



INTEGRATED MATERNAL-CHILD HEALTH, NUTRITION, FAMILY PLANNING BASELINE SURVEY REPORT

TAITA TAVETA COUNTY

Baseline team by;

WVK - World Vision Kenya

IMC - International Medical Corps

St. Joseph Shelter of Hope

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AFFIRMATION

“Except as acknowledged by the references in this report to other authors and publications, the baseline information described herein consists of our own partnership work, undertaken to establish the status of indicators for transformational development under Taita Taveta Integrated Maternal Child Health, Nutrition and Family Planning Project. These serves as benchmarks for the changes in the interventions to undertaken over the project implementation phase. This was done as part of the requirements of partners’ (WVK, IMC and St. Joseph) Design, Monitoring, Evaluation and Learning System.”

The primary and secondary quantitative and qualitative data collected throughout the survey remains the property of the communities and partners described in this document. Information and data can only be used with their consent.

Authors:

Ronald C. Ngetich - *Design Monitoring and Evaluation Coordinator and Survey leader (World Vision)*

Rose Ndolo - *National Nutrition Coordinator (World Vision Kenya)*

Mark Murage Gathii - *Nutritionist (International Medical Corps - Kenya)*

LIST OF ABBREVIATIONS

ANC	- Ante-natal clinic
ARI	- Acute Respiratory Infection
CBOs	- Community Based Organizations
CHMT	- County Health Management Team
CHWs	- Community Health Workers
CLTS	- Community led total sanitation
CMR	- Crude mortality rate
CNC	- County Nutrition Coordinator
CNTF	- County Nutrition Technical Forum
DHIS	- District Health Information System
ECD	- Early Childhood Development
ENA	- Emergency Nutrition Assessment
EBF	- Exclusive Breastfeeding
FGD	- Focus Group Discussion
FP	- Family Planning
GAM	- Global Acute Malnutrition
HFA	- Height for Age
HHD	- Household
IMC	- International Medical Corps
IMCHN&FP	- Integrated Maternal Child Health Nutrition and Family Planning
IYCN	- Infant and Young Child Nutrition
MAM	- Moderate Acute Malnutrition
MCHN	- Maternal Child Health and Nutrition
MDGs	- Millennium Development Goals
MOH	- Ministry of Health
MUAC	- Mid Upper Arm Circumference
M&E	- Monitoring and Evaluation
NACC	- National Aids Control Council
NCSH	- National Centre for Health Statistics
NDMA	- National Drought Management Authority
NGOs	- Non Governmental Organizations
NIWG	- Nutrition Information Working Group
OPV	- Oral Polio Vaccine
PLW	- Pregnant and Lactating Women
PPS	- Proportion to population size
RH	- Reproductive Health
SAM	- Severe Acute Malnutrition

SGA	- Small Gestation Age
SMART	- Standardized Monitoring and Assessment of Relief and Transitions
URTI	- Upper Respiratory Tract Infection
VIP	- Ventilated Improved Pit Latrine
WASH	- Water Sanitation and Hygiene
WFA	- Weight for Age
WFH	- Weight for Height
WHO	-World Health Organization
WVK	- World Vision Kenya

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EXECUTIVE SUMMARY

The Integrated Maternal and Child Health, Nutrition and Family Planning (IMCHNFP) in Taita Taveta County is a project undertaken in partnership with International Medical Corps, World Vision Kenya, the Ministry of Health and St. Joseph’s Shelter of Hope. This is a three year project whose overall outcome is to enhance the realization of MDG 4, 5 and 6¹ for Taita Taveta County. One of the activities expected to have been done by the end of this project before evaluation of the impact was to carry out an integrated baseline survey covering all the components of this project. The main goal of the survey was to therefore set baseline values against which to measure milestones achieved over the next three years of implementation. This would provide direction for decision making based on progress and achievement of objectives set out in the project design.

The SMART methodology was applied in carrying out the nutrition, mortality and food security components of the survey. Using ENA for SMART software version 2013, 544 households were sampled in the entire county which translated to 13 households per cluster in 42 clusters. Probability proportion to population size (PPS) was used in determination of clusters whereas simple random sampling was used to select households within a cluster. These households were interviewed on maternal child health and nutrition. The methodology also applied in carrying out the maternal child health and nutrition survey.

For IYCN, 21 household were targeted for 0- 23 year old children per cluster while for youth surveys, the selection of participants was purposively distributed across the cluster formation (town centers, rural and Sisal farms settlements). The process involved administration of confidential questionnaires and facilitation of focus group discussion targeting youth aged 15 – 24 years on matters of reproductive health and family planning in terms of knowledge, attitude and practice. Using Fischer et al formula, a sample of 433 youth responded to the confidential survey questions and this was further supplemented by conducting 8 focus group discussions among the youth and adolescents. The results of the study are as summarized in table I below.

Data collection and analysis produced the following summary results:

Table I: Summary of Results

Taita Taveta County Nutrition Survey Results				
ANTHROPOMETRIC RESULTS				
WHO 2006	N	95% CI		95% CI
Design effect = 1.00	N	July 2011 Results		Nov 2013 Results
Prevalence of Global Acute Malnutrition (<-2 z-score)	561	(31)5.5%	(3.7 8.1 95% CI)	(16) 4.1% (2.7 - 6.1 95% C.I.)

¹ MDG 4(Reduce child mortality) MDG 5(Improve maternal Health) and MDG 6 (Combat HIV/AIDs, Malaria and other diseases).

Prevalence of Severe Acute Malnutrition (<-3 z-score and/or edema)		(5) 0.9 (0.3-2.5 95% CI)	393	(3) 0.8 % (0.3 - 2.3 95% C.I.)
Prevalence of stunting (<-2 z-score)	561	(156) 27.8% (23.9-32.1 95% CI)	393	(106) 27.0 % (22.1 - 32.5 95% C.I.)
Prevalence of severe stunting (<-3 z-score)		(37) 6.6% [4.7-9.2, 95% CI]		(36) 9.2 % (6.7 - 12.4 95% C.I.)
Prevalence of underweight (<-2 z-score)	561	(72) 12.8% [10.1-16.2 95% CI]	394	(60) 15.2 % (11.3 - 20.2 95% C.I.)
Prevalence of severe underweight (<-3 z-score)		(9) 1.6% [0.8- 3.2 95% CI]		(12) 3.0 % (1.7 - 5.5 95% C.I.)
MORTALITY				
Crude Mortality	3529	0.27 (0.16-0.45) (95% CI)	2699	0.40 (0.23-0.71) (95% CI)
U5 Mortality	708	0.30 (0.07-1.20) (95% CI)	489	0.70 (0.22-2.21) (95% CI)
IMMUNISATION				
Measles Coverage (Children ≥ 9 months) by card and recall <input type="checkbox"/>		81.0%	368	76.1%
Measles Coverage (Children 18 months and above) by card and recall			287	12.9%
BCG Scar (Scar present and Card)			394	89.3%
OPV1 (Yes by Card and Recall)			394	99.7%
OPV3 (Yes by Card and Recall)			394	99.7%
Pneumococcal I (yes by Card and Recall)			299	75.9%
Pneumococcal 3 (yes by Card and Recall)			292	74.1%
VITAMIN A AND DEWORMING				
Children aged 6- 11 months who were supplemented with vitamin A once		65.5%	n= 38	71.7%
Children aged 12 – 59 who were supplemented with vitamin A once		63.9%	n=143	41.9%
Children aged 12- 59 who were supplemented with vitamin A twice			n= 99	29.0%
Children 12 month old and above who were dewormed once		51.4%	n=174	51.0%
Children 12 months old and above who were dewormed twice			n= 74	21.7%
CHILD MORBIDITY				
Indicator		Percentage	N	Percentage
Illness in the last 2 weeks 6-59 Months	All		189	46.4%
	Fever like Malaria		44	24.1%
	ARI		78	44.8%
	Diarrhoea		24	13.8%
	Others		39	21.3%
Illness in the last 2 weeks 0-59months			62	27.4%
Management of diarrhoea	Zinc	6.7%	7	29.2%
	ORS	46.7%	12	50.0%
MATERNAL HEALTH, FAMILY PLANNING AND NUTRITION				
Four (4) ANC visits			275	61.2%
HIV Counselling and Testing during Pregnancy			442	96.7%
Skilled Birth Attendance			307	70.7%
Family Planning Uptake			303	66.3%
Iron folate supplementation for		84.9%	335	73.3%

pregnant mothers			
PLW with MUAC less than 21 cm		0.7%	1.48%
People who slept under the mosquito net	U5s	87.0%	51.0%
	PLWs		51.3%
INFANT AND YOUNG CHILD NUTRITION			
Exclusive breastfeeding (0- 5 months)		51.1%	163
Timely initiation of breastfeeding (within 1 hr.) 0-23 Months		67.6%	348
Introduction of solid, semi-solid or soft foods 6-8 months		92.6%	44
Continued breastfeeding 12-15 Months		87.5%	37
Continued breastfeeding 20-23 Months		48.6%	28
Minimum Dietary Diversity 4+ food groups and breastfeeding			53
Minimum Meal Frequency >2 times (6- 8) and breastfeeding			31
Minimum Meal Frequency > 3 times (9- 23) and breastfeeding			70
Minimum Meal Frequency > 4 times (6- 23) and non-breastfeeding			26
WATER SANITATION AND HYGIENE PRACTICES			
Access to sanitation facilities			95.6%
FOOD SECURITY			
Low Dietary Diversity (3 Food Groups)			60
Medium Dietary Diversity (4-5 Food Groups)			268
High Dietary Diversity (>6 Food groups)			216
YOUTH REPRODUCTIVE HEALTH			
Lowest age of sex debut – under 10 years (i.e. between 5 and 9 years)			2.5%
Peak age of first sex debut – at 18 years			8.5%
Main sources of RH (FP) information among the youth - Health Care Providers and Media			30.5% and 33.5% respectively
Uptake/utilization of FP Services among the youth (i.e. the proportion of youth who uses at least one of the reproductive health methods)			62.3%
Knowledge of at least one method of delaying/ avoiding getting pregnant			73.6%
Most familiar FP method among the youth - condom use			24%
Proportion of youth ever tested for HIV			74.8%
Condom use by the sexuality active in the last sexual intercourse			32.6%
Frequency of condom use among the sexually active youth – those who used condom always			23.4%
Main challenge to use of FP methods – side effects			34%
ANC attendance among the youth who had pregnancy experience (self/partner)			81%
Completion of ANC attendance			54.6%
Non completion of ANC			44.4%
Youth interested in more education on RH/FP			75.3%
Knowledge of a place for obtaining FP services			70.9%

Some gaps were revealed from the survey findings as indicated in the above summary table. To address these gaps it calls for concerted efforts for all stakeholders i.e. the Ministry of Health, the County Government, the NGOs, the CBOs and the community. The following recommendations were put forward to address the gaps revealed by the survey:

- In order to improve demand for MCH, Nutrition and FP, increase the number of CHWs at the community level by establishing more community units and strengthening the existing

ones. Further build the capacity of the CHWs to undertake home visits to pregnant and lactating women at certain critical points within the 1000 days.

- In order to improve on vitamin A supplementation, it is recommended for sensitization to the community/caregivers on the importance of vitamin A supplementation and deworming. Mass campaigns such as Malezi Bora and immunization campaigns (polio, measles etc.), should be strengthened. It is also important to improve on documentation of the supplemented cases during the routine health facility supplementation as well as during the mass campaigns (cards and registers). Strengthening of community strategy in the county to enhance behavior change and also addressing the supply issues will greatly boost the coverage in the county
- Advocate for zinc supplementation and adherence to protocols on therapeutic zinc supplementation in diarrhea episodes to the health workers
- To improve uptake of four ANC visits, increase number of women attending PNC in a timely manner and education during both ANC and PNC, build capacity of CHWs to provide community education, home visits and referral of women. Further, avail IEC materials to aid in this education
- Community education on food diversity– Partner with relevant sectors for example, the Ministry of Agriculture, NGOs and CBOs in sensitization and training of the community on improved food production and utilization of different varieties of foods.
- Train community members on the importance and methods of treating their water to avoid contracting water borne diseases e.g. diarrhea.
- Advocacy and health promotion need to be strengthened. More outreach visits and community sensitization forums on the importance of measles immunization should be supported. More sensitization on the new measles dose at 18 months should be given a priority. Addressing the issue of antigen supply as well as developing flexible immunization schedules at the health facilities will boost the measles coverage. Thorough supervision need to be done at the health facilities to establish the gaps existing.
- Community sensitization on importance of good nutrition to the health of children as well as nutrients food sources especially locally available foods needs to be prioritized by the stakeholders in the County.
- Mothers should be educated on how to practice hand washing in all the 4 critical points both at health facilities as well as at the community level.
- Community led total sanitation (CLTS) method/approach can be utilized to trigger communities toward ownership and utilization of latrines
- Strengthen the capacity of health workers on attitude change towards youth in regard to issues of reproductive health and family planning. This capacity should also include the creation of youth friendly opportunities or provision of youth friendly services in the existing on new facilities.

- Build the capacity of Community Health Workers (CHWs) on Reproductive Health (RH) to enable them disseminate information among youth. This is because the youth's responses indicate that they have a lot of interest to be educated and informed and also aware of where they obtain the services.
- Create more awareness on Ante Natal Care (ANC), especially early attendance and completion among youth. Unnecessary substitutes for ANC attendance among the youth should be challenged.
- Youth who get pregnant are mostly stigmatized, therefore community needs to be engaged to support youth affected by unplanned or early or first pregnancy. There is also need for increased sensitization among youth on Behaviour Change, Reproductive Health and Family Planning. This is a key contributor to late start of ANC attendance.
- There is need to deliberately and consistently work with media to provide correct information on Reproductive Health and Family Planning among the youth. This would dispel fears and wrong perceptions together with instilling proper use of FP services among the youth.
- Partners to support and strengthen formation and strengthening Adult-youth partnerships to address youth issues.
- Religious community and institutions to come on board to address issues of sexuality among youth. These local institutions should propagate positive cultural and religious values among the youth as they are the immediate institutions reaching the youth.
- Ministry of health, directorate of youth affairs, education and National Council for Population and development and NACC, to work together to harmonize their approaches related to RH & FP among youth.

INTRODUCTION

1.1 Background Information

Taita Taveta County is located in the Coastal Region of Kenya. It borders Tana River, Kitui and Makueni Counties to the North, Kwale and Kilifi Counties to the East, Kajiado County to the North West and the Republic of Tanzania to the South and South West. Taita Taveta County which has an estimated total population of 284,657 people is composed of four (4) sub-counties namely; Voi, Wundanyi, Taveta and Mwatate. The county occupies an estimated 17,084 Km², 11,000 Km² of which are occupied by two National parks; Tsavo East and Tsavo West. The County has 6 main livelihood zones as indicated in figure 1 below. Figure 2 indicate the population proportions for each of the livelihood zones.

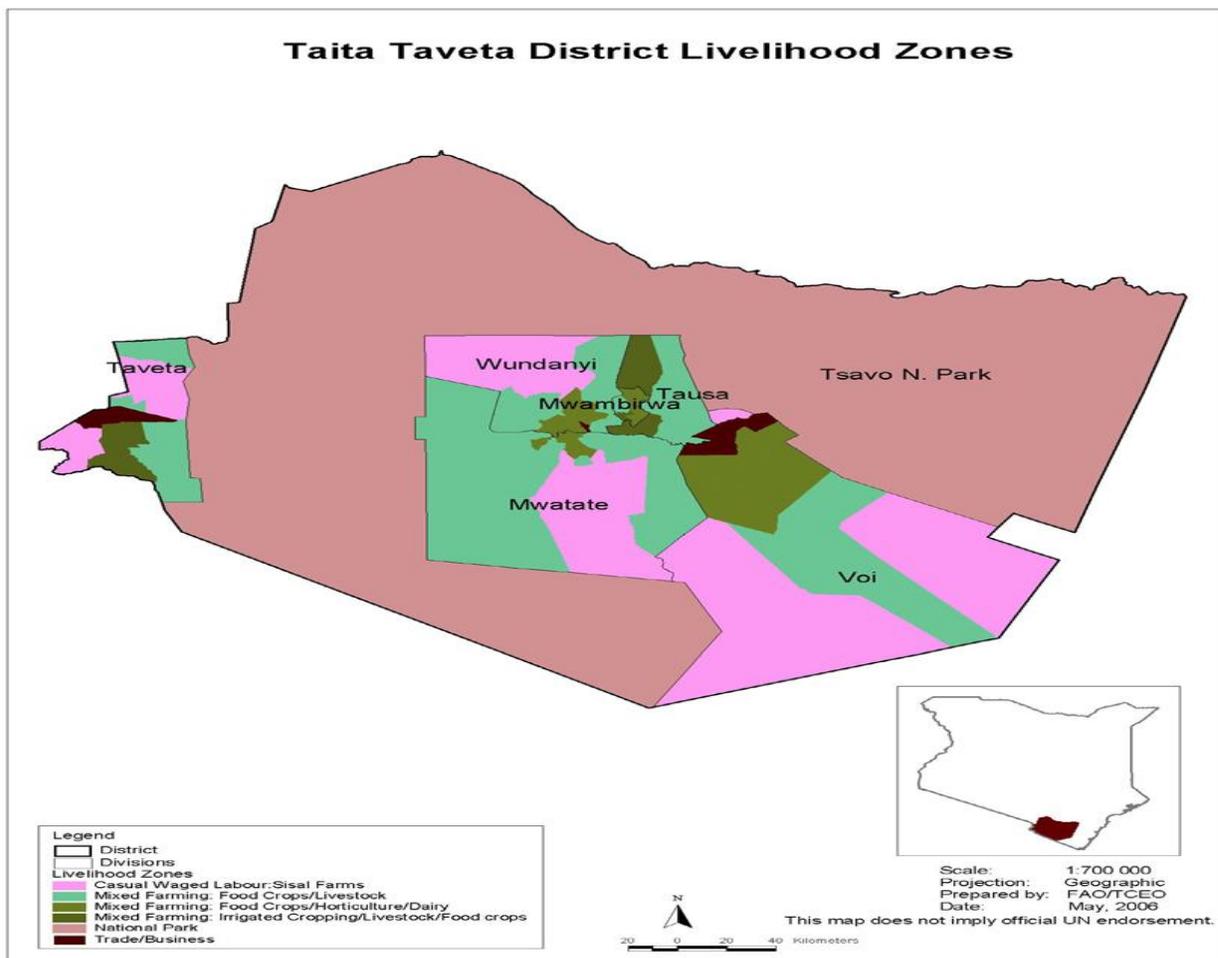


Figure 1: Taita Taveta livelihood zones

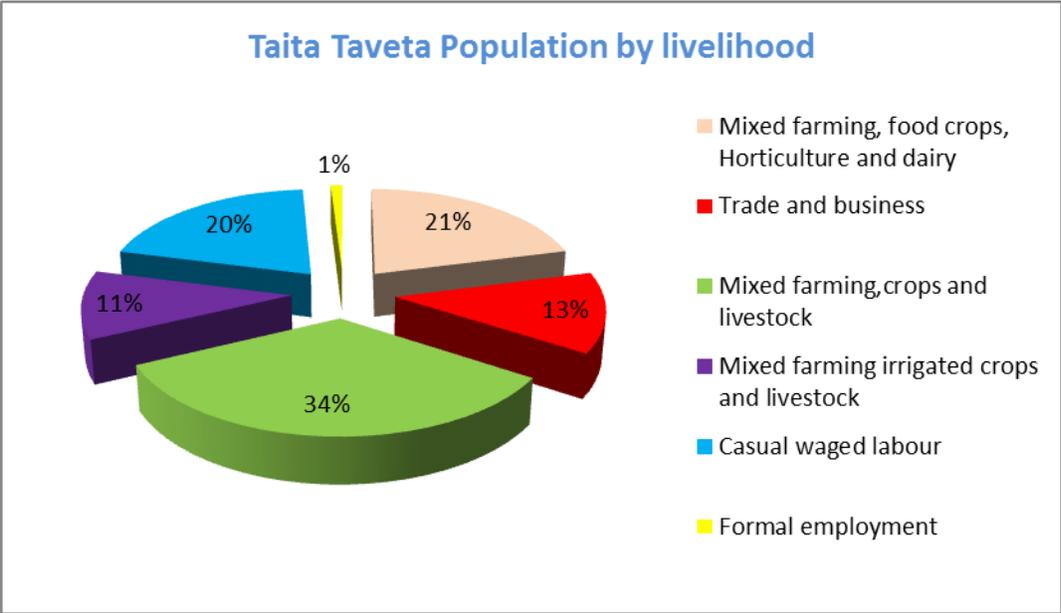


Figure 2: Population proportions for Taita Taveta livelihoods zones

Source: 2013 Taita Taveta County long rain assessment report

World Vision Kenya in partnership with International Medical Corps, Ministry of Health and St. Joseph’s Shelter of Hope has been (from April 2013) undertaking a three (3) year Integrated Maternal Child Health Nutrition and Family Planning (IMCHNFP) Project whose overall outcome is expected to enhance the realization of MDG 4, 5 and 6 for Taita Taveta County. This projects targets 34, 565 under-fives (13.5% of the total population), 14,111 pregnant and lactating women and 60421 women of reproductive age (15 to 49 years)².

1.2 Rationale for conducting a survey

This survey aimed at setting baseline values against which projects achievements would be measured and provided information for decision making based on progress and achievement of objectives set out in the project design.

1.3 Survey General Objective

The overall objective of the survey was to assess nutrition status for children under five, pregnant and lactating mothers with integration of reproductive health practice among mothers and youth in Taita Taveta County.

1.3.1. Specific Survey Objectives

1. To establish the crude mortality and under-five mortality rates in Taita Taveta county
2. To assess the prevalence of malnutrition in children aged 6-59 months

² DHIS 2013

3. To determine the nutritional status of primary caregivers including PLW aged 15-49 years based on maternal MUAC
4. To determine immunization coverage; BCG, measles (9-59months), OPVI/3, PCV10 and Vitamin A for children aged 6-59 months.
5. To determine deworming coverage for children aged \geq 12 months to 59 months
6. To determine the prevalence of common illnesses (Diarrhea, Measles, ARI, and Cough)
7. To determine level of therapeutic Zinc Supplementation (6-59M)
8. To assess infant and child care and feeding practices among caretakers with children aged 0-23 months
9. To assess maternal and child health practices
10. To assess water, sanitation and hygiene practices
11. To assess the prevailing situation of household food security in the County.
12. To assess maternal and youth (aged 15-49 years) access to reproductive health (family Planning) service in Taita Taveta County.

METHODOLOGY

2.1. Survey Type

The survey combined a number of methods to gather data on various components of the study; Standardized Monitoring and Assessment of Relief and Transitions (SMART) methodology was used to conduct Taita Taveta County Integrated Health and Nutrition Survey with strict adherence to all relevant ministry of health guidelines and guidance from Kenya's Nutrition Information Working Group (NIWG). Data collected during the integrated survey included anthropometric, infant and young child nutrition (IYCN), water, sanitation and hygiene practices (WASH), maternal and child care practices and household food security.

For the youth survey, the process involved administration of confidential questionnaires to individual youth sampled using Fischer et al formula as well as facilitation of focus group discussion (as described in the sections below), all targeting youth aged 15 – 24 years on matters of reproductive health and family planning in terms of knowledge, attitude and practice in Taita Taveta County

2.2. Description of sampling frame (population)

The sampling frame constituted all 659 villages in Taita Taveta County with their respective population.

2.3. Sampling methodologies and sample size calculation

2.3.1. Anthropometric Sampling

Two-Stage sampling methodology was applied in the survey. Emergency Nutrition Assessment (ENA) for Standardized Monitoring of Relief and Transition (SMART) June 27th 2013 Version was used to calculate anthropometric/mortality sample. At the planning stage, the malnutrition prevalence rate was estimated to be 8.1%. This being the upper limit for previously conducted survey in July 2012³. This was informed by the fact that the survey was done after long dry season and the rate was expected to be on the upper side. A desired precision of 4% and a design effect of 1.3⁴ an estimated household size of 4 was used. With the estimated population of under-fives being 13.5% and anticipated non- response of 3, **537** households and **253** children were obtained as the sample size required.

These sampled households were assessed for child anthropometry, child health and maternal health and family planning.

2.3.2. Retrospective Mortality Sample

Lack of information on the current mortality trends in Taita Taveta County necessitated the inclusion retrospective mortality assessment in the survey. In determination of sample size for mortality survey, planning like in the anthropometric assessment was done using ENA software.

³ GAM rate according to July 2011 survey was 5.5% (3.7- 8.1 95% C.I.)

⁴ Due to slight variation in livelihood zones

Planning was done using an estimated prevalence of 0.3% (July 2011 CMR was 0.3 deaths/10,000 people/day (0.07- 1.20, 95 C.I.)), a desired precision of 0.4% and a design effect of 1.3. A recall period of 74 days was used. This was a day that most people in the county could remember as it was a closing day of second school term (16th August 2013). Just like in case of anthropometric sampling, the average household size was 4, the percentage of under-fives was 13.5% and the percentage of non- response was 3%. From these parameters, **355** households and **1378** individuals were obtained as mortality assessment sample.

2.3.3. IYCN Sample Size

IYCN multi survey sampling calculator was used to calculate the IYCN sample size. Key indicators namely exclusive breastfeeding (0- 5 months), timely initiation of breastfeeding (0- 23m), minimum acceptable diet, minimum meal frequency, and minimum dietary diversity were used. The calculation resulted to the figures indicated in table 2 below.

Table 2: IYCN sample size

Indicator	Children to be included	Households to be included
Exclusive breastfeeding	212	
Timely initiation of breastfeeding		887
Minimum dietary diversity		252
Minimum meal frequency		347

In addition to the IYCN assessment in these households, the caregivers/ mothers were also assessed for their maternal health practices.

2.3.4. Youth Sample Size

This being an integrated maternal child health nutrition and family planning project, data on youth and their reproductive health was collected through survey and discussions by a designated team of research assistants/enumerators. Cluster sampling method was applied in sampling of the clusters/villages among the settlements in town centers, rural and sisal farms.

Fischer et al formula, $n = (Z^2pqD/d^2)$ was used to determine the sample; where p=estimated proportion of occurrence (0.5), q= (1-p) = estimated proportion of non-occurrence, D=desired confidence level (1), and Z=1.96 (at 95% confidence level) and d= desired level of precision (d=0.05 at 95% confidence level). This gives a sample of 384. However, to take care of any variability across the population, an upward adjustment of the sample was done and thus a sample of 433 youths within the selected clusters/villages was interviewed.

2.4. Description of Sampling method

2.4.1. Sampling for Nutrition, maternal and child health,

With consideration of data quality as well as logistical viability, 13 households were assessed per cluster per day for anthropometry, child health and maternal health. This translated into 42 clusters (537/13), and 21 households for IYCN indicators (6-23m). For EBF assessment, at least

6 children (0-5m) were assessed per cluster per day in all the 21 clusters and their caregivers assessed for maternal health practices; where the sample was not achieved within the 21 households per cluster, the balance was purposively sampled.

Forty two (42) clusters (villages) were selected using ENA for SMART June 2013 Version based on proportion to population size (PPS). The highest sample size (887, Timely Initiation of Breastfeeding) was used as basis of household sample size (21).

From each of the 42 clusters sampled, 21 households were selected through simple random sampling based on a list of households that was provided by respective village elders/chiefs. Household, mortality, anthropometric, child health, maternal health and IYCN were administered in the first 13 households. After 13th household, only IYCN questionnaires were administered up to the 21st household. Purposive sampling was done to find children 0 to 5 months in case not enough number (6) were found in the sampled households in a particular cluster. Such sampling was extended in a neighboring non- sampled cluster until the required number was realized.

2.4.2. Sampling for youth survey

The selection of the youth to be included in the survey were done purposively reaching those married, single, and adolescents, all of ages between 15 to 24 years in the 16 clusters. A structured confidential quantitative questionnaire administered to them. Their selection was distributed randomly across the clusters (town centers, rural and Sisal farms settlements) where identified individual youth responded to the questionnaires with facilitation of trained enumerators. In total a maximum of 433 were targeted to provide their confidential responses.

2.5. Focus Group Discussions

For maternal and child health, qualitative information was collected concurrently through FGDs; 1 team was trained and tasked to collect the information from 8 different but homogeneous groups. 4 clusters were randomly selected from non-sampled villages equally divided among the 2 predominant livelihoods (Waged Labor and Mixed Farming). In each cluster, men and women were separately engaged.

To supplement the survey data, qualitative data collection through FGDs on youth reproductive health were gathered concurrently with the survey data. Both male and female groups aged between 15 – 24 years were identified randomly from purposively clustered contexts (urban, rural and sisal farms). Two teams of facilitators conducted the processes among the 8 FGDs.

2.6. Survey Training and organization

For maternal and child health, eight (8) survey teams comprising of 3 team members (2 data collectors and 1 measurer) and 1 team leader participated in the survey. One team was tasked to collect qualitative information through the FGDs, while a separate team of data entry clerks (4) was involved in data entry. All the team leaders were MoH personnel in the county. The

County Nutrition Coordinator was tasked with coordination and supervisory roles, from mobilization to data collection stages. The survey teams (enumerators and data clerks) were recruited from the county through a rigorous recruitment process. IMC, WVK and St. Joseph program staff were engaged in coordination and supervision of the entire survey exercise.

The survey teams were rigorously trained for 5 days in Wundanyi town from 22nd to 27th October 2013. The training topics included; introduction to SMART methodology, malnutrition, anthropometric measurements, sampling methods, data collection tools, accurate measurements and recording, interviewing techniques and administration of the questionnaires. On the fourth day, 10 children under age of 5 years from a neighboring ECD (Ngururu ECD School) were used in a standardization exercise whose aim was to test the enumerator's precision and accuracy in taking anthropometric measurements. Pretesting was done in the 5th day in a nearby and non- sampled village.

To effectively reach the youth 3 survey teams of two facilitators and 2 survey teams of three facilitators each were identified and trained for a period of 5 days. The first three days being rigorous training on the methodology and understanding of the tools, and the fourth day being used for pre-testing at Sungululu Village that was not sampled for survey. The pre-test enabled the data collection teams to familiarize themselves with the tools, perfect their interview skills and their abilities to capture data and generate the summaries. The teams then participated in reflection and learning from the process and refining of final tools for data collection.

2.7. Data collection

All the teams set during the training were dispatched to collect for a period of 6 days from all the sampled villages, purposively selected groups and key informants.

For all the tools and guidelines developed for the survey, both qualitative and quantitative data was collected concurrently so as to obtain a reliable triangulation of issues during reporting and analysis.

2.7.1. Data Collection tools and indicators measured

Eight (8) sets of questionnaires were used in data collections. These included; household questionnaire, mortality questionnaire, anthropometric, immunization and morbidity questionnaire (6-59 months), maternal health, IYCN (6- 23 months and 0-5 months) questionnaire, Youth confidential questionnaire and focus group discussion guides.

2.7.1.1. Household Questionnaire

The household demographics and socio-economic data were collected using structured household questionnaires. This was administered in the first 13 households for each cluster.

2.7.1.2. Mortality Questionnaire

This was used to collect both under-five and retrospective crude mortality information based on 74 days recall period. This questionnaire was administered in all 13 sampled household irrespective of presence or absence of under-five.

2.7.1.3. Anthropometric, Immunization and Morbidity questionnaire

This questionnaire was only administered to all households with the legible children (6-59months). Apart from anthropometric measurements, other relevant information collected using this tool included child morbidity, immunization and Vitamin A supplementation, deworming, and health seeking behaviors of the respective caregivers of these children. The following information was collected through the questionnaire.

Child age: This was recorded based on either documentation or recall by the caregiver/mother. The age was verified using Mother and Child Health card, birth certificate, baptism card, and birth notification card. However, in the absence of these documents, the mother or caretaker would be probed for a recall with aid of a calendar of events. The age was recorded in months.

Child sex: the child's sex was recorded as either male (m) or female (f).

Child weight: Children's weights were measured in their nude state or with minimal clothing using a 25 kg hanging spring Salter scale to the nearest 100g and recorded to the nearest 1 decimal place. The bathroom Seca scale was used to take weight directly for older children but could also be used for younger children using the double weighing option.

Child height/length: Fully functional standard height boards were used to measure height and length. Height was measured for all children whose age was equal to or above 24 months and length taken horizontally for those aged below 24 months. Both length and height were taken with no foot and head ware.

MUAC: Using the MUAC tape, the mid upper arm circumferences were measured on the left arms and recorded to the nearest 0.1 cm.

Bilateral Oedema: A 3 second thumb pressure was applied on both feet of the children to determine bilateral oedema. The nutritional oedema was only recorded for children with pitting on both limbs.

Other information collected includes;

Vitamin A supplementation deworming and immunization: Vitamin and deworming frequency and immunization for BCG, OPV, pentavalent, pneumococcal and measles was collected from mother child booklet and incase it was not available the mother or caregiver was probed whether the child had received them. For BCG a scar on the left hand of a child was used to indicate that a child had received the dosage.

Morbidity and health seeking behavior: Mother and caregivers were asked whether their children had been sick over the fortnight ago. In case their children were sick, they were further probed what disease they has suffered, whether they sought any help and if they did

where? The illness assessed included fever like malaria, watery diarrhea and ARI. All children who reported to have suffered for diarrhea were probed of therapeutic management of diarrhea using zinc supplementation; treatment of malaria and ARI using effective dose of ACT and antibiotics respectively

2.7.1.4. Maternal Health Questionnaire

Mothers of children 0-59 months in the sampled households for child health and IYCN were assessed on key maternal practices through a questionnaire. The data that was collected related to;

Maternal and neonatal deaths: Absolute numbers of deaths of pregnant mothers and children 0-28 days were obtained from the County Health office for the period Jan-August 2013. This is because, maternal and neonatal mortality surveys require a high number of sample size which cannot be obtained at the county level.

Antenatal Care: Data was collected on the place of ANC attendance, number of times mothers attended ANC, information/ education received during pregnancy and tetanus toxoid (TT) vaccination during pregnancy

Delivery: Data was collected on the assistance during delivery, who was the decision maker on the place and type of assistance for delivery and the delivery procedures including equipment used to cut the umbilical and tie the cord.

Postnatal Care: The questionnaire was designed to assess if caregivers were aware and taking up PNC services. Respondents were asked whether for their most recent birth they had received a health check after the delivery, and if so, the timing of the first check-up and the type of health provider performing it. Details on reasons for respondents not attending PNC and the type of information provided during PNC visits was also collected.

Family Planning: Data on family planning methods women were using and reasons for not using family planning

2.7.1.5. Infant and Young child Questionnaire

The IYCN questionnaires were administered in households with children aged 0-23 months to collect data on indicators such as exclusive breastfeeding, timely initiation of breastfeeding, timely complementary feeding, dietary diversity and meal frequency.

2.7.1.6. Youth survey questionnaire

The youth survey question was confidential and administered to the youth aged between 15 and 24 years. These youths were randomly selected from the cluster contexts; urban, rural and sisal farming settlements across the three counties. The tool was used to collect data on their reproductive health related practices and access to services. In total 433 Youths were reached; 215 males and 218 females in 16 clusters/villages.

2.7.1.7. Focus Group Discussion Guide

For triangulation of the quantitative data, FGD guides were used to collect more qualitative data. Four clusters were randomly selected from non-sampled clusters for anthropometric in

each of the two major livelihood zones (waged labor and mixed farming). A set of 2 FGD sessions were conducted in each cluster for men and women aside.

2.7.1.8. Youth Focus Group Discussion guide

The FGD guides were used to collect data focusing around their general health needs and challenges; their understanding and practices on health; and sexuality as well as access to services. The discussion was administered among 4 FGDs of male youths and 4 FGDs of female youths purposively selected from the urban, rural and sisal farming clusters. This provided a cross-sectional representation of issues among the youths.

2.8. Data entry and analysis

Anthropometric/mortality data entry, processing and analysis was done using the SMART/ENA software June 2013 Version. All the other quantitative data was entered and analyzed in the SPSS (Version 17.0). A team of 6 data entry clerks was trained and tasked for data entry with strict supervision by partner organizations' (IMC, WVK and St Joseph Shelter of Hope) teams. On daily basis anthropometric data was entered and plausibility check was run. This was done to ensure quality of data on daily basis. Teams were informed of any quality issues noted on daily basis before they move to the field. It also gave the supervisors an opportunity to know weak teams and areas that needed their special attention.

2.9. Data Quality Control

To ensure the data collected was reliable and valid, a number of checks were adopted as follows

1. Thorough training of teams was done in 5 days for all survey participants, the training dwelt on SMART methodology, survey objectives, interviewing techniques and data collection tools
2. Ensuring all anthropometric equipment's were functional and standardized. This test was done on daily basis before the teams left for field.
3. During the training exercise, standardization was done, in addition piloting of tools was done to ensure all the information was collected
4. Review of data collection tools during training and after the pilot test were conducted.
5. All the survey teams were assigned a team leader for supervision during data collection.
6. The anthropometric data collected was entered daily on ENA software and plausibility check was run. Any issues noted were communicated to the teams before they proceeded to the field.
7. Teams with notable weaknesses were followed up by the partners (IMC, World Vision and St. Joseph Shelter or Hope) supervisors to ensure all error were rectified on time
8. Adequate logistical planning beforehand and ensuring the assigned households per clusters can be comfortably surveyed

2.10. Survey Constraints and Limitations

This survey was done at a time when devolution of health services was taking place in the County in addition to the National polio campaign. These among other competing activities by the MOH personnel who were engaged in other urgent meetings made the survey not to take place as scheduled on September 2013. The survey was on the other hand conducted at a point in time and therefore the results in relation to previous survey findings need to be interpreted with caution.

3. RESULTS AND DISCUSSIONS

3.1 GENERAL CHARACTERISTICS OF STUDY POPULATION AND HOUSEHOLDS

The nutrition survey involved collection of information from 544 household and recorded an average household size of 4. Majority of the households were male headed (76.8%), with 20.4% being female headed. Monogamy is the common family structure in Taita Taveta County as 84.2% of the respondents fall under this category of family structure compared to 3.1% who are in polygamous type. Notably 12.1% are single parents. Most of the respondents were farmers (working in their own farms (33.6%) followed by 27.5% who work as daily waged laborers. 13.7% and 13.5% earn their living as small business traders and salaried employees respectively.

3.2 DISTRIBUTION OF AGE AND SEX

The survey assessed 394 children aged 6-59 months. In terms of sex distribution, 199 girls and 195 boys were assessed. In this regard the sex ration for boys to girls was 0.98(p= 0.840). This was acceptable as it fall within 0.8- 1.2 acceptable range. This means there was no bias in selection based on gender. Table 5 below illustrates the sex ratio for several age categories.

Table 3: Age Sex Distribution

Age (Months)	Boys		Girls		Total		Ratio
	No	%	No	%	No	%	Boy: Girl
6 to 17	48	44.9	59	55.1	107	27.2	0.81
18 to 29	56	51.9	52	48.1	108	27.4	1.08
30 to 41	41	44.6	51	55.4	92	23.4	0.80
42 to 53	34	57.6	25	42.4	59	15.0	1.36
54 to 59	16	57.1	12	42.9	28	7.1	1.33
Total	195	49.5	199	50.5	394	100	0.98

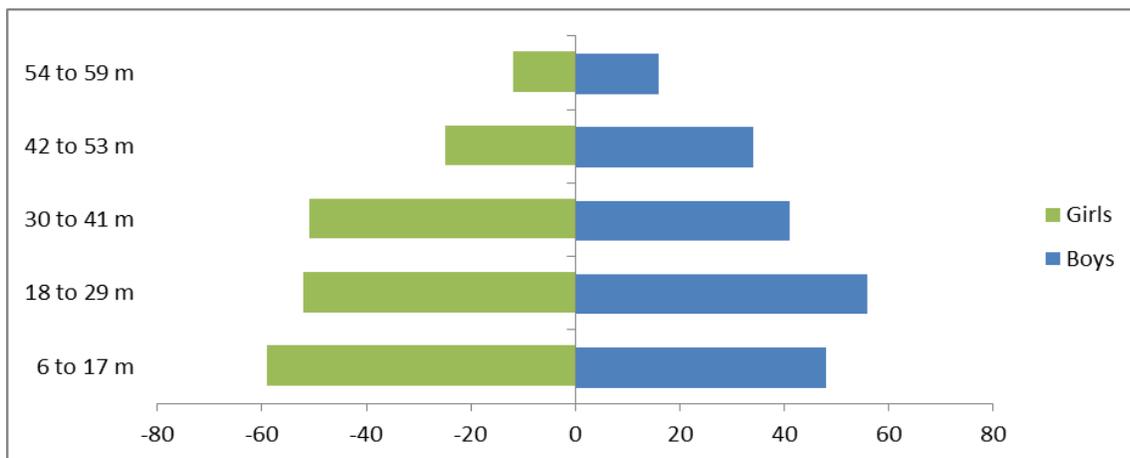


Figure 3: Population age and sex pyramid

3.3 NUTRITION STATUS OF CHILDREN 6- 59 MONTHS

The analysis of nutrition status of children aged 6- 59 months was based on World health Organization Standards 2006. This was informed by the fact that the standards are representative of children population in different parts of the world in comparison to NCSH (National Centre for Health Statistics) reference which were developed from a cohort of only American children in 1978⁵. Malnutrition in under-fives (specifically in 6- 59 months' old children) is presented in four forms i.e. acute malnutrition (wasting), chronic malnutrition (stunting), and underweight and micronutrient deficiency. For anthropometric measurements nutrition indices are used to measure the first three forms of malnutrition. The indices are then compared to the reference or standard value. For **wasting**, Weight for Height (WFH) is used, for **stunting**; Height for Age (HFA) is used, while Weight for Age (WFA) is used in the determination of **underweight**.

3.3.1 Prevalence of Acute Malnutrition (Wasting)

According to Kenya National Guideline on Integrated Management of Acute malnutrition (2009), acute malnutrition in children aged 6-59 months is mainly as a result of nutrients (mainly energy and protein) inadequacy and/or infections consequently resulting into rapid weight loss (wasting) or bilateral pitting edema. Acute malnutrition is measured using weight- for- height/length, z-score (standard deviation) and is classified into two as **severe acute malnutrition (SAM)** or **moderate acute malnutrition (MAM)**. Severe acute malnutrition is defined by presence of nutrition bilateral pitting edema or severe wasting and such cases are more vulnerable to morbidity and mortality. A child is considered a SAM case if WFH is less than -3 z-score (standard deviation) and/or edema. Moderate acute malnutrition is defined as moderate wasting and is designated by WFH between less than -2 z-score and greater -3 z-score (standard deviation). Global Acute Malnutrition (GAM) refers to the sum prevalence of malnutrition (all SAM and MAM cases/ <-2 z-score).

In the analysis of acute malnutrition prevalence for Taita Taveta County, a total of 393 (195 boys and 198 girls) children aged 6 to 59 months were involved. There was an exclusion of one flagged case. From the assessment, the global acute malnutrition (GAM) rate was 4.1% (2.7-6.1, 95% C.I.) while the Severe Acute Malnutrition (SAM) rate was 0.8% (0.3-2.3, 95% C.I.). Both GAM rate and SAM rates are at acceptable levels. The prevalence for edema was 0.0%

Table 4: Overall Prevalence of Acute Malnutrition by WFH z- score (WHO 2006 Standards)

⁵ Introducing the New WHO Child Growth Standards Report of a Regional Workshop. Bangkok, Thailand, 5-7 June 2006

	All (n = 393)	Boys (n =195)	Girls (n = 198)
Prevalence of global malnutrition (<-2 z-score and/or edema)	(16) 4.1 % (2.7 - 6.1 95% C.I.)	(8) 4.1 % (2.2 - 7.6 95% C.I.)	(8) 4.0 % (2.2 - 7.5 95% C.I.)
Prevalence of moderate malnutrition (<-2 z-score and >=-3 z-score, no edema)	(13) 3.3 % (2.0 - 5.5 95% C.I.)	(6) 3.1 % (1.4 - 6.5 95% C.I.)	(7) 3.5 % (1.8 - 6.9 95% C.I.)
Prevalence of severe malnutrition (<-3 z-score and/or oedema)	(3) 0.8 % (0.3 - 2.3 95% C.I.)	(2) 1.0 % (0.3 - 4.0 95% C.I.)	(1) 0.5 % (0.1 - 3.7 95% C.I.)

Figure 2 below is a graphical representation of the results. From the diagram, there is a slight shift to the left of the result curve in comparison to WHO standard 2006 curve an indication of poor nutrition status.

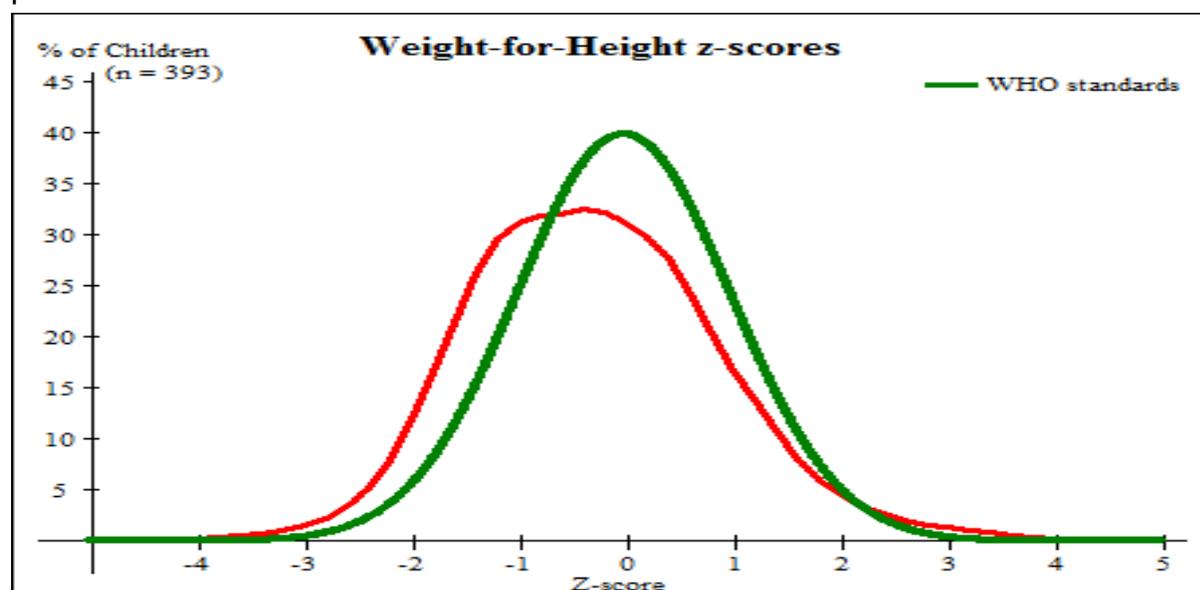


Figure 4: Frequency Distribution WFH for under-fives

Further analysis of acute malnutrition in relation to age groups indicate that the prevalence of severe malnutrition is higher in younger children, whereas the prevalence of moderate acute malnutrition is higher in older children(54- 59 year old) as indicated in table 7 below.

Table 5: Prevalence of acute malnutrition by age, based on weight-for-height z-scores and/or edema

Age in Months	Total no.	Severe wasting (<-3 z-score)		Moderate wasting (>= -3 and <-2 z-score)		Normal(> = -2 z score)		Oedema	
		No.	%	No.	%	No.	%	No.	%
6-17	106	2	1.9	1	0.9	103	97.2	0	0.0
18-29	108	0	0.0	2	1.9	106	98.1	0	0.0
30-41	92	1	1.1	1	1.1	90	97.8	0	0.0

42-53	59	0	0.0	4	6.8	55	93.2	0	0.0
54-59	28	0	0.0	5	17.9	23	82.1	0	0.0
Total	393	3	0.8	13	3.3	377	95.9	0	0.0

3.3.2 Distribution of acute malnutrition and edema based on weight-for-height z-scores

There was no edema case recorded in the survey. Severe acute malnutrition and those not severely malnourished accounted for 0.8% and 99.2% of the cases respectively as indicated in table 8 below.

Table 6: Distribution of acute malnutrition and edema based on weight-for-height z-scores

	<-3 z-score	>=-3 z-score
Edema present	Marasmic kwashiorkor No. 0 (0.0 %)	Kwashiorkor No. 0 (0.0 %)
Edema absent	Marasmic No. 3 (0.8 %)	Not severely malnourished No. 390 (99.2 %)

3.3.3 Prevalence of acute malnutrition by MUAC

MUAC is another indicator used to diagnose as well as assess acute malnutrition for children aged 6- 59 months. A very low MUAC (<11.5 cm for children under five years) is considered a high mortality risk and is a criteria for admission with severe acute malnutrition in Kenya (Kenya National Guideline for Integrated Management of Acute Malnutrition, version 1. 2009). Under-fives (6-59 months old) with MUAC readings of 11.5 cm to 12.4 cm are considered to be moderate acute malnourished.

The prevalence of acute malnutrition based on MUAC for Taita Taveta County was **2.0% (0.9-4.4, 95% C.I.)**. With SAM recording **0.5% (0.1-1.9, 95% C.I.)** as indicated in table 9 below.

Table 7: Prevalence of acute malnutrition based on MUA

	All n = 394	Boys n = 195	Girls n = 199
Prevalence of global malnutrition (< 125 mm and/or edema)	(8) 2.0 % (0.9 - 4.4 95% C.I.)	(2) 1.0 % (0.3 - 4.0 95% C.I.)	(6) 3.0 % (1.2 - 7.4 95% C.I.)
Prevalence of moderate malnutrition (< 125 mm and >= 115 mm, no edema)	(6) 1.5 % (0.6 - 3.7 95% C.I.)	(0) 0.0 % (0.0 - 0.0 95% C.I.)	(6) 3.0 % (1.2 - 7.4 95% C.I.)
Prevalence of severe malnutrition (< 115 mm and/or edema)	(2) 0.5 % (0.1 - 1.9 95% C.I.)	(2) 1.0 % (0.3 - 4.0 95% C.I.)	(0) 0.0 % (0.0 - 0.0 95% C.I.)

3.3.4 Prevalence of Underweight based on Weight for Age Z-Score (WHO- GS)

Underweight reflect both stunting and wasting. Weight for Age is therefore a composite index that measures both stunting and wasting. It is an easy measurement to take and it can be used to follow individual child longitudinally in the community. The prevalence of underweight in Taita Taveta County was 15.2% (11.3- 20.2, 95% C.I.), with severe underweight rates being 3.0 % (1.7-5.5, 95% C.I.) as indicated in table 8 below.

Table 8: Prevalence of underweight based on weight-for-age z-scores by sex

	All n = 394	Boys n = 195	Girls n = 199
Prevalence of underweight (<-2 z-score)	(60) 15.2 % (11.3 - 20.2 95% C.I.)	(35) 17.9 % (12.5 - 25.1 95% C.I.)	(25) 12.6 % (8.7 - 17.9 95% C.I.)
Prevalence of moderate underweight (<-2 z-score and >=-3 z-score)	(48) 12.2 % (9.0 - 16.3 95% C.I.)	(30) 15.4 % (11.1 - 20.9 95% C.I.)	(18) 9.0 % (5.6 - 14.2 95% C.I.)
Prevalence of severe underweight (<-3 z-score)	(12) 3.0 % (1.7 - 5.5 95% C.I.)	(5) 2.6 % (0.9 - 7.0 95% C.I.)	(7) 3.5 % (1.5 - 8.0 95% C.I.)

3.3.5 Prevalence of Stunting

Stunting is indicated by low height/length for age compared to WHO standard 2006. Stunting is an indicator for poor linear growth. Globally, about one in four children aged below 5 years are stunted (UNICEF 2013). According to the KDHS 2008/2009, 35.3% (serious level) of children under 5 in Kenya were stunted. Linear growth in children is greatly affected by antenatal, intra-uterine and postnatal nutrition among other factors. Stunting in early childhood is associated with vulnerability, poor cognitive and learning ability. From the survey findings, the stunting rate for children aged 6-59 months in Taita Taveta County was 27 % (22.1- 32.5, 95% C.I.), with 9.2% (6.7- 12.4, 95% C.I.) being severely stunted as indicated in table 9 below.

Table 9: Stunting Prevalence based on Height for Age z-score

	All n = 393	Boys n = 195	Girls n = 198
Prevalence of stunting (<-2 z-score)	(106) 27.0 % (22.1 - 32.5 95% C.I.)	(52) 26.7 % (19.7 - 35.0 95% C.I.)	(54) 27.3 % (21.0 - 34.6 95% C.I.)
Prevalence of moderate stunting (<-2 z-score and >=-3 z-score)	(70) 17.8 % (14.0 - 22.4 95% C.I.)	(32) 16.4 % (11.7 - 22.6 95% C.I.)	(38) 19.2 % (13.6 - 26.3 95% C.I.)
Prevalence of severe stunting (<-3 z-score)	(36) 9.2 % (6.7 - 12.4 95% C.I.)	(20) 10.3 % (6.1 - 16.8 95% C.I.)	(16) 8.1 % (5.1 - 12.6 95% C.I.)

The frequency distribution of HFA shows displacement of the sample population curve to the left from the standard curve with a mean of -1.27 (SD1.45).

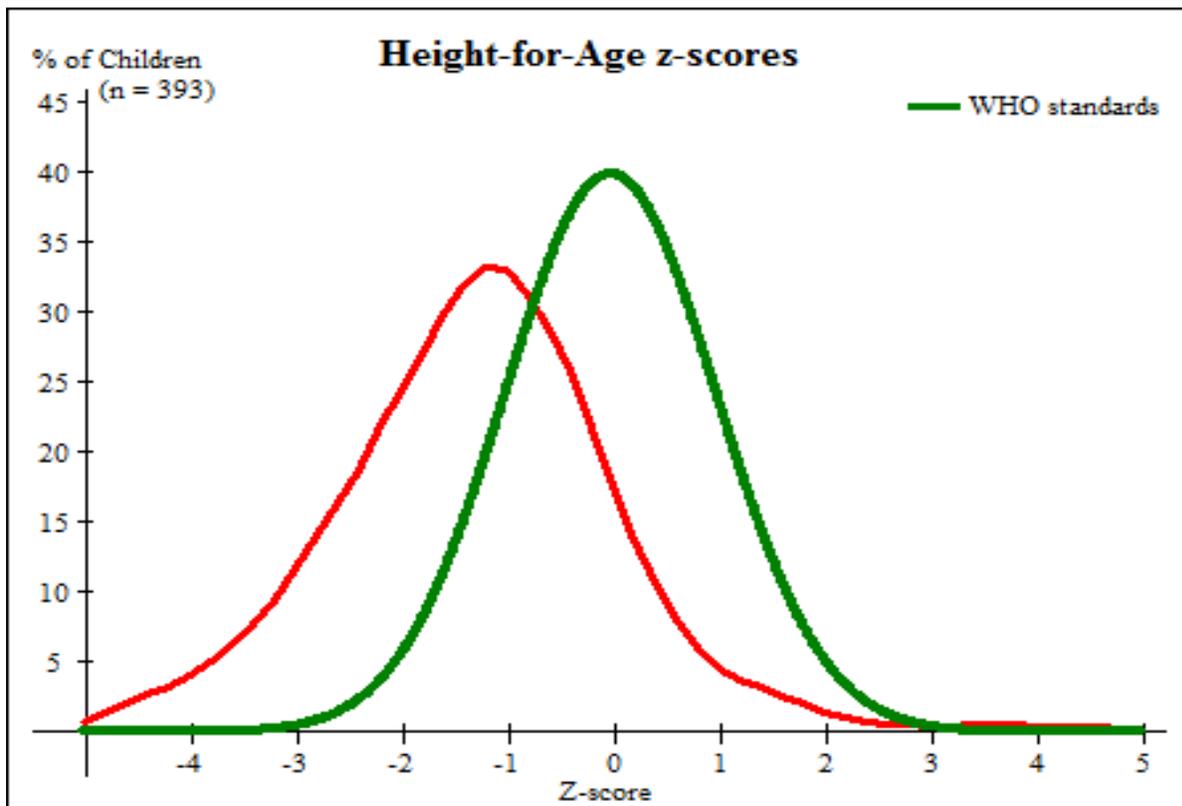


Figure 5: Frequency Distribution of HFA for 6-59 months old children

3.4. RETROSPECTIVE MORTALITY

A total of 544 households were used in retrospective mortality. In each cluster, 13 household were sampled. Mortality questionnaire was administered in all household with respondents present. Responses were based on 74 days recall; the 2nd term school closing date which was a major event that could be recalled by majority of people in the county. Table 10 below shows the results of the retrospective mortality survey for Taita Taveta County.

Table 10: Retrospective Mortality Results

CMR (total deaths/10,000 people / day)	0.40(0.23-0.71, 95% CI)
U5MR (deaths in children under five/10,000 children under five / day)	0.70 (0.22- 2.21, 95% CI)

3.5. CHILD MORBIDITY

Child morbidity was assessed for children 6-59 months based on a 2 weeks recall period from the survey date. Respondent /caregivers were asked whether their children were sick in the previous two weeks and in case they were sick, what sickness. Quite a number (44.1%), were reported to have been sick during that period. ARI was the most common illness recorded with

44.8% of those who were reported to have been ill having suffered from ARI. It was followed by fever like malaria whereby 24.1% reportedly having suffered from it. 13.8% had diarrhea, while the rest 21.3% had other infections.

Further, child morbidity was assessed for children 0-5 months to enable compare the prevalence with the older children above 6 months. Morbidity among the children was 27.4% which is close to half the burden among the 6-59month olds. ARI was the most prevalent at 67.7% which was even higher than for the older children but all the other conditions were much lower. Fever like malaria was at 9.7% while diarrhea was at 4.8%.

Morbidity	0-5 months	6-59months
<i>Proportion that had illness in the the previous 2 weeks</i>	27.4%	44.1%
<i>Proportion of sick children that had ARI the previous 2 weeks</i>	67.7% Prevalence of ARI among child 0-5 months- 18.5%)	44.8% Prevalence ARI among children 6-59months -19.8%
<i>Proportion of sick children that had malaria like fever the previous 2 weeks</i>	9.7% Prevalence of malaria like fever among child 0-5 months-2.7%	24.1% Prevalence of malaria like fever among children 6-59months - 10.6%)
<i>Proportion of sick children that had diarrhea the previous 2 weeks</i>	4.8% Prevalence of diarrhea among child 0-5 months 1.3%	21.3% Prevalence of diarrhea among children 6-59months -9.4%)

The prevalence of ARI in Taita Taveta county (without considering the different seasons) is higher than what was found for Coast province (13 percent) in 2008/09 (KDHS 2010).

3.5.1 Health seeking Behaviors

Caregivers were also asked information regarding where they sought help when their children fall ill. Majority (70.7%) sought help from Public clinic. Another 4.6% sought help from private clinic or a pharmacy. This means that over 75% sought help from appropriate facility of provider compared to around 1% who sought such help from traditional healers, relative and friends who might not have enough skills to manage the childhood illnesses. Notably 13.2% (2 in every 15 caregivers) never sought any help as indicated in figure 6 below. Integrated community case management of malaria has not been rolled out in Taita Taveta County; therefore CHWs were not considered appropriate providers.

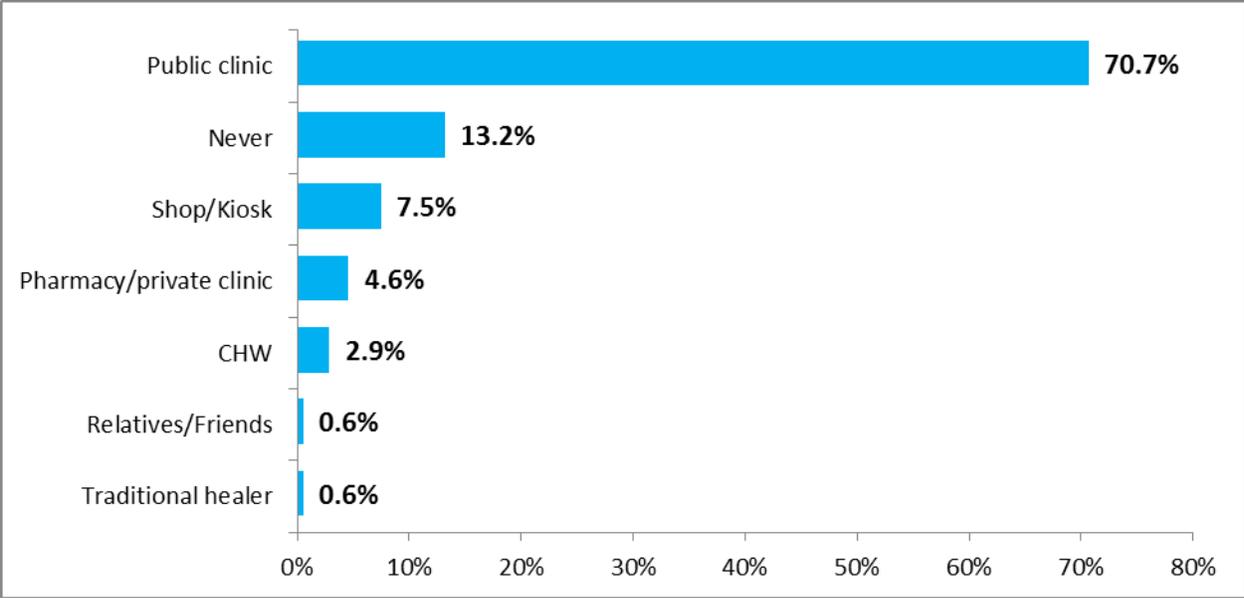


Figure 6: Health Seeking Points

3.5.2. Therapeutic Treatment of Diarrhea

Zinc deficiency is widespread among children in developing countries. Micronutrient supplementation — supplementation treatment with zinc (20 mg per day until the diarrhea ceases) reduces the duration and severity of diarrheal episodes in children in developing countries.

Supplementation with zinc sulfate (2 mg per day for 10–14 days) reduces the incidence of diarrhea for 2–3 months. It helps reduce mortality rates among children with persistent diarrheal illness. Administration of zinc sulfate supplements to children suffering from persistent diarrhea is recommended by the WHO⁶. According to Kenyan policy guideline on control and management of diarrheal diseases in children below five years in Kenya, all under-fives with diarrhea should be given zinc supplements as soon as possible. The recommended supplementation dosage is 20 milligrams per day for children older than 6 months or 10 mg per day in those below the age six months, for 10–14 days during episodes of diarrhea. In Taita Taveta County the treatment of diarrhea using zinc is at 29.2% which is far much below the 80% target according to the Kenya National Nutrition Action Plan 2017-2017.

The use of Oral Rehydration Solution alongside zinc supplementation is the recommended practice to manage diarrhea. Use of ORS during diarrhea episodes was reported to be at 50% which implies that more children are given ORS alone not combined with zinc. The County had started receive supplies of a combined package of Zinc and ORS which will ensure that at the health service delivery point, a caregiver receives the pack that contains the two commodities.

⁶ World Gastroenterology Organisation Practice Guidelines 2008

3.6 CHILD IMMUNIZATION, VITAMIN A SUPPLEMENTATION AND DEWORMING

Immunization programs take care of a wide range of health needs of infants and children by ensuring timely preventive measures to a number of nutrition and health problems. This reduces morbidity and mortality in children due to preventable childhood illnesses, most notably polio, tuberculosis and measles⁷. The national targets set by KEPI for immunization to have an impact are 80% with all children expected to be fully immunized before they attain their first birthday. The children were assessed for all the routine vaccines i.e. BCG, OPV, Pneumococcal, Pentavalent and Measles. In Taita Taveta County, immunization coverage for measles at 9-59months was slightly below 80% target with a coverage being 76.1%⁸. At 18 month the coverage is very low. Only 12.9% of the eligible children had received this antigen. The low coverage for the 18 month dose is attributed to its recent introduction in August 2012 as part of the routine programme and therefore the uptake is yet to reach its peak. 99.7% had been immunized with OPV 1 and OPV3. BCG vaccination confirmed by scar, card and caregivers recall was at 99.3%. Pneumococcal vaccine was much lower at 75.9% and 74.1% for PCV10 1st and 3rd doses respectively. The lower coverage for the PCV10 as compared to OPV and DPT was attributed to the fact that the vaccine was introduced in to EPI in 2011 and therefore older children had not received it. The vaccine was introduced based on studies by NetSPEAR, Pneumo-ADIP, KEMRI/CDC, and KEMRI Wellcome Trust on burden of invasive pneumococcal disease in Kenya. However, it is worth noting that the uptake of the vaccine had picked up and no major stock outs of the antigen were reported.

Overall the proportion for children fully immunized (measles at 9 months and penta3) was 76.4%.

All the vaccination records were verified by card and recall.

According to Kenya Demographic and Health Survey 2008/2009, vitamin A coverage among 6-11 months in Kenya was estimated to be 81.8%. For 12-59 months, the coverage was estimated to be 14.3%, with an average coverage of 6-59 months being at 30%. Poor data management on vitamin A logistics, inadequate social mobilization to improve vitamin uptake and placement of vitamin A at lower level of priority among other interventions has been cited as major challenges in achieving the supplementation targets (MOH Vitamin A supplementation Operational Guidelines for Health Workers 2012). Child health card/booklet was the main source of information on whether the child had been supplemented with vitamin A. If no such information was seen in the booklet/card the caregiver was asked whether the child had been supplemented. The survey revealed Vitamin A coverage of 71.1% for children aged 6-11 months, 41.9% and 29.0% for once and twice supplementation respectively for children aged 12-59 months.

⁷ 7E-Library of Evidence for Nutrition Actions (eLENA)

⁸ By Card and Recall

Deworming was also assessed for children aged 12- 59 months. It is expected that 80% of 12-59 months old are dewormed twice every year. Taita Taveta county fall short of this target as only 21.7% of children were dewormed twice. However, 51.0% had been dewormed once as indicated in table 11.

Table 11: Vitamin A supplementation and Deworming

	Factor	Number	Nov-13
Vitamin A supplementation		N	%
6-11 months	1 time	38	71.7%
12- 59 months ≥12 months	1 time	143	41.9%
≥12 months	2 times	99	29.0%
De-worming Children aged ≥ 12 months	1 time	174	51.0%
	2 times	74	21.7%

3.7. INFANT AND YOUNG CHILD NUTRITION

Optimal infant and young child feeding practices rank among the most effective intervention to improve child health. Under-nutrition is associated with at least 35% of child deaths. It is also a major disabler preventing children who survive from reaching their full developmental potential. Around 32% of children less than 5 years of age in developing countries are stunted and 10% are wasted. It is estimated that sub-optimal breastfeeding, especially non-exclusive breastfeeding in the first 6 months of life, results in 1.4 million deaths and 10% of the disease burden in children younger than 5 years⁹.

The advantages of exclusive breastfeeding compared to partial breastfeeding were recognized in 1984, when a review of available studies found that the risk of death from diarrhea of partially breastfed infants 0–6 months of age was 8.6 times the risk for exclusively breastfed children (WHO 2009). WHO and UNICEF recommend babies to be placed skin to skin contacts with their mothers immediately within an hour after birth. Early initiation promotes exclusiveness and duration of breastfeeding. It also protects the newborn from acquiring infections and reduces newborn mortality which is due to diarrhea and other infections to children who are partially breastfed or not breastfed at all. Kenya targets to reach 50% EBF rates by 2014/15¹⁰. In Taita Taveta County, the survey revealed the EBF rates of 72.1%. 77% of children were put on breast within one hour after birth. This is slightly above the national targets which is 70%.

Infants should be exclusively breastfed for the first six months of life to achieve optimal growth, development and health. Thereafter, to meet their evolving nutritional requirements, infants should receive nutritionally adequate and safe complementary foods while breastfeeding continues for up to two years of age or beyond. Complementary feeding is the process starting when breast milk or infant formula alone is no longer sufficient to meet the nutritional

⁹ WHO *Infant and young child feeding. Model Chapter for Text books for medical students and allied health professionals* 2009

¹⁰ Kenya National Nutrition Action Plan 2012- 2017

requirements of infants, and therefore other foods and liquids are needed, along with breast milk or a breast-milk substitute. The target range for complementary feeding is generally taken to be 6 to 23 months.¹¹ It is recommended that breastfeeding to continue until the child is 2 years. From the survey, timely introduction of complementary feeding rates in Taita Taveta County is 89.8%. 82.2% of children are breastfed up to one year while only 60.9% were breastfed up to the recommended two years period.

Complementary feeding should be *adequate*, meaning that the complementary foods should be given in amounts, frequency, and consistency and using a variety of foods to cover the nutritional needs of the growing child while maintaining breastfeeding. Dietary diversity and meal frequency were assessed using 24 hour recall. Analysis on the dietary diversity based on 7 food groups showed that only 23.5% of children 6-23 months received food from 4 or more food groups and breastfeeding. As far as food diversity is concerned there was a relatively low consumption of eggs, meats, poultry and fishes which are important source of proteins, iron and other important minerals (0.9%) for eggs and 10.6% for meats poultry and fishes. Legume consumption which would act as a substitute for meats in terms of provision of protein in the diets are also lacking in the children’s diet with only 24.3% consuming legumes. Other fruits and vegetables, Vitamin A rich fruits and vegetables are also not adequately consumed as indicated in the figure below.

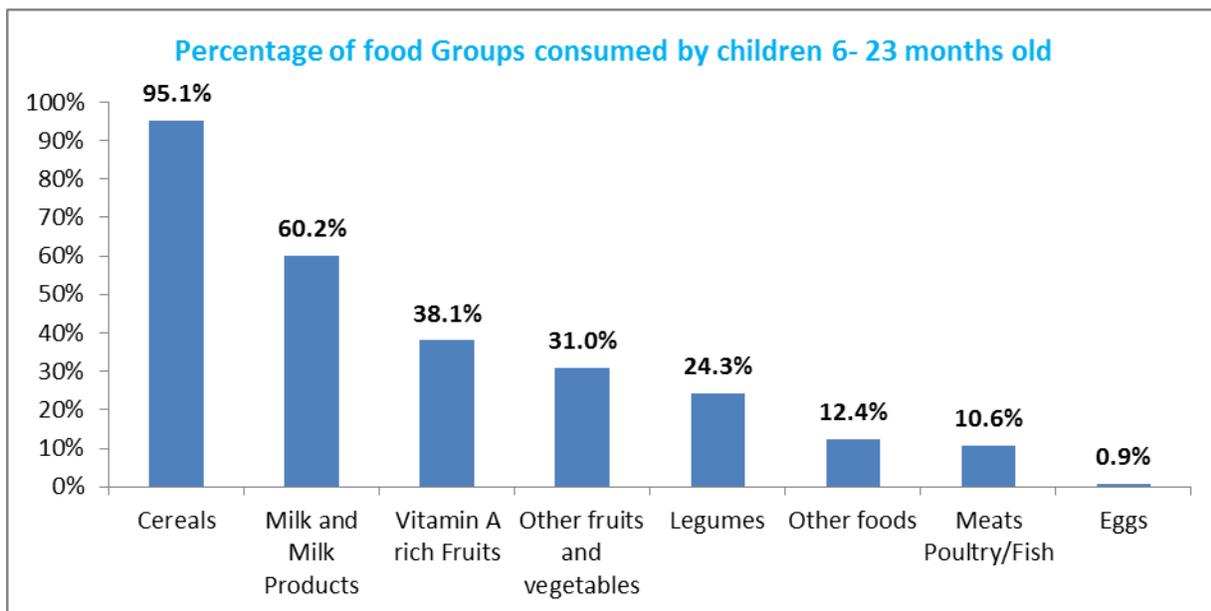


Figure 7: Food Groups Consumed by Children 6- 23 months Old

Analysis of meal frequency indicates that 66% of the children aged 6-8 months were fed more than twice a day and breastfed. While the percentage of 9 to 23 months old children who are fed more 3 times and breastfed were 55.1%. Non breast fed children who were fed on 4 times in a day were 54.2%.

¹¹ WHO Essential Nutrition Actions: Improving maternal, newborn, infant and young child health and nutrition 2013

3.8. MATERNAL HEALTH, FAMILY PLANNING AND NUTRITION

3.8.1 Respondents (Women) Physiological Status

Table 12: Physiological status of women interviewed

Status	n	%
Pregnant	29	6.3%
Lactating	241	52.7%
Not pregnant or lactating	187	40.9%

3.7.2. Maternal and

Neonatal Mortality

A total 6 maternal deaths had been recorded in the County within 8 months preceding the survey i.e. between January and August 2013 with the main causes been eclampsia, postpartum hemorrhage and malaria.

Neonatal deaths (children dying within 1 month of life) were even higher with 32 babies dying within the same period. The major causes of these deaths were prematurity, birth asphyxia, neonatal sepsis.

Maternal Mortality										
Month	Jan	Feb	Mar	Apr	May	Total	Jun	Jul	Aug	Total
Number	1	0	1	0	0	2	1	1	2	6
3 Major causes of maternal deaths Eclampsia, Postartum hemorrhage, Confirmed malaria										
Neonatal Mortality										
Month	Jan	Feb	Mar	Apr	May	Total	Jun	Jul	Aug	Total
Number	2	0	3	4	7	16	9	4	3	32
3 Major causes of neonatal deaths Prematurity, Birth Asphyxia, Neonatal sepsis										

Discussions with the County Nursing office revealed that home deliveries as the main possible cause for these deaths resulting from preventable causes. Limited capacity of health workers to manage some of the conditions was also cited.

3.8.3. Antenatal Care

Antenatal care during pregnancy play a major role is to identify and manager danger problems as well as prevent and treat infections and anaemia. During ANC, screening for complications is done and advice given on a number of issues ranging from birth plans, place of delivery as well as maternal and child nutrition. The survey collected data on type of service provider for ANC, number of ANC visits, male involvement during ANC, tetanus toxoid(TT) vaccination during pregnancy, PMTCT services during ANC and information/ education provided during ANC.

All the women interviewed eported to have attended at least one ANC clinic during their last pregnancy. Majority (94%) of them attended the services at a government facility while the rest visited either a mission or private health facility at 3% each.

3.8.4. Frequency of ANC Visits

Despite all women attending ANC during pregnancy slightly less than two thirds, However, only slightly more than half (61.2%) of all pregnant women attending ANC complete the recommended 4 ANC visits or more therefore more than a third of all pregnant women attending ANC did not complete the 4 visits. This proportion is higher than the national figure of 47% of pregnant women who make four or more antenatal visits¹². The reason cited for not completing the 4 visits was because they started the clinic visits late is because majority started

their first ANC visit later in the pregnancy.

Factor (No. of times attended ANC)	Number	%
Once	11	2.4
Twice	48	10.7
Thrice	116	25.8
Four times	151	33.6
More than four times	124	27.6

Table 13: Number of ANC Visits

3.8.5. Male involvement during ANC

Men are key influencers on the uptake of maternal services in many communities in Kenya. Therefore their involvement during pregnancy, birth and child care is an approach that is now encouraged. In Taita Taveta County, 24% of pregnant were accompanied by their spouses/ partners to the ANC clinic at least once during their most recent pregnancy.

¹² KDHS 2008/09

3.8.6. TT Vaccination during pregnancy

Tetanus toxoid (TT) immunization is given to pregnant women to prevent neonatal tetanus. Neonatal tetanus is among the leading causes of neonatal deaths in Kenya related to unhygienic conditions during delivery either in a health facility or during home deliveries. In Taita Taveta, 90.4% women received TT vaccine during their most recent pregnancy. However 4.2% did not receive ant TT at all while 4.6% had already completed the dose (a total of five doses) prior to this pregnancy in question. This means that 95% of pregnant women had received TT during their most recent pregnancy.

During the KDHS 2008-09, nationally the proportion of women who had received at least 2 TT doses during their most recent pregnancy (with subsequent live birth) were 55%, while the percentage whose last birth were protected¹³ against neonatal tetanus was 73% (Coast Province was 64% and 78% respectively).

3.8.7. Prevention of Mother to Child Transmission (PMTCT) of HIV

Antenatal care is a strategic entry point for PMTCT. PMTCT services are now integrated among the essential services pregnant women should receive during pregnancy. The survey in Taita Taveta, found that 96.7% women received counseling and testing for HIV (PMTCT services) while pregnancy. In addition 26.3% of them had their spouses counseled as well which compares well to the 24% of men earlier reported to accompany their spouses/ partners for antenatal visits. This great uptake of PMTCT can be attributed to campaigns by MoH and partners including World Vision which has implemented a PMTCT project in 2 sub-counties (Mwatate and Voi).

3.8.8. Education/ Information discussed during ANC

The most commonly discussed topics during ANC is breastfeeding while others are dangers signs during pregnancy, maternal nutrition, having a birth plan and delivery by skilled attendant. The emphasis on breastfeeding and maternal nutrition is attributed to MIYCN trainings that have been conducted in the County by MoH and WVK PRRO project which was implementing Supplementary Feeding Programming (SFP). See bar graph below for more information. According to KDHS 2008-09, the proportion of women who received information on breastfeeding during ANC visit were 59%, this is higher compared to the results for Taita Taveta county on the same topic.

¹³Births Protected against Tetenus ; Includes mothers with two injections during the pregnancy of her last birth, or two or more injections (the last within 3 years of the last live birth), or three or more injections (the last within 5 years of the last birth), or four or more injections (the last within ten years of the last live birth), or five or more injections prior to the last birth

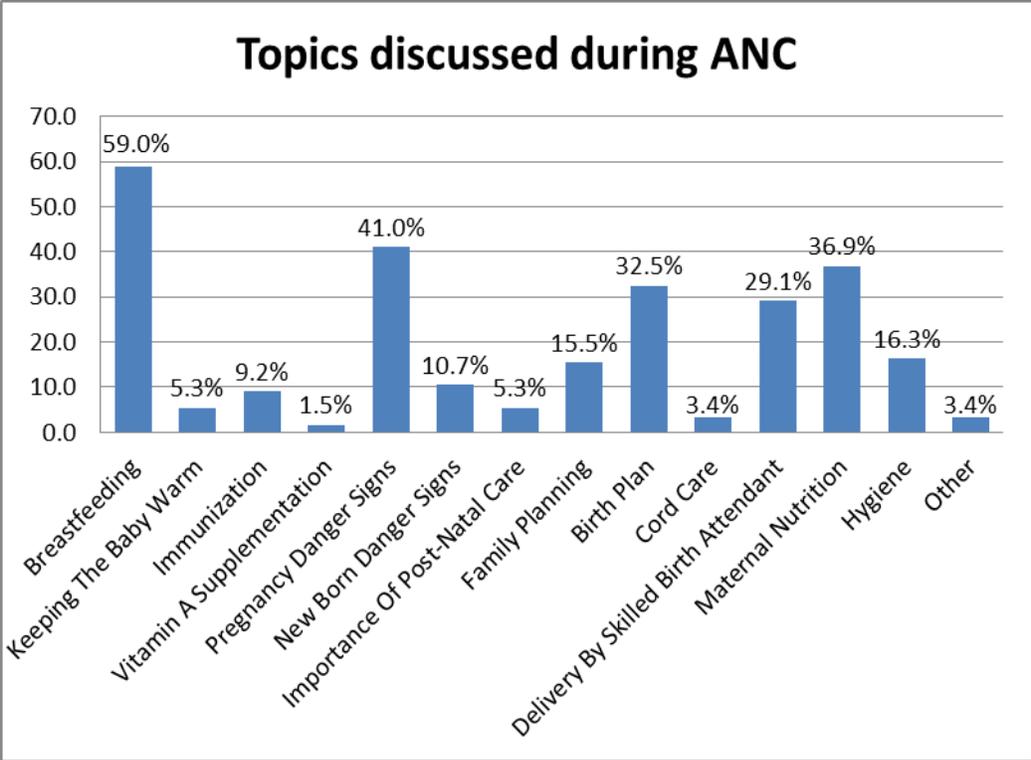


Figure 8: Topics discussed during PNC

3.8.9. Delivery and Post Natal Care

Place of Delivery; Deliveries taking place within the health facility were recorded at 70% with majority (63.7%) of them taking place within a government health facility while 5% delivered in private facilities while 1.8% reported that their births occurred at home assisted by a skilled attendant.

However, close to a third (27.8%) of pregnant women prefer to deliver at home even without a skilled attendant. It is worthwhile to note that the proportion of women delivering at health facility is higher compared to the KDHS 2008-09 for Coast province (44%) which was similar the national coverage of 43%. Health facilities are an important factor in reducing the health risks to both the mother and the baby. Proper medical attention and hygienic conditions during delivery can reduce the risks of complications and infection that can cause morbidity and mortality to either the mother or the baby. The proportion that delivers at home relates well to the high number of neonatal deaths reported earlier

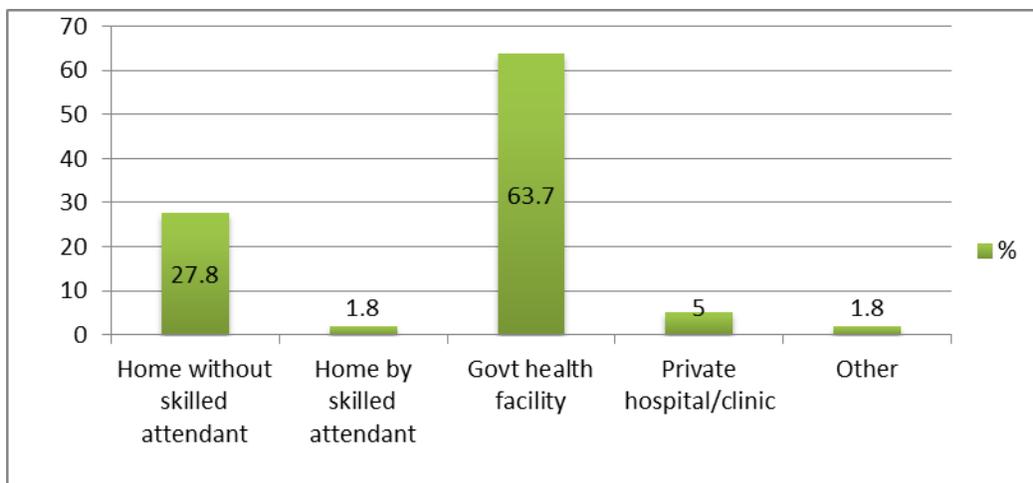


Figure 9: Place of delivery

3.8.10. Assistance during Delivery

In terms of who attended the deliveries, 70% was health workers while TBAs was 11% and relatives and friends was 13%. The decision on the place and assistance for delivery was largely made by the mother at 66% followed by 23% made by the spouse/ partner while a smaller proportion of 6% was made by grandmother/ mother in-law.

3.8.11. Equipment used for newborn care after delivery

In relation to hygienic during delivery, data on equipment used to cut and tie the cord was collected. Pair of scissors and new razor blades were the most commonly used equipment at 94% which is 55% and 39% respectively. To tie the cord, Cord clamp and thread were used for 99% of the cases with cord clamp at 66%. However, it was not possible to establish if both the cord cutting and tying equipment were sterile which underscores the importance of TT.

3.8.12. Post Natal Care Attendance

Time of First Post Natal Care; Post natal care is important for both mother and the child to treat complication arising from delivery as well as provide mother with the right information of taking care of herself and her child. It is recommended that PNC should be provided immediately after delivery, and for the case of home delivery the first 48 hours can be crucial in saving the life of at risk mother and neonate. In Taita Taveta, few women who deliver at home go for PNC early as recommended. Only 32% attend PNC within first week of delivery while 25% attend within 2 weeks. Discussions with care givers revealed that in most cases, the mother usually send the baby with a relative to the health facility for immunization and to get birth notification while the mother stays back at home. For these mothers, they are more aware of the importance of child care and not for themselves. This relates well to the increased proportion of 16% of women attending first PNC at 6 weeks as they take the baby for

immunization. Cumulatively the proportion of women who attended PNC within the first six week after delivery was 95.2%.

Reasons for not attending PNC; As per the chart below, the main reason for not attending PNC was that mothers not aware of PNC and ignorance on its importance such that unless a pregnant woman had problems she did not go to the health facility. Other studies have indicated the birth order of the child influencing the uptake of PNC, such that mother giving birth to the 3rd or 4th child may consider herself an expert hence may not reach out for PNC services as recommended.

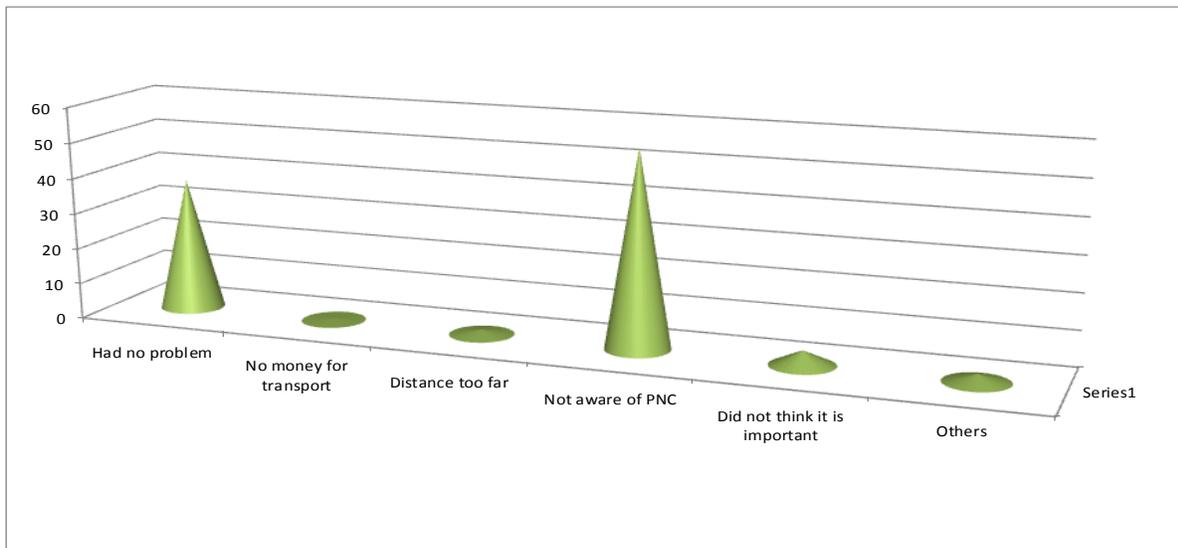


Figure 10: Reasons for not attending PNC

Education/ Information provided during PNC clinic; Just like with ANC, breastfeeding and maternal nutrition are the two common topics discussed with lactating mothers during PNC. These findings are based on the recall of the mother.

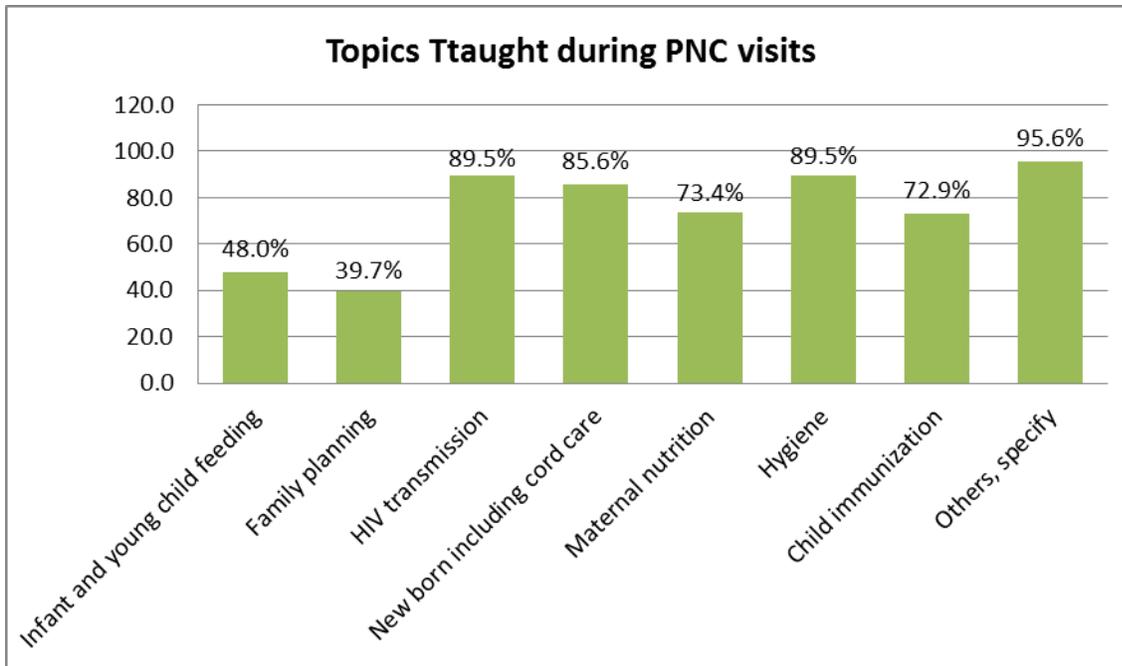


Figure 11: Topics taught during PNC

Family Planning Services; Among the lactating women, 66.3% of them were on at least one of the family planning methods. Injectables were the most commonly used at 57% followed by oral pills and implants at 13% each. Focused group discussions revealed that women preferred injectable because they can be used without the husband noticing.

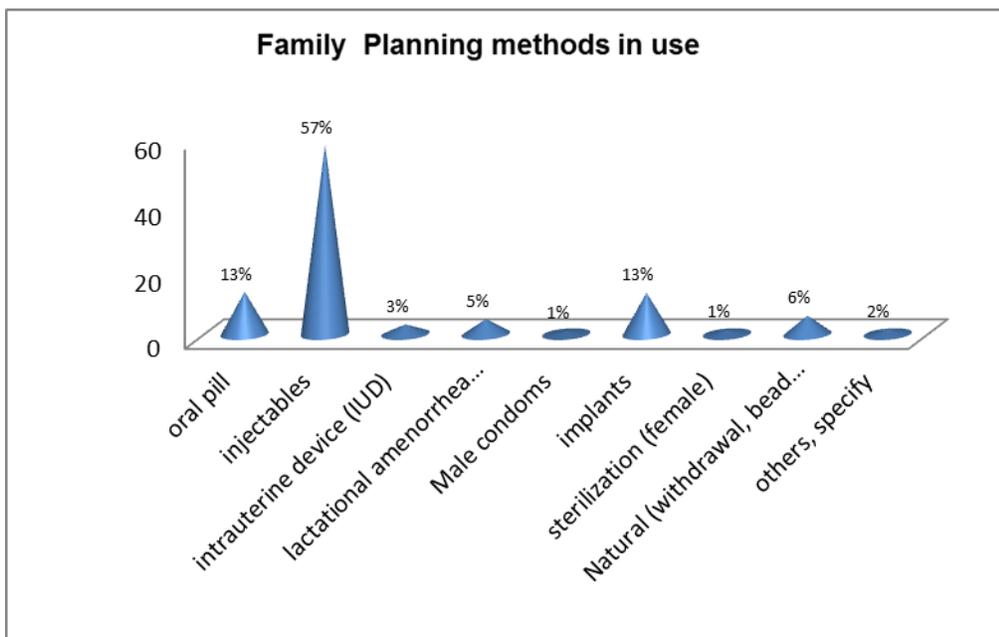


Figure 12: Family planning methods usage

Of the women who were not using FP method they cited side effects from previous methods as the main reason. Others said their spouse stays away for long so they did not have reason to be on a method and a few others were pregnant at the time.

3.8.13 Maternal Nutrition

Evidence reveals the importance of the nutritional status of women at the time of conception and during pregnancy, both for the health of the mother and for ensuring healthy fetal growth and development. 32 million babies are born small-for-gestational-age (SGA) annually—representing 27% of all births in low and middle income countries. Fetal growth restriction causes more than 800 000 deaths each year in the first month of life—more than a quarter of all newborn deaths (Lancet 2013).

Iron and calcium deficiencies contribute substantially to maternal deaths. Findings show anemia as a risk factor for maternal deaths probably because of hemorrhage, the leading cause of maternal deaths (23% of total deaths). Additionally there is now sound evidence that calcium deficiency increases the risk of pre-eclampsia, currently the second leading cause of maternal death (19% of total deaths). Thus, addressing deficiencies of these two minerals could result in substantial reduction of maternal deaths. This survey assessed maternal nutrition status based on MUAC and iron folate supplementation. The iron folate supplementation in Taita Taveta County stands at 73.3% which is slightly above 70% national targets by the National Nutrition action plan 2012- 2012.

The nutritional status of mothers of reproductive age was analyzed by MUAC. A MUAC measurement of <21cm determined the proportion of malnourished mothers, while those at risk were denoted by a MUAC range of 21cm-22.9cm. However, the respondents who recorded a MUAC reading of >23 cm were considered well-nourished as elaborated in the table below.

Table 14: Maternal Nutrition Status by MUAC

MUAC	< 21 CM	21CM – 22.9 CM	> 23 CM
All women (15-49 yrs.)	1.1%	5.25%	93.6%
PLW	1.48%	4.8%	93.7%

3.8 MOSQUITO NETS OWNERSHIP AND UTILIZATION

Majority (93.9%) of households in Taita Taveta County possess a mosquito net. Overall 71.8% of the family members use mosquito nets.

The use of insecticide-treated nets (ITNs/LLIN) has been shown to be an effective method of reducing severe malaria and when used by all or most members of the community may reduce malaria transmission.

However, the analysis of under-fives, pregnant and lactating women who use mosquito nets in Taita Taveta County was low. Only about half (51.7%) of pregnant women using the net. 51.0% of lactating mothers and 51.3% of under-fives slept under the mosquito nets in the previous day preceding the survey.

3.9 WATER, SANITATION AND HYGIENE PRACTICES.

3.9.1 Main Sources of Water, Distance/Time

Everyone has the right to water. This right is recognized in international legal instruments and provides for sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses. An adequate amount of safe water is necessary to prevent deaths due to dehydration, to reduce the risk of water-related disease and to provide for consumption, cooking, and personal and domestic hygienic requirements¹⁴. According to SPHERE handbook for minimum standards for WASH, The average water use for drinking, cooking and personal hygiene in any household should at least 15 liters per person per day. The maximum distance from any household to the nearest water point should 500 meters. It also gives the maximum queuing time at a water source which should be no more than 15 minutes and it should not take more than three minutes to fill a 20-litre container. Water sources and systems should be maintained such that appropriate quantities of water are available consistently or on a regular basis.

The survey revealed that, slightly less than half of Taita Taveta county residents (47.2%) got their drinking water from taps. In addition, 17.1% source their drinking water from rivers/laga while 11.4% source their drinking water from water seller/donkey carts. Other sources of drinking water included; protected boreholes (6.3%), protected springs (6.4%), unprotected springs (5%), and unprotected boreholes (2.2%). Overall, 79.4% of households get water from safe water source namely river/laga, tap water, protected borehole, private water pan, rock catchment, protected springs, roof catchment and water trucking.

Assessment of access (proximity to public water points) noted that two thirds majority of the households (67.6%) were within 500 meters (less than 30 minutes -walk) to the water points (as recommended by the SPHERE Standards), 14.5% were within 500metres and 2 kilometers distance (0.5-1hours walk) while 17.8% covered a distance of more than 2 kilometers in accessing water.

3.9.2 Treatment methods for drinking water

Majority of Taita Taveta households (60.8%) do not treat their drinking water regardless of their source. 54.4% of those who do, reported to be using chemicals (such as aquatabs) while 50.2% boil their water. Other methods reported include; decanting (4.2%), use of traditional herbs (1.9%) and sieving (0.9%).

¹⁴ The Sphere project- Humanitarian Charter and Minimum Standards in disaster response 2004

3.9.3 Ownership and accessibility to Sanitation facilities

If organic solid waste is not disposed of well, major risks are incurred due to fly breeding and surface water pollution which is a major cause of diarrheal diseases. Solid waste often blocks drainage channels and leads to environmental health problems associated with stagnant and polluted surface water. The toilet coverage in Taita Taveta County is impressively 95.6%. For those who own toilets, 69.6% own traditional pit latrines, with 22.5% owning ventilated pit latrine (VIP) while 7.9% own flush toilet.

As far as relieving points is concerned, 61.1% relieve themselves in their own traditional pit latrines, followed by 17.9% who relieve themselves in their own VIPs. Open defecation is minimal at 3.5%. Other relieving points are as indicated in the table 13.

Table 15: Relieving Points

Relieving Point	N	%
In the bushes, open defecation	19	3.5
Neighbor or shared traditional pit latrine	43	7.9
Own traditional pit latrine	331	61.1
Neighbors or shared ventilated improved pit latrine	19	3.5
Own ventilated improved pit latrine	97	17.9
Others	33	6.1
Total	542	100

3.9.4 Hygiene Practices - Hand washing

Washing hands with soap or an alternative such as ash is recommendable at critical times. Most caregivers/mothers reported washing hands with soap and water (87.1%), 12.5% used water only while only 0.4% used water and ash. Washing hands after visiting the toilet and before eating was predominantly reported at 93.0% and 87.5%, before preparing food at 40.4%. Washing hands after changing babies' nappies was below average at 12.5% as indicated in figure 6 below. The assessment of availability of hand washing facilities to the households was also done. It was established that majority (68.1%) uses basins to wash their hands followed by those who use jugs/tin (12.1%) and 10.3% who uses leaky or tippy taps

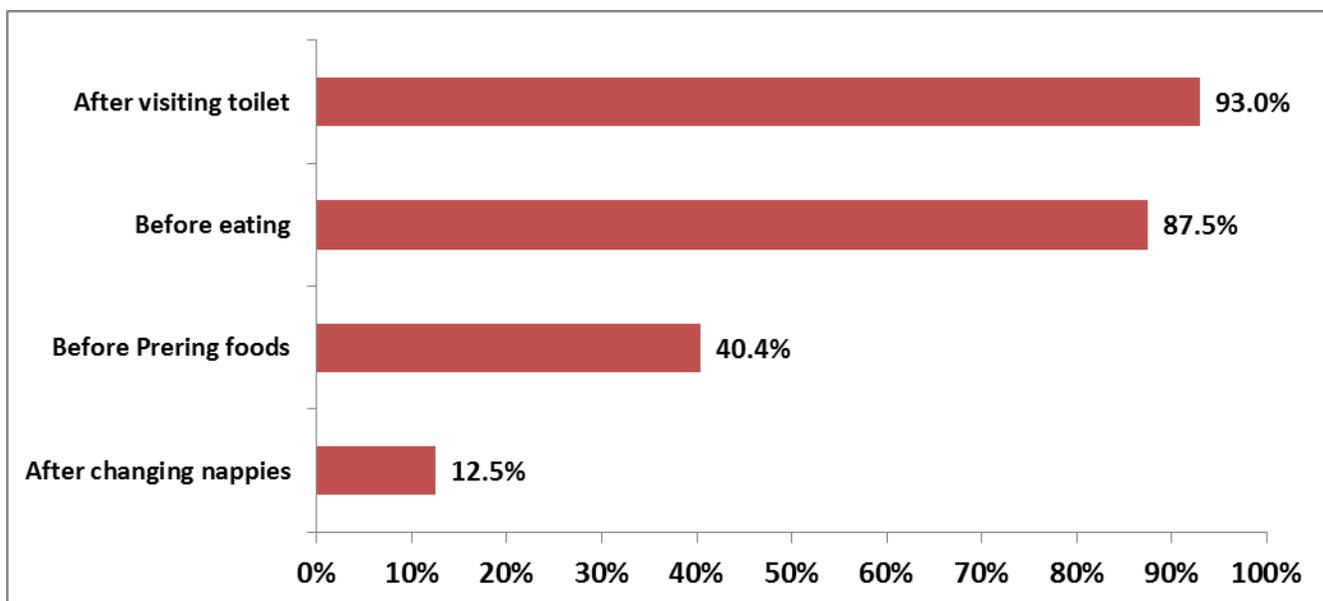


Figure 13: Hand washing moments by caregivers of under 5s

Note: Only 4.96% wash their hands in all 4 critical moments.

3.10 FOOD SECURITY AND LIVELIHOOD

3.10.1 Source of Household Income

A three month recall period was used to probe the respondents on the main source household income. The main sources of household income reported were; waged labor (35.1%), sale of own crop (17.3%), Petty trade/business (14.3%) and salaried employment (13.0%). Other sources reported are as indicated in the table below.

Table 16: Source of Household income

Income Source	N	%
Waged labor	189	35.1
Sale of own crop	93	17.3
Petty trade/business	77	14.3
Salaried employment	70	13.0
Remittance	30	5.6
Sale of livestock products	28	5.2
Others	21	3.9
Sale of livestock	19	3.5
Sale of charcoal/ firewood	5	0.9
Sale of food ration	4	0.7
Quarrying	3	0.6

NOTE: 67.5% of the households own livestock.

3.10.2 Household Dietary Diversity

Dietary diversity is a qualitative measure of food consumption that reflects household access to a variety of foods, and is also a proxy for nutrient adequacy of the diet of individuals¹⁵. HDDS assessment was based on a 24-hour recall whereby each reported food group was assigned a value of 1 followed by tabulation of sum per household. According to the survey results, medium dietary diversity (4-5 Food Groups) was relatively high at 49.3%. High dietary diversity (consuming > 6 food groups) recorded 39.7%, while low dietary diversity (consuming foods from 3 or less food groups) was at 11.0%.

Table 17: Household dietary Diversity

HDDS	% Households
Low Dietary Diversity (3 Food Groups)	11.0%
Medium Dietary Diversity (4-5 Food Groups)	49.3%
High Dietary Diversity (>6 Food groups)	39.7%

Of the foods consumed, cereals and starches accounted for 99.1% followed by sugars, honey and commercial juices at 82.2% and vegetable at 79.8%. It is apparent that legumes, pulses, nuts and seeds and also meats which are protein source lacked in household diets. As indicated in figure 7 below only 10.5% of the households consumed meats or poultry. 9.2% consumed fish and sea foods. Whereas only 38.2% consumed legumes, pulses, nuts or seeds which are alternative source of proteins. The mean meal frequency was 2.53 based on normal intake and previous day intake.

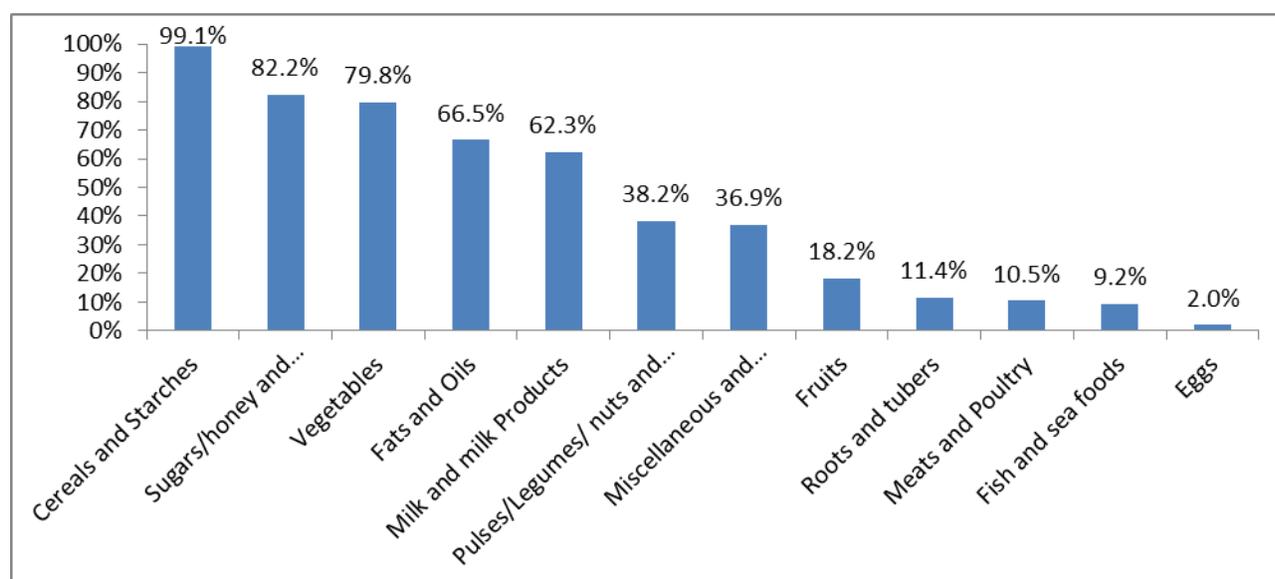


Figure 12: Food Groups consumed at household level

¹⁵FAO, EU Guidelines for measuring household and individual dietary diversity 2011

3.1.1. YOUTH (15-24 YEARS) REPRODUCTIVE HEALTH (FAMILY PLANNING) PRACTICES

3.1.1.1. Characteristics of the Youth Interviewed

As highlighted in the previous sections, the survey was carried out among a total of 433 youth who responded through a confidential questionnaires and this data was supplement with FGDs. The survey comprised 49.7% (215) males and 50.3% (218) females while the FGDs were conducted among over 80 youth. All the youth interviewed during the survey were aged between 15 to 24 years.

In terms of marital status of the youth reached in the survey, majority (75.3%) were single, 22.6% were married and 1.2% were either separated or divorced as illustrated in the table below;

Table 18: Marital Status of the youth interviewed

Marital status of the youth	
	Percent
Married	22.6%
Separated/Divorced	1.2%
Single	75.3%
Others	0.9%
Total	100%

3.1.1.4. Reproductive Health needs of the youth under study and associated challenges

The survey revealed a myriad of youths' reproductive health needs that included; accessibility and adequacy of maternal health services, awareness on HIV/AIDS and proper use of reproductive health methods and issues of access to information on family planning and Counselling and Testing facilities.

The common challenges manifesting among the youth prompting the need for services were, the reported instances of excessive use of alcohol, misuse of contraceptives, early marriages and pregnancies, threat of STIs and early pregnancies.

Number of barriers were noted to hinder their access to and adoption of reproductive health practices and these included lack of awareness on family planning and HIV/AIDS, ignorance among many youths, improper ways of handling stress, illiteracy and peer pressure, lack of condom dispensers and supplies in the village and long distances to existing VCT facilities which normally have many patients and with shortage of workers. Most of these facilities are also not youth friendly.

3.11.3. Age of sexual debut among youth

As indicated in the chart below, a significant proportion of the youth (37%) had never had sex, however, among those who had sex, majority of them (56.6%) had first sex at ages ranging between 10 to 20 years. The peak at which most of the youth started having sexual intercourse was at 18 years (by 8.5%). On the other hand, a negligible proportion of 2.5%, indicated that they started at the age below 10 (i.e. between 5 to 9 years). Despite the fact that the youth viewed pre-marital sex as a taboo in their society, the extremely low age of sex debut, though negligible, serves as pointer to the fact that some children start sex at a very young age. In the same manner, a small proportion of 3.9% indicated that they started after 21 years. This is also another indicator that abstinence from sexual engagement beyond teenage was very low because by this time, most of them have already engaged in the same.

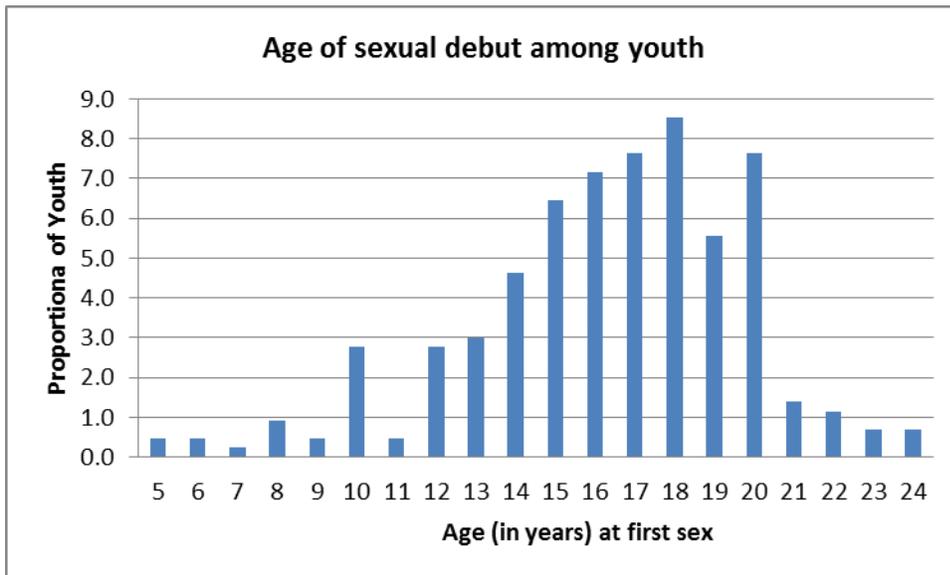


Figure 13: Age of sexual Debut among youth

According to the discussions held with the youths, the acceptable age for marriage ranged between 22 – 30 years, before which, youth are not expected to engage in pre-marital sex. The results above appear contrary to the societal expectation and these, according to youth were attributed to instances of extreme poverty, illiteracy and immoral behavior among many.

3.11.4. How youth becomes aware of the RH services

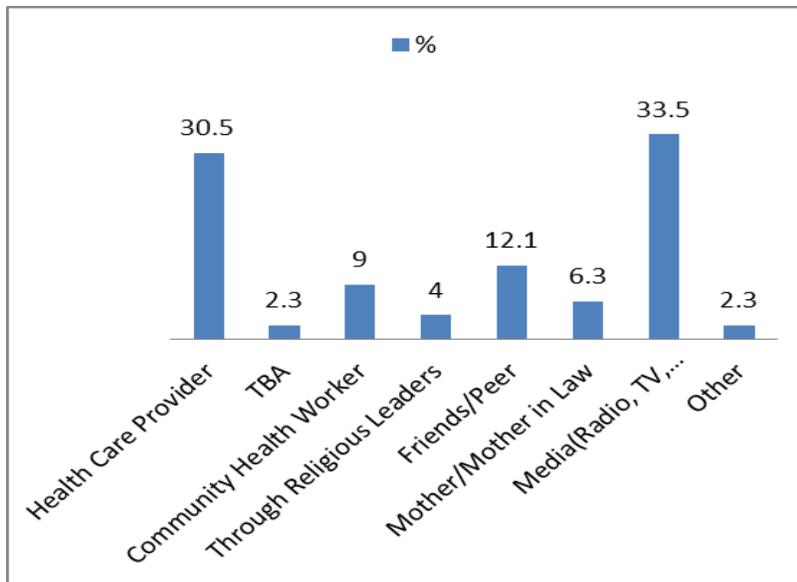


Figure 14:RH services awareness among the youth

Health Care Providers and Media are the leading sources of FP information to the youth i.e. 30.5% and 33.5% respectively followed by the Friends and Peers at 12.1%. Relatives and especially mothers who are physically close to the youth (as parents) accounted for only 6.3%. The youth obtaining information from TBAs were the least (2.3%), which was attributed to the few youth who have ever had pregnancy out of which some sought the services of the TBAs. This presents a quick indication that there is a lot of external influence on the youth and not from family and religious settings which are institutions close to them.

Qualitative review indicated that there are very few partners engaged in supporting youth focused health and nutrition activities in the whole region; some of these included, government dispensaries, institutions such as Voi Youth Forum and APHIA PLUS and NGOs such as WV, IMC and private dispensaries such as St. Joseph Shelter of Hope. The youth were in agreement that there were inadequate interventions in place to address the youth reproductive health and FP issues. Most female youth expressed the need for more awareness creation

3.1.1.5. Utilization of FP Services by the youth

Despite the fact that 22.6% of the youth were married, as indicated above, an even higher proportion of them (53.6%) was sexuality active. This was an indication that reproductive health services to more than half of the youth were equally essential just as it was with the adults. Qualitative review process through FGDs revealed the health needs of the youth to be among others; access to and adequacy of maternal health services, supplies of family planning and information, awareness on HIV/AIDS and proper use contraceptives, while others noted lack of youth friendly VCT facilities and of jobs that enable the youth to be self-reliant.

The survey also indicated that the uptake/utilization of FP Services among the youth stood at 62.3% (i.e. the proportion of youth who uses at least one of the reproductive health methods).

Further analysis showed that 73.6% of the youth knew of at least one method of delaying/avoiding getting pregnant.

3.11.6. FP Methods among the Youth – familiarity from their experience

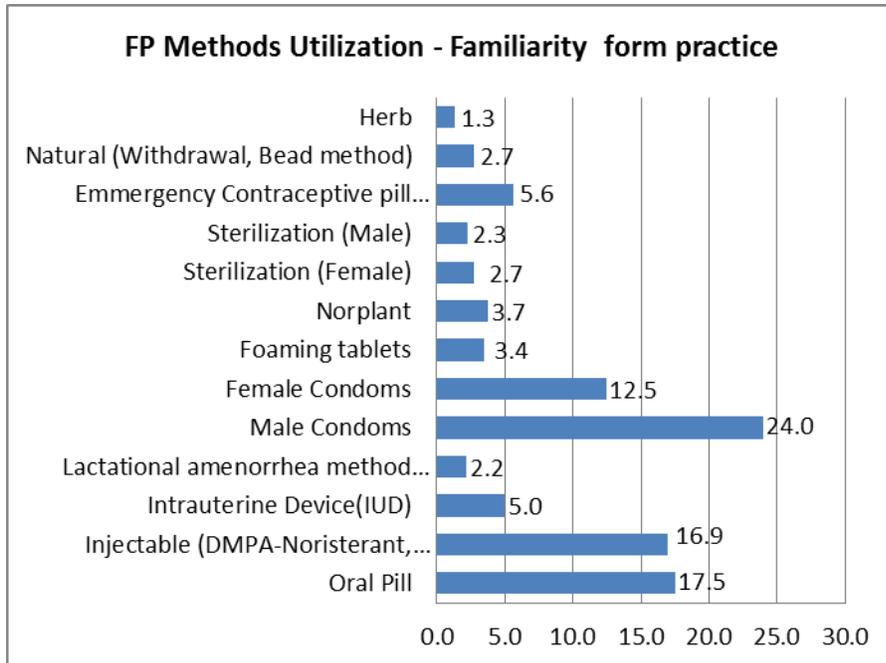


Figure 15: FP methods familiar with the youth

The leading FP methods familiar with the youth from their current or previous use were male condom (24%) followed by injectables (16.9%), oral pills (17.5%), female condoms (12.5%), and Emergency Contraceptives by 5.6% of the youth in that order. This is a pointer to the most preferred method.

3.11.7. HIV Testing and Condom use,

On HIV testing, 74.8% of the youth indicated that they had been tested at least once for HIV while 25.2% had never had the test. Those who had never undertaken a test gave some reason captured as per figure 16 below. Majority of them (30.6%) had not apparent reason;

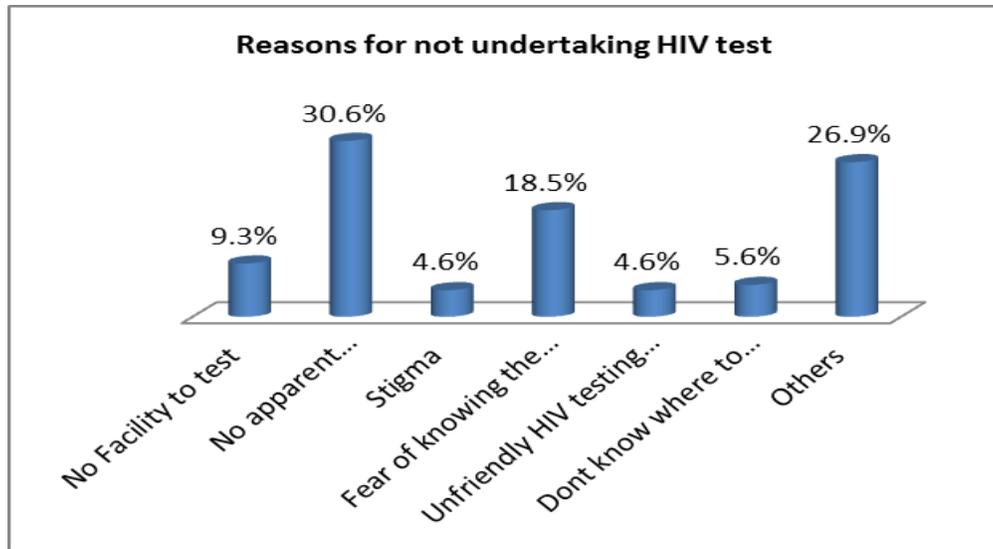


Figure 16: Reasons for not undertaking HIV test

On Condom use, only 35.8% had received a demonstration on proper use while majority, 64.2%, had not. Further analysis on utilization of condom, among the sexually active, indicated that 32.6% used a condom the last time they had sex while 35.1% never used and the rest could not recall whether they used or not.

Furthermore, the rate of use condoms with their partners, by the sexually active, were follows; 44.9% had never used, 23.4% used condom always, 22.5% used condom inconsistently and 9.3% used condom rarely.

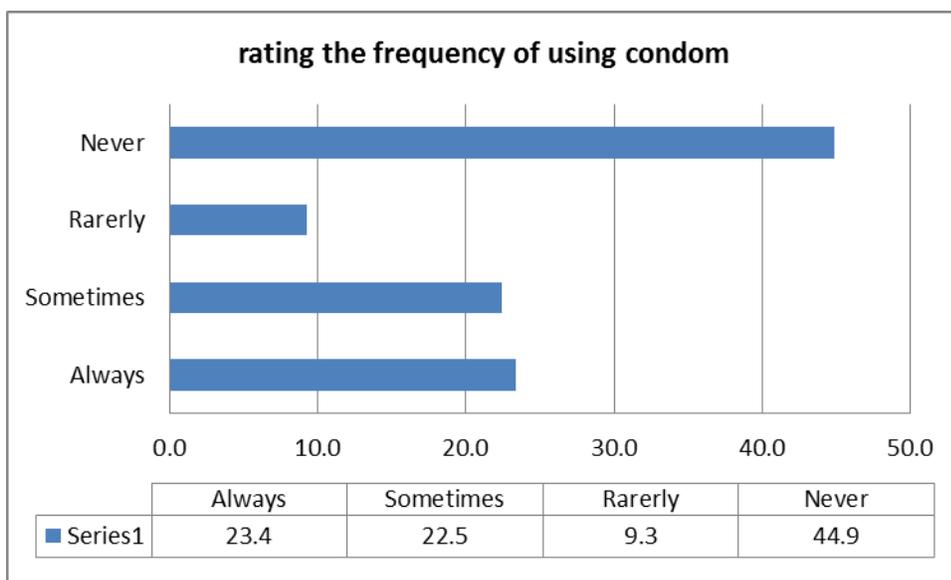


Figure 17: Frequency of condom use among the sexually active youth

3.11.8. Challenges that faced youth when using FP Methods

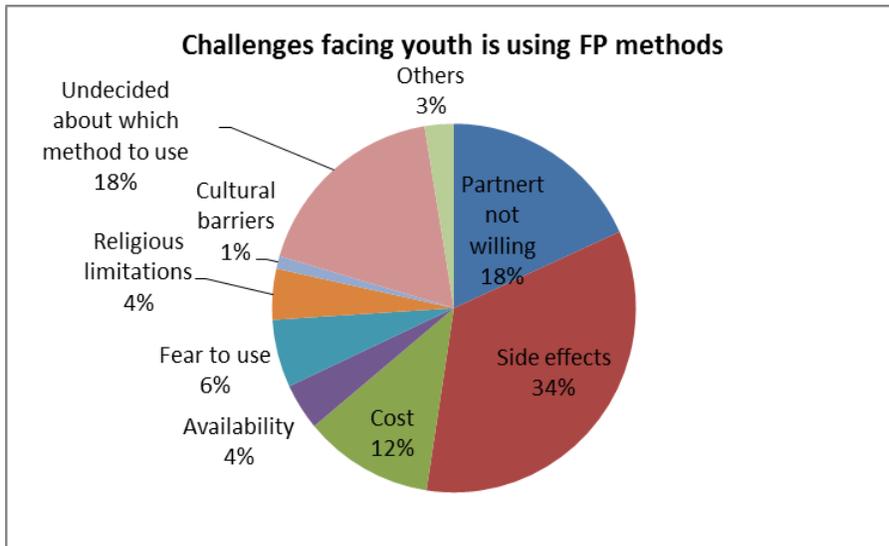


Figure 18: Challenegs facing youth in ausing FP methods

Of those who used family planning methods, the study found out that the leading challenges included side effects (34%), unwillingness by partners (18%), indecision about the method to use (18%) and the cost of the method (12%). Other reasons included fear to use any FP method, religious restrictions, unavailability of the services and cultural barriers.

3.11.9. Youth's Access to ANC Services

On ANC, 29.6% had at one time been potential individuals for ANC as they had had either themselves or their partners become pregnant in the past. A high proportion (81%) of these had attended ANC during pregnancy while 10% did not and 9% were not sure.

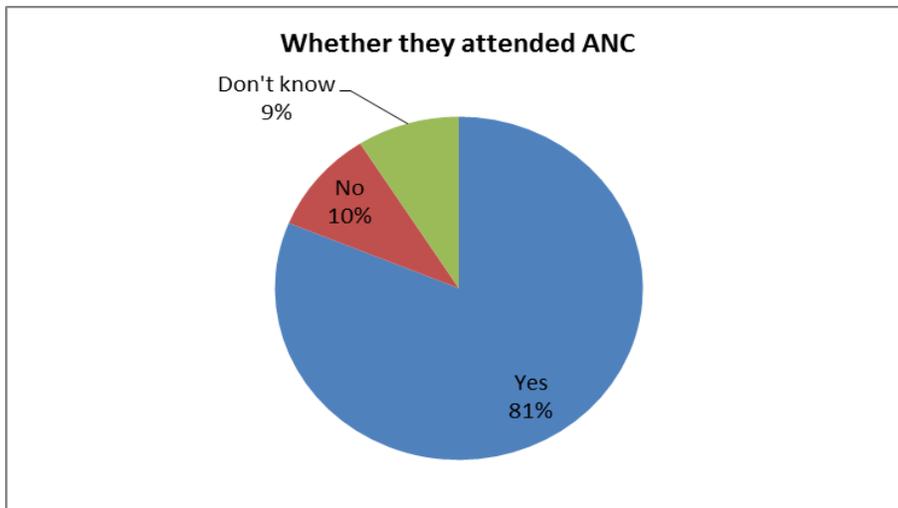


Figure 19: ANC attendance by self/partner

The reasons for non-attendance by 10%, among those who/their partners got pregnant included; poor attitude of health worker towards youth, long distances, decisions to have abortion, shame of pregnancy as well not seeing the need.

For those who attended ANC, most of them (47.2%) started in the second trimester, while 23.1% started in the first trimester and 29.6% started in the 3rd trimester. This is an indication of late start of ANC attendance when the first and the last two trimesters are compared.

Table 19: Time of starting ANC clinic attendance

When they started to attend antenatal clinic		
	Frequency	Percent (%)
1 st trimester (First 3 months of pregnancy)	25	23.1
2 nd trimester (Between 3-6 months of pregnancy)	51	47.2
3 rd trimester (The last 3 months of pregnancy)	32	29.6

Discussion with youth indicated that most of them started ANC late because of the similar reasons; lack of information on the necessity of ANC, long distances, some take time contemplating decisions to have abortion and also because of the shame of pregnancy at the initial stages.

3.1.1.10. Completion of ANC attendance

Despite the time of ANC start above, results further indicated that of those who attended ANC, 44.4% did not finish the recommended visits. Only 25% attended the 4 recommended times, 29.6 % visited more than four times but 0.9% could not remember the number of times attended. Cumulatively 54.6% attended ANC to the satisfactory level.

Table 20: ANC attendance (No. of times attended)

	Frequency	Percent (%)
Once	7	6.5%
Twice	10	9.3%
Thrice	31	28.7%
Four	27	25.0%
More than four times	32	29.6%
Can't remember	1	0.9%

Generally from the analysis above, the study shows that in addition to late start of ANC, most youth do not complete the recommended visits. Discussion with youth attributed these scenario to mainly inadequate reproductive health information, long distances to available facilities and inadequate funds.

3.11.11. Youth Perceptions on Reproductive Health:

Responses from the youth on reproductive health practices revealed that while some perceived that those who use family planning are thought to be unfaithful some took the issue positively as it provided an opportunity for child spacing, giving time to women to improve their health before getting other children.

The youth felt that premarital sex and pregnancy before marriage was negative due to threat of STIs, unwanted pregnancies and association with prostitution. Pregnancy before marriages was not acceptable as it depicted aspects of prostitution and could also bring burden to parents and entire family and at the same time reducing chances of one getting married. Use of contraceptives was equally viewed negative by many as they regarded them as stimulants for prostitution, could cause barrenness or only meant for married people. Abortion in the same way was viewed by youth as a criminal action that could also lead to death or prosecution.

On the other hand, the youth viewed health workers' perceptions on premarital sex and use of contraceptives to be positive as it would provide opportunity for counselling as well as enlightening them on use of the services. Some of the youth felt that abortion, according to health workers, was partially acceptable to them based on the underlying medical, psychological and physical reasons.

The Youth and adolescents living with HIV were not stigmatized, but handled positively; this to them was viewed as an opportunity for service providers to provide counselling services and encourage them and others towards living positively.

3.11.12. Service provision in the existing facilities,

The youths view of the level of reproductive health service delivery in existing facilities was moderate due to inadequate service providers and also inadequate information

Their understanding of youth friendly services was very basic since such services were rare to them when they compared the demanded services to the number of service providers and the attitude of some of them as depicted by the following quote from one youth respondent; *“huduma huwa bora wakati mhudumu akiwa mzuri”*, translated as, *“the services are often good whenever the service provider is good as well”* From group discussions, the youth understood youth friendly services as those that are attractive/appealing to the youth and make them comfortable, have them understood, listen and loved. They all agreed there were no such services in the area.

3.11.13. Opportunities for reaching the youth on RH

On top of the above level of knowledge, 75.3% responded that they were interested in being educated on RH/FP while 70.9% knew of a place where they could obtain FP services which included, Government Health Facilities, Private Clinics, Chemists/shop and by Community Health Workers (include %ages)

The youth therefore pointed out the following as opportunities for addressing their challenges with regard to the issues of reproductive health;

- Creation of awareness through forums and campaigns, road shows etc

- Provision of VCT services in the area either mobile clinics regularly and supplied condom dispenser
- Parents to admonish and teach their youth right and acceptable morals and be role models
- Community also to view the youth like their own children and correct them whenever they went wrong

4. CONCLUSION AND RECOMMENDATIONS

4.1 Conclusion

4.1.1. Maternal Child Health and Nutrition

In comparison to 2011 survey, nutrition indicators have improved significantly from a GAM rate of 5.5% (3.7- 8.1 95% CI) in July 2011 to 4.1 % (2.7 - 6.1 95% C.I.) in November 2013. Likewise, severe acute malnutrition rates reduced to 0.8 % (0.3 - 2.3 95% C.I.) in November 2013 from 0.9 (0.3-2.5 95% CI) in July 2013. The underweight (15.2 % (11.3 - 20.2 95% C.I.) and stunting(27.0 % (22.1 - 32.5 95% C.I.) status in the county is still high compared to the national targets for 2013/14 for both indicators (<12% for underweight and < 20% for stunting)¹⁶ .

The IYCN indicators are quite impressive, with the exclusive breastfeeding rated in the county being 72.1% and timely initiation of breastfeeding (within one hour) at 77%. The performance of these indicators is high compared to the national target (2013/14) which is 50% and 68% and calls for concerted effort for all stakeholders in order to maintain this performance.

Maternal health and nutrition indicators also show quite good performance with 98.4% of women having attended the ante natal clinic. Quite a number (60.9%) attended the four or more recommended visits. On the other hand more than 70% of mothers delivered in the hands of skilled attendant either in a government health facility, private hospital/clinic or at home. Stakeholders focus should turn to 27.8% who reported to have delivered without an assistant of a skilled attendant. Uptake of post natal care is very low. Education during both ANC and PNC is poor with only breastfeeding being the most common topic discussed. Male involvement during ANC and for PMTCT is quite low at about a quarter which calls for more sensitization and making MCH facilities more male friendly. Family planning is quite good with 66% of women using a family planning method.

The latrine coverage in Taita Taveta County is quite high. 95.6% of the residents can access a toilet facility, with majority (69.6%) owning a traditional pit latrine. 47.2% source their drinking water from the taps, while 17.1% source their water from the river and lags. 11.4% and 6.3% obtain their drinking water from water seller and protected boreholes respectively. 60.8% do not treat their drinking water. For those who do, majority (54.4%) do use chemicals, with almost similar number (50.2%) boiling their water. The open defecation rates are quite low in the county, with only 3.5% relieving themselves in bushes. There is need to reduce this number to 0% through concerted effort for all the stakeholders. It is also important to note that majority of the residents do wash their hands after visiting the toilet and before eating. Few do it before preparing foods and after changing the nappies.

¹⁶ Based on National Nutrition Action Plan 2012- 2017

As far as foods security is concerned, majority of households (49.3%) reported medium dietary diversity with only 11% reporting low dietary diversity. Most of the household consume cereals, starches and sugars, with few households consuming protein rich foods namely eggs, meats, fish and legumes. On average household consume 2.53 meals confirmed by normal and previous day intake.

Major gaps were however noted in micronutrient supplementation with the recommended twice supplementation of vitamin A being as low as 29% as well as deworming rates which was 21.7%. Zinc supplementation in the management of diarrhea is also low at 29.2%.

Overall, it was observed that service uptake was high were capacity building of health workers and CHWs has been done. For instance, training on IYCN has results to increased education on the same and exclusive breastfeeding increasing from 51% in 2011 toin 2013. Reports from the County Health office reveal that there are skills gaps among health workers in the areas of new born care and family planning.

4.1.2. Youth Access to Reproductive Health/FP

The study reveals the dire need for reproductive Health services among the youth, in the midst of varied challenges facing them, which revolve around personal behavioral and attitudinal practices coupled with misconceptions brought about by inadequate information and guidance on use of the services.

The survey further shows that a good proportion of the youth (37%) had never had sex, with most of the getting exposed by the age of 18 years. A negligible proportion (2.5%), however, start at the age below 10 years (ranging from 5 to 9 years). This is an extremely low age of sex debut, which though it is a small proportion, it points to the fact that some children are exposed to unpleasant practices and risks associated with reproductive health at very young age.

There is a lot of external influence on the youth and not from family and religious institutions which are institutions close to them as evidenced by the main sources of RH (FP) information among them being Health Care Providers and Media at 30.5% and 33.5% respectively. This coupled with the few partners present in the region present a situation of inadequate intervention measures to address the reproductive health and FP issues among the youth.

The uptake/utilization of FP Services among the youth, looking at the proportion of youth who uses at least one of the reproductive health methods is at an appreciable level of 62.3%. This, however, means that there is still a huge proportion left out from accessing the services. RH/FP awareness level among the youth is good though it need to be addressed continuously. The impact of dire information needs among the youth is also evident in the fact that condom use

by the sexually active in the last sexual intercourse stood 32.6% and the frequency of use by the same group was still low at 23.4%, with 44.9% of the sexually active having never used condom.

Challenges facing the youth's utilization of FP methods is still a big hindrance to the uptake of the services; such challenges were side effects (34%), unwillingness by partners (18%), indecision about the method to use (18%) and the cost of the method (12%). Other reasons included fear to use any FP method, religious restrictions, unavailability of the services and cultural barriers.

From the survey, 29.6% youth had at least been potential individuals for ANC services. There was an encouraging attendance by 81% of this group. Despite the scenario, the completion rate (by 54.6%) is still a glaring challenge with over 44.4% of those who were potential not completing at all.

Given the glaring gaps in enhancing youth access to RH/FP services, the opportunity for educating them is rife with over 75.3% of the youth confessing their interest in being educated/informed on the services. At least 70.9% knew of places where they could obtain the services, and most of the youth still hold to the positive values from cultural and religious base, which forms the minimum capital for passing value based life skills essential for reproductive health. Youth however, demonstrated the need for youth friendly services and facilities within their borders. There are a number of opportunities including, awareness campaigns, VCT services, health care providers, media, parents, peer educators, education and religious institutions that can form avenues for effective education of the youth and children.

4.2 Recommendations

4.2.1. Maternal Child Health and Nutrition

- In order to improve demand for MCH, Nutrition and FP, increase the number of CHWs at the community level by forming more community units and strengthening the existing ones. Further build the capacity of the CHWs to undertake home visits to pregnant and lactating women at certain critical points within the 1000 days.
- In order to improve on vitamin A supplementation, it is recommended for sensitization to the community/caregivers on the importance of vitamin A supplementation and deworming. Mass campaigns such as Malezi Bora and immunization campaigns (polio, measles etc.), should be strengthened. It is also important to improve on documentation of the supplemented cases during the routine health facility supplementation as well as during the mass campaigns (cards and registers). Strengthening of community strategy in the county to enhance behavior change and also addressing the supply issues will greatly boost the coverage in the county
- Advocate for zinc supplementation and adherence to protocols on therapeutic zinc supplementation in diarrhea episodes to the health workers

- To improve uptake of 4 ANC visits, increase number of women attending PNC in a timely manner and education during both ANC and PNC, build capacity of CHWs to provide community education, home visits and referral of women. Further, avail IEC materials to aid in this education
- Considering that more than a quarter of the deliveries are conducted by TBA, relatives and friends, they are therefore key secondary influencers of maternal care and should be targeted to increase their awareness on importance of skilled birth attendance at a health facility.
- Community education on food diversity— Partner with relevant sectors for example, the Ministry of Agriculture, NGOs and CBOs in sensitization and training of the community on improved food production and utilization of different varieties of foods.
- Train community members on the importance and methods of treating their water to avoid contracting water borne diseases e.g. diarrhea.
- Advocacy and health promotion need to be strengthened. More outreach visits and community sensitization forums on the importance of measles immunization should be supported. More sensitization on the new measles dose at 18 months should be given a priority. Addressing the issue of antigen supply as well as developing flexible immunization schedules at the health facilities will boost the measles coverage. Thorough supervision need to be done at the health facilities to establish the gaps existing.
- Community sensitization on importance of good nutrition to the health of children as well as nutrients food sources especially locally available foods needs to be prioritized by the stakeholders in the County.
- Mothers should be educated on how to practice hand washing in all the 4 critical moments when they visit the health facilities as well as at the community level.
- Community training on proper human waste disposal through triggering (CLTS method)

4.2.2. Youth Reproductive Health/FP

- Strengthen the capacity of health workers on attitude change towards youth in regard to issues of reproductive health and family planning. This capacity should also include the creation of youth friendly opportunities or provision of youth friendly services in the existing on new facilities.
- Build the capacity of Community Health Workers (CHWs) on Reproductive Health (RH) to enable them disseminate information among youth. This is because the youth's responses indicate that they have a lot of interest to be educates and informed and also aware of where they obtaining the services.
- Create more awareness on Ante Natal Care (ANC), especially early attendance and completion among youth. Unnecessary substitutes for ANC attendance among the youth should be challenged.

- Youth who get pregnant are mostly stigmatized, therefore community needs to be engaged to support youth affected by unplanned or early or first pregnancy. There is also need for increased sensitization among youth on Behaviour Change, Reproductive Health and Family Planning. This is a key contributor to late start of ANC attendance.
- There is need to deliberately and consistently work with media to provide correct information on Reproductive Health and Family Planning among the youth. This would dispel fears and wrong perceptions together with instilling proper use of FP services among the youth.
- Partners to support and strengthen formation and strengthening Adult-youth partnerships to address youth issues.
- Religious community and institutions to come on board to address issues of sexuality among youth. These local institutions should propagate positive cultural and religious values among the youth as they are the immediate institutions reaching the youth.
- Ministry of health, directorate of youth affairs, education and National Council for Population and development and NACC, to work together to harmonize their approaches related to RH & FP among youth.

APPENDICES

Appendix 1. Terms of Reference



IMCHN and FP
Baseline TOR.docx

Appendix 2: Sampled Villages

S/No	Division	Location	Sub- Location	Geographical unit	Population size	Cluster
1	Mwatate	Mwatate	Mwatate	Peleleza	2500	1
2			Modambogho	Relinyi	308	RC
3		Mwachabo	Wumari/Zechu	Zare	423	2
4			Mwachabo	Jora	1063	3
5		Kishamba	Kishamba	Seleka	375	4
6			Mwachawaza	Mwasungunyi	345	5
7		Chawia	Wusi	Mwawache	580	6
8		Bura	Mrughua	Kiwandenyi	205	7
9			Nyolo	Mwamkolo	272	8
10		Mwakitau	Godoma	Kilingonyi	180	9
11	Wundanyi	Wundanyi	Wundanyi	Wusichi	240	10
12			Mteni	Kitukunyi	750	11
13		Mwanda	Njawuli	MRUGHASENYI	160	12
14		Kishshe	Kishushe	MASHASHAGO	390	13
15		Mgange	Mgange/Dawida	NDAU	375	14
16			Mwaroko	KOKUA	392	15
17		Bura	Mnamu	NGOLIA	321	16
18		Werugha	Werugha	KAGHALA	840	17
19		Kidaya/Ngerenyi	Kidaya/Ngerenyi	Mlamba	125	18
20		Mwambirwa	Ronge Juu	Kishau	1126	RC
21	Chala	Njukini	Njukini	NJUKINI TOWN	797	19
22			Lumi	LANG'ATA B	586	RC
23	Chala	Chala	KWA TOM B	421	20	
24	Jipe	Jipe	Mata	NJORO	739	21
25			Kimala	NDIWENI	395	22
26	Bomeni	Bomani	Mahoo	RASHIA A	1232	23
27		Ngarashani	Mjini	BURANDOGO A	3000	24
28			Mjini	CHACHEWA	1500	25
29		Kitobo	Mrabani	RIATA KUBWA	1263	RC
30		Kimorigo	Eldoro	KITOGOLO A	750	26

31			Kimorigo	MARODO	729	27
32	Nyangala	Kasigau	Makwasinyi	KISIMENYI	903	28
33			Buguta	KILIKILA	2697	29
34			Buguta	BUGUTA WEST	3172	30
35			Marungu	Maungu	MARUNGU	2025
36	Voi	Sagalla	Teri	MRONGO	250	31
37			Ndara	KIZUMANZI	1485	32
38		Voi	Kaloleni	KALOLENI	4198	33
39			Kaloleni	BIRIKANI	1282	34
40			Kaloleni	RAILWAYS	1112	35
41			Mwangea	Mlekenyi	380	36
42	Tausa	Ronge juu	Ronge Kinya	SHELEMBA	2500	37
43		Mbololo	Mraru	KUNDE	752	38
44			Tausa	GORA	578	39
45		Ngolia	Ndome	MLUNDINYI W	530	40
46			Ghanzi	MAJENGO	550	41
47			Ghanzi	MTITO W	1400	42

Appendix 3: Plausibility Check

Indicators	Acceptable value range/values	Survey value	Comment	
Digit preference - weight	<10	5	Excellent	
Digit preference - height	<10	6	Excellent	
WHZ (Standard Deviation)	0.8-1.2	1.05	Excellent	
WHZ (Skewness)	-1 to +1	-0.01	Excellent	
WHZ (Kurtosis)	-1 to +1	0.20	Good	
Percent of flags WFH	<3%	2.3%	Excellent	
Percent of flags HFA	<5%	4.1%	Good	
Percent of flags WFA	<5%	0.8%	Excellent	
Age distribution (%)				
Group1	6-17 months	20%-25%	27.1%	Slightly over representation
Group 2	18-29 months	20%-25%	27.4%	Slightly over representation
Group 3	30-41 months	20%-25%	23.3%	Good
Group 4	42-53 months	20%-25%	15%	Under representation
Group 5	54-59 months	Around 10%	7.1%	Slightly under representation
Age Ratio : G1+G2/G3+G4+G5		Around 0.85	1.20	Good
Sex Ratio		0.8-1.2	0.98	Excellent (p= 0.840)

General acceptability		8%	Excellent
Design Effect		1.00	

Appendix 4: Age Calculation Chart

TAITA TAVETA, MCH and Nutrition Survey October 2013

AGE CALCULATION CHART FOR UNDER 5 (<i>record Age in Months</i>)			
Adequately Verify the age of the child. Accurate as at October 2013: Please cross- check against date of birth of child and date of survey to establish actual age)			
DATE OF BIRTH	AGE IN MONTHS	DATE OF BIRTH	AGE IN MONTHS
Nov-08	59	Feb-12	20
Dec-08	58	Mar-12	19
Jan-09	57	Apr-12	18
Feb-09	56	May-12	17
Mar-09	55	Jun-12	16
Apr-09	54	Jul-12	15
May-09	53	Aug-12	14
Jun-09	52	Sep-12	13
Jul-09	51	Oct-12	12
Aug-09	50	Nov-12	11
Sep-09	49	Dec-12	10
Oct-09	48	Jan-13	9
Nov-09	47	Feb-13	8
Dec-09	46	Mar-13	7
Jan-10	45	Apr-13	6
Feb-10	44	May-13	5
Mar-10	43	Jun-13	4
Apr-10	42	Jul-13	3
May-10	41	Aug-13	2
Jun-10	40	Sep-13	1
Jul-10	39	Oct-13	0
Aug-10	38		
Sep-10	37		
Oct-10	36		
Nov-10	35		
Dec-10	34		
Jan-11	33		
Feb-11	32		
Mar-11	31		
Apr-11	30		
May-11	29		
Jun-11	28		
Jul-11	27		
Aug-11	26		
Sep-11	25		
Oct-11	24		
Nov-11	23		
Dec-11	22		
Jan-12	21		

Appendix 5: Data Collection Tools

5.1. Household Questionnaire

1. Data Collector's name _____		Team Leaders name _____			Date _____		
1.1: Sub County/ District	1.2: Division	1.3: Location	1.4: Sub-Location	1.5: Village	1.6: Cluster No	1.7: HH No	1.8: Team No.

2. HOUSEHOLD STRUCTURE

2.1	How many people live together in this household & share meals ____		
2.2	How many are 6-59 months old ____ Below 6 Months ____		
2.3	Who is the Head of the Household? ____ [1=Father, 2=Mother 98= Others (specify)]		
2.4	What is the structure of your family? ____ [1=monogamy, 2=polygamy,3=single parent] <i>If 2 go to 2.5 else, skip to 2.6</i>		
2.5	If polygamous, how many wives does your husband have? ____		
2.6	<table border="0"> <tr> <td style="vertical-align: top;"> What is the main occupation of the household head 1. Livestock herding 2. Farmer/own farm labor 3. Employed (salaried) </td> <td style="vertical-align: top;"> 4. Daily labor/Wage labor 5. Small business/Petty trade ____ 6. Firewood/charcoal 7. Other (Specify _____) </td> </tr> </table>	What is the main occupation of the household head 1. Livestock herding 2. Farmer/own farm labor 3. Employed (salaried)	4. Daily labor/Wage labor 5. Small business/Petty trade ____ 6. Firewood/charcoal 7. Other (Specify _____)
What is the main occupation of the household head 1. Livestock herding 2. Farmer/own farm labor 3. Employed (salaried)	4. Daily labor/Wage labor 5. Small business/Petty trade ____ 6. Firewood/charcoal 7. Other (Specify _____)		
2.7	<table border="0"> <tr> <td style="vertical-align: top;"> What is the level of education of the caregiver/respondent? 1= None 2= Lower Primary 3= Upper Primary </td> <td style="vertical-align: top;"> 4= Secondary college 5=Technical 6 = University 7= others specify ____ </td> </tr> </table>	What is the level of education of the caregiver/respondent? 1= None 2= Lower Primary 3= Upper Primary	4= Secondary college 5=Technical 6 = University 7= others specify ____
What is the level of education of the caregiver/respondent? 1= None 2= Lower Primary 3= Upper Primary	4= Secondary college 5=Technical 6 = University 7= others specify ____		

3.0 WATER, SANITATION AND HYGIENE (WASH)-Probe the mother/caretaker

3.1	<p>What is the current MAIN source of water for household use?</p> <p>1. River/laga 2. Tap water 3. Protected Borehole 4. Unprotected borehole 5. Public pan 6. Private Water Pan 7. Dam 8. Rock Catchment</p> <p>9. Digging along the laga 10. Protected Spring 11. Unprotected Spring 12. Roof rain catchments 13. Water trucking 14. Water seller, donkey cart or other seller 15. Other (specify)_____</p> <p style="text-align: right;"> _ </p>
3.2	<p>How long does it take to walk to the MAIN source of water (to & fro, including waiting time way in minutes)?</p> <p>1. Less than 30 minutes (500 m) 2. 30-1 hour (more than 500 meters – 2 km) 3. More than one hour (more than 2 km)</p> <p style="text-align: right;"> _ </p>
3.3	<p>What is the current MAIN source of water for drinking household use?</p> <p>1. River/laga 2. Tap water 3. Lake 4. Protected Borehole 5. Unprotected borehole 6. Public pan 7. Private Water Pan 8. Dam 9. Rock Catchment 10. Digging along the laga 11. Protected Spring</p> <p>12. Unprotected Spring 13. Roof rain catchments 14. Water trucking 15. Water seller, donkey cart or other seller 16. Other (specify)_____</p> <p style="text-align: right;"> _ </p>
3.4	<p>Currently, What is done to the water before household members DRINK it?</p> <p><i>(multiple responses possible)</i></p> <p>1. Nothing 2. Boiling 3. Chemicals (Chlorine, Pur, Water guard, Aqua tab) 4. Use Traditional Herb 5. Decanting/ Use of Alum/ 3- Pot system 6. Passing through cloth/Sieve/filter 7. Sodis 8. Other (specify_____)</p> <p style="text-align: right;"> _ _ _ _ _ </p>
3.5	<p>How do you store water for drinking?</p> <p>1. Open pot/jerrican 2. Closed pot/ jerrican 3. Any other(specify_____)</p> <p style="text-align: right;"> _ </p>

3.6	Does your household have access to a toilet facility that you use? (Confirm by OBSERVATION) 1=Yes2=No __
3.6.1	(If yes), what type of toilet facility do you have? 1=Traditional pit latrines __ 2=Ventilated improved pit latrine 3=Flush toilet 4=Other Specify _____
3.7	Where do members of your household relieve themselves? 1. In the bushes, open defecation __ 2. Neighbor or shared traditional pit latrine 3. Own traditional pit latrine 4. Neighbors or shared ventilated improved pit latrine 5. Own ventilated improved pit latrine 6. Others (specify) _____
3.8	On what occasions do you wash your hands? (MULTIPLE RESPONSE) 1. After visiting toilet/latrine __ 2. Before preparing/handling food __ 3. After taking children to the toilet/changing baby's nappies 4. After handling animals 5. Before eating
3.9	What does the mother/caregiver use to clean her hands (Probe, what she uses)? __ 1. Water Only 2. Water with Soap 3. Water and Ash 4. Water and Lemon 5. Others, specify _____
3.10	What type of hand washing facility do you use? 1. None 2. Leaky tin/ tippy tap 3. Veronica bucket 4. Jug/ Tin 5. Tap 6. Basin
4.0 MOSQUITO NET OWNERSHIP & UTILIZATION	
4.1	Does this household have a mosquito net? 1. Yes __ 2. No

4.2	<p>If the household owns mosquito net, who slept under the mosquito net last night?</p> <p><i>(Probe and enter all responses mentioned (Use 1 if “Yes” and 2 if “No”))</i></p> <p>1. Children <5 years old __ </p> <p>2. Pregnant __ </p> <p>3. Lactating __ </p> <p>4. Family members (other than U5s & PLWs)</p> <p>5. Nobody uses</p>
-----	--

5.0 MAIN SOURCE OF INCOME

5.1	<p>In the last three months [Since August 2013] what was the <u>MAIN</u> source of income for your household?</p> <p>1= Sale of livestock 2= Sale of livestock products 3= Sale of food ration 4= Sale of own crop 5= Wage labor 6= Salaried employment 7= Petty trade/ business 8= Remittances 9= Sale of charcoal/firewood 10= Weaving/basketry 11= Quarrying 12= Brewing 13= Tapping 14= Fishing 16=Other (Specify) _____</p>	__
-----	---	----

6.3 LIVESTOCK OWNERSHIP

6.3.1	<p>Does the household currently own livestock?</p> <p>1. Yes __ </p> <p>2. No (if No, skip to question 8.0)</p>	
6.3.2	<p>Has the number of your livestock changed in the last three months (Since August 2013.)?</p> <p>[1=Increased 2=Reduced 3=Remained the same] __ </p>	
6.3.3	<p>If increased what was the MAIN reason? Codes:1= Animals gave birth 2= Bought 3= Given 4= Other (specify)----- ----- __ </p>	
6.3.4	<p>If decreased what was the MAIN reason?</p> <p>1= Death because of drought 2= Death because diseases 3= Sold 4= Raid 5= Bride price 6= Slaughtered 7.others Specify:_____ __ </p>	

7.0. DIETARY DIVERSITY, FOOD SOURCES AND HOUSEHOLD FOOD CONSUMPTION

7.1 What did you eat yesterday? (Probe, don't read list to the mother)		
1=Consumed 2=Not consumed		
7.1.1	Cereals and Cereal	Maize, rice, pasta, ugali, porridge, bread, biscuits, millet, sorghum, wheat, green bananas [and any <i>other locally available grains</i>]

	Products/starches		
7.1.2	Fish and Sea Foods	fresh or dried fish	
7.1.3	Roots and Tubers	Irish potatoes, sweet potatoes, yams, cassava, arrow root, or foods made from roots or wild roots and tubers	
7.1.4	Vegetables	Sukuma wiki, cabbages, carrots, spinach, and any other locally available vegetables including wild vegetables	
7.1.5	Fruits	Oranges, ripe bananas, mangoes, avocados, Matomoko	
7.1.6	Meats and Poultry	Camel, beef, lamb, goat, rabbit, wild game, chicken or other birds, liver, kidney, heart, matumbo, meat soup or blood-based foods	
7.1.7	Eggs	Chicken, bird eggs	
7.1.8	Pulses / Legumes / Nuts and Seeds	Beans, peas, lentils, nuts, seeds or foods made from these, pojo, soya tea	
7.1.9	Milk and Milk Products	Fresh/fermented milk, cheese, yogurt, or other milk products	
7.1.10	Fats and Oils	Oil, fats, ghee, margarine or butter added to food or used for cooking, animal fat	
7.1.11	Sugars / Honey and Commercial Juices	Sugar in tea, honey, sweetened soda or sugary foods such as commercial juices, chocolates, sweets or candies, mabuyu	
7.1.12	Miscellaneous/condiments	Spices, sweets, unsweetened beverages, black tea, black coffee	
7.2	<p>What was the MAIN source of food consumed in HHD yesterday? (Tick the main Source(s))</p> <ol style="list-style-type: none"> 1. Own production (crops, vegetable, fruit) 2. Own livestock production (livestock products) 3. Purchase __ 4. Credit/borrowed 5. Food aid __ 6. Gift 7. Bartered __ 8. Other (specify) _____ 		

8.3. HOUSEHOLD FOOD CONSUMPTION

8.3.1	How many meals does this household normally eat per day (please write the number in the space provided)	[]
8.3.2	How many meals did this household eat YESTERDAY (please write the number in the space provided)	[]
8.3.3	Did all eligible members of your household (excluding those who are away from home or very young children) take all the meals prepared YESTERDAY? (Codes: 1=Yes 2=No)	[]

5.2. Mortality Questionnaire

QUESTIONNAIRE E : MORTALITY FORM
ONE SHEET PER CLUSTER

Sub County/ District _____ Division _____ Location: _____ Village: _____ Cluster No. _____

Data Collector: _____ Team Leader : _____ Date: ____ / ____ / ____

HHD No	Current HH members ¹⁷		Join HH since Recall Period ¹⁸ (Aug 2013)		Left HH since Recall Period ¹⁹ (Aug 2013)		Births during Recall Period (Aug 2013)	Deaths during Recall Period (Aug 2013)		Causes of Death	
	Total	<5	Total	<5	Total	<5		Total	<5	>5Adults	<5s
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											

¹⁷ Total number (of all ages) currently in the household

¹⁸ Current HH members who arrived during recall period, which is three months (exclude births)

¹⁹ Past HH members who left during the recall period, which is three months (exclude deaths)

Causes of Death

1= Diarrhea (minimum of 3 watery stools/24hrs)

2= Bloody Diarrhea;

3= Measles (fever with rash);

4= Fever;

5= Lower respiratory tract infection (fever, productive cough, chest pain, difficulty breathing)

6= Malnutrition;

7= Injury;

8= Other (Specify); _____

9=Unknown

5.3. Anthropometric, Morbidity and Immunization Questionnaire

Questionnaire C: Anthropometry, Morbidity & Immunization Questionnaire (To be administered for all 6-59 months children)								
1.1 Sub-County	1.2 Division	1.3 Location	1.4 Village	1.5 Cluster No	1.6 Team Number	1.7 Team Leader	1.8 Data Collector	1.9 Survey Date

Anthropometry								Immunization and deworming										
2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	3.0	3.1	3.2	3.2	3.3	3.4	3.5	3.6	3.7	3.8
Child no.	HH no.	Sex F/M	Age in Months or DOB (Use card & calendar of events)	Age verified by 1=Vaccination card/mother child booklet 2 = Birth certificate 3 = Baptism card/Dedication Card 4 = Recall	Weight (kg) Measure to nearest 0.1kg Write down the decimal and do not round off	Height (cm) Measure to nearest 0.1cm Write down the decimal and do not round off	Edema 1= Yes 2= No	MUAC (cm) Measure to nearest 0.1cm Write down the decimal and do not round off	How many capsules of vitamin A has the child received in the past 1 year? Show sample capsules & Check card 0= No 1= once 2=twice and more 3=DNK	If Vitamin A received verified by 1 = Card 2 = Recall 99- N/A	In the last 1 year, how many times has the child received drug for intestinal worms (Show sample tablets & Check card) 0= No 1= once 2=twice and more 3=DNK	Has the child received BCG 0= No 1= Card 2= Recall 3= Scar 4=DNK	Has the child received OPV 0 0=No 1= card 2=Recall 3=DNK	Has the child received OPV 1 0=No 1= card 2=Recall 3=DNK	Has the child received OPV 2 0=No 1= card 2=Recall 3=DNK	Has the child received OPV 3 0=No 1= card 2=Recall 3=DNK	Has the child received Penta 1 0=No 1= card 2=Recall 3=DNK	Has the child received Penta 2 0=No 1= card 2=Recall 3=DNK
1																		
2																		
3																		
4																		
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6																		
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18																		
19																		
20																		

QUESTIONNAIRE B1 : MATERNAL QUESTIONNAIRE: ONE SHEET PER CLUSTER

Sub County/ District _____ Division _____ Location: _____ Village: _____ Cluster No. _____

Data Collector: _____ Team Leader: _____ Date: ____ / ____ / ____

HHI	MA1i	MA1ii	MA2i	MA2 ii	MA2iii.	MA2iv	MA3	MA4	MA4i	MA5	MA5i.
HH ref. no.*	What is the mother's/ caregivers age in years?	What is the mother's /caregivers physiological status 1=Pregnant 2=Lactating 3=None of the above	In your last pregnancy, did you attend Antenatal Clinic? 1=Yes 2=No	If No, what were MAIN the reasons? 1= Long distance to Health facility 2=Not handled well by health staff 3= Availability of TBA 4= Ashamed of pregnancy 5=No money for transport 6= No money for ANC services 7=Religion 8= Not aware/ lack of Information 9= Ignorance 98=Other, specify	If yes, Where did you attend ANC? 1=Govt health facility 2=Mission hospital/clinic 3=Private hospital/clinic 4=Nursing/maternity home 98=Other , specify	If yes, How many times did you attend ANC? 1=Once 2=Twice 3=Thrice 4=Four Times 5=More than four times (5+)	<i>(For those who attended clinic less than 4 times) Why did you NOT go for 4 ANC visits?</i> 1=Ignorance 2=Thought 1 or 2 or 3 visits is enough 3= Started ANC late/ Initially not sure that I was pregnant 4= lack of fare to travel to clinic 5= Bad attitude of health worker 6=Ashamed of my pregnancy 7=Distance from health facility too far 98=Other(specify)	During your antenatal clinic visits, were you accompanied by your spouse/ partner 1=Yes 2=No 3= Single/ widowed	In your last pregnancy; did you take iron /folic supplementation for 90 days? (show sample) 1=Yes 2=No 88=DNK	In your last pregnancy, did you receive tetanus vaccine before the birth of your youngest child? 1=Yes 2=No 3=Had completed TT5 88=Don't Know	If yes, how many did you receive? 1=Once 2=Twice 3= Thrice 4= More than 3 times
1											
2											
3											
4											
5											

QUESTIONNAIRE B2 : MATERNAL QUESTIONNAIRE: ONE SHEET PER CLUSTER

Sub County/ District _____ Division _____ Location: _____ Village: _____ Cluster No. _____

Data Collector: _____ Team Leader: _____ Date: ____ / ____ / ____

HH	MA6i.	MA6ia.	MA6ib.	MA7	MA8i.	MA8ii	MA8iii.	MA9i.	MA9ii.	MA9iii.

HH ref. no. *	During antenatal visit did you receive Counseling and Testing for HIV (PMTCT services) 1=Yes 2=No	If No, what was the reason 1=Already knew my status/ Tested elsewhere 2=Fear knowing my status 3=Spouse refused 98=Other Specify	If yes, was your spouse also counseled and Tested? 1=Yes 2=No	During Antenatal visit, on what topics did you receive counseling on? 1=Breastfeeding 2=Keeping the baby warm 3=Immunization 4=Vitamin A supplementation 5=Pregnancy danger signs 6= Newborn anger signs 7=Importance of post- natal care 8=Family planning 9= Birth plan 10= Cord Care 11= Delivery by skilled Birth Attendant 12= Maternal Nutrition 13= Hygiene 14=Other	At what place did you deliver your last child? 1=Home without skilled attendant 2= Home by skilled attendant 3=Govt Health Facility 4=Private hospital/clinic 5=Nursing/maternity home 98=Other , specify	Was it the same for previous births? 1=Yes 2=No	Who made the decision about where you would give birth? 1=Husband/Boyfriend 2=Relative/Friend 3=Traditional birth attendant 4=Self 5= Mother/ Mother in law 98=Others, Specify	Who conducted the delivery? 1=Health Worker 3=Community Health worker 4=Traditional birth attendant 5=Relative/friend 6=No one 98=Other ,specify	What instrument was used to cut the umbilical cord? 1=Unused new razor blade 2=Used razor blade 3=Scissors =Knife 98=Other (specify)	What did the attendant use to tie the cord? 1= Cord Clamp 2=Thread 3=bandages 4=Sisal Strip 5= Cloth strip 88=Don't know? 98=Other (specify)
1										
2										
3										
4										
5										

QUESTIONNAIRE B3 : MATERNAL QUESTIONNAIRE: ONE SHEET PER CLUSTER

Sub County/ District _____ Division _____ Location: _____ Village: _____ Cluster No. _____

Data Collector: _____ Team Leader: _____ Date: ___ / ___ / ___

HH	MP1i	MP1ii	MP1iii.	MP2	MP3i	MP3ii	MP3iii	MP4	

HH ref. no.*	After birth of your youngest child, did you attend postnatal clinic? 1=Yes 2=No	If yes, After how long did you start attending Post Natal Clinic upon delivering? 1= within 1 week 2=1-2 weeks 3=3 weeks 4=4 weeks 5=6 weeks 6=More than 6 weeks	If no, what was the reason? 1=Had no problem 2= No money for transport 3= Distance too far 4=Not handled well by the health worker 5=Not Aware of PNC 6= Did not think it is important 7= Cultural/ Religious reasons 98=Other, specify	During the Post natal clinic visits, on what areas were you given counseling? 1=Infant and Young Child feeding 2= Family planning 3= HIV transmission 4= New born including cord care 5= Maternal nutrition 4= Hygiene 5= Child Immunization 98=Other, specify	After the birth of your youngest child, did you receive Vitamin A supplementation within 4 weeks 1= Yes 2= No	Are you currently on any family planning method? 1=Yes 2=No	If yes, which one? 1. Oral pill 2. Injectables 3. Intrauterine device (IUD) 4. Lactational amenorrhea method (LAM) 5. Male condoms 6. Female condoms 7= Implants 8. Sterilization (female) 9. Sterilization (male) 10. Emergency contraceptive pill (ECP) 11=Natural (Withdrawal, bead method) 12=Traditional Herbs 98=Others, Specify	If no, what are the reasons? 1=Cultural reasons 2=Religious reasons 3=Not aware 4=Spouse refused 5=Health worker attitude 6= Side effects 7= Preferred method not available at health facility 8= Spouse away for long 9= Mother pregnant now 98=Others, Specify	Mother/ caretaker's MUAC reading(##.#cm) (measure MUAC of primary caregiver only if female between 15 and 49 years) _____cm
1									
2									
3									
4									
5									

Questionnaire C: Anthropometric, Morbidity and Immunization Form (Administered for all 6-59 months children)

1.1 Sub-County	1.2 Division	1.3 Location	1.4 Village	1.5 Cluster No	1.6 Team Number	1.7 Team Leader	1.8 Data Collector	1.9 Survey Date

2.0	Immunization and deworming							Morbidity				
	2.1	3.9	3.10	3.11	3.12	3.13	3.14	4.1	4.1	4.2	4.3	4.4
Child no.	HH no.	Has the child received Pentavalent vaccine 0=No 1= card 2=Recall 3=DNK	Has the child received pneumococcal vaccine 1 0=no 1=yes by card 2=yes by recall 3=DNK	Has the child received pneumococcal vaccine 2 0=no 1=yes by card 2=yes by recall 3=DNK	Has the child received pneumococcal vaccine 3 0=no 1=yes by card 2=yes by recall 3=DNK	Has the child received Measles vaccination (9months dose) 0= Not immunized 1= Card 2= Recall 3= DNK	Has the child received Measles vaccination (18months dose) 0= Not immunized 1= Card 2= Recall 3= DNK	Illness in the last TWO (2) WEEKS 0 = Not sick 1 = Fever/Malaria 2 = URTI 3 = Diarrhoea 4 = Others (specify) 5= DNK	Where did you seek help for sickness? 0=Never 1= Traditional healer 2=CHW 3=Pharmacy/private clinic 4=shop/kiosk 5=public clinic 6=mobile clinic 7=Relative/friend 8= local herbs	If diarrhoea what was the child given? 0 = Nothing 1 = Zinc 2= ORS 3=Home-made solution 4=others (specify)	When the child had diarrhea how much FLUID did you give 1=less than usual 2=about the same 3=more than usual 4=breast milk only 5=DNK	When the child had diarrhea how much FOOD did you give 1=less than usual 2=about the same 3=more than usual 4=breast milk only 5=DNK
1												
2												
3												
4												
5												
6												
7												
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11												
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19												
20												

Note:
Measles is administered in the upper right arm at 9 months and at 18 months for 2nd dose
OPV is administered orally at birth, 6weeks, 10 weeks, 14 weeks (2 drops)
Pentavalent is administered on the left upper thigh at 6 weeks and alternate thighs at 10 weeks and 14 weeks for Pentavalent2& Pentavalent3 respectively for those not given together with PCV. If given with PCV then it is on the same thigh for the 3 doses

QUESTIONNAIRE D2 : INFANT AND YOUNG CHILD NUTRITION (6-23 MONTHS FORM)

Must be filled in for every household with a child aged 6-23 Months; every child in this range should be included

Date (DD/MM/YYYY):/...../..... Sub- County/ District _____ Division: _____ Sub location: _____ Village Name: _____
 Cluster No: _____ Team No: _____ Team Leader: _____

1	2	3	4	5	6	7	8	9	10	11
Child No.	HH Ref-No	Age (in months)	Sex 1=M 2=F	Has this child ever been <u>breastfed</u> ? 1 = Yes 2 = No <i>If no go to question 9</i>	How long after birth did you first put the child to the breast 1 = Less than 1 hr. 2 = More than 1 but Less than 24hrs 3 = More than one day	Did you feed your child with fluid or liquid that came from breasts in the first 3 days after birth <u>COLOSTRUM</u> 1 = Yes 2 = No	Is this child <u>STILL</u> Breastfeeding? 1 = Yes 2 = No	In the first 3 days after delivery, what was the child given to drink other than breast milk? 0= None 1=Breast milk 2 = plain water 3 = sugar water/ glucose water 4= powder or fresh animal milk 5 = Formula (Nan,S-26) 6=Fruit juice 7=Grip water 8= other (specify)	What foods were given to the child from this time yesterday until now? ----- 0 =None 1= Breast milk 2 = Cereals, roots and tubers 3 = Legumes/ nuts 4 = Meat / poultry / offal/ fish 5 = Milk & milk products 6 = Vitamin A-rich fruits & vegetables 7= Other Fruits and vegetables 8= Eggs 9=others, specify (<i>Multiple responses are possible</i>)	Yesterday (During the day and at night). How many times did you feed [Name] solid and semi-solid foods? No. of times child was given food to make it full.
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

5.4. Youth Survey Tools

Below are the survey and focus group discussion tools used with youth.



Youth RP (FP)
Survey Tool.docx



FGD GUIDE - Youth
and RH (FP).rtf