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End of Project Evaluation of the School Health Malaria Control Initiative (SMHCI)

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List of Acronyms

ACT	Artemisinin-based Combination Treatment
AIDS	Acquired Immunodeficiency Syndrome
AL	Artemether Lumefantrine
AMREF	African Medical and Research Foundation
ANC	Antenatal Clinic
BCC	Behavior Change Communication
CHW	Community Health Worker
CHCs	Community Health Committees
CHEWS	Community Health Extension Workers
CORPS	Community Owned Resource Persons
DHMT	District Health Management Team
DoMC	Division of Malaria Control
FGD	Focus Group Discussions
HIV	Human Immunodeficiency Virus
IEC	Information Education and Communication
IRS	Indoor Residual Spraying
IPT	Intermittent Preventive Treatment
KNMS	Kenya National Malaria Strategy
KPC	Knowledge Practice Coverage
LLIN	Long Lasting Insecticide treated nets
MoE	Ministry of Education
MoH	Ministry of Health
NGO	Non Governmental Organization
NHSSP	National Health Sector Strategic Plan
SHMCI	School Health Malaria Control Initiative
SP	Sulphadoxine pyrmethamine
TB	Tuberculosis
UNICEF	United Nations International Children's Fund
UNESCO	United Nations Education and Scientific Cultural Organization
UNAIDS	United Nations AIDS
USAID	United States Agency for International Development
WHO	World Health Organization

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Executive Summary

The school health malaria control initiative (SHMCI) project had four complimentary intervention areas namely:

- ***Capacity Building***: to train school teachers on malaria control and prevention, after which they in turn educate school pupils on the same. To train Health workers on management of malaria using the newly introduced anti-malarials (AL)
- **School based health management information system:** to support collation of information on malaria and other diseases among school going children. The school pupils were to be taught on how to collect malaria related information to enable school pupils to make informed decisions on malaria control.
- **Behavior change and communication:** In this intervention school pupils were to be involved in the development of communication materials and passing key messages to fellow pupils and parents.
- **Advocacy:** The project intended to advocate for the introduction of malaria control interventions in all schools through the development of a school policy on malaria promotion.

The aim of this evaluation was four pronged;

- Assess current progress of the project against planned results and targets;
- Assess appropriateness of the project design and quality of programming
- Identify drivers of and challenges to effective project implementation;
- Provide recommendations on lessons learnt and potential for replication.

The Evaluation was conducted in Butula and Nambale divisions of Busia District, Funyula division of Samia district and Budalang'i division of Bunyala district, Western province. The report is based on data collected through: in-depth interviews with the project implementation team, key stakeholders; Ministry of Health (MoH) and Ministry of Education (MoE) personnel such as quality assurance inspectors and teachers); focus group discussions with community Health Workers (CHWs) and parents; and, a quantitative survey of school children and community members in the project site. This data was supplemented by a review of documents (project proposals, work plans, progress reports and documentation reports) related to the project.

The key findings of the project show that the capacity building component was averagely implemented with the project achieving over a third of the planned activities at school level. At the health system level, the planned targets were largely achieved. Seminars were held for various stakeholders in the project and specific training for 12 school inspectors and 136 teachers were done in addition to training 70 CHWs to support the project. School health clubs were established in all the 70 schools selected

to participate in the project. A number of factors facilitated this including building on previous experience of similar activities in the area.

The school based health information system was implemented late in the project cycle and was on going. In terms of the Behavior change and communication component, at school level, majority (83%) of pupils received the malaria messages from teachers and 33% reported having got the messages from their peers. The SHMCI project contributed significantly to improvements in pupils' knowledge of malaria symptoms and malaria control activities. Almost 93% of pupils were able to identify more than one malaria symptom, while on average 74% associated malaria with fever, 70% with headache. Only 27% associated diarrhea with malaria. Overall, 32% of pupils were absent once a term due to malaria with approximately 27% who had never been absent as a result of malaria. Pupils mostly disseminated information relating to malaria control to communities in most of the cases (40%), followed by information on hygiene practices (29%). Under the broader category of maternal health, information relating to malaria was still disseminated in majority of the cases (53%) followed by ANC (27%) and HIV (18%).The project also aimed at delivering a malaria school policy during the course of project implementation. While a workshop was held where a malaria training curriculum for teachers and pupils was developed, this activity was overtaken by events where a current school health policy documents has been launched in which malaria is included.

The implementation of the SHMCI faced various challenges that were programmatic, institutional and design in nature. There were significant delays to the start up of various project activities as a result of the post election violence. The smooth implementation of the project was influenced by the high and unmet expectations from the community. In addition, there was seemingly insufficient buy-in from some teachers as evidenced by the concerns they raised. A second challenge was the poor documentation of project activities at the school level. This lack of proper documentation was seen during the evaluation from the difficulty experienced in getting up-to-date records on the number of registers distributed.

Key recommendations from this evaluation include:

- The need for better engagement with the stakeholders including NGOs working in the area. It is also important to spend more time in communicating the goals and objectives of a project to the stakeholders to avoid miscommunication and potential fallout.
- Second, there were two key components of the SHMCI project that were overtaken by events; the school based health management system and the development of a school policy. In the first instance, school health registers were not delivered on time and teachers were not adequately trained on how to use them. Further, efforts were not made to link the school with the local health facilities. On the other hand, activities slated under the development of a school

health policy were overtaken by time because the MoE had already commenced a similar initiative. The need for a continuous network prior to and during the implementation process is apparent. We also suggest that since a school health policy has already been developed by the MoE and other stakeholders, we recommend that AMREF consider taking an active role in disseminating the current guidelines and policy to schools since this will support all health activities in schools.

- Third, the SHMCI project had the potential to positively impact on the fight against malaria in the project areas. However, most of the planned activities were hurriedly implemented or failed to take-off due to time constraints. In the light of this, the SHMCI project staff should seek for an extension of the project period in order to adequately complete the implementation of these components.
- Fourth, the capacity building component was well done. Teachers, CHWs, MoE and MoH actors were trained on the project's activities. School health clubs were set up in the target schools and they did recruit students. However, the fact that only a few teachers were trained is a threat to the sustainability of the project since teachers can retire or can move to other schools. Thus, there is need to urgently undertake additional training to increase the pool of trained teachers that can be used as well as sensitize teachers on the importance of the project.
- Fifth, there is need to explore appropriate means of motivating different stakeholders involved in such a project to galvanize their support. The CHWs for instance played a critical role in facilitating the linkages between the school, the community and the health facilities. Such actors require more support to keep them sufficiently motivated.
- Finally, the decision to only provide nets to pupils enrolled in health clubs might have been counter-productive. It is recommended that alternative means be explore to motivate all pupils in the participating schools in order to promote greater buy-in of such projects.

1.0: Introduction and Background

1.1 Introduction

The work reported here was commissioned by the African Medical and Research Foundation (AMREF) to conduct an end of project evaluation of the School Health Malaria Control Initiative (SHMCI) in Busia. AMREF is an independent non-profit, non-governmental organization (NGO) founded in 1957 with country offices in Kenya, Uganda, Tanzania, South Africa, Southern Sudan and Ethiopia, and program presence in Somalia. AMREF's places emphasis on developing, testing and evaluating methodologies and systems that are appropriate, affordable and effective. AMREF's major targets are the vulnerable groups including women, children, adolescents, youth, the elderly, people with disabilities and the poor in rural and urban underserved areas. The Kenya Country Program implements project activities under four program areas namely; Human Immunodeficiency Virus/Acquired Immunodeficiency syndrome HIV/AIDS and Tuberculosis (TB), Environmental health, Child and Reproductive Health and clinical services. These are implemented under three thematic areas namely; Community partnering, health systems research and capacity building. The consultancy was commissioned in October 2009, and was undertaken in November 2009.

1.2 Background

1.2.1 Malaria in Kenya

Malaria is the world's most important parasitic infection, ranking among the major health and developmental challenges for the poor countries of the world [1]. Recent global indices show that in 2002, 2.2 billion people were exposed to the threat of *Plasmodium falciparum* malaria, resulting to an estimate of 515 (range 300–660) million clinical attacks attributable to this parasite during that year [2]. A description of spatial analysis of populations at risk of *P. falciparum*, indicate that 2.37 billion people are at risk of *P.falciparum* transmission worldwide with 26% in the African region. Globally, 42% of the population exposed with *P. falciparum* were classified as inhabiting areas of unstable transmission [3]. All four species of human *Plasmodium* occur in Kenya: *P. falciparum, P. malariae, P. ovale* and *P. vivax*. *P. falciparum,* which causes the severest form of the disease, accounts for 98 % of all malaria infections. The major malaria vectors in Kenya are members of the *Anopheles gambiae* complex and *An. Funestus* [4].

The epidemiological patterns in Kenya are largely determined by altitude, rainfall patterns and temperature. This creates four main malaria epidemiological zones. First are the endemic areas which have stable malaria with altitudes ranging from 0 to 1,300 meters around Lake Victoria in western Kenya and the coastal area. The vector life cycle is usually short and survival rates are high because of the suitable climatic conditions. Transmission is intense throughout the year, with annual entomological inoculation rates of 30–100. The second zone are the seasonal transmission areas mostly in arid and semi-arid areas of northern and southeastern parts of the country which experience short periods of intense malaria transmission during the rainfall seasons. The third zone

is the epidemic prone area of western highlands of Kenya. Malaria transmission is seasonal, with considerable year-to-year variation. Epidemics are experienced when climatic conditions favor sustainability of minimum temperatures of around 18°C. This increase in minimum temperatures during the long rains favors and sustains vector breeding, resulting in increased intensity of malaria transmission. The whole population is vulnerable and case fatality rates during an epidemic can be up to ten times greater than those experienced in regions where malaria occurs regularly. The fourth zone is the low risk malaria areas which covers the central highlands of Kenya including Nairobi. The temperatures are usually too low to allow completion of the sporogonic cycle of the malaria parasite in the vector. However, the increasing temperatures and changes in the hydrological cycle associated with climate change are likely to increase the areas suitable for malaria vector breeding introducing malaria transmission in areas where it had not existed before[4].

In terms of malaria burden, each year, it is estimated that 20 million Kenyans are regularly infected by *P. falciparum* with children being the most affected of whom an estimated 26,000 die from the direct consequences of malaria infection[5]. The current estimates indicate that clinically diagnosed malaria is responsible for 30 per cent of outpatient consultations, 15 per cent of hospital admissions and 3–5 per cent of inpatient deaths. In 2007 for example, based on health management information system data, there were 9.2 million reported clinically diagnosed malaria cases in the public health sector. Inpatient data show that malaria is responsible for about one-fifth of admissions nationally [4]. In terms of case management, Kenya adopted the artemisinin-based combination treatment (ACT) artemether lumefantrine (AL) as the first-line treatment for uncomplicated malaria following the precipitous decline in the efficacy of sulphadoxine pyrmethamine (SP) in 2004 [6]. AL was rolled out in 2006 with efficacy at baseline being 96 % which remained the same in 2008 [4].

In Kenya, the national malaria control programme is operationalised by the Division of Malaria Control (DoMC). The DoMC has the overall responsibility for planning and coordination of inputs and activities for malaria control at all levels. DoMC activities are guided by the Kenya National Malaria Strategy (KNMS). The recently launched current eight year KNMS spells out six specific objectives with operational targets within specified periods. Two of these objectives support interventions that focus on school malaria prevention initiatives. In particular, objective one aims to have at least 80 % of people living in malaria risk areas using appropriate malaria prevention interventions by 2013. One of the activities within this objective is to support malaria-free schools initiative through a package of interventions that includes distribution of Long Lasting Insecticide Treated Nets (LLITN), mainstreaming malaria control in the school curriculum and implementation of indoor Residual Spraying (IRS) in schools. Focus in schools is also mentioned in the fourth objective that aims to strengthen surveillance, monitoring and evaluation systems so that key malaria indicators are routinely monitored and evaluated in all malaria endemic districts by 2011. The approach aims to strengthen facility and school-based malaria surveillance with a sentinel school-based monitoring of parasite

prevalence being undertaken on annual basis. Embedded within the KNMS is the recognition of the role of Information Education and Communication (IEC) activities to enhance malaria control activities. Among the key partners identified to support the IEC strategy is the ministry of education (MoE) which oversees schools and develops curriculum for the education sector.

1.2.2 Malaria Control Strategies through Schools

From an educational perspective, school health programs aim to improve learning and related outcomes through enhanced health and nutrition. United Nations International Children's Fund (UNICEF) child-friendly schools, the World Health Organization's (WHO) health promoting schools and the World Bank's International School Health Initiative, are all part of global efforts to improve educational outcomes and access to health facilities, as defined in the Education for All initiative adopted/promoted by United Nations Education and Scientific Cultural Organization (UNESCO) [7]. In addition, governments are also increasingly recognizing the importance of child health for educational achievement [7].

In the context of malaria control, little is known about the burden of malaria in African school children. The available evidence suggests that malaria causes up to 50% of all deaths in this age group, and is an important contributor to anemia and may have profound consequences for learning and educational achievement [8]. There are several malaria control interventions through the schools which appear promising. One is skill-based health education on use of LLITN. School based malaria control initiatives are based on their potential to improve coverage and enhance benefits in terms of social equity. Secondly, schools are good avenues for promoting appropriate behavior through new approaches such as chemoprevention to deliver malaria chemoprophylaxis. This has been associated with significant reduction in malaria-related morbidity and mortality as well as improvements in educational outcomes including improved school examination scores. This has however been challenged by concerns over the rising levels of drug resistance. An alternative approach borrowed from the intermittent preventive treatment (IPT) among pregnant women has shown some promising outcomes. In Kenya, a study in Western Kenya that had mass administration of a full therapeutic course of an antimalarial drug to schoolchildren once a term, irrespective of infection status, dramatically reduced malaria parasitaemia, almost halved the rates of anemia and significantly improved cognitive ability [9].

The third promising approach is presumptive treatment of school children by teachers in schools. Although this approach might raise questions about the reliability of diagnosis by non-health personnel and the long-term motivation of teachers to play a health role, a large scale programmatic evaluation in Malawian schools showed that such treatment was associated with a reduction in malaria specific mortality among schoolchildren [8]. Finally, a recent article which reviewed the historical experience and current rationale for the use of schools and school children as a complementary, inexpensive framework for malaria planning, monitoring [10] indicate that schools can provide a rapid, cheap

and sustainable platform to disseminate information on malaria risk among communities. In the context of all these promising interventions, the options selected needs to be guided by an informed understanding of the epidemiology and geography of malaria. With this understanding, the SHMCI project was implemented by AMREF to provide a holistic approach to malaria control in the larger Busia districts of Western Kenya.

1.2.3 Overview of the School Health Malaria Control Initiative (SHMCI)

The SHMCI project was implemented on a partnership agreement between AMREF Spain and AMREF Kenya and funded to a tune of 150,000 Euros. The SHMCI project has been in operation since December 2007 and was expected to run up to June 2009. However, due to post-election violence in Kenya in 2007, splitting of Busia district into two separate districts, floods and a cholera outbreak, some of the planned activities could not be implemented as planned. The project was therefore awarded a no-cost extension of 6 months to December 2009.

The SHMCI project was implemented in four divisions; Nambale and Butula divisions in Busia district, Funyula division in Samia district and Budalangi division in Bunyala district. Table 1 summaries key indices of the project sites. Importantly, the under five mortality and infant mortality of the project sites is above the national averages of 77/1000 and 115/1000 respectively. The maternal mortality ratio is also 64% higher than the national average of 414/100,000. Other characteristics indicate that the primary school enrolment rates are 92% for boys and 91% for girls respectively. Dropout rates are 10% for boys and 12% for girls. Access to health facilities is a major challenge due to poor road network and lack of affordable means of transport as well as staff shortages in most of the facilities located in the interior of the district.

The goal of the project was to contribute towards the reduction of malaria related morbidity and mortality among school pupils in the project sites by December 2009. The current program was developed against a backdrop of high poverty levels, high malaria endemicity and the need to support malaria control initiatives through the school, by building local capacity to reduce the impact of malaria. To achieve this goal, the project had four strategic objectives;

i. To increase awareness on the importance of malaria prevention and control among 100,019 school children and the community in the three districts;
ii. To develop a malaria school policy as well as relevant malaria communication materials for use in 230 schools in the project sites and the country at large;
iii. To train health care workers and community health workers on the case management of malaria with the new antimalarial drug, AL;
iv. To document and disseminate lessons learned for wider use.

Table 1: Summary Indices of the Project Site

Characteristics	Value
Population coverage	415,000 people
% of people living below poverty line (defined as people living on less than 1 USD per day)	67%
Infant mortality	80/1000 live births
under five mortality	144/1,000
Maternal mortality ratio	680/100,000 live births
Total number of schools	230 schools
Total school enrollment	128,388 pupils
Schools enrollment: Girls	63,463 girls
School enrollment: Boys	64,925 boys
Pupil: teacher ratio	58:1
Total teachers	2226 teachers
literacy level: males	76%
literacy level: females	55.3%
Number of Health facilities by type	
Hospitals	3
Health centers	6
Private clinics	4
Dispensaries	21

The expected outcomes were; i) increased awareness on malaria among school pupils, ii) reduced malaria incidence among school pupils, iii) reduced absenteeism attributed to malaria, and iv) developing malaria communication materials and policy for schools. The main stakeholders for this project were the ministry of education, ministry of health and the communities. Others were donor and the civil society organizations involved in malaria control.

The project had four complimentary intervention areas namely:

- ***Capacity Building***: to train school teachers on malaria control and prevention, after which they in turn educate school pupils on the same. To train Health workers on management of malaria using the newly introduced anti-malarials (AL).
- **School based health management information system:** The system was to support collation of information on malaria and other diseases among school going children. The school pupils were to be taught on how to collect malaria related information to enable school pupils to make informed decisions on malaria control.

- **Behavior change and communication:** In this intervention school pupils were to be involved in the development of communication materials and passing key messages to fellow pupils and parents.

- **Advocacy:** The project intended to advocate for the introduction of malaria control interventions in all schools through the development of a school policy on malaria promotion. Lessons learnt from the project were to be shared with other partners to convince them on the relevance of promoting school-based interventions.

1.3 Terms of Reference

The terms of reference for the evaluation were to conduct an end of term evaluation for the SHMCI project in order to:

i) Assess current progress of the project against planned results and targets,
ii) Assess appropriateness of the project design and quality of programming,
iii) Identify drivers of and challenges to effective project implementation,
iv) Provide recommendations on lessons learnt and potential for replication

The particular tasks of the assessment were;

- Review of relevant literature related to the assignment
- Design of the assessment methodology including data collection
- Identify key information gaps, study limitation that may require further research
- Produce an evaluation report and
- Participate in disseminating the findings

2.0 Methods and Evaluation Approach

A combination of process and standard summative evaluation frameworks were used to address the TOR. Process evaluation dimension were used in assessing the extent to which the planned activities were implemented and address the question of appropriateness of the project design as well as quality of programming. On the other hand, summative evaluation was used for assessing the extent to which implemented activities led to outcomes in line with the project objectives [11, 12]. Since the project had multiple elements [13, 14], an evaluation design that that is amenable to assessment of outcomes and explanatory factors that may have influenced the outcomes was used [11]. Figure 1 below is an adapted matrix that guided the evaluation design. The matrix presents generic questions that were adapted to the SHMCI project. The horizontal axis considers outcomes of interest while evaluating the performance of an intervention or its outcomes in terms of behavioral indicators. Performance is measured through provision, utilization and coverage. Outcomes may be long-term or intermediate outcome which provide evidence of progress. For example in the SHMCI project this could be viewed as reduction in absenteeism, low malaria incidence, number of teachers or health workers trained, or improved knowledge on malaria control and prevention among pupils and communities. The vertical axis focuses on the degree of certainty that the observed outcomes are due to the program implemented, and is divided into adequacy (measured against planned objectives), plausibility (Making causal statements of outcome of intervention) and probability assessments [11].

Figure 1. Evaluation Design for Complex Interventions

What do you want measure? →

How sure do you want to be? ↓

Evaluation /inference	**Performance**			**Outcome**
	Provision	Utilization	Coverage	
Adequacy (changes occur in relation to objectives)	Is there evidence of project activities?	Are services /activities implemented being used by target group?	Is target population being reached?	Were there improvements in capacity / awareness /reduced absenteeism /incidence of malaria among children/school malaria policy
Plausibility (effect above and beyond external influence)	Is there improvement in levels of malaria knowledge in intervention schools?			Are there changes that appear to be beneficial to intervention schools
Probability (program effect)	Is intervention better than control group/baseline data?			Are changes in behavior /health more beneficial to intervention than control group?

For the SHMCI project, we used a plausibility assessment which aimed to make causal statements linking the intervention and measured outcome(s). This was based on a cross sectional survey that examined three key domains that were critical for understanding implementation process. The domains were;

- Implementation process - which entailed understanding implementation of activities based on what and how inputs were used and the context in which they were implemented. This answered the question of to what extent planned activities were implemented
- Effectiveness - whether the inputs led to an outcome and how this came about. This helped us identify key drivers of effective implementation and the context in which recommendations were drawn.
- Efficiency - which address the operational system from which the outcomes were achieved. From this domain, we were able to draw out lessons learnt (process, organizational, sustainability, models of developing malaria school policy and potential replication).

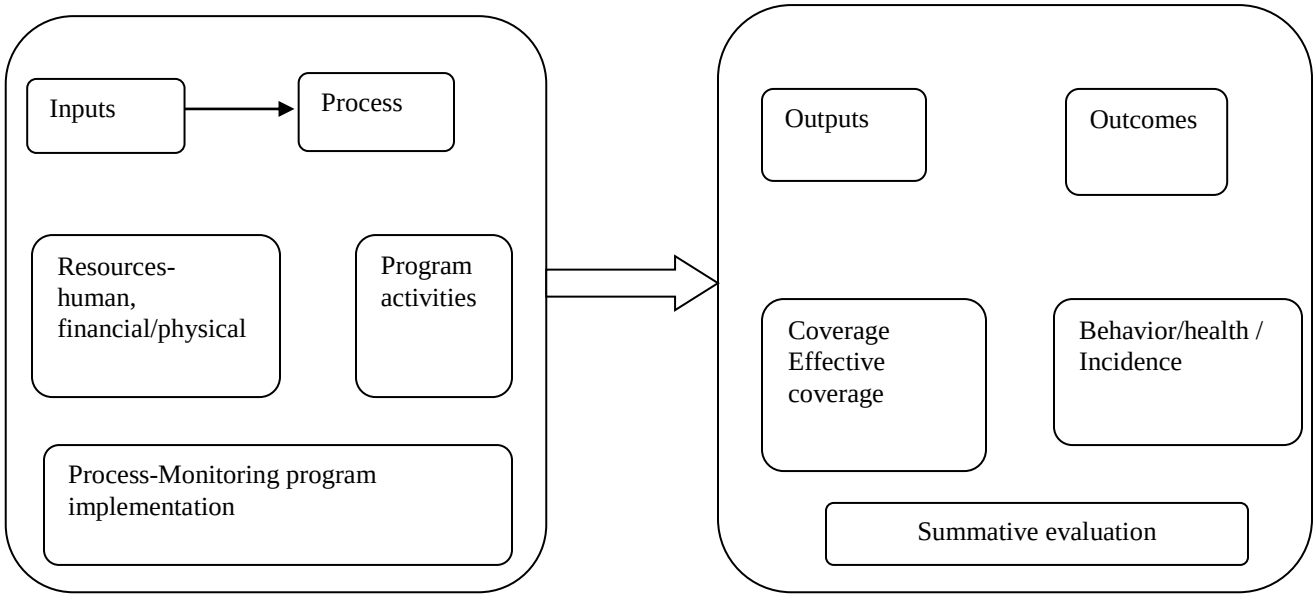
The three key domains and the issues addressed under each of them are summarized in Table 2 below.

Table 2: Key Domains for the evaluation process

Key domains	Key issues examined
Implementation process (process evaluation elements)	✓ Described process of implementation; time lines, factors influencing implementation and delivery, appropriateness of project design and quality of programming ✓ What inputs (project elements) produced best results?-to draw key lessons for future programs ✓ How were the inputs implemented to deliver best results (what context and nature of actors, involvement of actors /partners and relationships developed)-help identify key drivers for effective implementation
Effectiveness domain (Direct results of intervention)	✓ What outcomes are observed- (IEC distributed, increased awareness of malaria control activities/ reduced absenteeism/nature of capacity building ✓ What do the outcomes mean? ✓ Did the program make a difference and in what way (help document narratives of best practice)
Efficiency domain (efficient mechanisms of operation)	✓ Measures of improving delivery of intervention, programmatic changes for effective delivery, institutional management issues

One critical element of this project was capacity building for school teachers, CHWs and health workers. In order to address the extent this contributed to the outcomes of the overall malaria control activities, we assessed the initiatives implemented which enhanced the efficiency and effectiveness of these individuals. The overall framework is embedded on the key project milestones from inception, the implementation process and their subsequent outcome. In order to adequately capture this process a logic model that systematically helps link the inputs to their outcomes is presented in figure 2 below.

Figure 2: Logic Model of the Evaluation Process



2.1 Evaluation Methods

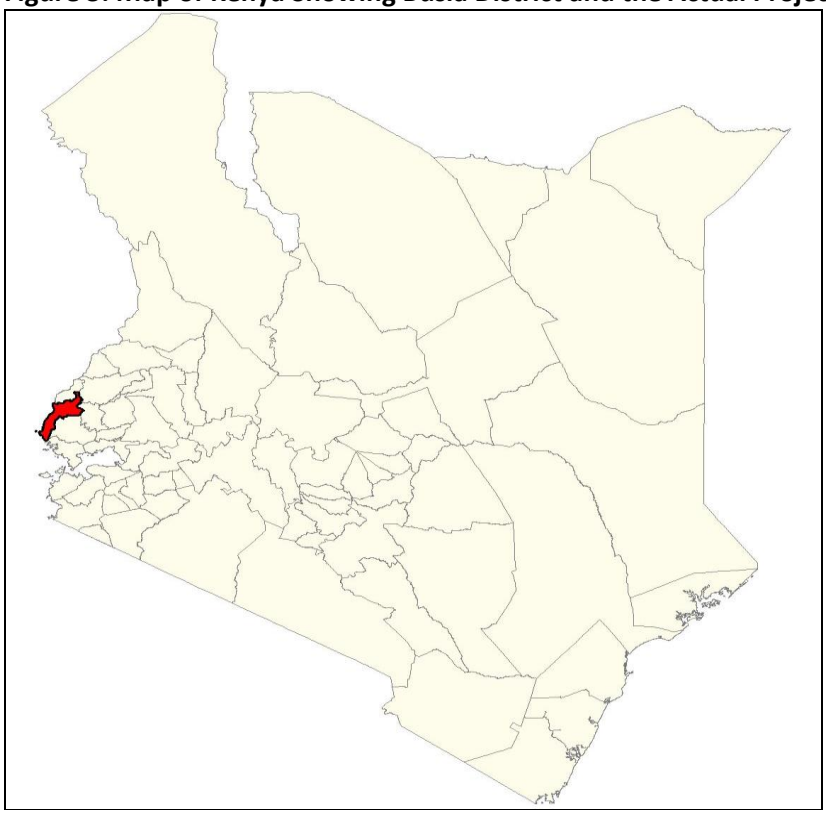
2.1.1 Study Design

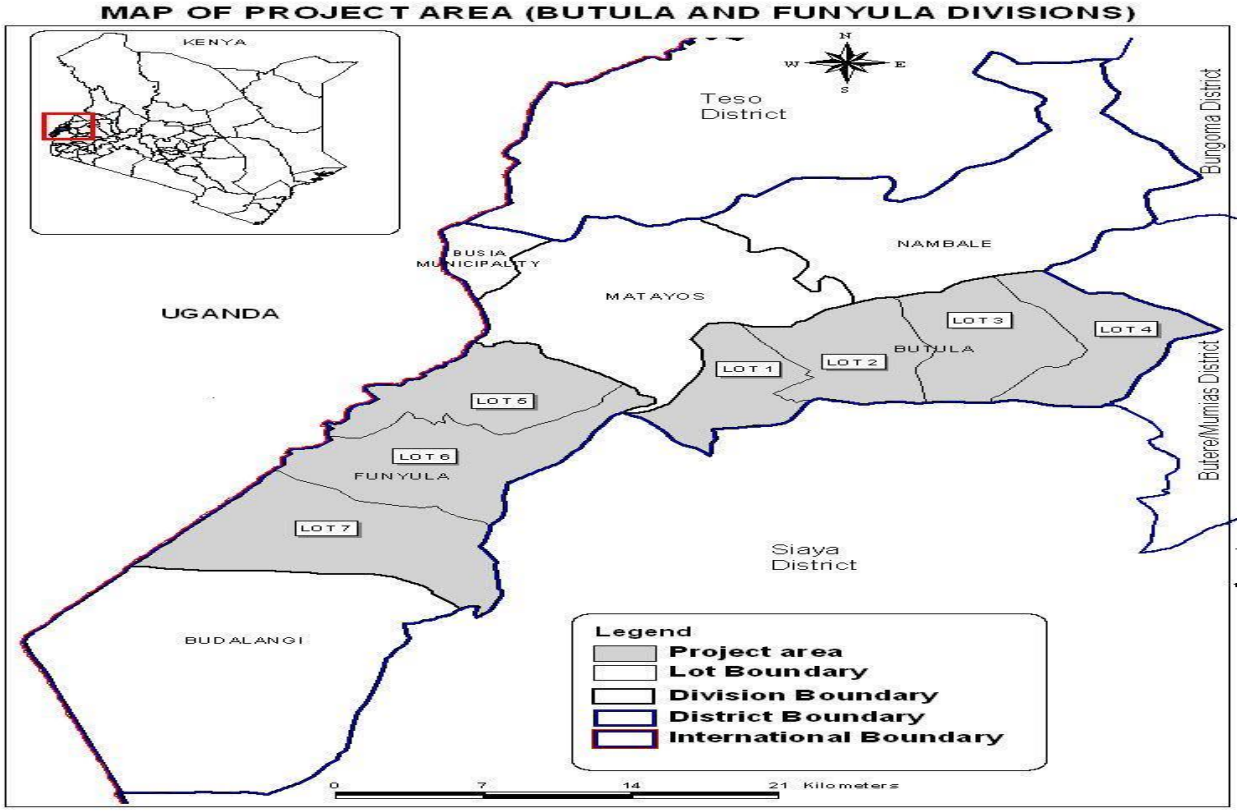
The assessment was based on a cross sectional survey using both qualitative and quantitative data collection methods. The team of consultants worked together with AMREF project officers during the different phases of the evaluation process to build consensus on the indicators of the various components of the intervention.

2.1.2 Study Sites

Data for this assessment was collected from three districts that were carved out from the larger Busia district, which include Busia, Samia and Bunyala. Figure 3 below shows two maps; one showing the location of the larger Busia district in Kenya, and the second one showing the project sites as defined during the set up phase.

Figure 3: Map of Kenya Showing Busia District and the Actual Project Sites





2.1.3 Sampling

Study participants for this evaluation were drawn from four categories:

i) School system-school teachers, pupils and key MoE actors
ii) Health care system- Public health offices and the District health management teams (DHMT) members involved in the project.
iii) Community level–Community health workers (CHWs) and parents of pupils in the project schools and community members around the project schools.
iv) AMREF actors-project officers responsible for implementation.

A multi stage sampling technique was used to assess the quantitative outcome of the program at the school level. Using a population survey approach with an expected frequency of 50% for the level of awareness of malaria control activities among pupils with the worst case scenario being 58% at 90% power, a sample of 1663 pupils was selected from a population of 100,109 pupils targeted by the project. A slightly bigger sample of 1700 pupils was however targeted to cater for potential losses across the project schools. To achieve this we first took a list of all the school involved in the project (70 of them) from each of the three districts (see Annexes). There were 24 project schools in Butula division, 11 in Nambale division, 26 in Samia and 10 in Buyala division. To have a representative sample commensurate to the number of schools involved in each site a ratio of 7:3:8:3 schools was derived from each site respectively. Based on this ratio, we then randomly sampled without replacements using STATA version 10 (Stata Corp, College Station, Texas, USA) a total of 21 schools which generated at least 80 pupils per school to give 1700 pupils. At school level we used a school register to randomly select 16 pupils per class between class 4 and 8. To assess the outcome at community level we analyzed data from a survey of 560 respondents that had been conducted by the project staff as part of monitoring progress prior to this evaluation.

Sampling in qualitative studies focused on actors involved in the implementation. Purposive sampling [15], was used to select actors who provided information on the project activities. Identification of actors was done through document reviews and snowballing techniques. Study participants for focus group discussions (FGDs) were drawn from CHWs and the parents of pupils in the project site. Sampling for FGDs aimed to create a homogenous group with similar experiences to facilitate free dialogue [16] and enabled an examination of implementation experiences.

2.1.4. Data Collection Methods and Tools

2.1.4.1 Desk Review

Desk review of various documents was done to assess the implementation process and progress. Records reviewed included project proposal and annual reports. Results from the desk review enabled an understanding of the project aims, context and supported triangulation of experiences and helped to construct the planned activities against the implemented.

2.1.4.2 In-Depth Interviews With Key Project Actors

In-depth interviews were conducted with actors drawn from the four categories identified in section 2.1.3 above. The focus of the discussion varied across different actors but largely examined implementation processes, perceived outcomes and factors influencing the implementation process and outcome. All the interviews were held at convenient places for the participants. Note taking was enhanced through use of two note takers who took notes on alternate times.

2.1.4.3 Focus Group Discussions

To gather views on perceived benefits and implementation experiences, we conducted FGD with CHWs and parents of pupils to collect views on the potential outcomes and challenges experienced in the implementation. Participants were recruited through the support of AMREF project officers. The number of participants in each FGD averaged between 8-12 persons per session. Biographical data of all participants were collected to examine the relationships between findings and these variables. Two research assistants under the guidance of the lead consultants collected this data. All discussions were done in languages understandable to the participants and within the boundaries of confidentiality agreed at the time of discussions.

2.1.4.4 Quantitative Survey

A quantitative survey was conducted among 1680 pupils. The questionnaires were developed in line with the project indicators and focussed on levels of awareness of malaria control activities among pupils and perceived outcomes. This assessed the effectiveness of Child to child approach of the project. An additional data set from a community survey conducted among 560 community members to examine the effectiveness of child to parent approach of the BCC strategy of the project. Table 3 provides a summary of all methods and the participants involved. Copies of tools are presented as Annex.

Table 3: Types and Number of Interviews

Data Collection Technique	Category of Participants	Participants
School level		
In depth interviews	Teachers	9
	Ministry of Education actors	3
	Pupils	1680
Health facility level		
In depth interviews	Public health officers	3
	District level managers	2
Focus groups discussions	CHWs	2
	Parents	2
Community level		
Community survey	Community members	560
Project staff level		
In depth interview	AMREF project staff	4

3.0: Results of the SHMCI Assessment

The findings are presented systematically along the planned activity under each intervention component in order to derive the extent to which the project targets were met and examine outcomes achieved.

3.1 Capacity Building

Several activities were undertaken as part of the capacity building component and included the training of trainers (Community Health Extension Workers [CHEWs] and quality assurance officers from the MoE), teachers, and CHWs. This led to the formation of health clubs and the development of School Health Information Systems. The extent to which various activities under each component were implemented was assessed by reviewing project documents and holding interviews with key stakeholders including teachers and area education officers.

3.1.1 Training of Trainers

As part of implementation of the first objective (to increase awareness on the importance of malaria prevention and control among school children and the community), a number of activities were conducted to build the capacity of various stakeholders involved. For example, 12 school inspectors referred to as quality assurance officers within the MoE were trained as Trainers of Trainers (TOTs). The process of training was through a three day residential workshop. The facilitators used a training curriculum developed by stakeholders from the MoH and MoE. This was followed by an action plan for training teachers formulated by Quality Assurance Officers (QASO) for use in their areas of areas of operation.

3.1.2 Training of Teachers

The selection of teachers who were appointed as patrons of school health clubs was preceded by sensitization meetings undertaken by the QASOs within the catchment area. Part of the sensitization involved holding meetings with the respective school administrations first, to evaluate the capacity of the schools to be involved in the SHMCI project and share more information about the school health initiative. Although the criteria for selecting teachers as patrons of Health Clubs was not made apparent during the interviews, it was clear that most of those chosen as health club patrons were previously involved in related initiatives as reported by the following quotes;

"…I *was a patron in APHIA II club formerly a club in the school so when AMREF came in, I automatically fitted in the project"*

"…I was a health teacher in the school, in an already existing Program – ICS and IPA."

"…I was in charge of sanitation and when AMREF came up, I joined in due to the close relationship of sanitation and health"

Two teachers were trained from each project school. This was to ensure that if one teacher left the school, the remaining one would continue supporting the project.

There were situations where four teachers did not turn up for the training owing to various reasons explored during the qualitative interviews which included sickness or other commitments. Documentary review suggests that an orientation was organized at the school level for them. The teachers were to use this knowledge acquired on malaria prevention and control to train their pupils and help develop health messages on malaria and maternal child health. A total of 136 teachers from all the 70 project schools were trained on issues relating to malaria prevention and control and the responsibilities of a school health patron. This was a three day non residential training conducted by QASOs who had earlier been trained as TOTs. Some members of the DHMT acted as facilitators.

The process of capacity building among teachers culminated with the school patrons (teachers trained) forming 70 school health clubs to institutionalize malaria interventions in schools. These teachers were asked to recruit pupils from class four to eight to join the club. Discussions with teachers indicated that this was successful with many schools having at least a school health club each comprising of 40-60 pupils. The clubs operated within the school calendar and met once or twice in a month either Tuesdays or Wednesdays. Club activities mainly aimed at creating awareness of malaria control amongst fellow pupils. Every member of the health club was encouraged to pass malaria prevention messages to between 2-5 pupils who were non members. Most club patrons who were interviewed indicated that the clubs were involved in several activities including environmental management, drama & songs, and clean up exercise involving collection of garbage, digging and filling of trenches as part of sensitization campaign among other students who were not members of the health clubs and entire school community. As one teacher noted during the interviews, "*the health club members are used as peer educators where they send the messages we give them home, and also pass them on during occasions such as parent's days".*

The patrons were also involved in several other sensitization and advocacy activities, organized meetings to discuss malaria control strategies and supported in developing messages which were for instance used in poems, songs and skits with malaria messages. This was corroborated from discussions with pupils who also reported that they were taught poems, drama and songs, which they used as medium to disseminate information relating to Malaria control. Members of the health clubs were also encouraged to share the messages through a number of forums. First pupils and teachers described school parades, public holidays and parent's days as forums where they participated in passing the messages through songs or skits. There were however gaps in the implementation of some activities. For example, teachers reported that there were plans to have a session where schools would participate in competitions based on the songs and skits developed. The best teams were to receive presents. However, discussion with the teachers and the project staff shows that was never implemented. Instead arrangements were made with the MoE to use the trophies bought for such competition to award the best schools in both educational and health activities during the MoE- organized education days. Overall, club patrons supervised

the work undertaken by health club members including teaching and supervising environmental management activities such as bush clearing and garbage collection among other activities. It is clear from this description that most of the planned activities were undertaken as planned, except a few.

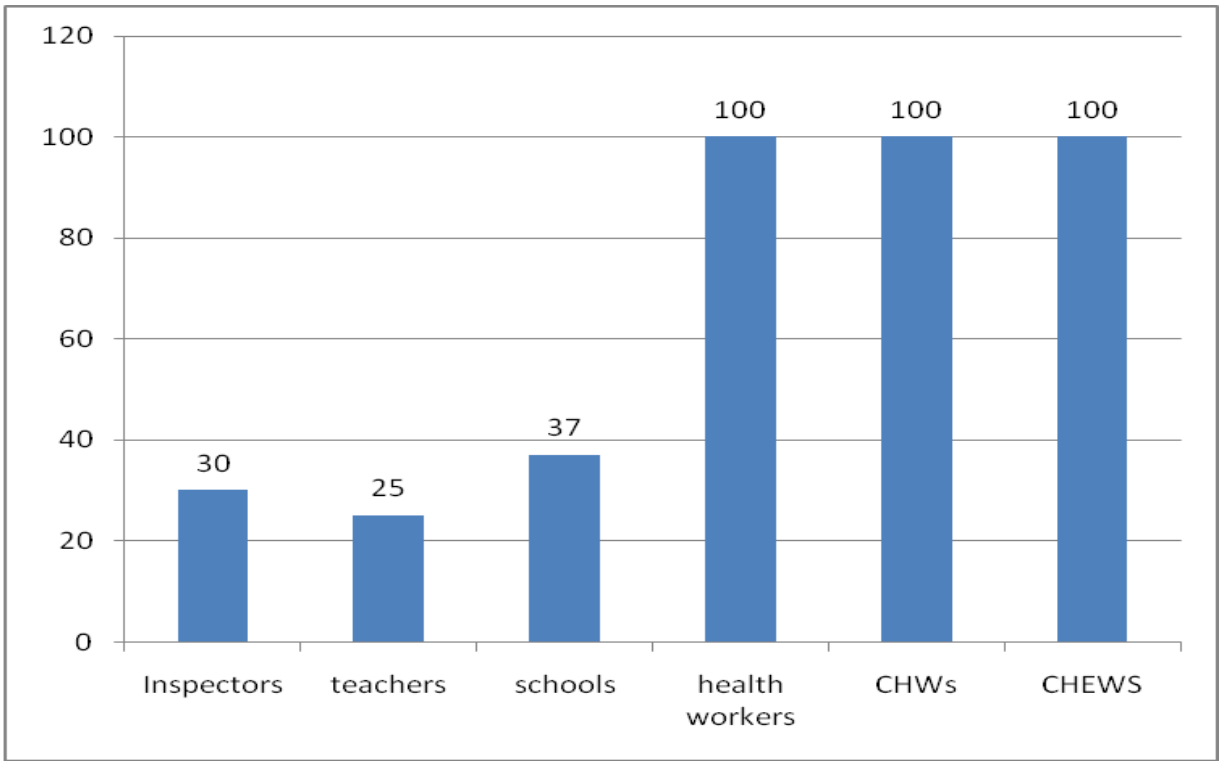
3.1.3 Training of Health Care Workers and CHWs

Several activities were conducted as part of this component which was to train Health Care workers and CHWs on the management of malaria using the new antimalarial drugs. The project managed to train 17 CHEWs on malaria prevention and control. The trained CHEWs were expected to support the CHWs and train teachers and supported them in the development of health messages. They also acted as link between the schools and the health care system. Although they were also supposed to attend some health club sessions, there was evidence that this did not happen as often as planned due to workload and the wide geographical areas that they were expected to cover. They also assisted in mobilizing the community in conducting malaria activities in conjunction with the pupils.

In addition to the CHEWS, the project managed to train 70 CHWs each linked to a project school to support in the malaria prevention and control and on the identification of danger signs in the community. Most CHWs reported that they were trained on how to educate pregnant women on how to protect themselves from malaria during pregnancy, training on maternal and child care and several other methods of malaria prevention. Those interviewed also reported that they received training on how to initiate referrals especially when they come across patients with danger signs. They were selected through the public forums by members of the community, based on their willingness to be involved in community service. Other criteria for selection included permanent residence in the community, ability to read and write. CHWs acted as a link between the community (school) and the health care system and facilitated record keeping and referrals from the school. In addition, they played a critical role of encouraging members of the community to visit health facilities and acquire nets for children less than five years. In addition, the CHWs were also involved in educating community members and assisted school pupils during community mobilization and other activities like during malaria community campaigns and net-retreatment. They also attended chiefs' meetings to pass malaria messages to the community members. Training as part of capacity building also covered a total of 32 health workers. These were clinical officers, nurses and laboratory technicians from various facilities within the project site. They attended a three day residential training on malaria case management under the new national training guide on Malaria Case Management approved by the MoH that is use of AL. Facilitators were DHMT members trained as TOTs. The health workers roles in the project were to support the referral practices from schools and treat cases of malaria as part of their routine activities.

According to the project log frame, the project intended to train 40 School inspectors, 12 of whom were trained; train at least 550 teachers of whom 136 were trained. While the target number of schools was about 190 but due to time constraints they only managed 70 schools. Among health workers, the target was to reach at least 40 health workers and CHWs of whom over 37 health worker and 70 CHWs were trained and 17 CHEWs to supervise the CHWs. Figure 4 below illustrates the achievement based on planned targets against the achieved over the project implementation period for all the capacity building activities.

Figure 4: Planned against achieved targets of capacity building activities



It is clear that most of trainings targeting health workers, CHWs and CHEWS were adequately implemented. However there were shortcomings at school level due to challenges of reaching the targets at school level. Despite the above observations, the program team managed to involve a number of stakeholders whose roles are indicated in table 4 below. The networks supported the process of implementation with a number of challenges discussed later in this report.

Table 4 Key Stakeholders and their Roles in the Project

DESIGNATION/CATEGORY	Role Played in the implementation	CURRENT ROLES
AMREF project team	✓ Facilitate training of teachers ✓ Facilitate training of CHWs and health workers as link persons with the schools ✓ Collaborate in Supervision with the MoE ✓ Support Community mobilization ✓ Facilitate formation of school malaria health clubs ✓ Advocate for the implementation of malaria school policy	Administration and general supervisory activities
District level (DHMT) stakeholders	MoH- Public health officers/ health workers ✓ Treating of school pupils referred to health facilities ✓ Supervision of CHWs ✓ Support MoE in development and implementation of a school based malaria policy. ✓ Train school community and provide facilitative supervision ✓ Provide malaria IEC materials to schools	Supervision of the activities
Community Level actors	Communities-CHW and community members ✓ Community mobilization and participation in program activities ✓ Support school based malaria initiatives ✓ Adopt the desired malaria behaviors/ practices	Supporting and reporting
Ministry of Education actors	QASO ✓ Facilitate the development and implementation of a school based malaria policy ✓ Mobilization of the school community ✓ Carry out support supervision for trained teachers ✓ Distribute of malaria educational materials ✓ Enforcing the adoption of malaria promotion in schools	supervision, trainings follow ups

Four key messages can be derived from the policy analysis lens. One, the capacity building component was the main engine of the SHMCI since the rest of the interventions were dependent on it. This was averagely implemented. Secondly, the strengths of the project lay in the highly participatory process of training of actors from the MoE and MoH. They were the key drivers of the SMHCI project. Thirdly, the key drivers involved were selected on the basis of their existing knowledge base from which most of the project activities were built on. This facilitated a smooth process of implementation. Finally, this strength signifies a deliberate attempt to utilize the contextual features to the advantage of the project success.

3.2 School Based Health Management Information System

The second component of the SMHCI was setting up of a school based health information system. The system was to support collation of information on malaria and other diseases among school going children. This was to generate a database that is

kept at school level which would help the school to track incidence of illness among pupils and reasons for absenteeism. This would help assess the extent to which the two main indicators of the project were achieved that is; reduced incidence of malaria over time and reduced absenteeism.

Discussions with all participants involved and the observations at the school level show that this component was implemented late in the project cycle. In fact in some schools, they were receiving the designed school registers at the time of this evaluation. In other cases, teachers reported that they thought they were to start using the registers in the New Year and thus kept them for use at the beginning of 2010. There are likely to be two explanations for this observation. First qualitative interviews show that the registers were designed late and therefore their distribution was also delayed. Secondly, there may have been some miscommunication between the project team and the teachers on when and how to use the registers. In other cases, some teachers reported that they were not aware whether the registers were to be used by every pupil, as illustrated in the following remark;

"The registers are for members use to put the names of member only"

In addition, some teachers did not know how the registers were to be used as illustrated in this quote;

"Frankly I don't know into the details but its all about the sick pupils and the kind of ailment noted".

In addition, it was reported that there was lack of clarity over which teacher was meant to complete the records, since it was presumed to be the responsibility of the club patrons. In some schools it was reported that the club patrons faced difficulties in convincing other class teachers to fill in the register.

Part of the explanation for the above observations is that the development of the school based information system had to be preceded by all other activities of the project such as training and stakeholder meetings. Essentially, the school based health information system seems to have run out time, especially considering that that project had to be undertaken in tandem with the school calendar. In addition, the sub optimal implementation of the school information system resulted from lack of buy-in from some teachers who saw it as an additional workload, since; they were expected to mark two registers; the official school register and the health one. However, in some instances this was not seen as major challenge as some teachers thought that it was assisting them to track why pupils do not attend classes.

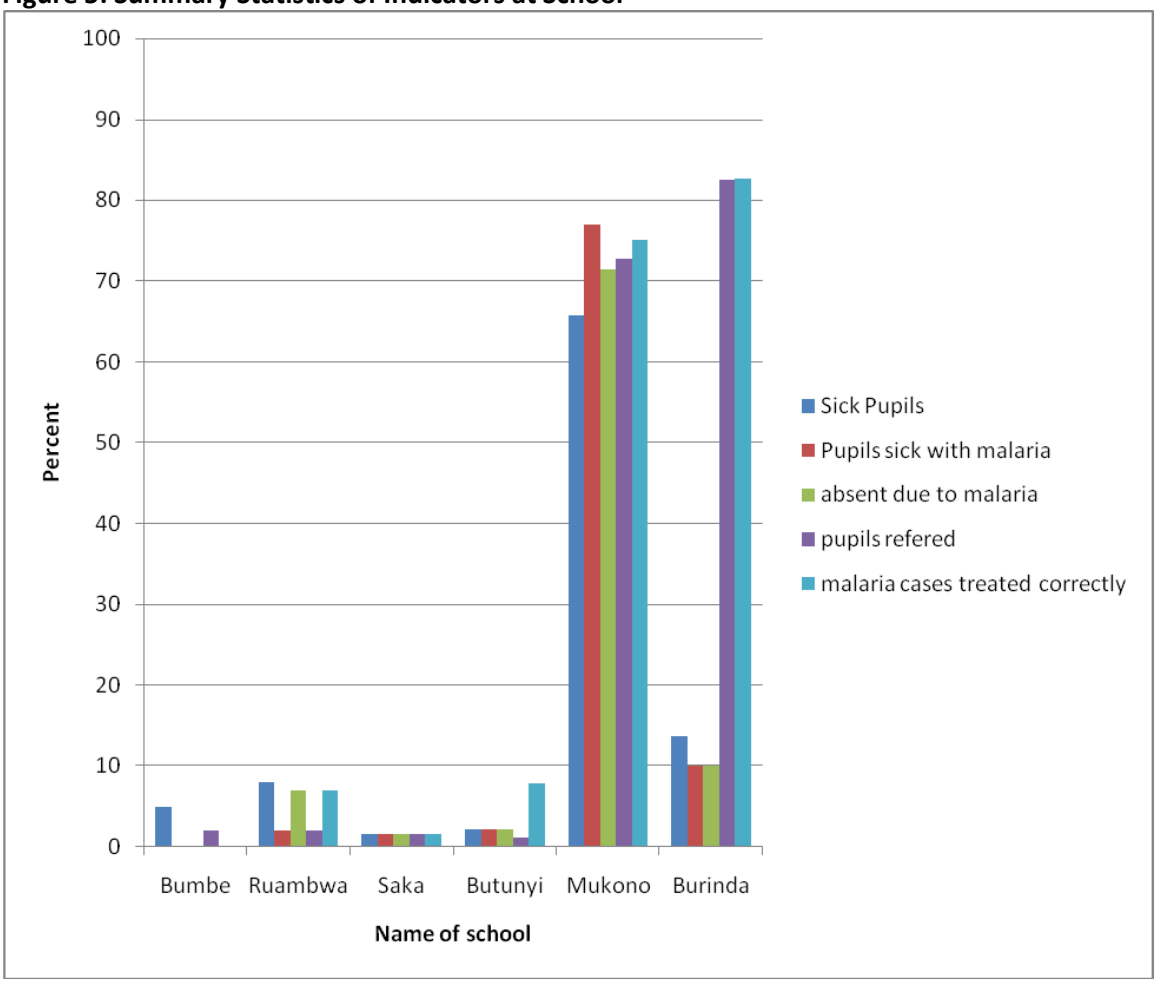
Other obstacles to the operationalization of this component included the failure by sick pupils to visit a health facility which made it difficult for teachers to record details of the illness. Even in circumstances where pupils visited a health centre, there were cases

where the teachers failed to read the notes made by clinicians. Ideally, the CHW attached to the school was supposed to conduct follow ups of cases to ensure that the pupils adhered to the treatment regimens and advice given. However this was challenged by an observation that teachers in some settings did not appear to respect the judgment of CHWs whom they considered less learned and rather preferred to deal with a CHEW. This may be a threat for future program goals unless such a perception is counter acted through adequate information.

In order to complete the continuum of care within the SHMCI, teachers were expected to refer sick pupils to the health facilities while in school while CHWs were to support them from the community level. Discussions with the parents and CHWs indicated that referral forms given by CHWs assisted the client to be attended faster and thus facilitated prompt action for health seeking, while it also created linkages between community and the health facilities. It also generated some sort of recognition to the CHWs. Besides the above benefits, there were several factors that threatened the success of the referral system. First, some clients expected to be treated faster when they reach the facility, and in cases where this did not happen, they lost faith in the referral process. Secondly, in some case health workers did not seem to value the referral forms given to pupils by the CHW, a phenomenon which was often interpreted as demeaning the role of the CHWs.

A summary of records for the month of September is presented in figure 5 as an indicator of the potential success of this component. From the six schools where the data on the school health registers was present, this information shows that such registers can be an important source of data for surveillance at school level. If such data can be collected over time with an organized collating system, then it can help track down the progress of the project and the outcome.

Figure 5: Summary Statistics of Indicators at School



3.3 Behavior Change and Communication

The behavior change and communication component broadly relied on the outcome of the earlier two elements of the project: capacity building and the establishment of school based health information system and therefore represents the overall internal logic of the SHMCI intervention. This section therefore examines two main activities. One was the extent in which the BCC materials were developed and the effectiveness of using school children as an avenue for disseminating information on malaria control and related health issues to fellow children, and subsequently, to parents as a means to promote positive behaviors for the control, correct and prompt diagnosis and treatment of malaria.

3.3.1 Development of IEC Materials

The whole project was largely a BCC strategy which focused on key malaria messages as well as general maternal and child health. Initially the project aimed at developing key messages for dissemination, but later adapted existing messages from the MoH under the Malezi Bora project with the help of TOTs and CHEWs. This means that the funding for this component would then be used to disseminate the materials to complement the

larger Busia Child Survival project. However dissemination was hampered by three key constraints. One was that these messages were only hand written and thus pupils did not have any reference materials. Secondly, the phased approach in adoption of materials as indicated by one actor; "*The plan was to move from maternal child health, Malaria, and finally HIV messages. Hence we said instead of developing messages we should integrate these messages and add into that of ministry of health (through Malezi bora) which had developed these messages. The messages were to be disseminated by teachers and health officials and AMREF was to remain the link*", meant that it was limited by time constraints associated with the short life span of the project. In fact as a result of the short time of the project (18 months), meant that the project was affected by the usual procurement process at AMREF which did not of course resonate well with the school calendar as indicated by another interviewee; *the planning of materials is done in the AMREF office and there it is usually a long process'.* The third limitation was linked to lack of clarity of target recipients. There was an overall observation that the documentation process did not carefully record who the target audience was as illustrated by another actor; "…….*an issue of who is to receive the materials (the target group was not made known".* Overall there was limited implementation of this component as one QASO noted that "*with AMREF there was very little input in IEC materials. Training were to be facilitated in that the AEO can train and have contact with the pupils".*

3.3.2 Child to Child Sub Component

This section examines the outcomes of the project in terms of the effectiveness of the peer to peer approach and to what extent the project improved knowledge of pupils on malaria control and prevention. This data is based on the school survey across 1680 pupils in the 21 schools. Respondents for this survey were evenly spread in terms of their membership to the health clubs within the four divisions, except in Bunyala where 90% of those interviewed reported being members of school health clubs compared to 37% in Butula. Overall, 57.2% of our respondents were members of the school health clubs. The median age was 13 years (IQR: 12, 15), and majority of them (over 90%) were Christians. Finally, about half 53.4% of the respondents were female.

3.3.2.1 Awareness of the School Health Program

Table 5 below shows that more than 90% of the children interviewed in every school were aware of the presence of a school health patron, perhaps an indication of the popularity of the health clubs. Similarly a high proportion of those interviewed had received malaria control messages from school. Interestingly however, the majority (83%) received the messages from teachers and only 33% reported having got the messages from their peers. With regard to the particular modes of communication from which they received the messages, some pupils received the messages from radio (22%) while only 13% reported having received the messages through drama or songs. It is important to note that drama and songs were some of the main avenues for disseminating information by the school health club. Interestingly the radio had a higher

rating as a source of malaria control messages compared to drama and songs even though radio spots were not developed. This is likely to be related to the many programs and adverts on radios that may have contributed to this. In addition the fact that drama and songs were not popular sources of information illustrates that probably the frequency in which this was conducted to the general school community was limited to certain days like parents days or closing days and a few public holidays as earlier described.

Overall, although majority (62%) of the respondents reported awareness of the malaria education in schools, their knowledge of other activities associated with the SHMCI were rather low. For instance, only 36% of the children were aware of the referral of sick pupils to health facilities. In addition, only 15 % and 17 % were aware of the malaria field days and the fact that there was follow up for pupils who had been referred to health facilities respectively. This low level of awareness especially with regard to the referral system should be understood against the background that this component was implemented rather late than planned.

Table 5; Awareness of the School Health Program Among School Children

Characteristics	**Bunyala**	**Samia**	**Butula**	**Busia**	**Total**
Percentage of respondents:	**N=240**	**N=643**	**N=557**	**N=240**	**N=1680**
Aware of a school health patron	93.3%	93.3%	92.8%	95.8%	93.5%
Receiving malaria control messages at school	87.5%	91.6%	94.3%	95.4%	92.4%
Percentage who received messages from	**N=240**	**N=643**	**N=557**	**N=240**	**N=1680**
Peers	25.8%	33.1%	33.9%	36.9%	32.9%
Teachers	73.8%	83.2%	87.1%	81.3%	82.9%
Radios	12.1%	17.1%	29.4%	28.3%	22.1%
IEC materials	2.9%	10.6%	5.8%	3.8%	6.9%
Drama/songs	9.6%	13.7%	9.9%	22.5%	13.1%
Health workers	27.9%	31.1%	32.2%	8.7%	28.1%
Percent reporting that they were aware of:	**N=240**	**N=643**	**N=557**	**N=240**	**N=1680**
malaria education activities in schools	65.4%	58.6%	64.3%	58.8%	61.5%
referral of sick pupils to health facilities	50.0%	30.8%	37.2%	36.3%	36.4%
malaria field days	32.9%	23.5%	2.2%	3.3%	14.9%
follow up pupils referred to health facilities	14.2%	21.0%	9.7%	26.8%	17.1%
Existence of school registers	29.6%	29.2%	57.9%	31.3%	39.1%

The effectiveness of the child to child approach was also assessed on the basis of the involvement of school pupils in malaria control activities in school. Half (51%) of the pupils were aware of the activities undertaken by health clubs in their schools although

the level of involvement in activities that were meant to be the primary means for creating awareness/disseminating malaria control messages was rather low. Table 6 for instance indicates that only 46% of those interviewed were aware of drama and songs, and a paltry 12% reported awareness of competition in poetry and malaria field days. The later may be explained by the fact that competitions were finally not conducted and only a few pupils were aware of the planned event. The school assemblies were the main (45%) mechanism for providing feedback on malaria control activities to the entire school, while club sessions (41%) was a common avenue especially among members of the school health clubs. There was little activity regarding issues relating to malaria control during parent days, perhaps suggesting that such days may not be appropriate avenues for spreading the messages, especially considering the nature of such days which may be dominated by other school affairs. In addition the frequency of parent days might be too low compared to the project period, which also tended to work around the school calendar. There was also little (6%) reliance on notice boards for this purpose, which might signal a missed opportunity for reaching out to the wider school community with messages on malaria control. With regard to the dissemination of information on malaria control, pupils shared more with their parents as opposed to their peers. Most of the pupils (76%) reportedly passed information on malaria control to their parents, compared to only 49% who communicated the same to their peers. Although this particular finding might appear to suggest that child to child communication was not effective, the fact that the majority of the pupils reportedly shared the information with parents is rather encouraging. This should be interpreted in the context of the baseline data which showed that only 6% of respondents (parents/guardians) received malaria information from their school going children.

Table 6: Pupil Involvement of Malaria Control Activities in School

Characteristics	Bunyala	Samia	Butula	Busia	Total
Percentage of pupils aware of:	**N=240**	**N=643**	**N=557**	**N=240**	**N=1680**
Club activities	43.8%	51.3%	60.8%	39.2%	51.6%
Competitions	2.9%	15.6%	9.8%	12.01%	11.4%
Drama/music	67.5%	35.0%	44.6%	58.3%	46.1%
Malaria field days	32.1%	13.2%	7.4%	0.8%	12.2%
Mechanisms of Feedback: Percentage reporting	**N=240**	**N=643**	**N=557**	**N=240**	**N=1680**
School assembly	58.8%	42.3%	51.7%	21.3%	44.8%
Club sessions	63.3%	45.1%	34.1%	23.3%	40.9%
School notice boards	3.8%	11.9%	2.3%	0.8%	6.0%
Parents days	6.3%	10.9%	7.5%	2.9%	7.9%
Percentage reporting passing malaria information learned in school to:	**N=240**	**N=643**	**N=557**	**N=240**	**N=1680**
Parents/guardians	88.8%	74.8%	76.8%	67.9%	76.8%
Peers	27.1%	53.5%	45.4%	59.2%	47.8%
None	2.5%	10.4%	9.7%	11.3%	9.2%

3.3.2.2. Perceived Outcomes at School Level

Part of the overall objective of the SHMCI was to improve the health outcomes of school going children in the project area through reduction of malaria related morbidity and mortality. Some of the key indicators for the achievement of this objective were the extent to which the project contributed to reduce absenteeism and attendant improvements in performance. In table 7, it is apparent that overall, 32% of pupils were absent once a term due to malaria. Approximately 27% had never been absent as a result of malaria. This may appear a trend towards some aspect of success but it is rather difficult to make a causal link to the project for three reasons. First the period of implementation and potential outcomes is too short to realize these changes. Secondly although the baseline data shows that 40% of pupils failed to attend school due to malaria, differences in methodology between the two studies may hamper effective comparisons. Third, there was less clinical evidence to show that illnesses keeping pupils out of school was actually malaria, because in most cases, pupils never brought back the treatment sheets from the health facilities, and even where they did, some teachers were not able to read the diagnosis as written by clinicians.

In terms of malaria related morbidity, very few cases (21%) were reported over a period of two weeks preceding the survey, while 29% reported having had malaria but could not recall the time period. Again compared to the baseline data, these figures appear

impressive. However it should be interpreted cautiously as the methods may be different. For example baseline data shows that 41.5% of the pupils had had malaria since the beginning of the term. Of the pupils who had had malaria, 40% of them stayed away from school for 1 day. Secondly other epidemiological factors may have contributed to the differences we have observed over time. Overall, 56% of the pupils had been referred to a health facility from school. The highest numbers of referral cases (70%) were reported in Bunyala, while Butula had the least (49%) number of referrals. As noted earlier, most of the reported cases of malaria were not clinically confirmed.

Interestingly however, although majority (86%) of the pupils reported overall improvement in performance, only 4% and 8% attributed this to less absenteeism and being healthy respectively. The majority (56%) attributed the improvement to hard work. Qualitative data shows that most QASOs agreed that there is some improvement at school level in terms of the number of pupils who fall ill as some commented "*We now attend to health matters, and pupils also don't fall sick*". Others noted that the completion rate of pupil had increased; "*When the year starts, data is collected and the figures don't fall at the end of the period [reduction in absenteeism]".* This has also benefited the pupils as this does not seem to interfere with the syllabus.

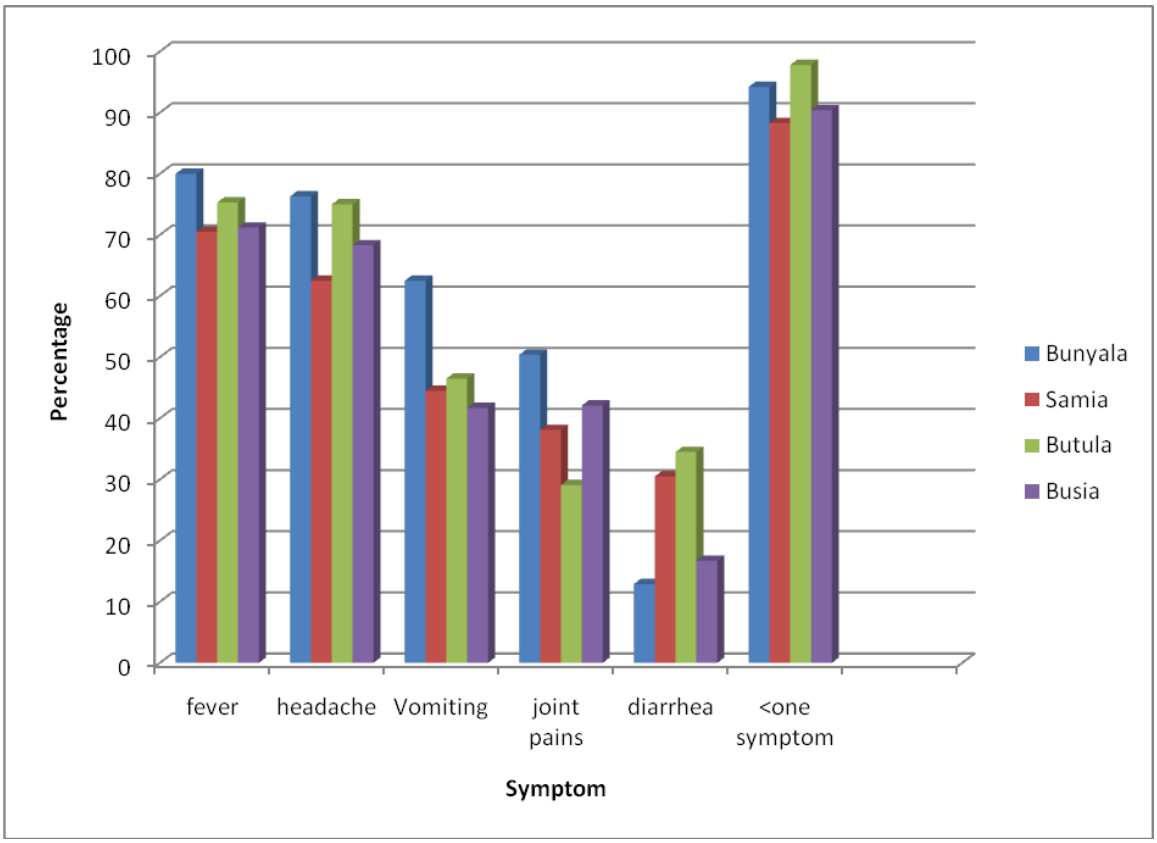
Table 7 : Effectiveness of Program: Frequency of School Absenteeism and Performance

Characteristics	Bunyala	Samia	Butula	Busia	Total
Percentage of respondents reporting:	**N=240**	**N=643**	**N=557**	**N=240**	**N=1680**
absent once a term due to malaria	35.4 %	28.7%	33.0%	33.8%	31.8%
never been absent due to malaria	8.3%	31.7%	29.4%	29.6%	27.3%
Having malaria the last two weeks before the survey	28.7%	16.5%	24.7%	15.4%	20.8%
Excellent performance	3.8%	7.3%	8.4%	17.5%	8.6%
Great Improvement on performance	35.0%	41.1%	52.5%	37.1%	43.3%
Fairly good performance	40.8%	38.3%	29.3%	29.2%	34.3%
No improvement in performance	17.9%	11.7%	8.1%	8.3%	10.9%
Percentage reporting reasons of improvement as:	**N=190**	**N=554**	**N=501**	**N=200**	**N=1445**
Less absenteeism	2.6%	2.9%	5.6%	5.0%	4.1%
Hard work	75.2%	49.2%	64.3%	36.5%	56.1%
Personal characteristics	11.6%	13.7%	7.2%	9.5%	10.6%
Healthy	3.7%	6.3%	13.5%	3.5%	7.8%

SHMCI has also contributed to the improvements on pupils' knowledge of malaria symptoms and control activities. Figure 6 below show that there is a high level of awareness of the symptoms associated with malaria among school pupils. Almost 93% of them were able to identify more than one malaria symptom, while on average 74%

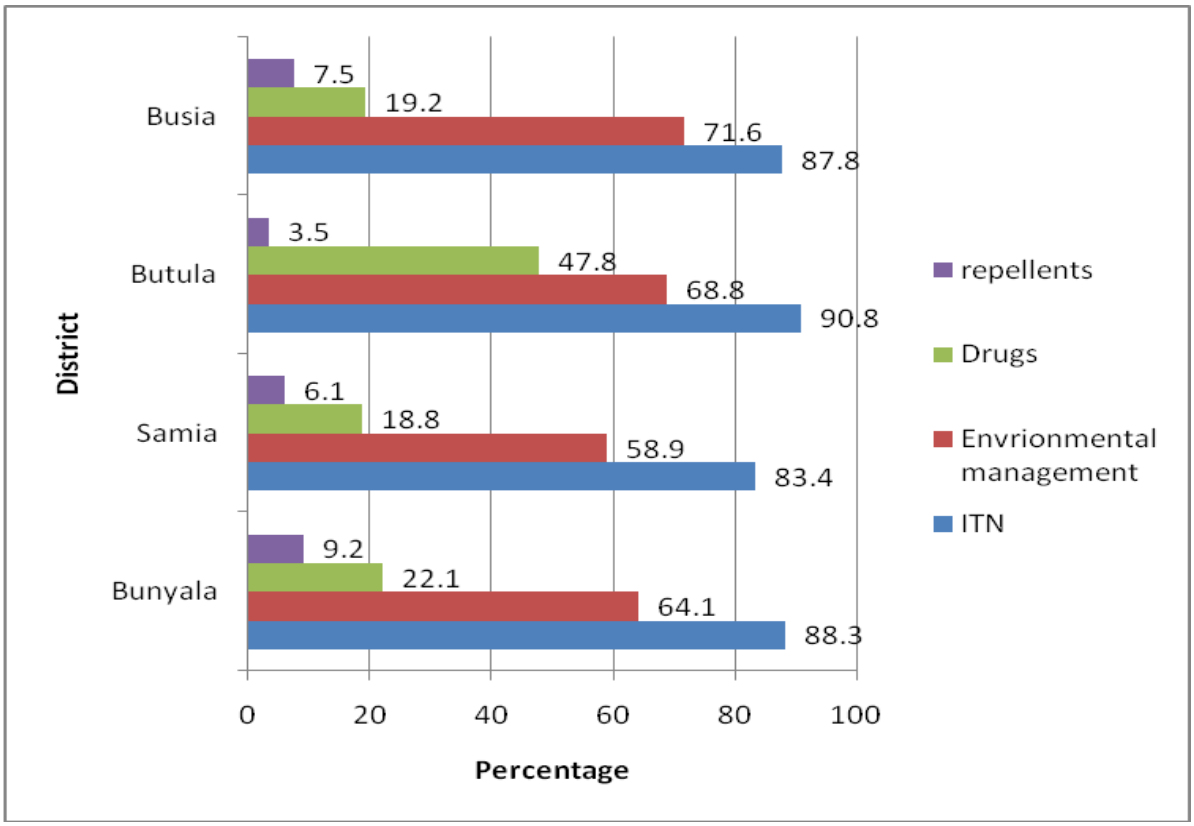
associated malaria with fever, 70% with headache. Only 27% associated diarrhea with malaria. This again compared to the baseline data shows remarkable improvements as 77.8% were reported to have knowledge of at least more than one symptom of malaria.

Figure 6: Knowledge of Malaria Symptoms among pupils



In addition, pupils exhibited a good grasp of the malaria control methods (Figure 7), with 87% and 65% reporting the use of ITNs and environmental management respectively which perhaps suggest that the SHMCI positively contributed to raising the level of awareness among school pupils. The majority (58%) of the pupils attributed their knowledge of malaria related symptoms to the SHMCI project, while 24% thought the project had empowered them in certain ways. Most of the pupils reported that the program was beneficial (87%) while 24% reported some improvements in terms of access to health care.

Figure 7: Knowledge on Malaria Control Activities Among Pupils



The third category of assessing perceived outcome was the overall level of satisfaction with the SHMCI. This was aimed at examining the perception of pupils regarding the degree to which the project was accepted and hence likely to be sustained. Generally, pupils were very satisfied across all the project schools (85%). The majority (83%) attributed their satisfaction to having learnt more about malaria, while 29% were satisfied since they were able to gain access to health facilities. Only 15% attributed their level of satisfaction to prompt reporting of malaria cases to health care authorities. In addition, there was an overwhelming confidence in teachers, health facilities and parents, as credible sources of information on malaria control. Approximately 64% of the respondents were willing to consult the teachers compared to 54% that would consult a health facility. A further 36% would consult their parents, while 23% and 17% would source such information from their peers or the community health workers respectively. This particular finding indicates some of the avenues that can be exploited as avenues for integrating the school health initiative.

3.3.3 Child to Parent Approach

The second sub-component of behavior change component was the Child to Parent Component, where children were expected to pass malaria prevention related messages/information to their parents. This data set is based on an earlier study

conducted prior to this evaluation. Demographically the parents that were interviewed had a mean age of 39 years, and an average of four children of school going age. Most of them (41%) had children in class 6 while those with children in class five and four were 38% and 36% respectively. A high proportion of the respondents were females (76%), Christians (97%), while only 5% were involved in large scale farmers. Approximately 53% were educated to primary school level as shown in table 8.

Table 8: Characteristics of Respondents

Key Characteristics	Butula	Samia	Budalangi	Total
Total respondents interviewed:	**N=340**	**N=120**	**N=100**	**N=560**
Median age of respondents (age; IQR)	38 (30, 45)	40 (35, 48)	42 (35, 50)	39 (32, 47)
Median number of school going children per household (Number, IQR)	4 (3, 6)	3 (4, 6)	3 (4, 6)	4 (3, 6)
% of households with children in :	**N=339**	**N=120**	**N=97**	**N=556**
Class 1	26.8%	30.0%	39.2%	29.7%
Class 2	23.6%	26.1%	22.7%	23.9%
Class 3	30.7%	27.5%	23.7%	28.8%
Class 4	38.9%	30.0%	34.0%	36.2%
Class 5	5.7%	45.0%	38.1%	38.1%
Class 6	8.4%	49. 2%	37.1%	40.5%
Class 7	28.0%	35.0%	35.1%	30.8%
Education levels: Percentage who:	**N=339**	**N=120**	**N=97**	**N=556**
Never went to school	30.4%	11.7%	22.7%	25.0%
Attained primary level education	48.9%	58.3%	57.7%	52.5%
Attained secondary level education	16.2%	21.7 %	17.5%	17.6%
Attained post secondary education	4.4%	8.3%	2.1%	4.9%
Occupation of respondents:	**N=339**	**N=120**	**N=97**	**N=556**
Salaried	7.4%	13.3%	4.1%	8.1%
Business men	20.4%	23.3%	7.2%	18.7%
Large scale farmers	5.0%	2.5%	4.1%	4.3%
Unemployed	4.7%	4.2%	5.2%	4.7%

3.3.3.1 Awareness of the SHMCI Program in the Community

As noted earlier, the internal logic of the SHMCI was premised on the use of school children as an effective channel for passing information, educating and communicating malaria prevention messages to the community. The Child to Parent sub component of the broader BCC component therefore examined whether messages and information

given through the school health clubs were passed on to the community. The parents of school going age were used in this evaluation as a proxy for the community. The key indicators for effectiveness assessed were;

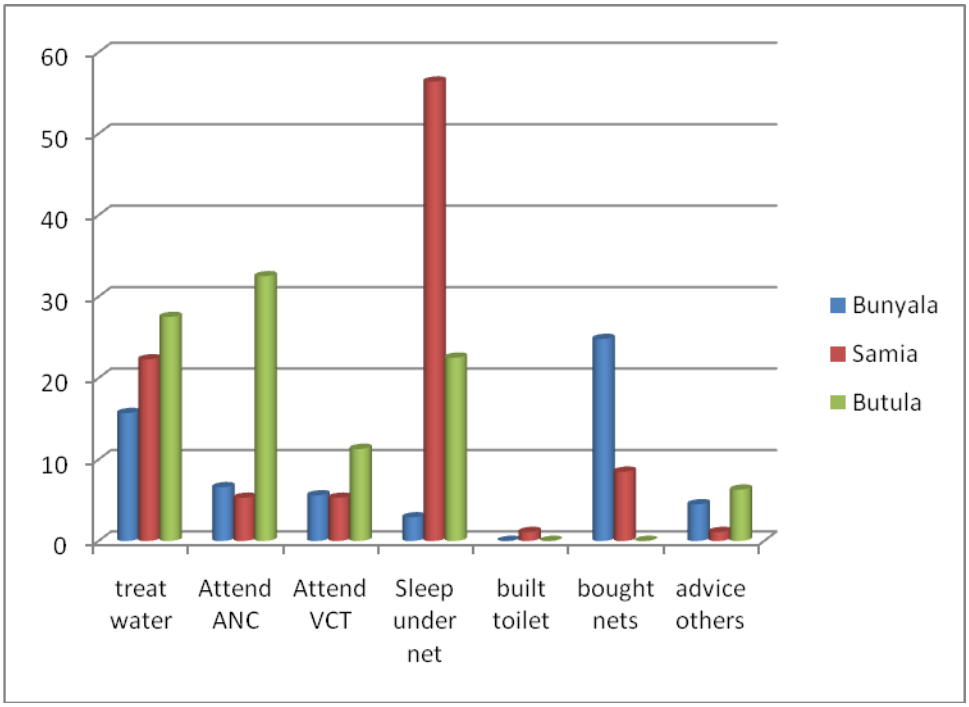
i) The level of awareness of the SHMCI program within the community;
ii) Nature of involvement in the malaria control activities undertaken by the schools;
iii) The type of information on malaria prevention that were disseminated and
iv) The channels used for receiving health information in the community.

Overall, the level of awareness was high since 78% of the respondents had been informed about the existence of a school health club by their children, and approximately 70% were aware that their children were members of those clubs. In addition, majority (81%) of the respondents reported that the pupils (their children) had passed health related messages to other members of the family. The pupils however shared the health messages more with their mothers (62%) compared to their fathers (33%), and were more likely to discuss health related issues with their parents(62%) compared to other siblings (9%). This particular finding suggests that children might be an effective channel for communication health related information to the community.

3.3.3.2 Information Shared with Parents/Community

Pupils mostly disseminated information relating to malaria control in most of the cases (40%), followed by information on hygiene practices (29%). Under the broader category of maternal health, information relating to malaria was still disseminated in majority of the cases (53%) followed by ANC (27%) and HIV (18%). Overall, pupils from Samia were more active in terms of sharing malaria related messages compared to those in Butula and Bunyala. The majority (83%) of the respondents took action upon receipt of health messages from their children. In particular (Figure 8), 42% started sleeping under ITNs, 20% treated their drinking water, while 15% reported to have bought ITNs after receiving the information on malaria control. Others reported that they attended the ANC more regularly (12%) after receiving the information while 7% decided to visit the VCT services. Overall, the messages disseminated by the pupils influenced parents to take positive steps to promote health.

Figure 8: Action taken by parents as a result of information passed on



3.3.3.3 Channels of Receiving Health Information among Community Members

Assessment of the community's source of health related information was aimed at establishing whether the targeted channels of disseminating malaria prevention messages were appropriate. Health facilities (34%) and social events/gatherings (24%) were the main sources as shown in table 9 below. Other channels that were reported included radio (18%), churches (17%) and the NGOs (6%). Only a few respondents cited the school clubs as a source of health information although school pupils were rated highly (80%) as good agents of passing information. However, a few of them mentioned lack of adequate understanding among pupils as the main barrier of being effective change agents. FGD with parents suggest that there were accrued benefits from using pupils as they acted as reminder as one of them pointed out *" My child says he is in AMREF club and she says everybody should sleep under ITN… now I use an ITN daily because my child reminds me*". This is likely to translate to behavioral changes that become habitual.

Table 9: Channels of Receiving Health Information

Characteristics	Bunyala	Samia	Butula	Total
Percentage reporting the following as sources of health messages	**N=304**	**N=112**	**N=93**	**N=509**
Radios	20.7%	11.6%	13.9%	17.5%
NGO	8.6%	1.8%	2.2%	5.9%
Health facilities	35.9%	39.3%	22.6%	34.2%
Churches	12.1%	6.3%	45.2%	16.9%
Social events/meetings	20.4%	41.1%	16.1%	24.2%
School clubs	2.3%	0.0%	0.0%	1.4%
Percentage reporting that	**N=337**	**N=120**	**N=97**	**N=554**
Pupils are good agents of change	75.7%	87.5%	85.6%	79.9%
Percentage reporting reason as why they are not good agents	**N=82**	**N=15**	**N=14**	**N=111**
Shyness	13.8%	23.1%	14.3%	14.9%
Fear among pupils	10.0%	15.4%	21.4%	12.2%
Cannot understand	6.2%	53.8%	28.6%	59.8%
Limitations of customs	8.7%	7.6%	28.6%	11.2%

Additional information from qualitative interviews with parents and CHWs show that overall there has been increased knowledge among them on malaria related issues. There has also been some improved relationship between the community members and health workers. Additional spill over benefits such as increased demand for services such as HIV testing voluntarily and demand for immunization services were also reported.

3.4 Advocacy and the Development of the Malaria School Policy

The second goal of the SHMCI project was to develop a malaria school policy as well as relevant malaria communication materials for use in the 70 schools in the project sites and the country at large. This was intended to advocate for the introduction of malaria control interventions in all schools through the development of a school policy on malaria promotion. In addition lessons learnt from the project were to be shared with other partners to convince them on the relevance of promoting school-based interventions. This component was not fully realised as discussions with the project staff showed that at the time of developing the SHMCI project, the national health guidelines had not been developed and launched. However, subsequent discussions with the MoE noted that this was already in progress and that AMREF was involved together with other stakeholders in the development of a school policy and guidelines which were published in 2009 [17, 18]. At the program level though, documentary review shows that one inception workshop of about involving 254 participants from the

MoH, MoE and other relevant stakeholders was held. This was followed by a two day consultative meeting but no further activities were undertaken since the development of a school health policy was seemingly overtaken by events

Some respondents blamed the weak networking between AMREF and the MoE on this particular issue, to unavailability of MoE actors due to heavy workload on their part. It was for instance noted that the vast regions covered by some of MoE officers were often inaccessible as described by one member of implementing team: "*between MoE and MoH, MoE are a little bit difficult to get. I have had to rely on the MoH since they are the only reliable personnel though for the MoE you have to follow them because they cover very wide areas".* In general inadequacies were a real threat to the success of this project as illustrated by another team member "*As far as am concerned, the AEO should be the link to the schools. This might have been an over sight since I signed many letters for the AEOs and other brought reports so there may be some inadequacy of the AEOs complained on the communication. Though they were incorporated for sustainability of the project independently"*

3.5 Challenges Encountered and Suggested Solutions

This section teases out all the key challenges experienced by different actors during the implementation process and its potential implication on the achievements of the SHMCI project.

3.5.1. Challenges encountered

The implementation of the SHMCI faced various challenges that were programmatic, institutional and design in nature. Although the implementations team saw the main challenges as being logistical in nature, it is apparent that institutional challenges were more pronounced. For example, there were significant delays to the start up of various project activities as a result of the post election violence delayed setting up of most activities. In terms of logistics mobility was reported by MoE actors at the district level, as a major feature that affected sensitization and issues of accessibility to the project schools which made routine supervisory visits rather difficult. In the case where one individual dealt with a large number of schools, there was a sense of being overwhelmed with the additional duties resulting in a lack of follow-ups. The lack of follow-ups might have led to a "*…lack of concentration on information to be implemented for the work to run."*

The smooth implementation of the project was negatively influenced by the high and unmet expectations from the community. The CHWs for instance expressed concerns around community expectations such as supply of nets or T –shirts from the project. Documentary review shows that 3500 mosquito nets were ordered for the project. The nets were supposed to be given to vulnerable children (pupils orphaned due to HIV/AIDs), children with disabilities, pregnant mothers and children under five years. In

addition, 20 bicycles were procured for CHWs in Nambale and Bunyala district. The CHWs in Butula division and Samia district were given bicycles under the Busia Child Survival Project. The bicycles facilitated their movements to schools and in the community. Community members felt that since CHWs were educators on malaria then they should also supply them with nets as illustrated by the following remark "*people think that when you educate them about malaria you should provide them with ITNs".* Community expectations were also expressed in the light of the process of data collection that the CHWs were engaged. The perception of some community members was that that the CHWs were benefiting from the project and not pass the same benefits to the general community.

In addition, there was a general perception among some actors especially from the MoE and some community members, that CHWs lacked the capacity to handle the issues of illness as one member stated "*…Some say there is nothing you give us, though we advice them".* Similar sentiments were reiterated by one of the DPHOs who felt that the community did not quite understand the value of the CHW even where the CHW working in the community was attached to a school. Such instances of lack of appreciation are likely to have de-motivated the CHWs. Besides, the CHWs complained that they had not been provided with adequate supplies and materials to efficiently perform their work. The materials in question included those for adequate data collection for those attached to the schools. Other challenges linked to the design were the concerns by some members of the community that involving pupils in environmental management activities was akin to child labor. These concerns were mainly voiced by teachers.

Other challenges emanating from the community include poverty where making the choice of buying nets or getting drugs from chemists not easy. In addition, some parents felt that nets were not useful to them as they had completed giving birth ("*Sisi tumeshamaliza mambo ya kuzaa*"- *we have completed giving birth*) while others did not see the need for sleeping under nets as they were used to mosquitoes. Others argued for the need to have lower cost ALs since they were not available at the government dispensary and buying them from the chemist was expensive. This might have led some students not to *"…seek medical attention, others resort to traditional medicine*" while other students did not bring their sick sheets.

Rivalries between the NGOs working in Western Kenya were seen by some as an obstacle to smooth implementation of the project. One respondent from the MoE for instance noted that NGOs working in the area negatively influenced SHMCI project by spreading false information about the purpose of the SHMCI project, among the women groups as illustrated in the following quote; "*These groups are ignorant hence take the petty issues keenly. These type of people don't know the clear objective of the issues addressed."* Related to this point was the fact that some of the messages that were adopted from the Malezi Bora project needed to be simplified further before passing them over to the school community.

In addition to the above challenges, there were others that were programmatic in nature. One of them is the seemingly minimal buy-in from teachers as evidenced by the concerns they raised. It was for instance noted that some teachers were reluctant to participate in the project because they suspected that those teachers selected as club patrons were secretly rewarded monetarily. The following quote illustrates some of these concerns "*Our teachers think that the patrons are being paid since they are closely involved and should carry out all the delegated duties of the club especially marking/checking the school health registers*." Probably, a better approach would have been first to create awareness among teachers before selecting a patron from the group.

A second program related challenge was the poor documentation of the project activities at the school level. It was for instance noted that at the school level, there was very little documentation of activities such as the referral and the cases of absenteeism which made the process of tracking very difficult as one actor mentioned "*I don't really have much information about how (IEC) was supposed to be developed, what they do is the operational things mainly".* This lack of proper documentation was made apparent during the evaluation because it was rather difficult to get up-to-date records on the number of registers distributed.

The final sets of challenges were rather logistical in nature, and mainly revolved around the degree of fit between the SHMCI and the larger Child Survival project funded by USAID. The school component was supposed to complement the larger project but with challenges of staff at the inception it became very difficult to streamline operations at first. Inadequate harmonization of activities during the inception phase made the SHMCI appear as if it was a stand-alone program, yet it was supposed to complement community level activities within the child survival project. Other logistical challenges were inaccessibility of some schools which made supportive supervision difficult. An example was given of some schools in Bunyala district where one would only get there by boat due to constant flooding. Lastly, the implementation team felt that the project period was relatively short as one quipped *"how do you assess a behavior change in a year?"* The time factor was also related to transient contextual features such as the post election violence which delayed the kick off period. Also one of the districts [Samia] had an outbreak of cholera which meant that the actors from the MoH involved in the project activities were busy supporting the containment of the outbreak.

3.5.2 Quality of programming and Suggestions for Improvement

Before describing key areas of improvement as suggested by various actors, three key aspects of the design need to be highlighted. First, the overall design is laudable as use of pupils as change agents for malaria offers opportunity for wider coverage of malaria control activities. However decision to take action is likely to be influenced by parents or guardians. This means that concurrent mobilization at community level is necessary for sufficient uptake and utilization of knowledge gained. Secondly the dissemination approach- which entailed the pyramid system was a good approach but requires heavy

IEC support. This can be improved at school level for example through exploring ways of motivating pupils to pass information to peers. Finally, using the existing networks is critical for success but it requires broader consultation which will lead to wider buy in.

Several programmatic suggestions were offered by the respondents on how to improve similar projects in future. First, some respondents suggested that more training activities involving the local health workers, be undertaken in order to improve coordination of programme activities and ensuring feedback is done. This should be supported by involving other relevant stakeholders early in the programme implementation cycle to ensure success of the project. Other suggestions revolved around improving communication between actors which goes hand in hand with the importance of broadly communicating the goals of the project to all the stakeholders. One DPHO for instance suggested that in order to improve future implementation process of similar projects, better communication between health facilities and schools, proper planning processes.

Most stakeholders further noted that projects that work with schools should ensure harmony between the project activities and school calendar. One respondent from the MoE actors for instance suggested an improved linkage between the project and the work schedule of the education officer, besides ensuring that major project activities do not clash with school related activities. There is also the need to clarify which benefits arise from the project and how these are to be realized by the various stakeholders. Holding consensus meetings with local NGOs is important to ensure that they are on board. Other suggestions include improving the issuing of nets, increasing the number of training activities and increasing the frequency of stakeholder meetings. The MoE actors also suggested that the local resource center be supported so that it can be of benefit to the larger community.

4.0 Conclusion and Recommendations

4.1 Limitations

The aim of this evaluation was to assess current progress of the project against planned results and targets, assess the appropriateness of the project design and quality of programming, and to identify drivers of and challenges to effective project implementation. The evaluation used a mixed methods approach utilizing both quantitative and qualitative document reviews. Before summarizing key recommendations several caveats need to be highlighted. First, this report attempt to capture implementation process and outcomes. However, given the short implementation period and the time between implementation and evaluation may have rendered the outcomes seen less impressive, meaning that perhaps longer implementation period may have resulted to better outcomes. Secondly, differences between baseline data and end of term evaluation methods makes comparisons difficult and hence attributing the outcomes to the project activities generally weak. However, since certain indicators such as knowledge of pupils and nature of information passed appear to be closely linked to the project activities. This strengthens the plausibility argument that the results are likely to be as a result of the project.

4.2 Conclusion

The main goal of the SHMCI project was to increase awareness of malaria among school pupils through a BCC strategy involving two sub components; child to child and child to parent approaches to disseminating malaria control information. There was an increase in the level of awareness relating to malaria control among school pupils. However, it was difficult to attribute success to the child to child component. For example, 83 % of children reported receiving messages from teachers compared to 33% who stated that their information was sourced from peers. In addition, it is quite telling that whereas half of pupils interviewed knew about health club activities in school, few were involved. Despite this, it is apparent that the SHMCI project contributed significantly to the improvements on pupils' knowledge of malaria symptoms and control activities. In addition to improving the level of awareness of malaria among school pupils, there was an improvement in the reduction of cases of absenteeism during the period the SHMCI project was underway. Although it is not possible to attribute the overall reduction to the SHMCI project for a variety of reasons, it is noted that improved awareness of malaria symptoms and easier referral had a positive impact on malaria prevention, prompt treatment and reduction in absenteeism. Better outcomes and assessment of this component require prolonged period of implementation and continuous monitoring over a period of time.

On the other hand, the child to parent approach was rather successful since most pupils (46%) reportedly passed health related messages to their parents, which represents a marked improvement from only 6% of parents who reported to have received malaria information from their children at baseline. In addition, there was a high level of

awareness of the SHMCI project within the community. In particular, 78% of respondents learnt of the project from their children perhaps suggesting that school pupils could be used as a medium for spreading malaria control messages to the community.

There were several factors that facilitated the implementation of the project. First, the capacity building component was done with a good number of teachers and trainer of trainers being trained. Considering that the rest of the interventions were dependent on this part, its completion is laudable. The project also made good use of a highly participatory process that involved key stakeholders from the MoE and MoH who acted as key drivers of the capacity building process. It also built on existing networks, drawing on previous experience of similar programs in the area that increased the motivation of some actors such as teachers to form school health clubs. CHWs that were used to form linkages between the school and health facilities were drawn from the local community which increased visibility of the project.

However, there were several challenges that hindered successful implementation of the project. Issues such as the effect of the post-election violence, sub-division of districts, floods and cholera outbreaks meant that some activities could not be implemented as planned. It is for these reasons that the project was awarded a no-cost extension of 6 months that was to end in December 2009. The effects of the above factors were considerable delays in the actual implementation of some activities such as the delivery of health registers to schools.

Overall, the referral system from schools to the health facilities did not take place as planned as a result of inadequate linkages between the schools and the health facilities. In particular, lack of referral forms also affected the entire referral process. In other cases, some health workers did not recognise the referral forms issued to pupils by the CHWs, which therefore compromised a key component of the referral system. There were several cases where even the pupils who were referred to health facilities failed to return their referral forms/treatment sheets to enable teachers to record the treatment received in the school register.

4.3 Recommendations

Although the targets of the SHMCI project were met in most of the intervention elements, there are several programmatic, design and logistical issues that could have enhanced achievement of the project objectives. First, most of the institutional challenges described earlier, emanated from insufficient buy in by key actors including teachers and members of the community. We recommend the need for better engagement with the stakeholders including the NGOs working in the area at inception, and recommend that in future it is important to spend more time in communicating the

goals and objectives of a project to the stakeholders to avoid miscommunication and potential fallout.

Second, there were two key components of the SHMCI project that were overtaken by events; first the implementation of the school based health management system that hampered its successful uptake. In the first instance, school health registers were not delivered on time and teachers were not well trained on how to use them. Further, efforts were not made to link the school with the local health facilities which resulted in one actor reporting the lack of use of the information that was being gathered through the health registers. On the other hand, activities under the development of a school health policy were rather misplaced because the MoE had already initiated a similar initiative. The need for a detailed situation analysis prior to the initiation of similar project is apparent. However, since a school health policy has already been developed by the MoE and other stakeholder, we recommend that AMREF consider taking an active role in disseminating the current guidelines and policy to schools since this will support all health activities in schools. In addition, engagement with the local NGOS operating in the project's area is recommended to ensure that they do not work against the project.

Third, it is apparent that the SHMCI project had the potential to positively impact on the fight against malaria in the project in the project areas. However, most of the planned activities were hurriedly implemented or failed to take-off due to time constraints. For instance, the behavior change and communication component was affected by the failure to develop printed IEC materials that could have been instrumental in the dissemination of key messages adapted from the Malezi Bora project. Further, several related activities; including organising school competitions did not take place. In addition, the school health information management system was not adequately implemented owing to time constraints. In the light of this, the SHMCI project staff should seek for an extension of the project period in order to adequately complete the implementation of these components.

Fourth, the capacity building component was done well with teachers, CHWs, MoE and MoH actors being trained on the project's activities. School health clubs were set up in the target schools and they did recruit students. However, the fact that only a few teachers were trained is a threat to the sustainability of the project since teachers can retire or can move to other schools. Thus, there is need urgently undertake additional training to increase the pool of trained teachers that can be used as well as sensitize teachers on the importance of the project.

Fifth, there were several cases of loss of institutional memory due to normal staff attrition. In some cases, newly enrolled project staff as well as those from the key stakeholders such as the MoE did not have all the information regarding the project. Rated to this loss of institutional memory is the fact that there was little documentation of the referral system at the school level. Most of the challenges associated with the

loss of institution memory and the lack of information on the referral system could be mitigated if the project had put in place better documentation mechanisms.

Lastly, there is need to explore appropriate means of motivating different stakeholders involved in such a project to galvanize their support. The CHWs for instance played a critical role in facilitating the linkages between the school, the community and the health facilities. Such actors require more support to keep them sufficiently motivated. In addition, the decision to only provide nets to pupils enrolled in health clubs might have been counter-productive. It is recommended that alternative means be explore to motivate all pupils in the participating schools in order to promote greater buy-in of such projects.

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Annexes I: Tools

AMREF SHMCI End of Term Evaluation SURVEY 2009: SCHOOL CHILDREN KPC SURVEY

FW [_____] COMPLETED [__]

SECTION A: Introduction and Consent

Hello. My name is _____ and I am working with AMREF. We are conducting a survey about Malaria issues. We would appreciate your participation in this survey. This information will help the Government and AMREF to plan health services. The survey will take between ___ and ___ minutes. The information You provide will be confidential and will not be shown to other persons. Participation in this survey is Voluntary. You are free to make that decision and if you have any question you may ask.

Do you have any questions that you to want ask? Do you agree to participate……..Yes/No… …….[__]

If No end interview

Result: 1 completed 2 not at school 3 postponed 4 refused 5 other explain..... [__]

SECTION B: RESPONDENTS DEMOGRAPHIC INFORMATION

1. District…… [__]
2. Division…….. [__][__]
3. School name [_____]…….. [__][__]
4. Date of interview…… [__][__].[__][__].2009
5 Name of respondent……/……../……
6. Age of respondent ……..[__][__]
7. Gender (F/M)…….. [__]
8. Religion: 1 Christian 2 Muslim 3 other (specify) ……..[__]
9. Class of the pupil…… [__]
10. Type of school Mixed school [__]; Girls only school [__] ; Boys only school[__] [tick appropriately]
11. Are you member of the school health clubs yes **[__]** No **[__][tick appropriately**

Section C: Awareness of malaria control in schools					
No.	**Category of questions**	**Potential options**	**Yes-1**	**No-0**	**DK**
C12	Do you have an active teacher who is responsible for malaria control activities in this school?		1	0	99
C13	Have you ever received any messages about malaria control		1	0	99
C14	What is the source of these messages?	Peers	1	0	

		Teachers	1	0	
		Radios	1	0	
		IEC Materials	1	0	
		Drama/songs	1	0	
		Health worker/CHWS	1	0	
		Others (specify)	1	0	
C15	What malaria prevention and control activities exist in this school?	Malaria education	1	0	
		Data collection	1	0	
		Referral of the sick to the health facilities	1	0	
		Participation in malaria field days	1	0	
		Follow-up of pupils treated at the health facility	1	0	
		Health clubs and peer educators	1	0	
		Others (Please specify)	1	0	
C16	Are you aware of the existence of malaria school register?		1	0	
C17	How is this information channeled back to the pupils	Assembly/ Parade.	1	0	
		Debate/ club sessions	1	0	
		School notice boards	1	0	
		Parent days	1	0	
		Other specify			
C18	Whom do you pass information that you learn in school about malaria?	Parents /guardians	**1**	0	
		Peers	**1**	0	
		Others (specify)	**1**	0	
		None	**1**	0	
C19	How often have you been absent in school because of malaria related symptoms	Once a term	**1**	0	
		More than once a term	**1**	0	
		None	**1**	0	
		Others (specify)	**1**	0	
C20	What are the key symptoms of malaria?	Fever	**1**	0	
		Headache	**1**	0	
		Vomiting	**1**	0	
		Joint pains	**1**	0	
		Diarrhea	**1**	0	
		Others (specify)	**1**	0	
C21	What are the key ways of preventing malaria?	Using ITNs	**1**	0	
		Environmental management	**1**	0	
		Use of malaria drugs	**1**	0	

		Using repellants	**1**	0	
		Others (specify)			
	SECTION D: Perceived impacts of the project		**YES**	**NO**	**DK**
D22	Has the malaria control project had any benefits to the school community?		**1**	**0**	**99**
D23	What benefits are these?	Improved knowledge	1	0	
		School community empowerment	1	0	
		Ownership of project	1	0	
		Improved referral	1	0	
		Improved access of health care to the pupils	1	0	
		Other (specify)	1	0	
D24	Are you satisfied with the way the teachers are involved in the malaria control activities?		1	0	DK
D25	If yes to previous question, in what way?	helped us to learn more about malaria	**1**	0	
		helped us identify and deal with our problems	1	0	
		help the pupils reach facilities	1	0	
		report to the authorities when there is a problem	1	0	
		Other (specify)	1	0	
D26	If No, why?	They do not work	1	0	
		They do not communicate with us about what is happening	1	0	
		They refer us to the health facilities but do not facilitate us to get there	1	0	
		Other specify	1	0	
D27	When is the last time you fell sick and you were told you had malaria?	This week	1	0	
		Last two weeks	1	0	
		Last month	1	0	
		Last two months	1	0	
		Cannot remember	1	0	
D28	Have you ever been referred to a health facility from school when you were sick		1	0	
D29	How do the pupils get involved in the malaria prevention and control activities in the school and in the community?	Participating in clubs/peer groups	1	0	
		Essay competition/Poetry	1	0	

		Drama and music at school and at home	1	0	
		Malaria field days	1	0	
		Participation in public holidays	1	0	
		Other (specify)	1	0	
D30	How would you rate your performance in class comparing now and two years ago	Excellent	1	0	
		Improved greatly	1	0	
		Fairly good	1	0	
		Not well	1	0	
D31	What do you attribute this to? (*write verbatim*)				
D32	If you wanted to know anything concerning malaria or other health issues, where would you go to?	School resource centre/library	1	0	
		Community Health Worker	1	0	
		The health facility	1	0	
		Parents	1	0	
		Peers	1	0	
		Teachers	1	0	
		Others			

Recommendations and comments

Assessment of the effectiveness of child-to-parent approach
AMREF BUSIA CHILD SURVIVAL PROJECT: September 2009

Demographic Characteristics			
		Name	**Code**
A	**District**		
B	**Division**		
C	**Location**		
D	**Sub location**		
F	**Village**		
		Responses	
A1	**Name of respondent**	_____	**WRITE names of respondent**
B1	**Sex of respondent**	**1. Male 2. Female**	**Circle**
C1	**Age of respondent**	___ ___	**Write in completed years**
D1	**Highest level of education reached**	**1. None** **2. primary** **3. secondary** **4. Post secondary**	**Circle**
E1	**Tribe of respondent**	**1. Luhya** **2. Luo** **3. Other_____**	**Circle**
F1	**Religion of respondent**	**1. Christian (specify)_____** **2. Other _____**	**Circle**
G1	**Relationship to household head**	**1. Household head** **2. spouse** **3. daughter** **4. brother** **5. other relative_____**	**Circle**

H1	Occupation of respondent	1. Salaried employee 2. self employed (business) 3. self employed (large scale farmer) 4. self employed (peasant farmer) 5. unemployed (seeking for work 6. student 7. Other _____	Circle all that apply

1. Does this household have a primary school going child? 1 Yes; 2 No ……. [__]
   If No (end interview)

If yes, how many _____

2. How many of them are your biological children? _____
3. Which class(es) are the pupils? (circle all that apply)
   a. Class: 1 2 3 4 5 6 7 8
4. Has the pupil(s) ever mentioned to you that their school has a school health club?
   1 Yes; 2 No ……. [__]
5. as the pupil(s) ever mentioned to you that he/she is a member of the school health club?
   a. 1. Yes
   b. 2. No
   c. 3. N/A 4. NR
6. Has the pupil(s) ever mentioned to you that other pupils who are members of the school health club pass health messages to them?
   a. 1. Yes
   b. 2. No
   c. 3. N/A
   d. 4. NR
7. Has the pupil(s) ever mentioned to you that they are encouraged to pass health messages to their parents?
   a. 1. Yes
   b. 2. No
   c. 3. N/A
   d. 4. NR
8. Has the pupil(s) discussed or passed any health messages or information to any member of the household?
   a. 1. Yes
   b. 2. No
   c. 3. N/A
   d. 4. NR
9. If yes, who has he/she discussed the information with in the household?
   a. 1. mother
   b. 2. father
   c. 3. brother
   d. 4. sister
   e. 5. uncle
   f. 6. aunt
10. 7. other _____
11. Who of the above in qn 10 does the pupil(s) discusses health issues most? _____
12. What could be the reasons for discussing with the household member most?
    a. 1_____
    b. 2_____
    c. 3_____
    d. 4_____
    e. 5_____
13. Who of the above in qn 10 does the pupil discusses health issues least?_____
14. What could be the reasons for discussing with the household member least?
    a. 1_____

b. 2_____
c. 3_____
d. 4_____
e. 5_____

15. what health information has the pupil ever discussed?
    a. 1_____
    b. 2_____
    c. 3_____
    d. 4_____
    e. 5_____
    f. 6. NONE
    g. 7. NR
16. Has the pupil ever passed any messages on maternal and newborn care, malaria and HIV/AIDS to you?
    a. 1. Yes
    b. 2. No
    c. 3. N/A
    d. 4. NR
17. If yes, what messages did the pupil(s) pass?
    a. 1_____
    b. 2_____
    c. 3_____
    d. 4_____
    e. 5_____
18. Is there any action you have taken in response to the information or message received?
    a. 1. Yes
    b. 2. No
    c. 3. N/A
    d. 4. NR
19. What actions?
    a. 1_____
    b. 2_____
    c. 3_____
    d. 4_____
    e. 5_____
    f. 6. NR
20. Are there any other means through which you have received messages or health information in the past one year?

a. 1. Yes 2. No

21. If yes, which are these means?
    a. 1_____
    b. 2_____
    c. 3_____
    d. 4_____
    e. 5_____
    f. 6. NR
22. In your opinion, do you agree that pupils in this household have been good agents of passing messages to their parents?
    a. 1. Yes
    b. 2. No
23. If no why not?
    a. 1_____
    b. 2_____
    c. 3_____
    d. 4_____

e. 5_____
f. 6. DK

Qualitative tools:

Interview guide for the District level Managers

Consent:

Hello. My name is _____. I am here to conduct an evaluation of the SHMCI project on behalf of AMREF. We would like to ask you a few questions about the process of implementation, implementation experiences, challenges faced and the overall impacts of the program. We are also interested in the gaps and reasons for the same and the way forward. We believe there is no right or wrong answer, the answers you give here will be confidential and whatever you say will not be linked or associated with you. In addition, only the people working on this project will read the transcript of your interview. I realize how limited your time is and greatly appreciate you're taking the time to speak with us. Do you have any questions for us?

Part A: General Information

Name of respondent	
Role in program	
Current roles	
Number of years working in the project	
Gender	
Time interview started:	
Time interview ended:	
Name of note taker:	
Name of interviewer:	

Comments from the debrief

Part one: introduction

Please describe your experience with the SHMCI

Probes:

a. *How did this project come about?*
b. *What was it hoping to achieve?*
c. *What were the key activities for the project?*
d. *Who were the key targets for the project and why?*
e. *Any training that was given/ you may have received?*
f. *Mechanisms of collaboration with partners and implementers*
g. *Services offered in facilities as a result of* SHMCI

2. *Which benefits have been realised on implementation of the* SHMCI *in this area?*

Probes
What impacts have been observed?
How has service delivery/ planning improved?
Merits and demerits

Which challenges have been encountered in the use of the SBHMIS
How were these solved?

Part two: Operationalization of SHMCI

3. How does the SHMCI project work?

Probes:
How are the sick children treated at school level? Are the teachers empowered enough to handle issues concerning malaria and general health?
How do you treat patients referred from the schools?
What challenges do you experience while receiving such patients?
How do you share information back to schools on the issues concerning the health of the school children?
What do you think about the efficiency of the SHMCI in this district?
What do you suggest as areas of improvement for SHMCI to work better?

4. Do you think the referral system for school age children has been strengthened as a result of this program?

Probes:
Why do you say so?
What has facilitated that process?
Which issues affect referral process and how?
What lessons you learnt from this process?
What would you want done differently?

5. Please describe modalities for the coordination, management, supervisory and reporting of School based health care providers (e.g. teachers and CORPs)

Probes:
Which challenges exist with school based health care provision?
What issues would you like to be addressed?

6. Do you think SHMCI is a viable approach as a viable developing a malaria school policy?

Probes
What is the policy landscape?
What is the feasibility of such a programme?
What challenges does the MOH identify as critical in implementing the school based malaria control strategy in this district?
What lessons have been identified?
Do you have recommendations for replication?

Part three: Use of information collected in the SBHMIS

7. How is the information collected from the school by teachers used?

Probes:
How is information relayed to health facility?
What information do you receive in what format?
How is it fed back to the school/community?
What effect has this approach had on service delivery?

8. How well does information flow from the school/community level to the district level and back? Have there been any gaps identified?

Part Four: Advocacy, Policy formulation

9.Is there a school policy on malaria control and prevention in this district?

What was your role in its formulation?
How do you ensure that the policies are implemented?
What challenges have you encountered in implementing these policies?

Part five: Key constraints, successes and recommendations

10. What constraints have you identified in your involvement with the SHMCI and SBHMIS?

Probes:
Constraints

Successes of the project

How can this project be improved?

a. *Resources*
b. *Tools/supplies*
c. *Training*
d. *Organisational support*
e. *Other*

12. What plans exist for supporting this project after expiry of current support?
13. Any recommendations that you may want to offer?

<u>In depth Interview Guide for School Teachers</u>

Consent:

Hello. My name is _____. I am here to conduct an evaluation of the SHMCI project on behalf of AMREF. We would like to ask you a few questions about the process of implementation, implementation experiences, challenges faced and the overall impacts of the program. We are also interested in the gaps and reasons for the same and the way forward. We believe there is no right or wrong answer, the answers you give here will be confidential and whatever you say will not be linked or associated with you. In addition, only the people working on this project will read the transcript of your interview. I realize how limited your time is and greatly appreciate you're taking the time to speak with us. Do you have any questions for us?

Part A: General Information

Name of respondent	
Role in program	
Current roles	
Number of years working in the project	
Gender	
Time interview started:	
Time interview ended:	
Name of note taker:	
Name of interviewer:	

Comments from the debrief

Part one: Background

1. Briefly describe your involvement with the School Health Malaria Control Initiative project(SHMCI)

Probes

How were you selected?
What were your roles?
Training attended/nature of training
Elements of training
Perceived value of knowledge gained?
Supplies and equipment given
What challenges do you face in collecting information?
Mechanisms of operation –team work etc

Part two: School based HMIS

2. What has your role been as far as the SBHMIS is concerned?

Probes:
What information is found in the SBHMIS records?
How is the information derived from the children?
How are the sick children identified?
What challenges do you experience in performing the role of information gathering?
Do you refer the sick children and to whom?
How useful is the referral form in this regard
How can the referral system be improved?

How do you communicate information from the SBHMIS with the health facility staff ?

3. How has the referral system benefitted from the this program?

Probes:
What facilitated that process?
Which factors affect the referral process…how?
What lessons have you learnt from this process?
What would you want done differently? Why?

Part three: Behavior change and communication

4. Have you involved the pupils in developing IEC materials for use at school and in the community?

Probes
Nature of involvement - drama, dance, drawing competition, essay writing etc
Are the children involved in health clubs, peer education groups?

5. Are children involved in disseminating the information t the community (e.g. during community open days, distribution of fliers etc

Resource center-- role of children
Role of patrons as role models for the children
Are children reporting increased utilization of LLITNs
Do they report promptly when they feel unwell
participating in encouraging their siblings and family members to adhere to medication

Part four: Development of malaria school policy

7. Do you have a malaria school policy in this school*?*

- *Were you involved in its development?*
- *What are the components of the policy?(diagnosis, treatment, refer)*
- *How are the policies implemented?*
- *What challenges have you faced in the implementation of the policy?*
- *Suggested areas of improvement*

Part five: Advocacy

8. How do you ensure that all children access malaria prevention and control interventions promptly?

Probes

- *Access to LLITNs, facilitation of use of LLITN*
- *Access to treatment regimens/ medical services*
- *Facilitated referrals (eg referral forms, accompanying sick children to heath facility*)
- Continuum of care from health facility to community/ school (? counter referral, matters of adherence, extended psychosocial support)
- What other health related activities are you involved in(Immunization, counseling, assessment for disabilities, assessment of poverty levels, general health screening)?

9. What issues do members of the community raise regarding this project/CBHMIS

Probes

- *Approval/disapproval?*
- *Reasons for this*
- *How those concerns have been addressed?*
- *Who in the community have a role in addressing the above concerns*

Part five: Key constraints, successes and recommendations

10. How can this project be improved?

a. *Resources*
b. *Tools/supplies*

c. *Training*
d. *Organisational support*
e. *Other*

11. What support do teachers require to undertake the SBHMIS work effectively

12. What plans exist for supporting this project after expiry of current support?

Probes;

What would you like to add to what we have just discussed?

Interview guide for the Ministry of education actors

Consent:

Hello. My name is _____. I am here to conduct an evaluation of the SHMCI project on behalf of AMREF. We would like to ask you a few questions about the process of implementation, implementation experiences, challenges faced and the overall impacts of the program. We are also interested in the gaps and reasons for the same and the way forward. We believe there is no right or wrong answer, the answers you give here will be confidential and whatever you say will not be linked or associated with you. In addition, only the people working on this project will read the transcript of your interview. I realize how limited your time is and greatly appreciate you're taking the time to speak with us. Do you have any questions for us?

Part A: General Information

Name of respondent	
Role in program	
Current roles	
Number of years working in the project	
Gender	
Time interview started:	
Time interview ended:	
Name of note taker:	
Name of interviewer:	

Comments from the debrief

Part one: introduction

Please describe your experience with the SHMCI

Probes:

a. *How did this project come about?*
b. *What was it hoping to achieve?*
c. *What were the key activities for the project?*
d. *Who were the key targets for the project and why?*
e. *Any training that was given/ you may have received?*
f. *Mechanisms of collaboration with partners and implementers*
g. *Services offered in facilities as a result of* SHMCI

3. *Which benefits have been realised on implementation of the* SHMCI *in this area?*

Probes
What impacts have been observed?
How has service delivery/ planning improved?
Merits and demerits
Which challenges have been encountered in the use of the SBHMIS
How were these solved?

Part two: Operationalization of SHMCI

3. How does the SHMCI project work?

Probes:
How are the sick children treated at school level? Are the teachers empowered enough to handle issues concerning malaria and general health?
How do you treat patients referred from the schools?
What challenges do you experience while receiving such patients?
How do you share information back to schools on the issues concerning the health of the school children?
What do you think about the efficiency of the SHMCI in this district?
What do you suggest as areas of improvement for SHMCI to work better?

4. Do you think the referral system for school age children has been strengthened as a result of this program?

Probes:
Why do you say so?
What has facilitated that process?
Which issues affect referral process and how?
What lessons you learnt from this process?
What would you want done differently?

5. Please describe modalities for the coordination, management, supervisory and reporting in this project

Probes:
Which challenges exist with school based health care provision?
What issues would you like to be addressed?

6. Do you think SHMCI is a viable approach as a viable developing a malaria school policy?

Probes
What is the policy landscape?
What is the feasibility of such a programme?
What challenges does the MOH identify as critical in implementing the school based malaria control strategy in this district?
What lessons have been identified?
Do you have recommendations for replication?

Part three: Use of information collected in the SBHMIS

7. How is the information collected from the school by teachers used?

Probes:
How is information relayed to health facility?
What information do you receive in what format?
How is it fed back to the school/community?
What effect has this approach had on service delivery?

8. How well does information flow from the school/community level to the district level and back?

Have there been any gaps identified?

Part Four: Advocacy, Policy formulation

9.Is there a school policy on malaria control and prevention in this district?

What was your role in its formulation?
How do you ensure that the policies are implemented?
What challenges have you encountered in implementing these policies?

Part five: Key constraints, successes and recommendations

10. What constraints have you identified in your involvement with the SHMCI and SBHMIS?

Probes:

Constraints
Successes of the project

11. How can this project be improved?
    f. Resources
    g. Tools/supplies
    h. Training
    i. Organisational support
    j. Other
14. What plans exist for supporting this project after expiry of current support?
15. Any recommendations that you may want to offer?

Interview guide for the project implementation team
Consent:
Hello. My name is _____. I am here to conduct an evaluation of the SHMCI project on behalf of AMREF. We would like to ask you a few questions about the process of implementation, implementation experiences, challenges faced and the overall impacts of the program. We are also interested in the gaps and reasons for the same and the way forward. We believe there is no right or wrong answer, the answers you give here will be confidential and whatever you say will not be linked or associated with you. In addition, only the people working on this project will read the transcript of your interview. I realize how limited your time is and greatly appreciate you're taking the time to speak with us. Do you have any questions for us?
Part A: General Information

Name of respondent	
Role in program	
Current roles	
Number of years working in the project	
Gender	
Time interview started:	
Time interview ended:	
Name of note taker:	
Name of interviewer:	

Comments from the debrief
Part one: Background
6. Briefly tell us about your experience as a member of the implementation team in the SHMCI project.
    Probes
    - *What were your roles?*
    - *Time line of activities*
    - *Trainings you undertook*
    - *Supplies and equipment given*
    - *What challenges do you face in implementing the program?*
    - *Mechanisms of operation –team work etc*

Part two: Linkages with SHMCI teams, health facility
2. Tell us more about the SHMCI, how does it work?

Probes:

- *What types of health problems affect the school children and how are they supported?*
- *How well does that work?*
- *What challenges do you experience for this component?*
- *Are there referral arrangements between the schools and the health facilities? (Referral forms)*
- *How is the information shared with the health facility staff on the issues concerning the health of the school children and the way forward?*
- *What do you suggest as areas of improvement for the SHMCI to work better?*

3. Do you think the malaria control initiatives in this community have been strengthened as a result of this program?

Probes:
What reason do you have for saying so?
What has facilitated that process?
Any lessons you may have leant from this process?
What would you want done differently?

4. How is the relationship between the school community and health facility staff like?

Probes

- *General attitude of health workers towards the project*
- *Support they offer so far?*
- *Information sharing between school administration and health facilities*
- *Challenges faced while relating to community members?*
- *What concerns they raise*
- *How those concerns have/can be addressed*
- *Role of CORPs/Teachers/project team in addressing the above concerns*
- *Community perceptions of the project*
- *Coordinating mechanisms from the health system*

Part three: Capacity Building

5. Tell us about the capacity building needs of this community in regard to SHMCI project

Probes:

- *How has AMREF met these needs?*
- *Who identifies training beneficiaries and how does it work*
- *What are the challenges for this process?*
- *Any factors that have facilitated this process*
- *Lessons leant so far-bad and good aspects of the strategy*

6. T ell as about the teacher training for SHMCI? Is it effective?

Probes

- *Successes, Challenges in the process*
- *Any impact of the process on the SHMCI program*
- *What worked well and why?*
- *What did not work and why?*

Part four: sustainability, Key constraints, successes and recommendations

9. Let us talk about sustainability:

Probes;
Any activity that has been implemented to enable sustainability?
What activities are they?
Is it adequate to sustain the program?

10. How else do you think this can be improved What are the constraints that you face as you carry out this project?
11. Tell us what you think about integrating this project to the community strategy?

Probes:
How can this be done?
What are the challenges you may for see regarding the approach
What has been done so far?

What lesson have you learned so far about the project that you may want to share?

Probes:

Success stories, Challenges of the whole process
Way forward, Lessons for replication?
What would you do different?

FGD guide with parents

Consent:

Hello. My name is _____. I am here to conduct an end of term evaluation of the malaria school project. We would like to ask you a few questions about the project in this community. This is not a test and there is no right or wrong answer. The answers you give here will be confidential and whatever you say will not be linked or associated with you. In addition, only the people working on this project will read the transcript of your interview. Do you have any questions for me?

PART A: General Information

Date of discussion:		Moderator:			
Venue :		Note-taker:			
Time start:		No. Participants at start:			
Time stop:		No. Participants at stop :			
Villages represented by the CHWs/CHCs:					
Participant	Name (optional)	Gender (M/F)	Age	Education (In years)	No of years as CHC/CHW
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

Part one: Background

7. Briefly describe your involvement with the School Health Malaria Control Initiative project(SHMCI)

   Probes

   Who was involved?
   What were your roles?
   What challenges do you face in this project?

Part two: perceived impacts: Behavior change

8. How has the behavior of parents changed as a result of this project?

   Probes
   Knowledge gained
   Empowerment

9. How are children involved in disseminating the information to the community

How?
Challenges of such experiences

10. How have services improved for children and community in general regarding malaria prevention and control interventions?

    Probes

    - *Access to LLITNs, facilitation of use of LLITN*
    - *Access to treatment regimens/ medical services*
    - *Facilitated referrals (eg referral forms, accompanying sick children to heath facility)*
    - *Continuum of care from health facility to community/ school (? counter referral, matters of adherence, extended psychosocial support)*
    - *Any other health related activities available (Immunization, counseling, assessment of poverty levels, general health screening)?*

11. What issues do members of the community raise regarding this project

    Probes

    - *Approval/disapproval?*
    - *Reasons for this*
    - *How those concerns have been addressed?*
    - *Who in the community have a role in addressing the above concerns*

Part three: Key constraints, successes and recommendations

12. How can this project be improved?
    a. *Resources*
    b. *Tools/supplies*
    c. *Training*
    d. *Organizational support*
    e. *Other*
13. What plans exist for supporting this project after expiry of current support?

    Probes;

What would you like to add to what we have just discussed?

<u>FGD guide with CORPS</u>

Consent:
Hello. My name is _____. I am here to conduct an end of term evaluation of the malaria school project. We would like to ask you a few questions about the project in this community. This is not a test and there is no right or wrong answer. The answers you give here will be confidential and whatever you say will not be linked or associated with you. In addition, only the people working on this project will read the transcript of your interview. Do you have any questions for me?

PART A: General Information

Date of discussion:		Moderator:			
Venue :		Note-taker:			
Time start:		No. Participants at start:			
Time stop:		No. Participants at stop :			
Villages represented by the CHWs/CHCs:					
Participant	Name (optional)	Gender (M/F)	Age	Education (In years)	No of years as CHC/CHW

1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

Part one: Background

1. Briefly describe your involvement with the malaria project

Probes

How were you selected?
What were your roles?
Training attended/nature of training
Elements of training
Perceived value of knowledge gained?
Supplies and equipment given
What challenges do you face in collecting information?
Mechanisms of operation –team work etc

Part two: Linkages with health facility/referral

2. *How do you refer patients from this village to the health facility*

Probes:
How are the patients identified?
What challenges do you experience while referring patients?
How useful is the referral form in this regard
How can the referral system be improved?

How has the referral system benefitted from this project?

Probes:
What facilitated that process?
Which factors affect the referral process…how?
What lessons have you learnt from this process?
What would you want done differently? Why?

Part four: perceived impacts

3. How has demand for services changed as a result of the project?

Probes:
What explains the above change?

What issues do members of the community raise regarding this project

Probes
Approval/disapproval?
Reasons for this
How those concerns have been addressed?
Whether CHEWs have a role in addressing the above concerns

Part five: Key constraints, successes and recommendations

4. How can this project be improved?
   a. *Resources*
   b. *Tools/supplies*
   c. *Training*
   d. *Organisational support*

e. Other

7. What support do you require to undertake this project work effectively?

Annex ii: Project schools, health teachers and CHWs

INVENTORY IN BUTULA DIVISION					
S/NO	**SCHOOL**	**HEALTH TEACHER**	**CHW**	**LOT SUPERVISOR**	**E.O**
1	Esibembe Pri.	Nabwoba Oloo	Patrick Sidandi	Matalanga	Ojour
2	Bwaliro	Ododr A. Arinold	Nicodemus Ochanda		
		Opiyo Josephat			
3	Kanjala	Phaustine Opondo	Celestine Atsieno		
		Febio Shikuku			
4	Bukati Pri.	Wasike Augustine	Patrick Wabuko		
		Mwanza Rosemary			
5	Butula boys	Petronila Mutanda	Mildred Welimo		
6	Bukhuma	Francis Liyosi	Jane Ochieng'i		
		Charles Kutoyi			
7	Butunyi mixed	Isokit Susan	Consolata Khaika	Walela	Ojour
		Imelda Ondigo			
8	Busiada Pri.	Lawwrence Munabi	Lawrence Wafula		
		Odhiambo Fidelis			
9	Saka Primary	Patrick Odoli	Josphine Ongweni		
		Christopher Wabobwa			
10	Bumutiru R.C.	William Neyim	Janet Okumu		
11	Musoma Pri.	Mary Opata	Everlyne Nabwire		
		Philip Saul Omondi			
12	Emagombe Pri.		Mildred Mulaa		
13	Esibina Pri.	Christiano Okango	Florence Terenji	Mwenge	Albertus
		Barasa Margret			
14	Masendebale	Thomas Ouma	Agnes Were		
		Celine Ouma			
15	Makwara Pri.	Fredrick Shiunndu	Demtilla Nabwire		
		Echessa Symplisio			
16	Buhuyi	Resila	Issa Kukuya		
17	Buduma ACK	Edmond Adundi	Lilian Wanguria		
18	Mushibiriri Pri				
19	Dadira Pri.	Joseph Obuya	David Wafula 0727335868	Watako	Albertus
		Esther Barasa			
20	Burinda Pri.	Magero Erick	Alice Achieng		
		Petronila Nakitari			
21	Busire Pri.	Dorcas Murono	Maurice Odhiambo		
22	Namwitsula	George Munyanya	Bonface Odour 0724 704271		

23	Bumala Pri,	Ayiemba Evelye	Hellen Agolla		
24	Bujumba Pri.	Makubo Margret	Alice Amakore 0710683459		
NAMBALE DIVISION					
	SCHOOL	**Health Teachers**	**NAME CHWs**	**E.O**	**CHEW**
1	Namahindi	Azera Nicholas	Jacklyne Obam 0715236566	Mr. Ojou Aaron	Beatrice Ochieng
2	Nambale A.C	Khamala Mary	Antony Matata 0727037738		
		Sakwa Godfrey			Beatrice
3	Sianda Pri.	Restituta Okumu	Leonard Makokha		Frank
		Odhiambo Janet			
4	Musokoto B	Janerose Aneriko	Mary Maelo 0723481840		Masinde
		Emily Ndalila			
5	Sierra	Tom Ekisa	Jane Sokoni		Masinde
		Augustine Musungu			
6	Khayo	Mukoya Emmah	Protus Watitwa		Frank
		Dennis Onyango			
7	Lwanyange	Onyuma Margret	Shadrack Machio	Mr. Wamamu Martin	Lwande
		Christine otieno			
8	Esidende	Betty Muhande	Judith Mukite		Lwande
		Antony Okumu			
		Ebilori Eric			
9	Nambale urban	Achieng Dinah	Josephine Atsieno		Beatrice
		Beatrice Weyula			
10	St. Martins	Musumba Justine	Sylvester Barasa		
		Becker Omanyo			
11	Kisoko Girls	Sr. Theopista	Mary Olum		
		Sr. Mwaniki Magdalene			
SAMIA					
	SCHOOL	**Name of health teacher**	**CHW**	**Lot supervisor**	**AEO**
1	Sibinga Pri	Oboki Odunga	Wilfred Odouri	Gladys Mumia	Odeyo O.
2	Sifuyo Pri	James Frank Mukani	Beatrice Dodoyi		
3	Nambuku Pri		Anastasia		
4	Mundaya Pri		Rosemary Okomba		
5	Buradi Pri.		Chrispinus Barasa		
6	Buloma Pri	Josephine Odongo	Francisca Juma		
		Awori Livingstone			
7	Mukonjo Pri	Francis Were	Okuku		

		Matilda Wandera	Johnstone		
8	Moody Awori	Lither Oundo	Phanice Mang'eni		
		Mangoli Eliud			
9	Bumayenga Pri	Obura Lucy	Samwel Egesa		
		John Wandera			
10	Bunandi Pri	Melisa Magoye	Desterio Masiga		
		Edwin Wandera			
11	Namasali Pri	Sibiya Gilbert	Benedict Sanya		
		Hanninton Hillary			
12	Busijo Pri	Omolo Wilfred	Benjamin Aura	Luvai	Mr. Aguta
		Elphas Kimaoi			
13	Hakati Pri	Francisca Oguba	Joab Wafula		
14	Nabuganda Pri	Angella Nangira	Sebastian Babu		
15	Bumbe Pri.	Emmuanuel Okuku	Crescentia Auma		
16	Bukeko Pri.	John Ouma	Heston Makamu		
		Ausitne Odanga			
17	Luchululo Pri	Maende Mary	Bonface Ochwada 0726023339		
		Elizabeth Wanyama			
18	Kabwodo Pri	Mediatrice Omoro	Eliud Olakhi 071368822		
		Michael Ouma			
19	Nangina Girls	Magina Nicholas	Evelyne Mujema 0711524982		
		Eunice Bwire			
20	Wakhungu Pri.	Beatrice Nekoye	Janet Ogama 0726096465	Aligura	Mr. Nebere
		Isaack Wafula			
21	Nangina mixed	Mugubi Patrick	Conrad mukamba 072477876		
		Lucy Ojunga			
22	Sieyo Pri	Maji Hannington			
23	Buduta Pri	Susan were	Benard Sango		
24	Bukhulungu	Paul Agunda	Chrispinus Okochi		
		Richard Adeya			
25	Bukiri Pri.	Rosemary Bwire	Casking Barasa		
		Opondo Stephen			
26	Sigalame Pri	Isabella Wanyama	Chrisitne Magumba 0721491407		
		Christine Ratori			

BUNYALA DIVISION					
	SCHOOL	**Name Of Health Teacher**	**CHW**	**Education Officer**	**CHEW**
1	Bubamba	Daniel Ojiambo	Pamela Ouma	Mr. Muleke	Ramadahan Hamisi
		Odirah Chrispinus			
2	Sibuka	William Khayoko	Anne Wanyonyi		
		Peter Otini Odouri			
3	Makunda	Kudedi Cornel	Carolyne Amollo		
		Patrick Obanda			
4	Ruambwa	Ronald Mukudi	Fillister Ayongo		
		Birenge Alfred			
5	Bukoma	Maria Were	Rosemay Wandera		
		Henry Magongwe			
6	Busagwa	Jenipher Obara	Pamela Ooko	Mr. Ogubi	Joseph Lok
		Nasiema Jacob			
7	Maduwa	Francis Mutula	Benda Were		
8	Mubwayo	Majuma Helda	Joseph Onyango		
9	Mudembi	Makhulo Fredrick	Regina Ombisa		
		Consolata Namwakira			
10	Igigo	Linus Adina	Peter Oricho		
		Benson Olumbe			