

(10) Supervisors name _____

INSTRUCTION TO ENUMERATORS: GREET THE HOUSEHOLD FIRST AND THEN INTRODUCE YOURSELF AS FOLLOWS:

"WE ARE FROM _____. WE ARE WORKING ON A PROJECT CONCERNED WITH MONITORING AND IMPROVING THE NUTRITIONAL STATUS OF THE POPULATION. WE WOULD LIKE TO TALK TO YOU ABOUT THIS. ALL THE INFORMATION WE OBTAIN WILL REMAIN STRICTLY CONFIDENTIAL AND YOUR ANSWERS WILL NEVER BE DISCLOSED TO ANY ONE ELSE. DURING THIS TIME I WOULD LIKE TO SPEAK WITH THE HOUSEHOLD HEAD AND ALL MOTHERS OR OTHERS WHO TAKE CARE OF CHILDREN IN THE HOUSEHOLD. MAY I START NOW?"

IF PERMISSION IS GRANTED, BEGIN THE INTERVIEW. IF REFUSED, THANK HIM/HER AND INFORM YOUR SUPERVISOR ABOUT THE SITUATION.

11.	Result of HH interview	Completed	1
		Not at home (_____)	2
		Refused	3

PUT A CIRCLE AROUND THE RESPONSE CODE/S CAREFULLY UNLESS OTHERWISE INDICATED

FOIPA REQUEST: AROUND THE RESPONSE CODE/S CAREFULLY, UNLESS OTHERWISE INDICATED				
NO.	QUESTIONS AND FILTERS	ANSWERS & CODES		SKIP
12	What is the sex of the head of the household?	Male	1	
		Female	2	
13	What is the highest education level completed by the mother/caregiver?	None	1	
		Less than Primary	2	
		Primary	3	
		Secondary	4	
		More than secondary	5	
		Don't know	98	
WASH				
14	What is the <u>main</u> source of drinking water for this household	Piped (treated)	1	
		Piped (untreated)	2	
		Tube well or Borehole	3	

		Protected well	4	
		Unprotected well	5	
		Protected spring	6	
		Unprotected spring	7	
		Surface water (river, dam, stream, etc.)	8	
		Rainwater	9	
		Water trucking	10	
		Bottled water	11	
15	When the main source for drinking water is NOT available, what is the alternative source of drinking water for this household?	Piped (treated)	1	
		Piped (untreated)	2	
		Tube well or Borehole	3	
		Protected well	4	
		Unprotected well	5	
		Protected spring	6	
		Unprotected spring	7	
		Surface water (river, dam, stream, etc)	8	
		Rainwater	9	
		Water trucking	10	
		Bottled water	11	
16	What source of drinking water are you using now?	Main source	1	
		Alternative source	2	
17	Do you treat your water in any way to make it safer to drink? (Does not include washing the water container)	Yes, always	1	If no, skip to 19
		Yes, sometimes	2	
		No	3	
		Don't know	98	
18	What do you usually do to make the water safer to drink? (MORE THAN ONE ANSWER IS POSSIBLE.)	Boil	1	
		Add bleach/chlorine/waha agar	2	
		Strain it through cloth	3	
		Use water filter (ceramic, sand, etc)	4	
		Let it stand and settle	5	
		Water purifying product	6	
		Other (specify)_____	7	
		Don't know	98	
19	What kind of toilet facility do members of this household normally use?	Flush Toilet	1	If None "5", skip to 21
		Pit Latrine	2	
		Ventilated improved pit latrine (VIP)	3	
		Eco-San (pit composting)	4	

		None (Bush, field)	5	
		Other Specify _____	6	
20	Does this household share this facility with other households?	Yes	1	
		No	2	
		Don't know	98	
21	Status of the toilet at the moment (through physical observation)	Functional and Clean	1	
		Functional but not clean	2	
		Not functional due to damaged	3	
		Constructed but not in use	4	
22	Do you have a bed net at home?	Yes	1	If 2 or 98 skip to 25
		No	2	
		Not Applicable (non-malarial area)	98	
23	Is your bed net insecticide treated?	Yes	1	
		No	2	
		Don't know	98	
24	Last night, who slept under the bed net?	Only child/children under 5 years	1	
		Mother and child/children under 5 years	2	
		Only mother	3	
		Only father	4	
		Father and mother only	5	
		All of the family	6	
		None of the family	7	
INCOME				
25	What were the main sources of income for this household in the last 4 weeks? (circle all that apply)	Sales of crop production (cereals)	1	
		Sales of livestock	2	
		Sales of livestock products	3	
		Sales of cash crop (eg. chat, coffee)	4	
		Sales of firewood/charcoal	5	
		Sales of handicrafts	6	
		Small business	7	
		PSNP work	8	
		Loan	9	
		Remittance	10	
		Salary	11	
		Sale of relief food	12	
		Nothing	13	
		Other (specify) _____	14	
FOOD				
26	What were the main sources of food for the household during the last 3 months?		Circle	Rank
		Own production	1	

	(Circle all that are mentioned) ASK THEM TO RANK ACCORDING TO PRIORITY	Bought	2	
		Borrowed	3	
		PSNP	4	
		Relief food (GFD)	5	
		Other (specify)_____	6	
		Don't know	98	
27	Does this household currently have food stocks?	No Stock	1	If no stock "1", go to 28 else 29
		Up to 1 month	2	
		Enough to last for 2-3 months	3	
		Enough to last for 4-6 months	4	
		Don't know	98	
28	If currently NO household food stocks, what will be your source of food for next 3 months? (Circle all that are mentioned)	Own production	1	
		Bought	2	
		Borrowed	3	
		PSNP	4	
		Relief Food (GFD)	5	
		Other (specify)_____	6	
	Don't know	98		
29	In the last 3 months, did this household sell or barter any assets in order to acquire food?	Yes	1	If "1" go to 30 else 31
		No	2	
		Don't know	98	
30	What type of assets did the household sell or barter?	Poultry	1	
		Small Livestock (goats, sheep)	2	
		Large Livestock (cattle, donkeys, etc.)	3	
		Cash Crops (including cereals)	4	
		Non-productive assets (e.g. furniture)	5	
		Productive assets (e.g. farm tools)	6	
		Others Specify_____	98	
31	Has this household benefited from a food aid program in the last 3 months? (Circle all that are mentioned)	None	1	
		PSNP for food	2	
		PSNP for cash	3	
		Targeted SFP	4	
		Relief food (GFD)	5	
		Other (specify)_____	6	
32	How many meals did the adults in this household eat yesterday?	None	0	
		One times	1	
		Two times	2	
		Three times	3	

		Four or more	4		
		Don't know	98		
33	Please tell me everything that you ate this week (whether at home or outside the home). Did you eat anything else? Tell me what it was. DO NOT LIST, CIRCLE IF ANY ITEMS MENTIONED	FOOD GROUPS (examples)	Yes	No	How many times in a Week
		Grains and cereals (injera, kitta, genfo, firfir)	1	2	
		Roots and tubers (potato, sweet potato)	1	2	
		Fats, oil, ghee, butter	1	2	
		Dairy products (milk, yogurt, cheese)	1	2	
		Flesh foods (meat, organ meat, fish, eggs)	1	2	
		Fruits and vegetables	1	2	
		Sugar, honey, candy	1	2	
		Legumes & nuts (peas, beans, chickpeas, Shirowot)	1	2	
		Other Specify	1	2	

COPING STRATEGIES INDEX

	Coping Strategies (Circle only one answer for each coping strategy)			Never	Seldom (1-3 days a month)	Sometimes (1-2 days a week)	Often (3-6 days a week)	Daily
34	In the past 30 days, how frequently did your household resort to using one or more of the following strategies in order to have access to food? CIRCLE ONLY ONE ANSWER FOR EACH STRATEGY (row).	a.	Skip entire days without eating?	1	2	3	4	5
		b.	Limit portion size at mealtimes?	1	2	3	4	5
		c.	Reduce number of meals eaten per day?	1	2	3	4	5
		d.	Borrow food or rely on help from friends or relatives?	1	2	3	4	5
		e.	Rely on less expensive or less preferred foods?	1	2	3	4	5
		f.	Purchase/borrow food on credit?	1	2	3	4	5
		g.	Gather unusual types or amounts of wild food / hunt?	1	2	3	4	5
		h.	Send household members to eat elsewhere?	1	2	3	4	5

		i.	Reduce adult consumption so children can eat more?	1	2	3	4	5
		j.	Rely on casual labor for food?	1	2	3	4	5

LIVESTOCK				
35	What type of livestock do you own?	No animals	1	If "1", skip to 43
		Ox	2	
		Cattle	3	
		Sheep	4	
		Goats	5	
		Donkey	6	
		Mule	7	
		Camel	8	
		Other (specify)_____	9	
36	What is the current size of your herd as compared to last year of this time?	Increase	1	If increase, go to 38
		Same	2	
		Decrease	3	
37	If decrease or same, why?	Over sell	1	If 2 go to 38 else 39
		Death	2	
		Low productivity (drought/disease)	3	
		Other (specify)_____	4	
38	If death is reported, how many animals were lost due to recent drought/disease?(Write the number)	Livestock type	Quantity	
		Ox		
		Cattle		
		Sheep		
		Goats		
		Donkey		
		Mule		
		Camel		
		Other (specify)_____		
39	What is the physical condition of your animals?	Very good	1	If good or very good, skip to
		Good	2	
		Poor	3	

		Very poor	4	41
40	If condition is poor or very poor, what is the reason?	Lack of pasture/fodder	1	
		Lack of water	2	
		Lack of grazing land	3	
		Disease	4	
		Other (specify)_____	5	
41	How is the condition of your animals now compared to this time last year	Same	1	
		Better	2	
		Worse	3	
42	How is the milk production of your livestock compared to same time last year?	Same	1	
		Better	2	
		Worse	3	
43	Since yesterday, did your youngest child (older than 6 months) consume any animal milk?	Yes	1	
		No	2	
		Not Applicable (no children over 6 months)	98	
Thank you so much!!!				

B. Woreda Community Questionnaire for Bi-Annual Nutrition Survey

(1) Date: _ _ / _ _ / _ _ _ _ (dd/mm/yyyy) (2) Region: _____ (3) Woreda: _____

(4) Tabia _____ (5) Kushet: _____ (6) Cluster number: _____ (7) Team number: _____

PUT A CIRCLE AROUND THE RESPONSE CODE/S CAREFULLY

NO	QUESTIONS AND FILTERS	ANSWERS & CODES	
1	What is the agro-ecological nature of this Kushet/ village?	1----Lowland (Kola) 2----Mid land (Weyna dega)	3----High land (Dega) 4----Higher highland (Wurch)
2	How was the amount of 2005/6 year's Meher rain?	1----Above normal 2----Normal	3----Below normal 4----No Meher rain
3. How was the <u>Timing</u> of 2005/6 year's Meher rain?			
3a	Meher rain on set (starting time)?	1----On time 2----Early on set	3----Late on set
3b	Meher rain Cessation (ending time)?	1----On time 2..... Early cessation	3----Late cessation
4	How would you rate 2005/6 year's Meher harvest Quantity?	1----Do not grow crops 2----Not planted 3----Poor 4----Good	5----Very good 6----Not harvested 98----Other (specify
5	If poor, what was the reason?	1---- shortage of rain 2----excess of rain 3 ---- lack of inputs	4----pest 5 ---- disease
6	How was 2005 year's Belg rain in amount?	1----Above normal 2----Normal 3----Below normal	4----No Belg rain 98----Other (specify
7	How was 2005 year's Belg rain in terms of <u>Timeliness</u> ?		
7a	Belg rain on set (starting time)?	1----On time 2----Early on set	3----Late on set
7b	Belg rain cessation (ending time)?	1----On time	3----Late cessation

		2 ----Early cessation	
8	How was 2005 year's Belg harvest in Quantity?	1----Do not grow crops 2----Not planted 3----Poor 4----Good	5----Very good 6----Not harvested
9	Why was 2005 Belg harvest poor or the community did not plant? (multiple response is possible)	1----Shortage of rain 2----Excess of rain 3----Pests 4----Disease	5----Lack of input 6----Frost 98---Other (specify)
10	How are your livestock physical conditions?	1----Very Good 2----Good 3----Average	4----Poor 5----Very poor 6----No livestock
11	If your livestock are in poor or very poor condition what are the main reasons? (multiple response is possible)	1----Lack of grazing 2----Lack of water 3----Disease	4 ----Lack of veterinary service 98----Other (specify)
12	Has the size of your herd changed since this time last year?	1----Increase 2----Decrease	3----Same
13	If your livestock now is decreased, why? (multiple response is possible)	1----Death due to drought 2----Death due to disease 3----Raids	4----Sale 5----Death due to wild animal attack 98----Other (specify)
14	How is the availability of water for livestock in this village now?	1---Good 2---Average	3----Below average 4----None
15	How is the pasture condition for livestock in this village now? (In terms of forage amount, availability of area for pasture)	1---Good 2---Average	3----Below average 4----None
16	In the last three months, has there been severe shortage of drinking	1---Yes	2---No

	water for humans in this village?		
17	If there was severe shortage of drinking water in this village, what was the reason?	1----Water source dried/empty 2----Water source became dirty / contaminated	3----Water source broken 4----Other (specify
18	From the centre of the village, how long does it take to walk to the <u>nearest health facility</u> for treatment when sick? (One way)	1---- Less than 30 minutes 2----30 minutes to 1 hour 3----1hour to less than 2 hours	4---- 2 hours to less than 3 hours 5---- 3 hours or more
19	Is there a health extension worker stationed in this village?	1----Yes	2----No
20	Have there been any human epidemics OR <u>unusual number of people getting ill</u> in the last three months in this village? (E.g. From diarrhoea, malaria, measles etc)	1----Yes	2----No
21	If there was an epidemic of people in this village, what was the disease?	1----Malaria 2----AWD/ Diarrhoea 3----Measles 4----Meningitis	5----Unspecified AFI (acute fibril illness) 98----Other (specify
22	Where do you usually take your children when they fall sick?	1----Traditional healers 2----Health facility	3--- Don't take anywhere 4---Other (specify)
23	Has there been any <u>unusual</u> out migration of people from this village in the past 3 months?	1----Yes	2.----No
24	What were the main reasons for the out migration? (multiple response is possible)	1----Lack of food 2----Lack of water 3----Looking for labour/job	4----Lack of pasture 5----Crop failure 98----Other (specify
25	What are the critical problems facing the Kushet or community? (list three major acute and chronic problems in order of their magnitude from top to bottom) (Health, food security, natural resource. Disaster. WASH etc)	Acute Problems	Chronic Problems
		1. 2. 3.	1. 2. 3.

26	What are the solutions to the problems mentioned above?	Solution to the acute Problems	Solution to chronic problems
		1. 2. 3.	1. 2. 3.
27	Do the community receive PSNP and Relief Food timely?	1.....Yes	2.....No

C. Woreda Seasonal Nutrition Survey, Anthropometry Format For Children 6-59 months

(1) Date: __ / __ / ____ (dd/mm/yyyy) (2) Region: _____ (3) Woreda: _____

(4) Tabia/Kebele: _____ (5) Kushet/Village/Gotte: _____ (6) Cluster number: _____

(7) Team Number _____

10	11	12	13	14	15	16	17	18	19	20	21	22
Child Full Name	Sex 1=male 2=female	Date of Birth (DD/MM/YY)	Age in Months	Weight (kg) To nearest 0.1kg	Height (cm) To nearest 0.1cm	Oedema 1=yes 2=no	MUAC (mm)	BCG scar 1=yes 2=no	Measles Vaccination (9-59 months) 0=Not vac 1=on card 2=Mother Recall	VIT A in the last 6 months 1=yes 2=no 8=DK	Has child had an illness in the last 2 weeks? 1=diarrhea 2=malaria 3=ARI 4=measles 5=fever 6=none	If child was where did take him/h treatment? 1=did not t 2=tradition healer 3=health fa 4=both tra healer and facility

Absent Children												
	Full Name		HHID	Age in Months		Sex (M/F)				Remarks		

D. Questionnaire for mortality rate calculation (one sheet/cluster)

(1) Date: _ _ / _ _ / _ _ _ _ (dd/mm/yyyy) (2) Region: _____ (3) Woreda: _____

(4) Tabia: _____ (5) Kushet/Gotte: _____ (6) Cluster number: _____

(7) Team number: _____ (8) Interviewer Name: _____

HH No.	Total people in HH	Total under 5 in HH	Joined HH Total	Joined HH under 5	Left HH Total	Left HH under 5	No. of births in recall period
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							

12							
13							
14							
15							
16							
17							
18							
19							
20							