



# COVERAGE ASSESSMENT

» SEMI-QUANTITATIVE EVALUATION OF ACCESS & COVERAGE



## Semi-Quantitative Evaluation of Access and Coverage (SQUEAC) Action Contre la Faim (ACF) South Sudan, Twic County, Warrap state Targeted Supplementary Feeding Programme November 12<sup>th</sup> to 28<sup>th</sup> 2014

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# ACKNOWLEDGEMENTS & ABBREVIATION

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## ACKNOWLEDGEMENTS

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Lastly, but not the least we would like to thank Coverage Monitoring Networks (CMN's) funders, ECHO and USAID for funding the CMN project. The CMN project made it possible to conduct this coverage assessment and to train some health and nutrition professionals of ACF in South Sudan on SQUEAC methodology.

## ABBREVIATIONS

BHC	Boma health committee
CI	Credible Interval
CMAM	Community based Management of Acute Malnutrition
CMN	Coverage Monitoring Network
CNV	Community Nutrition Volunteer
ECHO	European Commission Humanitarian Aid and Civil Protection
FGD	Focus Group Discussion
JAP	Joint Action Plan
KII	Key Informant Interview
LoS	Length of Stay
MAM	Moderate Acute Malnutrition
MUAC	Mid-Upper Arm Circumference
OTP	Outpatient Therapeutic Programme
RUSF	Ready to Use Supplementary Food
RUTF	Ready to Use Therapeutic Food
SSI	Semi Structure Interview
SQUEAC	Semi Quantitative Evaluation of Access and Coverage
TBA	Traditional Birth Attendants
TSFP	Targeted Supplementary Feeding Programme
UNICEF	United Nations Children's Fund
WHO	World Health Organisation

# EXECUTIVE SUMMARY

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The Republic of South Sudan is an independent country since 2011. South Sudan is divided into three regions and ten states. Warrap is one of the ten states in South Sudan and Twic County is one of the 6 Counties in Warrap State with an area of 3,680 km<sup>2</sup> mainly inhabited by the Dinka ethnic group.

ACF and GOAL implements nutrition programme through Ministry of health in Twic County using CMAM approach. These two organisations invited the Coverage Monitoring Networks (CMN), to train and build capacity of their nutrition team on Semi-Quantitative Evaluation of Access and Coverage (SQUEAC)<sup>1</sup> methodology.

The assessment used three stages SQUEAC methodology; i) collecting and analysing the qualitative and quantitative data; ii) develop and test the hypothesis by a Small Area Survey; and iii) conduct a 'Wide Area Survey' to estimate the programme coverage rates of Out-patient Therapeutic Programme (OTP) and Targeted Supplementary Feeding Programme (TSFP).

## Main Results

### Stage -1

#### ❖ **The TSFP performance (quantitative):**

In Twic county ACF implement TSFP programme. The routine programme data showed that from October 2013 to September 2014, moderately acute malnourished (MAM) children that were admitted in 7 TSFP of them 76% were successfully treated and cured. The dataset that was given to the SQUEAC consultants was consists, and contains all most all important indicators that deem necessary to assess programmes service qualities.

#### ❖ **Findings from the qualitative assessment in target community, Twic:**

The SQUEAC assessment in Twic was carried out in 4 payams out of 6 payams, Akoc and Panyok payams were inaccessible due to flooding. In Twic County the community meeting found to be one of the key communication methods to disseminate information on CMAM programme. Both men and women attend the community meeting at the village level. The use of local FM radio (Mayardit) also found to be a major information dissemination method for the community. In addition, drumming is also used as an informal communication channel in the area. In Twic community generally associates the cause of malnutrition with diarrhoea, which is cause as the result of "if women has sex with her husband while breastfeeding", in Dinka society while women breastfeeding her child (up to 2 years of child's age) she is forbidden to have sex with her husband.

For access to TSFP service long distance from community to service delivery point is found to be the major barrier. On addition, the community in Twic County faces wide range of barriers such as misconception about malnutrition, inadequate community mobilization and high opportunity cost to access and use to CMAM services by caretaker.

The current estimable community mobilization for TSFP, particularly community-based screening and referral by community nutrition workers, community key stakeholders involvement in the CMAM programme, sensitization via local radio and Mother to Mother Support Group require to scale up for greater impact in the area.

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<sup>1</sup> Mark Myatt, Daniel Jones, Ephrem Emru, Saul Guerrero, Lionella Fieschi. SQUEAC & SLEAC: Low resource methods for evaluating access and coverage in Selective feeding programs.

## Stage - 2

### ❖ Hypothesis testing and results

After collecting and analysing the qualitative and quantitative data in stage one, a hypothesis was generated and tested in stage two. For this survey qualitative data was used to generate the hypothesis; “a village near to CMAM service point, the outreach activities are better; while a village far from the CMAM service delivery point, the outreach activities are poor”.

To test this hypothesis, two villages near to CMAM service point were selected namely Mathiang and Manyiel. Two villages far from CMAM service point were selected namely Loot and Akog and in-depth investigation was conducted. The community leaders, parents of children under 5 years old were interviewed and where available ‘Outreach’ workers were traced and interviewed. The finding concluded that villages near CMAM service point have very limited outreach activities, while villages far from CMAM service point have no outreach activities.

## Stage - 3

### ❖ Coverage Estimation (results from wide area survey)

In stage three the survey data allowed to perform the final coverage estimation. The ‘point’ coverage rate for TSFP is estimated at 21.5% with Credible Interval (CI-14.6% - 30.5%) P value= 0.8157. The programme coverage rate did not meet the SPHERE standard, which set for rural area, >50%. However, this result is expected, given that there are only 7 TSFPs for a large geographical coverage, frequent supply breakage, limited outreach activities for case findings and referral, to name a few.

The main barriers found from this assessment were:

#### **Main Barriers & Boosters of the Targeted Supplementary Feeding Programme (TSFP)**

Boosters		Barriers	
i.	Provision of free CMAM services to children	i.	Far distance to CMAM sites
ii.	Good referral between OTP and TSFP	ii.	Inadequate of quality health services
iii.	Peace and stability in 70% of county	iii.	Women’s workload
iv.	Community awareness about the availability of service	iv.	Preference of alternative treatments
v.	Community figures support to CMAM program in some community	v.	Inadequate awareness about CMAM and malnutrition
vi.	Good supervision to TSFP site	vi.	Insecurity and inaccessibility
vii.	Existing Boma health committee (BHC)	vii.	Inadequate outreach activities

### ❖ Key Recommendations (for detail please see JAP in section 5)

- ✓ Integration of community mobilization for TSFP into other community-based health programmes
- ✓ Involve the community leaders and active community groups in supporting community mobilization for CMAM
- ✓ Strengthen social and behavioural change communication about CMAM and health and nutrition through local radio by broadcasting various health messages thorough drama, inviting and interview the key community leaders and health care providers on various health and nutrition issues.
- ✓ Improve the Ready to Use Supplementary Food (RUSF) supply chain and piloting mobile or community-based TSFP delivery through trained community volunteers/outreach workers in villages in remote locations
- ✓ Strengthen coordination among partners, technical support and monitoring of community mobilization activities.

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# 1. INTRODUCTION

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## 1.1 WARRAP STATE IN SOUTH SUDAN

The Republic of South Sudan is an independent country since 2011. The country is in a post-conflict transition phase following more than 20 years of civil war between the Government of Sudan (GoS) and the Sudan Peoples' Liberation Army/Movement (SPLA/M). More than two decades of civil war left South Sudan with chronic underdevelopment and the weakest economy in the world<sup>2</sup>. More than half (51%) of the South Sudanese population living below the poverty line<sup>3</sup> and the country has the highest female illiteracy rate (88%) in the world as of 2011. The average life expectancy at birth for both sexes is only 42 years<sup>4</sup>.

South Sudan is divided into three regions and ten states. Warrap is one of the ten states of the country borders with 5 other states (Unity to the East, Lakes to the South East, Western Bahr el Ghazal to the West, Northern Bahr el Ghazal to the North East and Abyei to the North). Twic County is one of the 6 Counties in Warrap State with an area of 3,680 km<sup>2</sup> mainly inhabited by the Dinka ethnic group.

## 1.2 TWIC COUNTY

Twic County is one of six counties situated in Warrap State the county has two main livelihood zones, agro-pastoral and mixed farming. Inter clan/tribal conflict is common in Twic with the neighbouring states Unity over grazing land. In 2008 fifth national population census estimated that in Twic county has population of 204,905. Considering an annual population growth of approximately 2.05%, the official estimate for the total Twic County population in 2014 is 295,385 people.<sup>5</sup> The county is divided into 6 administrative units (Payams) namely; Akoc, Panyok, Wunrok, Turalei, Aweng and Ajak-kuac. Livestock keeping is the main economic mainstay for the population where cattle, goats and sheep are reared with some marginal crop farming. The county lies within the Western flood plains zone, and it is the most densely populated livelihood zone.

There are two main seasons in Twic county dry season and rainy/wet season, dry season from February to April rainy season from June to October. The rainy season usually results in extended extensive flooding particularly along the area of two main rivers (Lol and Jur) rendering many areas inaccessible and cut off from various facilities and services see map below, figure: 1.

There is hunger gap between April and July which is the critical period during which households' stores of grain runs out prior to the starts of harvest. The anthropometric data collected by CARE from 1998 to 2006 shows that the peak in acute malnutrition occurs before the starts of hunger gap<sup>6</sup>.

The multi-indicator survey conducted in Twic County in April 2012 showed that the Global Acute Malnutrition (GAM) rate was 32.0 % (26.8-37.6) and Severe Acute Malnutrition (SAM) rate was 7.5 % (4.9-11.2) using weight for height Z-scores, WHO 20016. Using Mid Upper Arm Circumference (MUAC), the GAM rate was 10.5% (8.2-13.3) and SAM rate was 2.7% (1.5- 4.7)<sup>7</sup>.

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<sup>2</sup> Key Indicators for South Sudan, South Sudan Centre for Census, Statistics and Evaluation, December 2010

<sup>3</sup> 5th Sudan Population and Housing Census in 2008 by the SSCCE

<sup>4</sup> Health Sector Development Plan 2012-2016, MoH, RSS.

<sup>5</sup> Estimate by James Ngor, Warrap State EPI Op. Officer

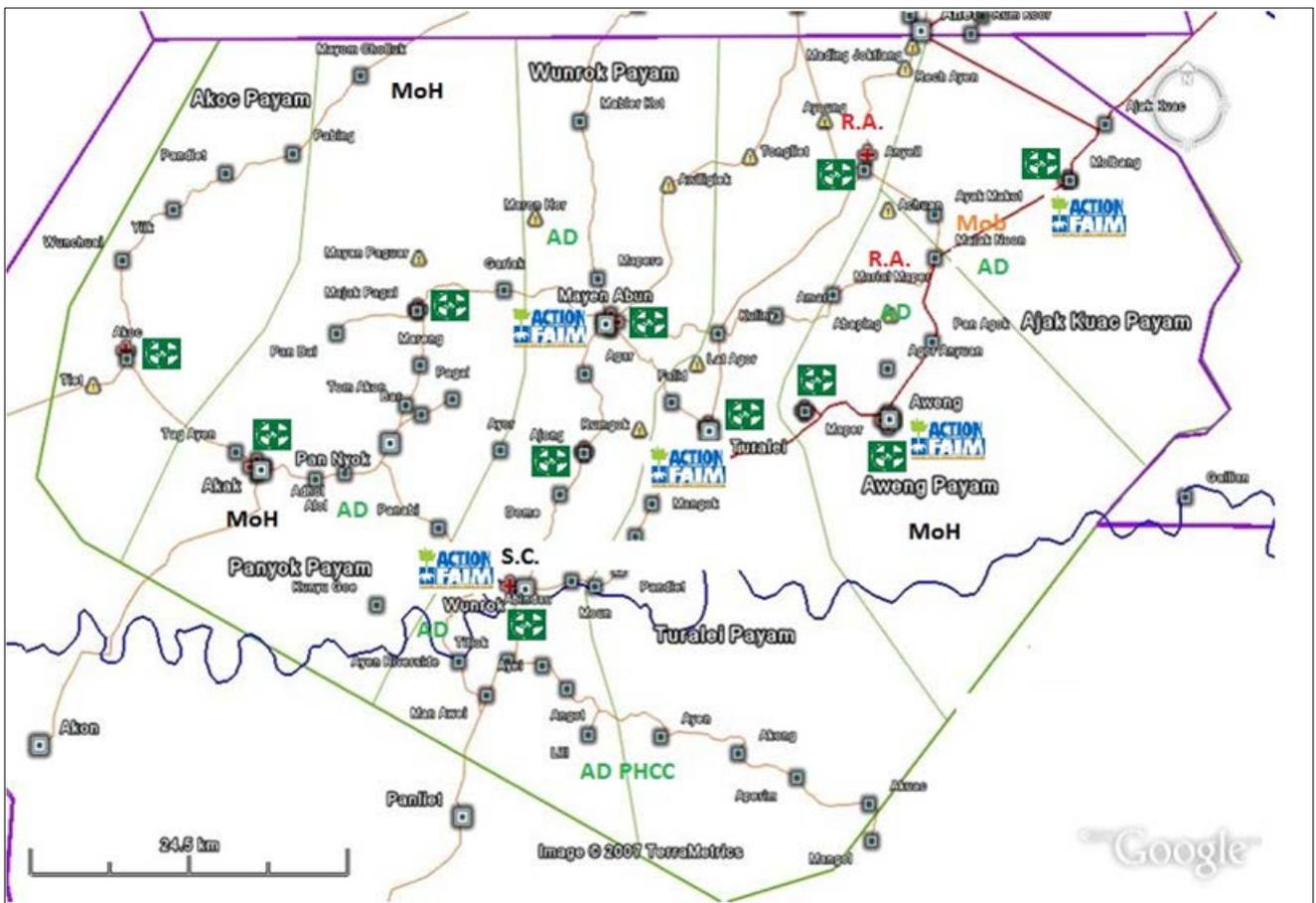
<sup>6</sup> CARE SS Technical Paper, Nutrition, South Sudan Anthropometric Survey 198 to 2006: Trends based on Conflict and immediate Post Conflict Data. 2006

<sup>7</sup> Findings of MICS, Twic County, South Sudan: GOAL April 2012

### 1.3 THE TSFP PROGRAMME IN TWIC

ACF has been working in Warrap state since 2007 and in Twic County ACF implementing integrated nutrition, food security & livelihoods and WASH activities to address the chronic emergency situation. The activities aim to save the lives of children, men and women b are threatened by hunger and diseases. ACF’s Outpatient Therapeutic Feeding Programme (OTP) used to admit and treat severely malnourished children under-5 years through OTP activities. Severe malnutrition cases with medical complication and/or no appetite were treated at stabilization centre until fit to be transferred to OTPs. Since 2012 the programme in Twic evolved and experiencing many changes. As a result in 2014, GOAL took over all the SAM interventions for the entire Twic County. While ACF shift it’s focus on treating and managing the children and Pregnant and Lactating women who are suffering from Moderate Acute Malnutrition (MAM) and community mobilization aspects in the payams where the 7 TSFPs are located.

Figure 1: Map of ACF and GOAL operational sites in Twic County<sup>8</sup>



<sup>8</sup> Map provided by GOAL team, Nov 2014

## 2. OBJECTIVES OF TRAINING & ASSESSMENT

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The SQUEAC assessment in Twic was carried out in order to train and build capacity of some nutrition professionals that are working with ACF in South Sudan. Furthermore, this was to enable the team of ACF in South Sudan, to conduct SQUEAC assessment in their programme independently or with minimum remote support from experts. The training and assessment was carried out in Twic County in Warrap state.

The SQUEAC training included various issues such as how to improve the collection and utilisation of the routine programme's monitoring data, improve the service quality. Information gathered from various key stakeholders of targeted community to ascertain their participation and perception on programme. The data collected to estimate of overall SFP programme coverage for Twic County. Finally, a Joint Action Plan (JAP) on community mobilisation to improve the access and coverage of the programme was developed.

### 2.1 SPECIFIC OBJECTIVES

1. Enhance capacity of technical staff of ACF in Twic in SQUEAC methodology.
2. To estimate the point coverage of TSFP in the target areas (i.e. Twic County in Warrap state)
3. Identify factors affecting access to and uptake of the CMAM services in TWIC County in Warrap state
4. To understand the context and communities that targeted by the CMAM programme in order to design a comprehensive community mobilization strategy to improve access to CMAM services.
5. Develop specific recommendations and Action plan in collaboration with assessment team and programme implementing agencies to improve acceptance and coverage of the programme.

### 2.2 EXPECTED OUTPUT

1. Train selected technical staff on SQUEAC methodology
2. Develop a Joint Action Plan (JAP) and strategy for community mobilization for CMAM programme
3. Produce a final coverage survey report and community mobilisation report for Twic SQUEAC assessment.

### 2.3 DURATION OF THE TRAINING AND THE ASSESSMENT

November 12<sup>th</sup> to 28<sup>th</sup> 2014, (Annex 1).

### 2.4 PARTICIPANTS

A total of 13 participants attended the training on SQUEAC method of which 3 were from ACF Twic office, and 10 enumerators. (Annex 2).

# 3. INVESTIGATION PROCESS

The ACF team in Twic County of South Sudan was trained on Semi-Quantitative Evaluation of Access and Coverage (SQUEAC) methodology in order to build their skills as well to conduct the coverage assessment of Twic country CMAM programme. The SQUEAC investigation methodology includes;

- Stage 1:** analysis of qualitative (contextual data) and quantitative (routine programme monitoring data) data, compared with SPHERE minimum standard<sup>9</sup>. Identify programme *booster and barriers*.
- Stage 2:** conduct a ‘Small area survey’ to assess if there is any difference in ‘outreach’ activities in areas that far distance from CMAM service point, compare to areas that near to CMAM service point.
- Stage 3:** conduct a ‘Wide area survey’ to estimate programme coverage rate and compare with SPHERE minimum standard. Make recommendations and develop Joint Action Plan (JAP) to improve access to services and increase coverage.

## 3.1 STAGE 1

### 3.1.1 ROUTINE PROGRAMME MONITORING DATA & CONTEXTUAL DATA

**Data collection:**

In stage 1, quantitative and qualitative data was collected and analysed. For the quantitative part, routine programme’s monitoring data was gathered and analysed using ACF’s programme database and from 7 health facilities (HFs) that provide services for Moderate Acute Malnutrition through Targeted Supplementary Feeding programme (TSFP).

**Routine programme monitoring data**

The routine programme’s monitoring data that use by SQUEAC that directly related to access and the services quality of programme. The routine data assess three things: i) the accuracy and appropriateness of the data related to the coverage and 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 relatively low or high coverage. Some data also analysed separately for comparison with the seasonal context of the targeted area. Then some of the routine data was compared to international standard indicators (SPHERE) related to the context of the implementation area. The aim was to assess the programme’s capacity to respond to changes in demand to the community for its services.

***Indicators of routine programme data:***

Admission data	Defaulter data	Performance indicator data
<ul style="list-style-type: none"> <li>• Admissions trend and disease calendar</li> <li>• Admissions by MUAC (MUAC status)</li> <li>• Sources of referral</li> </ul>	<ul style="list-style-type: none"> <li>• Defaulter trend and labour calendar</li> <li>• MUAC status at the time of defaulted</li> <li>• Number of weeks stayed in the programme before defaulted</li> </ul>	<ul style="list-style-type: none"> <li>• Cured</li> <li>• Defaulters</li> <li>• Death</li> <li>• Non responders</li> <li>• Transferred cases</li> <li>• Length of stay in the programme</li> </ul>

<sup>9</sup> The Sphere Project Humanitarian Charter and Minimum Standards in Disaster Response, 2004

## Admissions data

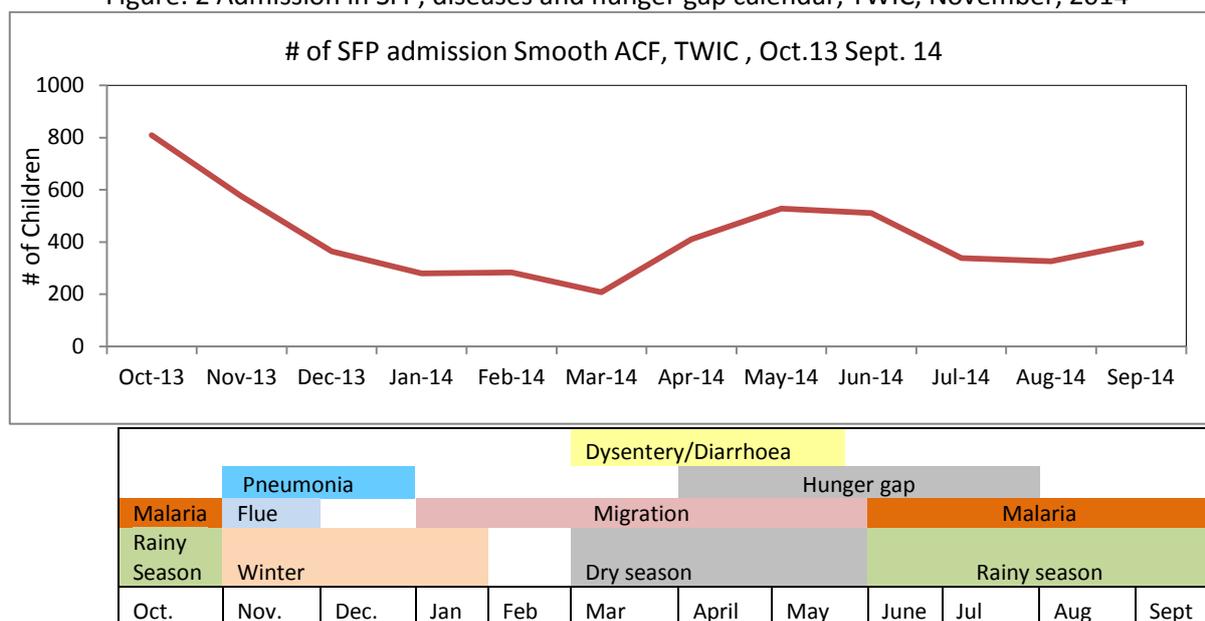
In Twic, the ACF TSFP programme have admitted in total 5135 children from October 2013 to September 2014 in 7 TSFP sites of them 76% successfully cured discharged.

### **TWIC TSFP Admissions and Seasonal Trend: Diseases and Hunger Gap**

The graph below showing the admission trends of TSFP in Twic and compared with the seasonal calendar. The assessment team in consultation with the community identified seasonal peak of childhood diseases and hunger. Diarrhoea, Pneumonia and Malaria found to be the highest burden on childhood illness in Twic County.

Following on the seasonal calendar different childhood illness seems spread throughout the year. However, there are increase admission between April and July and again October & November, therefore an association may have between increase admission, hunger gap and malaria and pneumonia, Figure 2.

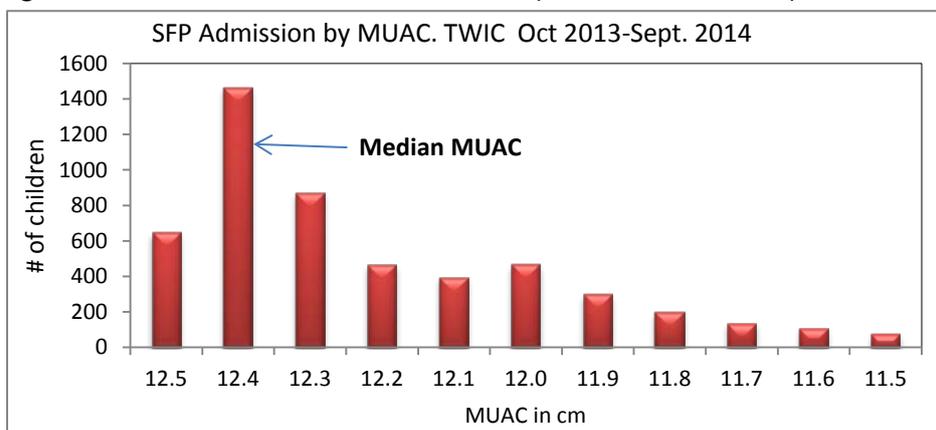
Figure: 2 Admission in SFP, diseases and hunger gap calendar, TWIC, November, 2014



### **MUAC at the time of admission in TSFP**

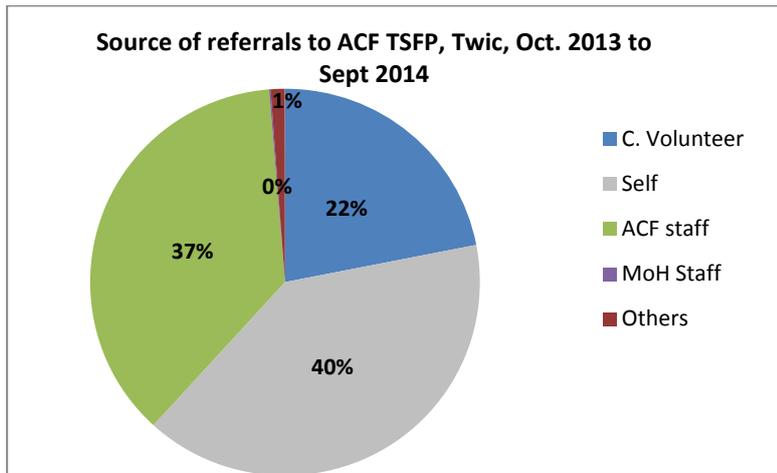
The admission MUAC allows the programme team understand the timeliness of care seeking behaviours of communities as well as early screening and referring of cases by the outreach worker to the CMAM programme. The available data indicated that the median MUAC at admission was recorded at, 12.4cm. It is therefore indicative that the community seek treatment for their acute malnutrition children earlier. (Figure: 3)

Figure: 3 Admission based on MUAC in TSFP (<12.05m to >11.4cm), Twic, Nov. 2014



**Source of referral in Twic TSFP:**

Figure: 4 Source of referrals to TSFP, Twic, Nov 2014



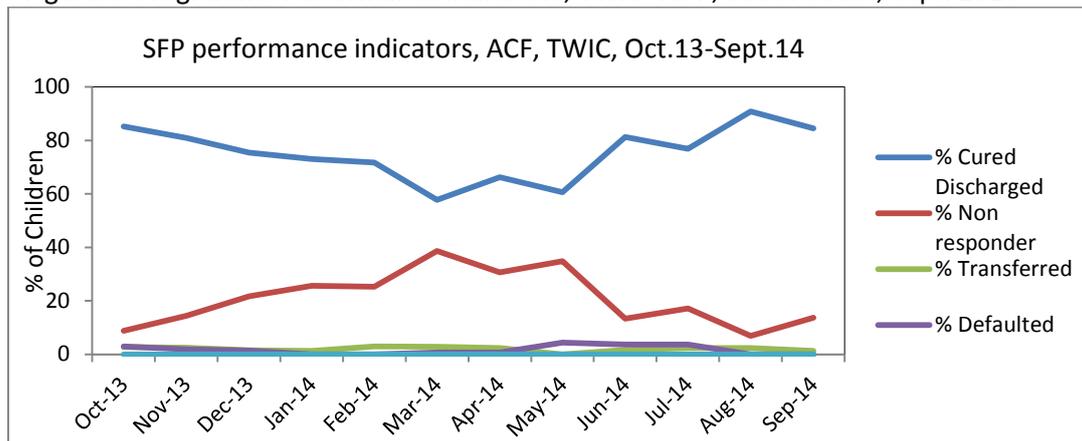
In total Twic TSFP admitted 5135 MAM cases during the period of October 2013 to September 2014 and their referral information was recorded. As indicated in figure 4, 40% of the MAM cases were self-referred, while 37% were referred by the ACF staff and little less than on quarter (22%) were referred by the community volunteers.

**Programme performance indicators**

The programme performance indicators are the number of children who exited from TSFP, compared to their status at time of exit (discharged cured, defaulter, and death etc.). Percentages were used to ascertain the effectiveness of the programme and compared with the SPHERE minimum standards. The figure 5 is showing the performance of the 7 TSFPs in Twic County.

From October 2013 to September 2014 the programme discharged 4020 children among those 76% were cured discharged. The data determined that all performance indicators such as death, and defaulter are very low (0% & 1.6%, respectively) and are within the SPHERE minimum standard. However, the non-responders cases seem to be relatively high (20.3%). See figure below.

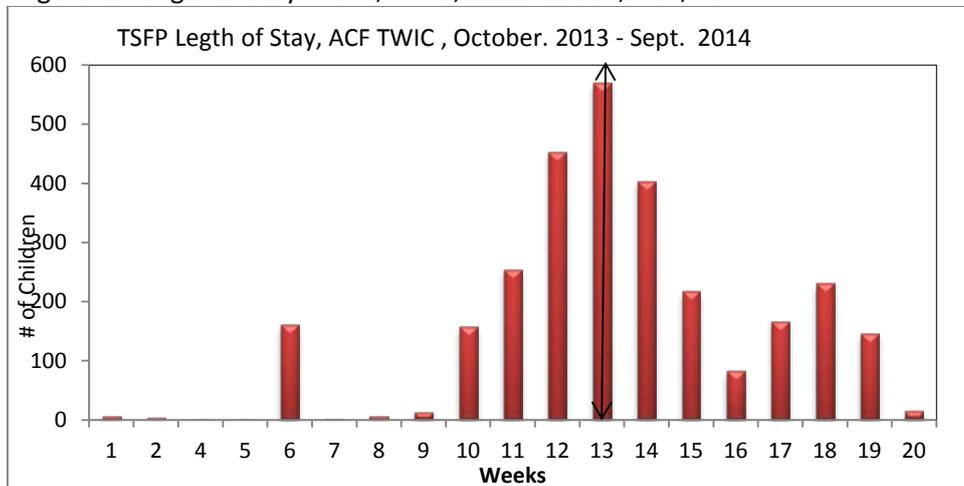
Figure: 5 Programme Performance Indicators, TWIC TSFP, South Sudan, Sept. 2014



**Length of Stay (LoS)**

In a TSFP programme, Length of Stay is an important performance indicator to assess the average period needed to cure a child from MAM. The figure below (Figure 4) shows that more than 50% of children are discharged cured from the programme by 13 weeks. The median length of stay for MAM cases admitted in Twic TSFP was 13 weeks, which is probably little higher than expected length of stay, Figure 6.

Figure: 6 Length of Stay in SFP, TWIC, South Sudan, Nov, 2014



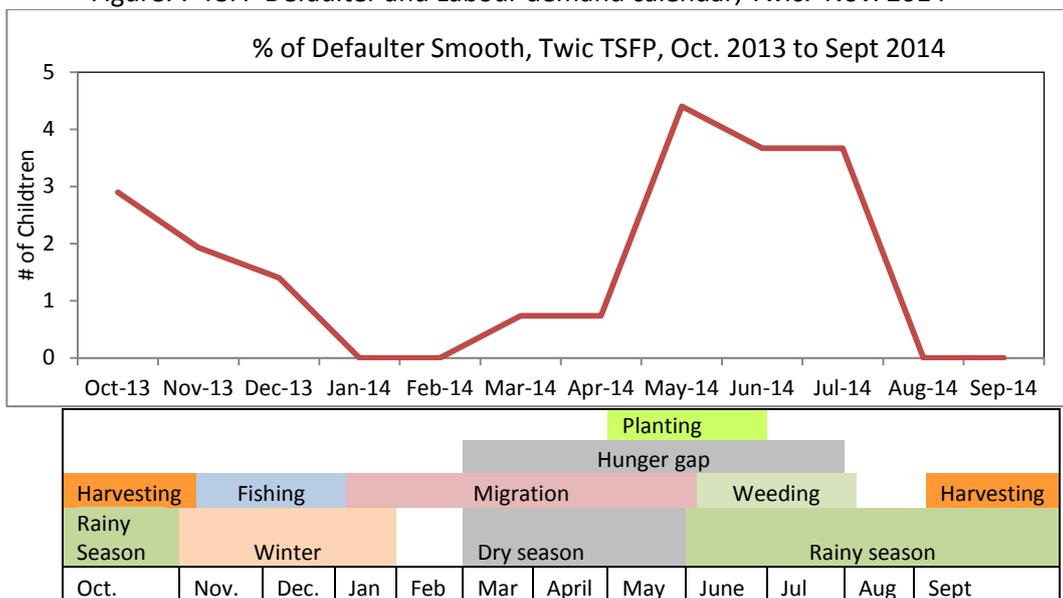
**Defaulters' data:**

The defaulters' cases are classified as uncured cases that have discontinued the treatment in the programme. The defaulter data were examined to determine if it is worryingly high and if it follows the seasonal context over time.

**Analysis of defaulter's data vs. hunger gap and Labour demand trends**

The defaulter rate was found higher during May, June and July, which also marked as hunger season; however, the field team suggested that there is no association between the hunger season and defaulter rate. The overall rate of defaulter was 1.6%, which is very low and within the SPHERE Standard (figure below). This means once mothers are in programme most of them continue with the treatment of their children.

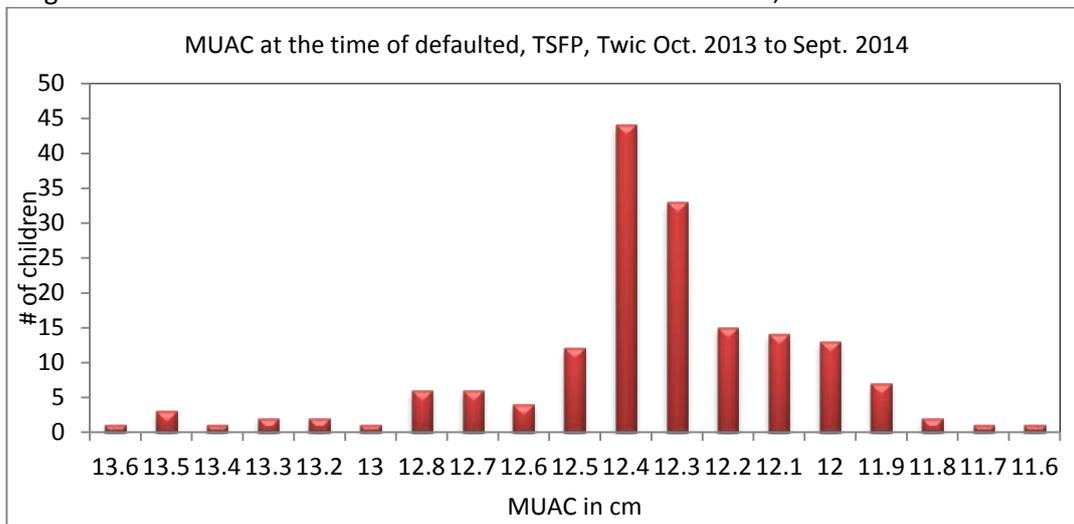
Figure: 7 TSFP Defaulter and Labour demand calendar, Twic. Nov. 2014



**Nutritional Status at the time of Defaulted**

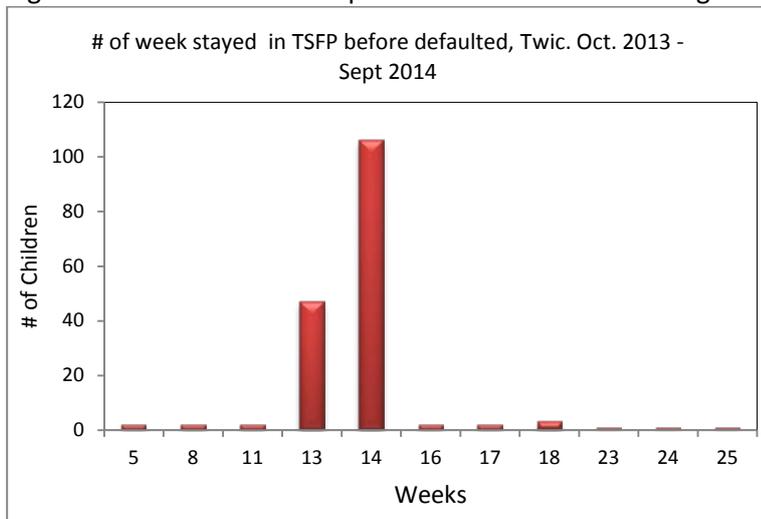
One hundred and sixty nine children were recorded as defaulter in one year period (October 2013 to September 2014). More than 75% children were defaulted with MUAC less than 12.4 cm and less. Only 22% of these children have defaulted with MUAC  $\geq 12.5$ cm which is above the cut off for TSFP admission criteria in MUAC. This data is worrisome that more than three quarters of the children defaulted when they were moderately malnourished.

Figure: 8 Children Nutritional statuses at the time of defaulted,



**When children generally defaulted from the Programme**

Figure: 9 Number of weeks spent in TSFP before defaulting



The database recorded 169 children defaulted during one year period (Oct. 2013 to Sept. 2014), from seven Targeted Supplementary Feeding Programme that runs by ACF Twic office. The majority of the defaulter children (mothers/ caretakers) defaulted after attending the programme for a period of 13 to 14 weeks (90.5%). Therefore the timing of the default is not worrisome for this specified period. Figure: 9. however when compare with defaulter MUAC status then there in inconsistency.

**The database and record keeping in Health Facilities**

The TSFP programme monitoring data provided by the team that were useful and allowed the analysis of some key indicators of the programme that are essential for SQUEAC assessment. The data were found readily available for all most all key indicators and data were consistent that was provided. To assess the quality of record keeping at health facility level some the admission cards and registers have been examined by the assessment team in TSFP site. No inconsistencies were found in visited HF while conducting these checks.

## 3.1.2 QUALITATIVE DATA COLLECTION AND FINDINGS

For the qualitative part of the assessment 14 villages and 8 health facilities from 4 payams were visited and programme key stakeholders were interviewed and consult to better understand how community perceive this programme and how to improve the services. Below are summary of the key findings:

### 3.1.2.1 COMMUNITY STRUCTURES AND LEADERSHIPS

In each village, there are also Goal leaders<sup>10</sup> who are the clan leaders and in charge of tax collection. They are influential leaders and work closely with Boma Administrators and Chief of the villages. Headman is an influential traditional leader and has overall control over the activities in the village, including conflict resolution and traditional court leadership. The women's representation in power is limited to women association.

The Witchdoctor is believed to have the spiritual power and highly respected by the community. The Witchdoctor is the first person to be consulted by community members on important family health problem. Similarly, there are traditional healers that are respected by the community and are believed to have the spiritual power to cure any illness. They are also the point of contact for most families who pursue treatment for their sick child including acute malnutrition. The priest is the religious leader and leads the worship at the church. An indigenous beliefs and practice leader (also referred to as the BenyBith) leads worship every Sunday under shade of big trees in the villages. Both the priest and BenyBitch make important announcements after Sunday services.

#### i) COMMUNITY ACTORS AND VOLUNTEERS

Several community actors, including community groups and associations exist, which can be used for community mobilization for the TSFP program in Twic County. The women are formed Women Association in four Payams. The women association members mobilize the community to strength peace and unity in the community. There are women groups (also referred as MADA) in *Wunrok* and *Turalie* Payams. The Boma Health Committee (BHC), which includes 5 community members and the head of the health facility supports health service delivery and serves as the bridge between the health facility and the community.

In addition, there are also various categories of community based volunteer groups, namely: SMART group, Water User Committee, Hygiene Promotion Committee, Mother To Mother Support Group, and Care group and Local Nutrition Group. Both women and men are member of the Water User and Hygiene Promotion Committees.

#### ii) COMMUNICATION CHANNELS

Various formal and informal communication channels used to disseminate information within the community in the area. The assessment team and the community members ranked the perceived effectiveness of these channels (see table 2).

The community meeting is a key communication method used in Twic County. Both men and women attend the community meeting at the village level. The community leaders (Chief, headman and Goal-leader) convey important messages during community meetings. The Boma Administrator or Chief of villages often disseminates information to the community through information announcers and/or "Goal" leaders.

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<sup>10</sup> Goal leader is a clan leader and also in charge of collect tax from the community members and know each household in the area

Table 1: Formal and Informal Communication Channels Matrix in Twic County

Channels	Among women	Community	Perceived effectiveness
<b>Formal</b>			
Local FM Radio		X	High
Community meeting		X	High
Church Information Announcer		X	High
Community Information Announcer		X	High
Women association and group meetings	X		Medium
School Information Announcer		X	Low
Youth group meeting		X	Low
Public notice at market		X	Low
Traditional court		X	Medium
Health and Nutrition Volunteers		X	Medium
<b>Informal</b>			
Drumming and dancing		X	High
Community gathering at market, under tree, sport game fields, airstrip		X	High
Women gathering for Milling and water points	X		Low
Social events (wedding, birthday, funeral)		X	Low
Hair solon	X		Medium
Mobile phone		X	Medium

The local FM radio (Mayardit) also used as a major information dissemination method and the coverage of local radio program is good in the area. The community members mentioned that significant community members have access to the portable radio. The community members who do not have a portable radio also get information from other community members who get information from the radio. Other effective communication channels reported by community informants include announcements after Sunday services by priest and BenyBitch respectively, and information announcer at community gathering sites, such as market, traditional court. In addition, the community mentioned that they received key health and nutrition messages from community nutrition volunteers.

### iii) LOCAL UNDERSTANDING OF MALNUTRITION

Diarrhea, Malaria, Skin and Respiratory Infections are the most common childhood illnesses in Twic County. The community mentioned that the childhood diarrhea disease is severe and occur through the year. Some of the community members were able to understand and describe malnutrition, and could differentiate it from other diseases like Malaria and Diarrhea. However, when asked about common childhood illnesses in the community, malnutrition wasn't mentioned, but when prompted, most of the community members were familiar with different signs and forms of malnutrition, such as sunken eyes, edema, wasting, big stomach, brown/weak hair, white eyes inactive and unhappy child.

The causes of malnutrition cited by community members were evil spirits (local name for powerful evil spirit is "Madul"), Diarrhea (local name "Theong"), worms infestations (local name "Kom"), poor hygiene, eating cold food, which has been prepared some time ago. Eating too much food also mentioned by the community as cause for a big stomach. Further mover, most of the community reported that if the caretakers are lazy, the child becomes malnourished as the result of poor care and feeding practices.

Most of key informants associated the causes of malnutrition with diarrhea, which is caused as the result of "the breastfeeding mother has had sex while she should still be breastfeeding her child (up to 2 years of child's age)". This causes shame to the family in the community. Besides, the informants mentioned that if this same mother visits other families, she would bring malnutrition to the young children in that household. The community also believes that malnutrition is caused by evil spirit that needs to be treated by a Witchdoctor.

#### iv) TREATMENT OF ACUTE MALNUTRITION AND OTHER ILLNESS

The wide ranges of methods are used to treat malnutrition and other childhood illnesses in Twic County. It includes the use of homemade remedies and traditional medicine. Some community mentioned that they first try homemade remedies to treat acute malnutrition, then seek a solution from traditional healers before go to the CMAM (local term "*Pan akim majak odor*" -to center for treating malnutrition) to get PlumpyNut or PlumpySup (*local name for both is Atom*). Sometimes traditional healing practices are also used along with the CMAM. If the community believes the evil spirit causes the malnutrition or child sick, they seek solution from the witchdoctor.

Homemade remedies to treat malnutrition in the community include feeding the malnourished child porridge, cow milk, goat milk or powdered milk. Other treatments for malnutrition cited by the community include putting a child with a big stomach in the sun in the morning and again in the afternoon, and bathing the malnourished child in warm water.

For prevention of malnutrition: If the community knows that a woman has had sex with her husband when she was breastfeeding, the mothers of other young children from the community go to this "*shamed woman*" and take a piece cloth from her dress and tie this onto their young child to prevent them from catching malnutrition from this "*shamed woman*".

In contrast, most of the community informants reported that they know about the availability of OTP and TSFP. Significant community members stated that they appreciated the CMAM treatment outcome and recognized the positive changes in children who had received treatment. However, most of them lack knowledge about the OTP and TSFP target group and referral system.

### 3.1.2.2 FACTORS INFLUENCING ACCESS TO ACUTE MALNUTRITION TREATMENT

#### i) BARRIERS TO ACCESS TO ACUTE MALNUTRITION TREATMENT

Far distance to service delivery point is a major barrier for the community to access the CMAM service in the area. This is as the result of the TSFP service targeted all children with MAM is only provided at seven centers in the county. Moreover, the significant proportion of the community lives in scattered clusters of villages that are situated far from these centers. Besides, wet season road conditions and access to transportation are extremely limited in the area. This significantly limited the community physical access to TSFP center and leads stock out of RUTF. The frequent stock out of the PlumpySup for longer period is deleteriously affect caretaker to return back to the health facility.

Misconception on the causes of malnutrition and RUTF are also key barriers for community to access to CMAM services in the area. PlumpyNut is perceived as food, but not as the medicine, and the community used the local term "*Atom*" for PlumpyNut, which means groundnut paste. Some of the community believes that RUTF causes diarrhea. This diarrhea is also a cause of shame because it suggests the mother has had sex while she should still be breastfeeding. As the result, some of the caretakers stopped taking a child to the program.

On the other hand, the top reason given as a barrier by the community was women's workload at household. This includes mothers missing TSFP appointment due to lack of support from husband and family member, and the mother sickness. Lack of adequate number of active community nutrition workers and volunteers in the villages was associated with inadequate home visit follow-up, screening and referral of children and sensitization about CMAM and malnutrition. So mothers are not aware their children are malnourished or the CMAM target group in some areas.

The other barrier cited by the most of the community members was mothers have to spend the whole day at the clinic due to overcrowding and long waiting hours. As the result, husbands are not happy with women being away for the whole day and women cannot carry out their other household duties. Moreover, the community members reported that when the children are getting weighed sometimes they might urinate and then the scales are dirty and unhygienic so mothers are not happy with this.

ii) **BOOSTERS TO ACCESS TO ACUTE MALNUTRITION TREATMENT**

The good referral system between OTP and TSFP programs was also identified as enablers for the community to access to CMAM services. The good community awareness about the availability CMAM service and appreciation of the outcome of CMAM service; and sensitization about malnutrition through local radio by ACF were also good reasons to access the CMAM services.

### 3.1.2.3 COMMUNITY MOBILIZATION STRATEGY

The strengths and weaknesses in the current community mobilization activities for the TSFP program, and opportunities and threats to future collaboration with the TSFP program in Twic County were assessed and analyzed during the assessment (see table 2).

Table 2: Strengths and Weaknesses of Community Mobilization for TSFP in Twic County

Strengths	Weaknesses
<p>Well trained Community Nutrition Worker (CNW) conduct MUAC screening and refer children ever Friday in one village</p> <p>Community Nutrition Volunteer (CNV) who are women and base themselves in village, conduct MUAC screening in their villages and refer children to TSFP site.</p> <p>CNV also support to TSFP ration distribution, crowd control , provide information to caretaker of newly admitted children on PlumpySup use</p> <p>ACF Nutrition project team use local FM radio station (Mayardit) to sensitize the community about IYCFP and hygiene</p> <p>Health and nutrition materials and counseling cards are available for CNWs, MTMSGs and CNVs</p> <p>Community leaders involve in selection of CNVs and informing the community about community MUAC screening</p>	<p>Only three CNWs and screening of children in one village per week under one TSFP site leads to inadequate coverage of screening.</p> <p>Only 10 CNVs ( 5 from host community and 5 from IDPs) per TSFP also cover children in their villages</p> <p>The effectiveness of CNVs activity is not analyzed</p> <p>The involvement of community leaders limited mobilizing the community for screening where the screen is conducted</p> <p>No follow up for defaulter from program</p>
Opportunities	Threats
<p>There are four National Immunization Days in a year that target children under five years old.</p> <p>Presence of several active community groups such as MTMSGs</p> <p>Presence of local FM radio station at no cost</p> <p>Willingness of community to participate in CMAM</p>	<p>High turnover of CNWs</p> <p>Insecurity in two Payams</p> <p>Poor road infrastructure and flooding</p> <p>Inadequate supply and stock out of the RUTF</p>

### 3.1.2.4 SUPPORTIVE SUPERVISION AND TECHNICAL SUPPORT

Supervision of CNWs and CNVs, and community mobilization activities for TSFP is good. The CNWs supervise and support the CNVs. The ACF Roving Nutrition Programme Manager and Nutrition Programme Manager are also provided close technical support and supervision to CNVs and CNWs.

#### i) CASE FINDING AND REFERRAL STRATEGY

The CNWs visit a village per week under one TSFP catchment area and conduct MUAC screening of the children at the central point in the village. During the screening, the CNWs make referrals to nearest OTP or TSFP, as required. The 10 CNVs per TSFP sites, who are based in the villages conduct MUAC measure to screening the children for acute malnutrition and refer cases to TSFP site. The CNVs were paid SSP 40 per month in 2013 and are currently receiving half kilogram of cereal per week.

#### ii) SENSITIZATION

ACF uses three different strategies for sensitization about CMAM and malnutrition in Twic County. CNWs conduct health education sessions at the seven TSFP sites where they are based. ACF Nutrition Programme Manager used the local radio station to disseminate information weekly to promote about IYCFP, hygiene and optimal nutrition. Moreover, the promotion of IYCFP is conducted through 75 MTMSGs (15 members) in four Payams in the area. The trained MTMSGs leaders facilitate the meeting and discussion weekly using counseling card.

#### iii) THE ROLE OF COMMUNITY LEADERS

The role of community leaders in supporting TSFP is relatively good. The community leaders were involved in the selection of CNVs and facilitation of CNWs' work by informing the community about the community-screening schedule.

## 3.2 STAGE 2

### 3.2.1 SMALL AREA SURVEY

After gathering and analysing the stage one data (qualitative and quantitative), generates some question that sometime needs further investigation. In Twic, the SQUEAC assessment for TSFP has been generated one question: “Does the outreach activities are better in villages that are close (<2 hours walking distance) to the CMAM service delivery point (TSFP/OTP). While the outreach activities are poorer in villages that are far (>2 hours walking distance) from the CMAM service delivery point.

#### **Hypothesis formation**

Following the question above, a hypothesis was generated: “a village near to CMAM service point outreach activities are better; a village far from the CMAM service delivery point outreach activities are poor”.

To test the hypothesis, two villages near to CMAM service points that were Mathiang and Manyiel and two villages far from CMAM service point that were Loot and Akog were selected and in-depth investigation was conducted. The community key figures and parents of children under 5 years old were interviewed and where available ‘Outreach’ worker was traced and interviewed.

### 3.2.2 STAGE 2 ‘SMALL AREA SURVEY FINDINGS’

Total number villages investigated: 4 villages (2 from far away, 2 from close by)

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

<b>Close by villages, Mathiang &amp; Manyiel (&lt; 2 hours walking distance)</b>	<b>Far away villages, Loot &amp; Akog ( ≥ 2 hours walking distance)</b>
No volunteer based in Mathiang In Manyiel, 2 female hygiene promoters are based	No volunteers are based in these villages or in neighbouring villages.
In April 2014 volunteer was last seen by the community	In 2014 no volunteer was seen by the community
Volunteers role known as: Sensitization for Malnutrition and Mass screening No much knowledge of referral system to CMSM prog.	Not applicable
Community’ knowledge about malnutrition are limited and misconception on the causes of malnutrition	Community’ knowledge about malnutrition are limited and misconception on the causes of malnutrition
Use traditional healers and herbs for treating malnutrition	Use traditional healers and herbs for treating malnutrition

Therefore the hypothesis for near villages from CMAM service point was partially confirmed with very limited and infrequent outreach activities. While the hypothesis for villages far from CMAM service point was confirmed as there is no outreach activity. The above findings conclude that all villages in Twic County either had inadequate or no outreach activities that support can to referral and defaulter follow up of the CMAM programme.

### 3.3 STAGE 3 ‘WIDE AREA SURVEY’

In Stage three, the surveyors actively look for moderate acute malnourished children from the selected sampling frame to see if they are in programme or not in programme. In this stage, a Bayesian-SQUEAC technique was used to estimate the sample size. This technique includes an estimation of the prior, prediction of coverage rate, and calculates a minimum sample size (active MAM cases to be found) in the survey before conducting the survey. Ultimately, the survey data uses to estimate the programme coverage and identify the final sets of barriers from the key stakeholders of this programme.

#### 3.3.1 SUMMARY OF BOOSTERS AND BARRIERS

Lists of comprehensive boosters and barriers were derived from well triangulated evidence in stage 1 and stage 2 by the assessment team. The scoring of boosters and barriers was done by the assessment team based on the weight of each element. The scale used rating from 0 to 14 to score for both ‘barriers’ and ‘boosters’. The assessment teams scored each booster and barrier separately, as it was expected that the scoring would differ among the team. However in this case the scoring did differ but not in great extent. The final scoring for each booster and barrier was agreed and assigned by using the average score. These average score for each category were added to “build up” the coverage score. The scores of Boosters are added to zero (i.e. the lowest possible coverage) and the scorers of barriers are “subtracted” from 100% i.e. the highest possible coverage (see Table-4).

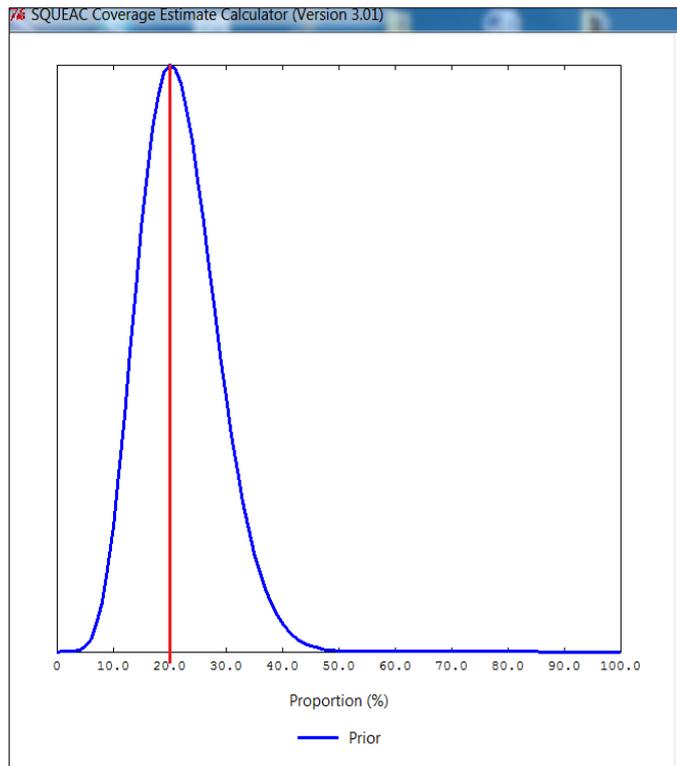
Using the averages scores from boosters and barriers the expected coverage values with upper and lower expected values of coverage TSFP was then set to test using Bayesian SQUEAC.

**Table: 4 Boosters & Barriers, Twic, 2014**

<b>Boosters</b>	<b>Values</b>	<b>Values</b>	<b>Barriers</b>
Provision of free CMAM services to children	12	11	Far distance to CMAM sites
Good referral between OTP and TSFP	11.8	10.3	Inadequate awareness about CMAM and malnutrition
Peace and stability in 70% of county	11.3	10	Women workload
Community awareness about the availability of service	11	9.5	Inadequate outreach activities
Community figures support to CMAM program in some community	10.5	7.5	Inadequate of quality health services
Good supervision to TSFP site	9	6	Insecurity and inaccessibility
Existing Boma health committee (BHC)	5.3	5.8	Preference of alternative treatments
Added to Minimum Coverage (0%)	70.9 + 0=70.9	100- 60.1 = 39.9	Subtracted from Maximum Coverage (100%)
	70.9+39.9 =110.8/2 =55.4%		

### 3.3.2 FORMING THE PRIOR

Figure: 10 Prior for T SFP coverage Twic, Sept. 2014



The 'Prior' or 'Mode' for wide area survey is generally set using the prior information from stage one and two data to make an informed assumption about the most likely coverage value and then express it as a probability density. , Based on the findings from stage one and two, the assessment team decided to calculate the sample size for the 'Wide Area Survey', (3<sup>rd</sup> Stage), assuming that the programme coverage for TSFP is likely to be around 20%.

Therefore for the TSFP coverage the 'mode' was set at 20%, with speculation of lowest possible coverage 5% and highest possible coverage 40%, building with  $\pm 8\%$  precision. The prior is then described using the probability, alpha prior = 7.8 and Beta prior = 27.9 using Bayesian-SQUEAC software (see Figure 10).

### 3.3.3 ESTIMATION OF SAMPLE SIZE AND SAMPLING FRAME.

The Wide-Area Survey sampling covered 4 Payams of programme catchment areas by adopting a spatial sampling method. A two-stage sampling procedure was employed to estimate the sample size and sampling frame. Sample size requirements were calculated, using simulation with the Bayesian-SQUEAC calculator by setting the 'Prior'.

To provide a coverage estimate with a 95% Credible Interval (CI) and a set precision, therefore the Bayesian SQUEAC calculated minimum sample size,  $n = 57$ , current MAM cases, either in programme or not in programme for TSFP coverage. To estimate number of village to be sampled following data was used:

- i) the proportion of the population living in the survey area/village
- ii) percentage of population age less than five years old (21%) (according to census report) and
- iii) prevalence of MAM 7.8% based on MUAC among children 6-59 months
- iv) 20 villages from 4 payams were calculated to be sampled using spatial selection method; two payams were inaccessible due to flooding.

#### **Spatial Representation**

In order to achieve spatial representation, a Map was drawn of target area marking payams, health facilities, OTP and TSFP sites, and major public places. The map was divided into equal sizes of quadrats, which yielded 28 squares. In total, 20 quadrats were selected excluding quadrats made up of less than 50% landmass and two Payams that were inaccessible and surveyed. This is to ensuring spatial coverage of case finding of the targeted area.

All selected quadrats areas were further marked into a list of its composite payam and villages to identify comparable primary sampling units and to ensure that sampling could be completed within the specified time period. Name of the Payam and villages in each square (Quadrat) was listed separately. Two villages closest to the centre of each of the quadrats were selected as a sampling area for the survey.

To find MAM cases and recovering cases of MAM, a door to door case finds method was used. This method allowed for the inclusion of all, or nearly all, current MAM and SAM cases in all sampled villages.

As anticipated that almost all suspected MAM and SAM children in surveyed villages has been measured within two days of wide area survey. Cases that were 'not in the CMAM programme (TSFP/OTP)' were referred to the nearest TSFP/OTP care, as appropriate.

Two, pre designed questionnaires were used to record the cases (MAM), including both current cases and recovering cases (Annex 3). A 'semi structure' interview was carried out using separate questionnaire for the mothers/caretakers of malnourished child that were not attending the programme to find out and record the reasons for not attending the programme (Annex 4).

### **Case Definition**

The admission criteria for MAM of Twic TSFP included children age between 6 to 59 months with a Mid Upper Arm Circumference (MUAC) of  $<12.5$  to  $>11.4$  cm.

### **3.3.4. FINDINGS OF 'WIDE AREA SURVEY'**

#### **Cases found in different communities**

From the 20 villages of CMAM programme area that has been surveyed, 63 MAM cases were found using MUAC measurement. No cases were found in two selected villages, Majak Ninmou & Guk in Wunrok & Ajak Kuac payams respectively.

Out of 63 cases 13 were found to be in programme while 50 cases found are 'not in programme' (table 5).

Table: 5 Twic CMAM programme, SQUEAC wide area survey results for TSFP, November, 2014

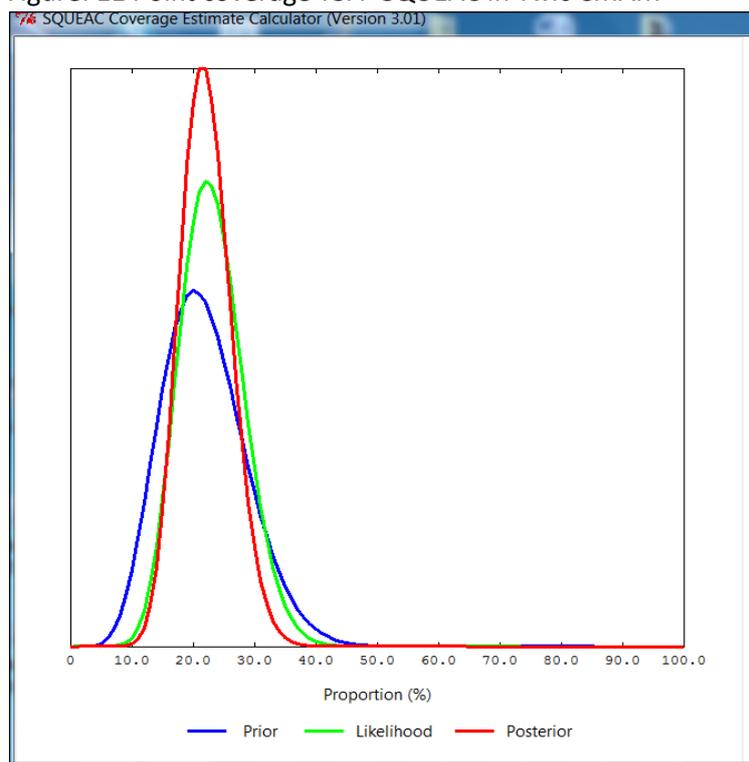
<b>Payam</b>	<b>Village</b>	<b>MAM cases in prog.</b>	<b>MAM cases not in prog.</b>	<b>Recovering Cases</b>
Turalei	Akol Adiang	1	2	0
Turalei	Kol Lual	0	4	0
Aweng	Pagai Anyuon	2	4	0
Aweng	Marial Maper	1	0	0
Aweng	Bulyom	0	0	3
Turalei	Mading Juk Thiang	0	6	0
Ajak Kuac	Guk	0	1	0
Turalei	Panlit	0	2	0
Wunrok	Panabie	1	0	1
Wunrok	Kurum	0	1	0
Wunrok	Mayen Kur	1	2	0
Turalei	Makuac	5	4	1
Turalei	Agany	1	8	0
Wunrok	Managuei	0	7	0
Aweng	Akotuok	1	1	0
Wunrok	Mabior Athony	0	2	0
Aweng	Apaping	0	2	0
Wunrok	Apiath	0	4	0
<b>Total</b>		<b>13</b>	<b>50</b>	<b>5</b>

### 3.3.5 COVERAGE ESTIMATION

To estimate the programme coverage rate data from the ‘Wide Area Survey’ and the pre-set Bayesian-SQUEAC ‘prior’ was used. For this survey only point coverage was estimated and reported.

To calculate the ‘Point coverage’ for TSFP as denominator (63) and numerator (13) was inserted to Bayesian-SQUEAC calculator while same Alpha and Beta values ( $\alpha$  7.8  $\beta$  27.9) and precision 8% have been used from the pre-set ‘Prior’. The ‘Point’ coverage is estimated at 21.5% rate with Credible Interval (CI 14.6% - 30.5%), P value =0.8157. Therefore the z-test revealed that there is a strong overlap between the ‘prior’ the ‘posterior’ and the ‘likelihood’ for TSFP coverage estimation graph

Figure: 11 Point coverage TSFP SQUEAC in Twic CMAM



### 3.3.6 BARRIERS TO ACCESS IDENTIFIED BY WIDE AREA SURVEY

Wide area survey interviewed the mothers/caretakers of MAM cases who found to be ‘not attending the programme’. The interview included if they know the condition of their children and if they know the programme that can treat acute malnutrition cases. More than 3 quarters mothers/caretakers claimed to know the status of their children. Out of 36 mothers 13 mothers (36.1%) said that they did not know the programme that can treat her child with MAM. See Table 6 below:

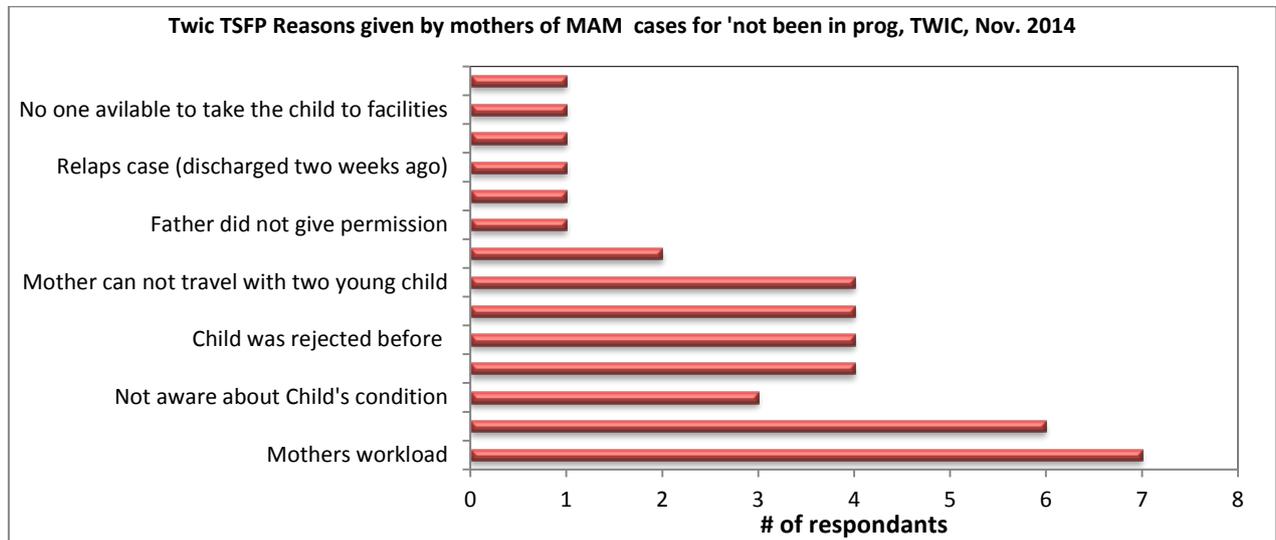
Table: 6 Mothers/caretakers knowledge of the status of their ‘MAM’ children and prog.

Question (SAM cases)	Yes (# & %)	No (# & %)
Is your child malnourished?	28(77.9%)	8(22.1%)
Do you know programme that can help your child	23(63.9%)	13 (36.1%)
Was your child previously attended the programme.	9(26.5%)	25(73.5%)

**Reasons that given by mothers/caretaker of MAM cases for 'not to attend' the programme:**

Out of the 36 mothers/caretakers of MAM cases that were 'not in programme' among those 7 mothers mentioned work load and competing task is main reason not attending the programme. While six were mentioned not aware about the programme, rest of the mothers cited various reasons (see Figure 12).

Figure: 12 Reasons given by the mothers of SAM cases for being 'not in programme' Twic, SQUEAC, 2014



## 4. DISCUSSION

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In Twic county the TSFP that implement by ACF includes collecting and analysing of some basic routine programme data. For the assessment the routine programme data was collected from the data base for one year period from October 2013 to Sept 2014. The data that was provided by ACF covered all most all important indicators that require for SQUEAC assessment to affirm the service quality of the programme. The programme performance data suggested that the programme meeting the SPHERE standards. However, in the programme 'Exit' data, the non-respondents cases were found to be very high, which need to be interpreted with some background information. The non-responders cases were not in real terms of cases that were failed to responds positively to the treatment; they were discharged from the programme due to no supply or supply break of RUSF.

The TSFP services are only provided at seven centres targeting all children with MAM in the county. Far distance to the TSFP service delivery point is the major barrier for the community to access TSFP. Moreover, the community in Twic County faces wide range barriers, from community misconception about malnutrition to inadequate community mobilization and high opportunity cost for caretakers to access and use to CMAM services.

This assessment revealed that the high opportunity cost of the caretakers, specifically mother's household workload, mother's sickness and lack of support from family members negatively impact access to and uptake of TSFP in the area. Besides, the community misconception on cause of malnutrition and inadequate awareness about TSFP also adversely influence caretaker decisions to access to TSFP service. These barriers lead the community to use of traditional treatment for acute malnutrition. Sensitization about TSFP (target group, referral system and use of RUTF) and causes of malnutrition through identified effective communication channels could improve community knowledge and practices of childhood acute malnutrition and illness, and increase health-seeking behaviour within the community. Employing culturally appropriate channels, such as drumming and traditional dancing, community gathering and involving influential community figures and men for sensitization for CMAM could streamline sensitization activities and strengthen the community engagement in the TSFP program.

The active case finding coverage is low in Twic County because of the large number of villages and limited CNWs and CNVs available to conduct community-based screening in all the villages. The current community-based screening (one village per a week) picks up only children who present in few villages where is visited by the CNWs, but missing early detection and many children live in over 400 villages. Therefore, it requires scaling up the current estimable but small scale community-based screening to reach many children in the programme target area. This would require significant resources to deploy CNWs or CNVs to conduct regular screening in low-resources settings. However, the community-based screening and referral can be possible through effective coordination and integration of community mobilization for TSFP within existing community-based health program. This includes coordinating with GOAL and CHD to integrate of MUAC screening into National Immunization Days e.g. Polio vaccination campaign. It would improve early case finding and referral, and consequently improve the coverage and outcome of treatment of acute malnutrition.

Moreover, the community-based screening and referral of children could also be possible by involving the leaders of active community groups, particularly Mother to Mother Support Group Leaders (MTMSG), Water Use and Hygiene Promotion Committees in community mobilization activities(defaulter tracing, case finding and referral and sensitization and addressing barriers). It requires training and equipping the MTMSGs and Water User committee leaders to conduct community-based MUAC screening by regularly gathering the population at central points in the villages. These would to streamline community engagement and enable the implementation of more

accessible, culturally appropriate and community-owned TSFP and minimize the high opportunity costs for caretakers.

On the other hand, the program must also enhance relevant boosters and the best practices. The current worthy community mobilization for TSFP, particularly community screening and referral, community figures involvement, sensitization via local radio and Mother to Mother Support Group require to scale up for greater impact in the area.

The community mobilization to increase access to TSFP should be implemented in tandem with strategies to improve TSFP service. It includes increasing the TSFP centres' capacity to provide CMAM services for the additional children and improving RUTF supply chain. Mobile TSFP and community-based TSFP delivery through trained community outreach workers could help to improve TSFP access to the community who live in the inaccessible and remote areas.

Survey data collected in Stage 2 and 3 through the Small and Wide Area surveys suggests that the outreach activities are limited throughout the Twic County, particularly poor in areas that are far from the CMAM service point. This issues need to explore further to understand the reasons behind. In stage 3 the overall programme coverage for TSFP did not meet SPHERE standard that was set by SPHERE standard >50%. The result is expected as there are only 7 TSFP sites for the entire county. The survey data was collected from entire Twic County, using the spatial sampling methods but the ACF's TSFP sites. Furthermore, poor outreach activities and in absence of regular case finding at community level this results is expected. To address the barrier to this programme, detailed recommendations are provided in below section in the joint plan of action for community mobilization and to improve the CMAM services in table, 7.

# 5. JOINT PLAN OF ACTION

**Table: 7 JOINT PLAN OF ACTION, for Community Mobilisation for ACF TSFP in Twic County, Warrap state, South Sudan, November 2014**

	STRATEGY/ACTIVITIES	PERFORMANCE INDICATORS	TARGET	RESPONSIBLE	TIME	BUDGET
<b>I</b>	<b>COMMUNITY MOBILIZATION</b>					
<b>1</b>	<b>SENSITIZATION</b>					
1.1	Broadcast Radio drama on CMAM and optimal nutrition on local FM Radio (Mayardit)	# radio drama broadcasted per week	1	ACF , Radio station	Jan -Dec 2015	
1.2	Involve the CHD, local leaders and health worker for nutrition promotion via local radio	# nutrition promotion message broadcasted via radio per week	2	ACF , Radio station	Jan -Dec 2015	
1.3	Provide an orientation to community figures and groups including water user committee on CMAM and malnutrition	# community figures and groups trained	1000	ACF, CHD	Jan -Dec 2015	
1.4	Reach the community to sensitize about CMAM and malnutrition using trained community figures and groups	# community reached to promote CMAM and optimal nutrition	6,000	ACF, CHD	Jan -Dec 2015	
1.5	Integrate sensitization on CMAM and malnutrition into other community based campaigns such world breastfeeding day	# Boma reached to promote use of CMAM services during campaigns	44	ACF, CHD	Jan -Dec 2015	
1.6	Strengthen current 75 MTMSGs by increase of duration stay (3 to 6 months) and follow up	# MTMSGs per Payam	15	ACF	Jan -Dec 2015	
1.7	Promote "Wal Ador" using traditional drumming and dancing and involvement of men in supporting CMAM Program	# drumming and dancing group per TSFP site	1	ACF	Jan -Dec 2015	
<b>2</b>	<b>CASE FINDING AND REFERRAL</b>					
2.1	Mapping active CNVs and replace inactive CNVs and train on CMAM and malnutrition to cover all areas -75	# CNVs recruited & trained per TSFP sites	15	ACF, CHD	Jan -Dec 2015	
2.2	Integrate MUAC screening into NID , health facility outreach and dry season immunization campaigns	# integrated MUAC screening campaigns conducted	4	ACF, CHD, Goal	Jan -Dec 2015	
2.3	Conduct quarterly mass MUAC screening* to cover all target population (if 2.2 plan is failed)	# mass screening conducted per year that cover county	4	ACF, CHD, Goal	Jan -Dec 2015	
2.4	Improve referral between OTP and TSFP programs and sharing information on performance indicators	% discharged eligible children referred and admitted to OTP or TSFP	75	ACF, Goal	Jan -Dec 2015	
<b>3</b>	<b>HOME VISIT FOLLOW UP FOR PROBLEM CASES</b>					
	Strengthen home visit follow up for defaulter and other problem cases by CNVs who are supported by CNWs	% problem cases traced and returned to program & their reasons identified	80%	ACF, Goal	Jan -Dec 2015	

	STRATEGY/ACTIVITIES	PERFORMANCE INDICATORS	TARGET	RESPONSIBLE	TIME	BUDGET
<b>4</b>	<b>COORDINATION AND MONITORING</b>					
4.1	Involve nutrition coordinator in CHD and ACF joint supervision to TSFP sites	% of joint supervision involved nutritionist	100%	ACF, CHD	Jan -Dec 2015	
4.2	Improve coordination between Goal, ACF , CHD & world vision on community mobilization & nutrition programming	# monthly coordination meeting held	12	ACF, CHD, Goal, World vision	Jan -Dec 2015	
4.3	Improve close supportive supervision and technical support to nutrition workers at TSFP sites	# of supportive supervision per TSFP sites per month	2	ACF	Jan -Dec 2015	
<b>5</b>	<b>COMMUNITY PARTICIPATION IN CMAM PROGRAM</b>					
5.1	Involve RRC, local nutrition group ( 30 members per Payam) police man ,community leaders and figures in supporting CMAM program ( sensitization, case finding, defaulter tracing, RUTF supply management, mobilizing )	# of Boma where BHC and community figures involved in CMAM program	44	ACF, Goal	Jan -Dec 2015	
<b>II</b>	<b>STRENGTH TSFP SERVICES</b>					
1	Provide on job training to nutrition workers on CMAM	# of nutrition workers trained on CMAM	25	ACF	Jan -Dec 2015	
2	Mapping the TSFP service utilization and distribution then establish mobile TSFP service to villages located far from TSFP sites	# mobile TSFP teams established and provide service	4	ACF, WFP	Jan -Dec 2015	
3	Improve defaulter tracing reporting by CNVs and use to improve services and outreach activities	% CNVs report timely and correctly	75%	ACF	Jan -Dec 2015	
4	Conduct joint performance review meeting	# performance review meeting conducted per year	4	ACF, Goal , CHD	March June, Sept, Dec-15	

## 6. ANNEXES

### Annex: 1 Schedule: SQUEAC Training & Assessment, Twic County, Warrap State, South Sudan 12<sup>th</sup> to 28<sup>th</sup> November, 2014

Time	Activity	Facilitator
Day 1 Monday Nov. 10 <sup>th</sup> Morning Afternoon	Arrive in Juba, Meeting the team	
Day 2 Tuesday, Nov. 11 <sup>th</sup>	Flying out to Alek	
Day 3 Wednesday, Nov. 12 <sup>th</sup>	<b>Class room training</b> <ul style="list-style-type: none"> <li>• Opening Session</li> <li>• Introductions</li> <li>• Overview of the SQUEAC methodology</li> <li>• Overview of the qualitative data collection objectives, methods</li> <li>• Group work identify Programme's boosters and Barriers</li> </ul>	Lovely/ Melaku
Day 4 Thursday, Nov. 13 <sup>th</sup>	<b>Class room training</b> <ul style="list-style-type: none"> <li>• Overview FDG , KI and SSI methods</li> <li>• Review of the questionnaire</li> <li>• Distribution of task to the assessment team</li> <li>• Developing Seasonal Calendar</li> <li>• Analysis some programme data</li> </ul>	Lovely/ Melaku
Day 5 Friday, Nov. 14 <sup>th</sup>	<b>Field data collection</b> Collection of some Contextual Data from the stakeholder from selected villages	Team
Day 6 Saturday, Nov. 15 <sup>th</sup>	<b>Classroom training</b> <ul style="list-style-type: none"> <li>• Contextual data analysis (Field data)</li> <li>• Identification of potential barriers and boosters of coverage</li> <li>• Plan for OTP/SFP visit and data collection.</li> </ul>	Lovely/ Melaku
Day 7 Sunday Nov. 16 <sup>th</sup>	Day Off	
Day 8 Monday, Nov. 17 <sup>th</sup>	<b>Field data collection</b> <ul style="list-style-type: none"> <li>• Information collection from OTP &amp; SC</li> <li>• FGD/KII with OTP Mothers, and Health Centre staff</li> <li>• Developing Seasonal Calendar with OTP mothers</li> </ul>	Team
Day 9 Tuesday, Nov. 18 <sup>th</sup>	<b>Classroom training</b> <ul style="list-style-type: none"> <li>• Analysis of field data (OTP data)</li> <li>• Preparation for Small area survey</li> </ul>	Lovely/ Melaku
Day 10 Wednesday Nov. 19 <sup>th</sup>	<b>Field data collection</b> Carry out Small Area Survey	Team
Day 11 Thursday, Nov. 20 <sup>th</sup>	<b>Classroom training</b> <ul style="list-style-type: none"> <li>• Data analysis of Small area survey</li> <li>• Data analysis (qualitative)</li> <li>• OTP &amp; TSFP Data analysis</li> </ul>	Lovely/ Melaku
Day 12 Friday, Nov. 21 <sup>st</sup>	<b>Classroom training</b> <ul style="list-style-type: none"> <li>• Bayesian SQUEAC</li> <li>• Calculation of samples and villages for 'wide area survey'</li> </ul>	Lovely
Day 13 Saturday, Nov. 22 <sup>nd</sup>	<b>Field data collection</b> Carry out Wide Area Survey	Team

Day 14 Sunday Nov. 23 <sup>rd</sup>	Day off	
Day 15 Monday Nov 24 <sup>th</sup>	<b>Field data collection</b> Carry out Wide Area Survey	Team
Day 16 Tuesday, Nov. 25 <sup>th</sup>	<b>Classroom training</b> <ul style="list-style-type: none"> <li>• Data compilation of wide area survey</li> <li>• Estimations of coverage</li> <li>• Develop Joint Action Plan (JAP)</li> </ul>	Lovely/ Melaku
Day 17 Wednesday Nov. 26 <sup>th</sup>	<b>Class room training</b> Joint Action Plan	Melaku & Team
Day 18 Thursday Nov. 27 <sup>th</sup>	Travel back to Juba	
Day 19 Friday Nov. 28 <sup>th</sup>	Debriefing with ACF and GOAL Juba Team Meeting with Unicef	
Day 20 Saturday Nov. 29 <sup>th</sup>	Travel back to Home	

## Annex: 2 List of Participant, SQUEAC Training & Assessment, ACF Twic, South Sudan

First Name	Last Name	Position	Organisation	Email Address	Gender (Male / Female)
Bosco	Agetta Ojok	Roving Nutrition PM	ACF	<a href="mailto:nut-wp.ssd@acf-international.org">nut-wp.ssd@acf-international.org</a>	Male
William	Deng Michael	Nutrition PM	ACF	<a href="mailto:nut-wn.ssd@acf-international.org">nut-wn.ssd@acf-international.org</a>	Male
Jok	John Angok	Nutrition Supervisor	ACF		Male
Albino	Adhar Deng	Enumerator	ACF		Male
Awar	Mour Gum	Enumerator	ACF		Female
Biar	Manyong Atem	Enumerator	ACF		Male
Aguek	Deng Deng	Enumerator	ACF		Male
Bona Bol	Deng Kuek	Enumerator	ACF		Male
Bol	Mawien Ukang	Enumerator	ACF		Male
Mariak	Bol Manyang	Enumerator	ACF		Male
Simon	Bith Dhieu	Enumerator	ACF		Male
Mangong	Bol Koleng	Enumerator	ACF		Male
Mabeny	Akok	Enumerator	ACF		Male

**ANNEX: 3 Survey data collection form Wide area survey' Twic, South Sudan, November, 2014**

SQUEAC: Wide Area Survey MAM, TWIC, November. -2014

Date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Team \_\_\_\_\_ Team members \_\_\_\_\_

#	Child's Name	Mother's Name	Boma/ Village	Age (Month)	SEX		MUAC	MAM in the prog.	MAM not in the prog.	SFP recovering Cases in prog.
					M	F				
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

**ANNEX: 4 Small/ Wide area survey Questionnaire for the guardians of the children (Active MAM cases) NOT in the program, TWIC, South Sudan.**

Name of Child: \_\_\_\_\_ Village: \_\_\_\_\_

TSFP: \_\_\_\_\_ Boma: \_\_\_\_\_ Date: \_\_\_\_\_

1. DO YOU THINK THAT YOUR CHILD IS MALNOURISHED?

YES  NO

2. DO YOU KNOW A PROGRAM WHICH CAN HELP MALNOURISHED CHILDREN?

YES  NO  If answer is 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

If answer is NO stop, if answer is yes continue,

- 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: \_\_\_\_\_

5. If you decide to use OTP/SC service, where and when you want to use of CMAM service?

6. Who decide or influence you take or NOT to take a child to a health facility?

7. How do you deal with a child who sick? Where you first seek a solution for a sick child? (**Probe:** home remedies with herbs used and which herbs are used, are the traditional treatment sought and administrated before children are taken to a health facility? Change of trend on the use of these methods, OTP )

8. Do you (women caregivers) breastfeed their babies under six months of age?

9. At what age do mother start to give additional liquids/soft complementary food to infant?

10. How many times per day does a mother feed a 12 month-old infant?

(Thank the guardian)