Aweil West, South Sudan
April 2013
Lovely Amin
I would like to thank the team of Concern Worldwide of Aweil West, South Sudan for the support they have provided throughout the mission as well as their active participation in the SQUEAC assessment for Aweil West County.

I would like to convey a very special thanks to Lucia Gwete, Coordinator Nutrition Programme Aweil for assisting me during the SQUEAC training and the survey. I am grateful to all participants of the SQUEAC training and the survey that includes the teams from Concern Aweil, Aweil County Health Office, staff from Ministry of Health for their active and lively participations throughout the entire exercise. My gratitude also goes out to the various members of the community: the mothers, Home Health Promoters (HHPs), and the Boma Chiefs, the TBAs and Traditional healers as well as the OTP and SC staff of the visited health centres.

Lastly, but not the least CMN would like to thank it’s funders, ECHO and USAID for funding the CMN project which made possible to conduct this coverage assessment and trained some international health and nutritional professional as well as some national staff on SQUEAC method in Aweil West.
EXECUTIVE SUMMARY

Introduction
Northern Bahr el Ghazal (NBeG) is the poorest state in South Sudan with 75.6% of state population living below poverty line compared to national figure of 50.6%. Almost 83% of the population in the state reside in rural areas as agro-pastoralists, and over 9% of the population in NBeG are severely food insecure\(^1\). Recognising the vulnerability and poor service provision for the population of Northern Bahr el Ghazal, since 1998 Concern Worldwide has been implementing emergency and early recovery programmes.

Aweil West County is among the five counties that constitute Northern Bahr el Ghazal State, an administrative division of South Sudan where Concern implement CMAM programme. This SQUEAC assessment was conducted from 16\(^{th}\) April to 3rd of May 2013 in Aweil West.

Methodology
The Semi-Quantitative Evaluation of Access and Coverage (SQUEAC) methodology was used to assess the coverage. Three stages investigation model was used: i) Stage 1, analyse the qualitative and quantitative data ii) Stage 2, develop and test the hypothesis; hypothesis one, ‘more community members in villages close by to OTP service delivery point are aware of the CMAM programme. Fewer community members living in villages far away to OTP service delivery points are aware of the CMAM program’. S Hypothesis two, ‘higher number of admissions to OTPs from the villages with presence of HHPs while low number of admission to OTPs from the villages without presence of HHPs’. iii) Stage 3, conducted a ‘Wide area survey’ to estimate the final programme coverage.

Main Results

Stage -1

- **The OTP admissions**
The programme admission data showed that in 2012, 2520 SAM children age between 6-59 months were admitted and 86% of them were successfully treated and cured.

- **The OTP defaulters**
The defaulter rate was found within the SPHERE minimum standard 9%. Information of reasons for defaulting was however not captured through the OTP cards and registers. For example, how many weeks attended to OTP before defaulted and the reasons for defaulting etc. SQUEAC assessment includes assessing programme qualities therefore defaulter’s information is important indicators to see if the programme providing services that are need for the community and determine ways of improvements.

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\(^1\) Annual Needs and Livelihoods Analysis 2011/2012, WFP/VAM
Screening at the communities
Home Health Promoters (HHPs) serve the community by engaging themselves in health promotion messaging and other health and nutrition campaigns. In Aweil West HHPs are expected to conduct MUAC screening regularly. At the time of the assessment in sample villages nearly one third of the village were found without HHPs. This is due to that CWW had just initiated this concept and had not identified and trained HHPs in all villages in Aweil West. Villages where HHPs were present it was found that some of them were not active or very motivated due to poor incentive package. Therefore no regular screening has been carried out in all villages of Aweil West.

Stage – 2
Hypothesis testing
Hypothesis that was generated after stage 1 data collection and analysis, in stage 2 it was tested. Both hypotheses were confirmed based on field data. Communities nearby to OTP centre have better knowledge of the programme compared to communities far away from OTP centre. Village with HHPs have higher coverage than villages with no HHPs.

Stage - 3
Coverage Estimation (results from wide area survey)
The final coverage estimation was done after the ‘wide area survey’ ‘Point’ coverage is estimated at 50.7% ((CI 40.2- 61.2%). This estimation lies within SPHERE standard the rural area ≥50%.

Main Barriers
Findings from the assessment indicated that poor community perception on CMAM programme, inconsistent supply of RUTF and poor record keeping were the main determinants poor programme quality and coverage.

Key Recommendation
1. The scheme and strategy of utilising the HHPs need to be reviewed and revised.
2. Increase sensitisation of the community on CMAM programme needs strengthening to a greater extent.
3. Improving communities knowledge on malnutrition and its consequence
4. Improve supply and monitoring of RUTF regarding regular, correct supply and correct utilization in OTPs;
5. Health and nutrition education for the community on malnutrition, child care and hygiene to prevent diseases and malnutrition
6. Improve record keeping in OTP and SC
7. Improve collaboration with other partners in the county
8. Conduct another SQUEAC survey after one year to assess if the situation has changed
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<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>ACF</td>
<td>Action Contre la Faim/Action Against Hunger</td>
</tr>
<tr>
<td>CI</td>
<td>Credible Interval</td>
</tr>
<tr>
<td>CHD</td>
<td>County Health Department</td>
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<tr>
<td>CMAM</td>
<td>Community based Management of Acute Malnutrition</td>
</tr>
<tr>
<td>CMN</td>
<td>Coverage Monitoring Network</td>
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<tr>
<td>CWW</td>
<td>Concern Worldwide</td>
</tr>
<tr>
<td>FGD</td>
<td>Focus Group Discussion</td>
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<td>GAM</td>
<td>Global Acute Malnutrition</td>
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<tr>
<td>HHP</td>
<td>Home Health Promoter</td>
</tr>
<tr>
<td>INGO</td>
<td>International Non-Governmental Organisation</td>
</tr>
<tr>
<td>KII</td>
<td>Key Informant Interviews</td>
</tr>
<tr>
<td>LoS</td>
<td>Length of Stay</td>
</tr>
<tr>
<td>MAM</td>
<td>Moderate Acute Malnutrition</td>
</tr>
<tr>
<td>MUAC</td>
<td>Mid-Upper Arm Circumference</td>
</tr>
<tr>
<td>NNGO</td>
<td>National Non-Governmental Organisation</td>
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<tr>
<td>NBeG</td>
<td>Northern Bahr el Ghazal</td>
</tr>
<tr>
<td>OTP</td>
<td>Outpatient Therapeutic Programme</td>
</tr>
<tr>
<td>PHCC</td>
<td>Primary Health Care Centres</td>
</tr>
<tr>
<td>PHCU</td>
<td>Primary Health Care Units</td>
</tr>
<tr>
<td>RoSS</td>
<td>Republic of South Sudan</td>
</tr>
<tr>
<td>RUTF</td>
<td>Ready to Use Therapeutic Food</td>
</tr>
<tr>
<td>SAM</td>
<td>Severe Acute Malnutrition</td>
</tr>
<tr>
<td>SSI</td>
<td>Semi Structure Interview</td>
</tr>
<tr>
<td>SQUEAC</td>
<td>Semi Quantitative Evaluation of Access and Coverage</td>
</tr>
<tr>
<td>TBA</td>
<td>Traditional Birth Attendants</td>
</tr>
<tr>
<td>UNDP</td>
<td>United Nation Development Programme</td>
</tr>
<tr>
<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organisation</td>
</tr>
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</table>
1. INTRODUCTION

1.1 COUNTRY CONTEXT

The Republic of South Sudan (RoSS) officially declared its independence on the 9\textsuperscript{th} July 2011 to become an independent state and the 193\textsuperscript{rd} member country of United Nations. Sudan (inclusive of South Sudan) ranks 171 out of 187 countries included in the latest human development report published by UNDP in 2012. Chronic underdevelopment in the country followed from more than two decades of civil war has South Sudan with the weakest economy in the world. The average life expectancy at birth for both sexes is 42 years\textsuperscript{2}. South Sudan has the highest female illiteracy rate (88\%) in the world as of 2011.

South Sudan has a total area of 644,329 sq. km with a population of 8.26 million with 83\% living in rural areas and 51\%\textsuperscript{3} living below the poverty line\textsuperscript{4}. South Sudan is divided into three regions and ten states; Northern Bahr el Ghazal (NBeG) is one of the ten states of the country.

1.2 CONTEXT OF AWEIL WEST

Northern Bahr el Ghazal (NBeG) is the poorest state in South Sudan with 75.6\% of state population living below poverty line compared to national figure of 50.6\%. Almost 93\% of the population in the state reside in rural areas as agro-pastoralists, and over 9\% of the population in NBeG are severely food insecure\textsuperscript{5}. In 2012 it was reported that NBeG had a food deficit of over 56,404 MT, reflecting crisis level food insecurity across the state\textsuperscript{6}. Food crisis has overall negative affect on nutrition status of the population especially on young children and increased the Global Acute Malnutrition (GAM) rate. Men and women do migrate in search of labour leaving children behind vulnerable and exposed to negative coping strategies during ‘Hunger Gap’. With constant food deficit in the state the health and nutritional status of the population in NBeG is worrisome. The under-five mortality rate is 106 per 1,000 live births. Global Acute Malnutrition rates are persistently above the emergency threshold and are as high as 21\% in children under five, in four of the ten states\textsuperscript{7}.

Aweil West County is among the five counties that constitute Northern Bahr el Ghazal State, an administrative division of South Sudan. People living in the county reside in rural areas living as agro-pastoralists. Aweil West County is predominantly inhabited by the Dinka tribe.

\textsuperscript{2} Health Sector Development Plan 2012-2016, MoH, RSS.
\textsuperscript{3} Key Indicators for South Sudan, South Sudan Centre for Census, Statistics and Evaluation, December 2010.
\textsuperscript{4} 5th Sudan Population and Housing Census in 2008 by the SSCCSE
\textsuperscript{5} Annual Needs and Livelihoods Analysis 2011/2012, WFP/VAM
\textsuperscript{6} Crop and Food Security Assessment Mission to South Sudan, February 2012. FAO/WFP
\textsuperscript{7} Basic Package of Health and Nutrition Services Delivery in Aweil West and Aweil North Counties of Northern Bahr el Ghazal State in South Sudan, November 2012
The Dinkas are an ethnic group inhabiting the Northern Bahr el Ghazal region of the Nile basin, Jonglei and parts of Southern Kordofan and Upper Nile region. The Dinkas comprise of many independent but interlinked clans.

Seasonal migration among this population in search of water, pasture and fishing provides opportunities for trade and exchange with neighbouring communities. However, it also creates a potential for clashes over water and grazing lands. Cattle raiding and rustling is also common and serves to escalate tension and create conflicts to the detriment of food production.

Recognising the vulnerability and poor service provision for the population of Northern Bahr el Ghazal, since 1998 Concern Worldwide has been implementing emergency and early recovery programmes. The programme included mainly food security, emergency response, health and nutrition interventions and education. In March 2003, Concern initiated a Community-based Therapeutic Care (CTC) programme in Aweil West and Aweil North, with support from Valid International, following very high levels of acute malnutrition. The Community-based Management of Acute Malnutrition (CMAM) programme then known as CTC has been continued till today to treat acute malnutrition.

Since 2007, CMAM activities have largely been integrated into the Aweil County Health Department (CHD) the broader primary health care programme that has been initiated and implementing by South Sudan Ministry of Health (SSMoH). To strengthen the capacity of the CHDs CWW supported them to deliver the basic health and nutrition services through the existing health facilities. Currently, in Aweil West the CMAM program is being implemented through 20 Primary Health Care Units (PHCUs) and 2 Primary Health Care Centres (PHCCs) in Aweil West. See Map below, programme area.

Figure: 1 Map of Northern Bahr El Ghazal, CWW’s working area
From 2009, the MoH South Sudan adopted CMAM as Interim Guidelines; Integrated Management of Acute Malnutrition (IMAM) for the treatment of acute malnutrition. The IMAM guideline for South Sudan addresses community-based management of severe acute malnutrition (SAM) in children from 6-59 months that includes community outreach, Outpatient Therapeutic Programme (OTP) for children without complications and Inpatient Care for children with medical complications.

To monitoring the trends of malnutrition among children age between 6-59 months Concern Worldwide has been conducting nutrition and mortality surveys in the counties of operation, Aweil West is one of them. The survey results have consistently shown the levels of Global Acute Malnutrition (GAM) above the emergency threshold of 15%. All surveys conducted during the pre-harvest season of 2010 and 2011 have shown high prevalence of acute malnutrition in Aweil West. The most recent one was carried out in April 2012 (pre-harvest) the survey reported of the prevalence of SAM was 4.1% (C.I. 2.6-6.3) and the prevalence of GAM was 25.8% (C.I. 21.4-30.8) based on WHO 2005. Figure 2 below shows the trends of SAM and GAM rate.

In Aweil West OTP for SAM cases was integrated into the CHDs health facilities for greater sustainability. There are 20 OTP centres and 2 Inpatient care centres in Aweil West. The SQUEAC assessment was carried out in CWW’s programme of Aweil West. Despite good implementation, still a number of challenges were noted that affect overall implementation of the programme such as poor community mobilisation and lack of screening, inadequate health service, long distances to OTPs, incorrect use of CMAM protocol, and inadequate training to name a few.

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Figure: 2 Trend of SAM & GAM prevalence rate

<table>
<thead>
<tr>
<th>Year</th>
<th>SAM Pre-harvest</th>
<th>SAM Post-harvest</th>
<th>GAM Pre-harvest</th>
<th>GAM Post-harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>2.0</td>
<td>1.0</td>
<td>30.0</td>
<td>25.0</td>
</tr>
<tr>
<td>2011</td>
<td>2.5</td>
<td>1.5</td>
<td>30.0</td>
<td>25.0</td>
</tr>
<tr>
<td>2010</td>
<td>3.0</td>
<td>2.0</td>
<td>30.0</td>
<td>25.0</td>
</tr>
<tr>
<td>2009</td>
<td>3.5</td>
<td>2.5</td>
<td>30.0</td>
<td>25.0</td>
</tr>
<tr>
<td>2007</td>
<td>4.0</td>
<td>3.0</td>
<td>30.0</td>
<td>25.0</td>
</tr>
<tr>
<td>2006</td>
<td>4.5</td>
<td>3.5</td>
<td>30.0</td>
<td>25.0</td>
</tr>
</tbody>
</table>

Source: Concern Worldwide Anthropometric Nutrition and Mortality Surveys.

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8 Government of Southern Sudan Ministry of Health Interim Guidelines Integrated Management of Severe Acute Malnutrition December 2009
9 WHO, International standards for anthropometric assessment, 2005
Since the initiation of CMAM programme in Aweil West no coverage assessment has been conducted. Therefore, a coverage assessment and training of coverage assessment methods has been commissioned to the Coverage Monitoring Network (CMN). The Coverage Monitoring Network (CMN) Project is a joint initiative by ACF, Save the Children, International Medical Corps, Concern Worldwide, Helen Keller International and Valid International. The programme is funded by ECHO and USAID. This project aims to increase and improve coverage monitoring of the CMAM programme globally and build capacities of national and international nutrition professionals; in particular across the West, Central, East & Southern African countries where the CMAM approach is used to treat acute malnutrition. It also aims to identify, analyse and share lessons learned to improve the CMAM policy and practice across the areas with a high prevalence of acute malnutrition. The project will mainly focus on building skills in Semi Qualitative Evaluation of Access and Coverage (SQUEAC) methodology. To assess the CMAM (OTP) coverage in Aweil West a Semi-Quantitative Evaluation of Access and Coverage (SQUEAC) method has been used. The main objective of the SQUEAC method is to improve the routine monitoring activities by identifying potential barriers to access services. The findings intend to facilitate an optimum coverage of the OTP service.

Figure 3 Training in Aweil West, April 2013

A team of nutrition professionals of Concern World wide’s country South Sudan programme and from County Health Department of Aweil West were trained in the SQUEAC methodology. The aim was to build the local capacity and to continue with the coverage monitoring assessment in the county/region in coming months and years (Figure 3).
2. PURPOSE OF THE ASSESSMENT

The main purpose of this assignment was to provide training and build skills of the key nutrition staff of Concern Worldwide South Sudan and staff of County Health Department (CHD) on SQUEAC method. In addition, provide technical support in conducting a SQUEAC coverage assessment in the CWW CMAM programme in Aweil West with a view to strengthen quality of programme routine monitoring data and improve the programme coverage.

2.1 Specific Objectives
1. To train Concern staff and MOH counterparts on how to conduct the coverage survey using the SQUEAC methodology.
2. Assess the data quality whilst in the field and during data entry and analysis during the SQUEAC survey implementation in Aweil West.
3. Identify gaps in access to the CMAM services that has not been addressed through community outreach component and find possible solutions to these barriers using data gathered from those cases found with acute malnutrition and not admitted in the programme at the time of the survey.
4. Determine the program coverage in Aweil West and produce recommendations based on the survey to improve access to the CMAM services and increase programme coverage in the project areas.
5. Provide a briefing for programme staff on findings and how to improve the programme coverage.

2.2 EXPECTED OUTPUT
- Implementation of coverage assessment in Aweil West
- Train staff on SQUEAC methodology
- Briefing and debriefing of local and international staff on the survey outcome
- Final coverage survey report for Aweil West

2.3 DURATION OF THE ASSESSMENT & THE TRAINING
April 16th to May 3rd 2013 (annex 1)

2.4 PARTICIPANTS
A total of 13 staff were trained in the SQUEAC method of which, 9 were from Concern Northern Bahr el Ghazal 2 from County Health Department of Aweil West and 2 from the Ministry of Health see annex 2. An additional, 6 participants attended to act as interpreters in the communities for data collection.
3. METHODOLOGY

The Semi-Quantitative Evaluation of Access and Coverage (SQUEAC) method was used to assess the CMAM program coverage in Aweil West in Northern Bahr el Ghazal. The SQUEAC\(^{10}\) method was developed to provide an efficient and accurate method for identifying existing barriers to access services and assessing coverage in an emergency as well as non-emergency context. This approach places a relatively low demand on logistical, financial and human resources to provide detailed information. Regarding the coverage estimation, areas faraway from OTPs and nearby to OTPs are detected and the principle factors preventing higher coverage in targeted areas are to be identified. It is the hope that the programme will be able to implement this method in a medium to long-term programme coverage assessment by Concern Worldwide team in Aweil West of Northern Bahr el Ghazal. For the Aweil West assessment a 3 stages assessment/investigation model was used:

- **Stage 1**, analysis of qualitative (contextual data) and quantitative (prog. routine data)
- **Stage 2**, conducting an assessment of knowledge and perception on CMAM as well as a ‘Small area survey’ for faraway and nearby villages from the OTP sites
- **Stage 3**, conducting a ‘Wide area survey’

3.1 STAGE 1

*Quantitative and qualitative data analysis to understand barriers/boosters to coverage*

In stage one, existing routine programme data which have been collected and compiled in January to December 2012 were gathered and analysed. In addition to the routine programme data qualitative data was collected by the teams from the CMAM programme area of Aweil West. The data (both qualitative and quantitative) were collected by using various methods and sources.

The qualitative data collection aimed at understanding the perception of the target population about the programmes and the programme implementers. A generic questionnaire was developed to guide the data collection from communities on their perception on CMAM programme, care seeking behaviour and common practice of treating malnutrition etc. (annex 3). The data collectors were trained on how to interview, by avoiding leading questions and to instead rely on the informants’ responses to generic open questions.

The method and sources used were focus group discussions (FGDs) with OTP staff and mothers/caretakers of children admitted to OTPs. Open ended generic questionnaires were used for

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\(^{10}\) Mark Myatt, Daniel Jones, Ephrem Emru, Saul Guerrero, Lionella Fieschi. SQUEAC & SLEAC: Low resource methods for evaluating access and coverage in selective feeding programs.
Key Informant Interviews (KIIs) with Boma Chiefs, the Traditional Healers and the Traditional Birth Attendants (TBAs). Information was gathered and triangulated until the question had been answered. Based on the findings from routine data and information gathered from communities the barriers and boosters were identified and questions were generated for further investigation.

**Boosters and Barriers (Mind Map)**

Figure: 4 Boosters and Barriers Aweil West

Information that was collected from different sources through various methods was plotted on ‘Mindmap’ which is a graphical way of storing and organising data and ideas around a central theme, coverage. It was used to summarise the findings of the SQUEAC assessment and was drawn and modified as the assessment proceeded. That information was later transferred to the X-Mind (annex 4). Information from the Mindmap was weighed and scored by separating them as barriers and boosters that determined coverage. The scoring was done by the assessment team based on the weight of each element. The scale used from 1-5 to score ‘barriers’ and ‘boosters’ (figure 3). The team scored them separately and it was expected that the scoring differed from group to group as the perceptions differ among groups. However, after a discussion the final scoring for each element was agreed on and assigned. The average scores for each category were added to “build up” from zero (i.e. lowest possible coverage) and to “knock down” from 100% (i.e. highest possible coverage). Using the averages from these estimates then the upper and lower expected values on coverage were then estimated (table-1).
Table: 1 Scoring of Mindmap & setting up the ‘Prior’ by Bayesian-SQUEAC, Aweil West April 2013

<table>
<thead>
<tr>
<th>Positives</th>
<th>Values</th>
<th>Values</th>
<th>Negatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correct knowledge of admission criteria</td>
<td>4.7</td>
<td>4.3</td>
<td>Irregular and insufficient supplies</td>
</tr>
<tr>
<td>Target population appreciates the prog.</td>
<td>4</td>
<td>3.7</td>
<td>Double registration/wrong conception</td>
</tr>
<tr>
<td>Correct knowledge and causes of malnutrition (lack of food &amp; diseases)</td>
<td>4.7</td>
<td>4.3</td>
<td>No/lack of motivation of HHPs</td>
</tr>
<tr>
<td>Communities knowledge of malnutrition cases (number of cases)</td>
<td>4.7</td>
<td>3.3</td>
<td>Lack of SFP support</td>
</tr>
<tr>
<td>No refusals to attend OTP</td>
<td>5</td>
<td>3</td>
<td>Lack of ownership by health facilities</td>
</tr>
<tr>
<td>CMAM programme benefits community</td>
<td>4.3</td>
<td>4</td>
<td>No incentives – HHPs</td>
</tr>
<tr>
<td>Community awareness of malnutrition</td>
<td>3.7</td>
<td>3.7 (2)</td>
<td>Lack of prevention of malnutrition</td>
</tr>
<tr>
<td>Sensitisation</td>
<td>3.3</td>
<td>2.7</td>
<td>Sharing of RUTF</td>
</tr>
<tr>
<td>Some HHPs are active</td>
<td>3.3</td>
<td>2.3</td>
<td>Lack of family support</td>
</tr>
<tr>
<td>Feedback provided to Health Centre staff</td>
<td>3.3</td>
<td>3.3</td>
<td>In rainy season poor access to HF</td>
</tr>
<tr>
<td>Good knowledge of OTP programme</td>
<td>3.7</td>
<td>2.7</td>
<td>Poor record keeping</td>
</tr>
<tr>
<td>Some leader understood their role</td>
<td>3.3</td>
<td>3.7</td>
<td>No HHPs in some villages</td>
</tr>
<tr>
<td>Active involvement of some leaders</td>
<td>3.3</td>
<td>3.7</td>
<td>Distance to health facility</td>
</tr>
<tr>
<td>Good record keeping in some OTP</td>
<td>4</td>
<td>2.7</td>
<td>Some leader not understood their role</td>
</tr>
<tr>
<td>Free treatment</td>
<td>4.3</td>
<td>1.7</td>
<td>Preference of traditional treatment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.3</td>
<td>Poor defaulters follow up</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td>Lack of community sensitization</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td>Wrong knowledge of malnutrition</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.3</td>
<td>Inadequate training Health facility staff</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>Poor knowledge of OTP programme</td>
</tr>
<tr>
<td>Added to Minimum Coverage (0%)</td>
<td>59.6+0</td>
<td>100-63.7</td>
<td>Subtracting from Maximum Coverage (100%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>=59.6</td>
<td>=36.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>36.3+59.6</td>
<td>95.9/2=48%</td>
</tr>
<tr>
<td>Alpha value</td>
<td>24.1</td>
<td>23.9</td>
<td>Beta Value</td>
</tr>
</tbody>
</table>

Seasonal calendar

In this stage, a seasonal calendar is drawn in order to get a broader picture of programme performance against context. A seasonal calendar is drawn which includes agricultural labour, disease, food availability, hunger gaps, migration and meteorological changes. Admissions and defaulter trends were then compared to the seasonal calendar to determine whether the programme was responding to seasonal changes and context-specific factors.

The calendar is generally developed with the SQUEAC assessment team and with the OTP staff and mothers/caretaker of OTP/SC children, compared, and then a final calendar was developed to compare with the admission and defaulter trends of the programme from January to December 2012.
3.2 STAGE 2 ‘SMALL AREA SURVEY’

**Hypothesis Formation**

Two questions were generated from stage one data/information;

1. Question one; ‘if there is any difference in knowledge of the CMAM programme between the villages close by from the villages far away' from OTP service centre?
2. Question two; ‘if there is any difference in number of admission/rate of coverage in villages with HHPs from in villages without HHPs’? Following these two questions hypothesis was developed and tested.

**Hypothesis 1**
More community members in villages close by (i.e. within 1 hour walking distance) to CMAM service delivery point are aware of the CMAM programme (i.e. know the programme treats malnourished children). Fewer community members living in villages far away from CMAM service delivery points (i.e. 3 hour walking distance or more) are aware of the CMAM program.

To test this hypothesis 4 villages were selected depending on their distance to OTP sites, 2 far away and 2 close by villages and four team conducted KII with the key informants. Adequate level of awareness was defined by more than 50% community member being aware of the programme.

**Hypothesis 2**
High number of admissions/ rate of coverage to the OTPs from the villages with HHPs. Low number of admission/low rate of coverage to the OTPs from the villages without HHPs.

To test this hypothesis if presence of HHPs is indeed affecting the admission hence the coverage, 3 villages were selected with the HHPs and 3 villages with no HHPs were selected. Sample size was not necessary to calculated in advance for this survey. The survey sample size was the number of SAM children found by the surveyors. Based on coverage threshold for rural area>50% coverage (SPHERE) was defined as adequate coverage.

The data was collected using active and adaptive case-finding methods. Questionnaires were developed to record the cases (SAM), both current cases and recovering cases (annex 5a). A separate questionnaire was used for the cases of mothers/caretaker that were not attending the programme to find out the reasons for not attending to the programme (annex 5b).

**ACTIVE:** The method actively searched for cases rather than just expecting cases to be found in a sample.

**ADAPTIVE:** The method was used based on information found during case-finding exercises to be informed and improve the search for case finding exercise.
To test the hypothesis a small area survey/assessment was conducted and reasons for poor knowledge on CMAM programme and coverage failure were identified (stage 2).

**Case Definition**

The case definition used for Aweil West coverage survey was defined as “a child matching the admission criteria of the programme”. The admission criteria of the South Sudan CMAM programme included children age between 6 and 59 months with at least one of the following criteria:

1. A Mid Upper Arm Circumference (MUAC) of <11.5 cm
2. Bilateral pitting oedema

For the SQUEAC assessment local names were used for case (SAM) finding.

**Local names for malnutrition in Aweil West**

Marasmus is known as ‘Dor’
Nutritional Oedema is known as ‘Buud’

In this survey, only a MUAC of <11.5 cm and the presence of bilateral pitting oedema were considered in the case definition for SQUEAC assessment.

**Semi Structure Interview (SSI)**

SSI was used for small and wide area surveys for the mothers/caretakers of the current cases that were not attending the programme. This requires a list of questions or ideas which was developed and used in interviewing the main stakeholder of the programme (annex 5b).

### 3.3 STAGE 3 ‘WIDE AREA SURVEY’

The overall programme coverage was estimated using the Bayesian-SQUEAC technique. This technique includes an estimation of the prior, prediction of coverage before conducting a wide area survey to calculate a small sample size for ‘wide area survey’ for the likelihood survey.

Based on the programme routine data, the qualitative information and the findings from the ‘Small area survey, the team decided to calculate the sample size for the ‘Wide area survey, (3rd Stage) assuming that the coverage of Aweil West are likely to be around 50%.
**Setting of the ‘Prior’**

The ‘Prior’ is generally set using the prior information such as information from stage one and two to make an informed guess about the most likely coverage value and then express it as a probability density.

Based on the programme routine data, qualitative information (the barriers and boosters) and findings from the ‘Small area survey’, the team decided to calculate the sample size for the ‘Wide area survey, (3rd Stage) assuming that the programme coverage is likely to be around 50%. With this assumption the prior was set at 50%, the prior was then described using the probability density Alpha prior = 24.1 and Beta prior = 23.9 using Bayesian-SQUEAC software (see figure 5).

**Figure: 5 the prior for the Likelihood survey in stage 3**

The wide-area survey covered entire programme catchment areas by adopting spatial sampling method. A two-stage sampling procedure was employed:
i) **Estimation of Sample size:**

Sample size requirements were calculated (using simulation with the Bayesian-SQUEAC calculator) to provide a coverage estimate with a 95% credibility interval and ±10% precision. The minimum sample size required was calculated to be n = 50 current SAM cases (either in programme or not in programme). See below formula for sample estimation:

\[
N = \left( \frac{\text{Mode} \times (1-\text{mode})}{(\text{Precision} \div 1.96)^2} - (\alpha +\beta -2) \right)
\]

**Mode** = 0.5*(1-0.5) = 0.25 (numerator)

Our Precision = (0.10 ÷ 1.96)^2

(0.10/1.96)*(0.10/1.96) = 0.002603082 (denominator)

**Alpha** (\(\alpha\)) = 24.1 + Beta (\(\beta\)) = 23.9 - 2 = 46

\[
N = \left( \frac{0.5 \times (1-0.5)}{(0.1 \div 1.96)^2} - (24.1 +23.9 -2) \right) = 46
\]

\[
N = \left( \frac{0.25}{0.002603082} - 46 \right)
\]

\[= \frac{0.25}{0.002603082} - 46 = 50\]

Therefore, the sample size was estimated to find 50 cases (SAM) by using the wide area survey approach.

ii) **Sample area**

- Covering the areas of health centres catchment areas that are covered by CMAM services during the assessment period
- Proportion of population living within the catchment of the CMAM service areas/OTP sites

To select the villages to be included for ‘wide area survey’, used quadrant stratified systematic sampling method:

A map of the Aweil West showing all Payams, the map divided into equal sizes of a quadrant, each quadrant was 10cm by 10cm and was laid on the map that yielded 43 numbers of squares.
Villages in each square (Quadrant) were listed in the order to ensure a spatial representation of a sampling area. Sampling locations of all Health centre/Health post in Aweil West County were selected systematically to find 50 SAM cases.

It was estimated using the sampling method that a number of villages would be required to find 50 current SAM cases. The estimation was done by using the proportion of the population living in the survey area, percentage of U5 population and prevalence of SAM in the survey areas from last nutrition survey report of Concern Worldwide which yield 18 villages to be surveyed, however, to find enough cases it was decided to survey 24 villages.

Similar to the ‘Small Area Survey’ active and adaptive case finding methods were used to find cases. This method allowed inclusion of all, or nearly all, current SAM cases in sampled villages. After surveying 24 villages by 6 team 37 SAM cases were found, all cases ‘not in programme’ were referred to nearest OTP figure: 6 the Map.

Figure: 6 Map of Aweil West with quadrants for ‘Wide area survey’ April 2013
4. RESULTS

4.1 Stage 1 PROGRAMME ROUTINE DATA & CONTEXTUAL DATA

Data collection:
Quantitative and qualitative data was collected from routine programme data and from different informants using different methods in line with SQUEAC guidelines:

4.1.1 Programme Routine data analysis (from card & register books)
The programme routine data used was from January 2012 to December 2012. However, the full year data was not available for all indicators therefore for some indicators sample data was collected and analysed and reported on percentage and in actual number as appropriate.

Admission data
- Admissions trend and disease calendar
- Admissions by MUAC (MUAC status)
- Admissions and their age

Programme performance indicators
- Cured
- Defaulters
- Death
- Non responded,
- Transferred cases and
- Length of Stay before cured discharged

Defaulter’s data
- Defaulter trend and labour calendar

Figure: 7 Prog. routine data analysis

SQUEAC utilises programme’s routine monitoring data that are accessible and directly related to programme coverage to assess three things: i) the accuracy and appropriateness of the data related to the coverage & programme performance, ii) whether or not a programme is responding well to the demands of its context, and iii) whether there are specific areas within the programme’s target area expected to have either a relatively low or high coverage. This data is first analysed in isolation for, comparison with the changing/seasonal context of the targeted area. Then the routine data is compared to international standard indicators (SPHERE) related to the context of implementation area.
Admission data

**OTP Admissions and Seasonal trend: diseases and hunger gap**
From January to December 2012, the OTP in Aweil West in Northern Bhar el Gazal has admitted 2520 children and successfully cure 86% of them.

The assessment team in consultation with the community identified the season, and the peak of childhood diseases. Following the seasonal calendar below diarrhoea and malaria are linked with the rainy season which starts in May and continue till October, ARI is linked with cold season. However the peak season for malnutrition seems to be April to June which is correlated to increased cases of diarrhoea and malaria. The figure below (figure 8), indicated that the programme admissions follow disease and seasonal variation.

**Admission to OTP by age group**
From the admission data, January to December 2012, it was found that over 83% of children who were admitted to OTP were aged between 6 to 24 months. In total more than three quarters of the SAM cases that were admitted to OTP were age between 6 to 24 months (figure: 9).
**MUAC at the time of admission in OTP**
The measurement of MUAC at the time of the admission is part of the routine data analysis from the individual’s admission card/OTP registered. The data collected from the OTP cards and registers allows the analysis and assessments regarding timeliness of treatment seeking behaviours as well as the pro-activeness of the HHPs on early screening and referring of cases to the CMAM programme (figure 10). However, these are only sample data (325) from 2520 admission from January to December 2012. Based on the available data, of 67% cases were admitted with MUAC 11.0cm to 11.4cm, therefore it indicated early treatment seeking behaviour by the community (figure 10).

![Figure: 10 Admission based on MUAC <11.5cm in Aweil West (n=325)](image)

**Programme performance indicators**
The programme performance indicators are the number of children who exit from OTP (number of exit cured, defaulter, and death etc.) Percentages were used to assess the effectiveness of the programme from January 2012 to December 2012 compared with the SPHERE\(^{11}\) minimum standards.

The graph below indicates the performance of the programme compared with the SPHERE standards (figure 10).

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Aweil West</th>
<th>SPHERE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cured</td>
<td>86%</td>
<td>&gt;75%</td>
</tr>
<tr>
<td>Defaulter</td>
<td>9%</td>
<td>&lt; 15%</td>
</tr>
<tr>
<td>Death</td>
<td>0.7%</td>
<td>&lt; 10%</td>
</tr>
<tr>
<td>Non respondent</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td>Transferred</td>
<td>1%</td>
<td></td>
</tr>
</tbody>
</table>

\(^{11}\) The Sphere Project Humanitarian Charter and Minimum Standards in Disaster Response, 2004
Based on the available data all performance indicators are within the SPHERE standard. For example the figures below showing, that the cure rates are very high (86%).

Figure: 11 Programme Performance Indicators, Aweil West

**Performance Indicators, smooth, Aweil West Jan - Dec 2012**

<table>
<thead>
<tr>
<th>% of Children</th>
<th>% Cured</th>
<th>Discharged</th>
<th>% Defaulted</th>
<th>% Transferred</th>
<th>% Non responder</th>
<th>% Death</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan-12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feb-12</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Mar-12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apr-12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>May-12</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>June-12</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>July-12</td>
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<td></td>
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<tr>
<td>Aug-12</td>
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<td></td>
<td></td>
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<tr>
<td>Sept-12</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Oct-12</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Nov-12</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dec-12</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Length of Stay (LoS)**

LoS is an important performance indicator to assess the average period needed to cure a child. The median length of stay for cases admitted with MUAC in Aweil West was 15 weeks, which is a lot higher to maximum (8 weeks) median length of stay in typical CMAM program (figure 12, table 2).

The data below shows that 49% of the children stayed in the programme for 15 weeks this is longer than recommended length of stay. There is also a substantial number (around 38%) staying in the programme for as long as 20 weeks.

Additionally, evidence from the community suggested that many children were kept in the programme after reaching their target weight (some recovering cases were found with MUAC of 15.8 cm).

Figure: 12 Length of Stay in OTP, Aweil West (n=93)
Table 2: Median Length of stay (LOS), Aweil West, April 2013

<table>
<thead>
<tr>
<th>Weeks in the programme</th>
<th># Discharged cured</th>
<th>Cumulative discharged cured</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>15</td>
</tr>
<tr>
<td>8</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>9</td>
<td>4</td>
<td>24</td>
</tr>
<tr>
<td>10</td>
<td>5</td>
<td>29</td>
</tr>
<tr>
<td>11</td>
<td>10</td>
<td>39</td>
</tr>
<tr>
<td>12</td>
<td>6</td>
<td>45</td>
</tr>
<tr>
<td>15</td>
<td>1</td>
<td>46 (Median LoS in prog.)</td>
</tr>
<tr>
<td>16</td>
<td>5</td>
<td>51</td>
</tr>
<tr>
<td>17</td>
<td>2</td>
<td>53</td>
</tr>
<tr>
<td>19</td>
<td>5</td>
<td>58</td>
</tr>
<tr>
<td>20</td>
<td>35</td>
<td>93</td>
</tr>
</tbody>
</table>

**Defaulters’ data**

Defaulter vs. Labour calendar;

Defaulters are classified as uncured cases that have discontinued the treatment. The numbers of defaulters were examined to determine if it is worryingly high and if it follows the seasonal context over time. The graph below indicates that the defaulter rate is higher during migration, at the time of planting and harvesting. The overall rate of defaulter is 9%, which is within the SPHERE standards (figure below 13).
4.1.2. QUALITATIVE DATA COLLECTION AND FINDINGS

The aim of collecting qualitative data is to allow further detailed development of the coverage hypotheses and an in-depth analysis of the existing information and routine programme data described in the previous section. This data also provides vital information concerning the underlying causes of low or high programme coverage, including key boosters and barriers and accessibility to the services. Qualitative data/information was collected using the following methods and sources:

- Key Informants Interview (KII)
- Focus Group Discussions (FGDs)
- Seasonal Calendar (Fit to Context and Seasonality)
- Semi Structure Interview (SSI)

The data was then separated and levelled using the BBQ (Boosters, Barriers and Questions) approach. These three issues recorded separately and analysed: (1) Boosters, (2) Barriers and (3) issues that need more investigation listed as questions.

FINDINGS FROM THE KEY INFORMANTS INTERVIEW (KII)
Key Informants Interview method was used with relatively homogeneous groups of key informants that are the members of the general public, i.e. the village Chief (Local leaders), Traditional Birth Attendants (TBAs) and Traditional healers, who are not necessarily directly targeted by the programme but they have very important roles to play in the community.

Village Chief (Local Leaders)
The village chiefs from 8 villages were interviewed to understand their knowledge, perception and participation on the CMAM programme. The interview results revealed that more than 30% of the village chiefs in Aweil West do not have knowledge on the CMAM programme. Especially the villages that are far-away from the OTP centre. Other 70% have some knowledge on the programme but not very in-depth nor anyone was very involved with the programme activities. It is also revealed that there was no community meeting or gathering to inform them about the CMAM programme. Most of them came to know about the programme from informal sources.

However, most of them, of the 70% have correct knowledge of causes of malnutrition and some of them indicated that have referred children to the OTPs. They all mentioned that their main roles in this programme are to:

i) Refer malnourished children to OTPs.
ii) Monitoring programme activities in the HFs.
Interview with the Traditional Birth Attendance (TBAs)
In total sixteen TBAs were interviewed from 9 villages from the OTP catchment areas. Out of 16 TBAs 14 of them knew about CMAM programme from various community members. None of them got this information by CWW or the CHD staff. All TBAs have mixed ideas on causes of malnutrition such as, diseases, hunger as well as traditional beliefs that mother’s milk gets bad if she having sex while breast feeding and bad milk can cause malnutrition. They all said there are malnourished children in their communities and some of them referred them to HFs.

Figure: 13 Traditional Healers

In total 15 Traditional Healers (TH) were interviewed as key informants from 9 villages. Out of the 15 THs interviewed 12 of them aware about the programme while 3 were not. Again their source of information was various people at communities and no formal channel had used to inform them about the programme. All of them mentioned that people do come to them for treatment and they mainly treat them for diarrhoea, malaria and cough but some time they do treat malnourished children. Their main ingredients for treatment are different kinds of herbs for different conditions which they find locally and grind or boil to make drinks for patients. However, most of them said that they do not treat malnutrition; if they come to them they refer them to HFs.

FINDINGS FROM THE FOCUS GROUP DISCUSSIONS (FGDs)
Focus Group Discussions were held with the OTP staff, the HHPs and the mothers/caretakers of children that were admitted to OTPs at the time of the assessment.

Findings from OTP Staff (HF staff)
The team visited 6 OTP sites out of 18 OTP sites in Aweil West that are supported by Concern. In 6 OTP sites, 5 FGDs was conducted and in one site, KII was conducted with the OTP staff. In each group 3 to 6 OTP staff participated while in KII only one staff was interviewed. In FGDs they were asked different questions on their knowledge, perception and roles in CMAM programme.

From the discussion and from the interview it was revealed that staff from 2 OTP sites knows the CMAM admission criteria fully, while staff from another 4 knew it partially (i.e. they only mentioned MUAC as admission criteria but no oedema was mentioned). They all were aware about the main causes of malnutrition in their communities.

Irregular and shortage of supplies such as RUTF, and materials i.e. MUAC tape was mentioned by all staff as the main problem facing the program. In addition, sharing of RUTF by the family members also cause long
children in OTP. They also mentioned that CMAM/OTP activities are additional work for them and they have shortage of staff in any given time. They also mentioned that they received feedback from the Concern team on their performance.

The OTP staff mentioned that OTP services can be improved by ensuring adequate amount of program supplies are provided on a timely manner. They also suggested recruitment of additional staff dedicated to CMAM activities.

**Key Findings from the OTP mothers**

In total 34 mothers of malnourished children who were admitted to OTPs at the time of SQUEAC assessment, attended the different FGD sessions that were conducted in 5 OTP sites in Aweil West.

According to the assessment team, roughly half of the mothers that took part in FGDs were aware that their children were malnourished. The other half brought their children to HFIs as they were sick and they were diagnosed as malnutrition. All mothers knew the correct reasons of malnutrition. Among them about 25% of children were found to be readmitted to this programme while 15% of the mothers attended this programme before with different child.

Most mothers mentioned that their children were in the programme between 3 and 12 weeks.

They all mentioned that the programme greatly helping their children and who now are gaining weight and their condition is improving. They also mentioned that they will advise their neighbours to attend the programme if they find them with a malnourished child.

**Key Findings from HHPs**

Home Health Promoters (HHPs) are community based volunteers; who serve the community by providing health promotion messages and by taking part in various health and nutrition campaigns.

Out of 8 villages that were assessed half of the villages (4) had no HHPs. HHPs in 3 villages were trained knew the OTP referral criteria as well as the OTP admission criteria. The HHPs that were not trained knew the old criteria (MUAC <11.0 mm). None of the HHPs were found very active or motivated. They have very little link with HF’s staff regarding CMAM activities. Most of them mentioned no incentive and appreciation of their work and the distance from one village to another discouraged them to carryout regular screening. HHPs also mentioned that their work will be improved if they were provided with bicycles to improve their mobility.
4.2 STAGE 2 ‘SMALL AREA SURVEY’

A small area survey was carried out to ascertain the hypothesis that was generated in stage-1.

Findings of stage two assessments

*Hypothesis 1*

‘More community members living in villages close by to CMAM service delivery points are aware of the CMAM program while fewer community members living in villages far away from CMAM service delivery points are aware of the CMAM programme’.

Coverage standard: ≥50%
Total number interviewed: 8 villages (4 from far away, 4 from close by)

Table: 3 Findings, Knowledge levels of communities far away and close by from OTP sites

<table>
<thead>
<tr>
<th>Close by villages (&lt; 1 hour walking distance)</th>
<th>Number</th>
<th>Far away villages ≥ 3 hours walking distance)</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communities aware of the CMAM programme</td>
<td>75%</td>
<td>Communities aware of the CMAM programme</td>
<td>75%</td>
</tr>
<tr>
<td></td>
<td>(3 out of 4)</td>
<td></td>
<td>(3 out of 4)</td>
</tr>
<tr>
<td>Communities not aware of the CMAM programme</td>
<td>25%</td>
<td>Communities not aware of the CMAM programme</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>(1 out of 4)</td>
<td></td>
<td>(1 out of 4)</td>
</tr>
<tr>
<td>Community aware about malnutrition</td>
<td>50%</td>
<td>Community aware about malnutrition</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>(2 out of 4)</td>
<td></td>
<td>(1 out of 4)</td>
</tr>
<tr>
<td>Community aware about malnutrition</td>
<td>50%</td>
<td>Community not aware about malnutrition</td>
<td>75%</td>
</tr>
<tr>
<td></td>
<td>(2 out of 4)</td>
<td></td>
<td>(3 out of 4)</td>
</tr>
</tbody>
</table>

On average more than 50% respondent were aware about the programme and malnutrition, therefore this part of the hypothesis was confirmed.

On average not more than 50% respondent were aware about the programme and malnutrition therefore this part of the hypothesis was confirmed.
Hypothesis 2

‘High number of admissions’ to the OTPs from villages with of HHPs while ‘low number of admission’ to the OTPs from villages without HHPs.

Coverage standard: >50%
Total number surveyed: 6 villages (3 with presence of HHPs, 3 without presence of HHPs)

Table: 4a Results from ‘Small area survey’

<table>
<thead>
<tr>
<th>Village/Boma with HHPs</th>
<th>Active Case</th>
<th>Recovering Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In programme</td>
<td>Not in programme</td>
</tr>
<tr>
<td>Malou/Angol</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Got-chok/Nyamlel</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Pan rup/Anyoup-jang</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Sub Total</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Village/Boma without HHPs</th>
<th>Active Case</th>
<th>Recovering Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In programme</td>
<td>Not in programme</td>
</tr>
<tr>
<td>Ameth/Aguat</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Alang/Makue</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Ajook/Ajook</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Sub Total</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Grand Total</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

Table: 4b Analysis of the ‘Small area survey’

<table>
<thead>
<tr>
<th>Decision rule - villages with HHPs</th>
<th>Decision rule - villages without HHPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Out of 3 children 1½ (2) children need to be in programme for 50% coverage confirmation.</td>
<td>Out of 3 children, 2 need to be not in the program for confirmation of less than 50% coverage confirmation.</td>
</tr>
</tbody>
</table>

As 2 is >1½ this part of hypothesis was confirmed. Therefore villages with HHPs do have higher coverage. Coverage estimation= 2/3 x 100 =66%

As 1 is <2, this part of hypothesis was also confirmed. Therefore village without HHPs have low coverage. Coverage estimation = 2/3 x 100=33%

Based on the data above of a ‘Small area survey’ the point coverage is estimated, using the formula below:

\[
\frac{\text{# of current (SAM) cases area in the prog.}}{\text{# of current (SAM) cases found}} = \frac{3}{6} \times 100 = 50\%
\]
4.3. STAGE -3 ‘WIDE AREA SURVEY’

The wide area survey was carried out to estimate the likelihood (see methodology section: 3). For this survey 24 villages were selected. By using active and adaptive case finding methods SAM cases were looked for and found. All cases were recorded, whether they were ‘in programme’ or ‘not in programme’. Children that were not cases anymore but were recovering were also recorded as ‘recovering cases’ (table: 4)

4.3.1 Findings of Wide Area Survey

**Cases (SAM) found in different villages:**

Twenty four villages were surveyed; 37 cases were found in 16 villages, using MUAC 36 cases and 1 case with oedema at the time of the survey (table-5).

Table: 5 Aweil West, North Bhar el Gazal, SQUEAC, Wide area survey results, April 2013

<table>
<thead>
<tr>
<th>Boma</th>
<th>Active Cases (AC)</th>
<th>AC in prog.</th>
<th>MUAC</th>
<th>AC not in prog.</th>
<th>MUAC</th>
<th>Recovering Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Majook A</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Akuang</td>
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<td>1</td>
<td>2</td>
<td>1</td>
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<tr>
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<td>2</td>
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<tr>
<td>Malek Mini</td>
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<td>1</td>
<td>1</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nyinboli</td>
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<td>0</td>
<td>3</td>
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<td>Pan rak</td>
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<td>1</td>
<td>1</td>
<td>3</td>
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<td></td>
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<tr>
<td>Houng Wet jok</td>
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<td>1</td>
<td>3</td>
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<tr>
<td>Machar</td>
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<td>0</td>
<td>0</td>
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<tr>
<td>Majook dit</td>
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<td>1</td>
<td>1</td>
<td>3</td>
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<tr>
<td>Yeath Aduadith</td>
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<td>0</td>
<td>1</td>
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<tr>
<td>Longpuou</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>3</td>
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<tr>
<td>Chemel/Maken</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muoc Agok</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td></td>
<td></td>
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<tr>
<td>Maper pami</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total** 37 19 18 40
4.3.2 COVERAGE ESTIMATION

To estimate the programme coverage rate data from the ‘wide area survey’ and the prior was used. Bayesian-SQUEAC calculator was used to calculate the sample size for wide area survey as well as to estimate the final coverage.

**Point Coverage**

Number of current (SAM) cases that are attending the programme

Number of current (SAM) cases that are attending the prog. + number of current (SAM) cases not attending the programme

Using the Bayesian-SQUEAC Calculator as follows: ‘coverage’ as denominator (37) and numerator (19) was inserted to Bayesian-SQUEAC calculator, while same Alpha and Beta values has been (α 24.1 β 23.9) used from the pre-set ‘Prior’. The ‘Point’ coverage is estimated: 50.7% Credible Interval (CI) 40.2% - 61.2%), graph below:

**Figure: 15 Point Coverage Baysien-SQUEAC graph,**
Mother/caretakers knowledge on the programme

Findings of the ‘Wide area survey’ in Aweil West, out of 37 active cases 18 cases were found that were not attending in the programme.

When these 18 were asked if they know the status of their children, 44% of the mothers/caretakers said they know and 56% mother/caretaker said they do not know. On the other hand 56% mothers were found to be aware about the programme. See table below: 6

Table: 6 Mothers/caretakers of SAM cases knowledge of the programme, Aweil West

<table>
<thead>
<tr>
<th>Questions</th>
<th>Yes - # (%)</th>
<th>No - # (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is your child malnourished</td>
<td>8 (44%)</td>
<td>10 (56%)</td>
</tr>
<tr>
<td>Do you know programme that can help your child</td>
<td>8 (44%)</td>
<td>10 (56%)</td>
</tr>
</tbody>
</table>

Reasons that mothers/caretaker do not attend the programme:

Out of the 18 children who were not in the programme, 10 of them (mothers/caretakers) were not aware about the facilities’ which can treat their children. Among the 8 that are aware about the condition of their children as well as the facilities cited various reasons for not taking their children to the health facilities. The graph below shows the reasons of the current cases (SAM) that were found not attending the programme, figure 16.

Figure: 16 Reasons given by the mothers for being not in programme
4.3.3 MAIN BARRIERS AFFECTING THE PROGRAMME

Findings from the contextual information, the programme routine data and a wide area survey, care givers and overall community’s inadequate knowledge on CMAM programme, insufficient RUTF supplies and mothers work load were found to be the main hindrance of poor coverage. The following are also some other important barriers identified during the assessment by the team:

1. **Poor knowledge on CMAM programme**
   Findings from the contextual data and the wide area survey indicated that communities’ knowledge on CMAM programme is low especially in areas far form OTP sites and those without active HHPs. This is mainly due to poor community mobilisations.

2. **Lack of adequate number of Home Hygiene Promoters (HHPs) and no incentives to HHPs:**
   The communities that were visited for the assessment, a 3rd of them had no HHPs. Where HHPs were present some of them were not trained and others were no longer active. Screening for the identification of children with malnutrition was not being done on a regular basis in a number of communities visited. In addition, defaulter tracing was not being done. It was also noted that supervision of HHPs by the CHD or Concern worldwide was inadequate.

3. **Irregular and insufficient RUTF supplies**
   Some mothers, HHPs and OTP staff were reported that having irregular and inadequate supply of RUTF at health facilities discouraged mothers to take their children to OTP. This also discourages HHPs to conduct screening exercises and refer children.

4. **Mothers work load/distance to health facilities**
   Some mothers mentioned that due to workload they are not able attend the programme all times. This is true for many communities that competing activities like seasonal work and household choirs affects community to attend different programmes. In addition travel time can be a hindrance for programme coverage.

5. **Wrong conception of CMAM programme**
   The mothers/caretakers did not seem to understand that RUTF is a treatment for their malnourished children. Contrary to that the assessment also found that sometimes mothers/caretakers were given less amounts of RUTF than the child needed, proper explanation was not given on how many sachets to be fed per day etc. In one instance it was found by the surveyors that a child was given 4 sachets for a supply of two weeks (according to the caretaker).

6. **Inadequate Staff and supervision of Health facility staff as well as HHPs**
   The HFs staff reported that they do not have enough staff to carry out the activities properly. The supervision of the HF staff was found not to be adequate and regular especially for the far away Health Facilities’ from CWW base.
7. Other barriers

Paying fee to get registered at the HF then to be admitted in OTP was cited as problem by few mothers. Previous rejection at OTP was also mentioned by some mothers, mothers sited that rejection was because the child did not meet the criteria then. Health Facility staff’s unfriendly attitudes, also discouraged mothers to go to OTPs. However, these are strong factor but they did not come up as frequently as the above barriers.
5. DISCUSSION

5.1 PROGRAMME ROUTINE DATA FROM OTP CARDS & REGISTERS

Programme routine data was collected from the OTP cards and registers from January 2012 to December 2012. Data on programme performance indicators was collected from the programme data base. Issues highlighted below were revealed during data gathering and data analysis.

Admission data
According to the database 2520 SAM cases were admitted through the 18 OTPs in Aweil West. However this figure was different when data was disaggregated by OTP sites. Consistency among the data and corresponding in different indicators are important which can be achieving by monitoring and supporting the work of OTP staff.

Referral information
It was noted that referral information was not recorded on the OTP cards and registers. Recording referral information is important for the community based programme. This information can help to understand communities’ involvement to the programme and review community mobilisation strategy.

Performance indicators

Defaulter information
During the period of January to December 2012, 9% children were found to be defaulted. The defaulter rate found to be within the SPHERE standards. However, the detail information of defaulted children was not recorded as why children had defaulted and if they were being followed up etc. The health facility staff mentioned that there were no defaulter follows up hence there are no information was available on them. The defaulter information is vital for the quality check of this programme. Therefore it is advised to gather info and use them to reduce the number of defaulter in the programme.

Length of Stay (LoS)
Length of stay is an important indicator to assess how long children are in programme, how they are cared for and how they have performed. The sample data was available to analyse the LoS which revealed that median LoS in the programme was 15 weeks which is very high compared with average median LoS for OTP in general of 8 weeks. Longer length of stay could attribute to misuse of RUTF at household level. This could also mean not giving proper advice to care taker on how to use RUTF by the HF staff as well as misuse of RUTF by the HF staff by not giving enough RUTF to the beneficiaries. The programme team need to focus on this issue to ensure correct use of RUTF and better quality services for the beneficiaries.
The Dataset and record at Health Centre Level

The database that was given by the team was not detailed enough and therefore the analysis was challenging and limited for multiple indicators. The OTP registers and cards have also been examined by the team and some information was compared with the compiled database provided by Concern Nutrition team, Aweil West. While carrying out the checks in the OTPs and Inpatient Care some inconsistencies were found between cards and registers. The inconsistencies regarding RUTF might be connected with the misappropriation of RUTF, there was evidence that RUTF packets are sold in shops. Also in the community on one occasion we have found a child was given 4 packets of RUTF for two weeks of supplies (according to the caretaker).

In few occasion cards/register were found not filled correctly and adequately. For long term supply quality assurance and sustainability of the programme, the County Health Department, hence the health facility staff needs to be trained, monitored and supported to maintain important records of the programme in a simplistic manner that will be routinely analysed.

5.2 PROGRAMME CONTEXTUAL DATA FROM THE COMMUNITIES

Home Health Promoter (HHPs)

Community outreach is one of the key components of the CMAM approach; where HHPs should be a major player in this programme. At the time of the assessment nearly one third of the village were found without HHPs. During FGDs the HHPs sounded motivated and enthusiastic to act on behalf of this programme but many of them were not trained adequately. Some of those trained are demotivated as there is no connectivity with their work and the health facility. Also there is no appreciation, incentive or recognition of their work. The CWW programme team needs to address this in their staff meetings and together with health facility staff to find solutions.

Screening for case finding

Generally CMAM outreach protocol recommends conducting screening once a month to detect malnourished children from the communities and refer to OTPs. In Aweil West screening is supposed to be conducted by HHPs however many villages do not have these volunteers and screening is not done. In communities with HHPs screening is done but on irregular basis due to lack of motivation and inadequate follow up on the HHPs. It is important to look into this issue and address them in an integrated manner together CWW health and nutrition team and health facility staff to ensure best use of HHPs’ time and knowledge.

Inpatient care

There are two inpatient care centres one in Nyamlel and other one in Marial Baai. One inpatient care was visited during the assessment, the SC staff was eager and motivated to do their work, however, some of them were not trained properly and their record keeping was poor. When discussed issues were found with lack of knowledge on what records to keep, what is the purpose record keeping and use of it. The inpatient team needs to be trained adequately to ensure they are providing good care to the children that come to inpatient with medical complications and in critical condition.
**IYCF & care-practice**

Through the contextual data and discussions with HHPs, TBAs and Traditional Healers stated that SAM is possibly caused by diseases like diarrhoea, Malaria, ARIs. They also stressed that these factors are aggravated by poor child care practices such as poor dietary diversity, poor IYCF and poor skills of mothers in child care. The OTP admission data also shows that more than three quarters of the admission (83%) are age between 6 months to 24 months. This indicated the poor IYCF practice in targeted communities may have negative effects on child growth and child development as well as long term nutritional well-being of children.

**Distance**

From the community assessment and from the key stakeholders of the programme, long distance from some communities to OTP was mentioned. Some villages are as far as 2/3 hours walking distance from the nearest OTP site. This has negative affect on coverage and defaulter rate.

### 5.3 WIDE AREA SURVEY

From wide area survey nearly half (49.3%) SAM children were found not in programme. This figure is acceptable in relative term however more effort can be to put in-place to ensure that SAM children are identified for treatment.

Moreover the caretakers of malnourished children were found to be very eager to be in programme. This can be an indicative of communities’ acceptance and participation of this programme. Contrarily this programme can be seen as extra food supply for the household rather than a treatment of malnutrition. In some instance in wide area survey when mothers/caretaker realised their children are malnourished they seems were happy as they see RUTF supply as additional household food supply. The community do not realised malnutrition means long term damage on their children wellbeing. This community needs to be properly mobilised and sensitised on the damaging impact malnutrition and other childhood disease and how to prevent them. The wide area survey also found that cases that are not attending the programme; about 56% of them had no knowledge about the programme.
6. CONCLUSION

The Aweil West nutrition programme treating children with acute malnutrition since 1998 and the CTC/CMAM programme has been implemented since 2003. The programme routine data shows that the programme has admitted and has successfully treated SAM cases. The performance indicators (cured, death, non-responders and defaulters) are all found to be within the corresponding SPHERE standards.

The awareness and acceptance of the programme was found to be good in many communities. It is also recognised that some communities are not properly aware about the programme especially the communities that are far away from the OTP service sites. To ensure an increase in accessing services, the communities’ knowledge needs to be increased further by conducting regular community meetings and involving the community in different activities of the programme such as for early case findings and referral.

The community outreach activities and screening strategy needs to be revised, and needs to find way to involve the HHPs to act as community volunteer for screening and referral of malnourished children of their community.

Data collected in Stage 2 and Stage 3, through Small and Wide Area surveys of SQUEAC suggested that coverage is within 50%. To compare with CMAM programme coverage for rural area of SPHERE standards, the estimated ‘point coverage’ using Bayesian SQUEAC, is meeting the SPHERE minimum standard.
7. RECOMMENDATIONS & ACTION PLAN

The SQUEAC exercise was permitted to identify barriers to access services to the CMAM programme. To address those barriers and to understand the dynamism of the barriers the programme team may need to explore further on key elements that become barriers. For example, it was not very clear during the assessment if RUTF is being misused by the HF staff, if so, to what extent and how to minimize it? In coming months, CWW team needs to undertake some action to determine if the current RUTF supply strategy has any loophole and how to monitor the supply and proper consumption of RUTF.

The team needs to explore further the ‘barriers’ that were identified in order to take measures on how to remove or minimize those ‘barriers’. Also further discussions with specific key partners (CHDs) and key stakeholders (mother of SAM cases) could clarify their perception of the programme such as encouraging improved ‘service provision’ ‘self-referral’.

7.1 SPECIFIC RECOMMENDATION

1. HHPs:
The scheme and strategy of utilising the HHPs needs to be reviewed and revised in conjunction with community health team, select adequate number of HHPs, train them, provide them with screening materials, follow their work and provide them some kind of performance based incentive/recognition of their work.

2. Sensitisation of the community:
Community outreach strategy needs to be revised and check what has been done and what works. Strengthening sensitiasation plans, activities and implement them by holding meeting with community leaders and ensure functioning HHPs in each village for screening and follow up for CMAM programme.

3. Improving communities knowledge on CMAM programme:
The greater community needs to know how this programme functions, what is their role in this programme, how the HHPs can help them to understand the status of their children, the proper utilization of RUTF and how it work for malnourished children? This can be done by regular dialogue or arranging meeting with community.

4. Improving communities knowledge on malnutrition:
The greater community needs to be sensitized and awareness needs to be developed on different issues of malnutrition, the causes of malnutrition, how to identify malnutrition, and where to go for treatment. In addition, the community needs to be aware of damaging effect of malnutrition, as in some community it was found when their children were measured as malnutrition the family seems...
happy as they will receive RUTF. This attitude is damaging and can cause longer term negative affect on their children wellbeing.

5. Improve supply of RUTF regarding regular and correct amount:
   Ensure that there is regular and adequate supply of RUTF in all of the OTP sites. To ensure regular supply the team planning to buy a buffer stocks in addition to supply from UNICEF

6. Monitoring on use of RUTF:
   Monitoring the use of RUTF is a very important task in CMAM programme. The monitoring team needs to follow on supply and utilization of RUTF (i.e. supplying correct amount to the beneficiaries, the health center staff explain beneficiaries on proper utilization of RUTF etc). All admitted and discharged should be followed up to monitor the use of RUTF by HF staff. At the community level family should be followed up for correct consumption of RUTF.

7. Health and nutrition education for the community:
   While implementing CMAM programme it is also important to provide the community with information on how to prevent malnutrition and diseases. The HHPs can add these activities to their regular activities. The HF staff needs to provide education to mothers/ caretakers of children with malnutrition how to care for their children and prevent malnutrition. To do this, the HF staff and HHPs need to be trained and supported on how to plan and implement this activity. Mothers group and others community groups can be targeted to provide education on how to maintain better health and good nutritional status.

8. Improve record keeping:
   To ensure that the programme keeps important records of the children that were admitted to OTP as well as in SC. Records of these patients are important to provide them with quality services as well as monitor and ensure the quality of the services. It is also important for donor reports etc. Training of HF staff on recording and reporting and supervising their work can improve the current quality of the record keeping and reporting.

9. Improve collaboration with other partners in the county:
   Malaria Consortium was found to be supporting some of the OTPs in Aweil West to treat malnutrition. CWW team needs to maintain regular liaison with them to ensure service qualities for the beneficiaries, good partnership and avoid duplication of the services.

10. Conducting another SQUEAC survey after one year to assess if the situation has changed.
7.2 ACTION PLAN

Following are some key actions that need to be taken forward in order to eliminate or reduce the effect of the key barriers to improve the service quality and increase the programme coverage.

<table>
<thead>
<tr>
<th>Action Plan from SQUEAC assessment- Aweil West April 2013</th>
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<tbody>
<tr>
<td><strong>Issues</strong></td>
</tr>
<tr>
<td>1</td>
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<td>11</td>
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<td>12</td>
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</tbody>
</table>
# Annex-1: Schedule, SQUEAC Training & Assessment, Aweil West April 16th to 2nd May, 2013

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Time</th>
<th>Activity</th>
<th>Venue</th>
<th>Facilitator</th>
</tr>
</thead>
<tbody>
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<td>16th April</td>
<td>Day 1 (Tue)</td>
<td>16:00</td>
<td>• Arrival Juba-</td>
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<td>Lovely</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>• Overnight in Juba</td>
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</tr>
<tr>
<td>17th April</td>
<td>Day 2 (Wed)</td>
<td>AM</td>
<td>• Travel to Nyamlel Concern Sub-Office</td>
<td>Nyamlel Concern office</td>
<td>Lovely</td>
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<tr>
<td></td>
<td></td>
<td>PM</td>
<td>• Planning of the assignment with the key staff</td>
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<tr>
<td>18th April</td>
<td>Day 3 (Thu)</td>
<td>9.00</td>
<td><strong>Class room training</strong></td>
<td>Nyamlel Concern office</td>
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<td></td>
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<td></td>
<td>• Opening Session</td>
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<td></td>
<td></td>
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<td>• Introductions</td>
<td></td>
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<td></td>
<td>• Schedules</td>
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<td></td>
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<td>• Overview of the SQUEAC methodology</td>
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<td>• Starts up with mindmap</td>
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<td>• Develop/adopt guide for FGD, KII and SSI</td>
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<td>• Distribute task to the assessment team</td>
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<td>19th April</td>
<td>Day 4 (Fri)</td>
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<td><strong>Field Exercise</strong></td>
<td>Aweil West</td>
<td>Team</td>
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<td>Collection of some Contextual Data from the field:</td>
<td>Aweil North</td>
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<td></td>
<td></td>
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<td>• Visit villages</td>
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<td></td>
<td></td>
<td></td>
<td>• Local leaders, TBAs ,Traditional healer, Community Volunteers</td>
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<tr>
<td></td>
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<td></td>
<td>OTP Visits</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>• FGDs with OTP mothers, OTP staff,</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>• Checking cards and register</td>
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<td>PM</td>
<td><strong>Data analysis</strong></td>
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<tr>
<td>20th April</td>
<td>Day 5 (Sat)</td>
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<td><strong>Field Exercise</strong></td>
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<td>Team</td>
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<td>Collection of some Contextual Data from the field:</td>
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<td>• Visit villages</td>
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<td>• Local leaders, TBAs ,Traditional healer, Community Volunteers</td>
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<td><strong>Data analysis findings</strong></td>
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<tr>
<td>21st April</td>
<td>Day 6 (Sun)</td>
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<td>Day off</td>
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<tr>
<td>22nd April</td>
<td>Day 7 (Monday)</td>
<td>AM</td>
<td><strong>Classroom</strong></td>
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<td>• <strong>Data analysis</strong></td>
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<td>Date</td>
<td>Day</td>
<td>Time</td>
<td>Activity Description</td>
<td>Team</td>
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<td>23rd April</td>
<td>Day 8 (Tue)</td>
<td>PM</td>
<td>Classroom training&lt;br&gt;• Working on OTP Data</td>
<td>Team</td>
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<td><strong>Field Exercise</strong>&lt;br&gt;Collection of some Contextual Data from the field:&lt;br&gt;Visit villages&lt;br&gt;• Local leaders, TBAs, Traditional healer, Community Volunteers&lt;br&gt;OTP Visits&lt;br&gt;• FGDs with OTP mothers, OTP staff, Checking cards and register</td>
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<td>24th April</td>
<td>Day 9 (Wed)</td>
<td>AM/PM</td>
<td>Contextual data analysis (Field visit data&lt;br&gt;• Identification of potential barriers and boosters of coverage&lt;br&gt;• Develop hypothesis&lt;br&gt;• Selection area with high and low admission&lt;br&gt;• Going through the methodology and Questionnaires</td>
<td>Team</td>
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<tr>
<td>25th April</td>
<td>Day 10 (Thurs)</td>
<td>PM</td>
<td>Testing the hypothesis&lt;br&gt;• Conducting Small area Survey by active case findings</td>
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<td>26th April</td>
<td>Day 11 (Friday)</td>
<td>AM/PM</td>
<td><strong>Classroom</strong>&lt;br&gt;• Data analysis&lt;br&gt;• Selection of samples and villages for ‘wide area survey’</td>
<td>Team</td>
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<tr>
<td>27th &amp; 29th April</td>
<td>Days 12 and 13 (Friday Saturday and Monday)</td>
<td>AM/PM</td>
<td><strong>Field work</strong>&lt;br&gt;• Conducting Wide Area Survey</td>
<td>Team</td>
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<td>28th April</td>
<td>Day 13 (Sun)</td>
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<td>30th April</td>
<td>Day 16 (Tuesday)</td>
<td>AM/PM</td>
<td>Data compilation of wide area survey&lt;br&gt;• Estimations of coverage&lt;br&gt;• Recommendation&lt;br&gt;• Action plan</td>
<td>Team + Lovely</td>
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<td>1st May</td>
<td>Day 17 (Wed)</td>
<td>AM</td>
<td>Working on the summary report&lt;br&gt;• Preparing PPT for senior team</td>
<td>ACF Main Office</td>
<td>Lovely</td>
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<td>2nd May</td>
<td>Day 18 (Thursday)</td>
<td>AM</td>
<td>Travel back to Juba</td>
<td>ACF Main Office</td>
<td>Lovely</td>
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<tr>
<td>3rd May</td>
<td>Day 19 (Friday)</td>
<td>AM</td>
<td>Present the results</td>
<td>ACF Main Office</td>
<td>Lovely</td>
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<td>PM</td>
<td></td>
<td>Travel back</td>
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</table>

**NOTES:**
- **AM:** Morning Session
- **PM:** Afternoon Session
- **ACF Main Office:** ACF Main Office

**City:** Lovely
## Annex- 2 Participants list for SQUEAC Training - April, 2013

<table>
<thead>
<tr>
<th>#</th>
<th>Names of Participants</th>
<th>Designation</th>
<th>Name of Organizations</th>
<th>E-mail address</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Selina Keji</td>
<td>Reproductive Health supervisor</td>
<td>CWW</td>
<td><a href="mailto:RH.SupervisorNYL@concern.net">RH.SupervisorNYL@concern.net</a></td>
</tr>
<tr>
<td>2</td>
<td>Angelo Dhieu Garang</td>
<td>Assistant Program Officer - Community Health and Nutrition</td>
<td>CWW</td>
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<tr>
<td>3</td>
<td>Peter Wol</td>
<td>Nutrition Supervisor</td>
<td>MoH</td>
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<tr>
<td>4</td>
<td>James Thiep</td>
<td>Assistant Program Officer - Community Health and Nutrition</td>
<td>CWW</td>
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</tr>
<tr>
<td>5</td>
<td>Mark Deng Lual</td>
<td>Food Issue Clerk</td>
<td>CWW</td>
<td><a href="mailto:Mark.deng@concern.net">Mark.deng@concern.net</a></td>
</tr>
<tr>
<td>6</td>
<td>Junaid Chohan</td>
<td>Nutritionist</td>
<td>CWW</td>
<td><a href="mailto:junaid.chohan@concern.net">junaid.chohan@concern.net</a></td>
</tr>
<tr>
<td>7</td>
<td>Lucia Gwete</td>
<td>Nutrition Coordinator</td>
<td>CWW</td>
<td><a href="mailto:Lucia.gwete@concern.net">Lucia.gwete@concern.net</a></td>
</tr>
<tr>
<td>8</td>
<td>Israel Yanga</td>
<td>M&amp;E Officer</td>
<td>CWW</td>
<td><a href="mailto:yangaisrael01@yahoo.com">yangaisrael01@yahoo.com</a></td>
</tr>
<tr>
<td>9</td>
<td>Duang Lual</td>
<td>Nutrition Officer</td>
<td>CHD - Aweil West</td>
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<tr>
<td>10</td>
<td>Santino Thieptain Lual</td>
<td>MoH</td>
<td>CHD - Aweil West</td>
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<tr>
<td>11</td>
<td>Adel Fox</td>
<td></td>
<td>CWW</td>
<td><a href="mailto:Adele.Fox@concern.net">Adele.Fox@concern.net</a></td>
</tr>
<tr>
<td>12</td>
<td>Mogga Martin</td>
<td>Primary Health Care Supervisor</td>
<td>CWW</td>
<td><a href="mailto:mogga.martine@concern.net">mogga.martine@concern.net</a></td>
</tr>
<tr>
<td>13</td>
<td>Agalation Deng Achak</td>
<td>Nutrition Supervisor</td>
<td>MoH</td>
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</table>
Annex- 3 Guiding questions for KIIs & FGDs, with community Key Informants

Awei West, South Sudan, April 2013

1. Questionnaire: For Traditional Healer
   (Key Informant Interview (KII), one from each village)

   Appreciation of the programme:
   1. Do you know the programme called OTP
   2. If yes, what do you know about it and who informed you?
   3. What do you know about malnutrition?
   4. Is there any case of malnutrition in your community?
   5. Do they come to you for treatment/help?
   6. How do you treat them?

2. Questionnaire: For Traditional Birth Attendant/Midwives (KII, one from each Village)
   1. Do you know prog called OTP?
   2. If yes, what do you know about it and who informed you?
   3. What do you know about malnutrition?
   4. Do you know the causes of malnutrition in your community?
   5. Did you refer any children to this programme/CV?
   6. If yes, how many did you refer?

3. Questionnaire: For village Chief -(KII, one from each Village)
   1. Do you know the programme, OTP?
   2. If yes, what do you know about it and who informed you?
   3. What is your role in the programme?
   4. Is there any child in the programme from your village?

   Appreciation of the prog:
   1. Have there been any malnourished children in your village that refuse to go the programme?
   2. What are the causes of malnutrition in your village?
   3. How do you collaborate with the community volunteers?
   4. Is there stigma for malnutrition in your community?
   5. Did you refer any cases to the programme?

1. Questionnaire: Community Volunteers – Focus Group discussion
   (CVs one group with 12 to 15 participants)

   1. How CMAM works:
   2. What is your role in CMAM prog.?
   3. What are the Admission criteria for OTP programme
   4. Who are the beneficiaries of the prog?
   5. What are the causes of Malnutrition?
   6. Do you have enough material/supplies for the work?
   7. Do you do sensitisation with community?
   8. When is the last time you did the screening
   9. Are there many cases of malnutrition in your village?
10. How do you collaborate with the health centres?
11. Do you get feedback on your work/report from the HC?
12. Are there any children who refuse to go to OTP?
13. If yes, what do you do with those cases?

**What is your appreciation of the programme?**
1. Benefit you have seen from the prog
2. Problem you face
3. Does the OTP programme cause workload for you?
4. Any suggestion to improve the programme?

Dev. a Seasonal calendar with them, if time allows

14. **Questionnaire: OTP/SC Staff, FGDs (12 to 15 participants)**

**How CMAM works:**
1. What is your role in CMAM prog.?
2. What are the Admission criteria for OTP program
3. Who are the beneficiaries of the prog?
4. What are the causes of Malnutrition?
5. Do you have enough material/supplies for the work?
6. Do you do sensitisation with community?
7. Are there many cases of malnutrition in your OTP?
8. Do you get feedback on your work/report from the manager?
9. Are there any children who refused to go to OTP?
10. If yes, what do you do with those cases?

**What is your appreciation of the programme?**
1. Benefit you have seen from the prog
2. Problem you face
3. Does the OTP programme cause workload for you?
4. Any suggestion to improve the programme/your work?

Dev. a Seasonal calendar with them

15. **FGD with OTP/SC mothers:**
1. How long your child has been in the programme?
2. How do you know about this programme?
3. Do you know why your child in the OTP/SC?
4. What was the cause of the condition of your child?
5. Did your child admitted before in OTP/SC (this one)
6. Any of your other children admitted to OTP/SC before
7. Is this programme helping your child to get better?
8. Will you refer other children in this prog, if you find them with malnutrition (generally use local term)

Dev. a Seasonal calendar with them
Annex- 4 X-Mind, Coverage Survey May- 2013
1. OTP staff

1.1 Admission Criteria

1.2 Irregular & insufficient Supplies

1.3 Knowledge of target population

1.4 Hygien education

1.5 Aware about causes of malnutrition

1.6 Aware of number of cases

1.7 No feedback provided

1.8 CMAM - Health Benefits

1.9 Wrong Conception about RUTF in the community

1.10 Selling of RUTF

1.11 Double registration

1.12 Lack of motivation of HHPs

1.13 Lack of TSFP support

1.14 Inadequate staffing

1.15 Lack of ownership of nutrition program by health workers

1.16 Lack of preventive activities for malnutrition

1.17 Awareness on presence of malnutrition in the community

1.18 HHPs active

1.19 Sharing RUTF

1.20 Lack of family support

1.21 Feedback provided

1.22 Inaccessibility to HF during rainy season

1.23 Lack of hygiene kits

1.24 Conduct community sensitization
2. HHPs

- 2.1 Aware of admission criteria
- 2.2 Not aware of admission criteria
- 2.3 aware of target population
- 2.4 Aware of causes of malnutrition
- 2.5 Wrong understanding of causes of malnutrition
- 2.6 irregular or insufficient supplies
- 2.7 Do community sensitization
- 2.8 Aware of # of cases
- 2.9 Active involvement
- 2.10 Feedback provided
- 2.11 CMAM of health benefit
- 2.12 Inaccessibility during the rainy season
- 2.13 Distance
- 2.14 Lack of incentives
- 2.15 Wrong conception of OTP by the community
- 2.16 OTP not too much work
- 2.17 Inadequate training

3. TBAs

- 3.1 Good knowledge of OTP
- 3.2 Wrong knowledge about causes of malnutrition
- 3.3 Good knowledge about cause malnutrition
- 3.4 Aware of malnutrition in their community
- 3.5 Actively involved
4. Chief

4.1 Community sensitisation
4.2 No active HHPs
4.3 Poor knowledge of OTP
4.4 Chief knows about OTP
4.5 Distance from OTP
4.6 Understands Role in OTP
4.7 Role not understood
4.8 Community Sensitisation poor
4.9 Awareness about cases
4.10 No refusal
4.11 Causes of Malnutrition
4.12 Poor knowledge on causes of malnutrition
4.13 No Stigma
4.14 Active involvement

5. OTP Mothers

5.1 Some HHPs Active
5.2 Lack of community sensitisation
5.3 Poor knowledge of malnutrition
5.4 Causes of malnutrition
5.5 CMAM or health benefits

6. Traditional Leaders

6.1 Aware of cases
6.2 Good knowledge of OTP
6.3 Wrong knowledge about malnutrition
6.4 Treat malnutrition
6.5 Distance
6.6 Poor knowledge about OTP
6.7 Aware of malnutrition in the community
6.8 Good knowledge about malnutrition
6.9 Aware of cases in the community
6.10 Aware of causes of malnutrition

7. OTP Registers and Cards
7.1 Poor record keeping
7.2 Poor defaulter follow up
7.3 Children wrongly admitted
7.4 good record keeping
ANNEX- 5a Small/Wide area survey, Aweil West May 2013

Date: ________/_______/_______

OTP ______________________________ Boma_________________________

Payam_____________________________Team __________________________

<table>
<thead>
<tr>
<th>#</th>
<th>Child’s Name</th>
<th>Father’s Name</th>
<th>Village</th>
<th>Active Cases</th>
<th>MUAC (MM)</th>
<th>Oedema</th>
<th>Cases in the prog.</th>
<th>Cases NOT in the prog.</th>
<th>SEX</th>
<th>Age (month)</th>
<th>recovering Cases in prog.</th>
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Annex- 5b Questionnaire for the guardians of the children (cases) NOT in the programme

Small/Wide area survey- Aweil West, April 2013

Name of Child: _______________________________ OTP sites: _______________________________
Payam: _______________________________ Boma/Village: _______________________________

1. DO YOU THINK THAT YOUR CHILD IS MALNOURISHED?
   YES ☐ NO ☐

2. DO YOU KNOW A PROGRAM WHICH CAN HELP MALNOURISHED CHILDREN?
   YES ☐ NO ☐ (No—stop!)
   If yes, what is the name of the program? ________________________________

3. WHY DIDN'T BRING YOUR CHILD IN FOR CONSULTATION TO THIS PROGRAM?
   • Too far (What distance to be travelled with foot? ........how many hours? ........)
   • I do not have time/too occupied
   • To specify the activity which occupies the guardian in this period_______
   • The mother is sick
   • The mother cannot travel with more than one child
   • The mother is ashamed to go the program (no good cloths etc...)
   • Problems of safety
   • The quantity of services too poor to justify to go
   • The child was rejected before.
   • The child of other people was rejected
   • My husband has refused
   • The guardians do not believe that the program can help the child (or prefers the traditional medicine, etc.)
   • Other reasons: __________________________________________________

4. Was the CHILD ALREADY ADMITTED IN the PROGRAM before?
   YES ☐ NO ☐ (No—stop!)
   • If yes, why isn’t s/he registered any more at present?
   • Defaulted, when? .................. Why? ..................
   • Cured and discharged from the program (When? ....................)
   • Discharged but not cured (When? ..................)
   • Others: ____________________________________________________________
   (Thank the guardian)