

# Piloting Community- Based Management of Acute Malnutrition Project, Tigray Region. Ethiopia ( 2009 -2013)

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## Final Evaluation

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## Abbreviations

CBN	Community-Based Nutrition
CHD	Child Health Day
CMAM	Community-based Management of Acute Malnutrition
CSAS	Centric Systematic Area Sampling
FGDs	Focus Group Discussions
FMOH	Federal Ministry of Health
GMP	Growth Monitoring and Promotion
GOE	Government of Ethiopia
HEP	Health Extension Programme
HEW	Health Extension Worker
HMIS	Health Management Information System
IDI	In Depth Interview
IEC	Information, Education, Communication
IMCI	Integrated Management of Childhood Illnesses
IYCF	Infant and Young Child Feeding
JSDF	Japanese Social Development Fund
JSS	Joint Supervision Support
MAM	Moderate Acute Malnutrition
MCH	Mother and Child Health
MI	Micronutrient Initiative
MUAC	Middle Upper Arm Circumference
NGO	Non Governmental Organisation
NNP	National Nutrition Programme
OJT	On the Job Training
ORS	Oral Rehydration Solution
OTP	Outpatient Therapeutic Programme
PSNP	Productive Safety Net Programme
REST	Relief Society of Tigray
RHB	Regional Health Bureau
RUTF	Ready to Use Therapeutic Food
SAM	Severe Acute Malnutrition
SC	Stabilisation Centre
SPO	Senior Project Officer
TFP	Therapeutic Feeding Programme
TIPS	Trial of Improved Practices
UNICEF	United Nations Children's Fund
VCHW	Volunteer Community Health Worker
WDA	Women's Development Army
W/H	Weight for Height

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## *Executive Summary*

### *Background*

Severe Acute Malnutrition (SAM) is a major childhood challenge in Ethiopia especially during emergencies. Since 2008/9, the Community -Based Management of Acute Malnutrition (CMAM) programme in Ethiopia has been decentralised and expanded, from SAM being treated at health centres to being treated at kebele level in health posts, in line with the Health Extension Programme (HEP). In addition, the creation of the Women's Development Army (WDA) to replace the previous approach of Volunteer Community Health Workers (VCHW) has expanded coverage of community mobilisation and participation for health and nutrition activities at community level in Ethiopia.

The Piloting Community- Based Management of Acute Malnutrition Project, funded by World Bank via the Japanese Social Development Fund (JSDF) and implemented by Concern Worldwide Ethiopia, began in 2009 and aimed to support the Ethiopian Government in the effective implementation of CMAM in Tigray Region. The project has been supporting the Regional Health Bureau (RHB) in five woredas since 2009 with a more intensive maximal support package, supporting health posts as well as health centres. In June 2011, it expanded to a total of 24 woredas in four of the five zones, out of the total of 46 woredas in Tigray, with a minimal support package targeting the health centres only. An Infant and Young Child Feeding (IYCF) project, funded by Micronutrient Initiative was nested within the Piloting CMAM project and focused mainly on five woredas.

### *Methods*

A total of six out of 24 woredas were selected – three maximal support and three minimal support. Both qualitative and quantitative data were collected. The data capturing techniques utilised for the evaluation included document and record review, data review, focus group discussions, in-depth interviews, observation and quality checking of patient records.

### *Major Findings*

#### *Relevance*

- The CMAM project had to change its design several times in order to for it to be relevant to the changing nutrition and community mobilisation strategy context in Ethiopia. More recently, in 2012, the addition of IYCF into the project has increased relevance even further by ensuring that it is more consistent with the policy and strategic direction of the Government of Ethiopia (GOE)
- The project activities of capacity building of the Tigray Regional Health Bureau (RHB), contributing to the improvement of nutrition intervention through operational research and health system strengthening, in addition to monitoring and supervision support and provision of necessary equipment, reflected the priorities and gaps identified by RHB as needed to make CMAM and IYCF more effective.
- The present results framework contains the most updated objectives, components and targets reflecting all the changes in context from 2009 -2013 and is thus appropriate. However, annual progress reports for 2012 and 2013 still monitor progress of the project using earlier project components and this should have been updated to reflect the changes.
- The operation research topics were useful and appropriate in that they contributed to improve policy and practice of nutrition programming. One assessment provided a first step to inform discussion regarding food fortification to improve micronutrient intake in Ethiopia. A Trial of Improved Practices study began a process of developing a context-based IYCF project, including development of training

materials and subsequent training of RHB and woreda health offices, followed by implementation of community based IYCF activities. Two studies identified issues affecting the effectiveness of CMAM, and IYCF, namely Adherence to SAM Treatment and Capacity Assessment of Health Facility Staff. Finally, another assessment identified a need for improved storage of Ready to Use Therapeutic Food (RUTF) within health posts and contributed to improve health system strengthening.

### *Effectiveness and Impact*

- During the project, trends for cured, default and death rate improved from 2011 to 2013 and by 2013, the cure rate was **84%**, defaulter rate was **5%** and death rate was **0.22%**, which are within Sphere standards and project indicators.
- Progress reports measured average health facility scores during the project and average scores improved from **58%** in 2011 to **78%** in 2013. However, it should be noted that this was not the project indicator which was that at least 65% of health facilities should score above 75%. Although the score had improved from 2011, only **37%** of health centres in maximal support woredas and **35%** in minimal support woredas achieved a score of above 75% in 2012. *(2013 data unavailable at time of evaluation)*.
- When comparing maximal and minimal support woredas, there was no difference in treatment outcomes. However, average health facility performance scored better in maximal than minimal support woredas.
- There was also increased evidence of improved adherence to Outpatient Therapeutic Programme (OTP) protocols, more IYCF activities, capacity building, health system strengthening and monitoring and supervision in maximal support woredas.
- Neither point nor period coverage achieved the project indicator of >70%. However, coverage improved from the baseline coverage survey in the woredas where Concern has been supporting RHB with CMAM with the period coverage achieving above 50%, which is the Sphere indicator for rural areas. In the woredas where Concern has not intervened, coverage has decreased from baseline.
- From group discussions in the woredas visited, mothers know that they need to go to a health centre or health post if their child's MUAC was in "red zone" but were not sure of the treatment. However, the WDAs were able to describe in detail the outpatient treatment for severe acute malnutrition.
- Concerning admissions, a total of 15,882 severely malnourished children have been admitted from 2011 -2013 which is higher than the number of children planned to be reached according to the proposal.
- Chart reviews revealed OTP charts that were well filled in and appeared to adhere to CMAM protocols. Cure rates were generally good for the facilities visited. Most had cure rates of well over 75%. Weight gains are good with most children reaching discharge criteria within about 6 - 8 weeks. There are linkages with growth monitoring programme and under five consultations where MUAC is measured as part of these services.
- Some children were being discharged with a MUAC still below 11cm although they have reached their discharge criteria of weight gain according to the national guideline. This would impact negatively on coverage.
- There were fewer defaulters in the health posts than in the health centres visited during the evaluation according to TFP yearly performance charts reviewed on site. Both health centre staff and HEWs spoke of the strong link between HEWs and WDAs at health post and kebele level with WDAs following up absent children.
- Despite extensive support by Concern in terms of training and provision of equipment, stabilisation centres visited were not functioning due to lack of cases and/or lack of therapeutic milks.



- In the maximum support woredas, there is evidence of various IYCF activities. Increasing IYCF activities in these communities has strengthened the link between HEWs and WDAs. The five IYCF monitors, employed by Concern (one for each of the maximal support woredas) for support with IYCF activities, were perceived as essential because IYCF is a relatively new activity and much support was needed in terms of capacity building.
- Key informant interviews revealed that one of the areas where Concern had provided the most effective support was in capacity building through more formal training and then on the job training, especially in the maximum support woredas.
- Formal training is seen as effective for new areas such as IYCF and in this regard the training of trainers that Concern have facilitated and supported has been effective. High staff turnover reduces effectiveness of training. In the JSS health facility scores – those health facilities that scored higher in 2011 and then very low in 2012 are those where staff trained in CMAM/IYCF had moved on. On the job training (OTJ) is seen as being effective to address this problem because it is at the health facility so more staff can avail of training. Concern has tried to supplement formal training with OJT at the health facilities.
- Concern support has also been very effective with health system strengthening, providing equipment and materials especially to health posts, alerting woreda and RHB concerning gaps ( e.g. breakages in RUTF supplies, OTP cards etc.) and helping to fill gaps that RHB cannot fill, for example, assistance with transport.

#### *Monitoring and Evaluation*

- A common theme, identified in previous progress reports and TFP monitoring reports, was the lack of supervision by RBH and WoHO experts and of monthly reporting formats as major factors reducing effectiveness of CMAM in Tigray.
- The CMAM project has contributed to the performance scoring forms, TFP outcomes statistics format and has provided technical and financial support for the strengthening of the joint supportive supervision. It has provided on the job training of how to use the forms. This is cited as a major strength of Concern Worldwide.

#### *Efficiency*

- There have only been a few stock-outs of any of the basic treatments of SAM like RUTF, mebendazole, vitamin A, ORS and supplies as OTP cards, referral slips, registration book, and monitoring charts.
- Although there was a delay in starting the project due to having to adapt project design to changing contexts and also await approvals from donors and RHB, once the project got underway the development of IYCF/CMAM training materials from operational research stage to training and implementation took place quickly and efficiently. In addition training was carried out in an efficient way making best use of resources. Instead of focusing on five woredas, Concern expanded the training to all 24 woredas in the project.
- There was excellent coordination of activities between the woredas, Regional Health Bureau and Concern staff. The project managed to work together with the Regional Health Bureau so that the same resources were used for the supervision.

#### *Sustainability*

- The project has involved the Regional Health Bureau staff at all levels in the planning and implementation. There is strong ownership of the programme by major stakeholders. Also the project

has been rooted in the community, which increases their awareness about the relevance of CMAM/IYCF programme and creates strong ownership also there.

- Concern has provided a lot of support with capacity building and this has contributed to sustainability as it has provided the RHB and project woredas in Tigray with a firm technical base concerning CMAM and IYCF.
- There is, however, a lot to be done regarding the IYCF monitoring and OJT in health facilities that still is done intensively by Concern and needs to continue until the activities are well integrated into the government system.
- The RHB plans to expand the CMAM/IYCF training to all 46 woredas in Tigray. It may even expand to other regions as the materials have been translated into Amharic.

### **Recommendations**

- Liaise more with national NGOs e.g. Relief Society of Tigray (REST) so that they could take on Concern's role in supporting the RHB with capacity building, monitoring and supervision and support with CMAM /IYCF activities. REST already provide technical and supply support to IYCF activities in minimum support woredas but less with CMAM. Concern could pass on their technical expertise in CMAM to REST so that they could also support RHB concerning CMAM technical support.
- Joint Supportive Supervision and on the job training at health facilities is mainly carried out by Concern Special Project Officers (SPOs) with Mother Child Health (MCH) co coordinators participating when they are able to. To promote sustainability, the SPOs employed by Concern could start to construct a yearly timetable where some JSS and OJT could be carried out by MCH coordinator or other woreda nutrition experts without the SPO always being present.
- The collaboration that Concern has with other stakeholders in IYCF such as REST and Alive and Thrive needs to continue so that the recording and reporting of IYCF activities in the Tigray Region can eventually be harmonised, with RHB leading the process.
- Discuss with RHB and other stakeholders involved in IYCF the possibility of using some of the IYCF questions outlined in Annex 4 of the *"Improving the Capacity and Skill of HEWs via Module-based Training in Tigray Region"* (June 2012) to add to present TFP health facility performance scoring.
- Follow-up more on impact of IYCF messages; for example - following up households that have graduated successfully from IYCF to review if they are still practising key messages.
- Develop an impact indicator for IYCF that includes quality and frequency of complementary feeding
- IYCF was introduced into the CMAM project by using CMAM as an entry point and the present training materials supported by Concern focus very much on IYCF in the context of CMAM. However, SAM cases are few and a more relevant strategy going forward would be to adopt a broader IYCF approach. Thus future training support could focus on IYCF and add any additional refresher training on SAM if needed.
- Investigate how to target the very poor in CMAM/IYCF programming.

## 1 Background

Severe Acute Malnutrition (SAM) is a major challenge in Ethiopia especially during emergencies. It contributes to one million child deaths every year. Wasting, a measure of acute malnutrition was estimated at 10.5% in 2000 and 10% in 2011<sup>1</sup>. Underweight and stunting prevalence remains high in Ethiopia although both have decreased over the last 10 years<sup>2</sup>. The Ethiopia National Nutrition Strategy of 2008 identified low dietary intake and recurrent infection as the immediate cause of high levels of malnutrition and food insecurity, lack of appropriate care and unavailability of basic health service delivery as underlying causes. The more recent Ethiopia National Nutrition Programme (2013 – 2015) reports that the feeding practices of Ethiopian families remain sub-optimal<sup>3</sup>.

However it must be noted that Ethiopia has made remarkable progress in the last decade with reducing infant mortality from 123 deaths per 1,000 live births in 2005 to 88 deaths per 1,000 live births in 2011<sup>4</sup>. Expansion of school, health, water and sanitation programmes and facilities and the establishment of the Health Extension Programme (HEP), which puts health and nutrition services directly at community level, have contributed to this. In addition, in order to strengthen and accelerate social and behavioural changes, a community level “development army” has been established, using the approach that from one out of six households, a woman takes a leading role functioning as the key link to health and nutrition services. These women are known as the Women’s Development Army (WDA).

The Community- Based Management of Acute Malnutrition (CMAM) programme has expanded in line with the HEP. Since 2008/9 treatment of SAM has been decentralised from health centres to health post level, much closer to communities. The Piloting Community-Based Management of Acute Malnutrition Project, funded by World Bank through the Japanese Social Development Fund (JSDF) and implemented by Concern Worldwide Ethiopia, began in 2009 and aims to support the Ethiopian government in the effective implementation of CMAM in Tigray Region. The project has been supporting the Regional Health Bureau (RHB) in five woredas since 2009 and in June 2011, expanded to a total of 24 woredas in four of the five zones, out of the total of 46 woredas in Tigray. In July, 2012, two more woredas (maximum support) were added.

More recently, in order to strengthen the link between the management of SAM through CMAM and promotion of optimal nutrition practices at community and health post level, the project has attempted to promote Infant and Young Child (IYCF) messages through CMAM contact points. This has been further developed to expand dissemination of the messages beyond CMAM beneficiaries, with a concurrent IYCF project, funded by Micronutrient Initiative (MI), which is nested within the current CMAM project.

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<sup>1</sup> Evaluation of Community Management of Acute Malnutrition (CMAM): Ethiopia Country Case Study. UNICEF, Sept 2012

<sup>2</sup> Evaluation of Community Management of Acute Malnutrition (CMAM): Ethiopia Country Case Study. UNICEF, Sept 2012

<sup>3</sup> National Nutrition Programme, Government of the Federal Democratic Republic of Ethiopia, National Nutrition Programme. June 2013 – June 2015.

<sup>4</sup> National Nutrition Programme, Government of the Federal Democratic Republic of Ethiopia, National Nutrition Programme. June 2013 – June 2015.

## 2 Introduction

As stated in the project Results Framework and Monitoring, the *Project Development Objective* is to improve access to Community -Based Management of Acute Malnutrition (CMAM) and encourage adherence to IYCF among the under-five population of 24 selected Woredas in Tigray Region. The project has four components:

1. Enlisting communities in the management of SAM
2. Ensuring the quality of community management of SAM
3. Integrating outpatient care for sustainability
4. Monitoring, evaluation and dissemination

### 2.1 Objective of Evaluation

The overall objective of this assignment is to undertake the final evaluation of the Piloting Community based Management of Acute Malnutrition Project to assess the relevance, effectiveness, appropriateness and impact of the intervention and, specifically, whether the project has achieved the Project Development Objective. All components of the CMAM project will be evaluated in terms of its processes and achievements, the extent of project integration with the Ethiopian Health Services and coordination with other partners. For details of Key Specific Objectives see **Annex 1**.

In addition, the nested Micronutrient Initiative funded Infant and Young Child Feeding project will be reviewed to assess its appropriateness and how it complements CMAM service delivery as an entry point to promote optimal infant and young child nutrition and care practices. The evaluation will assess the CMAM project from its beginning in August 2009, up to the time of the evaluation and review the MI IYCF intervention from July 2012 to date.

Finally, one of the specific issues of the evaluation is to assess the degree to which the CMAM maximal support package was effective in the five woredas versus the minimal support package elsewhere.

The basic or *minimal* support package consists of:

- Theoretical and on the job training (OTJ) of health staff on inpatient and outpatient management of severe acute malnutrition, as well as monitoring and reporting.
- Joint Supervision of CMAM services.
- Planning and review workshops and experience exchange visits.
- Some hardware and logistics support for health facility and community level services.

This is provided to all 24 woredas at *health centre* level. Out of the 24 woredas, there are **5** woredas which receive this support down to *health post* level, as well as at health centre level. This requires additional resources due to distances and cadre of staff involved and is thus a *maximal* support package. In addition, the nested Micronutrient Initiative funded Infant and Young Child Feeding project is implemented within these 5 woredas.

In total, at project end, **113** accessible health centres in **24** woredas are included in the project. This includes **73** health posts in **5** woredas receiving maximal support. Other health posts are seasonably or completely inaccessible. Two additional maximal support woredas (Ofla and Endamehoni) were added in July 2012 at Tigray RHB's request, with Concern supporting 36 health posts. For details of the 24 project woredas in Tigray, 2011, see **Annex 2**.

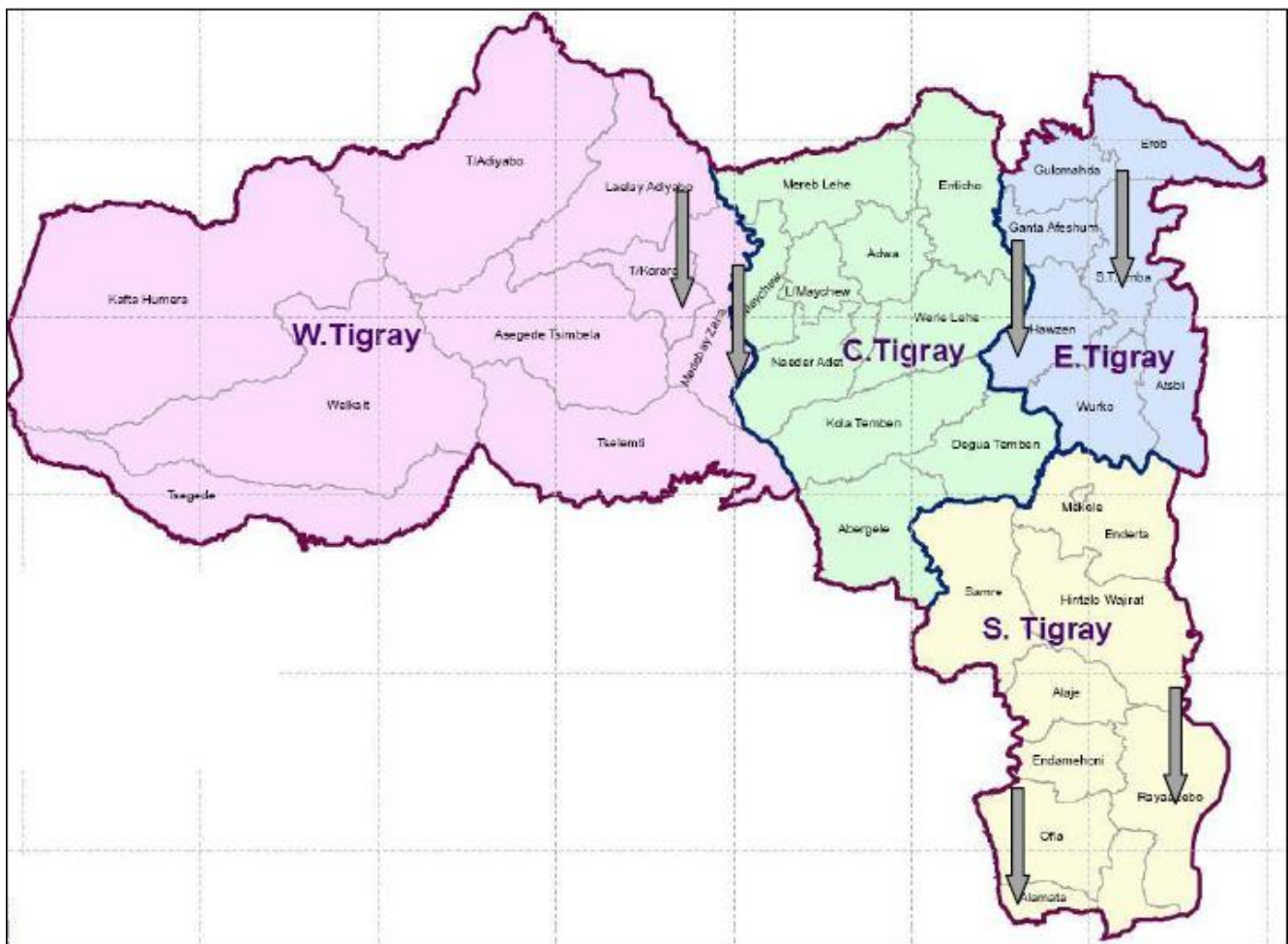
### 3 Methodology

This evaluation utilised both qualitative and quantitative designs to undertake data gathering from primary and secondary sources.

#### 3.1 Evaluation Area and Facilities Identified

The field work for the evaluation took place from 30<sup>th</sup> October to 15<sup>th</sup> November. The aim was to visit the **North West, East** and **South** zones of Tigray Region in order to obtain a representative coverage within the time allocated. Three maximal support woredas and three minimal support woredas were identified to visit within those areas. The maximal and minimal support woredas were adjacent to each other. The woredas visited are identified in **Figure 1**. (Map of Evaluation Area with Arrows Marking Woredas Visited)

Figure 1. Map of Evaluation Area with Arrows Marking Woredas Visited.



The names of the woredas identified are outlined in **Table 1**.

**Table 1. Names of Woredas Identified**

<b>Zone</b>	<b>Maximal support woreda</b>	<b>Minimal support woreda</b>
North west	Medebay Zana	Tahitay Koraro
East	Satse Tsade Emba	Wukro or Hawzien
South	Raya Alamata	Raya Azebo

The numbers and types of health facilities to be visited were identified as follows:

- For each maximal support woreda – **2** health centres and **3** health posts – the criteria being some easy to access in terms of distance and others more difficult to access.
- For each minimal support woreda – **2** health centres and **1** health post with the same criteria as above.

This comprised a total of **24** health facilities to visit.

### 3.2 Participants in Evaluation

For the key informant interviews, staff at the World Bank, Concern Worldwide and Tigray Regional Health Bureau (RHB); the Mother Child Health (MCH) coordinator in each woreda; the Outpatient Therapeutic Programme (OTP) focal person, Stabilisation Centre (SC) focal person and health extension workers (HEW) at the selected health facilities were interviewed. Individual interviews were also held with kebele leaders and key community members such as Women’s Development Army (WDA) members.

Focus group discussions (FGD) comprised groups of 8-12 women with children aged below five years. Participants were recruited from the catchment areas of the selected health facilities. Selection of the women was facilitated mainly by HEWs with guidance from the FGD facilitator and supervisor. See **Annex 3**. (Names of Contacts) For details of numbers of health facilities visited, numbers of focus group discussions (FGD) and interviews held see **Table 2** below:

**Table 2. Health Facilities/Woredas/Focus Group Discussions/Interviews**

<b>Woreda</b>	<b>Health Posts</b>	<b>Health Centres</b>	<b>FGDs</b>	<b>Key informant Interviews</b>
Medebay Zana	Hakfen, D/Kerbe, Bahre	Selekleka, Zana	5	1 MCH coordinator, 1 IYCF monitor, 5 OTP focal person/HEWs, 1 kebele leader
Tahitay Koraro	A/Kokeb	K/Semema, Selam	3	1 MCH coordinator, 3 OTP focal person/HEWs
Satse Tsade Emba	Raele, E/Mezewule	Frewoini (SC), Edaga Robue	3	1 MCH coordinator, 1 IYCF FP, 1 kebele leader, 4 OTP focal person/HEWs
Hawzien		Megab, D/Silus	1	1 key community member, 2 OTP focal person, 1 MCH coordinator
Raya Alamata	Tsestera, Lemeat	Timuga	2	1 MCH coordinator, Woreda office head, 1 IYCF FP, 3 OTP focal persons
Raya Azebo	Ebo	Hawult	1	2 OTP focal persons
<b>Total</b>	<b>9</b>	<b>10</b>	<b>15</b>	<b>30</b>

### 3.3 Evaluation Period

The evaluation focused on the piloting of Community Based Management of Acute Malnutrition Project supported by Concern Worldwide, starting from 2009 – 2013. The evaluation also included review of the Micronutrient Initiative-supported IYCF intervention from July 2012 to date.

### 3.4 Data Collection

Both qualitative and quantitative data were collected. The data capturing techniques utilised for the evaluation included:

**Documents review** – including baseline and endline coverage surveys, reports, guidelines, training materials, operational research studies and proposals,

**Data and Records review** – CMAM databases were reviewed and data extracted to plot the trend of performance indicators in maximal and minimal support woredas and to compare over the project period. The Therapeutic Feeding Programme (TFP) monitoring scores were also reviewed and compared between the maximal and minimal support woredas. Also, individual health facility records were reviewed and results compiled.

**Observation** – was used to evaluate the activities of CMAM and IYCF. Evaluators also interviewed clinical staff, HEWs and members of WDA in the health facilities. Checklists and in-depth interviews were used to elicit information.

**Focus group discussions (FGDs)** – were carried out with caregivers of target groups benefitting from this project or non-beneficiaries and key community figures.

**In-depth interviews (IDIs)** – were conducted with the World Bank, Micronutrient Initiative and Concern Worldwide staff in Addis Ababa and Tigray; Nutrition Department of the Tigray Regional Health Bureau; MCH coordinators of the selected woredas; officer-in-charge and OTP focal person of the health centres; health extension workers in the health posts and IYCF monitors employed by Concern to assess their views and experiences with regard to the CMAM/IYCF project.

**Quality checking** – to assess the quality of care in health facilities, a random total of 10-30 patient charts per facility, depending on the availability of charts, were reviewed. The patient chart review focused on adherence to the national CMAM guidelines for admission and discharge, clinical examination at discharge and admission, routine drug administration and recording quality during monitoring. The referral and defaulter tracing records were also viewed. The forms and tools used and adapted as necessary are contained in **Annex 4**.

### 3.5 Ethical issues

The Tigray Regional Health Bureau gave a letter of clearance and permission to the conduct the evaluation and a letter was written to each Woreda Health Office. Each interviewee or FGD participant was given an explanation about the study and agreed to participate prior to IDI or FGD. Participation was voluntary.

### 3.6 Data Analysis

Data regarding the indicators of the project performance were entered into an excel spread sheet and frequencies were analysed. Observation data were also entered into excel and the frequency of each indicator calculated for each woreda. Qualitative information was grouped in themes, analysed and triangulated with the quantitative findings.



### 3.7 Data Quality and Limitations

- Due to time constraints and other priorities of participants and those organising the discussions, most of the FGDs had to be organised in villages quite close to the health facility being visited.
- Low SAM caseload meant it was not possible to observe OTP in action. Most of the information came from OTP chart reviews and interviews with health workers.
- It was difficult to find key informants, such as kebele<sup>5</sup> or gott leaders<sup>6</sup> for interview because they often had other commitments.
- The average number of OTP charts cards reviewed was 20 per health facility. In some facilities, caseload was low so few charts were available. In others, charts were missing and therefore the evaluation had to depend on those available.
- Due to time constraints, it was not possible to visit the planned number of 24 health centres and health posts. The evaluators managed to finally visit 19 health facilities as outlined in **Table 2**.
- The evaluators were aiming to have an average of 8 – 10 participants for FGDs with six as a minimum. Some of the FGDs were conducted with less than six due to the difficulty of finding many participants as the evaluation was conducted during the harvesting period.

## 4 Analysis of Findings

The analysis of the findings is presented according to the specific objectives of the evaluation of assessing relevance, effectiveness, efficiency, impact/sustainability, adherence to external standards, monitoring and evaluation and accountability to beneficiaries. The analysis also addresses the questions to be answered within these objectives. These are listed in **Annex 1**. (Specific Objectives of the Evaluation)

### 4.1 Relevance

In this section, the findings of the project concerning how relevant it is according to the context in Ethiopia and its appropriateness in terms of project design. In addition, it will assess the appropriateness, relevance and use of the operational research carried out during the project period.

#### 4.1.1 Context and Appropriateness

The key stakeholder for the CMAM project is the Regional Health Bureau (RHB) of Tigray Region. Concern has not directly implemented this project but rather has played the role of supporting the RHB to implement CMAM effectively. This is appropriate as CMAM is a national programme and so the project has entailed consultation and collaboration with the RHB and other stakeholders. From 2010 – 2012, a series of meetings and workshops were held with the RHB, woreda health offices in the project, other non – government organisations working in the Region, such as the Relief Society of Tigray (REST), Alive and Thrive and United Nations agencies specifically United Nations Children’s Fund (UNICEF). Meetings were also held with other stakeholders: the Federal Ministry of Health and the World Bank. The main aim of these meetings was to discuss the project objectives and respective roles and responsibilities of the above stakeholders<sup>7</sup>. See **Annex 5** (Meetings and

<sup>5</sup> In Ethiopia woredas are divided into groupings called *kebeles*

<sup>6</sup> Rural kebeles are divided into *gotts* made up of approximately 60 - 90 households.

<sup>7</sup> Piloting Community based Management of Acute Malnutrition in Tigray Region, Ethiopia, Review of Activities Implemented. 08/2009 – 02/2013



Workshops) for details of these meetings. Thus, the project design and outcomes were developed in close collaboration with the RHB, with the RHB leading on many aspects of the design as follows:

- The RHB requested Concern to expand support from five to 24 woredas in Tigray in order to make more efficient use of resources and funding.
- The 24 woredas were those in most need of support out of the total 46 woredas in Tigray
- The RHB also suggested that it would be useful to compare the woredas receiving maximal support against those receiving minimal support.

The beneficiaries of the project are those in receipt of CMAM services and IYCF activities and those benefitting from capacity building initiatives. They include:

- Children aged 0 - 5 years with severe acute malnutrition.
- Pregnant and lactating women
- School children including adolescents
- Caregivers of children with severe acute malnutrition and others with children aged below five years
- Woreda health and nutrition officials
- Health facility staff including nurses and HEWs
- Community volunteers such as Women's Development Army (WDA)

The objectives, components and targets are summarised in the Results Framework and Targets of CMAM Project **Table 3**. These are outlined in more detail in the Revised Results Framework and Monitoring framework in **Annex 6**.

**Table 3. Results Framework and Targets of CMAM Project.**

<b>Results Framework</b>	<b>Project Outcome Indicators</b>
<p><b>Project Development Objective:</b> Improve access to CMAM and encourage adherence to IYCF among the under five population in Tigray</p>	<p>Cure rate from <b>67%</b> to <b>&gt; 75%</b>            Defaulter rate remaining <b>&lt; 15%</b>            Death Rate remaining <b>&lt; 10%</b>            Coverage from <b>31%</b> to <b>&gt; 70%</b>            Change in % of early initiation of breastfeeding (within 1 hour of birth) from <b>36%</b> to <b>&gt; 70%</b></p>
<p><b>Component 1: <i>Enlisting communities in the management of SAM</i></b> Build capacity of regional and woreda health teams and community agents to provide effective and efficient integrated CMAM services that meet or exceed national and international (Sphere)<sup>8</sup> minimum standards for programme performance.</p>	<p>At least <b>65%</b> of health facilities achieving a score of more than <b>75%</b> for at least 2 quarters using the standardised TFP monitoring card            At least <b>70%</b> of quarterly Joint Supportive Supervision visits conducted from woreda to health facility level on CMAM and IYCF.</p>
<p><b>Component 2: <i>Ensuring the quality of community management of SAM</i></b></p>	<p><b>90%</b> of woreda nutrition training use an integrated CMAM and IYCF training</p>

<sup>8</sup> The Sphere Project. Humanitarian Charter and Minimum Standards

Improve the knowledge and skill of woreda nutrition experts, health workers, health extension workers (HEWS) and volunteer community health workers /Women's Development Army on key IYCF services and encourage the integration of IYCF in 5 woredas.	package and set of job aids by end of project. <b>90%</b> of woreda nutrition experts and HEWs use developed job aids routinely.
<b>Component 3: Integrating outpatient care for sustainability</b> To contribute to the improvement of nutrition intervention modalities through operational research.	<b>No.</b> of operational researches carried out and results disseminated. <b>No.</b> of policy briefing papers prepared.
<b>Component 4: Monitoring, evaluation and dissemination</b> To disseminate and share learning and information from the project to ensure the learning from the project is considered by the stakeholders	<b>No.</b> of learning events organised <b>No.</b> of papers submitted to journals

(Adapted from Revised Results Framework of the Piloting Community- Based Management of Acute Malnutrition (CMAM) project being implemented by Concern Worldwide.TF093946)

During the course of the design and implementation of the project from 2009 -2013, both the health and nutrition situation changed dramatically in Ethiopia. During this period the government has:

- Decentralised and scaled up CMAM countrywide from being managed in health centres to being managed at health posts through the health extension worker system. The establishment of the health extension programme, addressing the basic health and nutrition needs of communities down to *kebele* and *gott* level, means that CMAM is now closer to the community.
- More recently, there has been a change in approach from using Village Community Health Workers (VCHW) to that of a Health or Women's Development Army that uses a cascade approach, where, in one out of six households, a woman takes a leading role, functioning as a key link to the health and nutrition services and who, in turn, recruits other women to perform a similar role. This has increased coverage for community mobilisation and community health and nutrition activities. Previously, VCHWs had measured MUAC and weighed children in GMP. However now, HEWs carry out these activities and the WDA play the major mobilisation and follow-up role in health and nutrition activities.
- Again, more recently in Tigray, the RHB has tried to strengthen monitoring in CMAM by promoting Joint Supervision Support and the use of a checklist for score health facility performance in CMAM. This is a Therapeutic Feeding Programme (TFP) standard checklist prepared by the Federal Ministry of Health (FMOH) and UNICEF. It is used to monitor the quality of CMAM services nationally. In addition, whereas previously the head of health centres collected and compiled CMAM reports from health posts in the health centre catchment area, this task now falls to HEW supervisors based in the health centre, each responsible for about six health posts.

The CMAM project has had to change its design several times in order for it to be relevant to the changing context outlined above. It evolved from being a pilot to where results from CMAM at health posts would be compared to more centralised forms of CMAM at the health centres (before the change in national strategy to decentralise CMAM to health posts) to that of developing local capacity to implement CMAM and IYCF.<sup>9,10</sup> Also it evolved from training VHCWs in MUAC screening (before the change in strategy to using WDA) to an

<sup>9</sup> Japan Social Development Fund Grant Proposal.2008

<sup>10</sup> Piloting Community based Management of Acute Malnutrition in Tigray Region, Ethiopia, Review of Activities Implemented. 08/2009 – 02/2013

approach where Concern supported training of HEWs who would then build capacity of WDAs.<sup>11</sup> More recently in 2012, the addition of IYCF into the project has increased relevance even further ensuring that it is even more consistent with the policy and strategic direction of the Government of Ethiopia (GOE). In its 2013 - 2015 National Nutrition Plan (NNP), the GOE aims to strengthen initiatives that were not adequately addressed in the 2008 NNP, one of which is the Accelerated Stunting Reduction Initiative.<sup>12</sup> In this context, an emphasis on IYCF activities in nutrition programming in the battle to prevent under nutrition is very relevant.

The project activities reflect the priorities and gaps identified by RHB as needed to make CMAM more effective and also to include broader approaches to addressing undernutrition, instead of just focusing on acute malnutrition. These are summarised as follows:

- Activities to support capacity building initiatives of the government
- Operational research to support innovative approaches that can contribute to improving effectiveness and that can contribute to the National Nutrition Programme.
- Activities to support health system strengthening in terms of supporting with monitoring and supervision, provision of necessary equipment and materials and financial and logistical support.

There are two priority issues identified in the situation analysis taken from the initial CMAM proposal submitted to World Bank in August 2008 and eventually not addressed in the CMAM project<sup>13</sup>:

- Community consultations suggested that health posts did not meet the standards for storage of Ready to Use Therapeutic Food (RUTF). In addition, decentralising service provision from health centre to health post level required reliable transfers for transfer of RUTF from the district. These aspects were meant to be explored through operational research. The study "*Rapid Assessment on Storage and Handling of RUTF in Tigray Region*" focused on storage aspects and not transport and supply issues as this was taken on by UNICEF to investigate.
- The cost of imported or centrally produced RUTF is one of the chief impediments to the sustainability of outpatient care. Thus, the development of local alternatives to commercially produced RUTF that could be made with less expensive ingredients and shorter supply chains was initially proposed within the CMAM project. The aim was that Concern would support feasibility studies in three agro-ecological zones to determine the prospects for local production of RUTF. The feasibility outcomes from the most promising agro-ecological settings were to be followed by piloting of local production in actual district settings. However, although production of cost-effective RUTF remains a priority issue, experiences that Concern were going to draw on from Malawi and other settings revealed that the need for rigorous quality control and production of sufficient quantities mean that is very difficult to produce RUTF at community level. Eventually, at the request of FMOH, Concern supported FMOH to conduct a study on "*Assessment of Feasibility and Potential Benefits of Food Fortification*" which covered other aspects of food fortification. This is a step to addressing a priority issue in the NNP strategy for 2103 - 2015 which pledges to strengthen initiatives not adequately addressed in NP 2008, including the National Food Fortification Programme<sup>14</sup>.

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<sup>11</sup> Japan Social Development Fund Grant Proposal. Revised February 2011

<sup>12</sup> National Nutrition Programme, Government of the Federal Democratic Republic of Ethiopia, National Nutrition Programme. June 2013 – June 2015

<sup>13</sup> Japan Social Development Fund Grant Proposal. 2008

<sup>14</sup> National Nutrition Programme, Government of the Federal Democratic Republic of Ethiopia, National Nutrition Programme. June 2013 –June 2015

The rapidly changing context regarding changes in government strategies concerning nutrition, as already outlined, meant that there had to be rapid changes in the project proposal resulting in the final version in 2011 and the Revised Results Framework in **Annex 6** and summarised in **Table 3**. In order to maintain the efficiency of the project in terms of timeliness, it was not possible to keep rewriting the proposal to incorporate the changes in design. The Results Framework contains the most updated objectives, components and targets reflecting all the changes in context from 2009 -2013 and is thus appropriate.

However, the final proposal narrative still contains the goal *“Reduce morbidity and mortality due to severe acute malnutrition in Ethiopia’s under-five population. It will achieve this by expanding access to CMAM, an innovation evolved by Ethiopia’s NGOs in the context of humanitarian emergencies but which has yet to be widely implemented using routine systems in a development context.”*<sup>15</sup> This needs updating to reflect the most recent more appropriate project development objective *“Improve access to CMAM and encourage adherence to IYCF among the under-five population in Tigray”* Also annual progress reports for 2012 and 2013 still monitor progress of the project using previous project components as outlined<sup>16</sup> below:

- A. Developing local capacity to implement quality CMAM
- B. Identification of specific barriers and opportunities to optimise CMAM implementation through operational research on key impact pathways.
- C. To contribute to the improvement of nutritional intervention modalities through sound operational research on key topics.
- D. Monitoring, Evaluation and Dissemination.

In order to be more appropriate, these reports need updating to reflect the components in the present Results Framework summarised in **Table 3** and enclosed in **Annex 6**.

#### 4.1.2 Operational Research

One of the objectives of the project as outlined in the revised Results Framework in **Annex 6** was *“To contribute to the improvement of nutrition intervention modalities through operational research and different studies.”* An overview of the studies carried out during the project is provided in **Annex 7** and outlines the following:

- Description of the study, objectives and main findings.
- Relevance of the study to the project and how the research was utilised and contributed to the project.

*“Determinants of Adherence to CMAM among Mothers, Caregivers and Health Care Providers of Index Children with SAM in Tigray” (April/June 2012)*

This was a longitudinal study using a cohort of newly registered SAM cases with the objective of identifying the determinants of adherence to treatment by mothers/caregivers and health care providers of index children with SAM. Findings indicated that knowledge of mothers on CMAM, distance, supply interruptions, repeated nutrition education and training of health workers all affected adherence to treatment for SAM.

According to this study, there has been no study which has documented the determinants of adherence to treatment among SAM cases and their health care providers which thus makes it relevant .The findings from this

<sup>15</sup> Japan Social Development Fund Grant Proposal. Revised February 2011

<sup>16</sup> Progress reports, Concern Worldwide Annual Report. Piloting Community – Based Management of Acute Malnutrition Project, World Bank (JSFD) – Grant No. TF093946, Tigray Region, Ethiopia, 2012 and 2013.

study have the potential to contribute to other more qualitative and semi quantitative investigations carried out around defaulting and coverage which were presented at a Coverage Monitoring Network Conference, held in London on -18<sup>th</sup> October 2013 and hosted by the NGO Action Contra Faim.<sup>17, 18</sup>

The study stated that in 2010, there were high numbers of children defaulting in Tigray, based on a national CMAM evaluation<sup>19</sup>. However, the evaluation cited a defaulter rate of 8.8% for 2010, which was well below national and international standards, although unknown rates were high at 11.7%, which may have pushed defaulter rates up. This raises the question of whether adherence to treatment for SAM was or is an issue in Tigray as default rates were and are low. Thus this study may be less appropriate in the specific context of Tigray, even though it has been appropriate in a more national and international context when put together with other work around defaulting and coverage. Therefore, it contributes to the improvement of nutrition intervention modalities.

*“Improving the Capacity and Skill of HEWs via Module based Training in Tigray Region” (June 2012)*

This was a randomised control trial carried out to determine if an extended module based training improves the knowledge, motivation, skills and job satisfaction of HEWs. The main findings were that the level of knowledge of HEWs is highest in complementary feeding but lowest in the breastfeeding category. Overall 52% of HEWs scored above average for demonstrating skills correctly and in response to skills assessment tests for clinical signs of malnutrition more than half scored below average. However, they scored above average for MUAC measurement and weighing. Training on nutrition is the most frequent type of training provided to HEWs. On average the HEW pays 14 household visits per day and on average each HEW produces one weekly report and five monthly reports.

This study was relevant in that an integral part of the CMAM project is building capacity of HEWs and WDA members through training to promote and improve IYCF practices in community. In Ethiopia, health facility and thus health worker performance is evaluated on a quarterly basis through Joint Supervision Support (JSS). This study replicates that to a certain extent, in terms of the skills assessments around SAM. However, it must be noted that the study includes measuring performance on IYCF of which some aspects could be included in the JSS. The JSS includes information to be completed on community-based nutrition activities, such as % of community conversations reported and % of WDA reporting. Some of the questions used in the skills assessment on IYCF in this study could be used for in communities and WDA, in order to assess IYCF knowledge.

This study provides a comprehensive picture of HEWs capacity and also how they do their job. A follow-up study will investigate improvement as a result of training supported by Concern and will be used to determine impact of training. In addition, some of the questions and measures of IYCF skills used in this study could be used to assist RHB with incorporating IYCF into the JSS supervision checklist. In the study, testing the knowledge of caregivers of children in communities of the areas studied at baseline would have been useful so

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<sup>17</sup> The Coverage Monitoring Network project is an inter-agency initiative to address the challenge of coverage and improve nutrition programmes through the promotion of quality coverage assessment tools, capacity building and information sharing

<sup>18</sup> Puett, C, Hauenstein Swan, S & Guerrero, S. (2013). Access for All, Volume 2: What factors influence access to community based treatment of severe acute malnutrition? (Coverage Monitoring Network, London, November 2013)

<sup>19</sup> Nyirenda G, Belachew T. Concern Worldwide Final Evaluation of National CMAM Programme in Ethiopia, Valid International and Jimma University, November 2010.

that it could also be tested in follow-up - this would give a useful indication of how much the skills of HEWs had impacted on the people to whom they are delivering the service.

*“Assessment of Feasibility and Potential Benefits of Food Fortification” (October 2010)*

This was an assessment which consisted of a food fortification situation analysis followed by assessments of wheat flour, edible oil and sugar as potential fortification vehicles’ in order to assess feasibility and potential benefits of food fortification in Ethiopia. The findings indicated that fortification would be able to provide Vitamin A protection to 38 million people and enhanced iron and folic acid nutrition to 12 million Ethiopians. This is affordable, feasible and sustainable and comes with few opportunity costs to NNP. It would take a budget of \$3 million annually which is a fraction of NNP budget and will be largely financed by the market, rather than government. Fortified flour with multiple micronutrients can be made widely available in the market place within two years and national scale up could be achieved within 4 -5 years.

The NNP strategy for 2013 - 2015 pledges to strengthen initiatives not adequately addressed in NP 2008 including the National Food Fortification Programme<sup>20</sup>. Thus this presents an opportunity to build on the current portfolio of affordable and effective micronutrient interventions and bring them to full scale. Food fortification can play a key role in reducing micronutrient deficiencies which makes this study relevant and appropriate.

The assessment was used to further develop NNP capacity to mobilise stakeholders to initiate, support and coordinate and also created public and private stakeholder awareness and support for fortification. This was achieved through a dissemination workshop in February 2012 attended by 100 participants from Government of Ethiopia, Concern, private partners and other stakeholders.

*“Rapid Assessment on Storage and Handling of RUTF in Tigray Region” (March/April 2011)*

This operational research was an assessment to understand how OTP supplies are being stored in woreda health offices (WoHOs) and catchment health posts. It was conducted in 72 health posts in the five project woredas supported by Concern. The objectives were to assess how OTP supplies, especially RUTF, are being stored in WoHOs and health posts, determine factors that affect RUTF storage and identify feasible interventions to improve RUTF storage. Almost all health posts had preventable RUTF storage or handling problems with RUTF exposed to damage due health post construction problems and absence of a storeroom. Forty two percent of the health posts correctly stored RUTF as a medical supply but were unable to lock it away somewhere. Fourteen percent managed to store RUTF in a cabinet.

This study was carried out based on findings from routine supervision which identified storage issues in health posts and thus it was appropriate to explore this further. Originally, the operational research around storage on RUTF was also meant to be examining transport and supply issues. However, this aspect was taken on by UNICEF, so it became more relevant to just focus on assessing storage and handling of RUTF in the present assessment. The results of the assessment were disseminated to FMOH, Tigray RHB, WoHOs, World Bank and UNICEF. Based on recommendations of the study, 90 RUTF storage cabinets were purchased and donated to Tigray RHB by November 2012.

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<sup>20</sup> National Nutrition Programme, Government of the Federal Democratic Republic of Ethiopia. June 2013 –June 2015

*“Improving Infant and Young Child Feeding through Trial of Improved Practices” (Aug/Sep 2011)*

In order to guide training and programming on Infant and Young Child Feeding nested within the CMAM project, Concern and RHB undertook a qualitative community based purposive trial of improved practices study conducted among 66 children aged 6 - 23 months in two woredas. The objectives were to identify current practices and barriers with regards to infant and young child feeding and to test the acceptability and feasibility of potential complementary feeding recommendations for improving young child feeding at household level. The main findings were as follows:

- The main harmful practices identified in all age groups from 6 - 23 months were lack of dietary diversity, improper consistency of complementary food and inadequate meal frequency
- The most common helpful practices were starting to use complementary foods at around six months, preparing complementary foods separate from the family dish, using iodised salt, focusing on the child at meal times, having separate utensils for the child and using good feeding practices for a sick or recovering child.
- Financial constraints were the most common barriers for not trying the recommendations. Food that caregivers could not afford were meat, sugar, milk, butter, potatoes, egg, iodised salt, lentil flour, chickpeas, barley and fruit.
- Most recommendations had to be modified based on what foods were available in the home.

The study was appropriate as the results were used in designing the IYCF/CMAM manuals and job aids as follows:

- The manuals and job aids gave clear visual messages on feeding frequency, using containers for measurement (Ethiopian coffee cups known as “*finjals*” (which are relevant to Ethiopia) to address the issue of inadequate feeding quantity and frequency, identified in the study.
- There is also clear visual messaging in the job aids around the correct consistency of complementary food.
- The study recommended further investigation into affordable, acceptable, available foods for complementary feeding with an emphasis on replacing items that caretakers cannot afford with other beneficial food. However, although the study did outline that as part of initial negotiation modifications were offered - it did not expand much on exactly what these modifications were apart from one example that “*some tried changing gruel to porridge enriched with teff, milk, oil, millet, sorghum, shiro flour*”. However, the job aids did reflect this by providing a range of examples on how diet diversity can be achieved. This is discussed further in Capacity Building and Training in **Section 4.2.7**.

From the completion of the study in August 2011 and the development of IYCF/CMAM training materials, training and implementation in May 2012 took place quickly and efficiently. The results of the study were used in designing manuals and job aids on IYCF in collaboration with other stakeholders (UNICEF, Alive and Thrive, REST).

## 4.2 Effectiveness and Impact

In order to assess the effectiveness of the project, the evaluation needed to examine to what was achieved in terms of outcomes, coverage and capacity building and what impacted on project deliverables and project goal. This section will also examine if positive changes and reduction in future vulnerabilities were observed in target communities.

#### 4.2.1 Treatment and Performance Outcomes

The project outcome indicators in terms of treatment outcomes, coverage and capacity building are summarised in the Results Framework and Targets of CMAM Project in Table 3 and are:

- Cure rate **above 75%**
- Defaulter rate **below 15%**
- Death rate below **10%**
- Coverage **above 70%**
- **65%** of health facilities achieving a score of more than **75%**
- **70%** of quarterly Joint Supervision visits conducted from woreda to health facility level on CMAM and IYCF
- **90%** of woreda nutrition experts and HEWs are trained using integrated CMAM and IYCF training package and job aids and use then routinely
- Increase early initiation of breastfeeding from 37.7% to **above 70%**

##### 4.2.1.1 Overall

*Treatment Outcome Indicators.* The report compiled in 2013 to review project activities showed that that cure rates, defaulter rates and death rates for the 24 woredas in the project were within international Sphere standards as illustrated in the Trends for Cure, Defaulter & Death Rates from 2011 – 2013 in **Table 4**. Defaulter rates reduced from **12.8%** in 2011 to **5.3 %** in 2013 and cure rates were above **75%** in 2012. Trends have improved from 2011 to 2013 for all treatment outcome indicators.

**Table 4. Trend for Cure, Defaulter & Death Rates 2011 -2013**

<i>TFP Rate</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>Sphere Standard</i>
Cured	74.6%	77.28	84.24%	> 75%
Defaulter	12.8%	5.40%	5.33%	< 15%
Death	1.4%	0.77%	0.22%	< 10%

(Table taken from progress reports and Concern Worldwide Annual Report. Piloting Community-Based Management of Acute Malnutrition Project. World Bank (JSFD) – Grant No. TF093946, Tigray Region, Ethiopia, 2013).

##### *Health Facility Performance Scores.*

In Ethiopia, health facility and thus health worker performance concerning the Therapeutic Feeding Programme (TFP) is evaluated on a quarterly basis through Joint Supervision Support (JSS). In Tigray, this has been carried out by WoHO with the Concern Senior Project Officers (SPO). A TFP Performance Monitoring scorecard has been developed by FMOH which is used for this quarterly assessment and supervision.<sup>21</sup> One of the indicators to assess the impact of capacity building is to have at least **65%** of health facilities achieving a score of more than **75%** for at least two quarters using the standardised TFP monitoring score card.

According to the progress reports, health facility performance has been assessed using average health facility scores, rather than the percentage of health facilities achieving a score of above 75%. Average health facility scores from 2011 -2013 for the 24 woredas supported by Concern are outlined below in **Table 5**. This shows

<sup>21</sup> Therapeutic Feeding Programme (TFP) Performance Monitoring Scorecard. Assessment by: MOH & Partners.



progressive improvements from 2011 -2013 where average health facility scores increased from **58%** in 2011 to **78%** in 2013.

**Table 5. Average Health Facility Score**

Year	2011	2012	2013
Average Health Facility Score	58%	70%	78%

During the evaluation, the data base for TFP scoring for 2011 and 2012 was examined in order to obtain the score of health facility performance according to the actual project indicator, which is not to assess average health facility performance, but to assess whether at least 65% of health facilities have achieved a score of above 75% according to the TFP monitoring score card.<sup>22</sup> The database did not contain the results of health post scoring in the 19 minimal woredas supported by Concern because their support in those woredas was to health centre level only. The scores for the health centres in the 24 woredas for 2011 were extracted and the number scoring above 75% highlighted. For more detail on health centre scores see **Annex 8**. The percentage of health centres that scored above 75% in maximal and minimal support woredas for 2011 and 2012 is shown in **Table 6** below. The percentage of health centres scoring above 75% improved from 2011 to 2012 in both maximal and minimal support woredas and was better in maximal than minimal woredas. However, the percentage of health centres scoring above 75% remained below the 65% aimed for in the project indicator. In 2012 - **37%** of health centres in maximal support woredas and **35%** in minimal support woredas achieved a score of above **75%**. When adding in health posts to maximal support woredas, the percentage of health facilities in the maximal support woredas achieving a score of above 75% was **17%** in 2011 and **37%** in 2012. The database for 2013 was not available at the time of the evaluation.

**Table 6. Percentage of Health Centres Scoring above 75% According to TFP Monitoring Scorecard**

Year	% of Health Centres Scoring above 75%	
	2011	2012
Maximal support woredas (5)	23%	37%
Minimal support woredas (19)	19%	35%

A TFP assessment carried out in 2011 cited the following as reasons for poor TFP performance<sup>23</sup>:

- Infrequent supervision of health facilities by WoHO due to workload, transportation and budget problems.
- Absence of OTP focal person at health centre due to personal, social or routine activities
- Physical inaccessibility of health posts due to rain and geographic barriers
- Shortage of equipment.
- Lack of monthly reporting format
- High staff turnover

<sup>22</sup> Databases, 2011 and 2012 TFP Performance Score for 24 Woredas.(Provided by Concern Worldwide)

<sup>23</sup> World Bank JSFD project, baseline TFP Performance Monitoring Score Card Assessment Report. Conducted by ZHD, WoHos & Concern Worldwide.

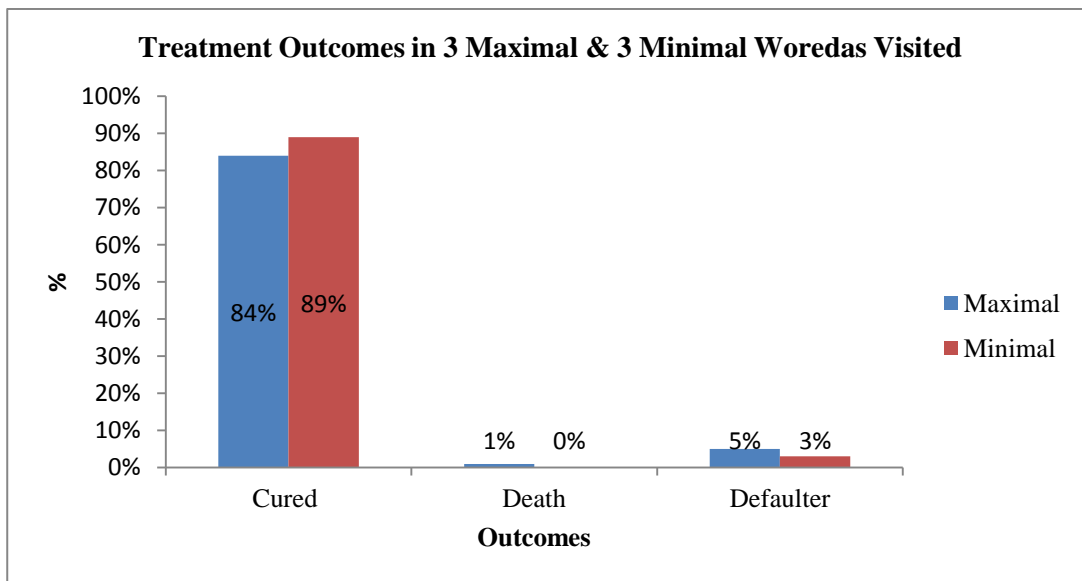
Many of these issues have been addressed since 2011 with Concern support. In key informant interviews during the present evaluation, the main reason given now for poor TFP performance was high staff turnover. As discussed in Capacity Building and Training in **Section 4.2.7.**, Concern is trying to address this by supporting RHB to carry out more OJT. Concerning the training of woredas nutrition experts, not only were they trained in the maximum support woreda but also in the minimum support woredas, which means that this exceeds the **90%** project indicator. See **Annex 9.** (Numbers Trained and Types of Training).<sup>24</sup>

For IYCF, an NGO called Alive and Thrive carried out a baseline survey where the rate of early initiation of breastfeeding was **37.7%**. The project indicator for IYCF was to increase this to above **70%**. At the time of this evaluation, a follow-up survey had not yet been carried out.

**4.2.1.2 Maximal versus Minimal Woredas**

The databases provided by Concern on behalf of RHB were analysed to obtain performance on treatment outcomes and health facility performance, rather than using the progress reports. This is because it was easier to disaggregate the data, woreda by woreda, and then according to maximal and minimal woredas, using the databases.<sup>25 26</sup> The SAM treatment outcomes from the TFP data base spanning 2012 and the first quarter of 2013 were analysed according to the three maximal and three minimal woredas visited during the evaluation. Outcomes were slightly better in the three minimum support woredas as outlined in Treatment Outcomes in Maximal versus Minimal Woredas Visited in **Figure 2.**

**Figure 2. Treatment Outcomes in Maximal & Minimal in Woredas Visited**



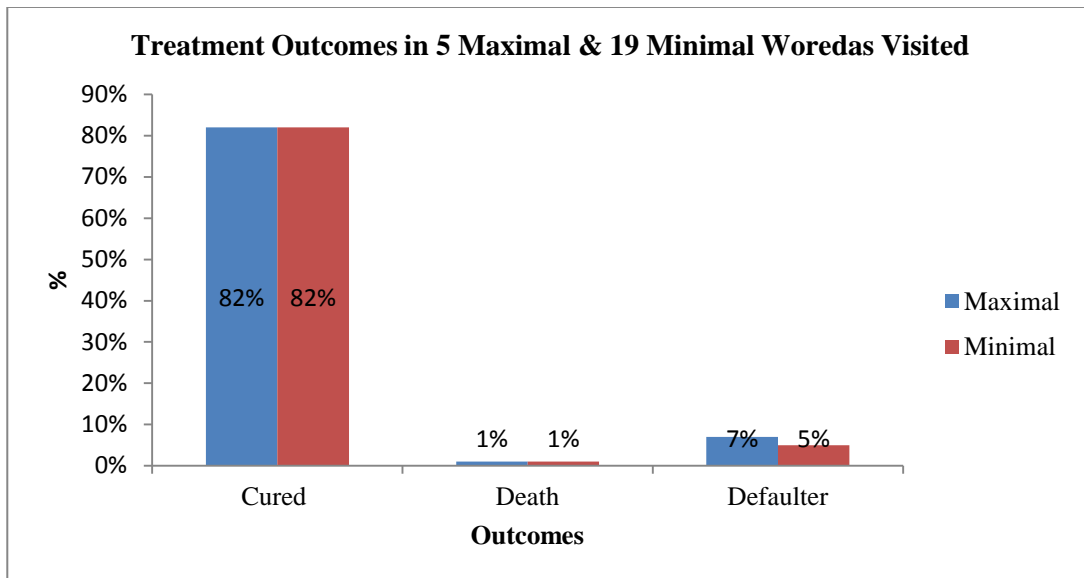
However, when comparing the five maximal versus the 19 minimal woredas, this difference more or less evens out, apart from defaulting being slightly lower in minimal as opposed to maximal woredas, as outlined in Treatment Outcomes in five Maximum and 19 Minimum Woredas in Project in **Figure 3.**

<sup>24</sup> Piloting Community based Management of Acute Malnutrition in Tigray Region, Review of Activities Implemented. August 2009 – February 2013.

<sup>25</sup> Databases, 2011 and 2012 TFP Performance Score for 24 Woredas.(Provided by Concern Worldwide)

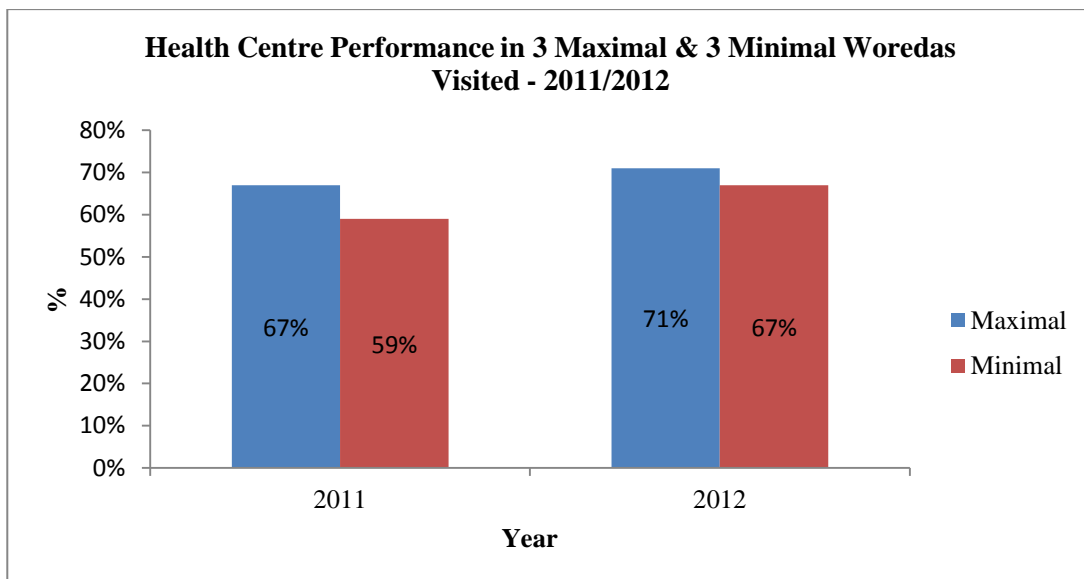
<sup>26</sup> Databases TFP Quarterly Reports for 24 Woredas. Treatment Outcomes (Provided by Concern Worldwide)

Figure 3. Treatment Outcomes in 5 Maximal & 19 Minimal Woredas in Project



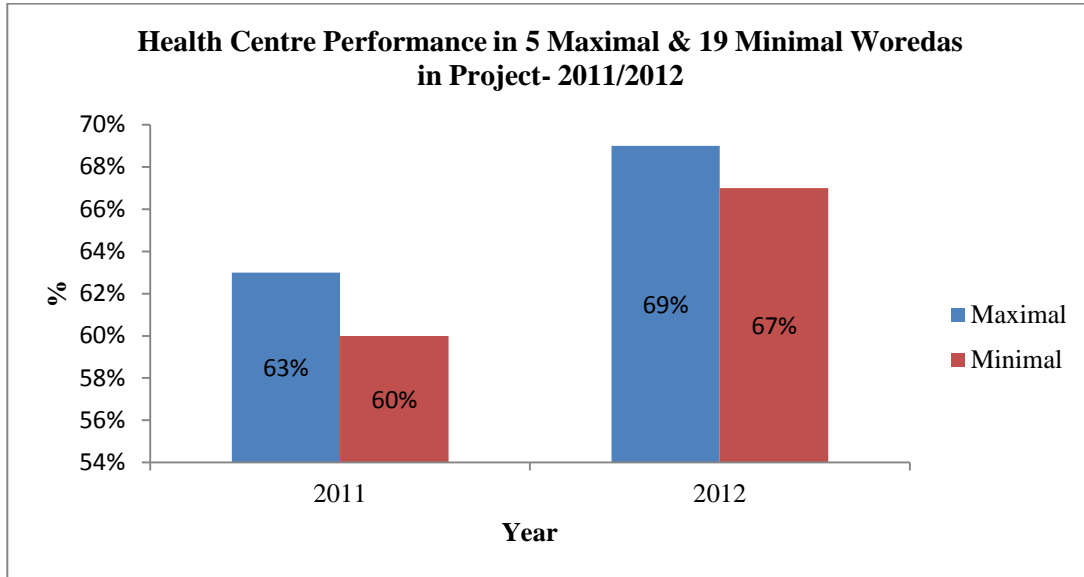
For health facility performance, the difference between the woredas is more marked. It was only possible to analyse health centre performance because there were no scores for health posts in the data base for 19 minimum support woredas. For the maximal and minimal woredas visited, **Figure 4** shows that there was an improvement in average health centre performance from 2011 in both maximal and minimal support woredas visited and average health centre performance was better in the maximal support woredas visited.

Figure 4. Health Centre Performance in Maximal & Minimal Woredas Visited – 2011/2012



The above trend was replicated when health centre performance was analysed for the 5 maximum and 19 minimum support woredas (unlike in treatment outcomes which evened out more when the 24 woredas were analysed). See **Figure 5**.

**Figure 5. Health Centre Performance in five Maximum and 19 Minimum Woredas in Project.**



Other findings concerning differences in performance are summarised in **Table 7** below and lean towards better outcomes concerning the activities outlined in maximal versus minimal woredas.

**Table 7. Findings in Maximum vs. Minimum Woredas Visited**

Activity	Maximum Support	Minimum Support
Community Mobilisation	Knew more on what MUAC classifications were for malnutrition. Stronger link between HEWS and WDAs for IYCF activities	Know what MUAC was but less on what the colours meant.
Outpatient Therapeutic Programme	Slightly better adherence to OTP protocol	
IYCF	Mother knowledge on IYCF better  More IYCF activities  Increased presence of IYCF job aids especially more innovative ones such as posters demonstrating different grains etc.	Mother knowledge on IYCF less but HEW knowledge good. HEWs have received training on IYCF but there are less activities, less frequently Some presence of IYCF materials from Alive and Thrive/REST
Health System Strengthening	More evidence of CMAM protocols especially on wall. More evidence of equipment such as cabinets, binders and weighing stands.	CMAM protocols present but less visible

Capacity Building	Increased OJT especially in newer activities such as IYCF due to presence of IYCF monitors in maximum support woredas	JSS and OJT in health centres but less concerning IYCF
Monitoring and Supervision	Increased presence of TFP performance charts and report formats in both health centres and health posts. Easier to access yearly report compilation per health facility	Some TFP performance charts in health centres but not in health posts visited

#### 4.2.2 Coverage

Coverage is an internationally recognised indicator of performance for CMAM<sup>27</sup>. The Sphere indicators and the National Guidelines on the Treatment and Management of Severe Acute Malnutrition in Ethiopia have set a programme coverage level of >50 -70% in rural areas as an acceptable level of performance<sup>28</sup>. The indicator for this project is to achieve coverage of above 70% in Concern supported woredas. A baseline coverage Centric Systematic Area Sampling (CSAS) survey was carried out in three woredas in March 2011 and then a follow-up survey in the same woredas in October 2013<sup>29</sup>. Medebay Zana and Tahitay Adebayo woredas are Concern supported woredas. Dogua Temben woreda (control) is a woreda that did not receive Concern support.

**Table 8. Baseline and Follow up Coverage Result.**

Woreda	Type of Coverage	Medebay Zana	Tahitay Adebayo	Dogua Temben
<b>Baseline</b>	<b>Point*</b>	22.2%	16.1%	30.2%
	<b>Period**</b>	32.6%	29.7%	42.9%
<b>End line</b>	<b>Point</b>	32.8%	40.0%	27.4%
	<b>Period</b>	50.6%	63.3%	33.8%

\*Point coverage is number of SAM cases in treatment and is an estimator for current SAM cases only.

\*\*Period coverage is number of SAM cases in treatment + number of recovering cases in treatment and is an estimator for both current and recovering cases.

Neither point nor period coverage achieved the project indicator of > 70%. However, coverage improved from baseline in Medebay Zana and Tahitay Adebayo woredas where Concern has been supporting RHB with CMAM. In Dogua Temben woreda where Concern did not intervene, coverage decreased from the baseline. Regarding the main findings of the endline coverage survey, from the qualitative work, there were some results that triangulated with those of this evaluation as follows:

<sup>27</sup> Myatt M, Feleke T., Sadler, K. and Collins S. A Field Trail of a survey method for estimating the coverage of selective feeding programmes. Bulletin of the World Health Organization, January, 2005, 83 (1).

<sup>28</sup> Protocol for the Management of SAM, Ethiopia. Federal Ministry of Health, March 2007.

<sup>29</sup> Details of method can be found on [www.cmamforum.org](http://www.cmamforum.org) CMAM Forum Publications: Assessment of Coverage in CMAM (Gueverra E, Norris A, Guerrero S, Myatt M)

- The quality of OTP services in the woredas where Concern is supported was found to be higher compared to the control woreda .See **Section 4.2.4.** (Outpatient Therapeutic Programme)
- Support of Concern to the assessed health centres and health posts in the intervention woredas was found to be extensive and highly appreciated by the service providers, programme managers and WoHO. See **Sections 4.2.7.** (Capacity Building and Training) and **4.3.** (Monitoring & Evaluation)
- There was no shortage of RUTF and routine drugs except folic acid at the time of the survey. See **Section 4.4.1** (Logistics/Supplies/Timing).
- The WDA were observed to be strong in most visited places during the survey and helping community mobilisation for screening, advising for early treatment seeking and tracking absentees. See **Sections 4.2.4** (Outpatient Therapeutic Programme) and **4.2.3** (community Mobilisation)
- In the survey woredas, there is a shortage of stabilisation centres. During the evaluation, it was observed that despite being provided with training and equipment, stabilisation centres were not functioning. See **Section 4.2.5.** (Stabilisation Centres)
- Concern supported woredas are benefitting from on the job training by Concern, WoHO and health centre supervisors.

Other findings from the coverage survey include:

- Transportation of RUTF to the health posts remains a challenge for all woredas.
- Seasonality was the main challenge observed to highly affect the service uptake. It is believed that coverage is higher in the dry season.
- A series of three vaccination campaigns in September and October was observed to have diverted HEWs attention and negatively affected OTP uptake
- Community mobilisation is more difficult in remote kebeles where volunteers had challenges of harmonising their commitments at home and to the community.

### 4.2.3 Community Mobilisation

According to the National Guidelines on the Treatment and Management of Severe Acute Malnutrition in Ethiopia community outreach or mobilisation is defined as the range of activities that help implementers understand the affected communities, build relationships with them and foster their participation in programme activities. Previously community sensitisation around CMAM and screening for acute malnutrition using middle upper arm circumference (MUAC) was carried out by HEWs with Volunteer Community Health Workers (VCHW) – 1 per 50 households. They used several contact points: house to house visits, Child Health Days (CHDs) and at health centres/posts when children come for basic curative and preventative services. Responsibility for community health and nutrition activities has now shifted from VCHW to the Women’s Development Army. They are able to expand the Health Expansion Programme (including CMAM) deeper into communities and families as the structure is more decentralised than the VCHW. The approach is that from one out of six households, a woman takes a leading role, functioning as the key link to health and nutrition services. These women are known as the Women’s Development Army (WDA). Unlike the VCHW, the WDAs do not perform MUAC. This is performed by HEWs during Community Health Days, under-five consultations and during growth monitoring and promotion (GMP). However, the WDAs play a major role in community sensitisation around CMAM and also in referring any child that they are worried about within their target group of households to the local HEW.

During the evaluation, it was observed from the IYCF reports in the five maximal support woredas, which have a section for coverage of CHD, that coverage for CHD appeared excellent – in most areas: above 80%. This is also substantiated by an evaluation on CMAM carried out in 2012 where MUAC screening coverage for Tigray was also above 80%.<sup>30</sup> However, it must also be noted that a recent presentation made in a multi-agency nutrition task force meeting in Addis Ababa in November on Vitamin A supplementation (which also takes place during CHDs) identified the issue of inaccurate population figures to calculate coverage<sup>31</sup>.

In most of the group discussions in the three maximum support woredas visited, the mothers and members of Women's Development Army (WDA) who were in the group discussions knew what a middle upper arm circumference (MUAC) tape was and also were aware of the meaning of the red, yellow and green classifications. This was less in some of the minimum support woredas (Tahitay Koraro and Raya Azebo) where, although they recognised a MUAC tape, they were unable to classify the colours. Mothers know that they need to go to a health facility (health centre or health post) if child's MUAC was in the red zone, but were not sure of the treatment. However, the WDAs were able to describe in detail the outpatient treatment for severe acute malnutrition including appetite test, ready to use therapeutic food (RUTF) and the need to return to health post every week for follow-up and further treatment. The other mothers also knew what RUTF was and perceived it very much as a medical treatment, rather than as a food. This appears to be an improvement on qualitative findings in the baseline coverage survey where awareness on the part of mothers on any programme that could assist malnourished children was limited.<sup>32</sup>

#### 4.2.4 Outpatient Therapeutic Programme.

The treatment outcomes for outpatient therapeutic programme (OTP) have adhered well to national and Sphere standards. Regarding admissions, a total of **15,882** severely malnourished children have been admitted from 2011 - 2013. This is higher than the number of children planned to be reached in the proposal (**11,224**). As shown in **Figure 6** below, admissions for 2011 were lower because January to July only included five woredas and then August to December includes 24 woredas reflecting when project expanded.

During the evaluation, it was not possible to observe cases being treated at OTP as, at the time of the evaluation there were only 2 - 5 cases registered at any one time at the health facilities. Some had none. However, chart reviews revealed OTP charts that were well filled-in and appeared to adhere to CMAM protocols. Cure rates were generally good for the facilities visited. Most had cure rates well over 75%. Overall, a total of 347 OTP cards were reviewed during the evaluation. Cards from 2010 - 2013 were reviewed. The chart review indicates that the overall score for adherence to the CMAM protocols is over 90% in most health facilities visited, which included both health centres and health posts using the chart review tool in **Annex 4**. (Tools Used for Information Collection). Also see Results of Chart review in **Annex 10**. It should also be noted that the 98% score in the maximal support woreda is higher than that of 91% in the minimal support. This triangulates with higher health centre performance scores found in maximum versus minimum support woredas outlined in **Section 4.2.1**. (Treatment and Performance Outcomes)

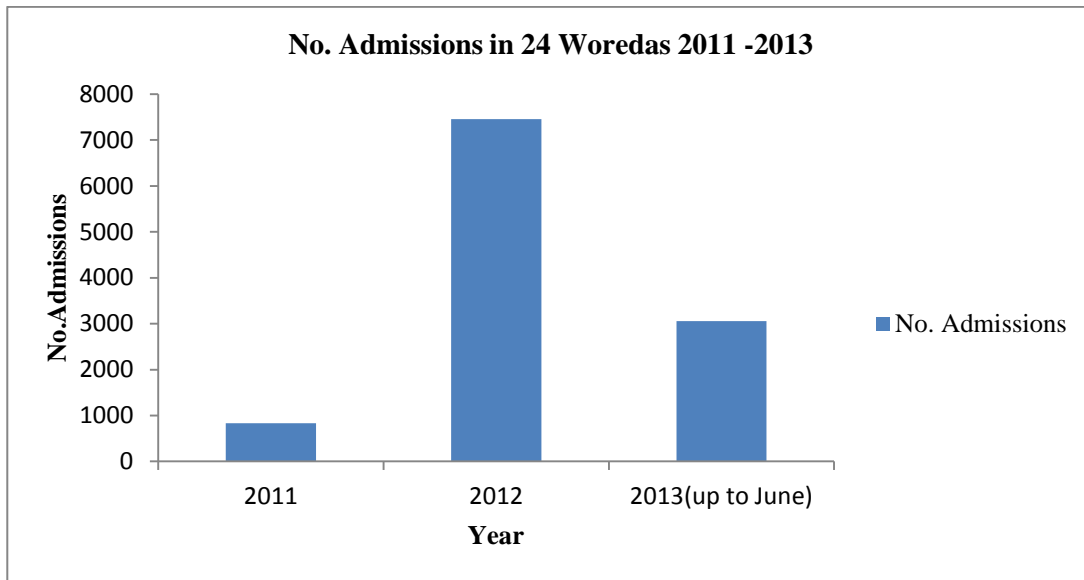
<sup>30</sup> Evaluation of Community Management of Acute Malnutrition (CMAM).Ethiopia Country Case Study. UNICEF, 2012.

<sup>31</sup> Presentation: Vitamin A Supplementation in Ethiopia. Multi Agency Nutrition Task Force 9ENCU), Addis Ababa, 14<sup>th</sup> November 2013.

<sup>32</sup> Baseline Coverage of the Community based Therapeutic Care programme in Tigray a Coverage Survey for Tahitay Adeyabo,Medebay Zana &Dogua Temben.Melaku Begeshaw.2/7/11



Figure6. No. Admission in 24 Woredas 2011 -2013



Weight gains are good with most children reaching discharge criteria within eight weeks. There were hardly any charts with static or low weight gains. HEWs said that they contacted the WDA concerning any children they were worried about in terms of weight gain or maybe sharing RUTF. The WDA would then visit the home of these children. When interviewed, HEWs in the health posts and health centre workers had a good knowledge of the OTP processes, even those who had been at the health facility only for a few months. When asked how they knew the process so well, HEWs replied that it was taught as part of their training to be an HEW, through OJT from another HEW colleague and also from quarterly Joint Supervision Support (JSS). Those in maximal support woredas said they received extra support from Concern Special Project Officers (SPO) and IYCF monitors.

In previous reports and documents, a common theme which reduced effectiveness in CMAM was that of poor linkage between growth monitoring programme (GMP), screening on Community Health Days (CHDs) and subsequent admissions of SAM to OTP.<sup>33 34</sup> However, the findings of the evaluation in the six woredas visited were that linkages were good as follows:

- Group discussion and interviews with health workers revealed that HEWs measured the MUAC of children attending for monthly GMP.
- In the health facilities visited, children identified in CHD MUAC screening with SAM were being subsequently admitted to OTP.
- In addition, CMAM is now part of the Integrated Management of Childhood Illnesses (IMCI) which means that all children aged under 5 years who arrive for a consultation have their MUAC checked and recorded in

<sup>33</sup> Concern Worldwide in Collaboration with Tigray Regional Health Bureau. Baseline Coverage of CMAM in Tigray. A Coverage Survey for Tahitay Adebayo, Medebay Zana & Dogua Temben. Melaku Begashaw 2/7/11

<sup>34</sup> World Bank Progress reports. Piloting Community based Management of Acute Malnutrition Project. JSFD (Grant No. TF093946)



the under-five register. This was being carried out in the six woredas visited; verified by looking at the registers.

However, GMP only targets children aged below two years which means that, unless they arrive to a health facility for consultation, children aged 2 -5 years with SAM will only be picked up every 3three months at CHD.

It was noted in the chart review during the evaluation that there were some issues around the discharge criteria. Some children were being discharged with MUAC still below 11cm. Admission criteria, according to the national protocol, uses MUAC as an admission criteria but discharges according to weight for height (W/H) in health centres and target weight gain of 20% for health posts<sup>35</sup>. The number of children being discharged with MUAC < 11cm was not counted in all the health facilities visited. However, those counted are summarised in **Table 9** and provides an indication of the issue where, in some health facilities, between 24% - 57% of discharges had been discharged when their MUAC was below 11cm, although they had reached the national discharge criteria according to % weight gain.

**Table 9. No. and % of Children Discharged from OTP with MUAC < 11cm**

Health Facility	A/Kokeb HP	Raele HP	E/Mezewule HP	Edaga Robue HC	Tsester HP	Ebo HP
<b>No. discharged</b>	27	11	14	16	71	13
<b>No. with MUAC&lt;11cm</b>	11	1	8	0	17	0
<b>%</b>	<b>41%</b>	<b>9%</b>	<b>57%</b>	<b>0%</b>	<b>24%</b>	<b>0%</b>

Further investigation is needed concerning this anomaly. This issue impacts negatively on coverage in that children, who have been discharged as cured, still have SAM. Another issue that was found in several health facilities is that children were being discharged according to 13 -15% weight gain rather than 20%. Again, it is not certain how frequently this is occurring. But it would serve to exacerbate the above issue where, if children are being discharged according to a lower weight gain, then this would reduce their probability of achieving a MUAC > 11cm on discharge. (13% weight gain is the target weight gain for discharge in MAM treatment.)

There were fewer defaulters in the health posts than in the health centres visited, according to TFP yearly performance charts reviewed on site. This trend of low defaulters was very marked in the health posts. **Table 10** summarises defaulter rates in health centres/health posts visited in six woredas during the evaluation. When calculated as an average, it was **14%** in health centres visited as opposed to **1%** in health posts. When reviewing the cards of the defaulters in the health centres, they did not seem to be related to distance. The following is a summary of reasons given by health centre staff and HEWs in health posts as to why there should be such a difference in defaulting in health centres, as opposed to health posts:

- Both health centre staff and HEWs spoke of the strong link between HEWs and WDAs at health post and kebele level. HEWs said that if a child was absent he would be followed up immediately by WDAs and advised to return to complete SAM treatment.
- Both health centre and health post staff said that this link was less at the health centres and health centre staff “ did not know the WDAs in their area very well”

<sup>35</sup>Protocol for the Management of SAM, Ethiopia, Federal Ministry of Health, March 2007. Pg 56 & Annex 6.,Pg 96

- Health centre staff who had made repeated follow-ups of defaulters said that mothers were reluctant to bring their children back as they seemed to be getting better, the children did not like the RUTF or they would agree to return and then actually would not come.

**Table 10. .Defaulter Rates 2012/2013 in Health Centres/Health Posts of 6 Woredas Visited During Evaluation**

Health Centre Default Rate								Average %
Selekeleke	K.Semana	Edaga Robue	Megab	Silius	Timuga	Hawult	Zana	
6%	33%	28%	0%	0%	0%	0%	29%	14%
Health Post Default Rate								
Hakfen	Raele	E/Mezule	Tsestera	Lemeat	Ebo			
8%	0%	0%	0%	0%	0%			1%

#### 4.2.5 Stabilisation Centres (SC)

The Concern coordinator for Tigray (Mr Goitam Tadesse) explained in an interview how Concern had seen a gap in the functioning of inpatient management for SAM or stabilisation centres (SC), especially in more rural areas. This was seen as an area where the Regional Health Bureau (RHB) needed support so that the inpatient management of SAM could be more effective. Thus, 10 health centres were identified which received extra support in terms of training on inpatient management for SAM. They also received equipment and materials such as mattresses, furniture and SC kits, so the SC could be functional. Band Aid provided the funding.

During the evaluation, several of the health centres where Concern had provided this support were visited. Also some health centres in minimal support woredas that had received training were visited. These health centres were found to be either not functioning or not functioning very well. The results are listed in more detail in **Annex 11**. Lack of functioning was mainly due to absence of cases or no stock of therapeutic formula (F75 therapeutic milk) which should be provided by the woreda.

#### 4.2.6 Infant and Young Child Feeding (IYCF)

Although initially the project was built around improving the effectiveness of CMAM in Tigray, it was recognised during the evolution of the project design, that a more effective and relevant approach would be to include IYCF in the project. **Section 4.1** on Relevance has already discussed that this is consistent with the policy and strategic direction of the Government of Ethiopia (GOE) in its National Nutrition Programme to strengthen initiatives aimed at reducing stunting. Visits to health facilities and villages revealed that the main inputs into IYCF in the five maximum support woredas were:

- Capacity building and training on key IYCF messages.
- Building capacity on IYCF and CMAM of WDA through HEWs
- Cooking demonstrations and other meetings on IYCF
- Individual counselling of mothers (e.g. children with static weight in GMP or children attending OTP)
- Pregnant and Lactating Women Support Groups
- IYCF in schools through teachers and adolescents
- Targeting mothers and children at risk through CHD, GMP and providing specific counselling.
- Materials and job aids on IYCF
- Concern employed IYCF monitors for each of the five maximum support woredas for the IYCF activities.

In the maximum support woredas, there is evidence of various IYCF activities, such as those outlined above. As discussed in **Section 4.2.3. (Community Mobilisation)**, increasing IYCF activities in these communities has strengthened the link between HEWs and WDAs. The HEWs and WDAs have taken on IYCF with enthusiasm and there is a perception of teamwork in their approach. One HEW spoke of how *“With my development army, our aim is to eventually have no OTP in our area because we will try to improve feeding practices for our children to improve their nutrition and so will have less with red MUAC”*. In group discussions and individual interviews women, WDAs and HEWs are able to list the various IYCF activities going on in their area. WDAs and HEWs speak about nutrition activities in terms of the IYCF activities, rather than CMAM. It needed more probing for participants in the interviews and discussions to speak more about CMAM and as again discussed in **Section 4.2.3. (Community Mobilisation)**, OTP is seen as a treatment for SAM; the same as there are treatments for other diseases, such as malaria or pneumonia.

According to woreda officials interviewed and also HEWs, the five IYCF monitors employed by Concern (one for each of the maximal support woredas) to support the woreda with IYCF, were perceived as essential because IYCF is a relatively new activity and much support was needed in terms of capacity building, OJT, assisting with and monitoring the activities, such as outlined above.

The IYCF materials such as flip charts, pamphlets and posters were present in the health facilities of all the maximum support woredas and, to a lesser extent, the minimum support woredas. All women in the group discussions recognised the materials when they were shown them. Other very innovative ways of demonstrating to women how to improve complementary feeding in the health facilities in the maximum support woredas were posters that had sachets of the different grains attached, divided into carbohydrate and protein--based ones and the required proportions of carbohydrate to protein-based shown. This simple method appeared very effective as, in many of the group discussions women were able to discuss very well how they could add more protein to their child’s diet in an affordable way using this method.

In the minimum support woredas, HEWs said that they had received training on IYCF and also IYCF materials. This had been supported by the Relief Society of Tigray (REST), a large Ethiopian NGO. Some of the materials were available in the health posts during the evaluation and, in addition an IYCF reporting format had been compiled. This was similar to the one that Concern had also been assisting the RHB to develop. However, a notable difference in the minimum support woredas concerning IYCF was that there were fewer activities, carried out less frequently in the communities than in the maximum support woredas. This was revealed in group discussions where women attended less cooking demonstrations, less meetings and had less knowledge of key IYCF messages than those in the group discussions in the maximum support woredas.

In the group discussions, most women frequently recalled the key messages around IYCF. See **Annex 12** for more detail on this. Some issues noted were:

- When questioned, HEWs displayed less evidence of counselling skills, such as the negotiation steps, listening and learning skills and using visual aids, as outlined in the training materials and subsequent reference aids.<sup>36</sup> They spoke a lot about the more group orientated IYCF activities, such as meetings and

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<sup>36</sup> Trainer Guide on CMAM. Community Mobilisation & ENA, BCC for Health and Extension Workers. Tigray RHB, May 2013; IYCF in the Context of CMAM. Quick Reference for Health Extension Workers, Tigray RHB, May 2013; IYCF/CMAM Counselling Cards. “Let’s Implement Proper Nutritional Practices for a Healthy & Happy Generation”,

cooking demonstrations. When probed on any individual counselling for children attending OTP follow-up based on the negotiation steps, they seemed less sure. However, it should be noted that there are few admissions to OTP at present – generally 1 or 2 per month per health post in the months preceding the evaluation.

- Although there appeared to be good recall on how many times a day to feed young children, when individual mothers with young children present were questioned on how much they should give, they appeared unsure especially in minimum support woredas. When probed, a frequent response was that on the previous day they had given 1 -2 *finjals* (Ethiopian coffee cups) per day, rather than the recommended 3 -4.
- In one group discussion where there were women who were migrant workers present (Alamata town) and also in some of the woredas where there was no SFP, some women complained that they could not afford to buy the foods suggested in IYCF counselling even peas, beans or lentils. They said they were too poor to even exchange wheat or teff for more protein-based grains, as suggested in IYCF sessions. One woman, who was recently divorced, is now a daily worker. Her child's MUAC was measured yellow at the time of the interview and she said how:

*“I took my child to the health worker because I could see she was becoming thinner. I saw when she was measured by the health worker that her MUAC was in the yellow which means she is malnourished. The health worker told me there was no faffa or oil in this woreda and she told me to give her different foods from what I was able to afford. . I am a daily worker – all I can afford to do is to buy a small amount of engira and shiro wat every day and feed myself and child with that. I can see her becoming thinner but no one is helping me”*

This particular woman could not access even the Productive Safety Net Programme (PSNP) as, being a migrant daily worker; she had missed the registration and thus the allocation. In addition, this woreda (Alamata) was not classified as a priority “hotspot 1” woreda, thus there was no supplementary feeding programme.

This example and some others observed during the group discussions highlights that, despite trying to use locally available foods, methods and changes in behaviour to improve IYCF practices, there is a small group of the very poor (some on PSNP) where the above IYCF activities may not prove to be effective. They need to be prioritised in order to be provided with additional support.

#### **4.2.7 Capacity Building and Training**

Key informant interviews revealed that one of the areas where Concern had provided the most effective support was in capacity building through more formal training and then on the job training, especially in the maximum support woredas. Supporting this are the improved health centre outcome scores overall for the 24 woredas and when comparing the maximal to the minimal support woredas as outlined in treatment and Performance Outcomes in Section 4.2.1 The chart reviews carried out during the evaluation indicate improvement since 2011 in OTP processes, evident in better completion of OTP cards, discharging according to correct target weight and improved recording of outcomes. When questioned, HEWs attributed these evolving improvements to on the job training and gaps identified and discussed with them during JSS. There were a few remaining issues such as which % discharge weight criteria to use (13 -15% or 20%).

##### **4.2.7.1 Training packages and Materials**

The training packages and materials developed were:

- A Trainers Guide on CMAM Community Mobilisation and ENA-BCC for Health Workers and Health Extension Workers.
- IYCF in the Context of CMAM. Quick reference for Health Extension Workers (a reference booklet for HEWs)
- IYCF Counselling Cards – “Let’s Implement Proper Nutritional Practices for a Healthy and Happy Generation”

The job aids provide examples on how diet diversity can be achieved based on “*Improving Infant and Young Child Feeding through Trial of Improved Practice study*” as outlined in Operational Research in **Section 4.1.2**. The impact of this seen during the evaluation was:

- During group discussions, women related how they made a porridge based on carbohydrate-based foods, such as teff, sorghum or wheat and then added in more protein-based foods, such as pea, bean, and lentil.
- Women seemed to really appreciate this advice saying they had not realised how important and relatively inexpensive it was to enrich the porridge like this. In the absence of other less affordable foods, such as egg and milk, they felt able to improve the diet of their child at least with this method.
- As already discussed in Infant and Young Child Feeding in **Section 4.2.6.**, an innovative poster showing the different combinations of grains appeared to embed this advice more in the recall of women on effective IYCF practices.

In addition, there has been excellent coordination with organisations such as Alive and Thrive, UNICEF and Relief Society of Tigray (REST) and others when developing the materials. This meant the messages were consistent, even if these other organisations also had job aids etc. that they were providing to RHB and thus health facilities. An example of the thoroughness, collaboration and contextualisation involved in preparing the training materials is where some complementary food recommendations based on existing research carried out by Dr Afurki, a nutritionist at Mekele University who specialises in complementary feeding, were incorporated into the IYCF counselling cards. These include use of sprouting broad beans and also dried meat (quanta), a food commodity, used commonly in Ethiopia.

The national CMAM protocol was included in the training packages, ensuring a comprehensive, integrated approach to training on CMAM/IYCF and linking with national programmes, such as IMCI and Community Based Nutrition (CBN). For discharge criteria, the training manual only includes W/H and not the second option in health posts of target weight. This second option is outlined in the national guidelines<sup>37</sup>.

Once the operational research was completed in 2011 to contextualise the training packages and materials, the project was very effective in developing the training packages and supporting with training in a timely way. Within the space of 18 months, the five maximum support woredas and the other 19 woredas where minimal support was provided, had received training and the job aids at health centres and health posts and even in some cases, at health posts in the minimum support woredas. See **Section 4.4.1**. (Logistics/Supplies/Timing) for more discussion on this.

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<sup>37</sup> Protocol for the Management of SAM, Ethiopia, Federal Ministry of Health, March 2007. Pg 56 & Annex 6.,Pg 96

#### 4.2.7.2 *Formal and On the Job Training*

The interviews with key informants, such as woreda Mother Child Health (MCH) coordinators and Concern staff, outline the following concerning effectiveness of the training approach:

- Formal training is seen as effective for new areas, such as IYCF, and, in this regard, the training of trainers that Concern has facilitated and supported has been effective.
- High staff turnover reduces effectiveness of training. In the JSS health facility scores – those health facilities that scored higher in 2011 and then very low in 2012, are those where staff trained in CMAM/IYCF have moved on.
- On the job training is seen as being effective to address this problem. Concern has tried to support formal training with OJT at the health facility itself. During JSS, gaps are identified at the health facility and then the MCH coordinator with the Concern SPO return to provide more mentoring support and specific OJT. As it is at the health facility, it means that more staff can be supported (rather than with formal training where only 1 or 2 people go to a designated venue away from the health facility). This means that, even if staff move on, other staff have been informally trained. It is also an efficient way of maximising capacity building resources. See **Section 4.4.1.** (Logistics/Supplies/Timing) ). During the evaluation, the effectiveness of this method was borne out during interviews with new HEWs who were able to successfully outline the OTP process. There were also several examples where during the chart review, some OTP charts from 2011 had been incorrectly filled in concerning discharge criteria. This had improved by 2012. The health facility staff said this had been highlighted to them during OTJ training and they had learnt from that. See **Section 4.2.4.** (Outpatient Therapeutic Programme)

#### 4.2.8 *Health System Strengthening*

The interviews with key informants, such as woreda Mother Child Health (MCH) coordinators, also described how Concern support has also been very effective with health system strengthening as follows:

- Providing equipment and materials especially to health posts
- Alerting woreda and RHB concerning gaps (e.g. shortage of RUTF supplies, OTP cards etc.) and helping to fill gaps that RHB cannot fill, for example, assistance with transport.
- Providing financial and materials support as well as technical expertise.

Also, various key informants and health workers cited the Concern presence in the field as having made the project more effective especially in newer innovations such as the operational research and the IYCF activities. The presence of the SPOs and IYCF monitors employed by Concern has been very much appreciated and their technical and monitoring support has greatly assisted the RHB and woreda health offices. *“Concern is special in that it works at the community level with us in the kebele and woreda. It is truly a field organisation, not just one that pays the occasional supervision visit”* cites one MCH coordinator and this was echoed by other key informants during the evaluation.

#### 4.2.9 *Accountability*

During the design of the project, many stakeholders were part of the planning process and various fora were held for sharing of information. These included pre-workshop assessments, familiarisation workshops and review

meetings<sup>38</sup>. Concern personnel in Tigray and woreda and RHB officials cited how there is a yearly plan which is agreed on a quarterly basis with the RHB. The Concern IYCF monitors, who are based in the woreda, together with the SPOs ensure that all aspects of the project are regularly planned and discussed. See **Section 4.2.8.** (Health System Strengthening)

Concern has also played an advocacy role where, if gaps such as supply breaks or lack of activities are identified, they alert RHB or government partner organisations such as UNICEF. Good examples of this are if there are interruptions in the supply of RUTF or antibiotics. Also see Section **4.2.5.** (Stabilisation Centres) which describes how Concern has tried to support the improved functioning of SCs. This has even been brought to the attention of FHB and UNICEF at national level by Concern, as described in an in-depth interview by Concern Tigray Coordinator (Mr Goitam Tadesse). The evaluation reveals that communities appear to know about project activities especially IYCF.

With regard to adherence of the staff to the Programme Participant Protection Policy, specifically on activities involving children, findings show that there are no significant reports of incidences of breach of policy.

### 4.3 Monitoring and Evaluation

The CMAM project has contributed to the performance scoring forms, TFP outcomes statistics format and has provided technical and financial support for the strengthening of the joint supportive supervision. It has provided on the job training of how to use the forms. This is cited as a major strength of Concern Worldwide. A common theme identified in previous progress reports and TFP monitoring report identified lack of supervision by RBH and WoHO experts and lack of monthly reporting formats, as well as lack of capacity for report compilation, as major factors reducing effectiveness of CMAM in Tigray<sup>39</sup>. According to the TFP monitoring assessment carried out in 2011, recording and reporting and supervision scored very low.<sup>40</sup> Thus Concern proceeded to target support on assisting and capacity building with RHB and WoHO for reporting and supervision. There has been regular monitoring of performance and outcome scores, followed by actions as recommended by the supervisory team. Work is in progress to integrate CMAM indicators into Health Management Information System (HMIS.) The performance monitoring chart supported by Concern has made the reporting of CMAM activities more integrated with reports of other major diseases in the facilities. Apart from the joint supportive supervision, there is also a regular supervision by Concern staff focusing on monitoring the quality of recording and reporting and providing on the job training. In some cases, JSS does not run to the schedule due to other priorities on the part of the woreda.

Infant and young child feeding (IYCF) monitoring is undertaken through regular supervision by IYCF monitors in each woreda. The monitors carry out frequent visits to facilities where they provide on the job training, support on the use of counseling aids and gather reports/data from the tally sheets. There is a reporting form that has been developed and used by IYCF monitors. In minimal support woredas, another format developed by Relief Society of Tigray (REST) and Alive and Thrive also exists.

<sup>38</sup> Piloting Community based Management of Acute Malnutrition in Tigray Region, Review of Activities Implemented. August 2009 – February 2013.

<sup>39</sup> World Bank Progress reports. Piloting Community based Management of Acute Malnutrition Project. JSFD (Grant No. TF093946)

<sup>40</sup> World Bank JSFD project, baseline TFP Performance Monitoring Score Card Assessment Report. Conducted by ZHD, WoHos & Concern Worldwide.



### 4.3.1 Indicators for Monitoring of Project

The indicators for the performance and treatment outcomes are appropriate. However, as discussed in Treatment and Performance Outcomes in **Section 4.2.1**, the project indicator for health facility performance is that 65% of health facilities should score above 75%, whereas in review reports, average health facility performance is used as an indicator.<sup>41</sup> The latter has better outcomes for the project than the former.

There are more outcome/impact indicators in CMAM than in IYCF; IYCF indicators are more process/output indicators. The project indicator for IYCF used is based around early initiation of breast feeding. In an interview with the Concern IYCF Coordinator (Etsegenet Biruk), she outlined how the aim was to have one achievable IYCF indicator against which to measure the impact. However, given that much of the IYCF activities observed during the evaluation were around complementary feeding, it would have been useful to include 1 or 2 indicators related to this. This would have ensured that the indicator was more consistent with the activities carried out. Also the *“Improving Infant and Young Child Feeding through Trial of Improved Practices”* study was based around assessing complementary feeding practices upon which much of the IYCF activities in the project were based. The study focused on feeding practices for children aged 6 - 23 months, even though the project indicator for IYCF is targeted to infants below 6 months.

## 4.4 Efficiency

### 4.4.1 Logistics/Supplies/Timing

The logistics provided from Concern were reaching to the facilities on time and gaps filled during supervision, in addition to the woreda regular distribution. There were no stock-outs of any of the routine medicines for SAM like RUTF, mebendazole, vitamin A and ORS or of supplies as OTP cards, referral slips, registration books and monitoring charts. The project has also good transport availability to support the regular monitoring and facilitate transporting supplies. Supplies to SC were not used efficiently by health centres as many of the observed TFUs were not functional and supplies such as mattresses are not being used.

The project initiation seemed to take longer than a normal preparatory phase and this was related to delays in release of budget, office efforts to get the proposal accepted at both the Regional Health Bureau and the World Bank. In-depth interviews with Concern personnel in Addis Ababa and Tigray revealed the following:

- The project proposal was submitted in August 2008 and only signed by World Bank a year later in 2009. The Ethiopian Government approved it in April 2010. By this time, there had been many changes in CMAM policy, including a delay until the policy change occurred which enabled HEWs to provide antibiotics to children with SAM. Thus the project was re-designed finally in 2011.<sup>42</sup>
- More recently in 2013, activities that should have taken place before May 2013 were delayed due to the budget for these activities not arriving until then instead of arriving in January. The project was due to phase-out in August 2013, but Concern was granted an extension until January 2014 because of the delay of the arrival of the funds in Tigray.

<sup>41</sup> Piloting Community based Management of Acute Malnutrition in Tigray Region, Review of Activities Implemented. August 2009 – February 2013.

<sup>42</sup>Japan Social Development Fund Grant Proposal.2011



However, apart from these delays reducing efficiency of the project, the development of the IYCF – CMAM training materials from operational research stage to training and implementation took place quickly and efficiently. In addition, training was carried out in an efficient way making best use of resources. Instead of focusing on five woredas, Concern expanded the training to all 24 woredas in the project.

#### 4.4.2 Co ordination

There was excellent coordination of activities between the woredas, Regional Health Bureau and Concern staff. The project managed to work together with the RHB so that the same resources were used for supervision activities. Concern filled the gaps in terms of supplies/transport. To maximize the support, at the suggestion of the RHB, the budget was used to extend support to 19 woredas in addition to the initial five maximal support woredas.

The home visits, to support adherence of children/caregivers and prevent absentees by the WDA and HEWs, have been excellent, as there were very few defaulters and absentees. The defaulters have been traced and encouraged to go back for continued treatment with the help of WDA and HEWs.

Concern operates with few but very committed staff who reach all the facilities including those in the remote areas covered by the project to achieve the objectives, using a small budget.

The discharge criteria were inefficient; weight-for-height (W/H) or target weight was usually achieved but MUAC remained below 11cm in some cases discharged from OTP. This might have led to the readmission of recently discharged children during screening at the community health days or GMP as they still fulfill the admission criteria.

## 5 Sustainability

The project has involved the Regional Health Bureau staff at all levels in the planning and implementation. There is strong ownership of the programme by major stakeholders: the Regional Health Bureau, woredas and health centres. The health extension workers are taking CMAM/IYFC as one of their main tasks. The same is true of WDAs. There is also ownership of the joint supportive supervision conducted quarterly. This makes strong ground for the sustainability laid by Concern. The project has also been rooted in to the community which increases their awareness about the relevance of CMAM/IYCF programming and creates strong ownership.

The fact that Concern provides material support through the woreda contributes to the sustainability of the CMAM/IYCF activities because of a high familiarity of government officers to manage the logistics for SAM treatment and prevention. Concern has provided support with capacity building through training as outlined in Numbers Trained and Types of Training in **Annex 9**. This contributes to sustainability as it has provided the RHB and project woredas in Tigray with a firm technical base concerning CMAM and IYCF. The RHB plans to expand the CMAM/IYCF training to all 46 woredas.

There is however, much to be done regarding the IYCF monitoring and OJT in health facilities as it is conducted intensively by Concern and this needs to continue until activities are well integrated into the government system. The intense support to monitoring, joint supportive supervision and OJT needs to continue until the RHB and

WoHOs understand the performance score and follow-up forms and start monitoring on their own. Other issues which have not been taken over by the RHB are the reproduction of CMAM/IYCF materials, financial/transport for monitoring and this need further strengthening. Reporting of outcomes is not well integrated in the regional/national HMIS system and that may prove to be difficult for the separate reports managed by the health facilities. Thus continued technical support is needed for CMAM/IYCF monitoring. Many of the officers in the woredas did not know the project life span. This is important to know for future planning and preparation.

## 6 Recommendations and Lessons Learned

This section outlines where Concern has added value to the project and its support to RHB in implementing the project and underlines best practices which can be used as lessons learned and recommendations to inform future programming, both nationally and internationally.

**Capacity Building.** The formal and OJT training has proved to be an effective method to improve health facility performance as evidenced by improving health facility scores, especially in maximum support woredas. OJT and quarterly Joint Supervision at the health facility rather than at another venue are effective, especially when there is high staff turnover.

### Recommendations

- Liaise more with national NGOs e.g. REST so that they could take on Concern's role in supporting the RHB with capacity building, monitoring and supervision and support with CMAM and IYCF activities. REST already provide technical and supply support to IYCF activities in minimum support woredas but less with CMAM. Concern could pass on their technical expertise in CMAM to REST so that they could also support RHB concerning CMAM.
- Joint Supportive Supervision and on the job training at health facilities is mainly carried out by Concern SPOs with MCH coordinators participating when they are able to. To promote sustainability, the SPOs employed by Concern could start to construct a yearly timetable where some JSS and OJT could be carried out by MCH coordinator or other woreda nutrition experts without the SPO always being present.

**Monitoring.** Concern has been supporting RHB to develop IYCF monitoring formats and has been working in coordination with Alive and Thrive, Save the Children and REST on this. REST have also developed an IYCF monitoring format. In addition, the CMAM project has contributed to the TFP performance scoring forms, TFP outcomes statistics format and has provided on the job training of how to use the forms. The TFP performance wall chart supported by Concern, that is now present in all supported health facilities has contributed to health workers allocating equal priority to monitoring SAM outcomes as they do to other disease outcomes, such as malaria, pneumonia etc.

### Recommendations

- The collaboration that Concern has with other stakeholders in IYCF, such as REST and Alive and Thrive, needs to continue so that the recording and reporting of IYCF activities in the Tigray Region can eventually be harmonised, with RHB leading the process.

- Discuss with RHB and other stakeholders involved in IYCF, the possibility of using some of the IYCF questions outlined in Annex 4 of the *“Improving the Capacity and Skill of HEWs via Module based Training in Tigray Region”* (June 2012) to add to present TFP health facility performance scoring.

**Health System Strengthening.** Through the study *“Rapid Assessment on Storage and Handling of RUTF in Tigray Region”* (March/April 2011), Concern supported the RHB in a practical way and identified ways to contribute to improve working conditions in health facilities. This took the form of provision of equipment such as cabinets for RUTF storage, weighing stands and binders.

**Infant and Young Child Feeding.** Adding IYCF to the CMAM project has empowered communities to contribute in preventing malnutrition. Due to the presence of the IYCF monitors employed by Concern in five maximal support woredas, the evaluation found evidence of more IYCF activities going on at community level in these woredas than in minimal support woredas.

#### Recommendations

- Follow-up more on impact of IYCF messages as follows:
  - Following up households that have graduated successfully from IYCF to review if they are still practising key messages.
  - Develop an impact indicator for IYCF that includes quality and frequency of complementary feeding
- IYCF was introduced into the CMAM project by using CMAM as an entry point and present training materials supported by Concern which focus very much on IYCF in the context of CMAM. However SAM cases are few and a more relevant strategy going forward would be to adopt a broader IYCF approach. Thus future training support should focus on IYCF and add any additional refresher training on SAM as needed.
- Investigate how to target and support the very poor in CMAM/IYCF programming.

## 7 Challenges

The national CMAM protocol that sets discharge criteria as target weight gain for health posts means that some children are being discharged with MUAC < 11cm. This impacts negatively on effectiveness and subsequently coverage because it means these children still have SAM even though they have been treated. This also contributes to reducing efficiency. There could have been a closer investigation during the project of the impact of the national discharge criteria used. This should have been conducted by research on the numbers of children being discharged from the programme with MUAC still below 11cm and their outcomes (in terms of re-admission to OTP, mortality and morbidity etc.). Children with MUAC < 11cm are at higher risk of mortality<sup>43</sup>. Depending on the results, this type of operational research could have accelerated policy change at both international and national level to include MUAC as discharge criteria. Thus it would have been another example of how operational research can reduce vulnerabilities to acute malnutrition and subsequently influence policy.

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<sup>43</sup> Myatt M. A review of methods to detect cases of severely malnourished children in the community for their admission into community based therapeutic care programmes. Food and Nutrition Bulletin:2006.Vol 27. No.3 (suppl)S7-S23

Despite effective support to inpatient management of SAM by Concern in terms of health system strengthening, there were health centres that should have been carrying out inpatient management of SAM but were not functioning at the time of the evaluation due to lack of cases or lack of F75 therapeutic milk.

Some of the key messages around IYCF may not be effective for the very poor who cannot afford various food combinations in the quantities recommended and so may need additional support.

### **Annex 1. Specific Objectives of Evaluation**

The key specific objectives of this evaluation are to assess:

#### *The **relevance** of the project:*

- a) Did we choose the right thing to do in the context of Ethiopia?
- b) Is the project in line with the needs and priorities of those targeted and were the targeting criteria followed?
- c) Is the project consistent with the policy and strategic direction of the Government of Ethiopia?
- d) Are the activities and outputs, as reflected in the project proposal, consistent with the overall goal and components?
- e) Are the overall goal and components of the project still valid?
- f) Were the assumptions in the project proposal reasonable and appropriate?
- g) Were the operations research topics selected most relevant to improve policy and practice of nutrition programming?

#### *The **effectiveness** of the project:*

- a) To what extent were the components of the project, as in the project proposal, achieved? In terms of treatment outcomes, coverage, capacity building.
- b) Were the activities sufficient to achieve the component deliverables/outputs?
- c) What are the major factors influencing the achievement or non-achievement of the project components?
- d) Are the assumptions as reflected in the project proposal still valid?

#### *The **efficiency** of the project:*

- a) Was the project cost effective?
- b) Was the coordination between the Concern Worldwide Ethiopia team, Tigray Regional Health Bureau, zonal and woreda health offices, other international NGOs, UN agencies and government organisations effective?
- c) Was the engagement with these desirable and/or possible?

#### *The **impact/sustainability** of the project:*

- a) Did the project achieve what it set out to achieve?
- b) What positive changes are observed in the lives of the target group as a result of the implementation of the project?
- c) Did the response reduce future vulnerabilities, particularly to acute malnutrition, both in Tigray and nationally through operational research and, subsequently, policy influence?
- d) Are there factors that impede the achievement of the overall project goal?
- e) What are the unintended positive and negative impacts of the implementation of the project?
- f) What measures have been and can be taken to eliminate or reduce the negative impacts, if any?

*The adherence to **external standards** for CMAM programme quality, particularly national and Sphere standards for coverage and performance of CMAM programmes and also for standards for operational research.*

*The adherence to the **Programme Participant Protection Policy** with specific focus on activities involving children.*

The **monitoring and evaluation** system and the appropriateness of the indicators used for this purpose.

With reference to **accountability** to beneficiaries:

- a) Were appropriate mechanisms developed to enable health staff at all levels and communities to actively participate in the design, planning, implementation and monitoring of the project?

The extent to which **lessons learned or recommendations** from reviews/ field visits/ regional annual workshop of the project were incorporated into this response.

### **Specific issues to be evaluated**

*Assess the degree* to which management and monitoring systems for CMAM have been efficiently integrated into existing health and community systems and their potential to be sustained by the regional, zonal and woreda health teams and community networks – identifying any barriers/successes.

*Assess the effectiveness* of the training packages and materials developed to build skills and capacity of counterparts at various levels and suitability/ ease of replication.

*Assess the project's coverage* of SAM within the woredas (CSAS coverage survey will have been conducted and results available by the time of the evaluation) and potential 'barriers' or 'boosters' of coverage for future consideration.

*Assess the degree* to which the CMAM maximal support package was effective in the five woredas versus the minimal support package offered elsewhere.

*Assess the appropriateness, relevance and use* of the operational research.

**Annex 2. The 24 Project Woredas in Tigray (2011)**

Zone	Name of Woreda	No. Supported Health Centres	No. Supported Health Posts in 5 Maximal Support Woredas	Total No. Health Posts in 5 Maximal Support Woredas
<b>South</b>	Raya Azebo	8		
	Ofla	6		
	Alamata Town	1		
	<b>Raya Alamata*</b>	4	8	15
	Maychew Town	2		
	Endemehoni	3		
	Alaje	5		
<b>North West</b>	Tselemti	5		
	Endesillasie town	2		
	Tahitay Koraro	4		
	<b>Tahitay Adiabo*</b>	6	8	15
	<b>Medebay Zana*</b>	6	15	20
<b>East</b>	Ganta Afeshum	5		
	Wukro Town	2		
	Hawzien	5		
	Gulomekeda	5		
	<b>Satse Tsade Emba*</b>	6	19	25
<b>Central</b>	Adwa Rural	6		
	Aheferom	6		
	Abi- adi Town	1		
	Weri –Leke	6		
	Laelay Machew	4		
	Tankua Abergele	4		
	<b>Mereb Leke*</b>	5	12	15
<b>Total</b>	<b>24</b>	<b>107</b>	<b>62</b>	<b>90</b>

**Annex 3. People Contacted**

<b>Name</b>	<b>Responsibility/Organization</b>
S.M Ziauddin Hyder	Senior Nutrition Specialist, Africa Health, Nutrition and Population, World Bank
Ferew Tekabe	World Bank Focal Person. Ethiopia
Azeb Lelisa	IYCF focal person/Micronutrient initiative
Lulseged Tolla	World Bank & MI Operations Project Coordinator, Concern
Kate Golden	Senior Health/Nutrition Advisor , Concern HO, Dublin
Charlotte Walford	Policy and Nutrition Quality Advisor, Concern
Tadesse	Tigray RHB/nutrition unit
Yemane Girmay	Tigray RHB/nutrition unit
Goitom Tadesse	Project Manager, Concern Tigray
G/Wahad	MCH focal person, T/Koraro
Wolish Assefa	HEW, D/Kerbe HP, Zana, Medebay Zana
Tegegn G/Selassie	HEW, Bahra HP, Medabay Zana
Degnesh Girmay	Selam HC, OTP focal person , Tahitay Koraro
Hailemariam	Vice head, Zana HC Medebay Zana
Eyassu	OTP focal person, Zana HC, Medebay Zana
Kalayu Mesele	MCH expert, former Hawzien WoHO
Kinfe Tadesse	OTP focal person, Megab HC, Hawzien
Teklay Hagos	
Alem	MCH coordinator, Raya Azebo WoHO
Mulu Asfaw	HEW, Lemeat HP, Raya Alamata
Mr Zeru	OTP focal person, Timuga HC, Raya Alamata
Hafton Tsige	ENGINE focal person. Save the Children, Tigray
Pankaj Kumar	Director of Programmes, Concern, Ethiopia
Mahari Gebre	Nutrition. UNICEF. Tigray
Masho Geberwahid	Clinical Nurse. Sekeleleke Health Centre. Medabay Zana
Fitsum Bihon	HEW, Hakfen HP, Medebay Zana
Araya Berhe	MCH Co ordinate, WoHO Medebay Zana
Hayamot	IYCF Monitor. Concern. Medebay Zana
Samson Birhone	Clinical Nurse. Kemana HC, Tahitay Koraro
Amleset Harga	HEW, A/Koreb HP, Tahitay Koraro
Tesfaye Alem	OTP focal person, Edago Robue HC, Satse Tsade Emba
Hidasse Gebre- Giogis	HEW, Raele HP, Satse Tsade Emba
Hailu	IYCF Monitor, Concern, Satse Tsade Emba
Birhanu	Kebele leader, Emba Mezew Kebele, Satse Tsade Emba
	HEW, Emba Mezew HP, Satse Tsade Emba
Birhanu Aregaw	Special Project Officer, Eastern Zone, Tigray. Concern
Seleku Mengistu	HEW, Tetsetsera HP, Raya Alamata
Halefom	IYCF Monitor, Concern, Raya Alamata
Mr Teshome Alem Seged	Woreda Head, Raya Alamata
Dempse	MCH Co ordinator, WoHo, Raya Alamata
Alemish Bierhe	HEW, Ebo HP, Raya Azebo



**Annex 4. Tools used for Information Collection****In Depth Interviews. Concern Staff**

	<b>Guiding Questions</b>	<b>Probes</b>
1	Did we choose the right thing to do in the context of Ethiopia?	Why different types of support for CMAM/IYCF? Do you think this was the right approach? What is different in Tigray that is not within the context of Ethiopia in terms of CMAM
2	Are the overall goal and components of the project still valid?	Was there a need to change/adapt approach, objectives? If so how has this influenced the project
3	To what extent were the components as in the project proposal achieved?	In terms of treatment outcomes, coverage, capacity building
4	Were the activities sufficient to achieve the component deliverables/outputs?	
5	Was the co-ordination between Concern Worldwide Ethiopia team, Tigray Regional Health Bureau, Zonal and Woreda Health Offices, other international NGOs, UN agencies and government organisations effective?	Was the engagement desirable and/or possible? What were positive aspects of co-ordination? What have been challenges? Where has it been possible not to co-ordinate?
6	Were appropriate mechanisms developed to enable health staff at all levels and communities to actively participate in the design, planning, implementation and monitoring of the project?	What were these mechanisms? Which level was the participation and in what (design, planning, implementation, monitoring?)
7	How have the management and monitoring systems for CMAM been integrated into existing health and community systems?	How sustainable are these systems? What are the successes and challenges with this integration?
8	Logistics and supplies	Any challenges? Has this affected the project?
9	The adherence to the Programme Participant Protection Policy with specific focus on activities involving children. (P4)	Were there any reported incidences of abuse of the participants? If so what were the measures taken?
10	Exit strategy	What are the strategies for exit? What are the arrangements for sustainability? Do the partners know when Concern will be reducing/ceasing support?
11	How do you think the operations research topics selected have contributed to improving policy and practice of nutrition programming?	How were the operational research questions identified? Do you think that these particular research studies have been useful? What do you think about the way the studies were conducted (methodology? research question, validity of results?) How are these operational research

		studies being used? How do they link in with the project?
11	How do you think the operations research topics selected have contributed to improving policy and practice of nutrition programming?	How were the operational research questions identified? Do you think that these particular research studies have been useful? What do you think about the way the studies were conducted (methodology? research question, validity of results?) How are these operational research studies being used? How do they link in with the project?
12	What do you think of the training packages and materials developed?	Do you think they are appropriate? Do you think they are user friendly? Have they been taken on by RHB? Are there further adaptations needed? Have reporting formats been built into the packages to monitor outcomes? Is there a plan to review training packages after IYCF has been implemented up to community level for a period of time?
13	Have there been any issues around cost of the project?	What is the most expensive part? Is this justified? What would be most difficult for MOH to sustain? Why?
14	What do you think are key : - Strengths - Challenges - Threats - Opportunities of the project?	

**In Depth Interviews. Partners**

	<b>Guiding Questions</b>	<b>Probes</b>
1	Is the project in line with the national priorities of nutrition?	Does it follow the targeting criteria as stipulated at national level through guidelines, protocols etc?
2	Was the co-ordination between Concern Worldwide Ethiopia, partners and FMOH, and UN agencies effective?	Was the engagement desirable and/or possible? What were positive aspects of co-ordination? What have been challenges? Where has it been possible not to co-ordinate?
3	Has the response reduced future vulnerabilities particularly to acute malnutrition, both in Tigray and nationally through operational research?	Has it influenced policy? Has it helped in improving effectiveness of CMAM programming? If so how?
4	Are there factors which are impeding the achievement of the overall goal?	Goal is contributing to reduction in morbidity and mortality due to SAM amongst children less than 5 years in Ethiopia?
5	What are the unintended positive and negative impacts of the implementation of the project?	What measures have been and can be taken to reduce negative impacts – if any?
6	Logistics and supplies	Any challenges? Has this affected the project?
	What do you think of the training packages and materials developed?	Do you think they are appropriate? Do you think they are user friendly? Have they been taken on by MOH? Are there further adaptations needed to them? Have reporting formats been built into the packages to monitor outcomes? If no – is this planned? Is there a plan to review training packages after IYCF has been implemented up to community level for a period of time?
7	Exit strategy	What are the strategies for exit? What are the arrangements for sustainability? Do partners know when Concern will be reducing/ceasing support?
8	Have there been any issues around cost of the project?	What is the most expensive part? Is this justified? What would be most difficult part of CMAM for MOH to sustain? Why?
9	What do you think are key strengths and challenges of CMAM? What needs to be improved?	

**In Depth Interviews. Health Workers**

	<b>Guiding Questions</b>	<b>Probes</b>
1.	How are you involved in CMAM/IYCF?	
2.	What are the positive and negative impacts that the CMAM project has had in the community	If maximal support woreda – ask about the additional input Concern has had? If not maximal support woreda – has Concern provided any support? How has it affected the malnourished children
3.	How do you plan CMAM in your kebele?	Is it part of the overall planning process?
4.	How many volunteers are trained under your facility ( HP or HC)	How many are still active?
5.	How often do you meet with WDA? What do you do with them?	Any training? When was last training that you did with them? What was it?
6	How are you implementing IYCF in context of CMAM?	How integrated is the IYCF in the CHDs, GMP, OTP, SC.
7	Are there areas and population groups that do not have access to this service? If yes, what are the barriers?	
8	Have you been trained on CMAM guidelines and protocols? Are they implementable at your level?	
9	Do you think the CMAM project is achieving its goals?	Reducing morbidity/mortality?
10	Have you been trained on IYCF guidelines and protocols? Are they implementable at your level?	What are the challenges of implementing IYCF guidelines?
11	How the CMAM/IYCF supply is is managed?	Have you had any stock outs of supplies? RUTF --- other
12	How is the monitoring and supportive supervision done?	Are there regular supportive supervision from the health centres and the woreda? When was the last supervision visit you received? How did supervisors support you? Do you get feedbacks to you reports?
13	How do you do community active case finding and referral? Do you think most of the children with SAM are identified?	If not why? What are the challenges? How did you address the challenges?
14	How do you do home follow up of SAM children at home?	Who is doing it? What are the challenges
15	What are strengths and challenges? What could be improved in the CMAM?	
16	Anything you want to share with us?	

**Focus Group Discussion. Women**

	<b>Guiding Questions</b>	<b>Probes</b>
1.	How do you recognise when a child is becoming malnourished?	
2.	What are the programmes for nutrition in your community?	What are the activities?
3.	What are the nutritional activities that take place at the health facilities?	Show them MUAC tape – ask them what it is? Show MUAC and colour coding? What does red mean? What does yellow mean? What does green mean? What other nutritional activities take place – probe for knowledge of GMP.
4	Who does the screening of children? How often?	
5	Does the HEW or WDA in your area visit your home?	How frequently do they come to your home for a visit? What do they say/do? What do you think their role is?
6	How does a child go from one nutrition programme to another?	For example – when does a child need to be an inpatient because of malnutrition ( stabilisation centre at health centre)
7	What do you think should be improved to make nutrition programmes in your community better?	Go through CMAM, CBN, CHD.
8	What is the major difference that the nutrition programmes have made in your community?	Go through each one: -GMP, CHD, OTP, SC, IYCF
9	How often do you take your child to GMP?	
10	Do you know any child in the community with signs of malnutrition who has not come to the clinic for treatment?	If yes, why do you think they did not come?
11	When was the last time someone spoke to you about how to prevent your child from becoming malnourished? ( ask several in the group)	What have you been advised on how to stop your child becoming thin? What do you know about the importance of breastfeeding? When to start it? How long to breastfeed? What do know about the feeding of a child below 6 months and above 6 months?
12	What do you want to see improved in the management of malnutrition in your community?	
13	Is there anything you want to share with us?	

**Focus Group Discussion. Key Community**

	<b>Guiding Questions</b>	<b>Probes</b>
1	How do you recognise when a child is becoming malnourished?	
2	What are the programmes for nutrition in your community?	What are the activities?
3	What are the nutritional activities that take place at the health facilities?	Show them MUAC tape – ask them what it is? Show MUAC and colour coding? What does red mean? What does yellow mean? What does green mean? What other nutritional activities take place – probe for knowledge of GMP.
4	Is there any benefit that the community has gained due to their existence?	
5	Have you received training/orientation on any of the nutrition programmes in your community?	If yes which one?
6	Who does the screening of children? How?	
7	How acceptable are the nutrition services provided in the health centre/health post in your community?	
8	What do you think should be improved to make the nutrition services better?	
9	What is the major difference that the nutrition programmes have made in your community?	Go through each one: -GMP, CHD, OTP, SC, IYCF
10	How acceptable is RUTF to your community?	
11	Do you have PSNP in your community? Is anyone here in PSNP?	What are the targeting criteria for PSNP?
12	What are the programmes to prevent malnutrition in your community?	Do they know about IYCF, CHD? What are the activities?
13	What do you want to see improved for the management of very thin or swollen children in your community?	The ones with red MUAC
14	What are the strengths and challenges of the nutrition services?	
15	Is there anything you want to share with us?	

**Observation checklist**

Region _____ Woreda _____		
Kebele _____		
Name of facility _____ Health post _____ Health Centre _____		
Hospital _____		
Inpatient (SC) _____ OTP _____ TSF _____		
SFP _____		
Respondent: Profession _____ Responsibility in CMAM _____		
<b>A. Quantitative Data (This information is collected for the last 6 months )</b>		
Number households covered by the health post or health centre		Remarks
Number of children 6-59 months		
Number of children with SAM		
Total Number of Children Admitted to CMAM		
Total Number of children admitted to SC		
Total Number of children admitted to OTP		
<b>Process</b>	<b>Quality</b> 1 – Yes 2. – Yes but need improvement 3- No 4- Non applicable	<b>Remark</b>
<b>Organisation of TFP site</b>		
Site is well organized Cleaned latrines with water access		
For inpatient, check if children in same phases are in the same room		
For OTP, It the service provided every day or in selected days		
Waste collection system for empty RUTF		

sachets and medical waste		
Drinking water availability		
Hand washing facilities		
Job description for all workers		
<b>Availability of CMAM materials/job aids</b>		
SAM Protocol		
OTP quick reference ( is it in the appropriate local language?)		
SAM classification Algorithm		
MUAC classification table		
ICCM protocol		
IYCF protocols		
MUAC tape		
Functioning Weighing Salter with basin or pants		
Functioning electronic scale		
Length board		
Stadiometer		
Wt for ht Reference card		
F-75 reference card		
F-100 reference card		
RUTF ration reference card		
OTP card		
TFP Multi-chart (for in-patient or SC)		
Referral form Y N		
TFP Registration book		
TFP Monthly Statistics Report		



form		
<b>Availability of CMAM supplies</b>		
<i>(e.g., type, dosage, insufficient quantity, expiry date, adequately and appropriately stored/kept or maintained)</i>		
<i>Please provide the number of days the facility was in stock out in the previous six months if there has been any</i>		
RUTF		
RUTF stored appropriately		
F-75 (for in-patient)		
F-100 (for in-patient)		
F-75 or F-100 stored appropriately		
Vitamin A capsule		
Amoxicillin tablets		
Amoxicillin syrup (125 mg/5 ml)		
Folic Acid tablets		
Mebendazole or Albendazole Iron-sulfate tablets (for in-patient)		
Gentamicin ampoule (for inpatient) ReSoMal		
Standard ORS Soap for hand-washing		
Safe drinking water( at least one Jerry can) Y N		
<b>Observe the Performance of the CMAM and IYCF</b>		
1. Number of Health workers trained on CMAM or TFP/OTP _____		
2. Number of trained health workers working at OTP or TFU? _____		
All under five children assessed for their nutritional status		
Bilateral pitting oedema measured accurately		

Mid-upper arm circumference (MUAC) measured accurately		
Weight measured accurately		
Height measured accurately		
Child classified correctly		
Admission is according to correct criteria		
Medical complication checked accurately History and Physical examination recorded accurately on the OTP or Multi-Chart		
Child's appetite tested correctly upon admission and during OTP follow-on sessions		
Routine medication given according to protocol and recorded accurately		
Amount of RUTF needed is correctly calculated and recorded accurately		
RUTF dispensed by the pharmacy		
RUTF dispensed by the health workers working at OTP		
Amount of F-75 or F-100 is correctly calculated and recorded accurately		
Appropriate education given to mothers/caregivers		
IYCF counselling given according to protocols. <ul style="list-style-type: none"> <li>- Assessment</li> <li>- Identification of issue</li> <li>- negotiation</li> </ul>		
Priorities for follow-up home visits discussed with VCHW		
Correct number of absentees/defaults identified for follow-up home visits		

Beneficiaries discharged according to protocol		
TFP registration book completed correctly		
TFP monthly statistical report prepared correctly		
TFP monthly reported to the next level		

**Data extraction form**

Woreda \_\_\_\_\_ Health facility \_\_\_\_\_

Type of support (mark X): maximal \_\_\_\_\_ minimal \_\_\_\_\_

Indicator	Number/rate					Remark					
	2009	2010	2011	2012	2013						
Number households covered by the health post or health centre											
Number of children 6-59 months											
Number of children with SAM											
Total Number of Children Admitted to CMAM											
Total Number of children admitted to SC											
Total Number of children admitted to OTP											
Relapse rate											
	<b>OTP</b>					<b>Inpatient</b>					
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	
Recovery/Cure rate											
Defaulter rate											
Death rate											
Transfer out											
Transfer in											
Non-Responder											
Average length of Stay											Sample of cards
Unknown rate											

**Charts review form**

<b>Adherence to admission/discharge/transfer criteria as per National FMOH SAM management protocols</b>	<b>Yes</b>	<b>No</b>
<b>Admission / daily care</b>		
Anthropometry (MUAC)		
Systematic medical examination		
Systematic drug treatment received		
Dietary treatment received (sugar water, F-75)		
<b>Discharge</b>		
Anthropometry		
Medical examination		
RUTF appetite test		
<b>Transfer</b> Check past records, recall by staff. Check RUTF appetite test completed and all anthropometric information is correctly recorded on transfer documents)		
<b>Follow up</b> Home visit for non-responding child		

*Annex 5. Meetings and Workshops*

<b>Meeting/Workshop</b>	<b>Date</b>	<b>Details</b>
<b>Pre workshop assesement</b>	2010.Aug 1-6	Locations: 5 woredas (rural Alamata, Satse Tsade Emba, Tahitay Adiyabo, Medebay Zana and Mereb Leha) The standard TFP monitoring ascore card developed by UNICEF and FMOH was used.
<b>Initial workshop</b>	2010.Aug 11 -12	36 participants: OTP focal persons, WoHO Heads from the 5 Woreda Health offices and representatives from different partner organisations.
<b>Meetings with the FMOH &amp; the World Bank</b>	2011	To discuss the project amendment to expand services from 5 to 24 woredas Presented overall programme achievements since the start of the projec and discussed future plans with representatives from the Japanese Embassy. Discussed and finalised amendments to M&E plan and log frame. Participated in a meeting organised by World Bank to discuss the linkages between nutrition and agriculture sectors Discussed revision of the procurement plan and submitted final version to the World Bank.
<b>National Nutrition Programme Familiarisation Workshop</b>	2011.June 9	Held in Wukro, Tigray region, organised by Tigrsy RHB, ENCU & UNICEF
<b>IYCF review meeting organised by the WoHO in collaboration with Relief Society of Tigray (REST)</b>	2011.July	Held at Brishwa HC: Concern project officer presented strengths & weaknesses identified during OTP service provision. 40 participants: 34 HEWs. 4 HEW supervisors, WoHO Head and 1 woreda nutrition expert.
<b>Regional Technical Working Group (TWG) meeting</b>	2011.Sept	Concern shared plans for the coming months Staff from Concern & the Tigray RHB attend the TWG to gain valuable experience.
<b>Regional Annual Review meeting</b>	2012.August	3 day meeting for information dissemination. 230 participants from: Tigray RHB, WoHOs, HCs, HPs, Concern staff.

**Annex 6. Revised Results Framework**

High Level Objectives	High Level Objective indicators	Use of High Level Objective information
NA	NA	NA
Project Development Objective(PDO)	Project Outcome Indicators	Use of project Outcome Information
To Improve access to Community Based Management of Acute malnutrition (CMAM) and Encourage adherence to IYCF among the under-five population of 24 selected Woredas in Tigray Region	<ul style="list-style-type: none"> <li>-Cure Rate &gt;75% (as per the Sphere Standards)</li> <li>-Defaulter Rate &lt;15% (as per the Sphere Standards)</li> <li>-Death Rate &lt;10% (as per the Sphere Standards)</li> <li>-Coverage&gt;70% (as per the Sphere Standards)</li> <li>-Change in percentage of early initiation of breastfeeding (within one hour of birth)</li> </ul>	To monitor progress towards improving nutritional status of under 5 children through increased coverage and adherence
Intermediate Results One per Component	Result Indicators for Each Component	Use of Result Monitoring
<b>Component 1: Enlisting communities in the management of SAM</b>		
To build the capacity of regional and Woreda health teams and community agents to provide effective and efficient integrated CMAM services that meet or exceed national and international (Sphere) minimum standards for program performance.	<ul style="list-style-type: none"> <li>- At least 65% of health facilities achieving a score of more than 75% for at least two quarters using the standardized TFP monitoring score card</li> <li>- At least 70% of quarterly Joint Supportive Supervision visits conducted from woreda to health facility level on CMAM and IYCF</li> </ul>	To monitor progress towards strengthening institutional capacity with the aim of delivering efficient CMAM services
<b>Component 2: Ensuring the quality of community management of SAM</b>		
Improve the knowledge and skill of Woreda nutrition experts, health workers (HWs), health extension workers (HEWs) and volunteer community health workers (VCHWs)/Women's Development Army on key IYCF services and encourage the integration of IYCF in five Woredas.	<ul style="list-style-type: none"> <li>- 90% of Woreda nutrition training use an integrated CMAM and IYCF training package and set of job aids by end of project.</li> <li>- 90% of Woreda nutrition experts and HEWs use developed job aids routinely</li> </ul>	To monitor progress towards improving child care behavior related to nutritional outcomes
<b>Component 3: Integrating outpatient care for sustainability</b>		
To contribute to the improvement of nutrition intervention modalities through operational research	<ul style="list-style-type: none"> <li>-Number of operational researches carried out and results disseminated</li> <li>-Number of policy briefing papers prepared</li> </ul>	To monitor progress towards strengthening institutional capacity with the aim of delivering improved nutritional services
<b>Component 4: Monitoring, evaluation and dissemination</b>		
. To disseminate and share learning and information from the project to ensure the learning from the project is considered by the stakeholders.	<ul style="list-style-type: none"> <li>-Number of learning events organized</li> <li>- Number of papers submitted to journals</li> </ul>	To monitor progress towards ascertaining information dissemination and experience sharing

Results Indicators	Baseline	Year 1 (Sept 2009 -Aug 2010)	Year 2 (Sept 2010- Aug 2011)	Year 3 (Sept 2011 - Aug 2012)	Year 4 (Sept 2012- Aug 2013)	Frequency and reports	Data Collection Instruments	Responsibility for Collection
<b><i>Project Outcome Indicators: To Improve access to CMAM among the under five population of 24 selected woredas and integrate IYCF –CMAM in five selected woredas in Tigray region.</i></b>								
Cure Rate >75%	67% <sup>1</sup>	-	-	-	>75% as per Sphere standard	Baseline and end line	RHB TFP reports and CMAM database	Regional Health Bureau, Woreda Health Office (WoHO), Health Facility (HFs) with support from Concern staff
Defaulter Rate <15%	13.5% <sup>1</sup>	-	-	-	<15% maintained as per Sphere standard	Baseline and end line	RHB TFP reports and CMAM database	Regional Health Bureau, Woreda Health Office (WoHO), Health Facility (HFs) with support from Concern staff
Death Rate <10%	1.3% <sup>1</sup>	-	-	-	<10% maintained as per Sphere standard	Baseline and end line	RHB TFP reports and CMAM database	Regional Health Bureau, Woreda Health Office (WoHO), Health Facility (HFs) with support from Concern staff
Coverage >70%	31% <sup>2</sup>	-	-	-	>70% as per Sphere standard	Baseline and endline	Coverage survey	Regional Health Bureau, Woreda Health Office (WoHO), Health Facility (HFs) with support from Concern staff



Change in percentage of early initiation of breast feeding (Within 1 hr) in 5 woredas	36.7% <sup>3</sup>	-	-	-	>70%	Baseline and end line	IYCF survey	Regional Health Bureau, Woreda Health Office (WoHO), Health Facility (HFs) with support from Concern staff
<b>Intermediate Objective 1: To build the capacity of regional, woreda health team and community agents to provide effective and efficient integrated CMAM service that meet or exceed Sphere standards</b>								
At least 65% of health facilities achieving a score of more than 75% for at least two quarters using the standardized TFP monitoring score card	TBD <sup>44</sup>	-	-	-	65%	Baseline and end line	TFP database report	Regional Health Bureau, Woreda Health Office (WoHO), Health Facility (HFs) with support from Concern staff
At least 70% of quarterly Joint Supportive Supervision visits conducted from woreda to health facility level on CMAM and IYCF	25% <sup>1</sup>	-	-	-	70%	Baseline and end line	Monitoring/ supervision report	Regional Health Bureau, Woreda Health Office (WoHO), Health Facility (HFs) with support from Concern staff
<b>Intermediate Objective 2: To improve the knowledge and skill of woreda nutrition experts, health workers, volunteer community health workers/ women development army on key IYCF services and encourage the integration of IYCF –CMAM in five woredas</b>								
90% of Woreda nutrition experts and HEWs are trained using integrated CMAM and IYCF training package and set of job aids	Not yet started	-	-	-	90%	Baseline and end line	-Training reports	Regional Health Bureau, Woreda Health Office (WoHO), Health Facility (HFs) with support from Concern staff
90% of Woreda nutrition experts and HEWs use developed job aids routinely	Not yet started				90%	Baseline and end line	Monitoring and supervision report	Regional, Health Bureau, Woreda Health Office (WoHO), Health Facility (HFs) with

<sup>44</sup> This will be decided in early 2012 when TFP monitoring scorecard is completed for project health posts.

								support from Concern staff
<b>Intermediate Objective 3: To contribute to the improvement of nutrition intervention modalities through operational research and different studies</b>								
Number of operational researches carried out and results disseminated	None	-	-	-	Three research reports papers prepared and disseminated	End of the project	-Workshops reports	Concern with support from Regional Health Bureau, F-MOH and other relevant stakeholders
Number of policy briefing papers prepared	None	-	-	-	2 papers	End of the project	Papers prepared from research conducted	Concern with support from Regional Health Bureau, F-MOH and other relevant stakeholders
<b>Intermediate Objective 4: To disseminate and share learning and information from the project to ensure the learning from the project is considered by stakeholders</b>								
Number of learning events organized	None	-	-	One learning event organized	Two learning events organized	End of the project	-Best practice report -Learning events reports	Concern with support from Regional Health Bureau, F-MOH and other relevant stakeholders
Number of papers submitted to journals	None	-	-	One paper submitted to international journal	One paper submitted to international journal	End of the project	-Best practice report -Learning events reports	Concern with support from Regional Health Bureau, F-MOH and other relevant stakeholders

<sup>1</sup>2010 Tigray RHB Records<sup>2</sup>Coverage survey (period) report, January 2011, Concern Worldwide<sup>3</sup>IYCF baseline survey Aug. 2011, Alive and Thrive

**Annex 7. Outline of Operational Research**

<b>Title of Study</b>	<b>Determinants of Adherence to CMAM among Mothers, Caregivers and Health Care Providers of Index Children with SAM in Tigray Region of North Ethiopia ( April –June 2012)</b>	<b>Improving the capacity and skill of HEW via module-based training in Tigray region. (June 2012)</b>	<b>Assessment of Feasibility and Potential Benefits of Food Fortification in Ethiopia (October 2010)</b>	<b>Rapid Assessment on Storage and Handling of Ready-to-use therapeutic Food (RUTF) in Tigray Region, Ethiopia (March/April 2011)</b>	<b>Improving Infant and Young Child Feeding through Trial of Improved Practices (TIPS). (Aug/Sep 2011)</b>
<b>Description</b>	A longitudinal study using a cohort of newly registered SAM cases. 467 mother –child pairs and their respective health care providers and facilities	Randomised control trial, pre & posttest intervention study investigating the knowledge, attitude & skill of HEWs towards IYCF practices at community level in 4 woredas.	An assessment which consisted of a food fortification situation analysis followed by assessments of wheat flour, edible oil and sugar as fortification vehicles. Also included an assessment of non-traditional approaches for fortification.	An assessment to understand how OTP supplies are being stored in WoHOs and catchment health posts. It was conducted in 72 health posts in the 5 project woredas supported by Concern.	A qualitative community based purposive trial of improved practices study conducted among 66 children aged 6 -23 months in 2 woredas  Consisted of 3 phases of assessment, counselling and follow up to test the acceptability and feasibility of complementary feeding recommendations.
<b>Objectives</b>	Identify the determinants of adherence to treatment by mothers/caregivers and health care providers of index children with SAM	To determine if an extended module based training improves the knowledge, motivation, skills & job satisfaction of HEWs & provide baseline analytical under pinning for the implementation of the	Assess feasibility & potential benefits of food fortification in Ethiopia.	Assess how OTP supplies especially RUTF are being stored in WoHOs and health posts.  Determine factors that affect RUTF storage.	To identify current practices and barriers with regards to infant and young child feeding & to test the acceptability & feasibility of potential complementary feeding recommendations for improving young child

		<p>training.</p> <p>In addition:</p> <p>Identify primary factors influencing job satisfaction &amp; motivation &amp; WDAs</p> <p>Assess perceptions of HEWs regarding supervision.</p> <p>Assess how HEWs prioritise work related activities and allocate their time</p>		<p>Identify feasible interventions to improve RUTF storage</p>	<p>feeding at household level</p> <p>Provide information to guide the development of IEC strategies.</p>
<b>Main Findings</b>	<p>77% adherent to SAM treatment</p> <p>Strong positive determinants were knowledge of mothers/caregivers &amp; training of health care providers.</p> <p>Also availability of supplies is a factor</p> <p>Distance of residence from health facility was a significant negative determinant.</p>	<p>About 30% of health posts inspected were not fully equipped or in short supply.</p> <p>Training on nutrition is the most frequent type of training provided to HEWs</p> <p>The most important task of HEW is delivery service followed by ante natal care.</p> <p>On average the HEW pays 14 household visits per day</p> <p>On average each HEW produces 1 weekly report and 5 monthly reports</p> <p>The level of knowledge of HEWs is highest in</p>	<p>Fortification would be able to provide Vitamin A protection to 38 million people and enhanced iron and folic acid nutrition to 12 million Ethiopians.</p> <p>This Coverage is affordable, feasible &amp; sustainable and comes with few opportunity costs to NNP.</p> <p>Budget of \$3 million annually – a fraction of NNP budget and will be largely financed by market rather than government.</p> <p>Fortified flour with multiple micro nutrients</p>	<p>Almost all health posts had preventable RUTF storage or handling problems – mainly improper storage of RUTF especially on floor RUTF exposed to damage due health post construction problems and absence of a storeroom</p> <p>42% of the health posts correctly stored RUTF as a medical supply but unable to lock it away somewhere.</p> <p>14% managed to store RUTF in a cabinet</p>	<p>The main harmful practices identified in all age groups from 6 -23 months were lack of dietary diversity, improper consistency of complementary food and inadequate meal frequency.</p> <p>The most common helpful practices were starting to use complementary foods at around 6 months, preparing complementary foods separate from the family dish using iodised salt, focusing on the child at meal times (an example of responsive feeding), having separate utensils for the child and using good feeding practices for a sick</p>

		<p>complementary feeding but lowest in the breastfeeding category.</p> <p>Overall 52% of HEWS scored above average for demonstrating skills correctly.</p> <p>In response to skills assessment tests for clinical signs of malnutrition more than half scored below average. However they scored above average for MUAC measurement and weighing.</p> <p>Inadequate community participation and practice is one of the prominent challenges faced by HEWs in promoting nutrition.</p>	<p>can be made widely available in the market place within 2 years &amp; national scale up could be achieved within 4 -5 years.</p>		<p>or recovering child. However these practices were documented for less than 50% of children</p> <p>Financial constraints were the most common barriers for not trying the recommendations. Food that caregivers could not afford were meat, sugar, milk, butter, potatoes, egg, iodised salt, shiro flour, chickpeas, barley and fruit.</p> <p>Most recommendations had to be modified based on what foods were available in the home.</p> <p>Many mothers worried that they would not be able to follow these recommendations in times of food shortage.</p>
<b>Relevance&amp; Timeliness</b>	<p>According to the this study there has been no study which has documented the determinants of adherence to treatment among SAM</p>	<p>An integral part of the CMAM project is building capacity of HEWS and WDA members through training to promote and</p>	<p>The NNP presents an opportunity to build on the current portfolio of affordable and effective micronutrient interventions</p>	<p>This study was carried out based on findings from routine supervision.</p>	<p>The study was aimed at providing information to guide the development of IEC strategies.</p>

	<p>cases and their health care providers</p> <p>According to this study a National CMAM evaluation in 2010 showed high numbers of defaulters in Tigray. However the evaluation cited defaulter rates of 8.8% for 2011 which was well below national and international standards. Defaulter rates were 5% in Tigray in 2012 when present study was carried out.</p>	<p>improve IYCF practices in community.</p>	<p>and bring them to full scale. Food fortification can play a key role in reducing micronutrient deficiencies.</p> <p>The final report was completed in December 2011 over a year after the assessment was carried out with dissemination conducted in February 2012.</p>		<p>From the completion of the study in Aug 2011 to the development of IYCF/CMAM training materials to training and implementation in May 2012 took place quickly and efficiently.</p>
<b>Utilisation of research</b>	<p>Adds to other findings concerning adherence to SAM treatment ( Coverage Monitoring Network Conference, Oct 2013 hosted by ACF)</p>	<p>Provides a comprehensive picture of HEW capacity and also how they do their job. Follow up study will investigate improvement as a result of training supported by Concern. To be used to determine impact of training.</p>	<p>The assessment was used to further develop NNP capacity to mobilise stakeholders to initiate, support and coordinate and also created public and private stakeholder awareness and support for fortification.</p>	<p>The results of the assessment were disseminated to FMOH, Tigray RHB, WoHOs, World Bank and UNICEF. Based on recommendations of the study, 90 RUTF storage cabinets were purchased and donated to Tigray RHB in November 2012</p>	<p>The results were used in designing IEC/BCC manuals on IYCF in collaboration with other stakeholders (UNICEF, Alive and Thrive, REST).</p>

<p><b>Comments</b></p>	<p>Actual absents/defaulters from SAM treatment not specifically interviewed.</p> <p>Information obtained from health care providers or mothers/caregivers of those with SAM children.</p>	<p>Although it may not have been possible to investigate baseline knowledge of WDAs even though the project is meant to be building capacity of WDAs as well as HEWs – as a proxy baseline knowledge of other community members could have been investigated as ultimately aim is to improve knowledge regarding CMAM &amp; IYCF practices in communities.</p>			<p>The study recommended further investigation into affordable, acceptable, available foods for complementary feeding with an emphasis on replacing items that caretakers cannot afford with other beneficial food. However although the study did outline that as part of initial negotiation modifications were offered - it did not expand much on what these modifications were apart from mentioning once that <i>“some tried changing gruel to porridge enriched with teff, milk, oil, millet, sorghum, shiro flour.”</i></p>
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**Annex 8. Health Centres Scores and % Scoring above 75%**

<b>Maximal Support Woredas</b>			<b>Minimal Support Woredas</b>		
	<b>2011</b>	<b>2012</b>		<b>2011</b>	<b>2012</b>
<b>Medabay Zana</b>			<b>Tahitay Koraro</b>		
<i>Zana</i>	64	47	<i>Semana</i>	60	25
<i>Tekule</i>	70	<b>94</b>	<i>M/Timket</i>	41.5	<b>90.5</b>
<i>K/Ferha</i>	<b>80.5</b>	89	<i>Selam</i>	60.5	49.5
<i>Tsa/Leka</i>	<b>77.5</b>		<i>Beles</i>	58	70.5
<i>Selekleka</i>	40	<b>75.5</b>	<b>Hawzien</b>		
<i>A/Tsegora</i>	30		<i>Hawzien</i>	<b>83.5</b>	<b>82</b>
<b>Satse Tsada</b>			<i>Megab</i>	74.5	<b>83.5</b>
<b>Emba</b>			<i>Korarro</i>	51.5	50
<i>Edaga Hamus</i>	<b>81</b>	<b>82.5</b>	<i>E/Solus</i>	62.5	57
<i>Dingelet</i>	65.5	<b>83.5</b>	<i>Degamba</i>	55	67.5
<i>Addi Kelebes</i>	59	41	<b>Raya Azebo</b>		
<i>Freyoyini</i>	57	53	<i>Mohoni</i>	59	<b>91</b>
<i>Wolwalo</i>	69	<b>77</b>	<i>Kukufto</i>	<b>96</b>	<b>90</b>
<i>Edaga Robue</i>	70	74.5	<i>Chercher</i>	42	74
<b>Raya Alamata</b>			<i>Hade Alga</i>	44.5	37
<i>Gergellie</i>	69.5	<b>80</b>	<i>Bala</i>	49	74.5
<i>Timuga</i>	<b>86.5</b>	<b>93.5</b>	<i>Kara</i>	63	<b>76</b>
<i>Selenwuha</i>	73.5	52.5	<i>Hawlti</i>	36.5	70
<i>Merewa</i>	73.5	53.5	<i>Mechare</i>	58	44
<b>Tahitay Adiabo</b>			<b>Ofla</b>		
<i>Adamity</i>	56	74.5	<i>Fala</i>	62.5	74
<i>Gemehlo</i>	54.5	50	<i>Zata</i>	<b>78.5</b>	68.5
<i>Mykuhli</i>	<b>83.5</b>	<b>75.5</b>	<i>Lat</i>	56.5	65
<i>Adi Awala</i>	68	62.5	<i>Hashengie</i>	<b>83.5</b>	<b>77</b>
<i>A/Hageray</i>	<b>78.5</b>	66.5	<i>May Maedo</i>	34	67
<i>Z/Gedne</i>	69.5	48	<i>Sesella</i>	48.5	71.5
<b>Mereb Leke</b>			<b>Alamata town</b>		
<i>Assayme</i>	22.5	65.5	<i>Alamata HC</i>	<b>88</b>	<b>91.5</b>
<i>Ahsea</i>	52	69	<b>Maychew town</b>		
<i>Adishenbruh</i>	28		<i>Semere</i>	62.5	71.5
<i>Birshewa</i>	55	<b>84.5</b>	<i>Melesa</i>	<b>85</b>	57
<i>Simret</i>		52.5	<b>Endemehoni</b>		
	6/26*100	9/24*100	<i>Meswatie</i>	<b>78.5</b>	<b>89.5</b>
	<b>23%</b>	<b>37%</b>	<i>Neksege</i>	43	46
			<b>Alaje</b>		
			<i>Adishehu</i>	64.5	<b>91</b>
			<i>Selewa</i>	57.5	59.5
			<i>Bora</i>	43	57



<i>Betmera</i>	63	<b>81</b>
<i>Tekia</i>	62.5	55
<b>Tselemti</b>		
<i>Mytsebri</i>	<b>77</b>	<b>83.5</b>
<i>Dima</i>	60.5	53
<i>Emba Madri</i>	69	43.5
<i>Sekota</i>	<b>84</b>	<b>92</b>
<i>Tsaeda –Kernie</i>	31	44.5
<b>Ganta Afeshum</b>		
<i>Bizet</i>	51	44
<i>Mugalat</i>	49.5	<b>75.5</b>
<i>A/Aynom</i>	51	53.5
<i>Azeba</i>	51	
<b>Wukro town</b>		
<i>Wukiro</i>	38	59
<i>Colonel Tadele</i>	42	58
<b>Gulomekada</b>		
<i>Fatsi</i>	70.5	<b>84</b>
<i>Zalambessa</i>	54.5	61
<i>Sebeya</i>	60.5	55.5
<i>Mereta</i>	36.5	50
<i>Zalla</i>	57.5	<b>75</b>
<b>Adwa rural</b>		
<i>Eshir</i>	74	<b>84</b>
<i>Wedi –Keshi</i>	44	62.5
<i>Rahya</i>	<b>82</b>	<b>82</b>
<i>Gendebeta</i>	<b>91.5</b>	<b>76.5</b>
<i>Bet –Yohansse</i>	<b>86</b>	64
<i>Yeha</i>	65.5	57
<b>Afherom</b>		
<i>Entecho</i>	61	66
<i>Feres May</i>	<b>89</b>	71.5
<i>Eggela</i>	45.5	58.5
<i>Mezibir</i>	55	47
<i>Dubudibo</i>	68	59
<i>A/Ahferom</i>	<b>81.5</b>	<b>84.5</b>
<b>Were Leke</b>		
<i>Edaga Arbi</i>	34.5	60
<i>Nebelet</i>	74	<b>77</b>
<i>May Kenetal</i>	62	65.5
<i>Maekel Segli</i>	46	62.5
<i>Adi Hedem</i>	32	56
<i>Tsed</i>	39.5	56.5

<b>Laelay Machew</b>		
<i>Miha</i>	50	50
<i>Dereka</i>	84	84
<i>Mahbere Dogie</i>	<b>77.5</b>	<b>77.5</b>
<i>Wolel</i>	55.5	55.5
<b>Tankua</b>		
<b>Abergele</b>		
<i>Ruwa Keze</i>	53	<b>86</b>
<i>Siye</i>	42	<b>86</b>
<i>Ageb</i>	54	<b>79</b>
<i>Yechila</i>	49.5	<b>81.5</b>
<b>Abi adi Town</b>		
<i>Yechila</i>	59.5	74.5
<b>Endalassie town</b>		
<i>Endalassie</i>	70	53.5
<i>Oumer</i>	70.5	<b>77</b>
	15/78*100	27/77*100
	<b>19%</b>	<b>35%</b>

**Annex 9. Numbers Trained & Types of Training**

<b>Training*</b>	<b>Year</b>	<b>No. &amp; Type Trained</b>
Coverage Survey Training	Jan 2011- 2 days	<b>33</b> enumerators for coverage survey
Trainer of Trainers - Community Mobilisation	2010	<b>32</b> HEW supervisors in 5 woredas including 18 to provide cascade training in their respective woredas
Community mobilisation cascade training	2010	<b>349</b> VCHWs in 3 woredas
CMAM and Community Mobilisation	2011 -4 days	<b>220</b> HC staff from 24 woredas
On the Job Training	2010	<b>63</b> health staff
On the Job training	2011	<b>389</b> health staff in 24 woredas
IYCF -CMAM TOT training	2012 May x2 – 4 days Junex2 – 4 days Oct/Nov	<b>89</b> WoHo experts <b>17</b> HC heads <b>28</b> HEP supervisors <b>19</b> health workers <b>111</b> HEWs <b>48</b> SSSAs All from 5 woredas.
IYCF community mobilisation training	2012 – 2 days	<b>201</b> representatives from 20 kebeles in Medebay Zana woreda
Integrated IYCF –CMAM training	Sep 2012 – 3 days	<b>21</b> Concern Head Office & Field Staff
Cascading training on IYCF – CMAM training package	2012	<b>40</b> WoHO experts and HEWS trained
IYCF cascading training	Dec 2012 -2 days	<b>13,252</b> WDA members from 24 woredas
IYCF cascading training	Dec 2012 – 2 days	<b>14</b> nutrition task force members <b>15</b> community leaders <b>68</b> SSSAs from 17 schools in 2 woredas
On the Job Training	Feb – Nov 2013	<b>483</b> health staff in 36 woredas
Enhancing IYCF activities to grass roots level	Jan – Nov 2013	<b>863</b> village leaders <b>484</b> WDAs. Jan -

\*Adapted from Piloting Community based Management of Acute Malnutrition in Tigray Region, Ethiopia, Review of Activities Implemented. 08/2009 – 02/2013 and Progress report, Concern Worldwide Annual Report. Piloting Community – Based Management of Acute Malnutrition Project. World Bank (JSFD) – Grant No. TF093946, Tigray Region, Ethiopia, 2013.

**Annex 10. Results of Chart Review**

<b>Maximum Woreda</b>	<b>Medebay Zana</b>	<b>Satse Tsade Emba</b>	<b>Raya Alamata</b>	<b>Total</b>
No. Cards reviewed	104	41	54	199
Admission Criteria correct	<b>95%</b>	<b>100%</b>	<b>100%</b>	<b>98%</b>
Systematic medical examination	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
Systematic drug received	<b>87%</b>	<b>100%</b>	<b>100%</b>	<b>96%</b>
Appetite test	<b>99%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
Dietary treatment received	<b>100%</b>	<b>100%</b>	<b>98%</b>	<b>99%</b>
Discharge criteria correct	<b>92%</b>	<b>98%</b>	<b>100%</b>	<b>97%</b>
				<b>98%</b>
<b>Minimum Woreda</b>	<b>Tahitay Koraro</b>	<b>Hawzien</b>	<b>Raya Azebo</b>	
No. Cards reviewed	66	49	33	148
Admission Criteria correct	<b>98%</b>	<b>98%</b>	<b>91%</b>	<b>96%</b>
Systematic medical examination	<b>92%</b>	<b>100%</b>	<b>82%</b>	<b>91%</b>
Systematic drug received	<b>82%</b>	<b>100%</b>	<b>85%</b>	<b>89%</b>
Appetite test	<b>89%</b>	<b>100%</b>	<b>70%</b>	<b>86%</b>
Dietary treatment received	<b>100%</b>	<b>100%</b>	<b>85%</b>	<b>95%</b>
Discharge criteria correct	<b>97%</b>	<b>100%</b>	<b>64%</b>	<b>87%</b>
				<b>91%</b>

### *Annex 11. Results of Visits to Health Centres with Stabilisation Centres*

- In Zana health centre in Medebay Zana woreda the health centre workers said that there was no stabilisation centre (SC) there even though Concern had supported the health centre to set up an SC through training and provision of necessary equipment. The health staff were new at the time of the evaluation and those that had received training etc had been transferred.
- In Selekke health centre also in Medebay Zana the SC was functioning but there were issues. At the time of the visit there was a child who had been admitted with +++ oedema several days previously. The oedema had subsided and he was getting ready to be transferred to an OTP near his home. He had been supplied with RUTF to take home. However it was noted that his progress had not been monitored using a multi chart as there were none available so there was no record of his progress. Also due to lack of space and lack of cases the SC had been moved to a small room which could only fit one mattress. The other mattresses had been stored away.
- In Tahitay Koraro woreda where there should have been a functional SC in K/Semema health centre the health staff said they had received training over a year ago but that the woreda did not have F75 so they were unable to start even though they had the required equipment etc. It was noted in the chart review that 2 children had been registered for OTP with +++ oedema. These cases should normally be admitted for SC which would be in Shire town over 40 km away. It is not clear why these cases were admitted to OTP - after the initial admission they did not return for follow up. As the chart review was retrospective health staff were unable to remember if they had been transferred to Shire or not.
- The health centres with SCs also spoke of lack of cases being a reason for it not functioning. However in the health posts visited during the evaluation there were referral forms and evidence of children being referred to TFU. However it was not clear from the chart review if these children returned back to OTP to complete their treatment. According to the RHB data base for 2012/13 spanning 5 quarters transfers to TFU accounted for only about 3% of exits, and supports health staff citing few cases arriving to TFUs

***Annex 12. Key IYCF Messages Most Frequently Recalled during FGD***

- Initiation of breastfeeding within 1 hour of birth
- Exclusive breast feeding for 6 months
- Frequent breastfeeding at least 8 times a day – some women recounted how they even woke their child during the night to breastfeed them.
- Letting child finish feeding on one breast before changing to him another so that he can get “the strong milk”
- Making up a porridge based on carbohydrate based foods such as teff, sorghum or wheat and then adding in more protein based foods such as pea, bean, and lentil.
- Varying the food groups during the day – providing milk or egg if able to afford.
- Feeding the child 3 times a day – 4 times when sick