WAJIR COUNTY HEALTH DEPARTMENT

SMART SURVEY REPORT

JULY 2017

Participating Partners

ACKNOWLEDGEMENT

This survey was successfully carried out with the support and participation of our various partners. The department of medical services, public health and sanitation is grateful to Unicef Kenya Country Office and Save the Children International Kenya for their financial and technical support and also special thanks to:

- Nutrition information working group (National) for validation of methodology and technical support
- Provincial administration, National Drought Management Authority (NDMA), Department of Agriculture, World vision Kenya, Department of Health through their respective Sub-County focal persons for the necessary expertise during the entire survey period.
- Survey team (supervisors, team leaders, enumerators and drivers) for their tireless efforts to ensure that the survey was conducted professionally and on time.
- Village guides and Community members who willingly participated in the survey and provided the information needed.

Table of Contents

ACKNOWLEDGEMENT 2
List of tables 5
List of figures 5
Executive Summary 7
1 CHAPTER ONE 8
1.1 Background 8
1.1.1 Livelihood 8
1.1.2 Health and nutrition situation 9
1.2 Overall objective 9
1.2.1 Specific Objectives were: 9
2 CHAPTER TWO 10
2.1 2.1 METHODOLOGY 10
2.1.1 Geographic target area and population group 10
2.1.2 Survey Design 10
2.1.3 Study Population 10
2.1.4 Anthropometric Sample Size 10
2.1.5 Cluster and Household Selection 11
2.1.6 Variables Collected 11
2.1.7 Organization of the survey 12
2.1.8 Data uploading, analysis and report writing 13
3 CHAPTER THREE 14
3.1 SURVEY RESULTS 14
Household Demographic Characteristics 14
3.1.1 Distribution of Children by Age and Sex 14
3.1.2 Main Sources of Income 14
3.1.3 Level of Education 15
3.2 Nutritional Status of Children Under Five Years 16
3.2.1 Prevalence of acute malnutrition (weight-for-height z-score –WHO Standards 2006) 16
3.2.2 Prevalence of acute malnutrition based on MUAC 17
3.2.3 Prevalence of underweight based on weight-for-age z-scores 17
3.2.4 Prevalence of stunting based on height-for-age z-scores and by sex 18
3.3 Child Health & Immunization 19

3.3.1 Immunization Coverage 19
3.3.2 OPV 1 and OPV 3 coverage among children 6-59 months 19
3.3.3 Measles coverage at 9 and 18 months 20
3.3.4 3.5.2 Zinc & Vitamin A Supplementation and Deworming Coverage 21
3.3.5 Vitamin A 6-11Months Coverage 21
3.3.6 Vitamin A 12-59 Months Coverage 22
3.3.7 Deworming Coverage 22
3.3.8 MNP Coverage 6-23months 23
3.4 Child Morbidity 24
3.5 Mosquito Net Ownership and Usage 26
3.6 Water Sanitation & Hygiene Practices 27
3.6.1 Main Water Sources 27
3.6.2 Water Treatment 27
3.6.3 Hand Washing 28
3.6.4 Latrine Ownership and Utilization 29
3.7 Household Dietary Diversity and Food Consumption Score 30
3.7.1 Food Consumption Score and Coping Strategy Index 30
3.8 Maternal Nutrition Status 32
4 CHAPTER 4 34
4.1 CONCLUSIONS AND RECOMMENDATIONS 34
5 ANNEXES 36
Table 5-1: Plausibility check for agro-pastoral and pastoral livelihood zone (Annex 1) 36
Table 5-2: Clusters selected (Annex II) 36
Table 5.3: LOCAL EVENTS CALENDER FOR WAJIR (2017 SMART SURVEY) Annex III 37
Annex IV: Nutrition SMART Survey Questionnaire 39

List of tables

Table 3-1: Level of education of respondents 15
Table 3-2: Reasons for not attending school as per respondents 15
Table 3-3 Prevalence of acute malnutrition based on height/length for weight (WHZ) for children aged 6-59 months 16
Table 3-4: Prevalence of acute malnutrition based on MUAC 17
Table 3-5: Prevalence of underweight based on weight-for-age z-score for children aged 6-59 months 17
Table 3-6: Prevalence of stunting based on height-for-age Z-scores for children aged 18
Table 3-7: County weighted prevalence of wasting, underweight and stunting ..... **Error! Bookmark not defined.**
Table 4-1: Plausibility check for agro-pastoral and pastoral livelihood zone (Annex 1) 36
Table 4-2: Clusters selected (Annex II) 36

List of figures

Figure 2.1: Sample size calculation for anthropometric 10
Figure 3-1: Proportion of age groups for households sampled in agro-pastoral and pastoral livelihood zone 14
Figure 3-2: Main source of income in agro-pastrol and pastrol livelihood zone 14
Figure 3-3: School enrolment for children aged 3 – 7 years in the two livelihood zones 15
Figure 3-4: BCG coverage for children in the two livelihood zones 19
Figure 3-5: OPV1 and OPV 3 coverage among children 6-59 months of age in the two livelihood zone 20
Figure 3-6: Measles coverage at 9 and 18 months in the two livelihood zones 20
Figure 3-7: Therapeutic zinc supplementation coverage among children with diarrhoea in the two livelihood zones 21
Figure 3-8: Vitamin A coverage of children 6-12 months of age in the two livelihood zones 21
Figure 3-9: Vitamin A coverage of children 12-59 months of age in the two livelihood zones 22
Figure 3-10: Deworming coverage among children aged 12 -559 months of age in the two livelihood zones 22
Figure 3-11: MNP coverage of children aged 6-23 months of age in the two livelihood zones 23
Figure 3-12: Reasons adduced by the caregivers why there children are not taking micronutrient powder in the two zones 23
Figure 3-13: Illness reported in the last two weeks in the two livelihood zones 24
Figure 3-14: Type of Illness 25
Figure 3-15: Health seeking behaviour in the Agro-pastoral and pastoral livelihood zones 25
Figure 3-16: Place where caregivers seek treatment from in the two livelihood zones 26
Figure 3-17: Percentage of PLWs and Under Five slept under mosquito last night 26
Figure 3-18: Source of drinking water in the two livelihood zones 27
Figure 3-19: Proportion of caregivers who treat their water in the two livelihood zones 27
Figure 3-20: Drinking water treatment methods in the two livelihood zones 28
Figure 3-21: Proportion of handwashing at critical times 28
Figure 3-22: Proportion of respondents how they washed their hands 29
Figure 3-23: Proportion of relieving points in the two livelihood zones 30

Figure 3-24: Proportion of coping strategy as per respondents in the two livelihood zone 30
Figure 3-25: Coping strategy applied by households in agro-pastoral and pastrol livelihood zone 31
Figure 3-26: Food consumption score for agro-pastoral and agro-pastoral livelihood zone..... 32
Figure 3-27: Physiological status of women of reproductive age in both livelihood zones 32
Figure 3-28: Nutritional status of PLW as measured by MUAC in agro-pastoral and pastoral livelihood zone 33
Figure 3-29: Dietary diversity of women of reproductive age 33
Figure 3-30: Proportion of women who took iron supplements during pregnancy 34
Figure 3-31: Proportion of pregnant women who too iron for a specified number of days 34

Executive Summary

Wajir County department of medical services, public health and sanitation in collaboration with nutrition partners (UNICEF and Save the Children international) successfully conducted two SMART nutrition surveys. The surveys were carried in two livelihood zones; Pastoral livelihood (Wajir East, Wajir West, Wajir South, Tarbaj and Eldas sub-counties) Agro-pastoral zones (Wajir north sub-county).

The overall objective was to estimate the prevalence of malnutrition among children 6 – 59 months and women of reproductive age. The survey applied a two-stage stratified cluster sampling using the SMART methodology with the clusters being selected using the probability proportional to population size (PPS). The total sample size was 422 households and 465 children aged between 6 and 59 months for pastoral and agro-pastoral livelihood zone respectively. Data was collected by 10 Teams (5 teams each for the pastoral and agro-pastoral livelihood zones). Smart phones with ODK collect software were used for data collection. Nine villages in the pastrol livelihood were excluded (Konton, Gerile, Diff, Darfur, Dadajabula and IbrahimUre, and four in agro-pastrol livelihood zone: - Malkagufu, Fulo Ingirir and Batalu were excluded for insecurity. 595 and 728 children 6 – 59 months were reached during the survey.

The Global Acute Malnutrition (GAM) rate was 16.4% (CI 12.8-20.7) and 16.8% (CI 13.4-20.9) in the pastrol and agro-pastrol zones respectively where as Severe acute malnutrition (SAM) rates was 2.5% in livelihood zones among children 6-59 months using weight for Height Z-scores (WHO 2006). County weighted GAM was 16.4% (CI 13.4 – 19.9) and SAM of 2.6% (CI 1.6 – 4.1).

The stunting rates were 12% (CI 9.3-15.3) and 7.5% (CI 5-11) in the agro-pastrol and pastrol zones respectively while 9.1% of women of reproductive age had a MUAC of <21.0 cm an indication of level of malnutrition in this cohort.

Immunization coverage was OPV 1(93.6%), OPV 3 (84.5%) Measles at 9 months (92.8%) and measles at 18 months (46.7%) were above the national target of 80% by card and recall except Measles second dose which is low. The same was also true for BCG scar (97.4%).Card retention was at 31.5% overall. Vitamin A coverage for children 6-11 months was at 54.3% and 28.5% for 12-59 months, MNP coverage of 3.4%, while deworming at least once in the past year was at 40.4%.

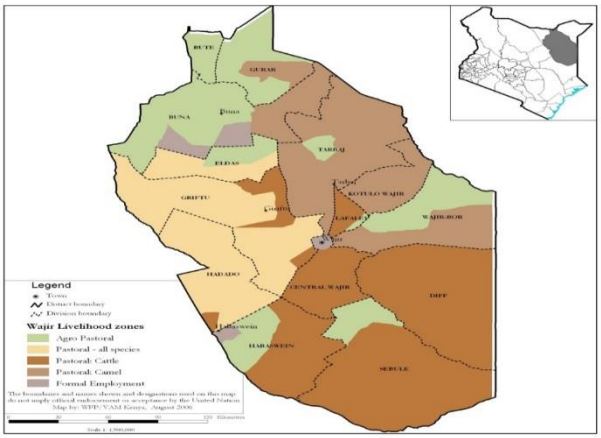
Latrine coverage was at 37.4 at county level, 60.2% practice open defaecation, only 32.9% of the respondents observed handwashing with soap and water during the critical handwashing times while only 15.3% treat water before drinking.

In view of the above findings, Wajir county sanitation situation is still wanting with few households treating water before drinking and low latrine coverage. Nutrition situation deteriorated significantly (P=0.0011) in Wajir north sub-county.

1 CHAPTER ONE

1.1 Background

Wajir County is one of the 47 counties created under the constitution Kenya 2010. It borders Somalia to the East, Ethiopia to the North, Mandera County to the North East, Isiolo County to the South West, Marsabit County to the West and Garissa County to the South. It covers an approximate area of 56,685.9 square kilometres with a total population of 852,963 people (projected pop of 2017 (KNBS, 2009) and a population growth rate of 3.22 percent per annum. The County comprises of six sub-counties namely Wajir East, Tarbaj, Wajir West, Eldas, Wajir North South and Wajir North. The County receives an average of 240mm precipitation annually and an average temperature is 27.9°C. The residents are majorly Somali speaking.



1.1.1 Livelihood

Majority of the population depend on livestock for their livelihood. The main form of land use is nomadic pastoralism which is seen as the most efficient method of exploiting the range lands hence pastoral activities are practiced in all the sub counties expect Wajir north where agro-pastoral activities are carried out.

The pastoralist population in the-county continue to operate in fragile and precarious environments characterized by long dry spells, interspersed with low erratic rainfall. Persistent and sporadic inter-clan conflicts, often resulting from disputes over limited resources and spill-over of the insecurity in Somalia, has together with poor infrastructure, limiting the mobility in the area. In addition, these communities continue to suffer from structural deficits in the provision of health care, education, water and sanitation infrastructure. Despite many years of humanitarian and relief interventions and improved government assistance, Wajir is still food insecure.

Short Dry Spell (Jilaal)			**Long Rainy Reason (Gu')**			**Long Dry Spell (Hagai)**				**Short Rainy Season (Deyr)**	
Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**

Migration, Conflicts, Watering of Livestock, Pressure on boreholes	Pasture Surveys, mating season, Planting	Livestock diseases, Labour Demand	Calving, Kidding Period	Migration, Conflict

1.1.2 Health and nutrition situation

Short Rains food security assessment report,2017 indicated that the top five common diseases for under-fives and the general population across all livelihood zones were upper respiratory tract infections (URTI), other respiratory infections, diarrhoea, pneumonia, disease of the skin and urinary tract infections (UTI).

The proportion of fully immunized children [1](FIC) was 52.7 percent in the first half of the year (January–June 2017), which was slightly lower than 54.4 percent reported at the same period last year as per district health information system (DHIS).Vitamin A supplementation of children aged 6−11 months was above the national target of 80 percent, however, supplementation of children aged 12−59 months was 59 percent an improvement from 39.4 percent reported at the same period last year.

High levels of malnutrition have been precipitated by a number of factors including: poor Infant and young child feeding practices, poor dietary diversity, lack of adequate water together with poor sanitation and hygiene and high illiteracy levels (78.4% for women), and cultural practices which have a negative effect on the uptake of health and nutrition services.

1.2 Overall objective

To estimate the prevalence of malnutrition among children 6 – 59 months and women of reproductive age in Pastoral livelihood zone (Wajir East, Wajir South, Tarbaj, Wajir West, and Eldas Sub-counties) and Agro-pastoral livelihood zone (Wajir north sub-county).

1.2.1 Specific Objectives were:

1. To determine the prevalence of acute and chronic malnutrition in children aged 6-59 months
2. To determine the immunization coverage for BCG, Oral Polio Vaccines (OPV 1 and 3) and Measles, vitamin A supplementation in children aged 6-59 months and micronutrient powder, deworming coverage
3. To establish coverage of iron folic acid supplementation during pregnancy among pregnant and lactating women
4. To determine the nutritional status of women of reproductive age (15-49 years)
5. To determine possible causes of malnutrition such as household food security, water, sanitation, and hygiene (WASH) practices and morbidity.

[1] Children that have received all antigens

2 CHAPTER TWO

2.1 2.1 METHODOLOGY

2.1.1 Geographic target area and population group

Two separate surveys were conducted in two livelihood zones: - Pastoral livelihood and Agro-pastoral livelihood zones. The sub-counties in the pastoral livelihood zone are Tarbaj, Wajir West, Wajir South, Eldas and Wajir East while Wajir North is the agro-pastoral zone.

2.1.2 Survey Design

The survey applied a two stage cluster sampling with the clusters being selected using the probability proportional to population size (PPS) with villages constituting the sampling frame.

2.1.3 Study Population

The target populations for the survey were children aged 6 – 59 months for the anthropometric component and women of reproductive age between 15 – 49 years for the maternal health indicators.

2.1.4 Anthropometric Sample Size

The anthropometric survey sample size was calculated using ENA software. The parameters of interest were captured in the ENA July 9th 2015 version software and the respective number of children and households required for the survey calculated as shown in the table below. The sampling frame for this survey was the updated list of villages from the survey area.

Figure 2.1: Sample size calculation for anthropometric

Survey parameter	Pastoral livelihood	Agro-pastoral livelihood zones	Rationale
Estimated prevalence of GAM (%)	17.7	11.9	Based on contextual data (DHIS, MUAC screen Based on contextual data (DHIS, MUAC screening, SRA, NDMA EWS) the situation has deteriorated, using upper limit for 2016 SMART survey , 13.4 % (10.0 - 17.7 95% C.I.) in, SRA, NDMA EWS) the situation has d upper limit for 2016 SMART survey , 13.4 % (10.0 - 17.7 95% C.I.)
±Desired precision (%)	5	3.5	Limits of CI doesn't influence decision making/control quality hence reduce bias

Design effect	1.73	1.3	Clusters and population heterogeneous have not significantly changed from the previous survey
Average HH size	7	7	KNBS 2009 census
% under five children	12.94	12.94	
% non-respondent	3	3	
No of HH	**533**	**588**	
No of children	**422**	**465**	

2.1.5 Cluster and Household Selection

All villages were included in the initial sample selection with each village considered a cluster which was sampled with probability proportional to size. At stage two each team used the simple random sampling method in household selection. Within the selected household all children 6-59 months and all women of reproductive age 15-59 years meeting the inclusion criteria were assessed.

A household was defined as a group of people who lived together and shared a common cooking pot. In polygamous families with several structures within the same compound but with different wives having their own cooking pots, the structures were considered as separate households and assessed separately.

In cases where there was no eligible child, a household was still considered part of the sample and only the household questionnaires (general questionnaires) was administered. If a respondent was absent during the time of household visit, the teams left a message and re-visited later to collect data for the missing person, with no substitution of household allowed.

2.1.6 Variables Collected

Age: the age of the child was recorded based on a combination of child health cards, the mothers'/caretakers' knowledge of the birth date and use of a calendar of events for the County that was developed in collaboration with the survey team.

Sex: The gender of the child whether a male or female was recorded

Bilateral Edema*:* normal thumb pressure was applied on the top part of both feet for 3 seconds. If pitting occurred on both feet upon release of the thumb, nutritional oedema was indicated.

Weight: Children were weighed when wearing minimal or light clothing. Weight was taken using Bathroom scales (child mother scale, SECA digital model).

Length/Height: children were measured bareheaded and barefooted using wooden UNICEF height boards with a precision of 0.1cm. Children under the age of two years were measured while lying down/ supine position (length, < 87cm) and those over two years while standing upright ((≥87cm height).

Mid Upper Arm Circumference (MUAC): MUAC of children were taken at the midpoint of the upper left arm using a MUAC tape and recorded to the nearest 0.1cm.

Retrospective Morbidity of Children: A 2-week morbidity recall was conducted for all children (6-59 months) to assess the prevalence of common diseases (e.g. malaria, diarrhea, upper respiratory infection (URTI).

Vaccination Status:

For all children 6-59 months, information on BCG, Oral polio Vaccine (OPV) 1, OPV 3 and measles vaccination was collected using health cards and recall from caregivers. The vaccination coverage was calculated as the proportion of children immunized based on card and recall.

Micronutrient supplementation status: For all children aged 6-59 months, information on Vitamin A and MNP supplementation was collected using the child welfare cards and recall from caregivers. Information on whether the child had received supplementation in the last 6 months was collected. Vitamin A capsules were also shown to the mothers to aid in recall.

De-worming status: Information was solicited from the care takers as to whether their child/children 6-59 months had been de-wormed in the last 6 months.

Household food diversity: Dietary diversity is a qualitative measure of food consumption that reflects household access to a wide variety of foods, and is also a proxy of the nutrient intake adequacy of the diet for individuals. Dietary diversity scores were created by summing the number of food groups consumed over a 7- days period to aid in understanding if and how the diets are diversified.

Household water consumption and utilization: The indicators used were main source of drinking and household water, time taken to water source and back, cost of water per 20-litre jerry-can and treatment given to drinking water.

Sanitation: Information on household accessibility to a toilet/latrine, disposal of children's feaces and occasions when the respondents wash their hands was obtained.

2.1.7 Organization of the survey

Coordination/collaboration: Resource mobilization meeting were held to solicit on budget deficit from partners. Planning meetings led by the department of health were held to plan on recruitment, training and data collection. Partners in health and nutrition participated.

Recruiting the survey team: Recruitment was carried out by the County department of health in collaboration with Save the Children Wajir.

Training of the survey teams: Teams were trained for three days prior to data collection, including a standardization test to ensure standardization of measurement and recording practice. Teams were trained on anthropometric measurements, completion of survey tools, sampling methodology and mobile data collection. The data collection and uploading was pilot tested in a cluster not selected for the survey, to ensure that the interviewers and respondents understand the questions and those interviewers follow correct protocols.

Data collection: Survey team comprised of three members (measurer, recorder/interviewer and team leader). There were a total of 10 teams (5 Agro-pastoral and 5 pastoral) and one supervisor per livelihood zone. In addition to the survey manager who was the county nutritionist, there were support supervisors from SCI, UNICEF and NIWG. Data was collected using android smart phones that had open data kit (ODK) software.

2.1.8 Data uploading, analysis and report writing

Data Uploading: Data was uploaded on daily basis after verification, downloaded on excel format (CSV) and analysis was done using ENA for SMART and SPSS Statistical software. SCI were responsible for the downloading data. A team met each day to analyze and provide feedback to all the teams before they start off the next day

Preliminary results and final report: Preliminary findings were submitted for validation to Nutrition Information Working Group (NIWG) at County and National levels after completion of the survey data collection. This will be followed by national level validation and final report submission one month after data collection.

3 CHAPTER THREE

3.1 SURVEY RESULTS

Household Demographic Characteristics

3.1.1 Distribution of Children by Age and Sex

A total of 5171 household members were assessed during the survey period, 42.5% were over 18 years and 28.6% were between 5-17 years as shown in figure 4-1 below.

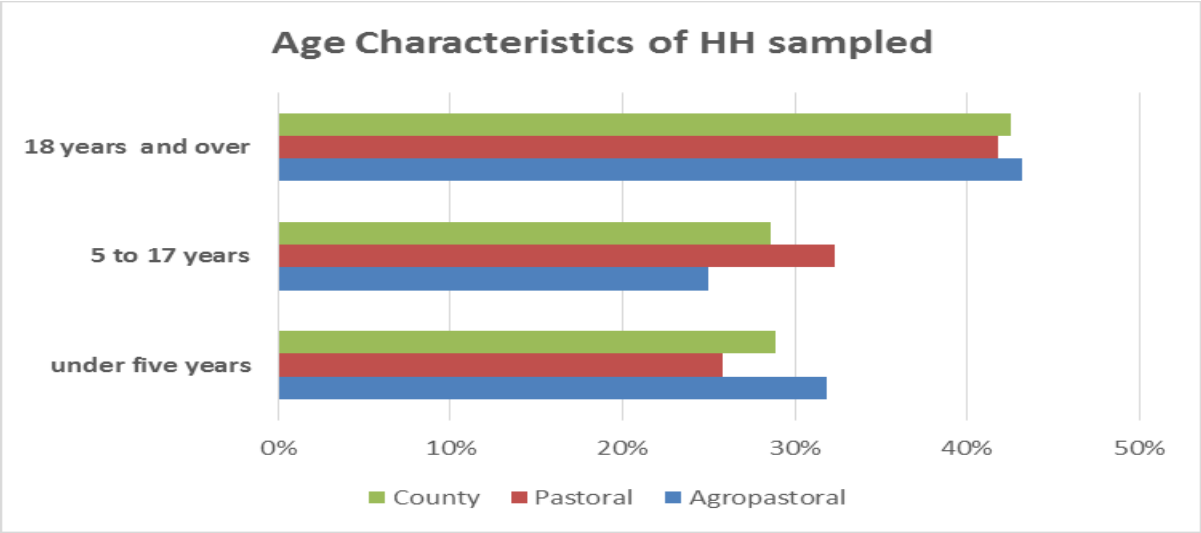


Figure 3-1: Proportion of age groups for households sampled in agro-pastoral and pastoral livelihood zone

3.1.2 Main Sources of Income

The main source of income from the two livelihood zones was livestock herding (68.1%), and was the same in both livelihood zones

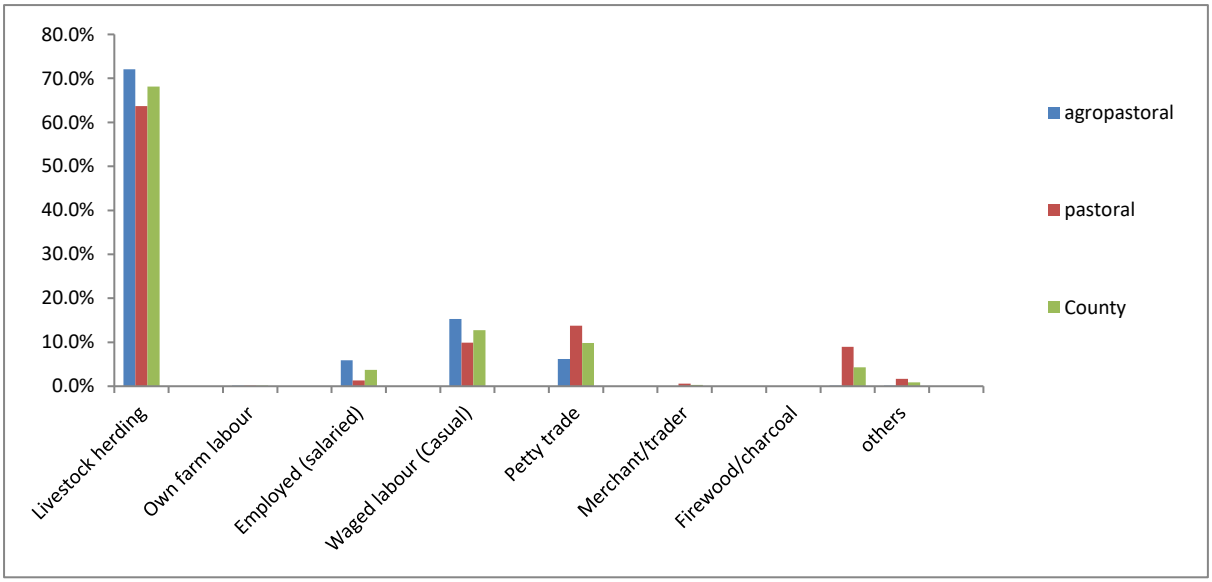


Figure 3-2: Main source of income in agro-pastrol and pastrol livelihood zone

3.1.3 Level of Education

The survey revealed that, out of the 2062 respondents, 63.5 % aged 3-17 years were enrolled in school. Out of the 2,199 household assessed, over 90% have never gone to any form of education as show in table 3-1 below, majority (14.7%) citing family labour responsibilities as one of the main reasons for not attending schools, it is also worrying that 2.7% of the respondents does not see the value of education as shown in table 3-2 below.

Table 3-1: Level of education of respondents

Level of Education	Agro-pastrol	Pastrol	County
Pre primary	.2%	0.0%	.1%
Primary	2.8%	2.4%	2.6%
Secondary	4.7%	4.0%	4.4%
Tertiary	2.0%	.9%	1.5%
None	90.1%	91.3%	90.7%

Table 3-2: Reasons for not attending school as per respondents

Main reasons for not attending school.	Agro-pastrol	Pastrol	County
Family labour responsibilities	12.6%	16.5%	14.7%
Too poor to buy school items	0.0%	2.7%	1.5%
Household doesn't see the value of school	3.2%	2.2%	2.7%

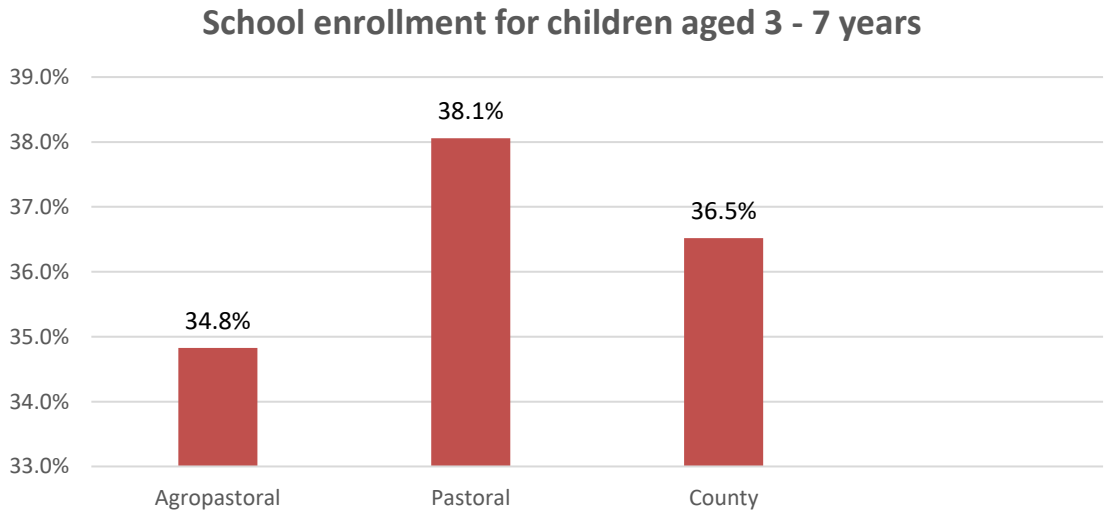


Figure 3-3: School enrolment for children aged 3 – 7 years in the two livelihood zones

3.2 Nutritional Status of Children Under Five Years

Global acute malnutrition (GAM) is defined as <-2SD Z scores weight-for-height and/or oedema. This is a combination of Moderate Acute Malnutrition and Severe Acute Malnutrition. Moderate Acute Malnutrition is defined as Z Scores of <-2SD - >-3SD while Severe Acute Malnutrition is defined as <-3SD Z scores weight-for-height and/or oedema. Quality of the survey (Overall score (WHZ)) was excellent at 8% and 3% for pastoral and agro-pastoral livelihood respectively.

3.2.1 Prevalence of acute malnutrition (weight-for-height z-score –WHO Standards 2006)

A total of 1,313 children 6- 59 months were assessed, 721 in the agro-pastoral and 592 in the pastoral. The survey revealed that the Global Acute Malnutrition (GAM) rates in 2017 is 16.4% (CI 12.8-20.7) and 16.8% in the pastoral and agro-pastoral zones respectively while the GAM for 2016 was (13.4 (10.0 - 17.7 95% C.I) and 9.4 %(7.4 - 11.9 95% C.I.) in pastoral and agro-pastoral respectively. The County weighted GAM was 16.4 % (CI 13.4 - 19.9), higher than last year at 13.4%. This shows a slight increase in GAM in both pastoral and significant increase in and agro-pastrol, as shown in table 3-3. No oedema case was detected. WHO classifications indicate a **critical nutrition** situation for both livelihood zones. More girls were observed to be more malnourished than boys in pastoral livelihood zone, while in the agro-pastoral livelihood zone boys were more affected than girls.

Table 3-3 Prevalence of acute malnutrition based on height/length for weight (WHZ) for children aged 6-59 months

	Pastoral (592)				**Agro-Pastoral (721)**		**County**		
Indicator	All	Boys	Girls	All	Boys	Girls	All	Boys	Girls
GAM:Weight for Height (WHZ) <-2 Z score or oedema	(97) **16.4** % (12.8 - 20.7 95% C.I.)	(46) **14.6** % (10.7 - 19.7 95% C.I.)	(51) **18.3** % (13.0 - 25.3 95% C.I.)	(121) **16.8** % (13.4 - 20.9 95% C.I.)	(65) **18.5** % (14.0 - 24.0 95% C.I.)	(56) **15.2** % (11.4 - 20.0 95% C.I.)	16.4% (13.4 - 19.9 95% C.I)	15.40% (12.0 - 19.6 95% C.I)	17.50% (13.4 - 22.6 95% C.I)
SAM: Weight for Height (WHZ) <-2 Z score or oedema	(15) **2.5%** (1.4 - 4.5 95% C.I.)	(9) **2.9%** (1.3 - 6.2 95% C.I.)	(6) **2.2%** (0.9 - 5.1 95% C.I.)	(18) **2.5%** (1.3 - 4.6 95% C.I.)	(10) **2.8%** (1.1 - 6.9 95% C.I.)	(8) **2.2%** (0.8 - 5.6 95% C.I.)	2.60% (CI 1.6 - 4.1)		

3.2.2 Prevalence of acute malnutrition based on MUAC

MUAC is the best indicator for mortality and is used in the community (for screening) to identify individual children in need of referral and as an admission criterion for feeding programmes. Generally, MUAC usually tends to indicate lower GAM levels compared to WFH z-scores. Prevalence of acute malnutrition based on MUAC was 4.7% in both livelihood zones as shown in table 3-4 below. Table 3-4: Prevalence of acute malnutrition based on MUAC

	Agro-Pastoral				Pastoral			
Indicator	Total N	All	Boys	Girls	Total N	All	Boys	Girls
MUAC <12.5 cm	726	(34) **4.7** % (3.0 - 7.3 95% C.I.)	(15) **4.2** % (2.4 - 7.4 95% C.I.)	(19) **5.1** % (3.1 - 8.3 95% C.I.)	595	(28) **4.7** % (3.1 - 7.2 95% C.I.)	(9) **2.8** % (1.4 - 5.9 95% C.I.)	(19) **6.8** % (4.2 - 10.9 95% C.I.)
MUAC <11.5cm		(3) **0.4** % (0.1 - 1.8 95% C.I.)	(2) **0.6** % (0.1 - 2.3 95% C.I.)	(1) **0.3** % (0.0 - 2.0 95% C.I.)		(5) **0.8** % (0.2 - 3.0 95% C.I.)	(0) **0.0** % (0.0 - 0.0 95% C.I.)	(5) **1.8** % (0.5 - 6.4 95% C.I.)

3.2.3 Prevalence of underweight based on weight-for-age z-scores

Underweight is measured by weight for age and reflects combination of acute and chronic malnutrition. Total of 725 and 590 children 6-59 months were sampled in agro-pastoral and pastoral livelihood zone. Global underweight was 15.0% and 12.9% for the agro-pastoral and pastoral livelihood zone respectively, as shown in the table 3-4 below.

Table 3-5: Prevalence of underweight based on weight-for-age z-score for children aged 6-59 months

	Agro-Pastoral (725)			**Pastoral (590)**			**County**		
Indicator	All	Boys	Girls	All	Boys	Girls	All	Boys	Girls

Underweight Weight for Age (WAZ) <-2 Z Score	(109) **15.0** % (12.3 - 18.3 95% C.I.)	(60) **16.9** % (13.4 - 21.1 95% C.I.)	(49) **13.2** % (9.9 - 17.5 95% C.I.)	(76) **12.9** % (9.8 - 16.8 95% C.I.)	(39**)** **12.5 %** (9.4 - 16.5 95% C.I.)	(37) **13.3** % (8.9 - 19.4 95% C.I.)	**13.50**% (11.0 - 16.5 95% C.I)	**13.50%** (10.9 - 16.7 95% C.I)	**13.50%** (9.9 - 18.1 95% C.I)
Severe Underweight Weight for Age (WAZ) <-3 Z Score	(18) **2.5 %** (1.5 - 4.0 95% C.I.)	(13) **3.7 %** (2.1 - 6.4 95% C.I.)	(5) **1.4 %** (0.5 - 3.6 95% C.I.)	(10) **1.7 %** (0.8 - 3.4 95% C.I.)	(3) **1.0 %** (0.3 - 3.0 95% C.I.)	(7) **2.5 %** (1.1 - 5.6 95% C.I.)	2.10% (CI 1.4 - 3.3)		

3.2.4 Prevalence of stunting based on height-for-age z-scores and by sex

Stunting is measured by the index of height for age and reflects failure to receive adequate nutrition over a long period of time and is also affected by recurrent and chronic illness. Stunting in agro-pastoral and pastoral was 12.0 % and 7.5% percent respectively as shown in table 3-5 below. There was no noticeable difference between boys and girls in the two livelihood zones

Table 3-6: Prevalence of stunting based on height-for-age Z-scores for children aged

	Agro-Pastoral (719)				Pastoral (575)		**County**		
Indicator	All	Boys	Girls	All	Boys	Girls	All	Boys	Girls
Stunting Height for Age (HAZ) <-2 Z Score	(86) **12.0** % (9.3 - 15.3 95% C.I.)	(44) **12.6** % (9.3 - 16.9 95% C.I.)	(42) **11.4** % (7.8 - 16.3 95% C.I.)	(43) **7.5** % (5.0 - 11.0 95% C.I.)	(24) **7.8** % (4.9 - 12.2 95% C.I.)	(19) **7.1** % (4.0 - 12.2 95% C.I.)	**9.60%** (6.7 - 13.5 95% C.I)	**9.60%** (6.7 - 13.5 95% C.I)	**8.90%** (6.0 - 12.9 95% C.I)

Severe Stunting Height for Age (HAZ) <-3 Z Score	(10) **1.4 %** (0.7 - 2.6 95% C.I.)	(6) **1.7 %** (0.8 - 3.7 95% C.I.)	(4) **1.1 %** (0.3 - 3.5 95% C.I.)	(10) **1.7** % (0.8 - 3.7 95% C.I.)	(4) **1.3** % (0.5 - 3.4 95% C.I.)	(6) **2.2** % (0.7 - 6.7 95% C.I.)	2.70% (CI 1.7 - 4.3)		

3.3 Child Health & Immunization

A total of 1323 children aged 6-59 months, 595 from pastoral and 728 from Agro-pastoral were assessed from immunization coverage verified by the card and recall from caregivers.

3.3.1 Immunization Coverage

Overall, BCG coverage of 97% was recorded as confirmed by the presence of BCG scar, the figure 3-4 below shows coverage at county, pastrol and agro-pastoral zones.

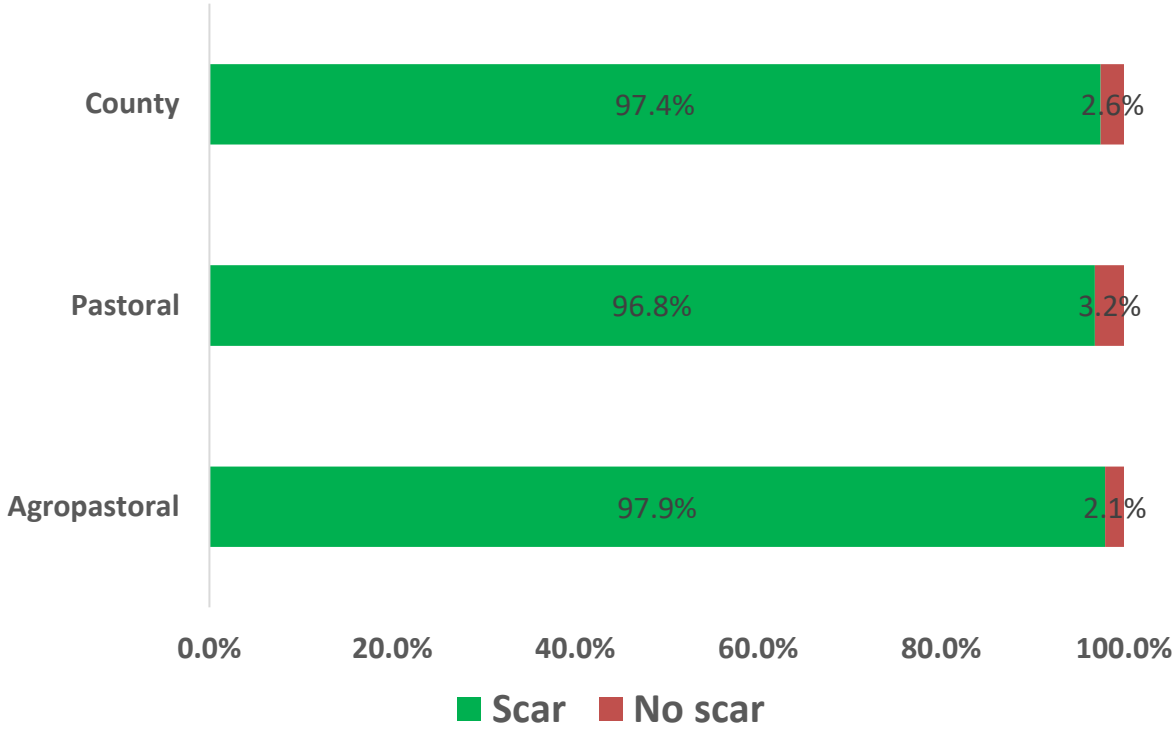


Figure 3-4: BCG coverage for children in the two livelihood zones

3.3.2 OPV 1 and OPV 3 coverage among children 6-59 months

Overall OPV 1 coverage was 93.6% at county level with 97.9% and 83.3% Agro-pastrol and pastrol zones respectively. OPV 3 coverage was 84.5 % at county level and 84.8% and 84.5% Agro-pastoral and pastrol zones respectively, as shown below in figure 3-5. However, card retention was very low at 13.4%. OPV 3 dropout rates were 13.4% at county level which is

higher than the minimum acceptable dropout rate.

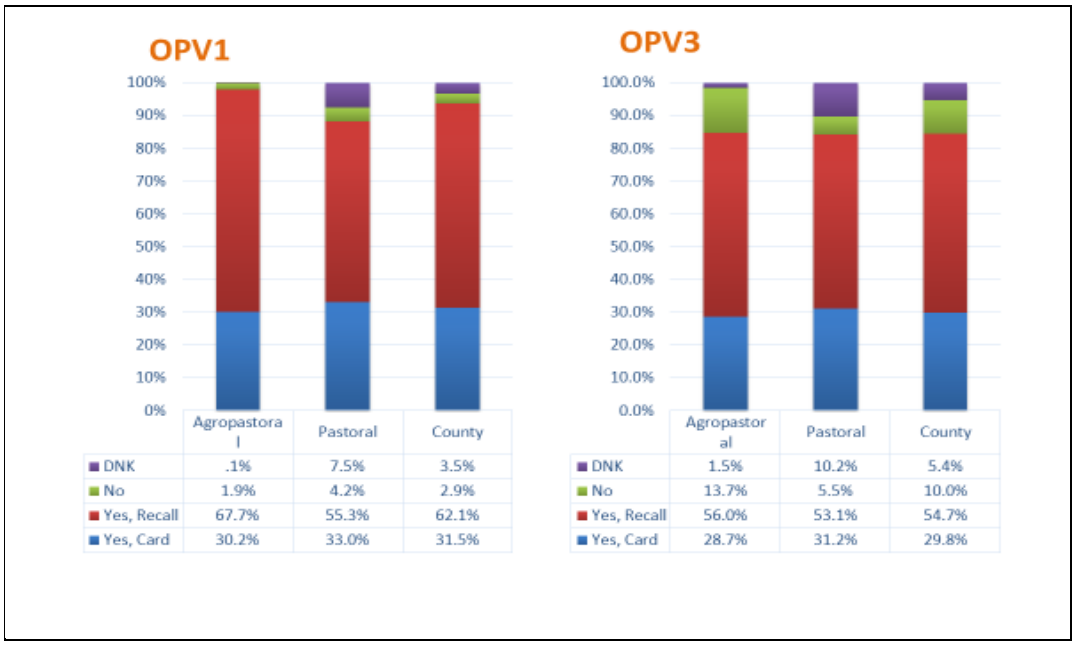


Figure 3-5: OPV1 and OPV 3 coverage among children 6-59 months of age in the two livelihood zone

3.3.3 Measles coverage at 9 and 18 months

The survey revealed that coverage for measles at 9 months was 28.3% while 18 months was 11.5%. At County level a total of 1264 and 1034 children eligible for first and second measles dose were assessed; figure 3-6 below shows coverages across the zones.

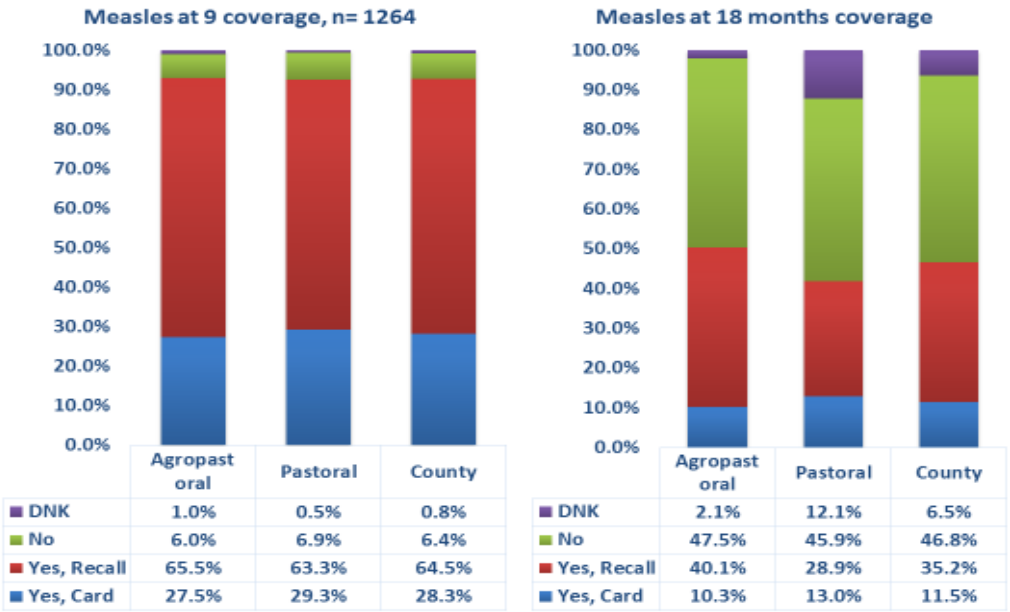


Figure 3-6: Measles coverage at 9 and 18 months in the two livelihood zones

3.3.4 3.5.2 Zinc & Vitamin A Supplementation and Deworming Coverage

Out of 71 children in Agro-pastrol and 30 in pastrol requiring zinc supplementation only 62% and 53% received zinc respectively as shown in the figure 3-7 below.

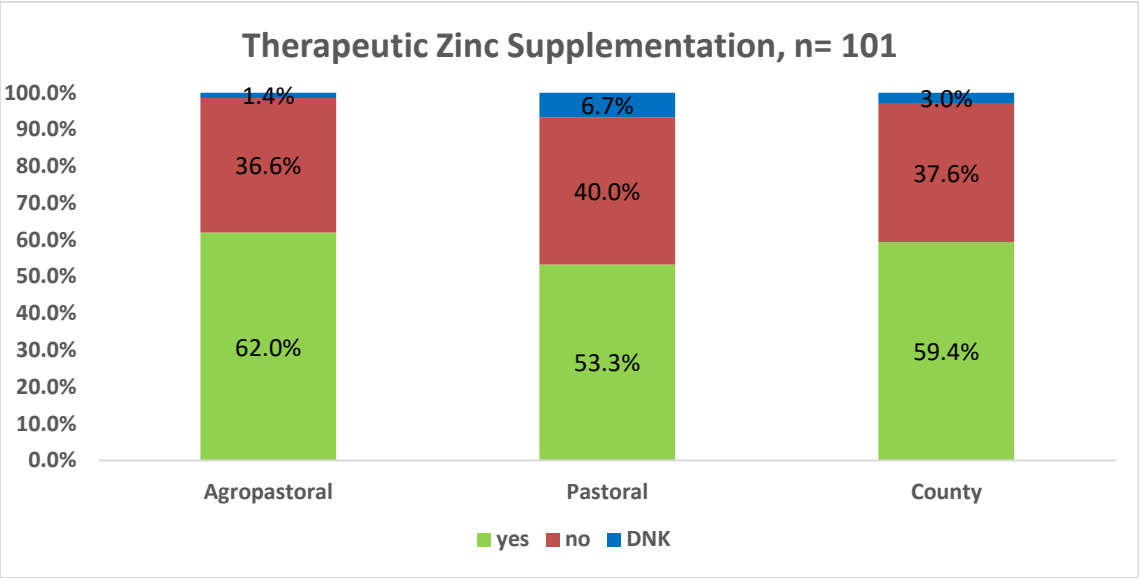


Figure 3-7: Therapeutic zinc supplementation coverage among children with diarrhoea in the two livelihood zones

3.3.5 Vitamin A 6-11Months Coverage

A total of 138 eligible children for vitamin A aged 6-11months were assessed. The coverage was 51.4% pastrol and 57.6% from Agro-pastrol as shown in the figure 3-8 below. This is low compared to the national target of 80% and routine supplementation through health facilities, which is above 90%.

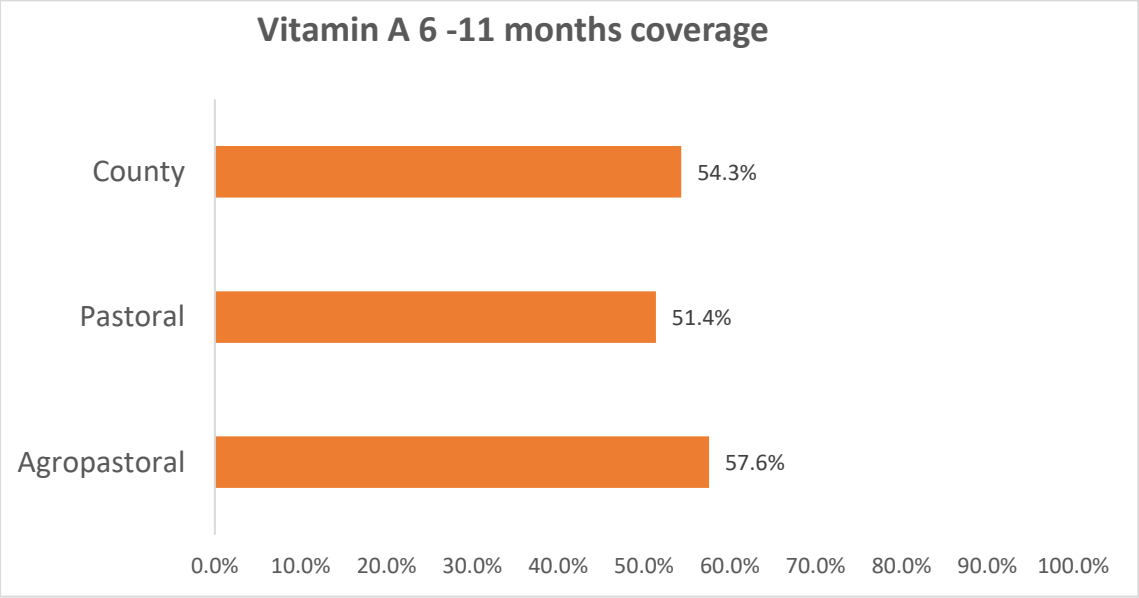


Figure 3-8: Vitamin A coverage of children 6-12 months of age in the two livelihood zones

3.3.6 Vitamin A 12-59 Months Coverage

The survey findings showed that children who were supplemented twice Vitamin A supplementation at 12-59 months at 24.5% and 30.7% for pastoral and agro-pastoral respectively, below the national target of 80% coverage. The national recommendation is that all children 12-59 months receive two doses of Vitamin A every year.

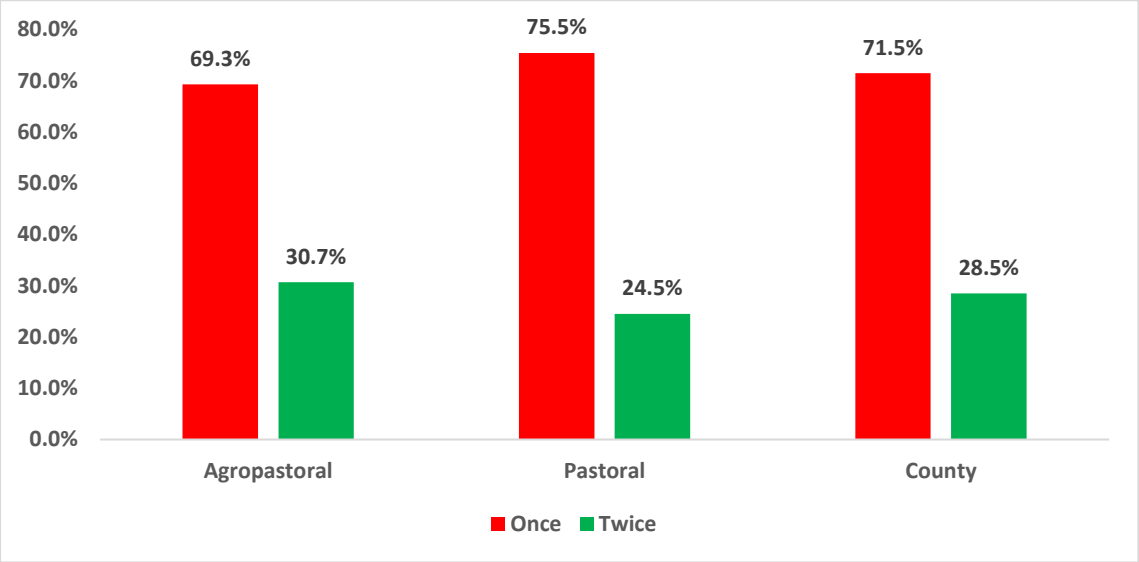


Figure 3-9: Vitamin A coverage of children 12-59 months of age in the two livelihood zones

3.3.7 Deworming Coverage

A total of 593 children 12-59 months (230 agro-pastrol and 363 pastrol) were assessed for deworming. Overall 50% have never been dewormed, 40% were dewormed at least once and only 9.7% were dewormed twice or more as recommended. The figure below shows deworming coverage across the two survey zones.

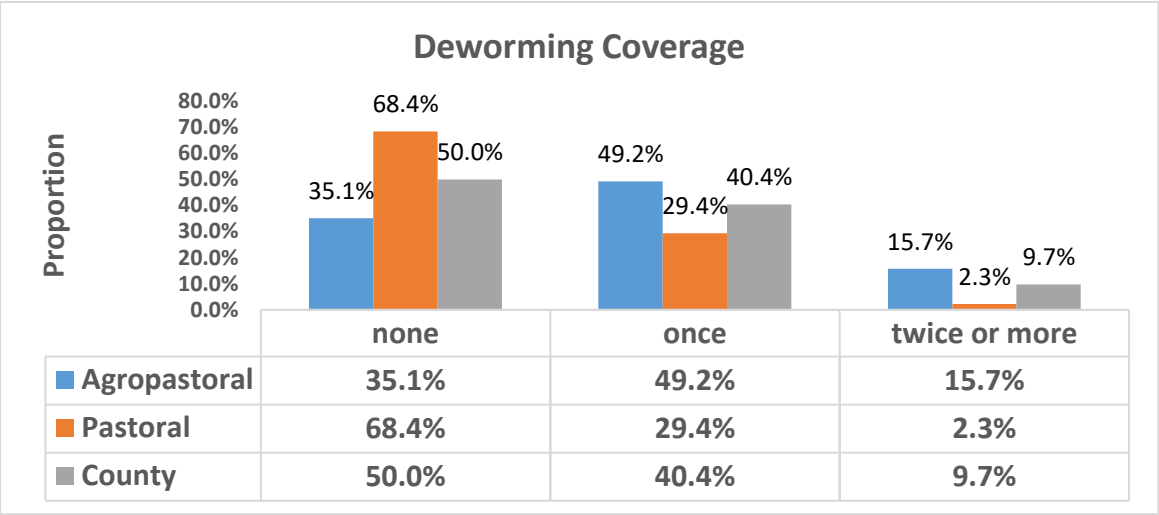


Figure 3-10: Deworming coverage among children aged 12 -559 months of age in the two livelihood zones

3.3.8 MNP Coverage 6-23months

A total of 408 children 199 from agro-pastrol and 209 from pastrol zone were eligible for micronutrient supplementation powder supplementation powder. Coverage remains very low at 3.5% and 5.3% at agro-pastrol and pastoral livelihood zones respectively, as shown in figure 3-11 below. The low supplementation could be attributed to stock out of commodities in health facilities, low uptake of the commodity by caregivers associating it with causing diarrhoea and low community mobilization and or sensitization as evidenced by the high number of caregivers who did not know about micronutrient powders, among other reasons as shown in figure 3-12.

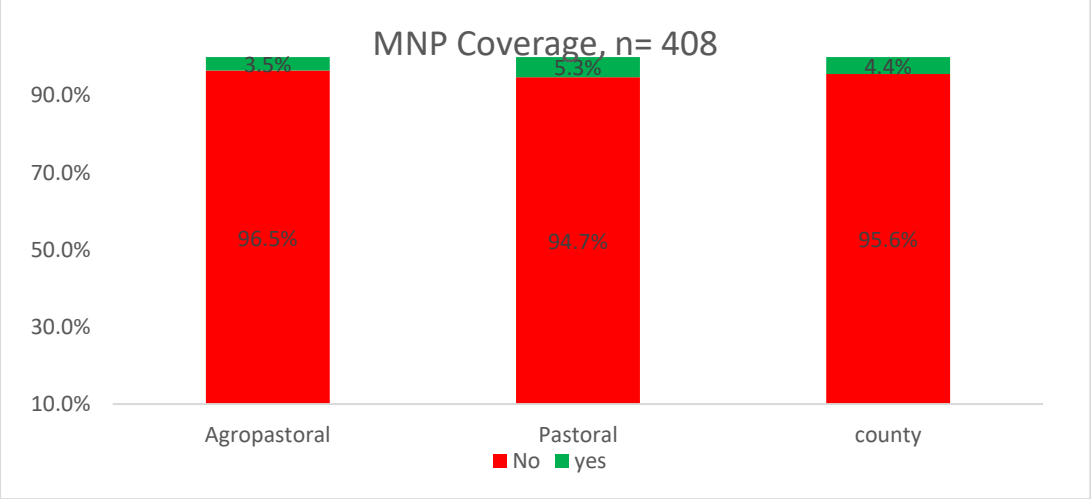


Figure 3-11: MNP coverage of children aged 6-23 months of age in the two livelihood zones

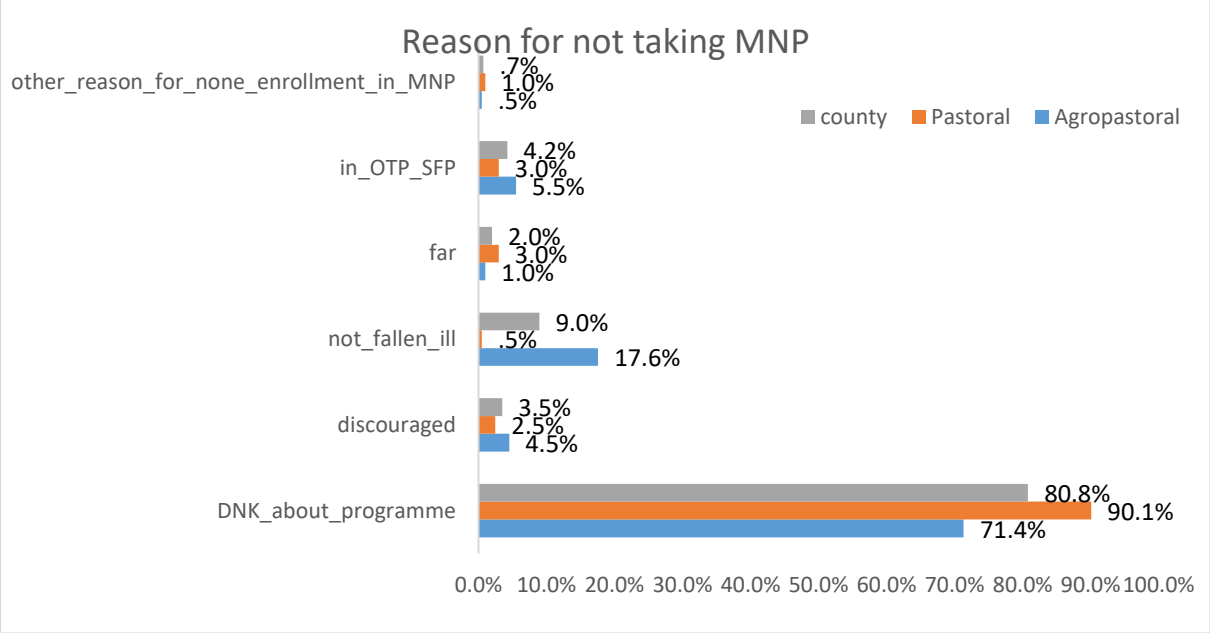


Figure 3-12: Reasons adduced by the caregivers why there children are not taking micronutrient powder in the two zones

3.4 Child Morbidity

A total of 728 and 597 under five from Agro-pastoral and pastoral respectively were assessed for illness in the past two weeks and 23% and 17% in agro-pastoral and pastoral respectively reported to have fallen ill I the last two weeks, as shown in the figure 3-13 below:

The survey revealed the two most diseases in both zone were; Diarrhoea and URTI.This has diret negative impact on the nutrition status of the population which might have contributed to the higher GAM rate in the agro-pastoral livelihod zone.

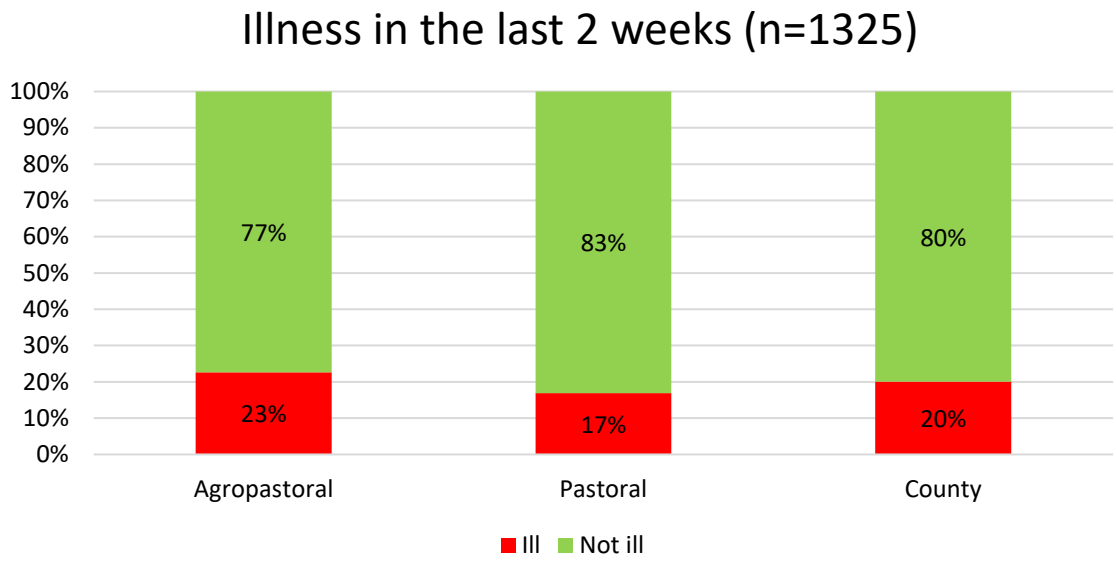


Figure 3-13: Illness reported in the last two weeks in the two livelihood zones

Acute respiratory infection / cough was reported to be the leading cause of morbidity at 53.4% followed by diarrhoea at 38.0% as shown in figure 4-14 below.

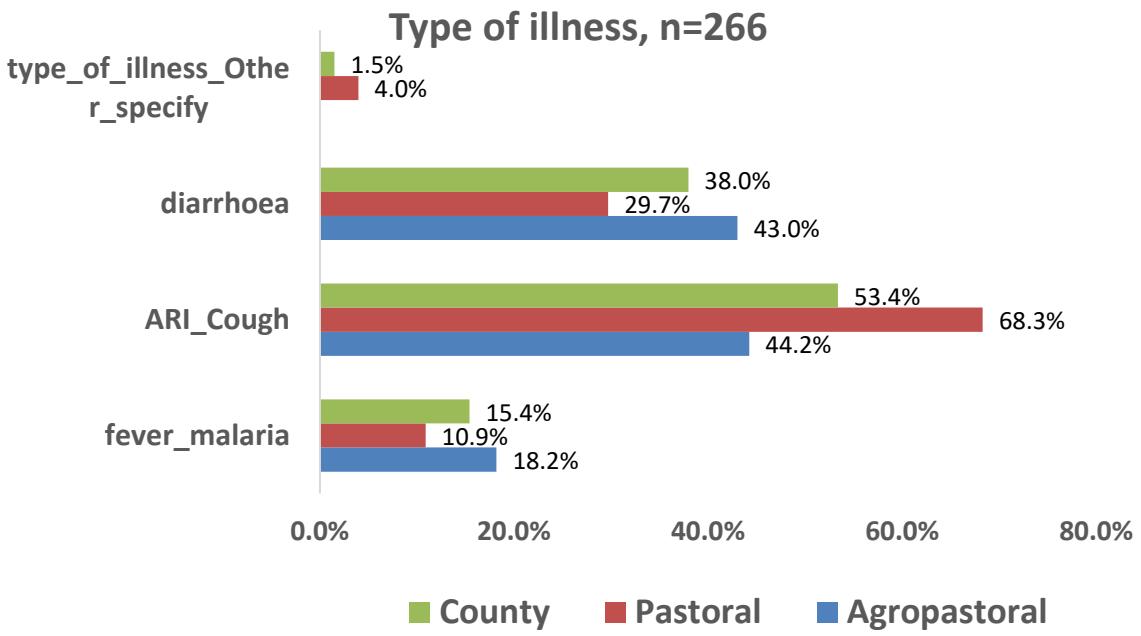


Figure 3-14: Type of Illness

Out of the 266 children under-five years of age reported to be ill in the past two weeks, 74.4% sought medical assistance as shown in figure 4-15 below. Majority, 80.3% sought medical assistance from public health facilities, figure 3-16 below.

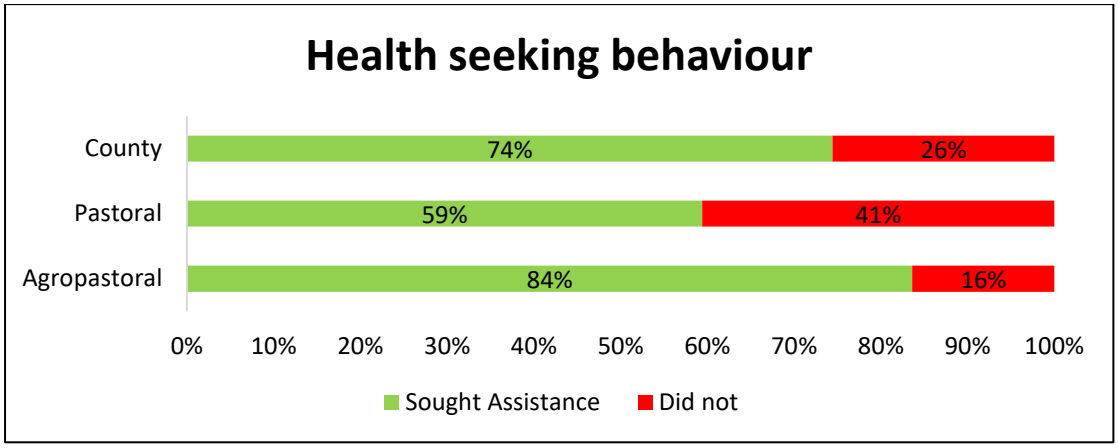


Figure 3-15: Health seeking behaviour in the Agro-pastoral and pastoral livelihood zones

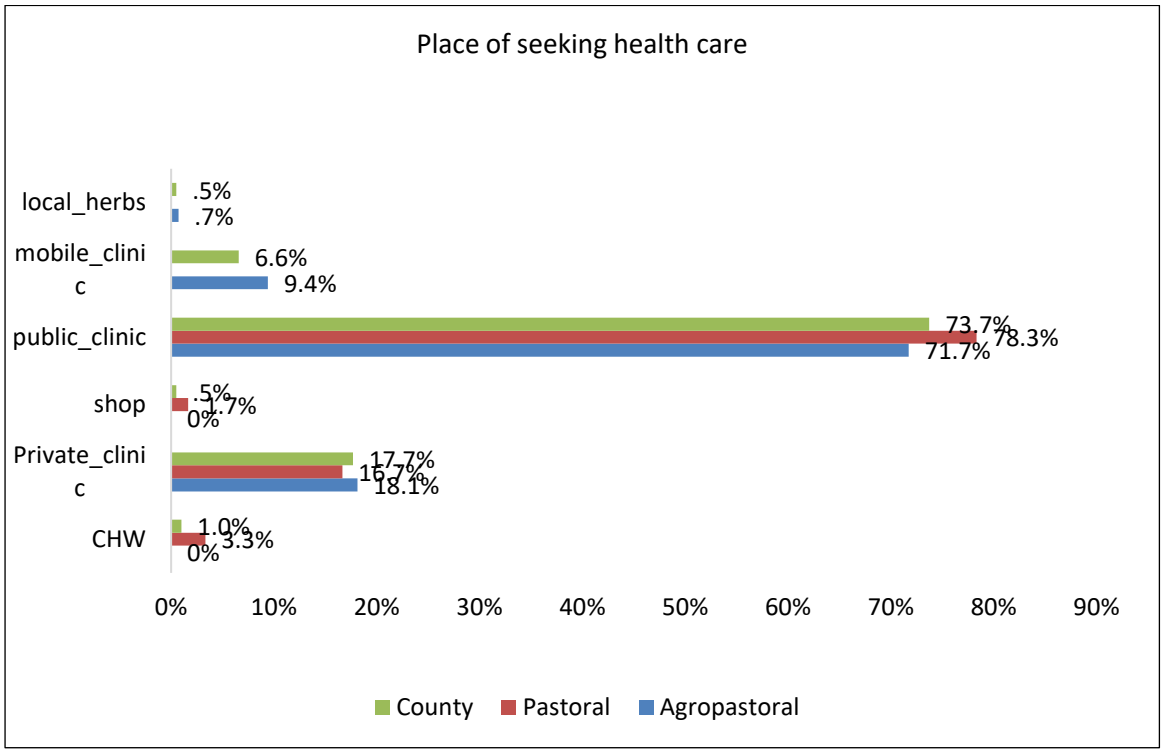
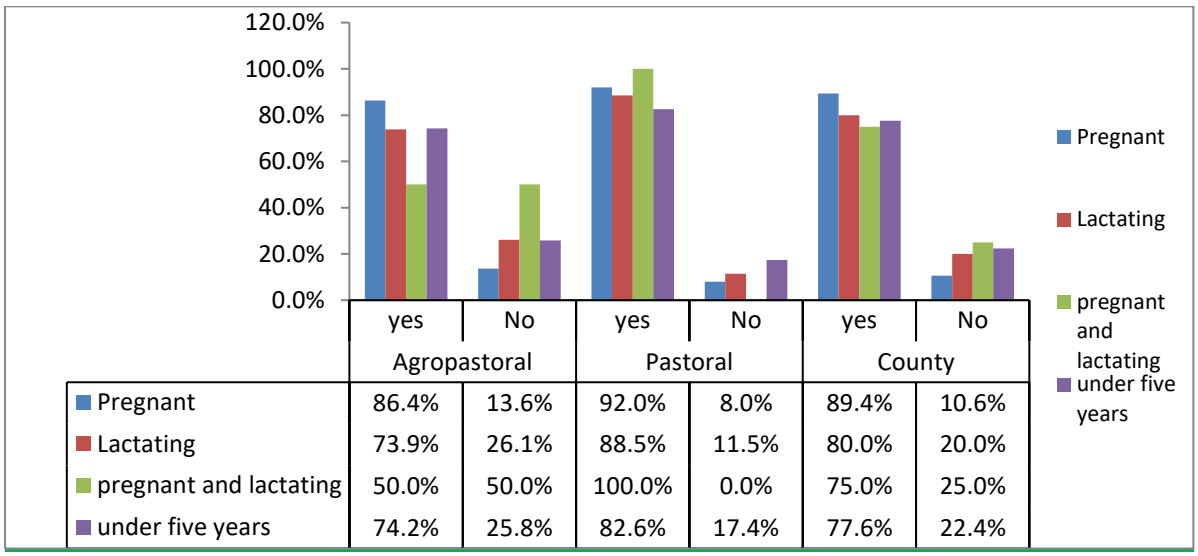


Figure 3-16: Place where caregivers seek treatment from in the two livelihood zones

3.5 Mosquito Net Ownership and Usage

A total of 22 pregnant and 207 lactating women from Agro-pastoral were interviewed if they owned and were using mosquito net. 86.4% and 73.9% pregnant and lactating women respectively were found to be using mosquito net. In pastoral zone, 25 pregnant and 148 lactating women were assessed out of which 92% and 88.5% respectively were using mosquito net. Children who slept under mosquito net were 74.2 % and 82.6% in agro-pastoral and pastrol livelihood zone respectively as shown in figure 3-17 below



	yes	No	yes	No	yes	No
	Agropastoral		Pastoral		County	
Pregnant	86.4%	13.6%	92.0%	8.0%	89.4%	10.6%
Lactating	73.9%	26.1%	88.5%	11.5%	80.0%	20.0%
pregnant and lactating	50.0%	50.0%	100.0%	0.0%	75.0%	25.0%
under five years	74.2%	25.8%	82.6%	17.4%	77.6%	22.4%

Figure 3-17: Percentage of PLWs and Under Five slept under mosquito last night

3.6 Water Sanitation & Hygiene Practices

3.6.1 Main Water Sources

A total of 1132 households were assessed for source of drinking water. Surface water was the major source of water for 67.7% of the households in agro-pastoral zone and 64.4% of the households in pastoral livelihood major source was shallow wells and boreholes, as shown in the figure 3-18 below

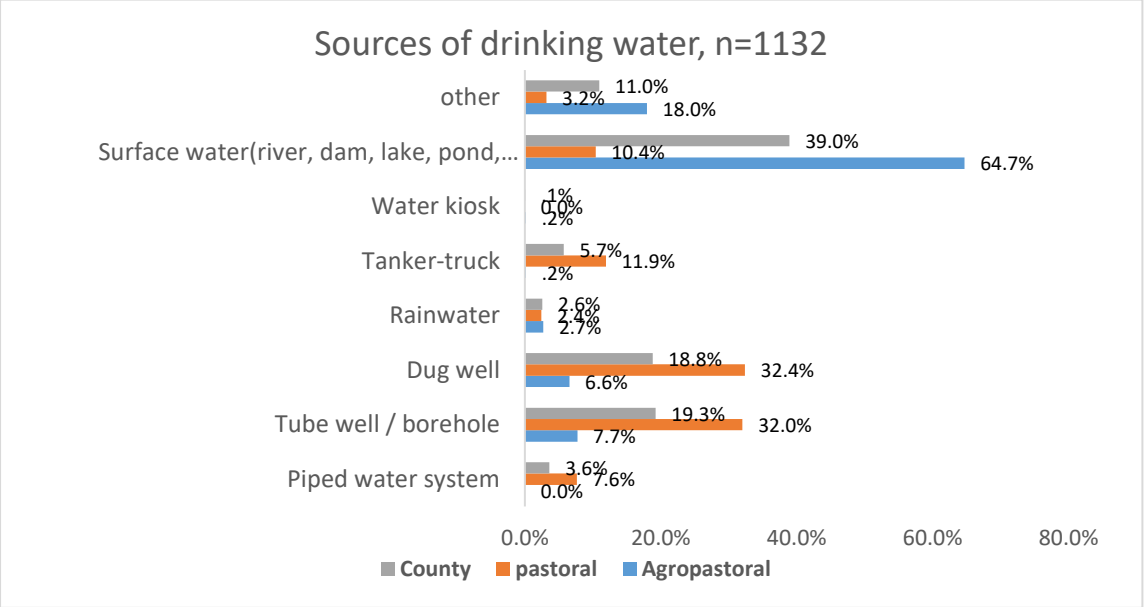


Figure 3-18: Source of drinking water in the two livelihood zones

3.6.2 Water Treatment

Despite most of the water sources being from unsafe sources, 84.7 % of the households did not treat their water before drinking with only 15.3% doing something to water before drinking, as shown in figure 3-19 below. Out of the 15.3% who treated or boiled water majority of them used chemicals at 87% and 99% in the agro pastoral and pastoral respectively as shown in figure3-20

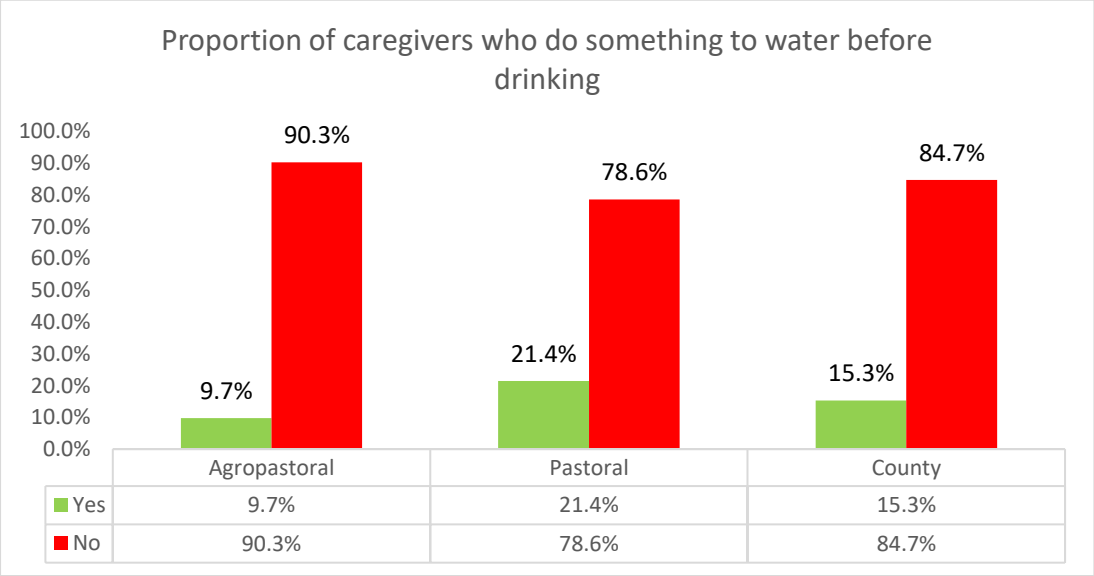
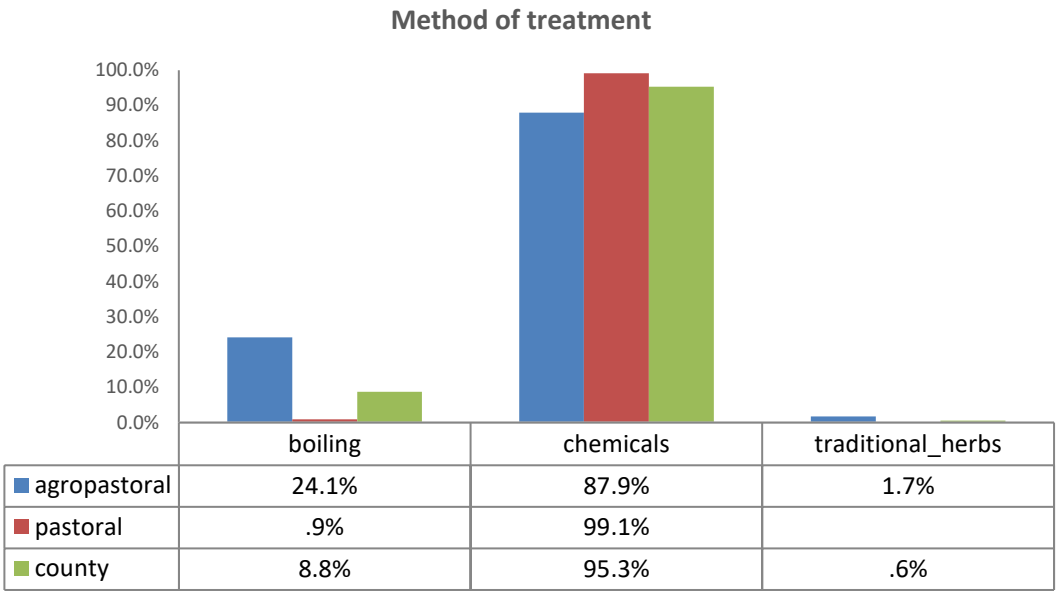


Figure 3-19: Proportion of caregivers who treat their water in the two livelihood zones

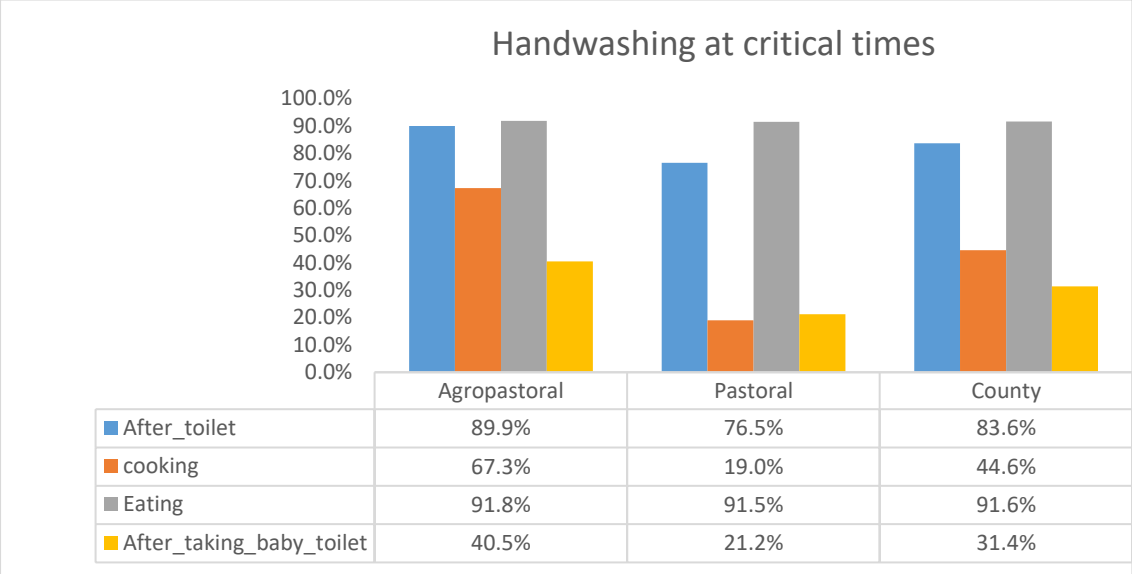


	boiling	chemicals	traditional_herbs
agropastoral	24.1%	87.9%	1.7%
pastoral	.9%	99.1%	
county	8.8%	95.3%	.6%

Figure 3-20: Drinking water treatment methods in the two livelihood zones

3.6.3 Hand Washing

Across the County, most of respondents washed their hands after visiting the toilet and before eating at 83.6% and 91.6% respectively as shown in figure 3-21 below. However, only 32.9% of the respondents washed their hands with soap and water as shown in figure 3-22 below.



	Agropastoral	Pastoral	County
After_toilet	89.9%	76.5%	83.6%
cooking	67.3%	19.0%	44.6%
Eating	91.8%	91.5%	91.6%
After_taking_baby_toilet	40.5%	21.2%	31.4%

Figure 3-21: Proportion of handwashing at critical times

Among all the respondent, only 15.2% confessed washing hands at all four critical times. The worst was the pastoral with only 4.1% washing hands at four critical times as shown in figure 23 below.

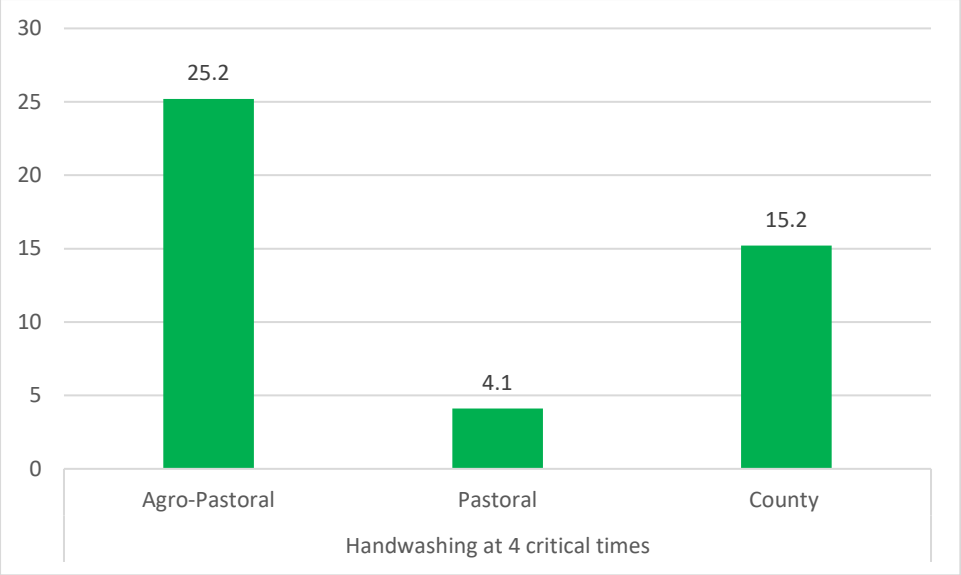
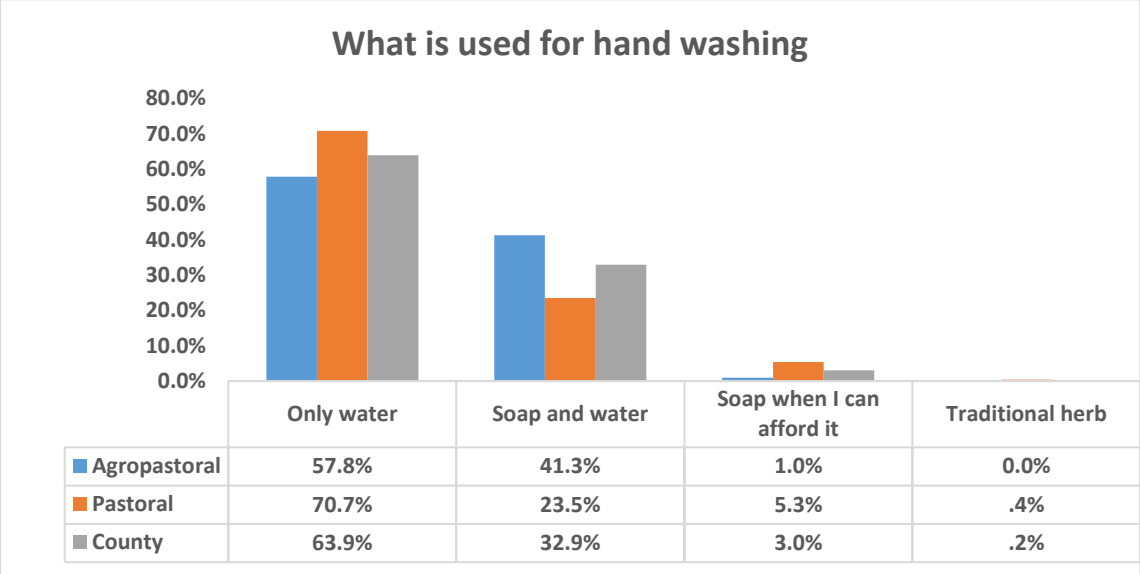


Figure3- 22: Hand washing at four critical times

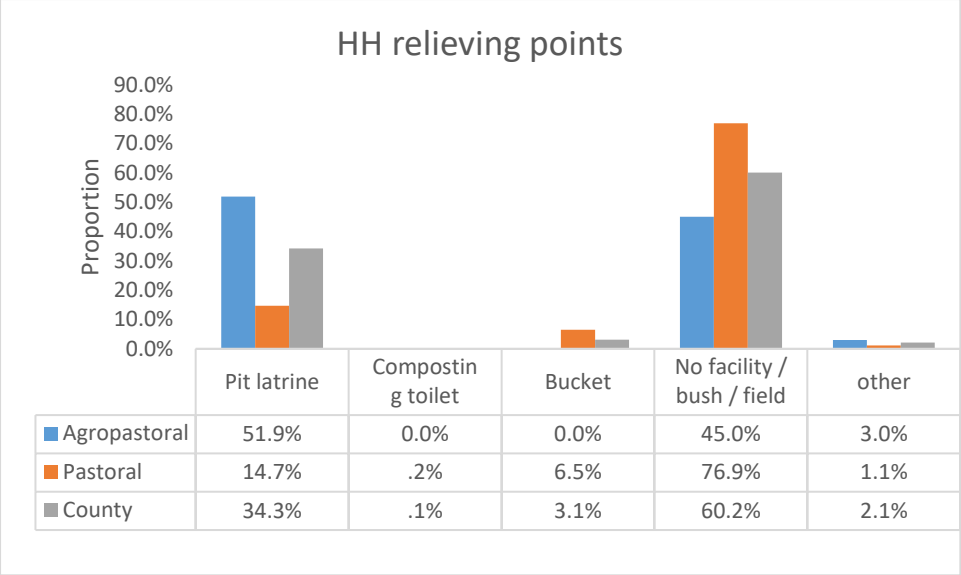


	Only water	Soap and water	Soap when I can afford it	Traditional herb
Agropastoral	57.8%	41.3%	1.0%	0.0%
Pastoral	70.7%	23.5%	5.3%	.4%
County	63.9%	32.9%	3.0%	.2%

Figure 3-23: Proportion of respondents how they washed their hands

3.6.4 Latrine Ownership and Utilization

In Wajir County, a total of 1,132 households were sampled with the majority 60.2% of the respondents relieving themselves in the bush or field, as shown in figure 3-23 below. This is higher compared to 2016 which was at 46%, this predisposes the population to disease outbreaks and the contamination of water sources with faecal coliforms which might in turn be contributing to the higher malnutrition rates in Wajir



	Pit latrine	Composting toilet	Bucket	No facility / bush / field	other
Agropastoral	51.9%	0.0%	0.0%	45.0%	3.0%
Pastoral	14.7%	.2%	6.5%	76.9%	1.1%
County	34.3%	.1%	3.1%	60.2%	2.1%

Figure 3-24: Proportion of relieving points in the two livelihood zones

3.7 Household Dietary Diversity and Food Consumption Score

3.7.1 Food Consumption Score and Coping Strategy Index

Majority of the households (90.4%) reported applying no copying strategy while 9.6% reported to be applying coping strategy as shown is figure 3-24 below. The most applied copying strategy was borrowing of food or relying on friends as shown in figure 3-25 below. Most people who applied the copying strategy are in agro-pastoral zone at 15.1%. Mean coping strategy was 10 and 7 in the agro-pastoral zone and pastoral livelihood respectively with a County mean of 7. In 2016 the County mean was 11.1. Despite the fact that this have reduced, its an indication that households are still employing different copying strategies due to food insecurity.

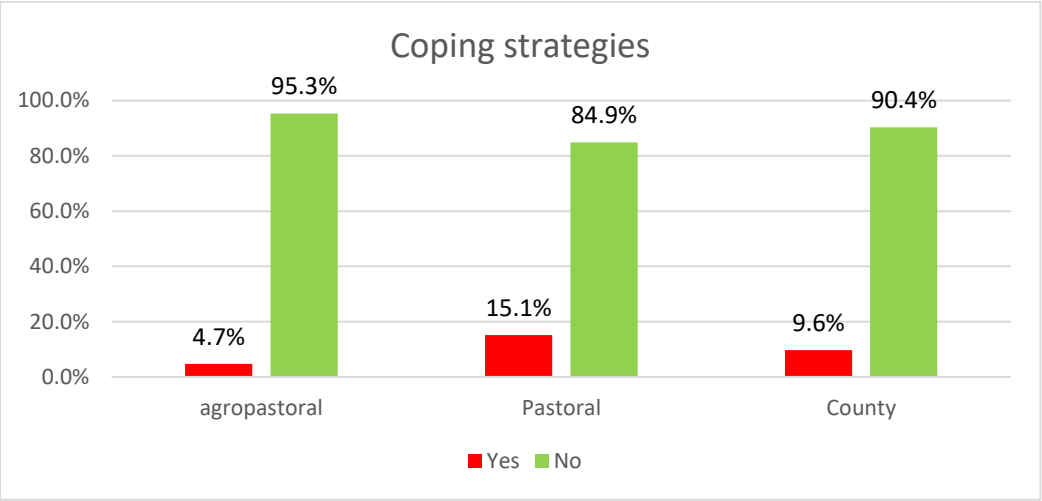


Figure 3-25: Proportion of coping strategy as per respondents in the two-livelihood zone

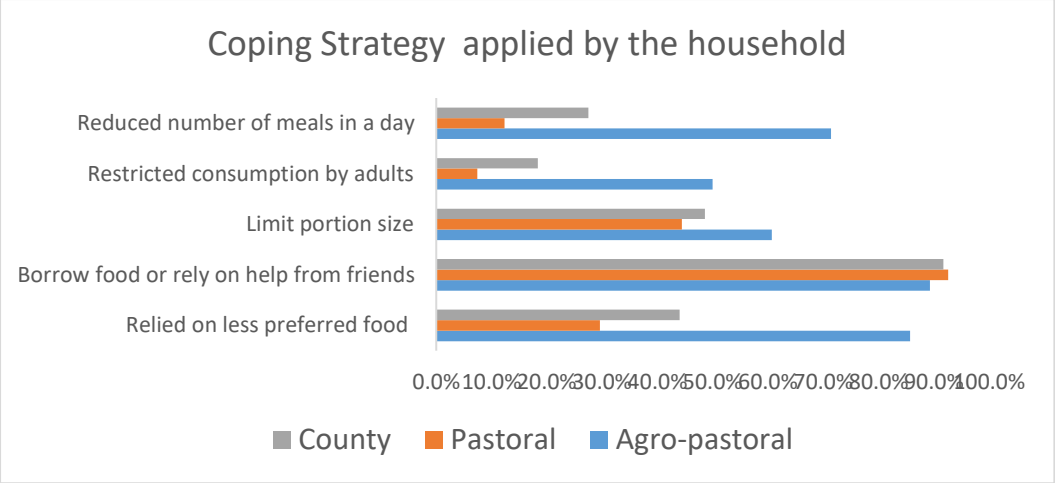


Figure 3-26: Coping strategy applied by households in agro-pastoral and pastrol livelihood zone

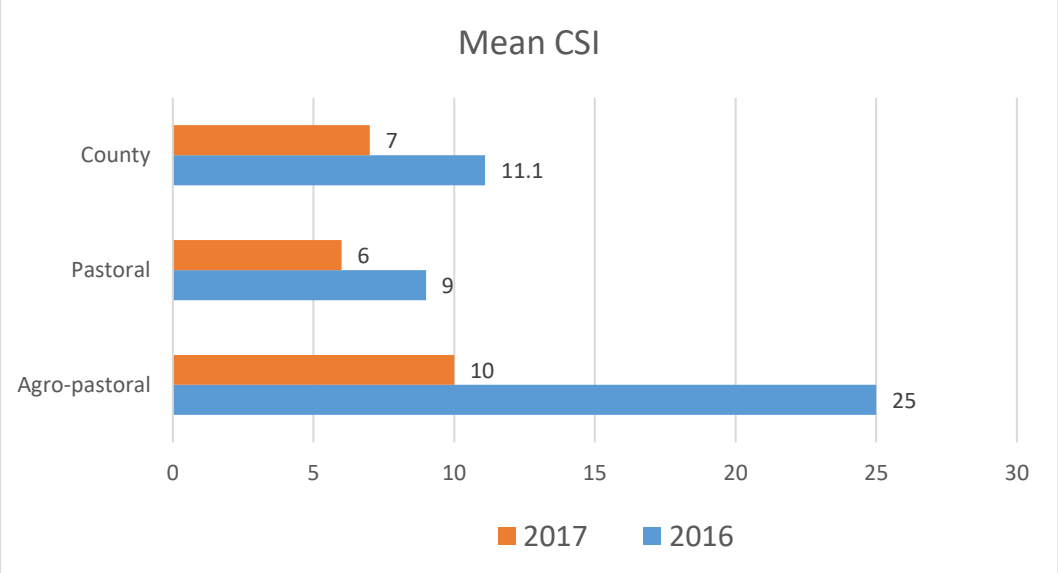


Figure 3-27: Wajir Mean CSI

A high proportion of households (92.3%), had acceptable consumption score in Wajir County. Agro-pastoral livelihood had the highest proportion with acceptable score at 99.5% as compared to Pastoral with 84.4%.

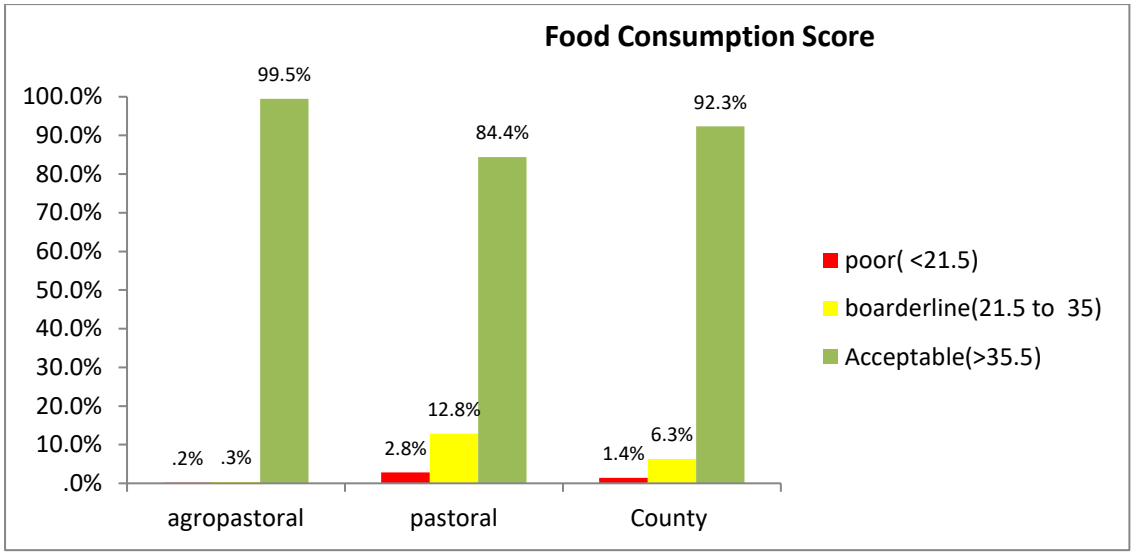
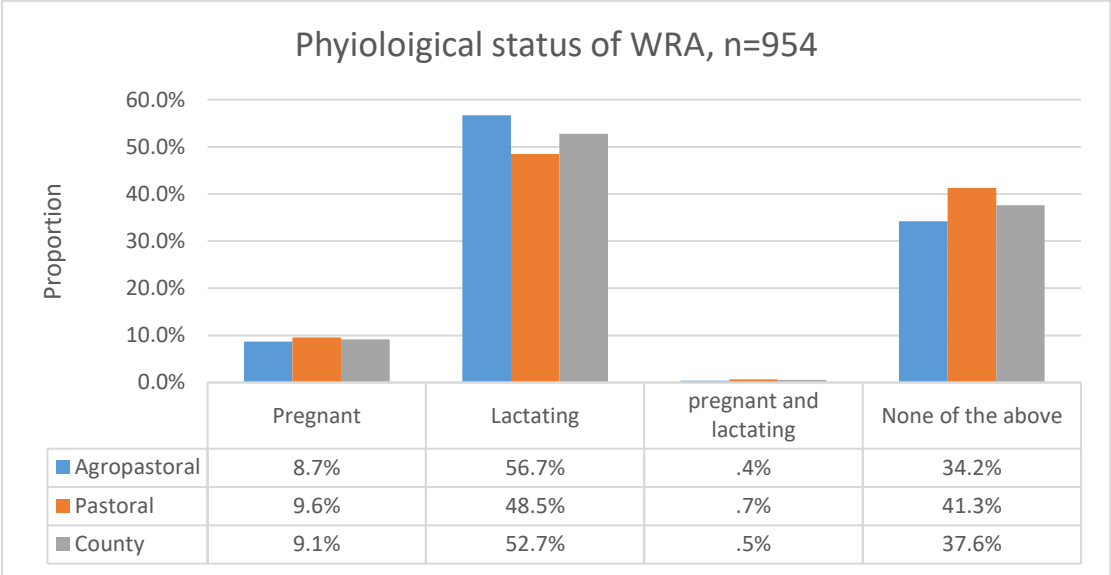


Figure 3-27: Food consumption score for agro-pastoral and agro-pastoral livelihood zone

3.8 Maternal Nutrition Status

A total of 954 women of reproductive age were assessed and approximately 53% and 9% were lactating and pregnant respectively as shown in figure 3-27 below. More than half (52%) of all the respondents were lactating mothers.



	Pregnant	Lactating	pregnant and lactating	None of the above
Agropastoral	8.7%	56.7%	.4%	34.2%
Pastoral	9.6%	48.5%	.7%	41.3%
County	9.1%	52.7%	.5%	37.6%

Figure 3-28: Physiological status of women of reproductive age in both livelihood zones

A total of 595 (69% of the total WRA) pregnant and lactating were assessed for nutritional status with 10.1% having a MUAC of less than 21.0CM as shown in figure 3-28 below with no variation in the livelihood zones.

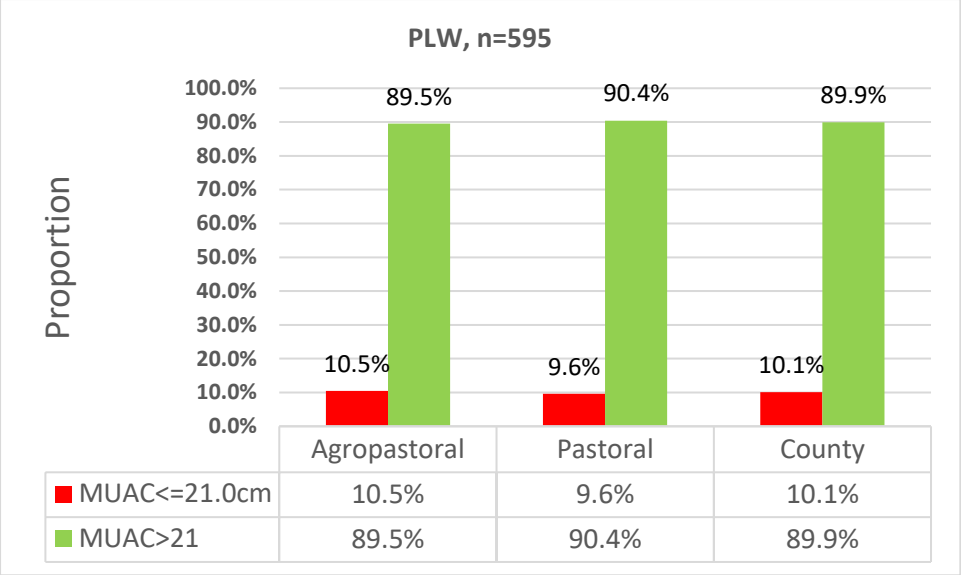


Figure 3-29: Nutritional status of PLW as measured by MUAC in agro-pastoral and pastoral livelihood zone

Majority (69.6%) consume less than five food groups, and higher in the pastoral livelihood zone as shown in figure 3-9 below;

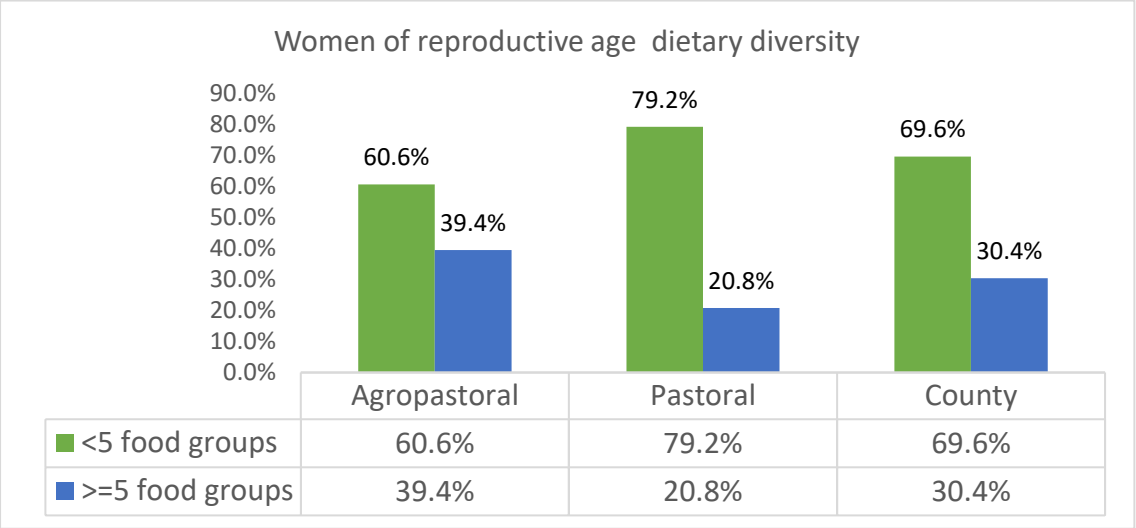
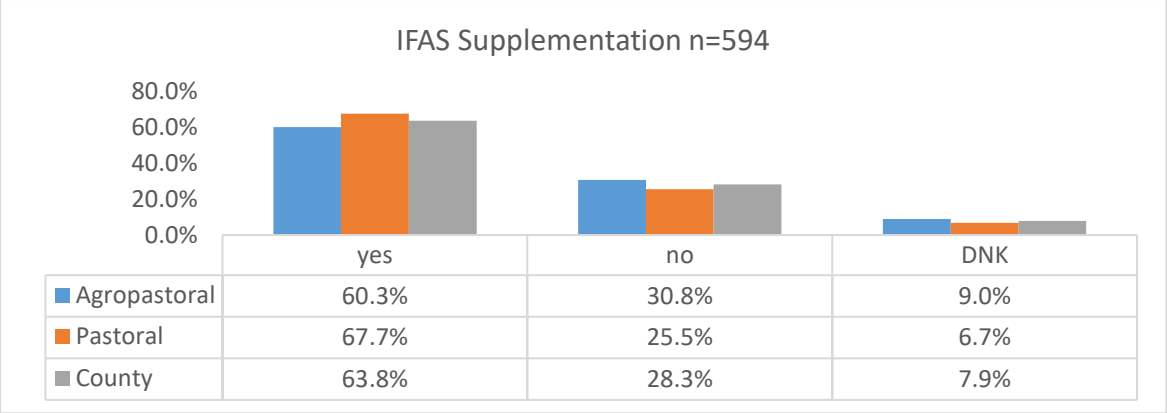


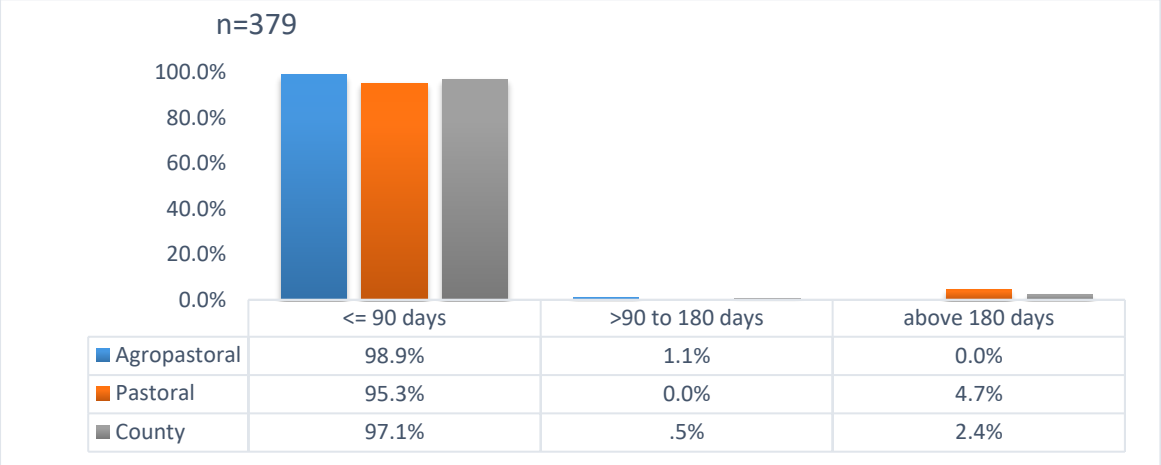
Figure 3-30: Dietary diversity of women of reproductive age

A total of 594 respondents were assessed on consumption of IFAS, with 63.8% in the county reporting to have taken iron during pregnancy, who were further assessed for duration of supplementation, majority (97.1%) of the respondents took iron for less 90 days as shown in figure 3-31 below. This is lower compared to 2016 (99.5%) and below the recommended 270 days.



	yes	no	DNK
Agropastoral	60.3%	30.8%	9.0%
Pastoral	67.7%	25.5%	6.7%
County	63.8%	28.3%	7.9%

Figure 3-31: Proportion of women who took iron supplements during pregnancy



	<= 90 days	>90 to 180 days	above 180 days
Agropastoral	98.9%	1.1%	0.0%
Pastoral	95.3%	0.0%	4.7%
County	97.1%	.5%	2.4%

Figure 3-32: Proportion of pregnant women who too iron for a specified number of days

4 CHAPTER 4

4.1 CONCLUSIONS AND RECOMMENDATIONS

The survey revealed that the Global Acute Malnutrition (GAM) rates in 2017 is still critical at 16.4% (CI 12.8-20.7) and 16.8% in the pastoral and agro-pastoral zones respectively compared to GAM for 2016 that was (13.4 (10.0 - 17.7 95% C.I) and 9.4 %(7.4 - 11.9 95% C.I.) in pastoral and agro-pastoral respectively. This shows a slight increase in pastoral and significant increase in and agropastrol livelihood zones. The key underlying factors of nutrition status are morbidity, poor hygiene and food insecurity manifested by poor dietary diversity. It is also important to note the role of chronic food insecurity, higher food prices and inadequate pasture which have affected the animal sales and milk availability. The critical nutrition situation in the county, is attributed to multiple and interrelated factors that call for continued integrated intervention efforts to address both immediate needs in addition to developing long-term strategies to enhance access to basic services; support to sustain livelihood systems and social protection mechanisms. The following recommendations were drawn from this survey and actioned with timelines as highlighted below:

4-1: CONCLUSIONS & RECOMMENDATIONS;

FINDINGS	RECOMMENDATION	BY WHO	TIME LINE
Low vitamin A supplementation and deworming	➢ . Conduct mass VAS supplementation and deworming during Malezi bora. ➢ Integrate vitamin A	CDH and partners	1st September 2017
Poor diet diversity for WRA	✓ Continuous health Education ✓ Capacity building for H/facility staff on MIYCN ✓ CMEs	CDH and partners	1st September 2017
Poor Sanitation	Strengthen CLTs	CDH and partners	September 2017
Poor continuity in IFAS consumption	Training/sensitization of health service providers on IFAS	CDH and partners	November 2017
Poor access to health and nutrition and water in the Agro pastoral Zone	➢ Scale up of services by MOH, MOAW, WASH. ➢ Joint supportive supervision and monitoring. ➢ Creation of more water points the agro pastoral. ➢ Sensitize the community on water treatment	CDH and partners	September 2017
High GAM rates	➢ Scale up continuous active case finding for malnourished cases (U5, PLW) in the pastoral zone. ➢ Continue outreaches and	CDH and partners	September 2017

5 ANNEXES

Table 5-1: Plausibility check for agro-pastoral and pastoral livelihood zone (Annex 1)

CRITERIA	Pastoral		Agro-Pastoral	
	SCORE	Interpretation	SCORE	Interpretation
Missing/ flagged data	0 (0.5 %)	Excellent	0 (0.71 %)	Excellent
Overall sex ratio	0 (p=0.129)	Excellent	0 (p=0.603)	Excellent
Overall age distribution	4 (p=0.035)	acceptable	0 (p=0.170)	Excellent
Digit pref. score Weight	0 (4)	Excellent	0 (3)	Excellent
Digit pref. score Height	0 (7)	Excellent	2 (6)	Excellent
Digit pref. score MUAC	0 (5)	Excellent	0 (4)	Excellent
Standard deviation WHZ	0 (1.03)	Excellent	0 (1.04)	Excellent
Skewness WHZ	1(-0.21)	Excellent	0 (0.08)	Excellent
Kurtosis WHZ	0 (0.12)	acceptable	0 (-0.02)	Excellent
Poisson distribution WHZ	3 (p=0.001)	acceptable	3 (p=0.008)	Excellent
Overall score WHZ	8%	Excellent	3%	Excellent

Table 5-2: Clusters selected (Annex II)

Pastoral livelihood zone		**Agro-pastoral livelihood zone**	
Geographical unit	**Cluster**	**Geographical unit**	**Cluster**
Abakore	1	Buna	1,2,RC
Adan Awale	2	Beramu	3
Alimao	3	Korondille	4,5,6,7
Arablow	4	Milseded	8
Balad Amin	5	Lensayu	9,10
Basanicha	6	Bute	11,12,13,14,15,16,17,18
Boa	7	Adadijole	19

Bulla power	8	Ogorji	20
Dambas	9	Watiti	21,22
Dela	10	Dugo	23,24
Dilmanyale	11	Garakilo	25
Dunto	12	Godoma NEP	RC,26,27
Elben	13	Danaba	28,29,RC,30,31
Eldas	RC	Qarsabula	32
Elnur	14	Gurar	33,34,35,RC,36
Ganyure	15	Qarse Sare	37
God- Ade	RC		
Habaswein Central	RC		
Hadado North	16		
Hungai	RC		
Jowhar	17		
Katote	18		
Krof Harar	19		
Kukalle	20		
Kursin	21		
Laghbogol West	22		
Leheley	23		
Macheza	24		
Mansa	25		
Matho	26		
Ogoralle	27		
Sabule	28		
Sarman	29		
Shanta Abaq	30		
Tarbaj	31		
Township	32		
Wagalla	33		
Wajir Bor	34		

Table 5.3: LOCAL EVENTS CALENDER FOR WAJIR (2017 SMART SURVEY) Annex III

LOCAL EVENTS CALENDER FOR WAJIR (2017 SMART SURVEY)

MONTH	Seasons	2012	2013	2014	2015	2016	2017
JANUARY (Rabiul thaani)	ORAHED, BIRA (HOT AND DRY SEASON)		54	42	30	18	6
			Mowlid	Mowlid	Mowlid		
FEBRUARY (Jamadul Awal)			53	41	29	17	5
			Waggala Masacre memorial	Waggala Masacre memorial			Voter registration
MARCH (Jamadul Thaani)			52	40	28	16	4
			General Elections/Door ashadi guud				
APRIL (Rajab)	GU'U, GANI (LONG RAINS)		51	39	27	15	3
			President Inaugration				
MAY (Shaaban)			50	38	26	14	2
							Ramadhan (27th May)
JUNE (Ramadhan)	HAGAY ADHOLES (COLD SEASON)		49	37	25	13	1
				Ramadhan - 28th June	Ramadhan - 18th June	Ramadhan - 6th June	Idul-Fitr
JULY (Shawal)		60	48	36	24	12	
		Ramadhan - 20th June	Beginning of Ramadan	Idul-Fitr	Idul-Fitr	Idul-Fitr	
AUGUST (Dul Qaada)		59	47	35	23	11	

		Ramadan /Abar Iskugur/Uji Badan	IDD FITRI				
SEPTEMBER (Hajj)	JILAL,BON (DRY SEASON)	58	46	34	22	10	
		National Teachers Strike/Mudhaharadki Macalimiinta			Idul-Adha(Arafah)	Idul-Adha(Arafah)	
OCTOBER (Muharam)	DERR AGAY (SHORT RAINS)	57	45	33	21	9	
		Idul-Adha(Arafah)	Idul-Adha(Arafah)	Idul-Adha(Arafah)/ Zaka	Zaka	Zaka	
NOVEMBER (Safar)		56	44	32	20	8	
		Zaka	Bisha Zakkah/Beginning of voter registration	Bisha Zakkah	bisha Zakka		
DECEMBER (Rabiul Awal)		55	43	31	19	7	
						Moulid	

Annex IV: Nutrition SMART Survey Questionnaire

NUTRITION SMART SURVEY QUESTIONNAIRE REVISED

VERSION © April 2017

1.IDENTIFICATION	**1.1 Data Collector**_____	**1.2 Team Leader**_____	**1.3 Survey date (dd/mm/yy)----------**					
1.4 County	1.5 Sub County	1.6 Ward	1.7 Location	1.8 Sub-Location	1.9 Village	1.10 Cluster No	1.11 HH No	1.12 Team No.
1.13 **Household geographical coordinates**	**Latitude**	_____	**Longitude**	_____				

		2. Household Demographics								
2.1	**2.2a**	**2.2b**	**2.3**		**2.4**	**2.5**	**2.6**	**2.7a**	**2.7b**	**2.8**	**2.10**
			Age (Record age in MONTHS for children <5yrs and YEARS for those ≥ 5 years's)								
			Years	Months							

< 5 YRS	1										
	2										
	3										
	4										
	5										
	6										
	7										
	8										
	9										
	10										
	11										
	12										
	13										
	14)										
	15										
	16										

2.9	**How many mosquito nets does this household have? _____ (Indicate no.) go to question 2.10 before proceeding to question 2.11**	
2.11	**Main Occupation of the Household Head – HH.** **(enter code from list)** 1=Livestock herding 2=Own farm labour 3=Employed (salaried) 4=Waged labour (Casual) 5=Petty trade 6=Merchant/trader 7=Firewood/charcoal 8=Fishing **9=** Income earned by children **10=Others (Specify)** |____|	**2.12.** What is the **main** current source of income **of the household?** 1. =No income 2. = Sale of livestock 3. = Sale of livestock products 4. = Sale of crops 5. = Petty trading e.g. sale of firewood 6. =Casual labor 7. =Permanent job 8. = Sale of personal assets 9. = Remittance 10. Other-Specify |____|
2.13	Marital status of the respondent 1. = Married 2. = Single 3. = Widowed 4. = separated 5. = Divorced. |____|	**2.14. What is the residency status of the household**? 1. IDP

		2.Refugee 3. Resident |____|
2.15	Are there children who have come to live with you recently? 1. YES 2. NO	2.15b If yes, why did the child/children come to live with you? 1= Did not have access to food 2=Father and Mother left home 3=Child was living on the street, 4=Care giver died 5= Other specify _____

Fever with Malaria: High temperature with shivering	**Cough/ARI:** Any episode with severe, persistent cough or difficulty breathing	**Watery diarrhoea:** Any episode of three or more watery stools per day	**Bloody diarrhoea:** Any episode of three or more stools with blood per day

3.	**4.**	**5. CHILD HEALTH AND NUTRITION (ONLY FOR CHILDREN 6-59 MONTHS OF AGE; IF N/A SKIP TO SECTION 3.6)** **Instructions:** *The caregiver of the child should be the main respondent for this section* ***3.1 CHILD ANTHROPOMETRY*** ***3.2 and 3.3 CHILD MORBIDITY*** *(**Please** fill in **ALL REQUIRED** details below. Maintain the same child number as part 2)*

A **Child No.**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**3.2 a**	**3.2 b**	**3.3 a**	**3.3 b**	**3.3 c**
	what is the relationship of the respondent with the child/children 1=Mother 2=Father 3=Sibling 4=Grandmother 5=Other (specify)	SEX Female ……F Male ……..M	Exact Birth Date	Age in months	Weight (KG) XX.X	Height (CM) XX.X	Oedema Y= Yes N= No	MUAC (cm) XX.X	Is the child in any nutrition program 1. Yes 2. No If no skip to questions 3.2	If yes to question J. which nutrition program? 1.OTP 2.SFP 3.BSFP Other Specify _____	Has your child (NAME) been ill in the past two weeks? 1.Yes 2. No <u>If No, skip to 3.4</u>	If YES, which illness (multiple responses possible) 1 = Fever with chills like malaria 2 = ARI /Cough 3 = Watery diarrhoea 4 = Bloody diarrhoea 5 = Other (specify) *See case definitions above*	**When the child was sick did you seek assistance?** 1.Yes 2. No	**If the response is yes to question # 3.2 where did you seek assistance? (More than one response possible-** 1. Traditional healer 2.Community health worker 3. Private clinic/ pharmacy 4. Shop/kiosk	If the child **<u>had watery diarrhoea</u>** in the last TWO (2) WEEKS, did the child get: 1. ORS 2. Zinc supplementation? *Show sample and probe further for this component* *check the remaining drugs(confirm from mother child booklet)*

														5.Public clinic 6. Mobile clinic 7. Relative or friend 8. Local herbs 9.NGO/FBO	
01															
02															
03															
04															

3.4 Maintain the same child number as part 2 and 3.1 above

	A1	**A2**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**
Child No.	How many times has child received Vitamin A in the past year?	Has the child received vitamin A supplement in the past 6 months?	How many times did the child receive vitamin A capsules from the facility or out reach	If Vitamin A received how many times in the past one year did the child receive verified by	**FOR CHILDREN 12-59 MONTHS** How many times has child received	Has the child received BCG vaccination? Check for BCG scar. **1 = scar** **2=No scar**	Has child received OPV1 vaccination **1=Yes, Card** **2=Yes, Recall** **3 = No** **4 = Do not know**	Has child received OPV3 vaccination? **1=Yes, Card** **2=Yes, Recall** **3 = No** **4 = Do not know**	Has child received measles vaccination at 9 months *(On the upper right shoulder)?* **1=Yes, Card** **2=Yes, Recall** **3 = No**	Has child received the second measles vaccination (18 to 59 months) *(On the upper right shoulder)?* **1=Yes, Card** **2=Yes, Recall** **3 = No**

	(show sample)			**Card?**	drugs for worms in the past year? *(show Sample)*				**4 = Do not know**	**4 = Do not know**
01										
02										
03										
04										

3.5 MNP Programme Coverage. ***Maintain the same child number as part 2 and 3.1 above. Ask all the relevant questions (3.5.1 to 3.6.4) before moving on to fill responses for the next child. THIS SECTION SHOULD ONLY BE ADMINISTERED IF MNP PROGRAM IS BEING IMPLEMENTED OR HAS BEEN IMPLEMENTED***

	3.5 Enrolment in an MNP program		**3.6 Consumption of MNPs**			
	3.5.1. Is the child enrolled in the MNP program?(show the example of the MNP sachet) ***(record the code in the respective child's number)*** Yes =1 No=0 **If no go to 3.5.2,** **If yes go to section 3.6.1**	**3.5.2** If the child, 6-23months, is not enrolled for MNP, give reason. (***Multiple answers possible. Record the code/codes in the respective child's number. DO NOT READ the answers)*** Do not know about MNPs ……1 Discouraged from what I heard from others ……2 The child has not fallen ill, so have not gone to the health facility …. ……3 Health facility or outreach is far ……4 Ch ild receiving therapeutic or supplementary foods ……5 Other reason, specify ……6 ***Skip to 3.7***	3.6.1 Has the child consumed MNPs in the last 7 days?(shows the MNP sachet) ***(record the code in the respective child's number)*** YES = 1 N0= 0 ***If no skip to 3.6.3***	3.6.2 If yes, how frequent do you give MNP to your child? ***(record the code in the respective child's number)*** Every day ……1 Every other day ……2 Every third day ……3 2 days per week at any day ….4 Any day when I remember…..5	3.6.3 If no, since when did you stop feeding MNPs to your child? ***(record the code in the respective child's number)*** 1 week to 2 weeks ago ….1 2 week to 1 month ago ….2 More than 1 month ……3	3.6.4 What are the reasons to stop feeding your child with MNPs? (***Multiple answers possible. Record the code/codes in the respective child's number. DO NOT READ the answers)*** Finished all of the sachets ……1 Child did not like it ……2 Husband did not agree to give to the child ……3 Sachet got damaged ……4 Child had diarrhea after being given vitamin and mineral powder ……5 Child fell sick……6 Forgot ……7 Child enrolled in IMAM program …8 Other (Specify)_____ ..9

Child 1						
Child 2						
Child 3						
Child 4						

MATERNAL NUTRITION FOR WOMEN OF REPRODUCTIVE AGE (15-49 YEARS) *(Please insert appropriate number in the box)*									
3.7	**3.8**	**3.9**	**3.10**			**3.11**			
			During the pregnancy of the (name of the youngest biological child below 24 months) did you take the following supplements? indicate **1. Yes** **2. No** **3. Don't know** **4. N/A**			If Yes, for how many days did you take? (***probe and approximate the number of days***)			
			Iron tablets syrup	Folic acid	Combined iron and folic acid supplements	Iron tablets syrup	Folic acid	Combined iron and folic acid supplements	

4.0 WATER, SANITATION AND HYGIENE (WASH)/- *Please ask the respondent and indicate the appropriate number in the space provided*

4.1 **What is the MAIN source of drinking water for the household NOW?**

piped water
- piped into dwelling 11
- piped to yard / plot 12
- piped to neighbour 13
- public tap / standpipe 14

tube well / borehole 21

dug well
- protected well 31
- unprotected well 32

spring
- protected spring 41
- unprotected spring 42

rainwater 51
tanker-truck 61
cart with small tank 71
water kiosk 72
surface water (river, dam, lake, pond, stream,
- canal, irrigation channel) 81

packaged water
- bottled water 91
- sachet water 92

1.

4.2 a What is the trekking distance to the current main water source?

1=less than 500m (Less than 15 minutes)
2=more than 500m to less than 2km (15 to 1 hour)
3=more than 2 km (1 – 2 hrs)
4=Other(specify)
|____|

4.2b – Who MAINLY goes to fetch water at your current main water source?

1=Women,
2=Men,
3=Girls,
4=Boys

4.2.2a **How long do you queue for water?**

1. Less than 30 minutes
2. 30-60 minutes
3. More than 1 hour
4. Don't que for water

1.

.3 Do you do anything to your water before drinking? (*MULTIPLE RESPONSES POSSIBLE) (Use 1 if YES and 2 if NO).* |____|

1. Nothing
2. Boiling…… ……
   |____|
3. Chemicals (*Chlorine,Pur,Waterguard*)……
   |____|
4. Traditional herb……...
   |____|
5. Pot filters……..
   |____|

5.

4.3a	|_____|	**6.**
4.4	**Where do you store water for drinking?** 1. Open container / Jerrican 2. Closed container / Jerrican |____|	**4.5 How much water did your household use YESTERDAY (excluding for animals)?** *(Ask the question in the number of 20 liter Jerrican and convert to liters & write down the total quantity used in liters)* |____|
4.6	**Do you pay for water?** 1. Yes 2. No **(If No skip to Question 4.7.1)** |____|	**4.6.1 If yes, how much per 20 liters jerrican _____ KSh/20ltrs** **4.6.2 If paid per month how much** |____|
4.7.1a	We would like to learn about where members of this household wash their hands. Can you please show me where members of your household <u>most often</u> wash their hands? *Record result and observation.* **OBSERVED** FIXED FACILITY OBSERVED (SINK / TAP) IN DWELLING.....1 IN YARD /PLOT.....2 MOBILE OBJECT OBSERVED (BUCKET / JUG / KETTLE)..... 3 NOT OBSERVED NO HANDWASHING PLACE IN DWELLING / YARD / PLOT..... 4 NO PERMISSION TO SEE 5	4.7.1b Is soap or detergent or ash/mud/sand present at the place for handwashing? YES, PRESENT .....1 NO, NOT PRESENT..... ……**2**
4.7.1	**Yesterday (within last 24 hours) at what instances did you wash your hands? (MULTIPLE RESPONSE-** (Use 1 if "Yes" and 2 if "No") 1. After toilet…… 2. Before cooking…… 3. Before eating…… 4. After taking children to the toilet…… 5. Others……	|____
____
____
____	

		|_____|
4.7.2	**If the caregiver washes her hands, then probe further; what did you use to wash your hands?** 1. Only water 2. Soap and water 3. Soap when I can afford it 4. traditional herb 5. Any other specify |_____|	**4.8 What kind of toilet facility do members of your household usually use?** **If 'Flush' or 'Pour flush', probe:** **Where does it flush to?** |_____| **If not possible to determine, ask permission to observe the facility.** **flush / pour flush** **flush to piped sewer system 11** **flush to septic tank 12** **flush to pit latrine 13** **flush to open drain 14** **flush to DK where 18** **pit latrine** **ventilated improved pit latrine 21** **pit latrine with slab 22** **pit latrine without slab / open pit 23** **composting toilet 31** **bucket 41** **hanging toilet /**

		hanging latrine 51 **no facility / bush / field 95** 1. **OTHER (specify) 96**

5.0: Food frequency and Household Dietary Diversity

Type of food*	**Did members of your household consume any food from these food groups in the last** *7 days?(food must have been cooked/served at the household)* ***0-No*** ***1-Yes***	**If** *yes*, **mark days the food was consumed in the last 7 days?** ***0-No*** ***1-Yes***								What was the **main** source of the dominant food item consumed in the HHD? **1.Own production** **2.Purchase** **3.Gifts from friends/families** **4.Food aid** **5.Traded or Bartered** **6.Borrowed** **7.Gathering/wild fruits** **8.Other (specify)**	**WOMEN DIETARY DIVERSITY** **ONLY FOR WOMEN AGE 15 TO 49 YEARS. REFER TO THE HOUSEHOLD DEMOGRAPHICS SECTION Q2.3 AND Q2.5** **Please describe the foods that you ate or drank yesterday during day and night at home or outside the home (start with the first food or drink of the morning)** ***0-No*** ***1-Yes***			
		D1	***D2***	**D 3**	**D 4**	**D5**	**D 6**	**D7**	**TOTAL**		Woman ID……	Woman ID……..	Woman ID …….	Woman ID……..
5.1. Cereals and cereal products *(e.g. sorghum, maize, spaghetti, pasta, anjera, bread)*?														
5.2. Vitamin A rich vegetables and tubers: Pumpkins, carrots, orange sweet potatoes														

5.3. White tubers and roots: White potatoes, white yams, cassava, or foods made from roots														
5.4 Dark green leafy vegetables: Dark green leafy vegetables, including wild ones + locally available vitamin A rich leaves such as cassava leaves etc.														
5.5 Other vegetables *(e.g., tomatoes, egg plant, onions)?*														
5.6. Vitamin A rich fruits: + other locally available vitamin A rich fruits														
5.7 Other fruits														
5.8 Organ meat (iron rich): Liver, kidney, heart or other organ meats or blood based foods														
5.9. Flesh meats and offals: Meat, poultry, offal *(e.g. goat/camel meat, beef; chicken/poultry)?*														
5.10 Eggs?														
5.11 Fish: Fresh or dries fish or shellfish														
5.12 Pulses/legumes, nuts *(e.g. beans, lentils, green grams, cowpeas)*?														
5.13 Milk and milk products *(e.g. goat/camel/ fermented milk, milk powder)?*														
5.14 Oils/fats *(e.g. cooking fat or oil, butter, ghee, margarine)?*														

5.15 Sweets: Sugar, honey, sweetened soda or sugary foods such as chocolates, sweets or candies														
5.16 Condiments, spices and beverages:														

6. COPING STRATEGIES INDEX		
		Frequency score: Number of days out of the past seven (0 -7).
	In the past 7 DAYS, have there been times when you did not have enough food or money to buy food? If No; END THE INTERVIEW AND THANK THE RESPONDENT **If YES, how often has your household had to:** *(INDICATE THE SCORE IN THE SPACE PROVIDED)*	
1	Rely on less preferred and less expensive foods?	
2	Borrow food, or rely on help from a friend or relative?	
3	Limit portion size at mealtimes?	
4	Restrict consumption by adults in order for small children to eat?	
5	Reduce number of meals eaten in a day?	
	TOTAL HOUSEHOLD SCORE: **END THE INTERVIEW AND THANK THE RESPONDENT**	

	4.1 FOOD FORTIFICATION (FF)/- *Please ask the respondent and indicate the appropriate number in the space provided*
	Have you heard about food fortification? 1. Yes 2. No 3. Don't know
	If yes, where did you hear or learn about it? (MULTIPLE RESPONSE ARE POSSIBLE- (Use 1 if "Yes" and 2 if "No") 6. Radio…… 7. Road show……... |____| 8. In a training session attended…… 9. On a TV show…… |____| 10. Others……

1.1.1		|____| |____| |____|
1.2	**Respondent's knowledge on the food fortification logo (Show the food fortification logo to the respondent and record the response). Do you know about this sign?** 1. Yes 2. No 3. Don't know	|____|
1.3	**What is the MAIN source of Maize flour for the household <u>NOW</u>?** 2. Bought from the shops, supermarket e.t.c 3. Maize is taken for milling at a nearby Posho Mill 4. Bought from a nearby Posho Mill 5. Other *(Please specify)* |_____|	**1.1b Do you know if the maize flour you consume is fortified or not?** 1. Yes 2. No 3. Don't know
1.4	**What brands of the following foods does your household consume?** 1. Maize flour 2. Wheat flour 3. Margarine 4. Oils 5. Fats 6. Sugar	|_____| |_____| |_____| |_____| |_____| |_____|

NUTRITION SMART SURVEY QUESTIONNAIRE REVISED

VERSION © April 2017