



# Final Evaluation of Every Child Thrives (ECT) Project in Kenya

**Siaya, Kilifi & Kwale Counties**

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**effect:hope**  
The Leprosy Mission Canada



## DISCLAIMER

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**Cover photo:** *A mother seeking nutrition services for her child at a health facility*

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## LIST OF ABBREVIATIONS AND ACRONYMS

CHA	Community Health Assistant
CHD	Child Health Days
CHMT	County Health Management Team
CHU	Community Health Unit
CHV	Community Health Worker
CHEW	Community Health Extension Worker
CSO	Civil Society Organization
DHIS	District Health Information System
ECDC	Early Childhood Development Center
ECT	Every Child Thrives
ESRC	Ethics and Scientific Review Commission
FGD	Focus Group Discussion
KDHS	Kenya Demographic and Health Survey
KII	Key Informant Interview
KM	Kilometer
MDA	Mass Drug Administration
NID	National Immunization Days
ODK	Open Data Kit
PHASE	Preventive Chemotherapy, Health Education; Access to safe water, Sanitation and hygiene, Environmental improvements
PPS	Probability Proportionate to Size
PSU	Primary Sampling Unit
RA	Research Assistant
RCT	Randomized Controlled Trial
SCHMT	Sub-County Health Management Team
SPSS	Statistical Package for Social Sciences
SSU	Secondary Sampling Unit
STH	Soil-Transmitted Helminths
VAD	Vitamin A Deficiency
VAS	Vitamin A Supplementation
VAS+D	Vitamin A Supplementation and Deworming
WHO	World Health Organization

## EXECUTIVE SUMMARY

Since October 2016, The Every Child Thrives (ECT) project funded by the Government of Canada and effect:hope and implemented by MAP International and later Helen Keller International, supported delivery of gender sensitive VAS and deworming (VAS+D) in three counties: Kilifi, Kwale and Siaya. The program focused on supporting the County Health Management Teams (CHMT) to plan, implement and monitor routine delivery of VAS and deworming and Malezi Bora events. Reinit Research was hired to conduct a final evaluation of the study to determine the extent to which the ECT project achieved its intended results by comparing pre and post-intervention status of key project performance indicators

**Methodology:** The study was conducted in the same sub-counties that were surveyed at baseline: Alego Sub-county in Siaya County, Kaloleni Sub-county in Kilifi County and Kinango Sub-county in Kwale County. The study adopted a cross-sectional design utilizing a mix of quantitative and qualitative methods. Data collection methods included desk review, household survey, CHV survey, key informant interviews and focus group discussions. The calculated sample size was 454 households per county, and a total of 1362 households in the three counties. A two-step process was used to select CHVs for interview while purposive sampling technique was used to select qualitative interview respondents. Data processing was conducted using SPSS and NVIVO software for qualitative data. Administrative clearance was sought from County Governments and ethical approval obtained from the AMREF ESRC.

**Demographic characteristics:** The majority (92%) of the respondents were the child's mother, with a mean age of 30 years and mostly (86%) residing in rural areas. Most of the respondents had primary level education (60%), while those with no education accounted for 21% and those with tertiary education were only 3%. The mean age of the index child was 28 months. About half of the surveyed children were of either gender (51% boys, 49% girls). Among the 37 health care workers interviewed, 68% were male and 33% female with a majority being nurses (38%), Community Health Assistants (38%) and Nutritionists (19%). The healthcare workers tended to be young with about 70% aged 35 years and below. Among the 29 ECD teachers who participated in the survey, the majority (86%) were female and most were aged 36 years and above. A total of 99 CHVs were interviewed. A majority (77%) of who were female. The highest level of education attained by a majority (64%) of the CHVs was primary school. CHVs tended to be mature in age with 24% being 25-35 years of age, 46% aged 36-49 years, and 26% aged above 49 years

**Uptake of VAS among children 6-59 months:** Seventy two percent (72%) of children 6-59 months received VAS against a target of 80% during the most recent Malezi Bora. Kinango had the highest uptake followed by Kaloleni and lastly Alego Usonga. Sixty seven percent (67%) of children 12-59 months received VAS any other time excluding the most recent *Malezi Bora*. When disaggregated by sub-county, the proportion was 57%, 62% and 80% for Alego

Usonga, Kaloleni and Kinango respectively. The main reason given for not partaking in *Malezi Bora* was unawareness of the event.

**Uptake of deworming among children aged 12-59 months:** Sixty nine percent (69%) of the children aged 12-59 months had received deworming during the most recent *Malezi Bora*. Kinango recorded the highest uptake of deworming services at 85%. The mean number of deworming doses that children aged 12-59 months had received over the last 12 months was 1.4.

**Integration of VAS and deworming:** In all the 3 sub-counties, a separate deworming exercise under the school health programme had taken place ahead of *Malezi Bora* and this could explain some cases where only VAS was given. Key informants noted a lack of or poor coordination between the two programmes and raised concern over duplication of efforts.

**VAS and deworming delivery channels:** Home distribution contributed the highest reach (62%) during *Malezi Bora* while health facilities delivered the biggest portion (70%) of VAS received any other time. The contribution of ECDE centres as a delivery channel was less than 10%, but the low number could be attributed to the fact that only 11.3% of the sampled children were above 48 months, the official minimum schooling age.

**Knowledge and attitude towards VAS and deworming:** 74% of mothers/ caregivers were aware of *Malezi Bora*. Mothers' and caregivers' knowledge on importance of VAS and deworming was found to be high across all study sites. The majority (77%) of the responses got information from CHVs and health facility staff. Nearly all the mothers and caregivers strongly agreed or agreed that VAS was important. Findings from FGDs conducted among the community members indicated an improvement in awareness of benefits of VAS and deworming since baseline.

**Support to government ownership and stewardship of VAS+D:** There was an improvement in coordination of activities of multiple partners in the counties resulting in stronger intersectoral linkages and cooperation. There was enhanced micro-planning for *Malezi Bora* activities in all the three counties through the County Nutrition Technical Forum (CNTF) that brings on board a wider spectrum of stakeholders. However, there was poor coordination between *Malezi Bora* and School-based deworming programme resulting in duplication of efforts. All the counties experienced inadequate budgetary allocation in county annual budgets, which could reflect low prioritization and over-reliance on donors.

**Technical training of health care workers and CHVs:** Refresher training was provided to health care workers and CHVs and ECD teachers sensitized on VAS+D prior to the *Malezi Bora* activities. However, only a select number were supported due to budgetary limitations of the project. Shortage of nutritionists necessitated task-sharing with nurses and public health officers being predominant providers of supplementation and deworming services.

**Commodity security for VAS and deworming:** The counties were capacity built on forecasting and quantification of VAS and deworming commodities resulting in fewer instances of stockout and overstock. The counties received a steady supply of VAS and deworming commodities throughout the project period. Vitamin A capsules were procured by Nutrition International and supplied through UNICEF; The ECT project supported the logistical processes of distribution, including coordination with the national warehouse. Additional Vitamin A capsules were procured from Vitamin Angels and used to fill gaps in the supply chain. Notably, the supply of non-pharmaceuticals such as scissors, serviettes, waste bags, hand sanitizers was inadequate during *Malezi Bora* activities.

**Monitoring and evaluation of VAS and deworming:** Reporting for VAS and deworming has improved due to project interventions including training, data quality audits and regular data review meetings and supportive supervision (from the CHMT and SCHMTs). The ECT project supported the improvement of a data capture tool, emphasizing disaggregation of data by gender and disability. The project enhanced pre-*Malezi Bora* targeting as part of micro-planning and post-event data review meetings to examine performance.

**Conclusions:** There has been a positive change in knowledge, attitudes and practices regarding Vitamin A and deworming among mother and caregivers of children aged below five years in the project target areas. Secondly, there has been notable improvement in the capacity of S/CHMT, health workers and CHWs to implement an integrated vitamin A supplementation and deworming interventions targeting children under five years in the project areas. As a result of these improvements, the coverage for both VAS and deworming has increased as compared to baseline. The project has contributed to this increase both directly and indirectly. However, the evaluation findings underscore the challenge of sustaining the gains achieved by this project.

**Recommendations to Ministry of Health:** (i) Increase domestic financing for VAS and deworming, (ii) harmonize approaches and plans, enhance collaboration and coordination across nutrition, school health and NTD programmes, (iii) Adopt the lessons from the ECT project and support integration of VAS+D through policy guidance and capacity building.

**Recommendations to County Governments:** (i) Minimize over reliance on donor support in supply of VAS and deworming interventions; (ii) Support the refresher trainings for the CHVs and equipping them with job aids including counseling cards, (iii) Foster multi-sectoral collaboration and coordination among relevant departments of the county government, civil society and community-level entities in order to reach all eligible children with age-appropriate doses of VAS and deworming; (iv) Strengthen service integration with other programs to reach every last child, including through EPI, IMCI, etc; (v) Enhance social mobilisation and awareness creation on VAS and deworming as a routine activity that is scaled up in preparation for and during *Malezi Bora* campaign. Engage and support CHVs as one of

the key channels of health information and community sensitization; (vi) Mainstream gender equality and disability inclusion in all county government planning, budgeting and monitoring functions broadly and specifically in planning and delivery of child health and nutrition services, including VAS and deworming; (vii) Audit and align the parallel distribution of deworming by *Malezi Bora* and School Health programme; (viii) Increase the period for mobilization of *Malezi Bora* to enable the CHVs and health care workers have ample time to comprehensively marshal the community; (ix) Undertake Post-Event Coverage (PEC) survey immediately after May and October *Malezi Bora* events within an acceptable recall period (x) Validate targets to address inaccuracies in administrative coverage based on routine HMIS data; and (xi) Undertake regular data review forums and use them to build knowledge on the most effective platforms to reach all children 6-59 months.

**Recommendations to HKI and other Implementing partners:** (i) Lobby for allocation of resources from county government to support VAS and deworming interventions in the county; (ii) Ensure clear exit and sustainability strategy at design and throughout implementation of future programmes (iii) document and disseminate the lessons learnt and best practices especially regarding VAS+D integration and delivery through multiple channels.

**Recommendations to effect:hope and Other Donors:** (i) Provide funding for Phase II of the ECT project. This will enable the project to achieve stronger impact in the intervention areas; (ii) Fund matching with the county government of Siaya, Kwale and Kilifi to ensure commitment and sustainability of the project interventions.

# 1 INTRODUCTION AND BACKGROUND

## 1.1 Introduction

Vitamin A Deficiency (VAD) and Soil-Transmitted Helminths (STH) infestation are key contributors to illnesses and deaths among children below five years. Yet both are easily preventable and treatable. The World Health Organization (WHO) recommends twice-yearly vitamin A supplementation (VAS) in areas where VAD is a public health concern to reduce all-cause mortality in children aged 6–59 months. Similarly, in areas where STH burden is major, the WHO recommends biannual deworming for all children aged 1-12 years of age (in some settings up to 14 years of age).

In Kenya, both VAD and STH are significant public health problems that contribute to child morbidity and mortality. The government is addressing these problems by implementing policy and programmatic interventions delivered jointly with partners. The Ministry of Health has a Policy Guideline for Preventive Vitamin A Supplementation for Children 6-59 months that outlines a number of delivery approaches, namely: routine contact points at health facility, integration into campaigns and *Malezi Bora*, Community Health Unit (CHU), outreaches and Early Childhood Development Education (ECDE) centres<sup>1</sup>. For STH, the second Kenya National Strategic Plan for Control of Neglected Tropical Diseases (2016-2020) sets out the priority actions to address STH, including Mass Drug Administration (MDA) as part of a PHASE strategy<sup>2</sup>.

The Ministry of Health and other stakeholders recognize that the routine delivery of VAS and deworming through static health facilities alone cannot equitably meet the needs of all citizens. Hence, there is need to diversify delivery channels and integrate multiple services into a package delivered together. *Malezi Bora* (Good Nurturing) is a Ministry of Health' maternal and child health scale-up platform modeled on the Child Health Days (CHD) strategy. The Ministry allocates two-week periods twice a year (in May and October) to draw attention and efforts towards delivery of integrated services targeting children, expectant women, and lactating mothers. During *Malezi Bora* weeks, the government and partners intensify service delivery through health facilities and outreaches, coupled with social mobilization to enhance uptake.

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<sup>1</sup> Ministry of Health (2014), Vitamin A Supplementation Multiyear Plan 2013-2017

<sup>2</sup> Ministry of Health (2011), National Multi-Year Strategic Plan of Action for Control of Neglected Tropical Diseases.

## 1.2 Project Overview

Since October 2016, the Every Child Thrives (ECT) project funded by the government of Canada and effect:hope and implemented by MAP International and later Helen Keller International, supported delivery of gender sensitive VAS and deworming (VAS+D) in three counties: Kilifi, Kwale and Siaya. The program focused on supporting the County Health Management Teams (CHMT) to plan, implement and monitor routine delivery of VAS and deworming and *Malezi Bora* events. The project also entailed support towards mainstreaming gender equality.

The ECT project was designed to achieve two main outcomes, namely:

- (i) Improved responsive delivery of essential health services for mothers, pregnant women, newborns as well as girls and boys under-5 years in target communities,
- (ii) Increased uptake and utilization of combined deworming and Vitamin A supplementation services for girls and boys under 5 years by mothers and their male partners in targeted communities.

The expected project outputs were:

- (i) Increased capacity of health system to deliver responsive combined deworming and Vitamin A programmes in the target communities
- (ii) Increased provision of preventative deworming treatments and Vitamin A supplements to girls and boys under 5 years, in target communities
- (iii) Increased knowledge and community support for deworming, Vitamin A supplementation
- (iv) Increased project capacity to deliver responsive programming that effectively addresses gender equality and inclusion barriers to accessing combined de-worming and Vitamin A supplementation programming in target communities.

## 1.3 Objectives of the Evaluation

The overall objective of the study was to determine the extent to which the ECT project achieved its intended results by comparing pre- and post-intervention status of key project performance indicators.

The specific objectives were:

1. Assess the changes in knowledge, attitudes and practices regarding Vitamin A supplementation and deworming among mothers and caregivers of children aged below five years in the project target areas, over the period of project implementation (by undertaking comparison between the current status and the situation at baseline)

2. Assess the change in capacity of S/CHMT, health workers and CHWs to implement an integrated vitamin A supplementation and deworming interventions targeting children under five years in the project areas, over the period of project implementation (by undertaking comparison between the current status and the situation at baseline)
3. To determine the proportion of children aged 6-59 months in target areas who received 2 doses of vitamin A during the previous 12 months (disaggregated by gender and disability) and compare the coverage with the status at baseline.
4. To determine the proportion of children aged 12-59 months in target areas who received the recommended doses of Albendazole during the previous 12 months (disaggregated by gender and disability) and compare the coverage with the status at baseline.
5. To document the current situation in regard to gender and disability inclusion in relation to access and utilization of Vitamin A supplementation and deworming services in the three counties and compare with the situation prior to project intervention.
6. To explore the factors that explain changes in VAS and deworming coverage and estimate the extent of project contribution to these changes.

## 2 METHODOLOGY

### 2.1 Study Setting

The study was conducted in the same sub-counties that were surveyed at baseline: Alego Sub-county in Siaya County, Kaloleni Sub-county in Kilifi County and Kinango Sub-county in Kwale County.

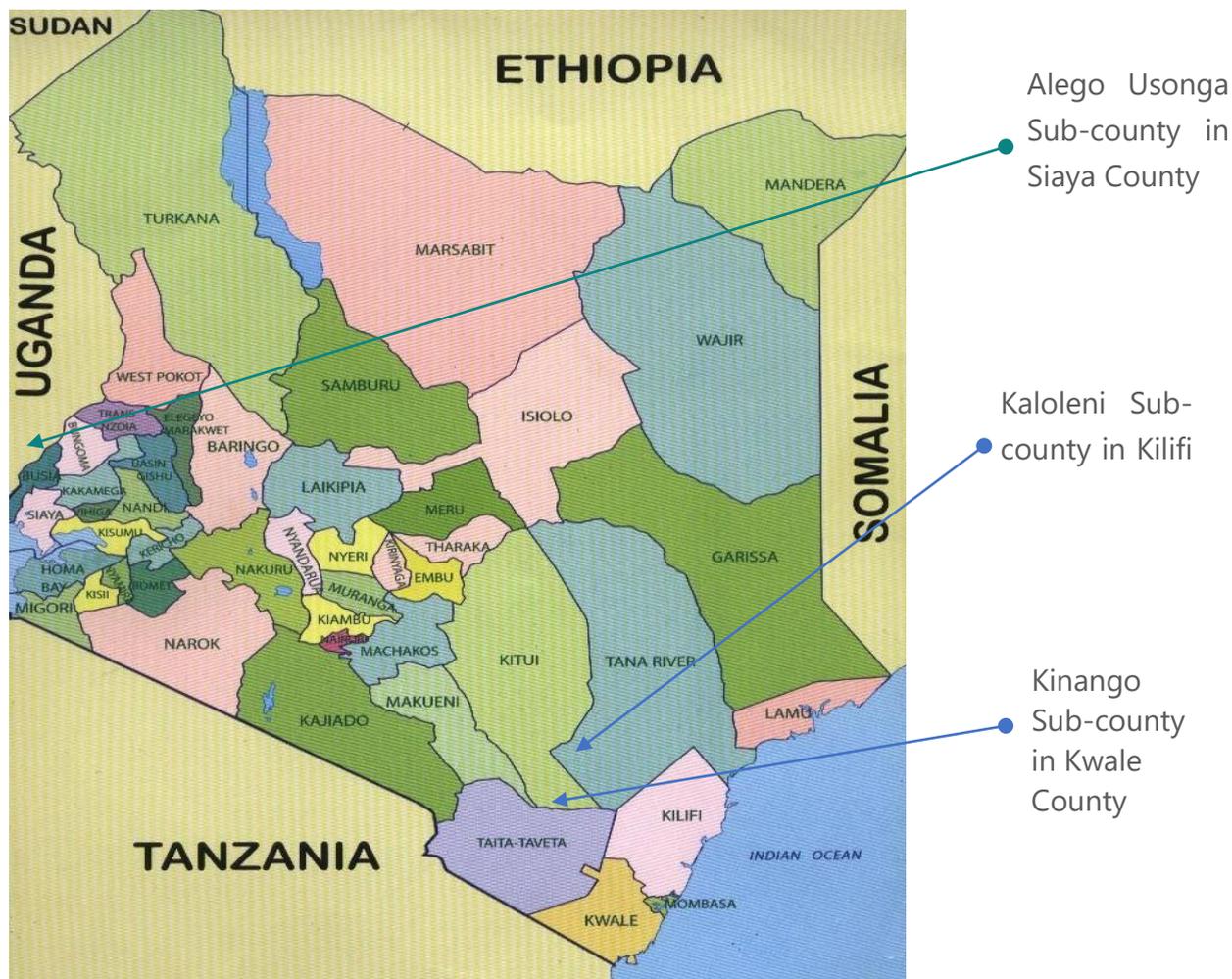


Figure 1: Map showing the location of the surveyed sub-counties

### 2.2 Evaluation Design

The study adopted a cross-sectional design utilizing a mix of quantitative and qualitative methods to measure variables related to the project's key performance indicators. A similar cross-sectional study was conducted at baseline measuring the same indicators, thus enabling a pre-post comparison.

## 2.3 Evaluation Questions

The study focused on answering three primary questions and a number of secondary exploratory questions, listed below:

### *Primary research questions*

- What is the coverage of VAS among children aged 6–59 months? (Disaggregated by 6-11 months and 12-59 months age cohorts, sex and disability)
- What is the coverage of deworming among children aged 12–59 months? (Disaggregated by sex and disability)
- How do the current coverages of VAS and deworming compare with status at baseline in each of the three counties?

### *Secondary research questions*

- What is the knowledge, attitudes and practices regarding vitamin A and deworming among mothers and caregivers of children aged below five years in the project target areas?
- What are the predominant channels through which children received vitamin A and deworming?
- What is the current capacity of S/CHMT, health workers and CHW to implement integrated vitamin A supplementation and deworming interventions targeting children under five years?
- How does the current 2-dose coverage of vitamin A and deworming among children aged 6-59 months differ from baseline status in the target areas?
- What factors explain the change in coverage from baseline status?
- To what extent were gender equality and social inclusion mainstreamed in delivery of project-supported VAS and deworming interventions?

## 2.4 Data Collection Methods

A combination of qualitative and quantitative data collection methods was applied in carrying out the evaluation. The specific methods are briefly outlined below:

- 1 *Desk review* of secondary data sources included in the project documents, key national and county government documents including relevant policies and plans, and data extracted from the health management information system.
- 2 *Household survey* targeting women of reproductive age with children aged 6-59 months.
- 3 *CHV survey* targeting community health workers who were involved in the delivery of VAS and deworming activities.

- 4 Key informant interviews (KIIs) with stakeholders including health service providers, CHMT, SCHMTs, CHEWs/CHA, ECDE coordinators, ECDE teachers, Helen Keller International staff and representatives of other CSOs.
- 5 Focus group discussions (FGDs) with CHVs, mothers/ caregivers of children under five years and men. Each FGD session had 8-12 participants

## 2.5 Inclusion and exclusion criteria

Table below summarizes the inclusion/exclusion criteria for each participant category.

**Table 1: Inclusion/exclusion criteria for each participant category**

Study population	Inclusion/Exclusion criteria
Children 6-59 months	Must be aged between 6 – 59 months. In a household where more than one child fell within this age bracket, the survey focused on the youngest one defined as the index child.
Mothers and caregivers of children aged 6-59 months	Within the reproductive age (15-49 years) Must have lived in the study area for more than 6 months
CHVs	Must have lived in the study area for over 6 months CHVs who have not been active for the last 6 months will be excluded
Health managers and health care providers	Must have worked in the health facility within the study area for over 6 months
ECDE coordinators and teachers	Must have worked in the project area as ECDE coordinator or teacher for a period exceeding 6 months

## 2.6 Sampling Procedures

### 2.6.1 Sample size determination for household survey

For the purpose of sampling, the three counties were treated separately i.e. a sample was drawn for each county separately. The Cochran formula (below) was used to calculate the sample size and considered four main parameters:

- *Desired level of precision:* this was the margin of error indicating the range in which the true value of the population was estimated to be for vitamin A and deworming coverage among children aged 6-59 months. For this survey, a precision range of  $\pm 5\%$  was used.
- *Confidence interval:* this was the level of confidence that the true population value for Vitamin A and deworming fell within the range of precision. In this survey, 95% confidence interval was used.

- *Estimated proportion:* This was the best estimate of the value of the proportion of the under five-year-old children reached with vitamin A supplementation<sup>3</sup>. To estimate the proportion, this study used the county figures reported in 2014 KDHS for percentages of children 6-59 months who were given vitamin A supplements in the six months preceding the survey.

$$n_1 = \frac{Z^2 pq}{e^2}$$

Where:

$n_1$  = sample size

$Z$  = standard normal deviate corresponding to 95% confidence interval ( $Z$  value = 1.96)

$p$  = is the (estimated) proportion of the under five-year-old children reached with vitamin A supplementation (estimated as the average of 75% in the three counties based on 2014 KDHS).

$q$  =  $1-p$

$e$  = precision level (i.e. the margin of error) desired for the survey (taken as  $\pm 5\%$  i.e. 0.05)

Cluster random sampling design is known to cause a net loss in precision due to similarities amongst study participants within a cluster. In order to correct this loss of precision, the sample size ( $n_1$ ) was inflated by multiplying it with a constant (*deff*) as shown in the formula below. In this survey, a *deff* of 1.5 (based on value used in previous similar surveys) was applied thus yielding an adjusted sample size ( $n_2$ ).

$$n_2 = deff \times n_1$$

Finally, the sample size was adjusted to account for expected participant non-response. A 95% response rate ( $r$ ) was expected, thus the final sample size ( $n$ ) was calculated using the formula:

$$n = \frac{n_2}{r}$$

Using the above procedure, the sample size came to **454 households** per county, and a total of **1362 households** in the three counties.

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<sup>3</sup> VAS coverage data was used to estimate proportion as it gave a higher sample size than deworming coverage

### 2.6.2 Sampling procedure

A two-stage cluster random sampling procedure was used. All the wards in the sub-county were included and form the sampling frame. Villages that constitute a ward were treated as the clusters and were the primary sampling unit (PSU). Randomly selected households were the secondary sampling unit (SSU) from where respondents were drawn. The two stages of sampling were implemented as follows:

*Random selection of clusters (Stage 1):* A total of 20 clusters were used in each sub-county for ease of logical planning. A listing of all the villages in a ward was listed and a random sample of the villages (clusters) selected. In order to ensure that villages (and the households in them) had equal chance to be sampled, a probability proportionate to size (PPS) method was used, based on the ward population. Using this method, the number of clusters sampled in each ward is as shown in Table 2 below. Where the number of clusters exceeded the available number of villages in a ward, bigger villages were segmented, and the corresponding number of households shared between the segments. Similarly, where it was impossible to get 23 households in a cluster, the cluster was combined with another.

*Random selection of households (Stage 2):* In each cluster an equal number of households was drawn (23 households to give the sample size of 454). A team of two enumerators visited a village (cluster) and with the help of a community guide identified the center of the village and outer boundaries. From the center of the village the two enumerators randomly picked two directly opposite directions. Each enumerator then counted the number of households in their selected direction, starting from the nearest to the edge of the village. He/she then randomly chose the index household (starting point).

An Eligible respondent was then sought from this household. If the household had no eligible respondent, the next nearest household was visited. Subsequent eligible respondents were sought from households closest to the index household, with the process continuing until the allocated sample size was attained. The number of households to be visited by each enumerator was determined by dividing the cluster sample size by two. In the event an enumerator reached the edge of a village before attaining their allocated number of households, they took 90 degrees right turn and continued until the sample size was attained. In the case of multiple eligible respondents in a single household, the one to be interviewed was selected through simple random sampling (e.g. by picking yes/no on folded papers or tossing a coin etc.).

In a household where more than one child fell within 6-59 months age bracket, the survey focused on the youngest one defined as the index child. A household was defined as a group of people living together, even if not relatives of each other, who shared food from the same pot and were answerable to the same household head.

## 2.6.3 Final sample size distribution

Table 2: Sample size distribution

County	Sub-county	Ward	No clusters of	Sampled households
Kilifi	Kaloleni	Mariakani	6	136
		Kayafungo	5	114
		Kaloleni	6	136
		Mwanamwinga	3	68
		Total	20	454
Kwale	Kinango	Ndavaya	3	68
		Puma	2	46
		Mackinon Road	3	68
		Chengoni Samburu /	3	68
		Mwavumbo	3	68
		Kasemeni	3	68
		Kinango	3	68
		Total	20	454
Siaya	Alego Usonga	Siaya Township	3	68
		Usonga	2	46
		North Alego	2	45
		South East Alego	6	136
		Central Alego	3	68
		West Alego	4	91
		Total	20	454

### 2.6.4 Sampling community health volunteers

A two-step process was used to select CHVs for interview. First, a list of existing community units (CU) in each ward was drawn. Fifty percent (50%) of the CUs were then randomly selected. In each of the selected CU, a list of all CHVs was made, and 50% of CHV systematically selected for interview from the list made.

### 2.6.5 Sampling for qualitative methods

For qualitative methods, the survey used purposive sampling technique to select the most appropriate respondents to be interviewed. The main inclusion criterion was respondent's involvement in Vitamin A and deworming interventions and therefore most likely to have the most useful and relevant information. Both men and women were included in FGDs and key informant interviews. In addition, participants included persons with disability.

**Table 3: Respondent category for qualitative interviews**

Method	Respondent category	Kilifi	Kwale	Siaya	
	FGD participants	Number of FGD sessions			
Focus group discussions	Mothers and caregivers of children aged 6-59 months	4	4	4	
	CHVs	4	4	4	
Key informant interviews	Key informants	Number of respondents			
	CHMT	4	4	4	
	SCHMT	2	2	2	
	Health facility staff	10	10	10	
	Community Health Assistants	4	7	6	
	Sub-county ECDE coordinators	1	1	1	
	ECDE teachers	10	10	10	
	Project staff	1	1	1	

## 2.7 Data Management and Analysis

Data processing varied according to the type of data collection instrument administered. For the household questionnaires where Open Data Kit (ODK) was used, the investigators uploaded completed instruments to the server at the end of each working day and undertook preliminary quality checks. At the end of the survey, the quantitative data was exported from ODK to SPSS for cleaning and analysis. Data cleaning entailed checking for consistency, extreme values and missing information. Once cleaned, the quantitative dataset was analyzed using SPSS. As a first step, the analysis focused on descriptive statistics including frequency tables and cross-tabulations of the variables of interest. Next, more elaborate analysis was conducted including correlations and statistical tests of significance. The Chi-square test was used for categorical variables, while the t-test was used for continuous variables. For tests of statistical significance, a p-value of <0.05 was taken as significant. Data from FGDs and KIIs was transcribed into raw interview scripts. Analysis entailed creating a codebook, coding and sorting the information into themes through a deductive approach utilizing NVIVO v12 software.

## 2.8 Ethical Considerations

Administrative clearance was sought from the three County Governments and approval letters secured. Ethical approval was obtained from the AMREF Ethical and Scientific Review Committee (ESRC). In addition, all the investigators undertook an online course on protection of human subjects in research. The following ethical considerations were adhered to throughout the process of this study:

- Privacy and Confidentiality: Respondents for the quantitative methods were not required to provide their names. Scripts from the FGDs and key informant interviews were anonymized, and information was not identified with any of the respondents during data analysis. The report generated from the study did not contain any respondent's names or identifying information. The investigators ensured information gathered was for the purposes of the exercise and only authorized personnel had access to the data. The research team was trained on confidentiality and privacy.
- Informed consent: All respondents were required to provide consent to participate in the study. A standardized informed consent form was used whereby respondents that obliged after being informed were asked to sign or apply their thumbprint. A copy of the signed/ thumb printed consent form was retained by the respondent.
- Sensitivity to socio-cultural diversity: The research team remained sensitive to respondent's culture, customs, religious beliefs and practices and was mindful of gender roles, ethnicity, language and other diversities when carrying out the exercise.

*Risks and benefits:* The risks associated with participation in the study were considered as minimal. There were no direct benefits that study participants accrued for their participation. Indirect benefits included the potential that participants and their communities would receive better services resulting from implementation of the study recommendations.

## **2.9 Study Limitations**

Despite this being an external evaluation, the tendency for respondents to paint a positive picture so as to maintain a good relationship with project implementers (Acquiescence bias) cannot be ruled out. Similarly, social desirability bias whereby respondents could have over-reported the "good" or under-reported the "bad" (more so on behavioral variables) is likely. Moreover, given that some survey questions required respondents to recall events that happened up to a year ago, recall bias could have been inadvertently introduced. In order to reduce these biases, the respondents were assured of confidentiality and data from multiple sources were triangulated.

Another limitation was that the quality of baseline data was questionable for some project indicators hence undermining comparative analysis. Additionally, for some indicators the metrics used at baseline and endline were dissimilar thus making direct comparison unviable.

### 3 FINDINGS AND DISCUSSIONS

This chapter presents the key survey findings and interpretation in relation to the evaluation objectives and questions. Analysis has been done to provide the end line status against the project performance indicators outlined in the project monitoring framework (PMF). The chapter is organized into 5 sections: (i) Demographic characteristics of respondents and households, (ii) Uptake of VAS and deworming, (iii) VAS and deworming delivery by channels, (iv) Knowledge, attitudes and practices that influence uptake of VAS and deworming, (v) Capacity of the county health system to deliver responsive VAS and deworming services. A summary of achievements against PMF indicators is provided in Annex 1.

#### 3.1 Demographic Characteristics

Of the targeted 1,362 households, a total of 1,321 (444 in Kaloleni, 438 in Kinango and 439 in Alego Usonga) participated in the household survey translating to a 97% response rate, as summarized in Table 4 below.

**Table 4: Response rate**

Sub County (County)	Number of households (Target: 454)	Response Rate
Kaloleni (Kilifi)	444	98%
Kinango (Kwale)	438	96%
Alego Usonga (Siaya)	439	97%
Total	1321	97%

The demographic characteristics of the respondents and children surveyed are listed in Table 5. The majority (92%) of the respondents were the selected child's mother, with a mean age of 30 years and mostly (86%) residing in rural areas. Most of the respondents had primary level education (60%), while those with no education accounted for 21% and those with tertiary education were only 3%. On marital status, most (87%) were married and living with their spouses. Majority of the respondents were Christians (72%) with about a quarter (24%) others being Muslims. In Kinango sub-county, the respondents were majorly Muslims as compared to Alego Usonga and Kaloleni where Christianity was the predominant religion. Regarding economic activities, about half (53%) of the respondents did not have a regular source of income while the rest engaged in trading (22%), farming (12%), and formal and informal employment (12%).

**Table 5: Mothers/ caregivers demographic characteristics**

Demographic characteristic		Number (n)	Percent
Highest level of educational attainment	No school	271	20.5%
	Primary	795	60.2%
	Secondary	209	15.8%
	Tertiary	45	3.4%
	Other	1	0.1%
Marital status	Single	71	5.4%
	Married (Monogamous)	1066	80.7%
	Married (Polygamous)	83	6.3%
	Widowed	51	3.9%
	Divorced / Separated	50	3.8%
Religion	Christian (Catholic)	231	17.5%
	Christian (Protestant)	720	54.5%
	Muslim	314	23.8%
	Other	56	4.2%
Age	Below 18 years	12	0.9%
	18-24 years	384	29.2%
	25-35 years	671	51.0%
	36-49 years	225	17.1%
	Over 49 years	23	1.7%
Respondent's main source of regular income	Formal employment	35	2.6%
	Informal/ casual employment	117	8.9%
	Crop farming	150	11.4%
	Livestock keeping	6	0.5%
	Business/trading	286	21.7%
	No regular income	692	52.8%
	Other	34	2.6%

The characteristics of the 1,321 surveyed children (index child) closely mirrored what was documented in the baseline survey. A majority (86%) of the children were within the 12-59 months age cohort while 14% were aged 6-11 months. The mean age of the index

child was 28 months. About half of the surveyed children were of either gender (51% boys, 49% girls). This distribution was generally similar across all the three sub-counties as summarized in Table 6 below. A total of 18 children were disabled (9 in Kinango, 6 in Alego Usonga and 3 in Kaloleni).

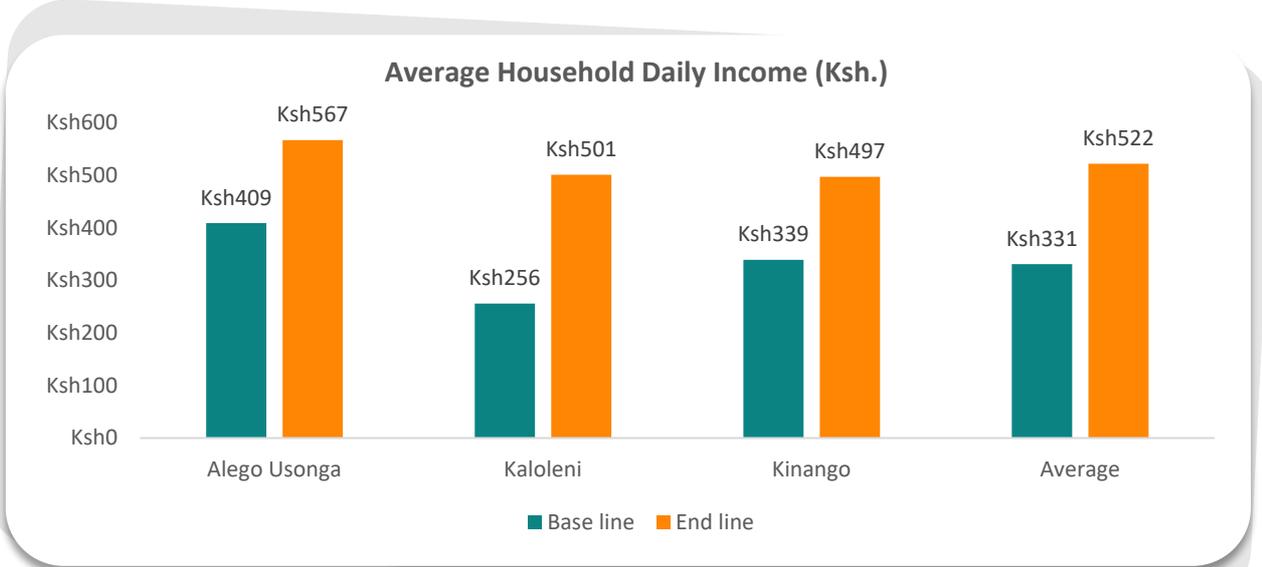
**Table 6: Distribution of index child by age and gender**

Sub County Name	Age Cohort	Sex of child		Total
		Boys	Girls	
Alego Usonga	6 - 11 months	29 (41.4%)	41 (58.6%)	70 (100%)
	12 - 59 months	193 (52.3%)	176 (47.7%)	369 (100%)
	Total	222 (50.6%)	217 (49.4%)	439 (100%)
Kaloleni	6 - 11 months	29 (49.2%)	30 (50.8%)	59 (100%)
	12 - 59 months	194 (50.5%)	190 (49.5%)	384(100%)
	Total	223 (50.3%)	220 (49.7%)	443 (100%)
Kinango	6 - 11 months	27 (54%)	23 (46%)	50 (100%)
	12 - 59 months	202 (51.9%)	187 (48.1%)	389 (100%)
	Total	229 (52.2%)	210 (47.8%)	439 (100%)
All three sub-counties	6 - 11 months	85 (47.5%)	94 (52.5%)	179 (100%)
	12 - 59 months	589 (51.6%)	553 (48.4%)	1142 (100%)
	Total	674 (51%)	647 (49%)	1321 (100%)

Regarding household characteristics, the survey findings indicate an average household size of six people and typically this included one to two children aged below five years.

The average household daily income was Ksh 522, which ranged from Ksh 497 in Kinango, Ksh 501 in

Kaloleni and Ksh 567 in Alego Usonga. While the average household daily income has increased in all the three survey sites since baseline, Kinango shows a relatively bigger change; but generally, the disparity across the counties has remained, this is shown in figure 2 below.



**Figure 2: Average household daily income**

Regarding geographical access to health facilities, the average distance from household to the nearest health facility was approximately 3 kilometers (2 KM in Alego Usonga, 3 KM in Kinango and 5 KM in Kaloleni). The main means of travel to the health facility was walking for 72% of the respondents, followed by motorcycle that accounted for 23%.

Demographic characteristics for other survey respondents were as follows: Among the 37 health care workers interviewed, 67% were male and 33% female with a majority being nurses (38%), community health assistants (38%) and nutritionists (19%). The healthcare workers tended to be young with about 70% aged 35 years and below. Among the 29 ECD teachers who participated in the survey, the majority (86%) were female and most were aged 36 years and above. As for CHVs, a total of 99 were interviewed a majority (77%) of who were female. The highest level of education attained by a majority (64%) of the CHVs was primary school, a notable finding that stresses the need to appropriately tailor capacity building support for CHVs. Another characteristic of CHVs was that they tended to be mature in age with 24% being 25-35 years of age, 46% aged 36-49 years, and 26% aged above 49 years as illustrated in Figure 3 below.

### Demographic Characteristics of Community Health Volunteers

N= 99

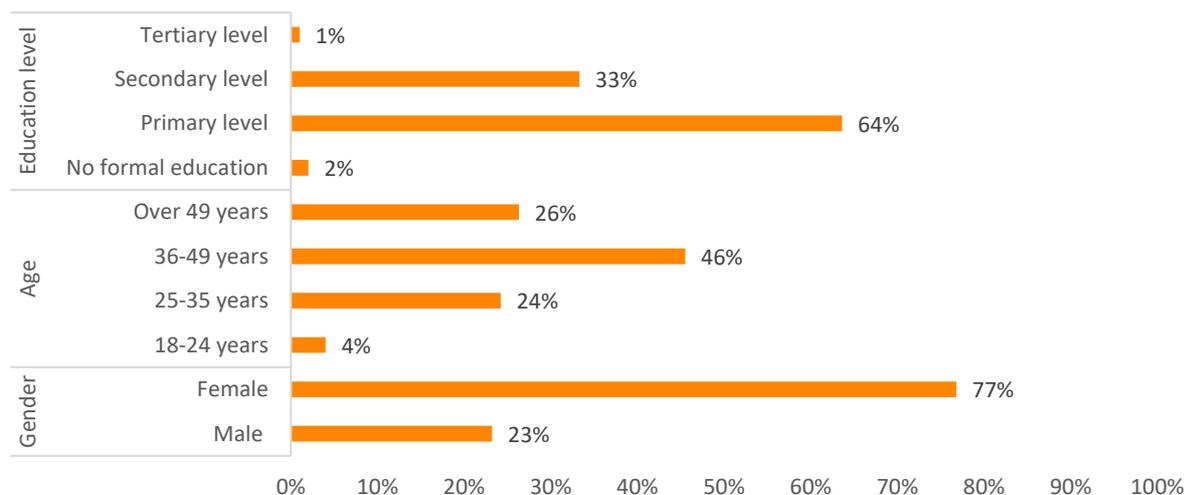


Figure 3: Demographic characteristic of CHVs

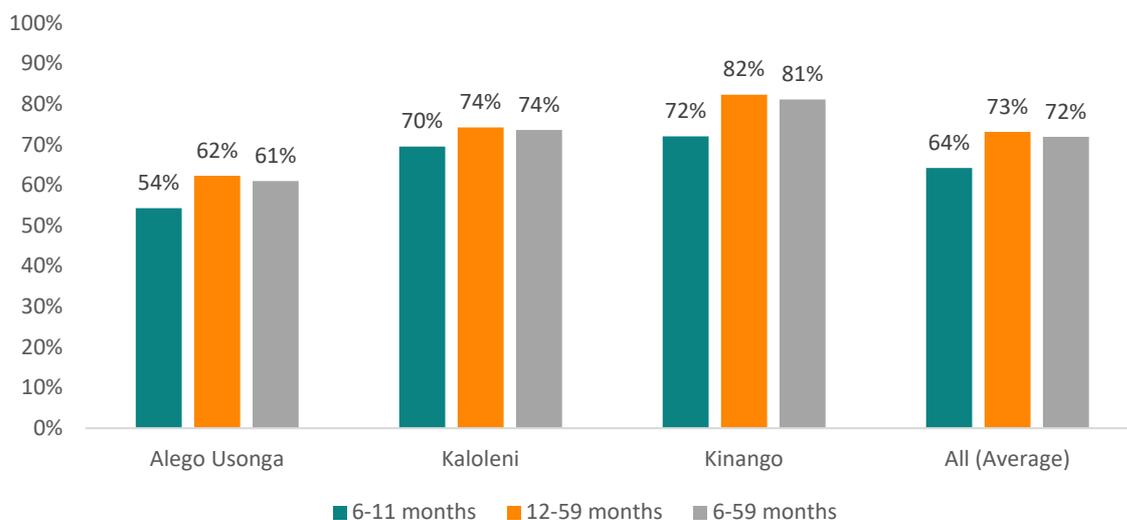
## 3.2 Uptake of Vitamin A Supplementation and Deworming

This section presents the uptake of Vitamin A supplementation among children aged 6-59 months and deworming among children aged 12-59 months, with a focus on the most recent *Malezi Bora* that had taken place in October 2019 (slightly over a month prior to the survey). In addition to the uptake during the recent *Malezi Bora*, survey respondents were asked about other doses received over the previous period of 12 months.

### 3.2.1 Uptake of VAS in the Recent Malezi Bora

Mothers and caregivers were asked whether the index child had received a VAS capsule during the most recent *Malezi Bora*. They were shown Vitamin A capsules to aid their recall. As illustrated in Figure 4, overall, across the three sub-counties, 71.9% (95% CI: 69.4% - 74.2%) of children 6-59 months received VAS against a target of 80%. When disaggregated by age cohort, 64.2% (CI: 56.9% to 71.1%) and 73.1% (CI: 70.4% - 75.8%) of children aged 6-11 months and 12-59 months respectively were reached with VAS. Among the three sub-counties, Kinango had the highest uptake followed by Kaloleni and lastly Alego Usonga. The differences in performance across the three sub-counties could be attributed to factors such as socio-cultural characteristics of the local communities and supply-side issues such as the emphasis that each of the sub counties had put on VAS and deworming.

**Proportion of surveyed children who received Vitamin A supplementation during most recent *Malezi Bora*, disaggregated by age cohort and sub-county**



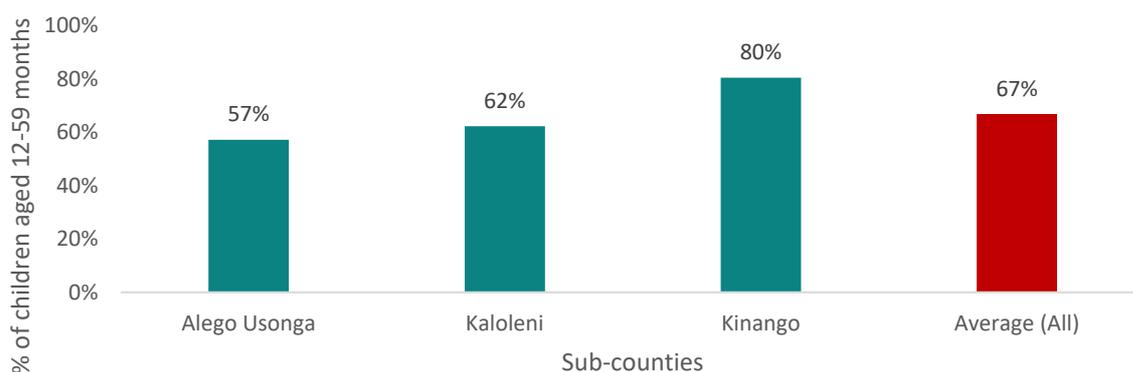
**Figure 4: Proportion of children who received VAS during recent *Malezi Bora***

### 3.2.2 Uptake of VAS Prior to Recent *Malezi Bora* (last 12 months)

Respondents were asked whether the index child had received a Vitamin A capsule any other time in the last 12 months, excluding the most recent *Malezi Bora* event (conducted in October 2019). The response to this question provides an estimate of uptake in the first semester of 2019, albeit with a caveat that respondent recall bias could have affected the accuracy of the data. Additionally, there was a likelihood that some of the doses of VAS received any other time (apart from recent *Malezi Bora*) could have been given in the earlier months of semester 2 of 2019. For these reasons, caution should be exercised in interpreting VAS coverage (both one and two-dose coverage) from this survey data.

As illustrated in Figure 5, overall, across the three sub-counties, 67% (CI: 64% – 70%) of children 12-59 months received VAS any other time excluding the most recent *Malezi Bora*. When disaggregated by sub-county, the proportion was 57%, 62% and 80% for Alego Usonga, Kaloleni and Kinango respectively.

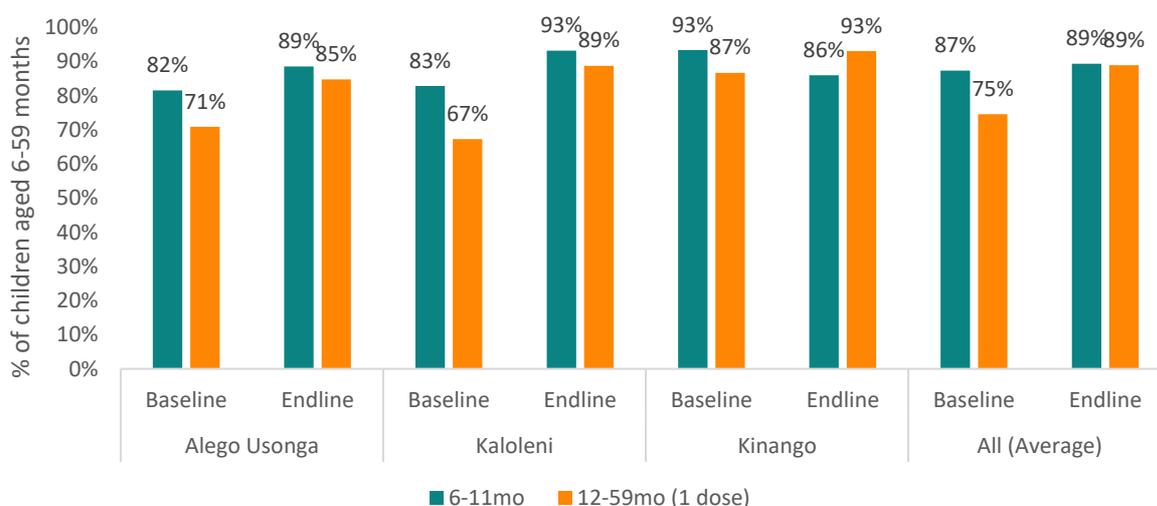
**Proportion of surveyed children aged 12-59 months who received VAS any other time in the last 12 months, excluding the recent Malezi Bora**



**Figure 5: Proportion of children aged 12-59 months who received VAS any other time in the last 12 months, excluding the most recent Malezi Bora**

When compared with baseline, the uptake of VAS has improved during both routinely and during *Malezi Bora* acceleration events, with notable variations across the three sub-counties, as illustrated in Figure 6 below. In Alego Usonga, the proportion of 6-11 months children who had received a dose of VAS increased from 82% to 89%, while among those aged 12-59 months the proportion that received one dose of VAS increased from 71% to 85%. In Kaloleni, the proportion of 6-11 months children who had received a dose of VAS increased from 83% to 93%, while among those aged 12-59 months the proportion that received one dose of VAS increased from 67% to 89%. In Kinango, the proportion of 6-11 months children who had received a dose of VAS decreased from 93% to 87%, while among those aged 12-59 months the proportion that received one dose of VAS increased from 87% to 93%. In Kinango, the proportion of 6-11 months children who had received a dose of VAS decreased from 93% to 86%, while among those aged 12-59 months the proportion that received one dose of VAS increased from 87% to 93%.

**Comparison of VAS uptake between baseline and endline by age cohort**



**Figure 6: Comparison of VAS uptake between baseline and endline by age cohort in the past 12 months**

The Chi-square test shows no statistically significant association between the gender of the index child and whether they received VAS or not during the most recent *Malezi Bora* ( $\chi^2(1, N = 1321) = 2.422, p = .120$ )

### 3.2.3 Estimation of Two-Dose VAS Coverage

In order to estimate the two-dose VAS coverage, the survey respondents were asked how many times in the past 12 months the child had received VAS. The estimate was compared with baseline figures. In all the three sub-counties, the proportion of children aged 12-59 months who received the recommended two doses of VAS increased significantly from the status at baseline. As shown in Figure 7 below, the increase in Alego Usonga was from 27% at baseline to 62% at end line, in Kaloleni from 26% to 74% and in Kinango from 23% to 82%. An important caveat regarding this finding is the risk of recall bias and also the fact that the measurements used at baseline and end line were somewhat dissimilar.

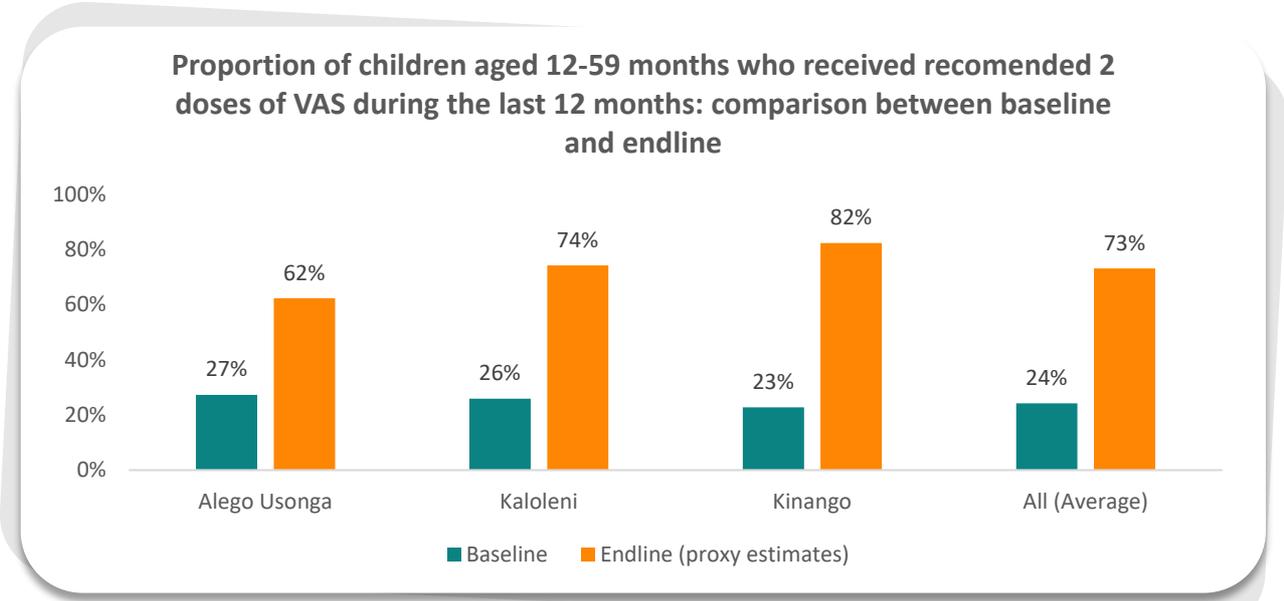


Figure 7: Proportion of children 12-59 months who received 2 VAS doses during the last 12 months

### 3.2.4 VAS Coverage Based on Administrative Data

Triangulation between survey and administrative data revealed a remarkable disparity in the VAS coverage derived from the two datasets. This was not surprising given quality limitations in the administrative data as well as differences in the method of measurement used by the survey as compared to HMIS data. Granted, the 2019 VAS coverage based on administrative data is presented in Figures 8-10 below for information purposes. Notable across all the counties are the high VAS coverage figures, in some cases exceeding the universal coverage mark (100%). The explanation advanced by key informants included: (i) that children often accessed services across geographical and administrative borders, (ii) that target numbers (denominators) of children was inaccurate, and (iii) in some few cases VAS was erroneously given to children whose age was above 5 years.

2019 VAS Coverage based on administrative data, Kaloleni Sub-county

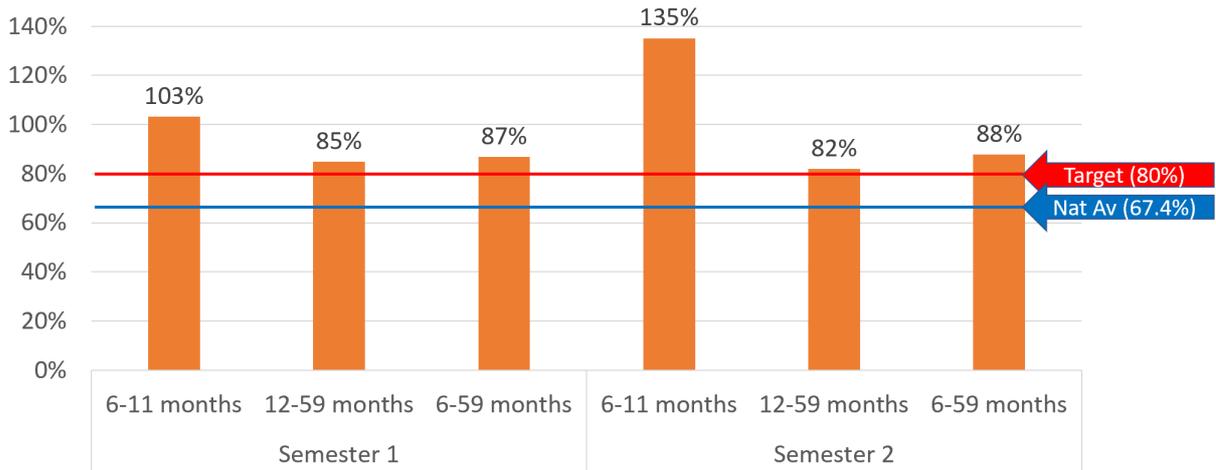


Figure 8: 2019 VAS Coverage for Kaloleni Subcounty based on Administrative Data

2019 VAS Coverage based on administrative data, Kinango Sub-county

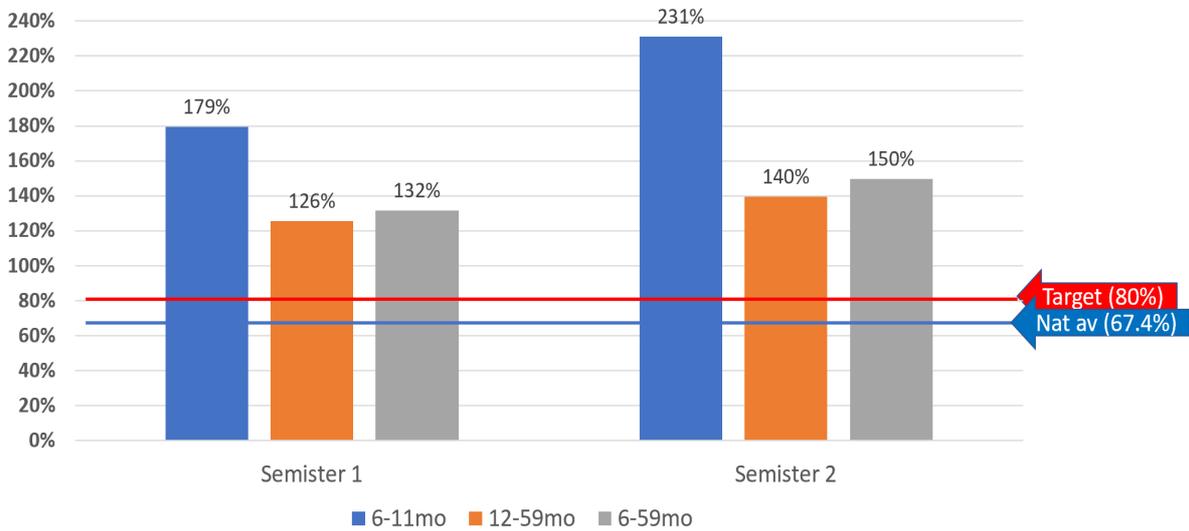


Figure 9: 2019 VAS Coverage for Kinango Subcounty based on Administrative Data

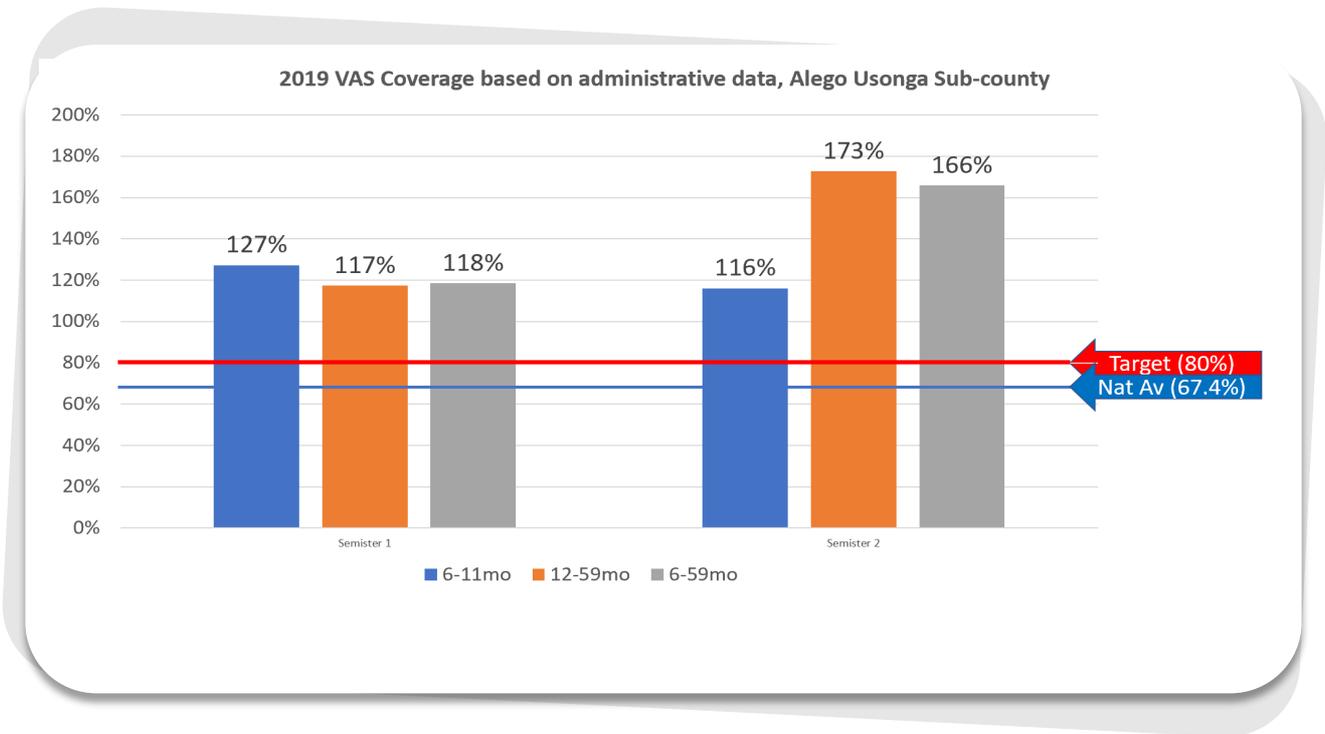


Figure 10: 2019 VAS Coverage for Alego Usonga Subcounty based on Administrative Data

### 3.2.5 Uptake of Deworming Among Children aged 12-59 Months

Respondents were asked whether the index child (those aged 12-59 months) had received deworming tablet during the most recent *Malezi Bora* event in October 2019. A sample of the albendazole tablet was shown to the respondent to aid recall and where mother and child booklet was available, the information was verified. As illustrated in Figure 11, cumulatively across the three sub-counties, 69% (95% CI: 66% - 71%) of the respondents answered in the affirmative (i.e. child had received deworming). Kinango recorded the highest uptake of deworming services at 85% thus surpassing the target (80%), followed by Kaloleni (67%) and Alego Usonga (53%).

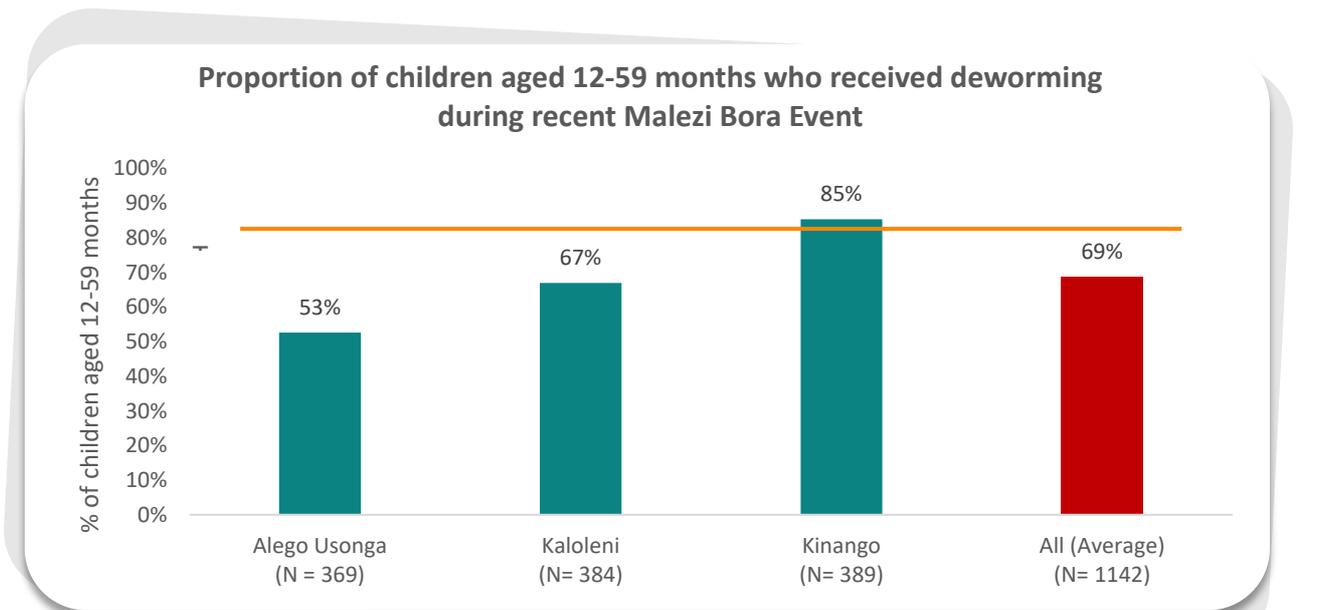
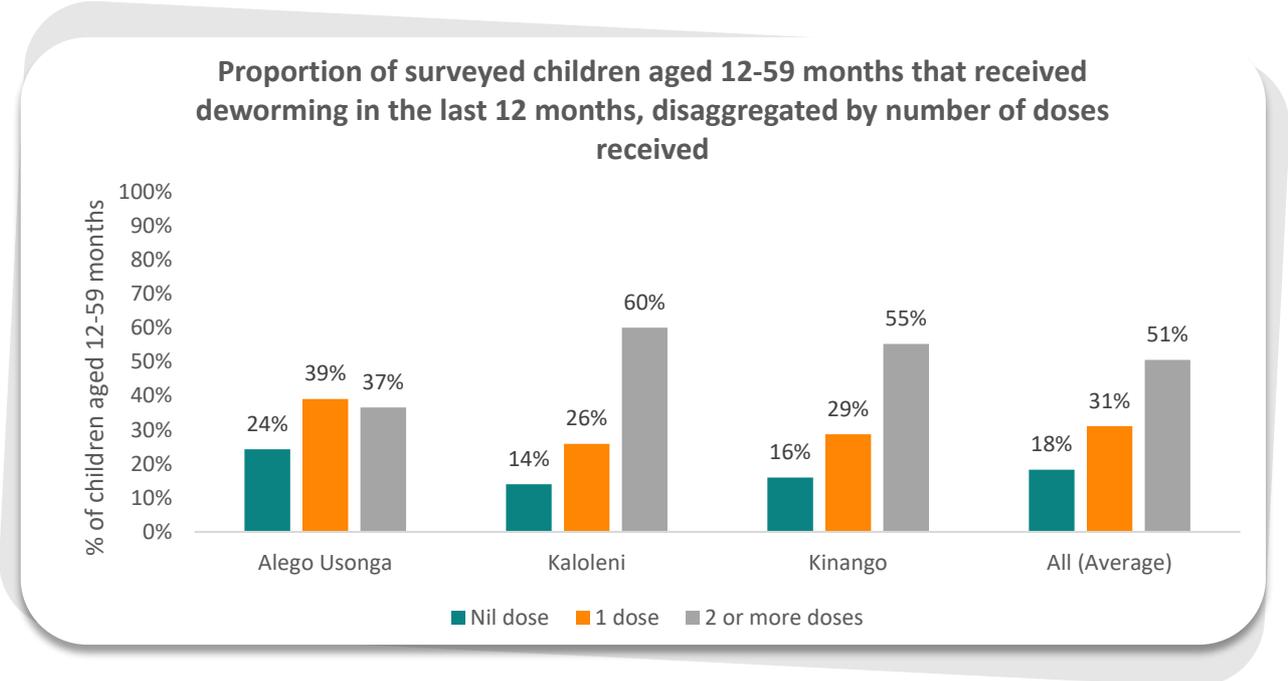


Figure 11: Uptake of deworming among children aged 12-59 months during recent *Malezi Bora*

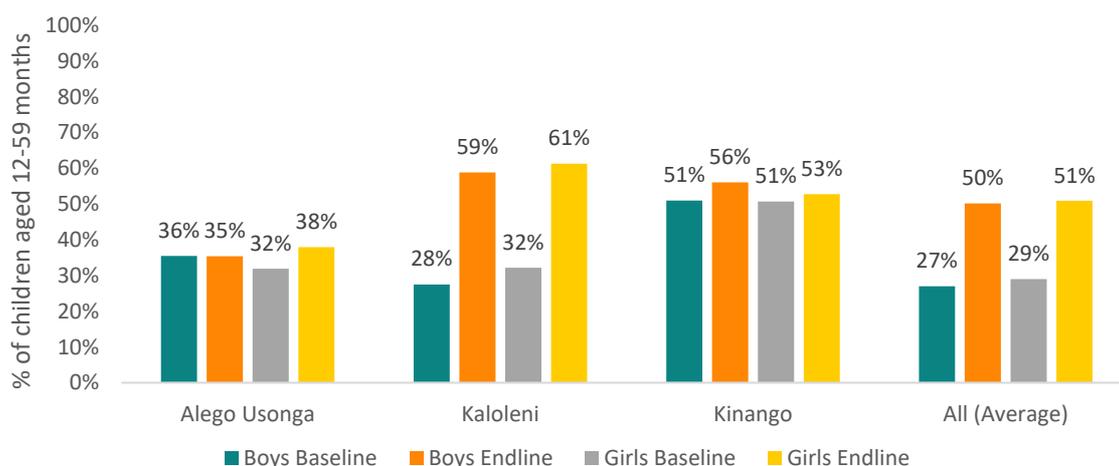
The World Health Organization (WHO) recommends biannual deworming using single-dose albendazole (400 mg) as a preventive public health intervention for children aged 12–23 months of age, with a target of over 80%. The survey sought information on number of doses of deworming that children aged 12-59 months had received over the last 12 months. The mean number of doses was 1.4 (95% CI: 1.37 – 1.50). As illustrated in Figure 12 below, Alego Usonga had the lowest uptake of deworming compared with the other two sub-counties. None of the counties had attained the recommended coverage for deworming. However, the caveat here is the risk of recall bias as well possibility that mothers/ caregivers were unaware of deworming provided to children at schools and ECDE centers.



**Figure 12: Proportion of children aged 12-59 months that received deworming in the last 12 months**

When compared with baseline, there was a notable increase in the proportion of boys and girls aged 12-59 months who received the recommended two doses of albendazole in the previous 12 months. The increase is greatest in Kaloleni where the school-based deworming programme was reported to have been intensified thus complementing *Malezi Bora*. As shown in Figure 13 below, Alego Usonga recorded the slowest increase in uptake of 2 doses of deworming. The Chi-Square Test shows no statistically significant association between the gender of the index child and whether they received 2 doses of Albendazole or not within the last 12 months ( $\chi^2 (1, N=1300) = .098, p = .755$ ).

**Proportion of Boys and Girls Aged 12-59 Months Who Received Two Doses of Albendazole in the Last 12 Months**



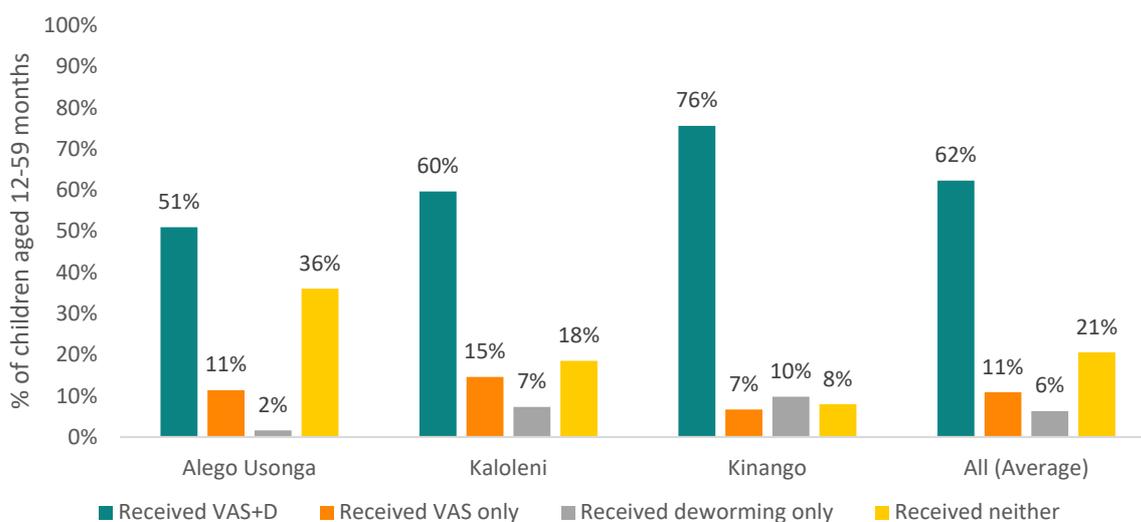
**Figure 13: Proportion of boys and girls aged 12-59 months who received two doses of Albendazole in the last 12 months**

The odds for girls and boys to have received 2 doses of deworming in the last 12 months was similar (Odds Ratio (OR) = 0.9) at baseline and end line indicating no relationship between a child’s sex and their likelihood to receive albendazole.

### 3.2.6 Integration of VAS and deworming

Despite the project’s efforts to integrate delivery of VAS and deworming during *Malezi Bora*, there were a few cases where children aged 12-59 months received neither of the two interventions or only one as illustrated in Figure 14 below.

**Proportion of Children 12-59 Months Who Received VAS+D, VAS Only, Deworming Only or Neither During the Most Recent Malezi Bora**



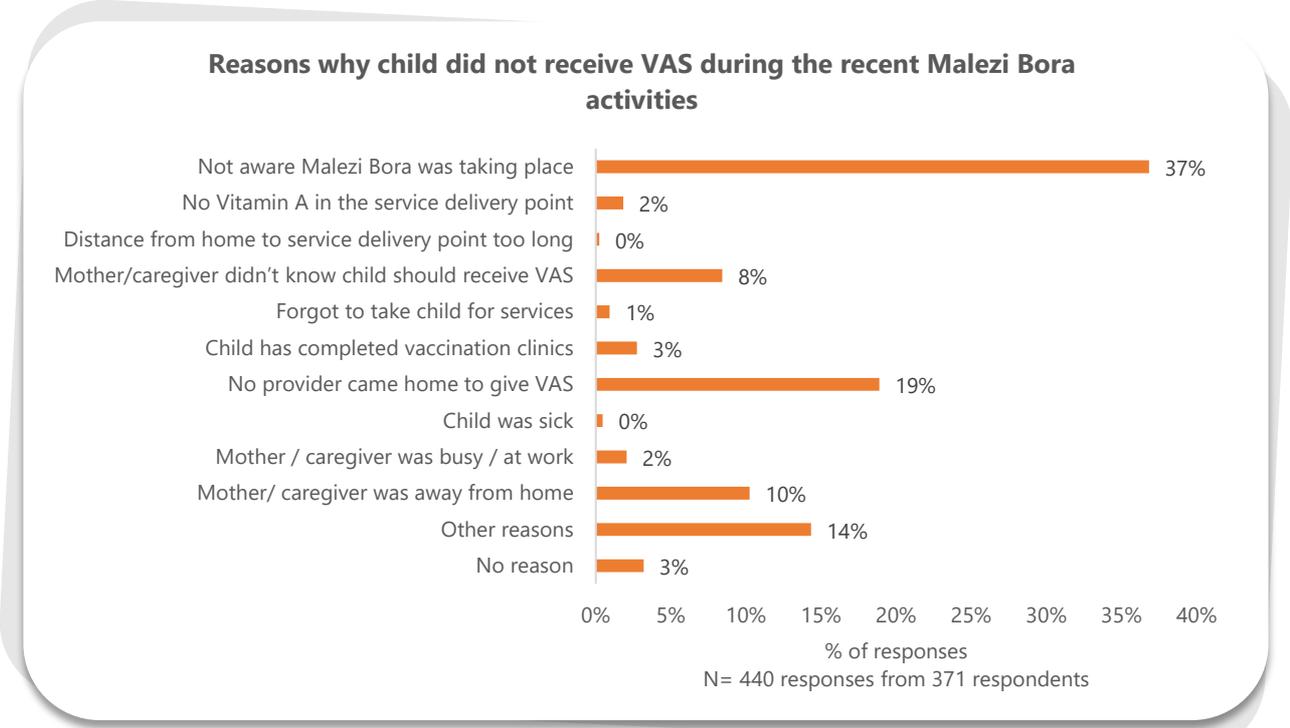
**Figure 14: Proportion of children 12-59 months who received VAS+D, VAS only, deworming only or neither during the recent Malezi Bora**

In all the 3 sub-counties, a separate deworming exercise under the school health programme had taken place ahead of *Malezi Bora* and this could explain some cases where only VAS was given. Key informants noted lack of or poor coordination between the two programmes and raised concern over possible overdosing and duplication of efforts.

During the most recent *Malezi Bora*, only 20% of children aged 6-59 months received other services in addition to VAS and deworming. Notably, these were mainly children who accessed *Malezi Bora* services through health facilities. Among other services received included immunisation (31%), growth monitoring (25%), nutrition counselling (14%), screening for malnutrition (11%) and treatment of childhood illnesses (9%). Of the 646 children who received VAS and deworming services at home, about 80% did not receive any other services thus indicating an opportunity to integrate some basic services such as MUAC screening, nutrition counselling and referral of malnourished children that CHVs can easily conduct.

**3.2.7 Reasons why some children missed VAS and deworming during *Malezi Bora***

Mothers and caregivers whose children did not receive VAS during the most recent *Malezi Bora* were asked to state the reasons. As illustrated in Figure 15 below, 37% of the respondent said they were unaware of the *Malezi Bora* activities while 19% said they waited at home, but no provider showed up to provide the services.



**Figure 15: Reasons why child did not receive VAS during the recent *Malezi Bora* activities**

Other reasons that were elicited included: unavailability at home during the *Malezi Bora* week, lack of information of whether child was eligible to receive VAS, as well as myths

and misconceptions around safety of the medicine as illustrated in the quote below from an FGD with CHVs.

**“Some people in the community spread false news that children who received those medicine given at home develop headaches and diarrhea”**

**Community Health Volunteer, Alego Usonga Sub-county**

Key informants also identified some health systems shortcomings that constrained VAS and deworming services, among them insufficient resources, shortage of workforce resulting in heavy workload and demotivation of providers.

**3.2.8 VAS and deworming delivery channels**

The survey sought information on the common VAS distribution channels used both routinely and during *Malezi Bora* activities. Respondents were asked from where and whom the child had received VAS during the recent *Malezi Bora* and any other time in the preceding 12 months. As depicted in Figure 16 below, there was clear distinction between the predominant channels during *Malezi Bora* and other times, with home distribution contributing the highest reach (62%) during *Malezi Bora* while health facilities delivered the biggest portion (70%) of VAS received any other time. The contribution of ECDE centres as delivery channel was less than 10%, but the low number could be attributed to the fact that only 11.3% of the sampled children were above 48 months, the official minimum schooling age.

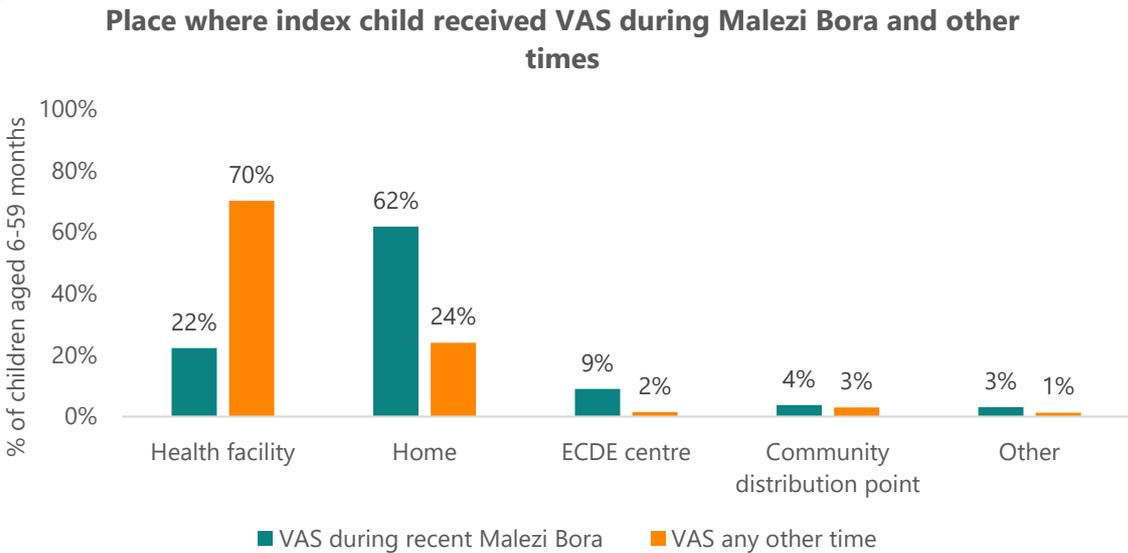
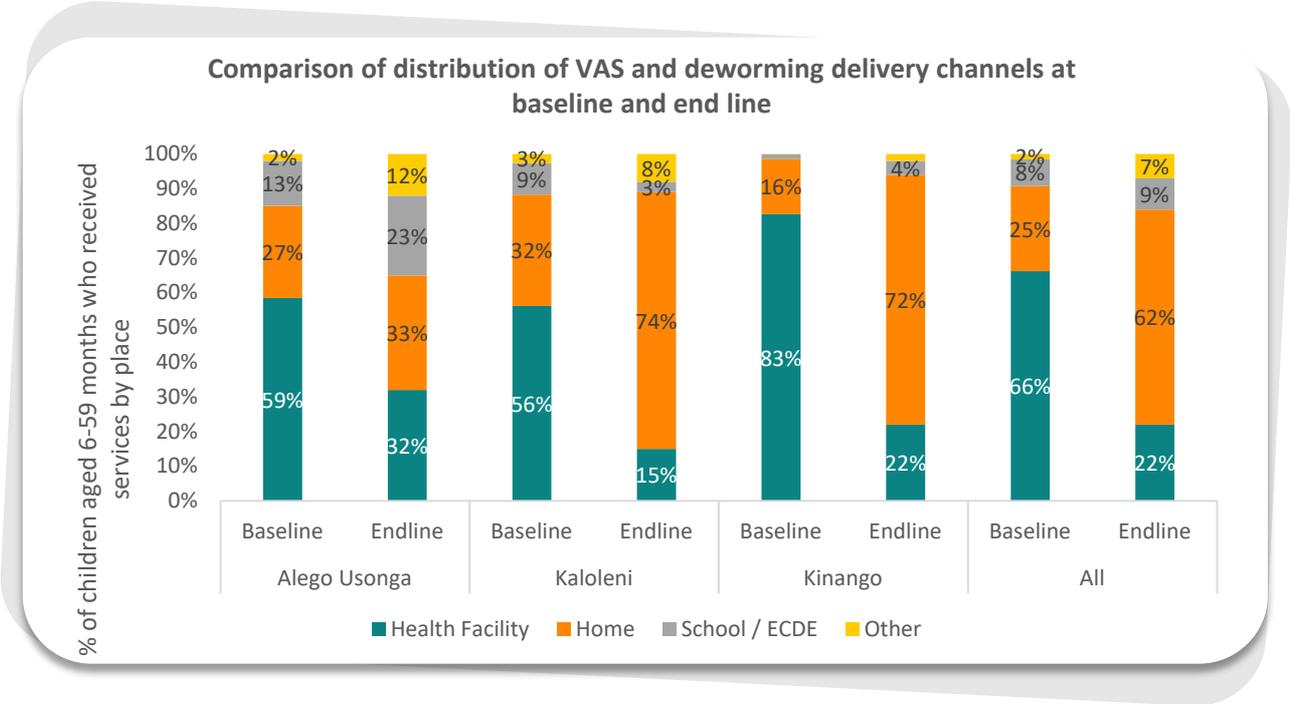


Figure 16: Place where index child received VAS during Malezi Bora and other times

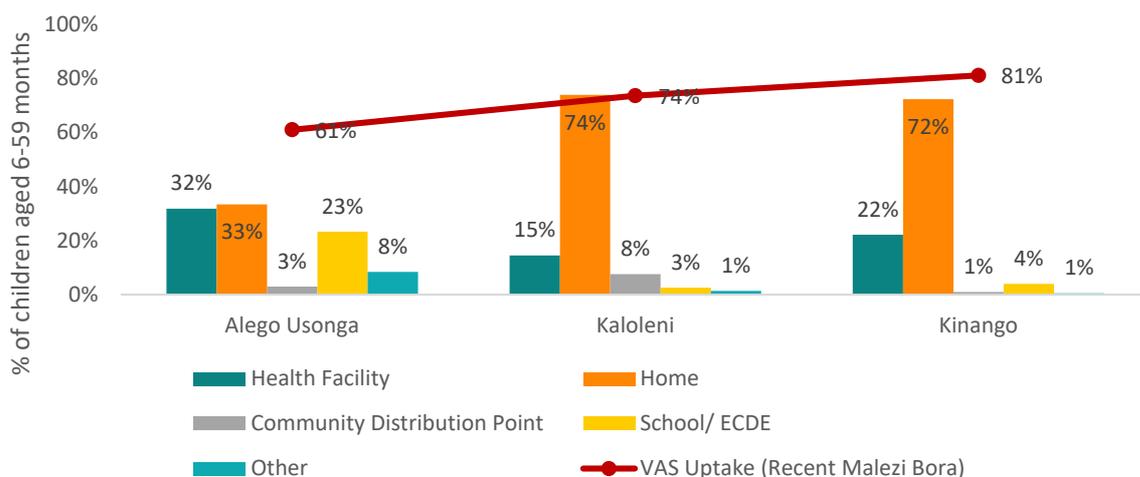
Compared with baseline, there was remarkable shift in delivery channels for VAS and deworming as illustrated in Figure 17 below. At baseline, most of the VAS and deworming services were accessed through health facilities while by the end of the project, home delivery accounted for the largest proportion in all sub-counties. The shift was attributed to efforts put in place to expand delivery through multiple channels especially during the bi-annual *Malezi Bora* activities.



**Figure 17: VAS and deworming delivery channels at baseline and end line**

Further analysis of the data shows a strong correlation (statistically significant at P-value<0.01) between mix of delivery channels and VAS uptake during recent *Malezi Bora* activities. As depicted in Figure 18 below, both Kaloleni and Kinango that had put more emphasis on home delivery through CHVs recorded a higher uptake compared with Alego Usonga.

**Correlation between mix of delivery channels during recent Malezi Bora and VAS uptake in the three sub-counties**

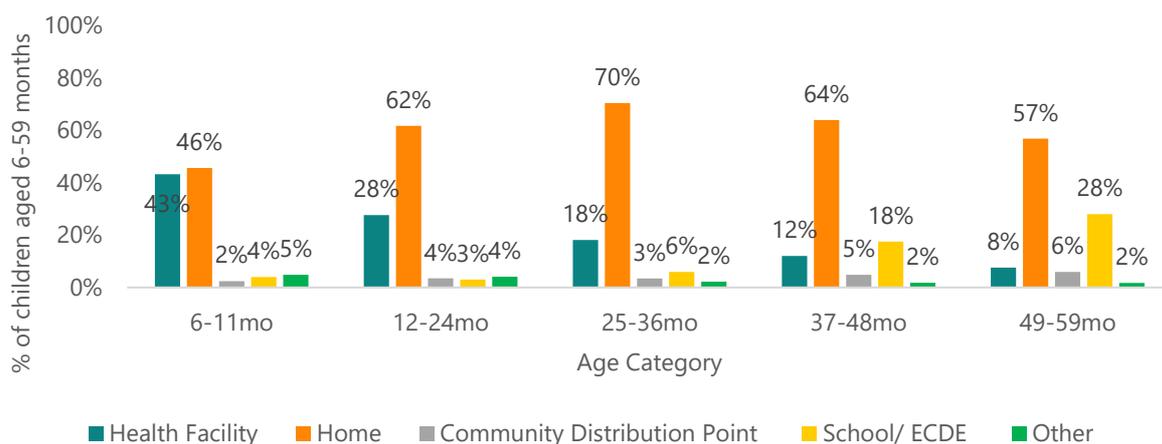


**Figure 18: Correlation between mix of delivery channels during recent Malezi Bora and VAS uptake in the three sub-counties**

The above finding implies that community health strategy is effective in scaling up VAS+D delivery.

In order to discern any age-related variations in delivery channels, the responses were disaggregated into five age categories: 6-11 months, 12-24 months, 25-36 months, 37-48 months and 49-59 months.

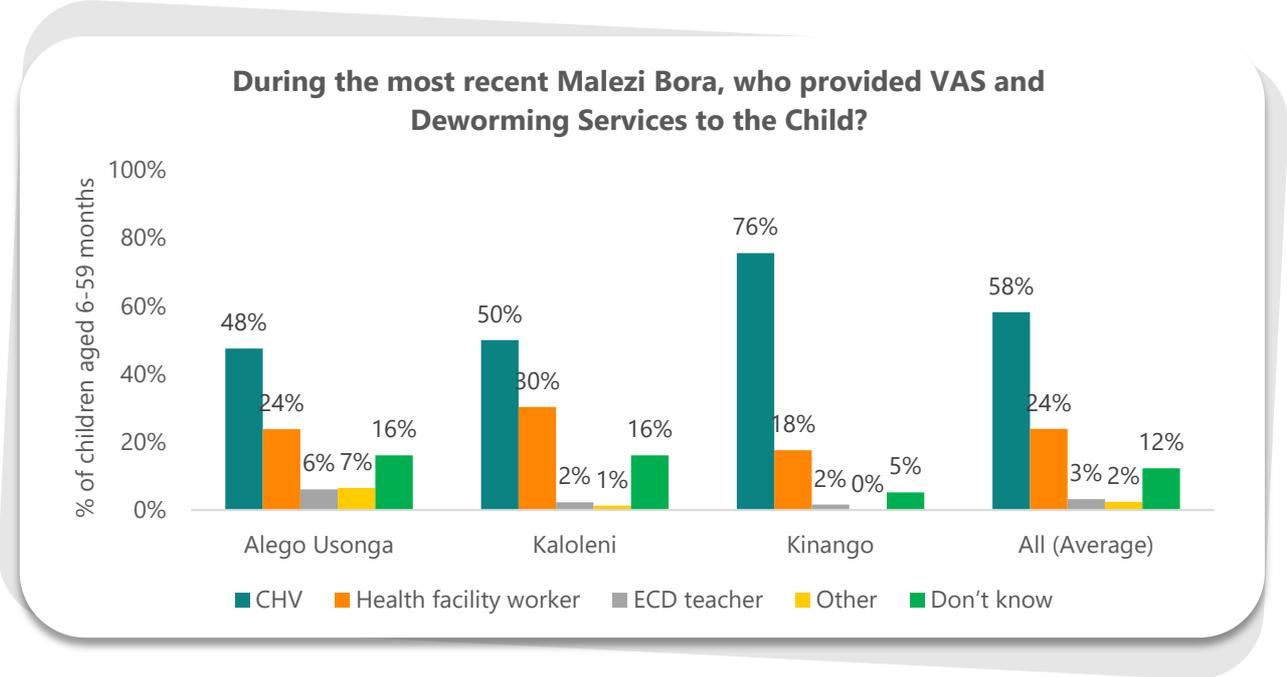
**Place where child received VAS during recent Malezi Bora event, disaggregated by age category**



**Figure 19: Place where child received VAS during recent Malezi Bora event, disaggregated by age category**

Figure 19 above reaffirms the significant contribution of the home to home distribution by CHVs. As would be expected, health facilities were more likely to reach younger cohorts while schools/ECD reached the oldest cohort.

During the most recent *Malezi Bora*, over half (58%) of the children in the three sub-counties received VAS and deworming from CHVs. As evident from Figure 20 below, CHVs played a much more predominant role in Kinango Sub-county as compared to the other two sub-counties. Analysis of the data reveals a statistically significant (P-value<0.01) correlation between the provider of services and uptake of VAS. This could explain why Kinango Sub-county achieved the highest uptake of both VAS and deworming.



**Figure 20: Provider of VAS and deworming services during the recent Malezi Bora**

The main reasons why CHVs were effective in delivering VAS and deworming included their familiarity with their villages, acceptance by the communities and the focus that county governments had put on implementing community health strategy.



*As a CHV who comes from this village, I know that this and that households have a child below five years. So, the door to door visits are very targeted based on that mapping. Apart from Malezi Bora time, we are always on the lookout for children who have received vitamin A, deworming and immunization and refer them to the health facility and later follow up to confirm they went."*

*Community Health Volunteer, Alego Usonga Sub-county*

### 3.3 Knowledge, Attitudes and Practices on VAS and Deworming

Mothers and caregiver’s knowledge, attitudes and practices that influenced their uptake of VAS and deworming services were assessed through a set of questions. The sections below present the key findings.

#### 3.3.1 Awareness of *Malezi Bora*

The ECT project invested some resources on social mobilization and community sensitization before and during *Malezi Bora* aimed at increasing uptake of VAS and deworming services. In order to assess how well these efforts paid off, the survey asked mothers and caregivers whether they were aware of *Malezi Bora* that had taken place in their community recently. On average across the three sub-counties, 74% (95% CI: 72%-77%) of mothers / caregivers answered in the affirmative (i.e. they were aware). As illustrated in Figure 21 below, mothers / caregivers in Alego Usonga were the least aware compared with the other two sub counties, which could explain the lower VAS and deworming uptake that was recorded there.

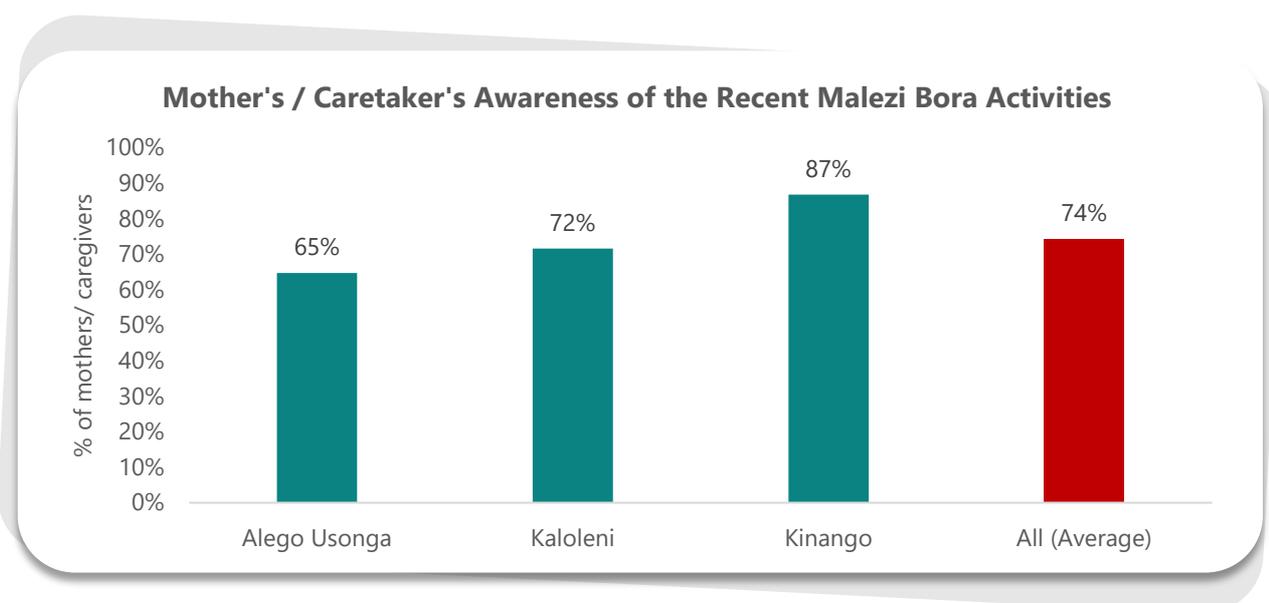


Figure 21: Mother's / caretaker's awareness of the recent Malezi Bora activities

From FGDs and KIs, it was clear that Kinango has put much more effort in mobilizing communities and creating awareness among mothers and caregivers on *Malezi Bora* activities and emphasizing the importance of vitamin A supplementation and deworming.

Majority (73%) of the CHVs received training specific to *Malezi Bora* in the last six months prior to the study. Kaloleni and Kinango sub counties accounted for the highest number of CHVs trained both at 91% while Alego Usonga reported only 38%. The findings reinforce the above finding (Figure 21) that CHVs from Kinango and Kaloleni sub counties were more empowered and involved in awareness creation among mothers and caregivers on *Malezi Bora* activities.

### CHVs who received training specific to Malezi Bora (n=99)

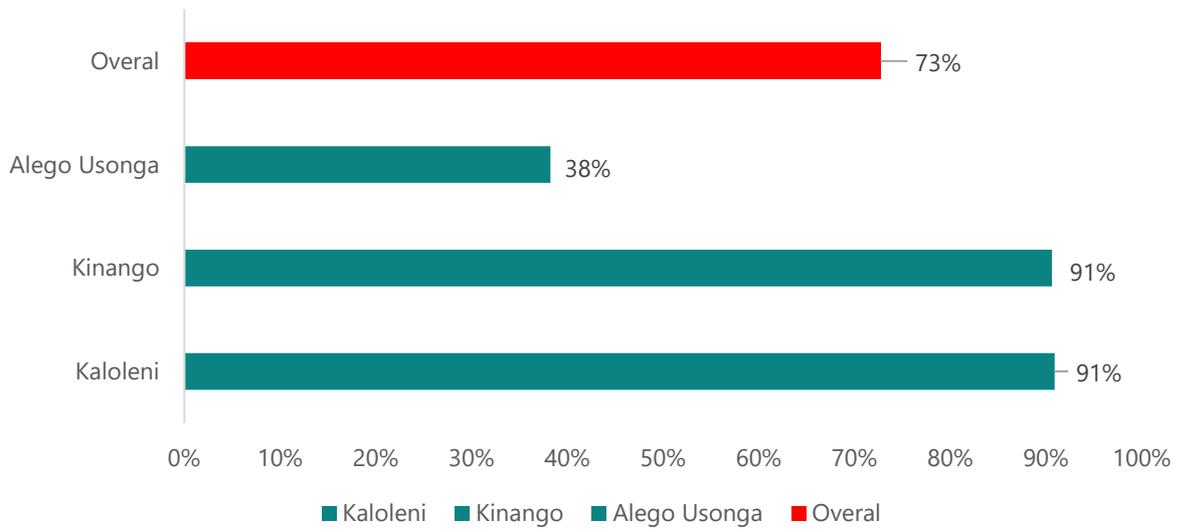


Figure 22: CHVs who received training specific to *Malezi Bora*

The main sources of information about *Malezi Bora* was CHV and health facility staff as shown in Figure 23 below. One of the key observations was that some of the other community mobilization strategies adopted by the project such as the use of IEC materials and local radios were rarely mentioned by survey respondents. This raises the question of whether such strategies should be included in future investments. Perhaps it would make better sense to focus on CHV and health facilities as the two main sources and channels of communicating VAS and deworming information to communities, including mobilizing them for *Malezi Bora*.

### Mothers'/ Caregivers' Sources of Information on Malezi Bora

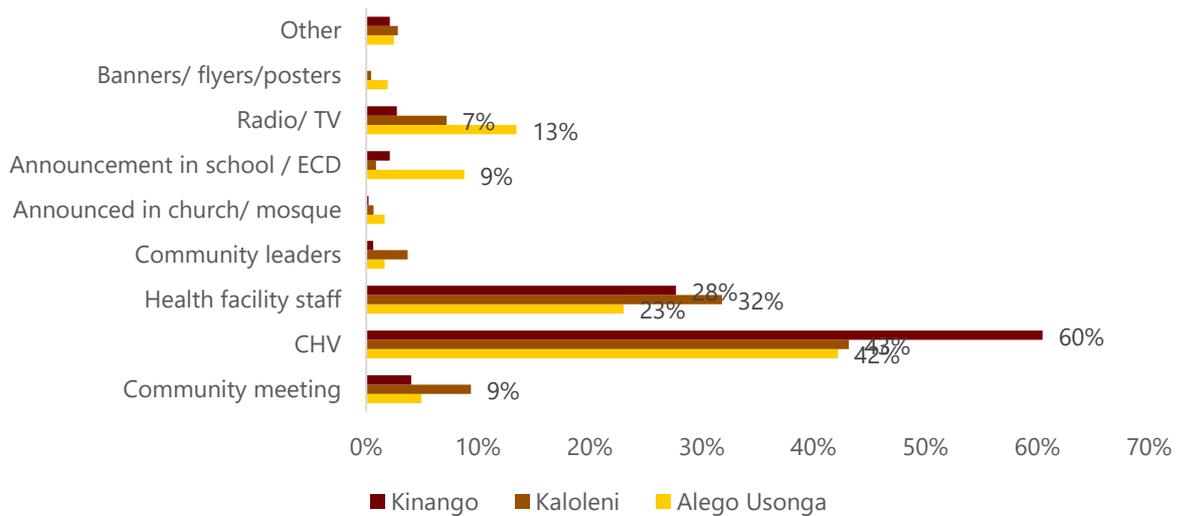


Figure 23: Mothers'/ caregivers' sources of information on *Malezi Bora*

Given that a majority of mothers/caregivers received their information from CHVs as shown in Figure 23, the evaluation sought to establish the source of information for CHVs. Health workers at facility were the main source of information for the CHVs (98%, Kinango, 96% in Alego Usonga and 85% in Kaloleni). This was a good finding because it meant that the information trickling down to the mothers/ caregivers was correct.

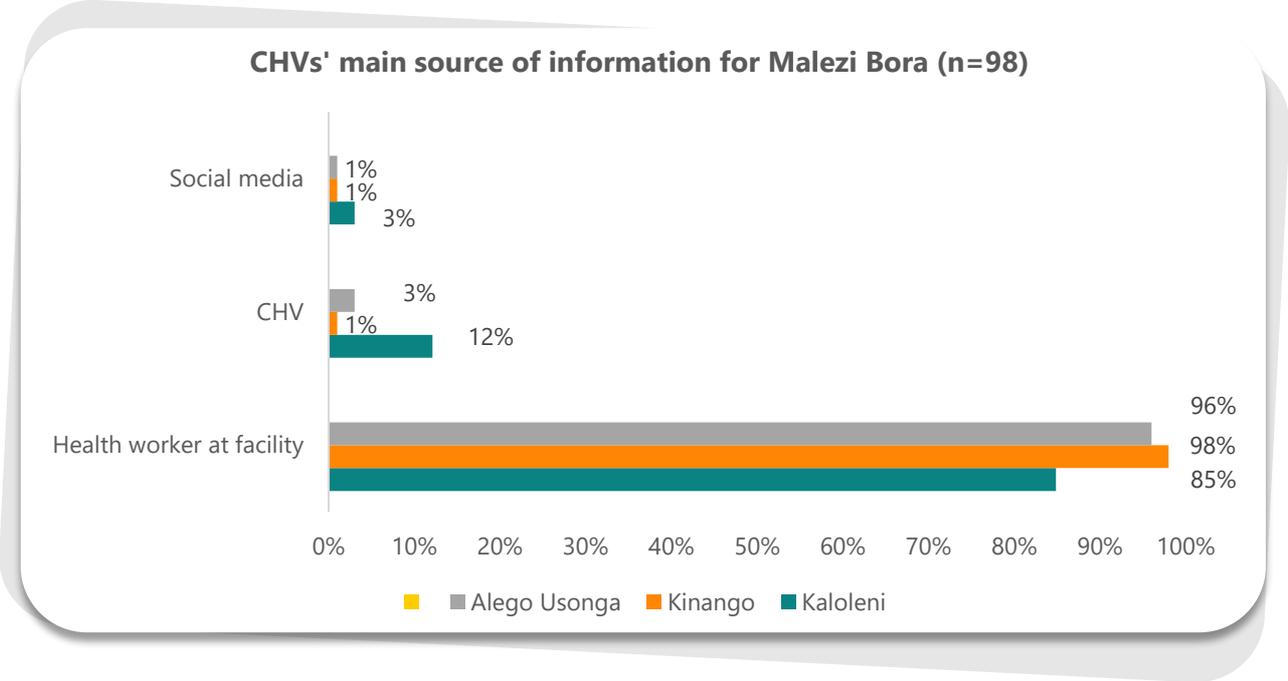


Figure 24: CHVs main source of information for Malezi Bora

**3.3.2 Knowledge on VAS and Deworming**

Mothers' and caregivers' knowledge on the importance of VAS and deworming was found to be high across all study sites. The benefits mostly mentioned for VAS included that it promotes a child's growth and development (45% of responses) and that it protects a child from infections (34% of responses). On the other hand, for deworming, it included that it prevents helminths (46% of responses), promotes child growth and development (35% of responses) and improves child's appetite (16%). As summarised in Table 7 below, knowledge on frequency (interval of doses) was generally poor for both deworming and VAS.

A Child Health Knowledge Index was used to determine the overall level of mothers' and caregivers' knowledge of VAS and deworming. The index was based on four questions, each assigned a numerical value for a correct answer, as indicated below:

- When, after a dose of vitamin A, should a child receive another dose? (a score of 25 for correct answer).
- When, after a dose of albendazole, should a child receive another dose? (a score of 25 for correct answer).

- What is the importance of vitamin A supplementation? (12.5 for one correct answer, 12.5 for a second correct answer, for a total of 25).
- What is the importance of deworming drugs? (12.5 for one correct answer, 12.5 for a second correct answer, for a total of 25).

**Table 7: VAS and deworming knowledge indicators**

Knowledge indicator	Sub-county			
	Alego Usonga	Kaloleni	Kinango	All (average)
Correct knowledge on importance of VAS (at least 1 correct answer)	383 (87.3%)	357 (80.6%)	371 (84.5%)	1111 (84.1%)
Correct knowledge on importance of deworming (at least 1 correct answer)	328 (74.7%)	351 (79.2%)	354 (80.6%)	1033 (78.2%)
Correct knowledge on frequency of VAS dose (interval of doses)	148 (33.7%)	61 (13.8%)	108 (24.6%)	317 (24%)
Correct knowledge of what age a child should start receiving deworming	210 (47.8%)	99 (22.3%)	162 (36.9%)	471 (35.7%)
Correct knowledge of frequency (dose interval) of deworming	128 (29.2%)	105 (23.7%)	95 (21.6%)	328 (24.8%)

Out of a possible score of 100%, the mean scores were very low in all counties i.e. 33.2% for Alego Usonga, 35.9% for Kaloleni and 36.3% for Kinango. Comparing with baseline, the proportion of mothers/caregivers who scored 60% and above on the index declined from 18.6% to 10.4% as illustrated by Figure 25 below. This however contradicts the views of majority of key informants and FGD participants who opined that knowledge on VAS and deworming had increased, as captured in the quote below.

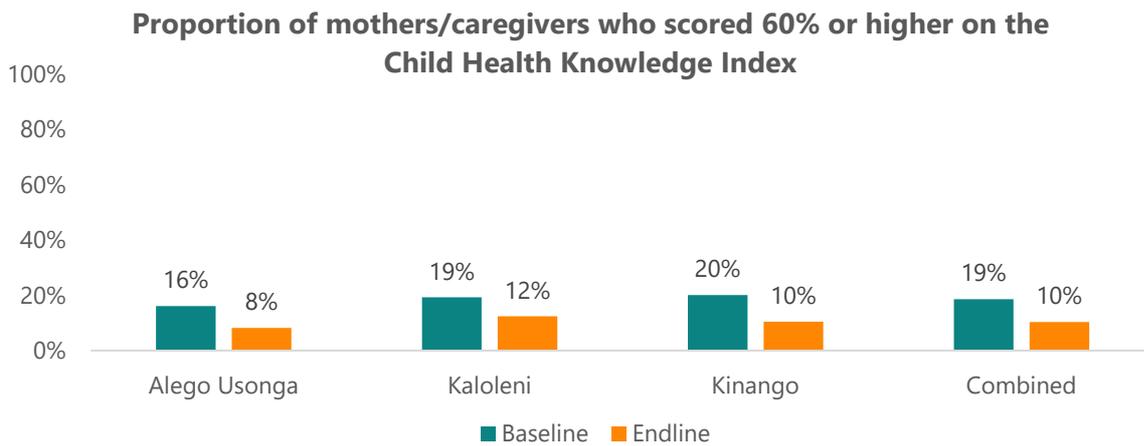


Figure 25: Proportion of mothers/caregivers who scored 60% or higher on the child health knowledge index

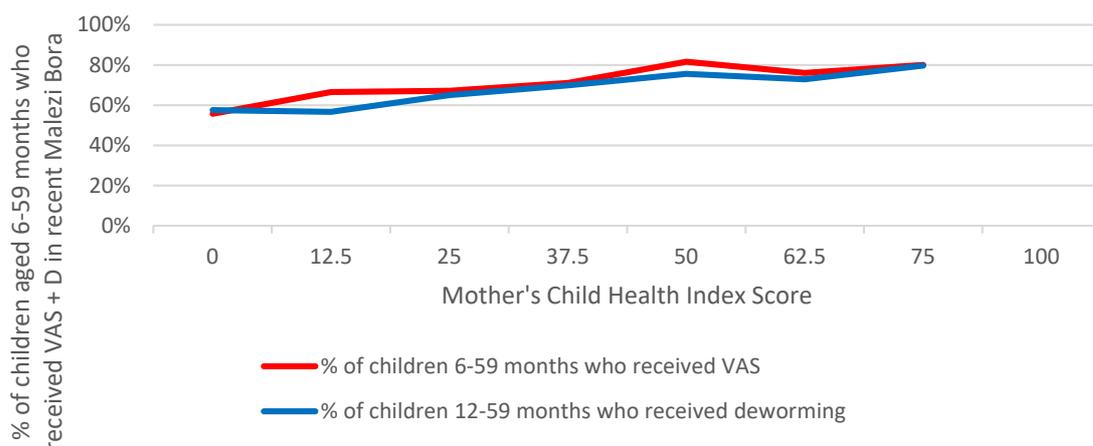
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*Twice every year at the time of Malezi bora, we intensify social mobilization to increase awareness and uptake of VAS+D services. We use multiple social mobilization strategies including health talks by CHVs and health workers, messaging through radio and IEC materials and announcement in public gatherings. I would say public awareness has improved although there is still room for improvement.”*

*Key Informant, Kwale County*

As illustrated in Figure 26 below, there was a positive correlation between mother’s/caregiver’s knowledge and uptake of VAS and deworming (P-value < 0.01). Mothers / caregivers with a higher child health knowledge index score were more likely to have had their child receive Vitamin A supplements and deworming during the most recent *Malezi Bora* activities. This finding reemphasizes the importance of enhancing maternal knowledge as a means of improving service uptake.

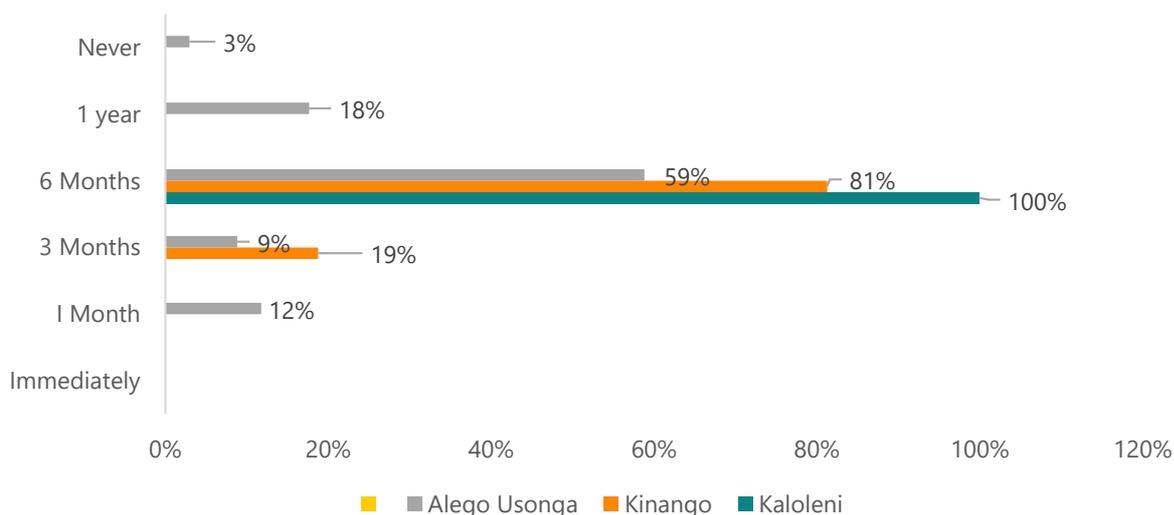
**Correlation between mother's Child Health Knowledge Index Score and uptake of VAS and deworming during recent *Malezi Bora***



**Figure 26: Correlation between mother's knowledge score and uptake of VAS and deworming during recent *Malezi Bora***

The evaluation sought to find out CHVs knowledge on the frequency of subsequent VAS after the first dose. All (100%) the respondents from Kaloleni answered the questions correctly, while 81.3% of CHVs in Kinango and 58.8% of CHVs in Alego Usonga answered the question correctly. Given that majority of CHVs from Kaloleni and Kinango had received training specific to *Malezi Bora* (as shown in Figure 22), this could explain the better knowledge as compared to Alego Usonga.

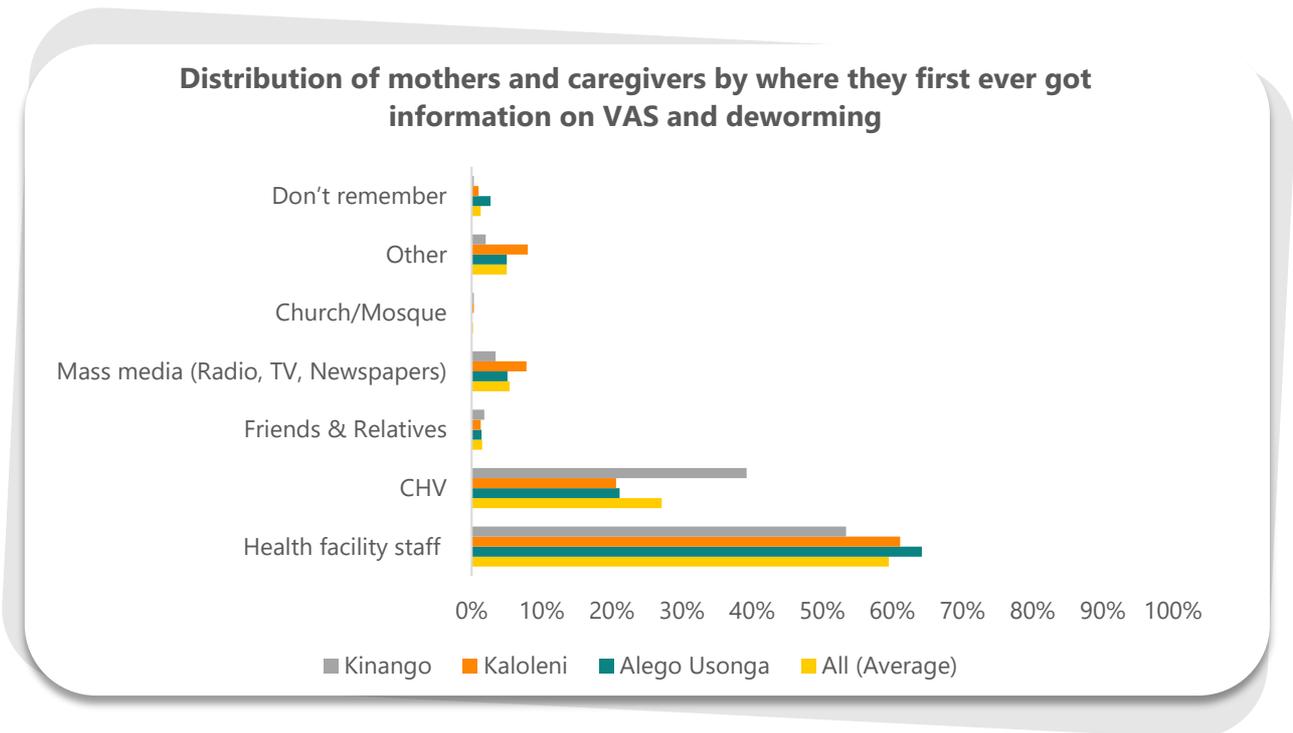
**Frequency of VAS after first dose**



**Figure 27: Knowledge of CHV on frequency of VAS after first doses**

Regarding the source of information on VAS and deworming, the survey found that a majority of mothers / caregivers got it from CHVs and health facility staff. As shown in

Figure 28 below, both health facility staff and CHVs were cited as the first source of VAS and deworming information for nearly all the respondents.



**Figure 28: Distribution of mothers and caregivers by where they first ever got information on VAS and deworming**

Improvement in community awareness on VAS and deworming was largely attributed to *Malezi Bora* acceleration efforts as explained in the quote below.



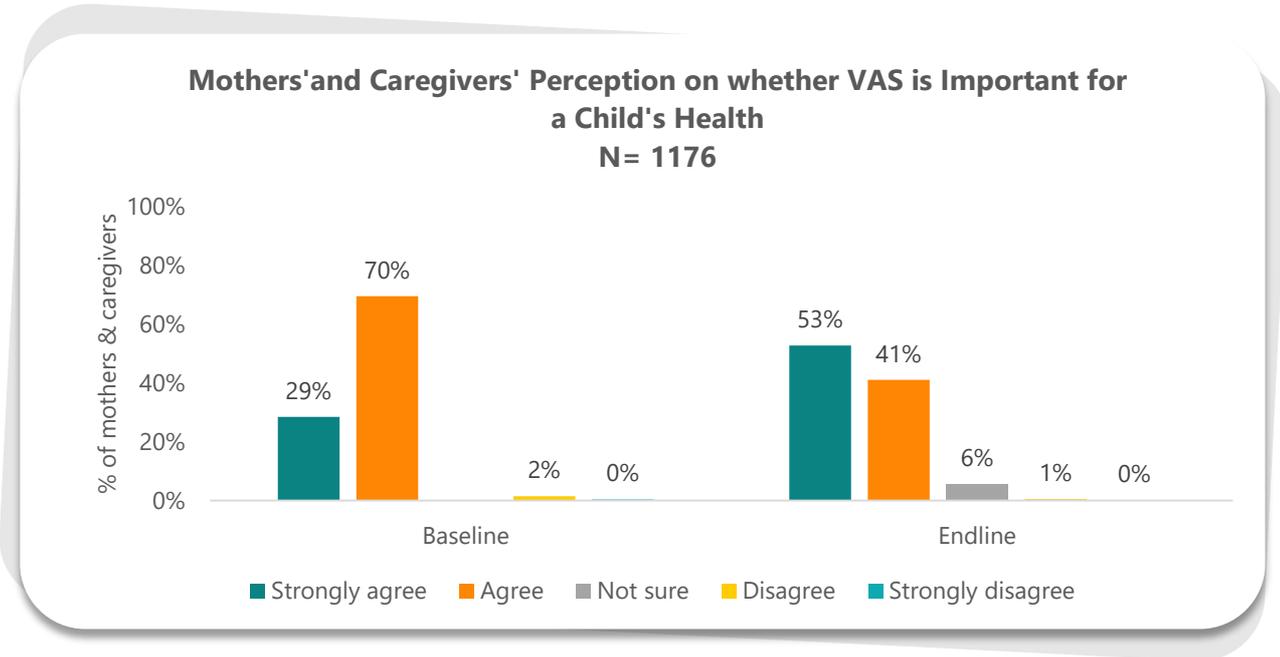
*Awareness and demand for VAS and deworming has improved over time which I attribute to the community sensitization we have done so far. Twice in a year for 4 years MAP International has been sensitizing communities around the time of Malezi bora. We have also produced and disseminated IEC materials like posters and t-shirts. Last year we also worked with local media houses to mobilize for Malezi Bora."*

*Key Informant, Kaloleni Sub-county*

### 3.3.3 Attitudes Towards VAS and Deworming

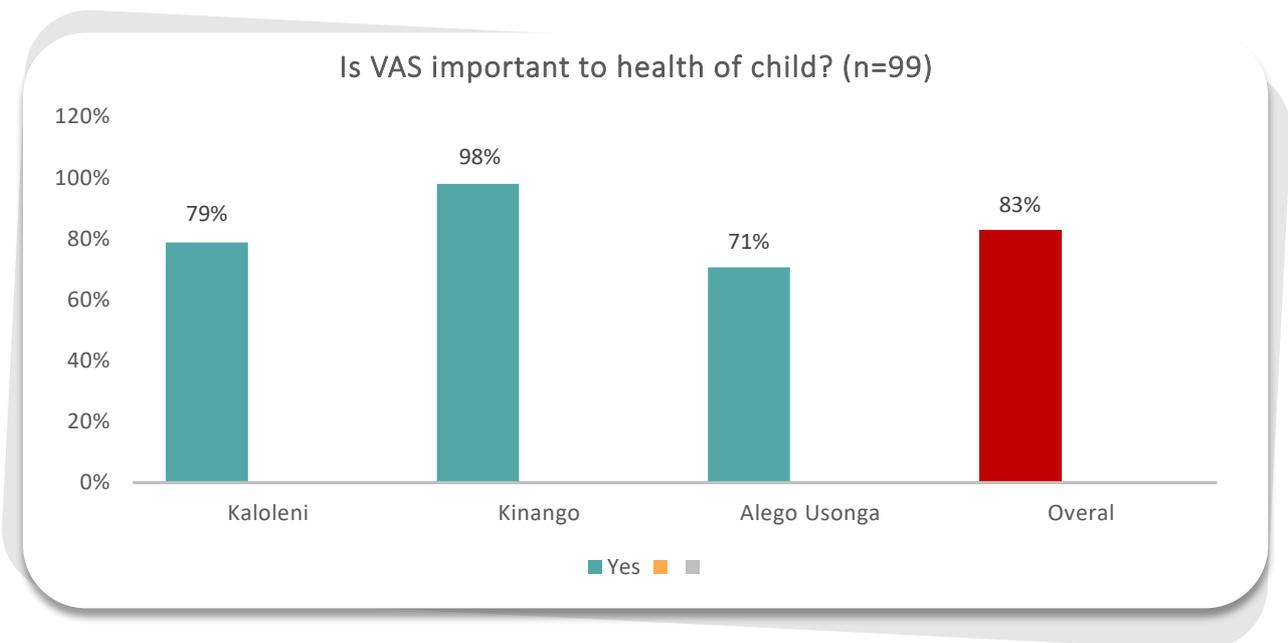
Mothers and caregivers were asked their perceptions on whether VAS was important for a child’s health. As illustrated in Figure 29 below, nearly all the mothers and caregivers strongly agreed or agreed that VAS was important. Comparing with baseline, this proportion has not changed much but an interesting observation was the near doubling

of the proportion of respondents who strongly agreed (perhaps an indication of reinforced certitude). Analysis of attitudes toward deworming showed similar findings.



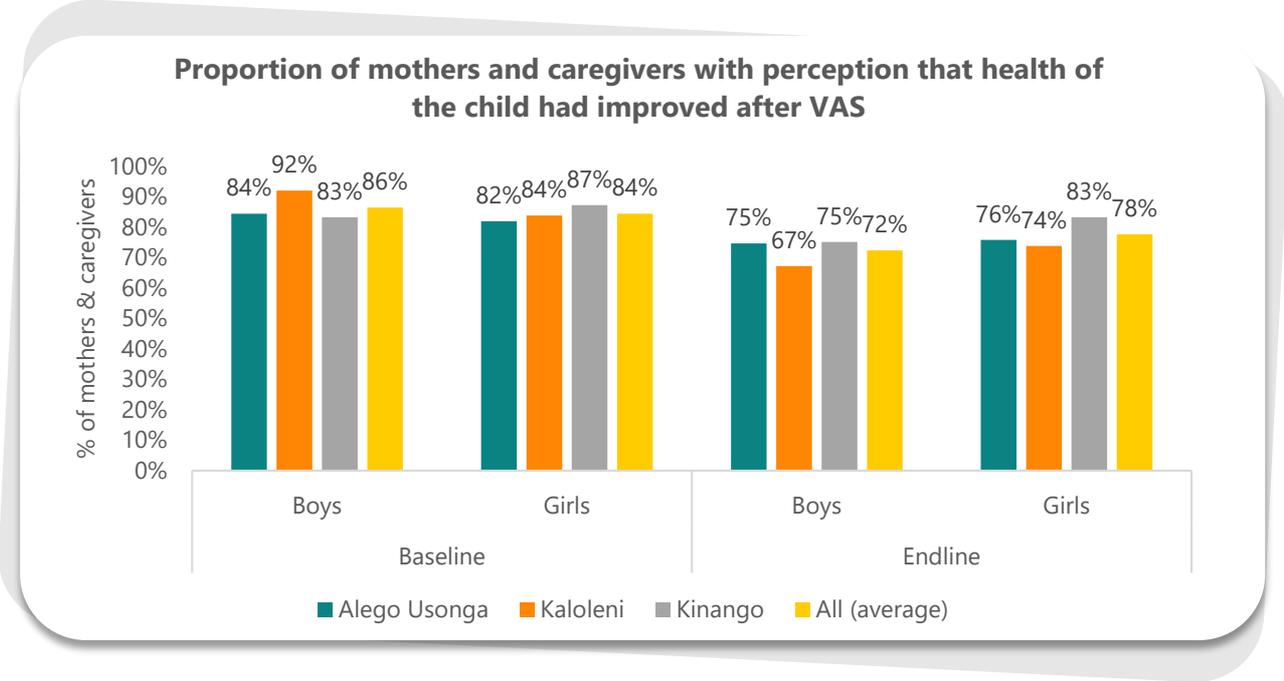
**Figure 29: Mothers' and caregivers' perception on whether VAS is important for a child's health**

CHVs were asked whether VAS was important for health of a child. Findings reveal that majority (83%) of the CHVs perceive that VAS was imperative to the health of a child. Kinango recorded the highest affirmations at 98% followed by Kaloleni 79% and Alego Usonga 71%. Given that the question had only two options, either positive or negative, it is interesting that some of the CHVs did not think VAS was important to the health of a child. Further investigations should be conducted to ascertain the negative perception.



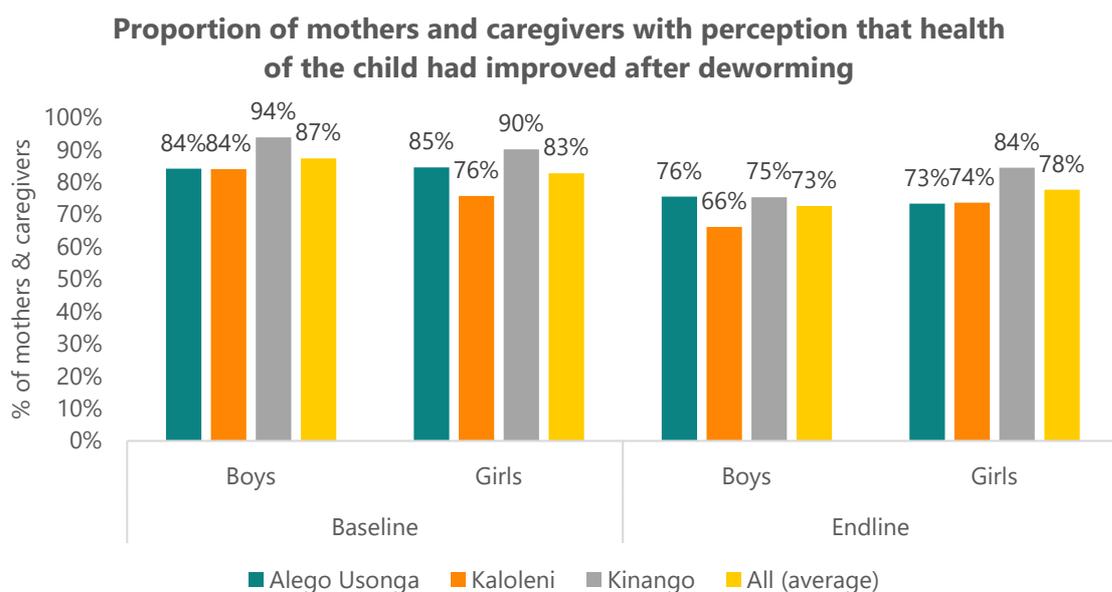
**Figure 30: CHVs attitudes towards importance of VAS for health of Child**

Corresponding to the positive perception towards VAS and deworming, a vast majority of mothers and caregivers reported positive changes in their child’s health after receiving the vitamin A supplements and albendazole. As shown in Figures 31 and 32 below, the perception was uniform for both boys and girls and across the three study locations.



**Figure 31: Proportion of mothers and caregivers with perception that health of the child had improved after VAS**

An interesting observation from both Figure 31 and 32 is that a mother’s / caregiver’s perception was not the only factor that drove uptake. As is seen in the graph perception that a child’s health had improved reduced for both VAS and deworming yet uptake increased for both. Further research is recommended to understand the influence of mothers/caregiver’s attitudes.



**Figure 32: Proportion of mothers and caregivers with perception that health of the child had improved after deworming**

Despite the positive picture painted by the findings above, key informants noted that some mothers and caregivers failed to have their children supplemented and dewormed due to misconceptions or negative attitudes toward health facilities as illustrated in the quote below.

**“ ... if you ask the mother why her child has not been dewormed or has not received vitamin A you often get answers like “my child has completed the clinic, I did not know I am supposed to come back” . Others don’t see why they need to cover the distance from their homes, come line up in a queue and spend all that time only for the child to be weighed.”**

**Key Informant, Kaloleni Sub-county**

### 3.3.4 Capacity of Health System to Deliver VAS and Deworming Services

The ECT project aimed to improve the capacity of S/CHMT teams and CHVs to be able to plan and deliver integrated VAS and deworming service that is responsive to the needs of local communities. Below are the key findings from the evaluation regarding how the project performed on capacity building.

### 3.3.5 County Government Stewardship of VAS+D

Through the support of the ECT project, there was notable improvement in coordination of activities of multiple partners in the counties resulting in stronger intersectoral linkages

and cooperation. For example, the department of education and ward administration officials were involved in planning for *Malezi bora* activities thus resulting in better reach.

”

***.... each sub-county committee draws the plan for their respective sub-county and breaks down the activities and targets for each ward and each health facility. Partners are brought into the planning and their resource contribution included in the budget. So, coordination works well; we even bring on board other public sectors that are relevant such as education and local administration.”***

***Key Informant, Kilifi County***

There was enhanced micro-planning for *Malezi Bora* activities in all the three counties through the County Nutrition Technical Forums (CNTF) that brings on board a wider spectrum of stakeholders. The CNTFs were instrumental in enhancing coordination and collaboration. There are plans in some counties such as Kilifi to devolve the NTF to the sub-county level. At the national level, Hellen Keller is an active participant in various technical working groups, including the Micronutrient Technical Working Group.

”

***The planning for VAS+D is done through a participatory process where we bring on board our partners. We have a very robust County Nutrition Technical Forum that is mandated to coordinate all technical issues to do with nutrition in the county including ensuring there is synergy between partners and programmes are aligned to our county priorities.”***

***Key Informant, Kilifi County***

However, key informants pointed out that duplication of efforts between *Malezi Bora* and school-based deworming program could have been avoided through joint harmonized planning. Moreover, due to inadequate allocation of domestic finances, delivery of VAS and deworming was almost entirely dependent on donor support. Key informants decried the low priority accorded to nutrition when it came to resource allocation. Although nutrition activities were included in the county annual work plans and budgets, the funds were often not released on time or in some cases were reallocated to other uses.

”

***Malezi Bora has contributed greatly to the improved coverage. The one thing that could be improved is increasing the resource envelope to enable us to reach every eligible child. If we had more funds, we would conduct more comprehensive mop up through door-to-door visits.***

***Key Informant, Kaloleni Sub-county***

### 3.3.6 Training of Health Workers and CHVs

In collaboration with other actors such as UNICEF and Nutrition International, the ECT project provided refresher training on VAS for health workers and CHVs in the three counties. In addition, ECDE teachers were sensitized on VAS+D prior to *Malezi Bora*. However, due to budgetary limitations, the number of providers reached with training and sensitization was much lower than the need. More training is required to address knowledge gaps, especially among CHVs. Additionally, there is need for tailored counseling aids for use by CHVs and mother-to-mothers support groups. Generally, survey findings indicate a need to scale up and reinforce the functionality of community health units in the three counties.

”

***CHVs effectiveness is pegged on how well they are supported. Those that have partners organizations providing incentives perform well but as you know partner support is only limited for a time. Currently the county government is not in a position to pay CHVs due to budgetary constraints. So, we will continue depending on our partners for support on implementation of the community health strategy.***

***Key Informant, Kwale County***

All the three counties did not have adequate numbers of nutritionists to serve the growing populations. The counties addressed this challenge through task sharing. Non-nutrition cadres especially nurses and public health officers were the predominant providers of VAS and deworming services. Key informants stressed that task-sharing should only be a temporary stop-gap measure and therefore counties should plan to recruit more nutritionists to meet the recommended staffing norms.

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*... with the budget limitation it is not possible to attain the ideal workforce levels... priority is given to some core cadres like nursing while nutrition and others are considered less priority. In such a situation the only way out is adopting task sharing with other cadres. We work very closely with nursing and public health cadres and we are also filling the gaps through CHA and CHVs.”*

*Key Informant, Kilifi County*

### 3.3.7 Commodity Security for VAS and Deworming

The ECT project provided technical assistance on forecasting and quantification of VAS and deworming commodities resulting in fewer instances of stockout and overstock. Throughout the project period, the three counties received steady supply of VAS and deworming commodities from UNICEF/Nutrition International and Vitamin Angels.

”

*The VAS+D supply chain and logistics have improved over the last couple of years. We used to have stock out but nowadays that is very rare. In fact, what we have to deal with nowadays is overstock in some health facilities especially after Malezi Bora when they have a balance that they cannot exhaust. So, we plan for redistribution to other health facilities with under stock.”*

There was a challenge obtaining non-pharmaceuticals required in delivery of VAS and deworming during *Malezi Bora* activities such as scissors, serviettes, waste bags, hand sanitizers. The ECT project provided some little funds to support procurement of these items, with expectation that county governments would top up with their resources. Key informants explained that the county governments did not provide their share of contribution hence the shortage. As stated earlier in this report, over-reliance on donors for support could result in poor prospects of sustainability of the VAS+D interventions.

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*... scissors, serviettes and waste bags are procured at the sub-county level using funds disbursed from the county – which include some top up from partners such as HKI. The funds are never enough so we procure what we can and ask the teams to use sparingly or recycle what they had from previous Malezi Bora events or just devise some ways like instead of scissors they can use sterile scalpel”*

*Key Informant, Kilifi County*

### 3.3.8 Social Mobilization to Enhance VAS and Deworming Uptake

The project supported social mobilization and awareness creation activities to promote uptake of VAS and deworming. The project’s communication strategies included the use of IEC materials, local radios, and engagement of CHVs and community leaders as behavior change influencers. The survey findings demonstrated improved knowledge among mothers and caregivers and CHVs. However, there were notable knowledge gaps on technical aspects such as schedule and dosage of VAS and deworming. The project could have performed better with wider geographical coverage of CUs and use of tailored IEC materials and CHV job aids such as counseling cards (these have been developed at the national level but not yet widely disseminated to counties). Moreover, there is need to diversify communication strategies to reach more families – for instance, some key informants noted that though schools were excellent entry points for awareness creation they had not been optimally utilized to pass VAS and deworming messages.

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*We still have some way to go in creating demand for services where mothers can bring their children to health facilities for preventive and promotive services such as VAS and deworming other than just for curative services. But it is also important to note that most families are struggling with many bills and priority is given to basic needs such as food. So, unless a child is sick, the family will not prioritize cost of taking the child to health facility for routine checkups. So, the community health strategy is really good because the household is able to get services at their doorstep and don’t have to incur travel costs”*

*Key Informant, Kwale County*

### 3.3.9 Monitoring and Evaluation of VAS and Deworming

There was consensus among key informants that reporting for VAS and deworming has improved due to the training, data quality audits and regular data review meetings that were supported by ECT project. The project enhanced pre-*Malezi Bora* targeting as part of micro-planning and post-event data review meetings to examine performance. The use of data in planning and tracking progress was highlighted as a key success of the project. Moreover, the ECT project supported the improvement of the VAS + D data capture tool that emphasized disaggregation of data by gender and disability.

Despite these gains, the evaluation found some outstanding data issues especially the accuracy of routine administrative data, a situation that was blamed on poor target setting. Under-reporting of deworming services provided through schools and ECDE was a notable challenge in all the counties. This was partly due to parallel reporting between by *Malezi Bora* and school health program which left room for errors. For example, in Kinango, the evaluators found a case where a monthly summary report from one facility did not include data for a recent school-based deworming activity in its catchment area.

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***“... but even with availability of tools, one thing that I must admit is that we still have gaps in data capture and reporting. Sometimes the numbers are not adding up or you find a facility reporting a coverage of say over 300% and another doing less than 30%. I don't think such numbers are telling the correct story, it most likely is a case of poor data quality either over-reporting or under-reporting or in some cases wrong target numbers.”***

***Key Informant, Kilifi***

### 3.3.10 Mainstreaming gender equality and inclusion in VAS and deworming services

A key intervention under the ECT project was mainstreaming gender equality and disability in VAS and deworming services. Among the activities conducted included sensitization of community members and service providers.

In order, to assess how the project performed on this aspect, mother / caregivers were asked whether they had received any sensitization on gender equality and inclusion in the past six months. Majority of the respondents (77%) had not been sensitized while only 22% reported being sensitized. Among the few who had been sensitized, 21% has received the information through mass media, 17% through health facilities, 12% through group meetings/*chamas* while 11% got the information through community dialogues. It

is imperative to note that the project strategy for community sensitization of gender and inclusion was through community dialogues targeted at leaders and groups. From Figure 33 below, it would seem other sources and channels of communication such as mass media, health facilities and schools featured more prominently.

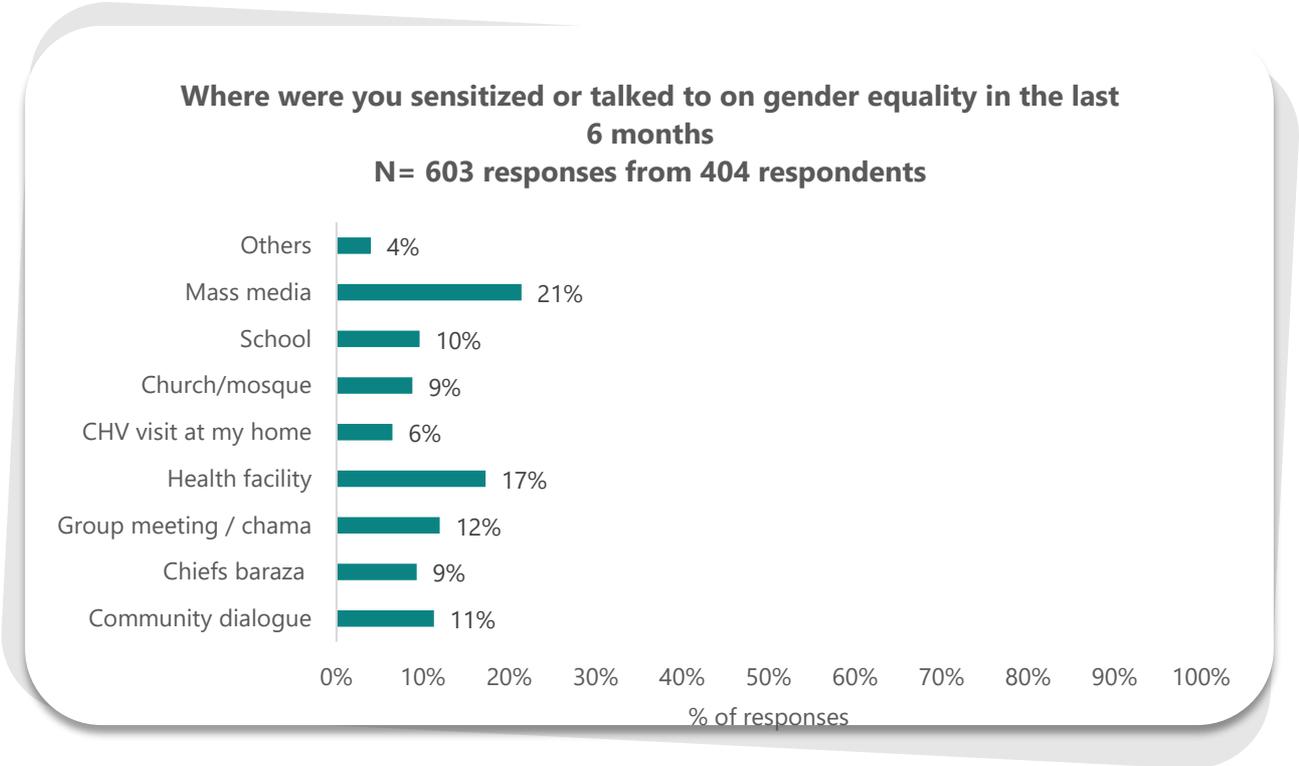


Figure 33: Where were you sensitized or talked to on gender equality in the last 6 months

### 3.4 Achievement of Project Outputs and Planned Activities

This section summarizes the project’s progress against planned activities and related outputs (as per the PMF). A comparison of baseline and endline against the PMF is annexed (1).

**Output 1110: Increased capacity of health system to deliver responsive combined deworming and Vitamin A programs in target communities**

<p>Percentage of target areas where combined vitamin A and deworming programs were implemented in the last year</p>	<p>All (100%) three target counties were supported to deliver combined Vitamin A and deworming interventions through <i>Malezi Bora</i>.</p>
<p>Percentage of community health workers who agree or strongly agree that vitamin A and de- worming are important for children’s health.</p>	<p>Among 99 CHVs who participated in the evaluation, 92% either agree or strongly agree that vitamin A is important for the health, growth and development of a child while 93.2% either agree or strongly agree</p>

that deworming is important for the health, growth and development of a child.

Progress against planned activities under Output 1110

1111: Cascade training for relevant male and female health system personnel and volunteers on gender equality, inclusion and how to implement responsive combined deworming and Vitamin A supplementation programming

The ECT project planned to train health workers and CHVs on gender equality and inclusion in the three counties. The target was achieved with a total of 116 % personnel trained.  
Among the 99 CHVs who participated in the evaluation, 73 (73.2%) confirmed that they had received training specific to the most recent *Malezi Bora*. Majority of the CHVs reported high or very high confidence in their ability to deliver the VAS+D as per guidelines.

1112: Standardized toolkit available for training on the implementation of responsive combined deworming and Vitamin A supplementation programming.

The project supported the development of a standardized toolkit for training healthcare providers on implementation of responsive combined deworming and Vitamin A supplementation. The toolkit contained tools for integrating gender and inclusion in planning, delivery, monitoring and evaluation of VAS and deworming services. Project-supported trainings utilized the standardized toolkit.

1113: Linkages and sex disaggregated data (sex, age, female headed households) sharing mechanism established, to ensure coordination for implementation and harmonization of data.

Sex and disability- disaggregated data on VAS and deworming services were disseminated through stakeholders' forums such as CNTF. During *Malezi Bora* planning meetings, target setting was done based on data disaggregated by gender and disability. Further *Malezi Bora* activity reports captured data that was disaggregated by gender, age and disability. Data review meetings after every *Malezi Bora*, emphasized gender and inclusion disaggregation of coverage data. By the end of the ECT project, all (100%) of the target areas had institutionalized the routine disaggregation of VAS and deworming data by gender and inclusion data.

Output 1120: Increased provision of preventative deworming treatments and Vitamin A supplements to girls and boys under 5, in target communities

Percentage of target areas that complete two campaigns per year

All (100%) the three project sites completed two *Malezi Bora* activities per year.

Progress against planned activities under Output 1120

1121: Responsive delivery of Vitamin A supplements and de-worming treatments to

All the three areas surveyed reported adequate stock of VAS and deworming commodities during *Malezi Bora*. This was credited to the elaborate planning

girls and boys under 5 using NTD-MDA program conducted	process before <i>Malezi Bora</i> activities and the review meetings that happened after the exercise.
1122: De-worming treatments and Vitamin A supplements procured.	The project supported forecasting and quantification of VAS+D commodities as part of micro-planning at county, sub-county and facility levels. In addition, the project streamlined supply flow from MoH main warehouse to the counties and coordinated with NI, UNICEF, and Vitamin Angels for supply planning.
1123: Responsive community preparation protocol implemented in target Health Regions and Districts.	All the 3 sites were supported to develop responsive community preparation protocol through the ECT project. The protocols were used in mobilizing communities for uptake of services during <i>Malezi Bora</i> activities.
Output 1210: Increased knowledge and community support for deworming, Vitamin A supplementation as well as the promotion of women's decision-making roles and male involvement to achieve positive maternal child health outcomes.	
Percentage of families in target areas who agree or strongly agree that combined vitamin A and de-worming is important.	Almost all (92%) the mothers and caregivers that participated in the survey agree or strongly agree that combined vitamin A and de-worming is important. This perception had remained positive since baseline and was much higher than the project target of 80%.
Percentage of trained CHWs who can identify at least 3 concrete actions to deliver responsive combined de-worming and Vitamin A supplementation programming	Over 90% of the trained CHVs were able to identify at least 3 concrete actions to deliver responsive combined de-worming and Vitamin A supplementation programming.
Progress against planned activities under Output 1210	
1211: Responsive communication and engagement plans implemented to increase knowledge about the importance of de-worming, Vitamin A supplementation as well as the promotion of women's decision-making roles and male involvement to achieve positive maternal and child health outcomes	In all the three target counties, information on the importance of VAS and deworming was disseminated through local radio. The project also supported production of 6,921 collateral items (including 1115 T-shirts, 6 banners, 1900 fliers, 1900 posters, 1900 checklists and 100 brochures). As started earlier in this report, CHVs and health facility staff were key sources of VAS and deworming information. Availability of counseling aids would have enhanced the quality of engagement between CHVs and mothers / caregivers.

1212: Develop responsive communication and engagement plans for the implementation of combined deworming and Vitamin A supplementation that also promotes women's decision-making roles and male involvement to achieve positive maternal and child health outcomes.

In all three counties, communication and engagement plans were developed and utilized during planning for VAS and deworming services.

Each of the three counties had a communication focal point who was supported to lead in implementing the communication strategy. Sensitization of community leaders on gender equality was done with an emphasis on empowering women to participate in household decision making and male involvement in child health issues.

1213: Conduct participatory activities with existing community leadership and health structures, gender equality and women's groups, women and men to develop community-driven responsive communication and engagement activities to increase knowledge and support for the importance of de-worming, vitamin A supplementation and effectively promote women's decision making roles and male involvement to achieve positive maternal and health outcomes in target communities.

Sensitization of community leaders on gender equality was done with an emphasis on empowering women to participate in household decision making and male involvement in child health issues.

Output 1220: Increased project capacity to deliver responsive programming that effectively addresses gender equality and inclusion barriers to accessing combined deworming and Vitamin A supplementation programming in target communities.

Percentage of able-bodied girls, disabled girls, able-bodied boys, and disabled boys aged 6-59 months who received combined deworming and vitamin A supplementation.

A total of 18 children who participated in the survey were disabled (11 boys and 7 girls). Out of the 11 disabled boys, 8 (73%) received combined deworming and vitamin A supplementation. On the other hand, out of the 7 disabled girls, 4 (57%) received combined deworming and vitamin A supplementation. A total of 1303 able-bodied children were surveyed (663 boys and 640 girls). 54% and 58% of able-bodied boys and girls respectively received combined deworming and vitamin A supplementation.

NB: Data disaggregation between disabled and able-bodied children for this survey should be interpreted with caution given the low sample ratio for the disabled.

Progress against planned activities under Output 1220

1221: Project staff, partners and implementers receive training on Gender Equality and Inclusion (including topics such as gender equality, applying equity to health programming, supporting women’s decision-making roles, encouraging male involvement) to ensure effective mainstreaming of gender equality and inclusion across all project activities.

Through the ECT project, nutrition stakeholders, project staff, county and national health workers involved in gender were trained on gender equality and social inclusion. As a result, plans, service delivery and post-event monitoring and reporting mainstreamed gender equality and inclusion.

1222: Update project gender equality strategy.

The project completed the updating, finalizing and implementation of Gender Equality Strategy, including implementing recommendations from mid-term review.

1223: Conduct a comprehensive gender and inclusion analysis to identify barriers, needs and opportunities that must be addressed in order, to design responsive deworming and Vitamin A supplementation interventions for girls and boys under 5.

The project conducted a gender and inclusion analysis that identified challenges and opportunities towards responsive deworming and Vitamin A supplementation interventions for girls and boys. The analysis informed refinement of project strategies tailored to local contexts.

## 4 CONCLUSION AND RECOMMENDATIONS

### 4.1 Conclusion

Drawing on the foregoing findings and discussions, the evaluator concluded that there has been a positive change in knowledge, attitudes, and practices regarding Vitamin A and deworming among mother and caregivers of children aged below five years in the project target areas. Secondly, there has been notable improvement in the capacity of S/CHMT, health workers and CHWs to implement an integrated vitamin A supplementation and deworming interventions targeting children under five years in the project areas. As a result of these improvements, the coverage for both VAS and deworming has increased as compared to baseline. The project has contributed to this increase both directly and indirectly. On the flipside, the evaluation findings underscore the challenge of sustaining the gains achieved by this project as aptly captured in the quote below:

***“The main challenge is to do with limitations in the routine delivery at health facilities where we have shortage of staff and insufficient budget for the health facility operations such as logistical facilitation of the staff to reach out to defaulters. Our county health budget is far lower than ideal. Even after we plan and allocate in the annual budget, reprioritizations happen and mostly it is the non-curative services such as nutrition that face the cut. Without our partners who come to fill the gap, strategies like Malezi bora would not be possible or would just happen to a very small scale. So, when this project ends, we really have to secure another partner otherwise we will be back where we started”***

***Key Informant***

Moving ahead, the emphasis need to shift towards sustainability of the VAS+D programme particularly through increasing domestic financing and further strengthening ownership and stewardship by the national and county governments.

## 4.2 Recommendations

### 4.2.1 Recommendations to Ministry of Health

No.	Emerging issues, gaps, challenges & lessons	Recommended Actions
1	Over reliance on donors for VAS and deworming programmes	Increase domestic financing for VAS and deworming
2	Sub-optimal coordination and duplication of efforts – nutrition, school deworming and NTD programmes	Harmonize approaches and plans, enhance collaboration and coordination across the three programmes
3	Integration of VAS and deworming is feasible and efficient	Adopt the lessons from the ECT project and support integration of VAS+D through policy guidance and capacity building.

### 4.2.2 Recommendations to County Governments

No.	Emerging issues, gaps, challenges & lessons	Recommended Actions
1	Poor prospects of sustainability beyond the current donor support	<ul style="list-style-type: none"> <li>Minimize reliance on donor support for delivery of VAS and deworming interventions. Gradually increase the allocation of budgetary resources for VAS and deworming services, including through <i>Malezi Bora</i> as an acceleration platform.</li> <li>Adopt and sustain the VAS+D service delivery structures, processes and activities implemented by the ECT project.</li> </ul>
2	Insufficient human resources CHVs have capacity gaps that hinder effective delivery of VAS and deworming	<ul style="list-style-type: none"> <li>Recruit more nutritionists and in the immediate to medium term adopt task-sharing to fill staffing gaps – but should be reinforced with appropriate training.</li> <li>Support refresher trainings for CHVs and equip them with job aids such as counselling cards (already developed at national level).</li> </ul>
3	Need to incorporate other health and non-health actors to increase efficiency and minimise missed opportunities	<ul style="list-style-type: none"> <li>Foster multi-sectoral collaboration and coordination among relevant departments of the county government, civil society and community-level entities in order to reach all eligible children with age-appropriate doses of VAS and deworming.</li> </ul>

		<ul style="list-style-type: none"> <li>Strengthen service integration with other programs to reach every last child, including through EPI, IMCI, etc</li> </ul>
4	Mobilization in high gear only during the <i>Malezi Bora</i> campaign which account for only 2 months out of 12 months in a year.	<ul style="list-style-type: none"> <li>Enhance social mobilisation and awareness creation on VAS and deworming as a routine activity that is scaled up in preparation for and during <i>Malezi Bora</i> events. Engage and support CHVs as one of the key channels of health information and community sensitisation.</li> </ul>
5	Gender equality and disability inclusion weak in programming	<ul style="list-style-type: none"> <li>Mainstream gender equality and disability inclusion in all county government planning, budgeting and monitoring functions broadly and specifically in planning and delivery of child health and nutrition services, including VAS and deworming.</li> </ul>
6	Duplication of efforts by <i>Malezi Bora</i> and school health programme	<ul style="list-style-type: none"> <li>Audit and align the parallel distribution of deworming by <i>Malezi Bora</i> and School Health programme. This will minimize errors of omission and commission in regard to administration of deworming drugs</li> </ul>
7	Insufficient periods to mobilise the community therefore resulted in missed opportunities	<ul style="list-style-type: none"> <li>Increase the time period for mobilization of <i>Malezi Bora</i> to enable the CHVs and health care workers an ample time to comprehensively marshal the community. This will minimize missed opportunities as a result of lack of information</li> </ul>
8	Gaps in monitoring and evaluation of VAS and deworming services	<ul style="list-style-type: none"> <li>Undertake Post-Event Coverage (PEC) survey immediately after May and October <i>Malezi Bora</i> events within an acceptable recall period (less than a month)</li> <li>Validate targets to address inaccuracies in administrative coverage based on routine HMIS data</li> <li>Undertake regular data review forum and use them to build knowledge on the most effective platforms to reach all children 6-59 months</li> </ul>

### 4.2.3 Recommendations to Helen Keller International and Other Implementing Partners

No.	Emerging issues, gaps, challenges & lessons	Recommended Actions
1	Inadequate domestic financing remains a bottleneck to Vitamin A supplementation	<ul style="list-style-type: none"> <li>Lobby for allocation of resources from county government to support VAS and deworming interventions in the county.</li> <li>Adopt a sliding scale fund-matching arrangement where county governments cost-share with donors for delivery of VAS+D, with the county government taking on a gradually increasing share.</li> </ul>
2	Project interventions lack sustainable approach and risk discontinuation upon termination of donor funding	<ul style="list-style-type: none"> <li>Integrate clear exit and sustainability strategy at design and throughout implementation of similar projects in future.</li> </ul>
3	Need for better documentation of best practices and knowledge transfer	<ul style="list-style-type: none"> <li>Document and disseminate the lessons learnt and best practices especially regarding VAS+D integration and delivery through multiple channels</li> </ul>

### 4.2.4 Recommendations to effect:hope and Other Donors

No.	Emerging issues, gaps, challenges & lessons	Recommended Actions
1	There was improvement from baseline, but targets were not achieved. There is need to consolidate gains and executive a better-organized handover.	<ul style="list-style-type: none"> <li>Provide funding for Phase II of the ECT project. This will enable the project to achieve stronger impact in the intervention areas and undertake a more strategic transition (where funds are allocated in the county budget to cater for costs hither-to borne by effect:hope)</li> </ul>
2	Poor prospects of sustainability beyond the current donor support	<ul style="list-style-type: none"> <li>Fund matching with the county government of Siaya, Kwale and Kilifi to ensure commitment and sustainability of the project interventions.</li> </ul>

## 5 ANNEXES

### 5.1 Annex 1: Progress Against Performance Monitoring Framework

Expected Results	Indicator	Baseline	Endline
1100 Improved responsive delivery of essential health services for mothers, pregnant women, newborns as well as girls and boys under-5 in target communities in Côte D'Ivoire and Kenya.	Percentage of girls and boys aged 6-59 months in target areas who received 2 doses of vitamin A during the previous 12 months.	Girls 27.7% Boys 33.7%	Girls 51.2% Boys 49.0%
	Percentage of girls and boys aged 12-59 months in target areas who received the recommended doses of albendazole in during the previous 12 months.	Girls 12- 59m: 29% Boys 12-59m: 27%	Girls 44.9% Boys 44.4%
	Percentage of families who report improved health in girls and boys aged 6-59 months after receiving de-worming treatments.	86%	75.7%
	Percentage of families who report improved health in girls and boys aged 6-59 after receiving vitamin A supplements.	86%	76.7%
1200 Increased uptake and utilization of combined de-worming and Vitamin A supplementation services for girls and boys under 5 by women and their male partners in targeted communities in Côte D'Ivoire and Kenya	Percentage of girls and boys aged 6-59 months who accessed project interventions at least twice in the previous year in target areas.		Girls 43% Boys 41.5% Both 42.3%
	Percentage of families surveyed who scored 60% or higher on the Child Health Knowledge index.	18.6%	12.7%
1110	Percentage of target areas where combined	0%	100%

Increased capacity of health system to deliver responsive combined de-worming and Vitamin A programs in target communities in Côte D'Ivoire and Kenya.	vitamin A and de-worming programs were implemented in the last year.		
	Percentage of community health workers who agree or strongly agree that vitamin A and de-worming are important for children's health.	Vitamin A: 100% Deworming: 100%	82.8%
1120 Increased provision of preventative de-worming treatments and Vitamin A supplements to girls and boys under 5, in target communities in Côte D'Ivoire and Kenya.	Percentage of target areas that complete two campaigns per year		100%
1210 Increased knowledge and community support for de-worming, Vitamin A supplementation as well as the promotion of women's decision-making roles and male involvement to achieve positive maternal child health outcomes.	Percentage of families in target areas who agree or strongly agree that combined vitamin A and de-worming is important.	Vitamin A: 98.1% Deworming: 95.4%	Vitamin A: 91.5% Deworming: 93.2% Both VAS and Deworming: 87.3%
	Percentage of trained CHWs who can identify at least 3 concrete actions to deliver responsive combined de-worming and Vitamin A supplementation programming.	Vitamin A: 46.2% Deworming: 9.2%	Vitamin A: 90% Deworming: 90%
1220 Increased project capacity to deliver responsive programming that effectively addresses	Percentage of able-bodied girls, disabled girls, able-bodied boys, and disabled boys aged 6-59 months who received combined de-		Disabled boys 66.7% (8) Disabled girls 33.3% (4)

gender equality and inclusion barriers to accessing combined de-worming and Vitamin A supplementation programming in target communities.	worming and vitamin A supplementation.		Able boys 49.2% Able girls 50.8%
1111 Cascade training for relevant male and female health system personnel and volunteers on gender equality, inclusion and how to implement responsive combined de-worming and Vitamin A supplementation programming conducted.	Percentage of planned health system personnel and community distributors trained.		116%
	Percentage of trained CHWs reporting that they are confident or very confident in their ability to deliver the treatment protocol.	Vitamin A: 56% Deworming: 75%	Vitamin A: 73.2% Deworming: 73.2%
1112 Standardized toolkit available for training on the implementation of responsive combined de-worming and Vitamin A supplementation programming.	Percentage of trainings where standardized toolkit is available and distributed.		23.2%
	Percentage of standardized tools that take gender and inclusion into account.		23.2%
1113 Linkages and sex disaggregated data (sex, age, female headed households) sharing mechanism established, to ensure coordination for implementation & harmonization of data	Percentage of planned coordination meetings held in last reporting period.		100%
	Percentage of target areas that collect gender and inclusion data.	0%	100%
1121 Responsive delivery of	Number of districts/ sub-counties where two	100%	100%

Vitamin A supplements and de-worming treatments to girls and boys under 5 using NTD-MDA program conducted	campaigns are completed each year.		
	% of districts and health areas who report a shortage in vitamin A and/or de-worming drugs during the campaigns.	Vitamin A: 66% Deworming: 33%	0%
1122 De-worming treatments and Vitamin A supplements procured.	Percentage of project implementers fully supplied with all required commodities (vitamin A and albendazole) and supplies (scissors, chalk, pens, markers, data collection forms, t-shirts) within one week of due date.		100%
1123 Responsive Community preparation protocol implemented in target Health Regions and Districts.	Number of target areas with completed community preparation protocol documentation		All the 3 sites
	Number of community preparation protocols that include gender equality and inclusion considerations.		17 community preparation protocols
1211 Responsive communication and engagement plans implemented to increase knowledge about the importance of de-worming, Vitamin A supplementation as well as the promotion of women's decision-making roles and male involvement to achieve positive	Number of target areas where radio spots are played by local radio stations		All the 3 sites
	Number of target areas with a communications focal point trained on responsive combined vitamin A and de-worming interventions		All the 3 sites
	Number of communication collateral items (posters, t-shirts) distributed		6,921 (T-shirts 1,115, Banners 6, Fliers 1,900, Posters 1,900, Checklist

maternal and child health outcomes.	Percentage of communication plans that include at least 5 activities to promote women’s decision making and male involvement	1,900, Brochures 100)
1212 Develop responsive communication and engagement plans for the implementation of combined de-worming and Vitamin A supplementation that also promotes women’s decision-making roles and male involvement to achieve positive maternal and child health outcomes.	Percentage of Communication & Engagement Plans developed	100%
1213 Conduct participatory activities with existing community leadership and health structures, gender equality and women’s groups, women and men to develop community-driven responsive communication and engagement activities to increase knowledge and support for the importance of de-worming, vitamin A supplementation and effectively promote women’s decision making roles and male involvement to achieve positive	Number of communication collateral items (posters, t-shirts) produced	6,921 (T-shirts 1,115, Banners 6, Fliers 1,900, Posters 1,900, Checklist 1,900, Brochures 100)
	% of planned participatory activities conducted prior to communication plan development	150%

maternal and health outcomes in target communities.			
1221 Project staff, partners and implementers receive training on Gender Equality and Inclusion (including topics such as gender equality, applying equity to health programming, supporting women's decision-making roles, encouraging male involvement) to ensure effective mainstreaming of gender equality and inclusion across all project activities.	% of implementing stakeholders who receive training in gender and inclusion		100%
	% of people trained who demonstrate a better comprehension of gender equality, inclusion, and their importance in health programming		95%
1222: Update project gender equality strategy.	Gender Equality Strategy is updated, finalized, and implemented		Completed and reviewed at midterm
	Percentage of gender equality and inclusion recommendations that are integrated in different parts of the project		100%
1223: Conduct a comprehensive gender and inclusion analysis to identify barriers, needs and opportunities that must be addressed in order to design responsive de-worming and Vitamin A supplementation interventions for girls and boys under 5.	Number of gender and inclusion analyses conducted		1 analysis conducted in 2017

## 5.2 Annex 2: Approval Letter from AMREF Ethical Scientific Review Commission



Amref Health Africa in Kenya

REF: AMREF – ESRC P732/2019

November 29, 2019

Kangethe Samuel  
Reinit Research limited  
P.O. Box 35312-00100  
Nairobi, Kenya.  
Tel: 0720638788  
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Dear Samuel Kangethe,

### RESEARCH PROTOCOL: ASSESSMENT OF COVERAGE OF VITAMIN A SUPPLEMENTATION AND DEWORMING OF CHILDREN AGED BELOW FIVE YEARS IN THREE COUNTIES OF KENYA

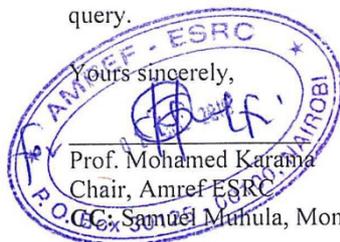
Thank you for submitting your protocol to the Amref Health Africa Ethics and Scientific Review Committee (ESRC).

This is to inform you that the ESRC has approved your protocol. The approval period is from November 29, 2019 to November 28, 2020 and is subject to compliance with the following requirements:

- a) Only approved documents (informed consents, study instruments, advertising materials etc.) will be used.
- b) All changes (amendments, deviations, violations etc.) are submitted for review and approval by Amref ESRC before implementation.
- c) Death and life threatening problems and severe adverse events (SAEs) or unexpected adverse events whether related or unrelated to the study must be reported to the ESRC immediately.
- d) Any changes, anticipated or otherwise that may increase the risks or affect safety or welfare of study participants and others or affect the integrity of the research must be reported to Amref ESRC immediately.
- e) Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period (attach a comprehensive progress report to support the renewal).
- f) Clearance for export of biological specimen or any form of data must be obtained from Amref ESRC and the relevant government authorities for each batch of shipment/export.
- g) Submission of an executive summary report within 90 days upon completion of the study. This information will form part of the data base that will be consulted in future when processing related research studies so as to minimize chances of study duplication and/or plagiarism.

Please do not hesitate to contact the ESRC Secretariat ([esrc.kenya@amref.org](mailto:esrc.kenya@amref.org)) for any clarification or query.

Yours sincerely,



Prof. Mohamed Karima  
Chair, Amref ESRC

CC: Samuel Muhula, Monitoring & Evaluation and Research Manager, Amref Health Africa in Kenya