



**EVALUATION OF THE  
NUTRITIONAL SURVEILLANCE ACTIVITIES OF ACF-USA  
AND  
ANALYSIS OF THE NUTRITIONAL SITUATION  
IN  
SOUTH SUDAN  
2006**

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## List of Acronyms

ANA	Annual Needs' Assessment – World Food Programme
ACF-USA	Action Against Hunger USA
ARC	American Refugee committee
ACHA	The African Centre for Human Advocacy
BEG	Bahr El Ghazal
BYDA	Bahr El Ghazal Youth Development Agency
CEAS	Church Ecumenical Action for Sudan
CMA	Christian Mission Aid
CPA	Comprehensive Peace Agreement
CRS	Catholic Relief Services
ECHO	European Commission Humanitarian Aid Office
EPI	Expanded Programme of Immunization
FAO	Food and Agriculture Organization
FEWSNET	Famine Early Warning System Network
GAM	Global Acute Malnutrition
GRADS	Global Relief and Development Services
ICRC	International Committee of the Red Cross
IDP	Internally Displaced Person
INGO	International Non-Governmental Organization
IRC	International Rescue Committee
IRIN	Integrated Regional Information Networks
MoH	Ministry of Health
MUAC	Mid-Upper Arm Circumference
NFI	Non Food Item
NSCSE	New Sudan Centre for Statistics and Evaluation
OFDA	Office of Foreign Disaster Assistance
OLS	Operation Lifeline Sudan
OLS EP&R	Operation Lifeline Sudan Emergency Preparedness and Response
PHCC	Primary Health Care Centre
PHCU	Primary Health Care Unit
PRDA	Presbyterian Relief & Development Association
SAM	Severe Acute Malnutrition
SC-UK	Save the Children – United Kingdom
SC-US	Save the Children – United States of America
SFC/P	Supplemental Feeding Centre/ Program
SINGO	Sudanese Indigenous Non-Governmental Organization
SPLM/A	Sudanese People Liberation Movement/Army
SRRC	Sudan Relief and Rehabilitation Commission
SUHA	Sudanese Health Association
SUVAD	Sudanese Voluntary Agency for Development
TDA	Toposa Development Association
TFC/P	Therapeutic Feeding Centre/ Program
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations International Children's Emergency Fund
UNICEF WES	UNICEF Water, Environmental and Sanitation
UNOCHA	United Nations Office of the Coordination for Humanitarian Affairs
WFP	World Food Programme
WFP/TSU	World Food Programme/ Technical Support Unit
WHO	World Health Organization

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## INTRODUCTION

ACF core objective is fighting malnutrition, through a variety of activities: detection and treatment of acutely malnourished individuals, water and sanitation activities, health education, food security and advocacy.

As part of the nutrition program set up in South Sudan, the nutrition surveillance program is mandated to implement the following activities.

- **Rapid nutrition assessments**, which offers a rough indication of the nutritional situation of a population;
- **Nutrition surveys**, which estimate the rate of global and severe acute malnutrition among a certain population within a given period;
- **Advocacy**, following a plan outlining recommendations formulated after a nutritional survey, in order to obtain adequate and appropriate responses on the areas of concern identified – these could be on sectors of emergency nutrition treatment programs, food aid, primary health care, food security, water and sanitation, and basic living conditions.
- **Training**, to promote standardized methodologies and increase the technical capacity of other agencies to implement nutritional surveys and consequently increase coverage of nutritional surveillance in South Sudan.

Similar to the same undertaking in the previous years, this document aims to review and evaluate the impact of the nutritional surveillance activities of ACF-USA in 2006. This is in terms of:

- ☞ Response by the humanitarian actors in South Sudan to the nutritional emergencies detected and to advocacy initiatives from nutritional surveys and assessments carried out (Section I); and,
- ☞ Outcome of the development of capacity for more national and international organizations to implement nutrition surveys (Section II).

Section III presents the nutritional situation in South Sudan in 2006, and in locations where surveillance is maintained, to compare trends in the nutritional status over the last 3 years. The analysis is drawn from all nutrition surveys carried out by ACF-USA and other agencies.

## I. HUMANITARIAN RESPONSE TO NUTRITION EMERGENCIES IN 2006

### 1.1 Context

Sudan, Africa's biggest country, spans multiple religious, ethnic and socio-economic divides: between Muslims and Christians, Arab and African, nomad and farmer. Sudan's triple conflicts – the South, Darfur (West) and East – reflects these to varying degrees, exacerbated by struggles over natural resources. Though oil was discovered in South Sudan in 1978, the majority of Sudanese remain desperately poor. Sudan's longest civil war began in 1983, largely pitting the Muslim north against the Christian south, and killing at least 2 million people and displacing a further 4 million. Over time, it developed into a national conflict, with the rebels incorporating large groups of Muslims from throughout the north, and the government allying with many non-Muslim southerners. The north-south war formally ended in January 2005 with the signing of the Comprehensive Peace Agreement (CPA) which incorporated the former rebel group, the Sudanese People's Liberation Army/Movement (SPLA/M) into a Government of National Unity (GNU).

Twenty years of intense and often widespread conflict between North and South Sudan has contributed to making the country one of the poorest in the world, with human development indicators below the average of Sub-Saharan Africa. Reports and analysis estimate that more than 2 million Sudanese have died over this period, and 4 million have been displaced. The Comprehensive Peace Agreement signed in January 2005 between the north and south has provided renewed hope to the nation. The signing of the historic Comprehensive Peace Agreement (CPA) in January 2005 opened an unprecedented window of opportunity to turn the devastation of years of war, displacement, and underdevelopment into a new era of peace and prosperity. Sudan's vast natural resource endowments and significant human capital offer enormous development potential<sup>1</sup>. Despite all these, Sudan continues to cope with the effects of conflict, displacement, and insecurity. During the 21-year conflict, fighting, famine, and disease killed more than 2 million people, forced an estimated 600,000 people to seek refuge in neighboring countries, and displaced 4 million people within Sudan—the largest internally displaced person (IDP) population in the world<sup>2</sup>.

Following the signing of the Comprehensive Peace Agreement on 9 January 2005, the return of IDPs has accelerated as was expected and the UN and its partners have increased their activities to support them. In all sectors, activity has increased and new NGOs partners identified to increase capacity<sup>3</sup>.

### 1.2 Indicators of Acute Malnutrition in South Sudan

Malnutrition is a state resulting from nutritional inadequacy in which an individual's physiological and physical functions are impaired. The condition may stem from a series of causes ranging from basic or structural factors to the immediate which is the individual's/population's insufficient intake of food. The latter is directly related to inadequate access to or availability of food or from loss of appetite or inability to absorb nutrients as a consequence of disease. The duration of exposure to these factors could either be chronic leading to growth failure or stunting in an individual (i.e. low weight or height in respect to age), an acute state manifested as wasting or thinness (i.e. low weight in respect to height), or both. Acute malnutrition carries with it a higher risk of mortality, the risk increasing with the severity.

The degree of acute malnutrition could either be moderate (weight for height index between 80% and 70% of the median<sup>4</sup>; or -3 and -2 Z-scores<sup>5</sup>) or severe (weight for height index below 70% of the median;

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<sup>1</sup> JAM Sudan 2005

<sup>2</sup> USAID Situation Report 2007

<sup>3</sup> UN Assistance to IDPs and Returnees in Sudan Sep 2005

<sup>4</sup> The expression of malnutrition in percentage of the median takes in account the median weight of the reference population (NCHS).

<sup>5</sup> The expression of malnutrition in Z-scores takes in account the median weight as well as the standard deviation from this median weight.

or -3 Z-scores; and /or oedema). Global acute malnutrition (GAM) includes both moderately and severely malnourished cases within the population, i.e., all that are below 80% of the median or -2 Z-scores, or oedema. Per default, all rates are expressed in 95% confidence interval, meaning the true value falling within that range at 5% error risk.

Nutritional surveys estimate the rate of global and severe acute malnutrition among a certain population within a given period. As younger children are most vulnerable to and would immediately manifest the effect of a change in the nutritional status of a population, anthropometrics surveys are performed among children under-five. The methodology to be used and the sample of children to be measured are determined according to the total population size and dispersion. In addition to the anthropometric measurements (age, sex, weight, height, oedema, MUAC<sup>6</sup>), nutrition surveys gather information on health, food security, and water and sanitation. A retrospective mortality survey is normally concurrently done with a nutrition survey, i.e. estimating the number of deaths among the total and the under-five population from the preceding 3 months and identifying the presumed cause.

A global acute malnutrition rate above 15% and/or a rate of severe acute malnutrition above 4%<sup>7</sup> are considered as the emergency and critical threshold for South Sudan.

### **1.3 Nutrition Survey and Advocacy Activities of ACF-USA in 2006**

Just like 2005, 28 nutrition surveys were done in South Sudan by 8 different agencies, of which 10 of them were done by ACF-USA, contributing to more than a third of all surveys done in South Sudan. ACF-USA has continued to perfect nutrition survey methodology in order to analyze the nutrition situation meticulously in areas where nutrition surveys are done. In like with this ACF-USA maintained the coverage of survey to be 2.5 payams and above asserting coverage was enhanced to have a better representativity of the surveys. In 2006 ACF-USA enhanced qualitative data collection in order to understand the dynamics of the nutrition situation in South Sudan.

During survey implementation an average of three weeks were spent in locations of survey for data collection and field editing and out of the field 3-4 days was used for processing and analysis (with ENA software.). Completion, validation (at mission and headquarters level), and release of preliminary finding reports took a maximum of 5 days after the latter, while for the Final Report at a maximum of 10-12 days after the latter.

With continued support from ECHO, OFDA, DFID and UNICEF, nutritional and mortality data were collected and analyzed from 10 different locations across four states in South Sudan:

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<sup>6</sup> MUAC: Mid-Upper Arm Circumference; this is a relevant indicator of the risk of mortality among children aged 1 to 5 years: MUAC is more significant for children aged 1 year and plus ( $\geq 75$  cm in height) since MUAC does not change a lot from 6 months up to 1 year.

<sup>7</sup> World Health Organization, 1995. *Classification of wasting prevalence in under five's*.

**Table 1: Nutrition Surveys in South Sudan, 2006-ACF-USA**

	LOCATION	MONTH	COUNTY	STATE	GAM	SAM
1	Alek South, North, Alek West and Riau Payams	March	Gogrial West	Warap	23.9 % [20.0%-28.2%]	4.2% [2.6%-6.6%]
2	Twic County	March	Twic	Warap	28.8% [24.8%-33.2%]	2.8% [1.5%-4.8%]
3	Galdora and Panamditi Payams	March	Malut	Upper Nile	20.8%*	1.7%*
4	Chuei, Duk, Pijee and Wunangui	May	Atar/Khorfulus	Jonglei	27% [23.0%-31.5%]	3% [1.7%-5.2%]
5	Pagil and Kurway Payams	July	Ayod	Jonglei	18.1% [14.7%-22.1%]	2.3% [1.2%-4.3%]
6	Boma and Kassingor Payams	July	Pibor	Jonglei	21.2% [17.4% - 25.6%]	2.4% [1.2% - 4.6%]
7	Wudier Payam	September	Longuchok	Upper Nile	6.7% [4.6%-9.6%]	0.5% [0.1%-1.9%]
8	Mareang and Paguir Payams	October	Zeraf	Jonglei	15.0% [11.5%-19.3%]	1.4% [0.5%-3.4%]
9	Mankien and Tam Payams	November	Mayom	Unity State	15.4% [13.1%-17.8%]	2.3% [1.5%-3.1%]
10	Old Fangak Payam	December	Zeraf	Jonglei	17.8% [14.4%-21.8%]	1.5% [0.6-3.3%]

\* Exhaustive survey.

Out of all the surveys done by ACF-USA at 8 locations had malnutrition rates above the 15% emergency cut off, while two were at the emergency level and below. The results signify that nutrition situation in South Sudan still requires comprehensive strategies to mitigate the rates below emergency cut offs.

#### 1.4 Response to Survey Recommendations and Advocacy initiatives

ACF-USA detects malnutrition, analyses the nutrition situation and makes necessary recommendations to improve nutrition situation. Of the surveys done ACF-USA critically analyses the causes of malnutrition in each of the specific regions where the surveys have been done. The causes of malnutrition are based on the conceptual framework of malnutrition and in nut shell most of causes of malnutrition in South Sudan are either because of food insecurity, disease, unhygienic and sanitary conditions and lack of portable water. Recommendations are developed after critically analyzing nutrition situation; ACF-USA seeks multi-sectoral approach in addressing the root causes of malnutrition. The survey results and recommendations are shared with wide range of partners who include the following;

- South Sudan Ministry of Health
- All Agencies operating where the surveys have been done
- All Nutrition Agencies operating in South Sudan
- UN Agencies (UNICEF, WHO, FAO, UNOCHA and WFP)
- Surveillance bodies (FEWSNET, United Nation System Standing Committee on Nutrition (SCN))

- SRRC, both at Lokichoggio level and area where the surveys are implemented.
- Center for Research on the Epidemiology of Disasters (CRED)

The advocacy for the implementation of the recommendations was continued for 2 months following the release of each nutrition survey report. The following tables show the locations where surveys were done, number of recommendations made and respective responses over the last four years.

**Table 2: Recommendations and Response per location, ACF-USA nutrition surveys in South Sudan, 2006.**

Surveyed Locations	Number of Recommendations	Number taken up	Number not taken up
Alek South, North, Alek West and Riau Payams	6	6	0
Twic County	7	*	*
Galdora and Panamdit Payams	5	4	1
Chuei, Duk, Pijee and Wunangui	6	4	1
Pagil and Kurway Payams	7	3	4
Boma and Kassingor Payams	8	6	2
Wudier Payam**	0	0	0
Mareang and Paguir Payams	9	7	2
Mankien and Tam Payams	14	10	4
Old Fangak Payam	9	6	3
<b>TOTAL</b>	<b>64***</b>	<b>46 (71.9%) ***</b>	<b>18 (28.1%) ***</b>

\*Survey done in collaboration with GOAL Ireland, who had the lead role and managed the advocacy part.

\*\* The malnutrition prevalence was below emergency cut off hence advocacy was not necessary

\*\*\* Minus the Twic Survey.

For the advocacy activities already finalized 71.9% of the recommendations were taken up by different agencies working in areas where surveys were done. This is a positive aspect as our surveys results are taken with seriousness in order to improve the nutrition state of the affecting communities.

The impact of the recommendations in 2006 increased from the previous years, as shown in the tables below:

**Table 3: Recommendations and Responses per location, ACF-USA nutrition surveys in South Sudan, 2005.**

Surveyed Locations	No. of Recommendations	No. taken up	No. not taken up
Kapoeta	5	4	1
Bunagok	7	4	1
Kiechkuon, Kier	5	4	1
Twic Abyei	6	5	1
Panomdit, Koladar	6	6	0
Kajokeji	0	0	0
Baidit, Jalle	3	3	0
Mvolo	0	0	0
Akobo, Nyadit	5	2	3
Nimni	3	3	0
Pagak, Turu	7	2	5
<b>TOTAL</b>	<b>45</b>	<b>33 (73%)</b>	<b>12 (27%)</b>

**Table 4: Recommendations and Responses per Location, Nutrition Surveys in South Sudan, ACF-USA, 2004**

Surveyed Locations	Total Recommendations	No. taken up	No. not taken up
Kapoeta	7	2	5
Old Fangak	7	3	4
Keew	8	7	1
Duk	9	5	4
Mayiandit	7	4	3
Nyadin/Toch	8	2	6
Nuba	4	4	0
<b>TOTAL</b>	<b>50</b>	<b>27 (54%)</b>	<b>23 (46%)</b>

**Table 5: Recommendations and response per location, ACF Nutrition surveys in South Sudan, 2003**

Surveyed Locations	Total Recommendations	No. taken up	No. not taken up
Pandomit/Chuei	10	5	5
Old Fangak	11	9	2
Pagak	11	3	8
Lekuangle	11	8	3
Bugaya, Maaban	6	5	1
Gumriak	8	3	5
Nyadin/Toch	8	5	3
Khofoulos (Atar)	6	4	2
<b>TOTAL</b>	<b>71</b>	<b>42 (59%)</b>	<b>29 (41%)</b>

## II CAPACITY DEVELOPMENT: NUTRITION SURVEYS and TREATMENT PROGRAMS

ACF-USA has for the four years being operating in South Sudan developed capacity building programs with support of OFDA and UNICEF. 23 organizations in 2002, 26 in 2003 and 19 in 2004 had sent personnel to the different trainings offered. Most of the trained personnel from international agencies had been able to directly implement nutritional surveys and an increase in number of surveys by the respective agencies was seen from 2003 to 2004. On the other hand, no survey was actually yet carried out independently by a national NGO.

Since 2005, ACF decided to focus more on incorporating national NGOs in capacity building program, this initiative saw SUVAD and ACHA being trained and participating in nutrition surveys conducted by ACF-USA, in 2006 SUVAD and SMC were involved in the same activities.

The regular training sessions, usually provided in two different levels undertaken through year 2006 as outlined below:

- **Introductory training:** This involves overview of nutrition/malnutrition, anthropometric nutrition survey indicators, sampling methodology among others. This training is geared towards giving the trainees a fundamental understanding of nutritional surveillance and its methodologies with more emphasis on implementation of the surveys.
- **Advanced training:** the training is basically on data processing and analysis with EPI 5/EPI NUT software programs. The main objective of this level of training is to provide increased skills and knowledge on interpretation of data and report presentation.

In 2006 three nutrition surveys were held which covered 49 participants from 14 international NGOs, MOH and 1 Local NGO of the participants 39 where Sudanese nationals. For the first time the trainings were held in South Sudan mainly Rumbek and Malakal, previously they were held in Lokichoggio, Kenya

The table below shows the participants who attended ACF-USA organized trainings in 2006

**Table 6: Name of NGO and number of participants per organization who participated in the 2006 nutrition Surveillance trainings**

Organization	Number of participants	Nature of organization
WFP	2	UN
ADRA	1	INGO
MERLIN	3	INGO
WORLD VISION	2	INGO
MEDAIR	1	INGO
ACF-USA	1	INGO
CARE	1	INGO
CEAS	1	INGO
MSF-B	1	INGO
NPA	2	INGO
CRS	4	INGO
CONCERN	2	INGO
OXFAM GB	1	INGO
TEAFUND	4	INGO
MOH	8	GOVERNMENT
PRDA	1	NNGO

To contribute to increasing the response rate and technical capability for targeted nutrition interventions in South Sudan, the training on Treatment of Acute Malnutrition was started by ACF-USA in 2005. The physiopathology of acute malnutrition, systematic nutritional and medical treatment, home-based treatment, case management of acute complications associated with severe acute malnutrition, as well as designing, monitoring and evaluation of nutrition programs were the focus of the 3 training sessions were planned to be conducted though out the year, but only two were accomplished as the third session was interrupted by insecurity in Malakal.

40 individuals from 10 INGOs, MOH and 1 NNGO participated in the training, 38 of the participants were Sudanese.

**Table 7: Name of NGO and number of participants per organization who participated in the 2006 nutrition Treatment trainings**

Organization	Number of participants	Nature of organization
CCM	2	INGO
MSF-B	4	INGO
PRDA	1	NNGO
WVI	11	INGO
NPA	2	INGO
MOH	7	GOVERNMENT
CONCERN	4	INGO
CRS	4	INGO
ARC	1	INGO
TEAFUND	4	INGO

The Nutrition treatment trainings were geared toward increasing the skills in the management of severe malnutrition and partners who implement nutrition treatment programs and those who intended to start nutrition treatment programs participated in the these trainings. Most of the participants like the surveillance parts were Sudanese nationals who will take over the management of the malnourished children when the INGO finally hands over the facilities to the government.

### III. ANALYSIS OF NUTRITIONAL SITUATION IN SOUTH SUDAN IN 2006

#### 3.1 . Framework for Analysis

##### 3.1.1. Survey Methodology

There are two survey methodologies employed in the nutrition surveys included in this analysis, mainly depending on the population size:

- **The exhaustive survey** where all children aged 6 to 59 months of the target area are measured; as it includes the whole of the target population, the exhaustive survey gives the exact prevalence of malnutrition in that population.
- **The sampling surveys** where only a representative sample of children aged 6 to 59 months of the target area is measured. The results provide an estimated prevalence of malnutrition among that population, the true value for malnutrition being contained within the confidence interval. In this method there are three types of sample surveys namely simple, systematic and cluster sample surveys. The **two-stage cluster sampling** methodology for the other surveys: with the two-stage cluster sampling, the sample is randomly selected among the target population on the basis of at least 30 clusters, each including the same number of children. The exact size of the

sample is function of the population figure, the expected prevalence and the desired precision. The first sampling stage consists of the random selection of villages and the second stage of the random selection of families in the villages. All the children aged 6 to 59 months of the selected families are included in the survey. In all data that is presented, the prevalence of malnutrition is estimated with a 95% confidence interval (this value of the Confidence Interval is taken per default).

### **3.1.2. Estimated Average of Malnutrition in South Sudan**

The report gives estimated averages of the rates of acute malnutrition in South Sudan, broken down for Upper Nile, Bahr El Ghazal and Equatoria; however it has to be noted that these are not a statistical representation of the nutritional situation throughout the South, but rather give an indication of the general situation.

Also significant is the number of nutrition surveys that detected nutritional emergencies, i.e. surveys for which the detected average rate stood above 15% of global acute malnutrition. This information will be used in the following analysis as a key indicator of the gravity of the nutrition situation in the assessed areas.

### **3.1.3. Geographical Coverage**

The report also gives an estimated representation of the geographical coverage of the nutrition surveillance activities in 2006. For practical reasons, the reference unit used is the county.

Again, the maps do not give a statistical representation of the coverage but rather an indication of the number of counties covered and the estimated average of the rates of malnutrition detected there.

### **3.1.4. Seasonal Variations**

While the results of the nutrition surveys could suggest seasonal variations – higher rates of malnutrition detected during the hunger period (March to September) – the limited number of surveys per months and locations prevents a detailed analysis of seasonal trends over the year.

## **3.2. Nutritional Surveillance Coverage and Malnutrition Situation in South Sudan in 2006**

The selection of locations surveyed by the different agencies considers any or all of the following criteria:

- ☞ Recommendations formulated after rapid assessments to confirm the presence of a nutritional crisis in a particular area and estimate the rate of acute malnutrition;
- ☞ Monitoring of the nutrition situation of specific locations on a regular basis;
- ☞ Lack of baseline information on nutrition with a particular concern in the area;
- ☞ Evaluation of the effectiveness of agencies' intervention.

Twenty eight nutrition surveys were conducted in South Sudan in 2006 covering 22 counties in six states; 1 in Central Equatoria, 6 in Jonglei, 7 in Northern Bar el Ghazal, 7 in Unity, 2 in Upper Nile and 5 in Warap state. The surveys increased by one compared with 27 done in 2005. The table below shows locations where surveys were done in 2006.

Table 8: Results of all nutrition surveys in South Sudan, 2006.

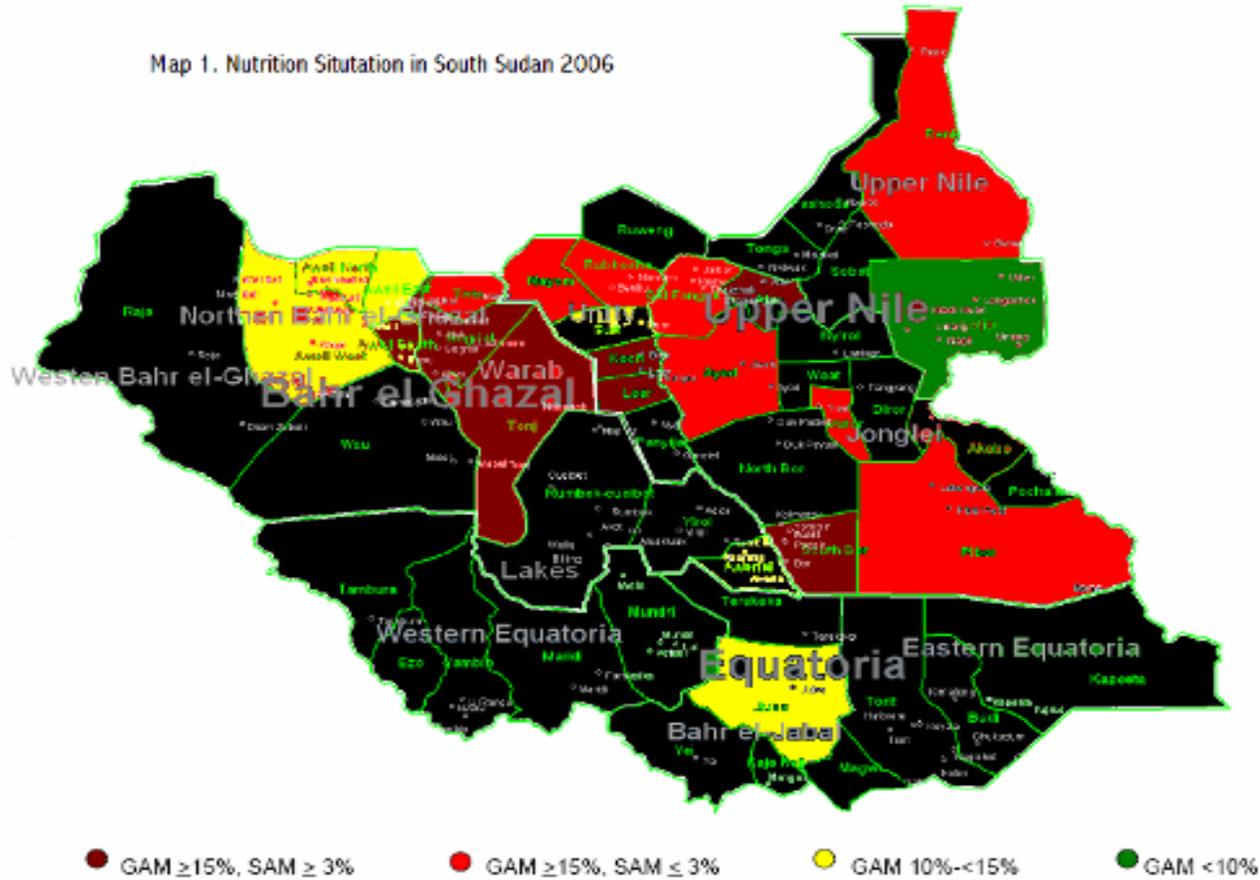
DATE	AGENCY	LOCATION	COUNTY	STATE	GAM	SAM
March	ACF-USA	Alek South, North, Alek West and Riau Payams	Gogrial West	Warap	23.9 % [20.0%-28.2%]	4.2% [2.6%-6.6%]
March	ACF-USA	Galdora and Panamdit Payams	Malut	Upper Nile	20.80%	1.7%
March	GOAL/ACF-USA/	Twic County	Twic	Warap	28.7% [24.7%-33.1%]	3.1% [2.1%-4.5%]
May	ACF-USA	Chuei, Duk, Pijee and Wunangui	Atar/Khorfulus	Jonglei	27% [23.0%-31.5%]	3% [1.7%-5.2%]
July	ACF-USA	Pagil and Kurway Payams	Ayod County	Jonglei	18.1% [14.7%-22.1%]	2.3% [1.2%-4.3%]
July	ACF-USA	Boma and Kassongor Payams	Pibor	Jonglei	21.2% [17.4% - 25.6%]	2.4% [1.2% - 4.6%]
August	CONCERN	Aweil West and North Counties	Aweil West and North Counties	NGEG	17.4% [15.0%-20.0%]	2.0% [1.3%-3.2%]
June	SCK-UK and VCD	Leer, Mayaidit and Koch Counties	Leer, Mayaidit and Koch Counties	Unity State	26.4%	13.2%
February	WVI	Tonj North	Tonj North	Warap	20.0% [17.7%-22.5%]	4.3% [3.2%-5.7%]
February	WVI	Tonj South	Tonj South	Warap	13.1% [11.2%-15.3%]	1.3% [0.8%-2.3%]
February	WVI	Gogrial East	Gogrial East	Warap	15.2% [13%-17.6%]	3.2% [2.2%-4.6%]
May	ACF-France	Juba Town and Surroundings	Juba	Central Equatoria	11.5% [8.8%-14.7%]	1.6% [0.7%-3.3%]
September	ACF-USA	Wudier Payam	Longuchok	Upper Nile	6.7% [4.6%-9.6%]	0.5% [0.1%-1.9%]
January	TEAFUND	Motot, Pieri, Pulchuol, Pathai, Payai Payams	Wuror	Jonglei	16.4%	2.3%
October	ACF-USA	Mareang and Paguir Payams	Zerif	Jonglei	15.1% [11.6%-19.4%]	1.4% [0.5%-3.4%]
November	ACF-USA	Mankien and Tam Payams	Mayom	Unity State	15.4% [13.1%-17.8%]	2.3% [1.5%-3.1%]
December	ACF-USA	Old Fangak Payam	Zerif	Jonglei	17.8% [14.4%-21.8%]	1.5% [0.6%-3.3%]
February	ACF-France	Bentiu	Rubkona	Unity State	18.1% [14.7%-21.8%]	1.4% [0.5%-2.8%]
February	ACF-France	Rubkona	Rubkona	Unity State	20.0% [16.6%-23.9%]	0.9% [0.2%-2.2%]
July	ACF-France	Bentiu	Rubkona	Unity State	16.2%	1.3%
July	ACF-France	Rubkona	Rubkona	Unity State	18.2%	1.6%
July	ACF-France	Nhialidiu	Rubkona	Unity State	13.6%	1.6%
January	CONCERN	Aweil West and North Counties	Aweil West and North Counties	NGEG	17.9%	1.6%
November	CONCERN	Aweil West and North Counties	Aweil West and North Counties	NGEG	14.9%	1.1%
April	TEAFUND	Baac, Malualbai, Mangok, Mangartong, Wunlang,	Aweil East	NGEG	22.7% [19.9%-25.4%]	2.6% [1.6%-3.6%]

DATE	AGENCY	LOCATION	COUNTY	STATE	GAM	SAM
March	TEAFUND	Ayai, Wathmok, Gakrol, Panthou, Tieraliet Payams	Aweil South	NGEG	20%	3.7%
November	TEAFUND	Ayai, Wathmok, Gakrol, Panthou, Tieraliet Payams	Aweil South	NGEG	15.5%	3.7%
November	TEAFUND	Baac, Malualbai, Mangok, Mangartong, Wunlang,	Aweil East	NGEG	13.2% [10.3%-16.8%]	1.6% [0.7%-3.4%]
Average					18.0%	2.5%

Out of the 28 surveys done, 20 (>70%) of them had malnutrition rate have emergency cut off of 15%. The average GAM was 18.0% while the SAM was 2.5%

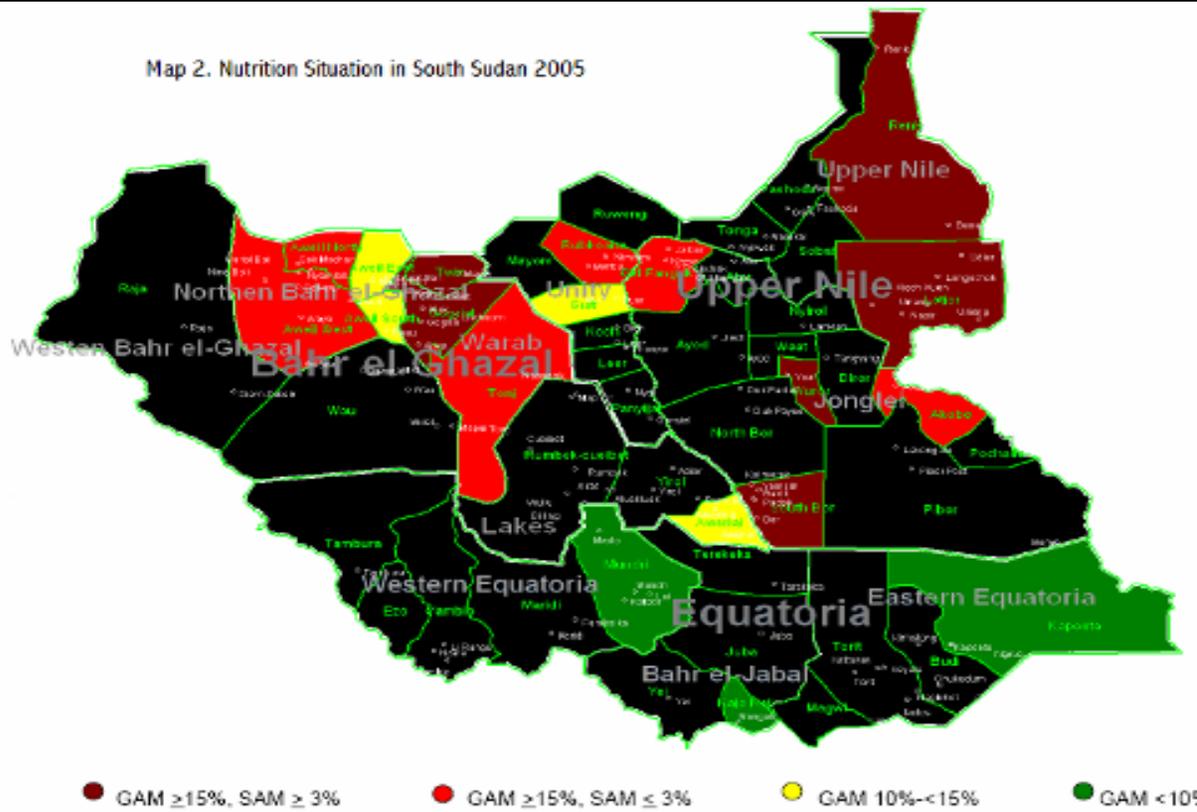
The maps in the next pages show the distribution of surveys done in 2006 and the previous 2 years.

Map 1. Nutrition Situation in South Sudan 2006



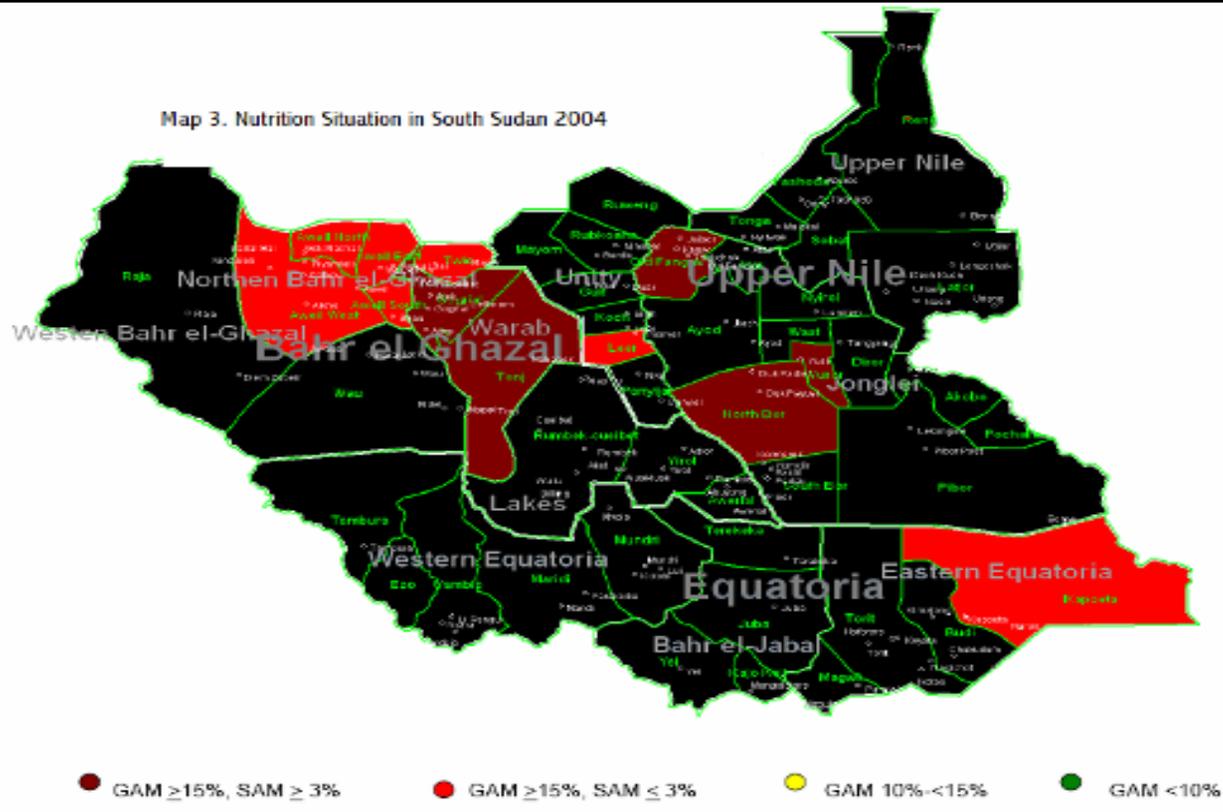
\*\* The last survey is taken up for repeat surveys

Map 2. Nutrition Situation in South Sudan 2005



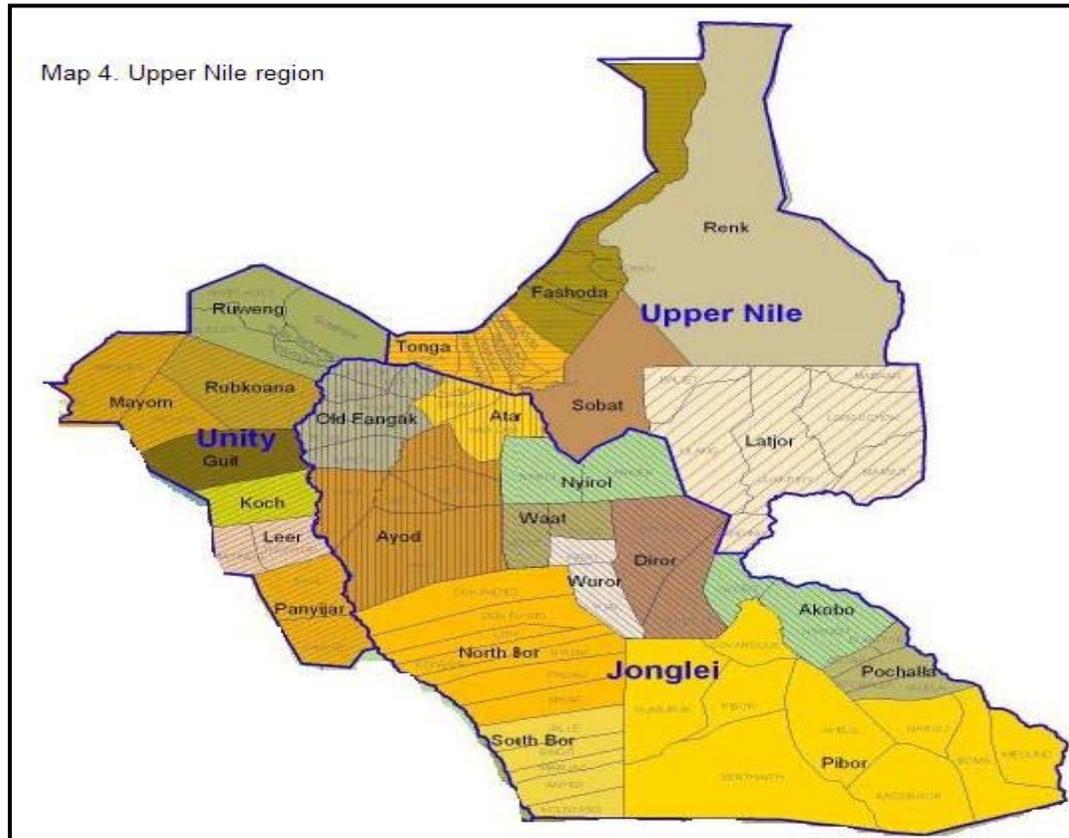
\*\* The last survey is taken for locations repeated.

Map 3. Nutrition Situation in South Sudan 2004



### 3.2.1. Nutrition situation and malnutrition Trends in Upper Nile

The Upper Nile region borders BEG on the east, Nuba Mountains on the north and Equatoria on the south. It is administratively divided into three states namely Upper Nile, Jonglei and Unity. The states are further sub-divided into counties - Upper Nile comprising of Mabaan, Tonga, Fashoda, Sobat, Ulang/Latjor, Baliet, Longuchok, Maiwut, Lokongole and Luakpiny; Jonglei comprising of Old Fangak, Atar, Ayod, Nyirol, Waat, Wuror, Diror, North Bor, South Bor, Pibor, Akobo and Pochalla counties; and Unity State comprising of Ruweng, Rubkoana, Mayom, Guit, Koch, Leer and Panyijar.



The region is characterized by fertile land and is rich in oil. The Nile and numerous rivers pass through the region and provide important sources of food and income as well as transport routes to many parts of South Sudan. With so many rivers, seasonal flooding is widespread. The food economy is based on agro-pastoralism and fishing, which account for more than 90 percent of the people's livelihood in SPLM/A areas. The main crops are sorghum and maize. Despite all the oil revenues, rivers and fertile land, the region has some of the highest malnutrition rates in the country<sup>6</sup>.

Continued insecurity in Upper Nile state, related to the disarmament process and presence of armed militia, has persisted in the State since the beginning of 2006. The conflict was mainly concentrated in the south of the State, but has now spread towards the northeast in the form of inter-ethnic conflict. In the south, the conflict exacerbated tensions over available pasture and severely constrained access to food gathering and farming activities. Thousands of households were reported to have been displaced. The rest of the states were relatively stable in 2006.

Fifteen nutrition surveys were conducted in the region in 2006. Three surveys were done in the same locations in different months of the year. The locations where surveys were done in Upper Nile region are as follows.

- Galdora and Panamdit Payams, Malut County by ACF-USA
- Chuei, Duk, Pijee and Wunangui Payams, Atar/Khorfulus County by ACF-USA
- Pagil and Kurway Payams in Ayod County by ACF-USA
- Boma and Kassingor Payams, Pibor County by ACF-USA
- Leer, Mayiandity and Koch Counties by SC-UK
- Wudier Payam, Longochuok County by ACF-USA
- Motot, Pieri, Pulchuol, Pathai, Payai Payams by TEAFUND
- Mareang and Panguir Payams by ACF-USA
- Old Fangak Payam by ACF-USA
- Makien and Tam Payams by ACF-USA
- Bentiu, Rubkuona County by ACF-France
- Rubkuona, Rubkuona County by ACF-France

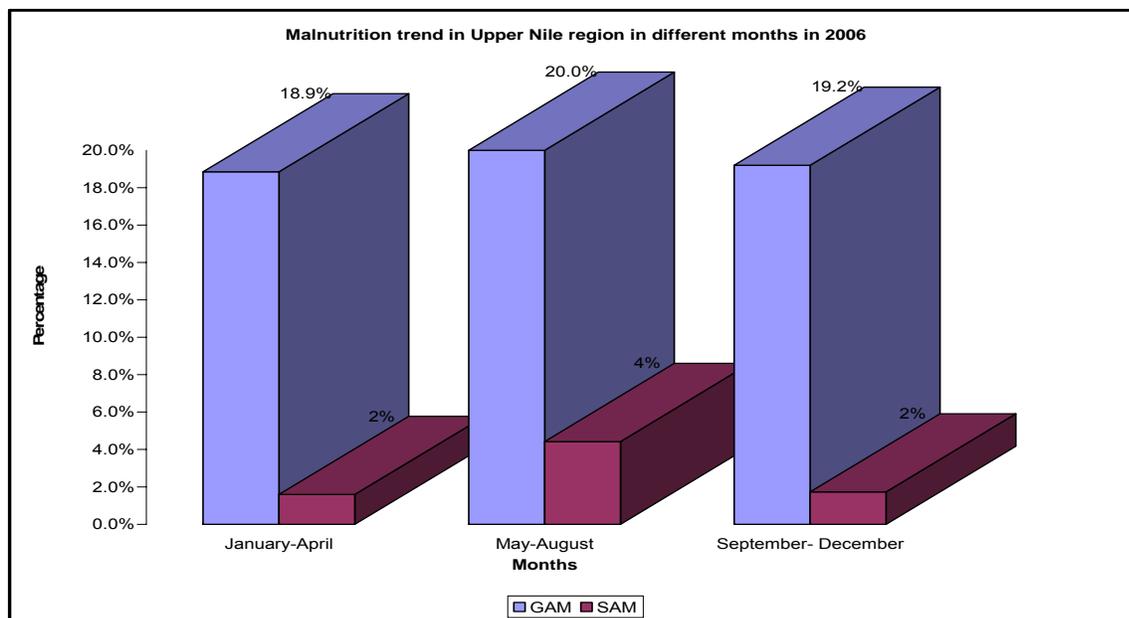
**Table 9: Results of Nutrition Surveys in Upper Nile 2006**

DATE	AGENCY	LOCATION	COUNTY	STATE	GAM	SAM
MARCH	ACF-USA	Galdora and Panamdit	Malut	Upper Nile	20.8%	1.70%
MAY	ACF-USA	Chuei, Duk, Pijee and Wunangui	Atar/Khorfulus	Jonglei	27%	3%
JULY	ACF-USA	Pagil and Kurway Payams	Ayod County	Jonglei	18.1%	2.3%
JULY	ACF-USA	Boma and Kassingor	Pibor	Jonglei	21.2%	2.4%
JUNE	SCK-UK and VCD	Leer, Mayaidit and Koch	Leer, Mayaidit and Koch	Unity State	26.4	13.2%
SEPTEMBER	ACF-USA	Wudier Payam	Longuchok	Upper Nile	6.7%	0.5%
JANUARY	TEAFUND	Motot, Pieri, Pulchuol, Pathai,	Wuror	Jonglei	16.4%	2.3%
OCTOBER	ACF-USA	Mareang and Paguir Payams	Zeraf	Jonglei	15.1%	1.4%
NOVEMBER	ACF-USA	Mankien and Tam Payams	Mayom	Unity State	15.4%	2.3%
DECEMBER	ACF-USA	Old Fangak Payam	Zeraf	Jonglei	17.8%	1.5%
FEBRUARY	ACF-France	Bentiu	Rubkona	Unity State	18.1%	1.4%
FEBRUARY	ACF-France	Rubkona	Rubkona	Unity State	20.0%	0.9%
JULY	ACF-France	Bentiu	Rubkona	Unity State	16.2%	1.3%
JULY	ACF-France	Rubkona	Rubkona	Unity State	18.2%	1.6%
JULY	ACF-France	Nhialidiu	Rubkona	Unity State	13.6%	1.6%
Average					18.1%	2.5%

Out of the 15 surveys done in Upper Nile 13 (86.7%) of them had GAM rates above emergency cut off of 15% while only 1(6.7%) had SAM above emergency cut off of 4%. The average GAM and SAM for the whole region was 18.1% and 2.5% respectively.

The results compared to the previous year's shows slight improvement though not significant especially the GAM in 2005 it was 20.8% while in 2004 was 19.7%. The SAM remained the same like in 2005 but lower than 2004, given that it was 3.4%.

**Figure 1: Malnutrition trends in Upper Nile region, 2006**



The figure above seems to show that the malnutrition trends in Upper Nile region in different months of the year in 2006. But the GAM rates through the year remained above emergency cut off of 15% while the SAM was recorded only high above the emergency cut off of 4% in the second quarter. This analysis is fragile, through, as this difference might not appear anymore when using the confidence interval; other factors that seasonality could be responsible for that increase.

The nutrition status of the region has been wanting since before CPA and in post conflict era seems to still be high. The nutrition situation in the region could be explained by the following factors.

**Poor food security:**

In Upper Nile state, Seasonal rainfall in 2006 began in early to mid May, with amounts of 20-30mm across the southern half of the state decreasing northwards. The progress of the rainy season was characterized fairly dry conditions till mid-June, a wet late-June and early-July, followed by a pronounced drier than average period during the last 20 days of July. August and September were very wet across the state which provided favorable growing conditions for crops, but also caused localized flooding which mainly affected smallholder farms<sup>8</sup>.

In 2006, Unity State experienced better rains compared to the previous year. However, localized floods in Leer, Panyijiar, Mayendit, Koch and Ruweng Counties, and a dry spell in Mayom County have resulted in crop damage. In Jonglei State the onset of rains in the 2006 cropping season was generally early, in April. Heavy rains in May flooded cultivated area and affected the germination of seeds. The month of June recorded a long dry spell. However, heavy rains in late July, August and September caused flooding and affected crops. At the time of the assessment the Eastern section of Akobo was completely under water and large number of households is reported to have been displaced. No cereal production is expected from the eastern section of the County and little is expected from the western section, if any. In

<sup>8</sup> Special report, FAO/WFP crop and food supply assessment mission to Sudan Feb. 2007

addition, floods also caused serious damage to assets and livestock in Pibor County. In Padak County, however, rains started late in mid May 2006 and in June a two week dry spell, which affected crops was experienced. Rains were fairly good in July, August and September but no rains were recorded since the beginning of October.

In the survey done in Atar/Khorfulus County revealed that, the food eaten within majority of households is obtained through buying from the market and collected wild foods. In Mayom County, the food security situation was still wanting as a result of lack adequate tools and seeds for cultivation which resulted to small farms cultivation that cannot support the foods needs for the community. The food harvest was expected to last for three months. Nutrition Survey done in Leer Koch and Mayiandit indicated that the area is prone to a lot of food insecurity as a result of poor land preparation due to lack of mechanized land preparations, delay in land preparation before the rain season, Clearing of very little land for cultivation and the mode of land preparation does not allow for deeper penetration of roots.

**Inadequate food intake:**

This was as a result of low access to adequate quantity of food and undiversified diet. Food consumption significantly comprise of; sorghum, wild vegetables and maize. Other foods which the respondents were subsisting on, but to a lesser extent included milk, meat, okra, pulses and fruits. Children in the age group 6-29 months had limited access to cow/goat milk and were mostly fed on un-enriched sorghum/maize porridge. All the households interviewed reported that they feed the young children on a limited variety and quantity of food, and indeed most of the households fed the children twice in a day due to inadequate food. Lack of variety, low access to milk and inadequate quantity of food contributes to the high malnutrition rates observed in the location.

**Disease:**

Prevalent of disease has been a major contributor to the nutrition status of the populace in the region. In Atar/ Khorfulus survey revealed that cholera outbreak in the region resulted too many deaths and also compromised the health status of the children contribution to high malnutrition rates detected in the county. In most regions of Upper Nile the access to quality health services remains a major constraint; health seeking practices too contribute to the prevalent of disease in the region as most of the community consults traditional healers first when their children are sick. The number of health facilities in most of the locations is overstretched particularly in Boma, Old Fangak and Atar as few health facilities are available in most of the counties and cannot meet the demand.

**Poor hygiene and Sanitation:**

From the interviews done during the field work, only a few of the households treated water before drinking by either boiling or filtering/sieving in most of the regions. The rest of the households drink untreated water, which puts them at risk of water borne diseases. Long queues, prolonged waiting times, reduced water output from water pumps and inadequate potable water for household use was observed as well as reported by households interviewed. The inadequate water, falls short of Sphere standards<sup>9</sup>, and contributes to the poor hygiene and sanitation in the community.

Majority of the communities had no access to toilet facilities, and consequently disposed off human waste in the bushes and open fields. Human waste from children of age 0-3 years was disposed off by; throwing outside the yard, burying in the yard and leaving on the ground. The poor waste disposal and generally unhealthy environment is a causal factor in the high diarrhea cases reported. Most of the respondents affirmed that they wash hands before eating any meal but contrary to this, children were sometimes observed eating without first washing their hands.

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<sup>9</sup> Sphere standards on water access and quantity include; Average water use for drinking, cooking and personal hygiene per person per day is 15 liters, Queuing time not more than 15 minutes and safe water is available on regular basis.

### 3.2.2. Nutrition situation and malnutrition Trends in Bahr El Ghazal

The Bahr El Ghazal region (BEG) is located in southwest Sudan and borders the states of South Darfur and West Kordofan in the north, Unity and Lakes in the east and West Equatoria in the south. BEG consists of four states: North Bahr El Ghazal (Aweil Center, Ayat, Aweil west, Aweil North, Abiem Center, Abiem East, Wbaiem West and Aweil South Counties); West Bahr El Ghazal (Wau, North Jur river, South Jur river, Naumtina, Duiem Zubeir, Raja and Marial Bai counties) Warab (Jonj East, Tonj North, Tonj South, Gogrial East, Gogrial West, Twic Mayardit and Abyei Counties) and Lake ( Rumbek Center, Rumbek East, Rumbek North, Wulu, Cuibet, Yirol East, Yirol West, and Awerial Counties). The total population of BEG is approximately 2,225,000—or 30 percent of the population of South Sudan. 10 percent of the population of BEG (about 224,000 people) resides in the GoS sector, namely Aweil, Wau and Raja areas. The Map 5 below shows the states in BEG region.

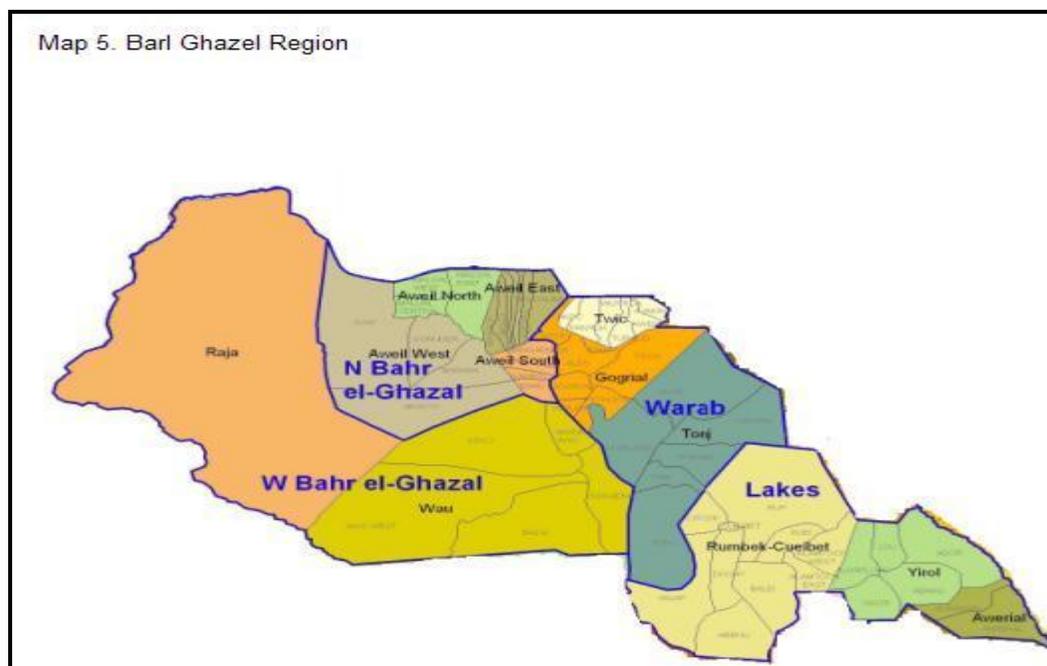


Table 10: Results of nutrition surveys implemented in BEG, 2006

DATE	AGENCY	LOCATION	COUNTY	STATE	GAM	SAM
March	ACF-USA	Alek South, North, Alek West and Riau Payams	Gogrial West	Warap	23.9%	4.2%
March	ACF-USA/GOAL	Twic County	Twic	Warap	28.7%	2.8%
August	CONCERN	Aweil West and North Counties	Aweil West and North Counties	NGEG	17.4%	2%
February	WVI	Tonj North	Tonj North	Warap	20%	4.3%
February	WVI	Tonj South	Tonj South	Warap	13.1%	1.3%
February	WVI	Gogrial East	Gogrial East	Warap	15.2%	3.2%
January	CONCERN	Aweil West and North Counties	Aweil West and North Counties	NGEG	17.9%	1.6%

November	CONCERN	Aweil West and North Counties	Aweil West and North Counties	NGEG	14.9%	1.1%
November	TEAFUND	Baac, Malualbai, Mangok, Mangartong, Wunlang, Madhol,	Aweil East	NGEG	22.7%	2.6%
March	TEAFUND	Ayai, Wathmok, Gakrol, Panthou, Tieraliet Payams	Aweil South	NGEG	20%	3.7%
November	TEAFUND	Ayai, Wathmok, Gakrol, Panthou, Tieraliet Payams	Aweil South	NGEG	15.5%	3.7%
November	TEAFUND	Baac, Malualbai, Mangok, Mangartong, Wunlang, Madhol,	Aweil East	NGEG	13.2%	1.6%
<b>AVERAGE</b>					<b>18.7%</b>	<b>2.7%</b>

Twelve surveys were done in BEG in 2006 that detected 9 (75%) locations with a GAM rate above emergency cut off of 15% while 2 (16.7%) had SAM rates above 4%.

The general results of the BEG region showed a GAM and SAM of 18.7% and SAM of 2.7% , the GAM is still high above the emergency cut off of 15%.

It is important to note that all the surveys were done in Warap and Northern Bahr el Ghazal states no surveys were done in the other two states.

The nutrition situation in BEG has become chronic over the years the situation can be ascribed by the following factors.

#### **Food insecurity:**

FEWSNET predicted, chronic vulnerability to acute food insecurity (especially in the Bahr El Ghazal region), and increasing inter-ethnic conflicts will continue to threaten food security in the coming dry season (January-April in 2006). An inter-agency assessment conducted in April in Aweil Counties (Bahr el Ghazal) in April revealed that continued population returns (latest returns roughly estimated at 16,000 in March to April in Aweil East), both spontaneous and facilitated, of internally displaced people (IDPs) to Northern Bahr el Ghazal State are impacting local communities in varying and localized ways.

In Warrab state, rainfall in the 2006 agricultural season was slightly above 2005. However, rains started a month late in May and were interrupted in July. In the following two months of August and September heavy rains were received which in some areas caused localized flooding and crop damage. In NBEG In the 2006 agricultural season, rains started in May with some dry spells in June and July followed by good rains in August and September. Area cultivated increased as people were able to access more land, particularly around former garrison towns. However, the slow clearance of land mines from around these towns inhibited further expansion of cultivated area.

According to WFP (ANA 2005/6), adults average 1.2 meals/day, while children average 1.6 meals/day. According to the same source, 97% of the households experienced a food security shock in 2005; the most frequently mentioned shocks were livestock diseases (50%), sharp increase in food prices (18%), crop pest and diseases (8%), drought (8%) and human sickness (5%), with the main coping strategies being to reduce the number of meals, sometimes eliminating meals altogether; and to eat less preferred foods, including wild foods. The main constraints faced in cultivating crops were the lack of seeds and tools<sup>10</sup>. ACF-USA<sup>11</sup> reported that food insecurity in Gogrial West was as a result of rainfall deficit leading to poor crop performance in the last cropping season. The communities had already exhausted their harvests and were mostly surviving on wild foods and to a lesser extent, sorghum bought from the market. In addition, the presence of the returnees has had a significant impact on the food security of the host community most of whom rely on relatives and friends for their upkeep until they are able to re-establish themselves. Disease outbreak reportedly led to large numbers of cattle deaths which reduced

10 Sudan Annual Needs Assessment 2006, World Food Programme.

11 ACF-USA Gogrial West Nutrition survey report.

the amount of milk available. More so, following security hitches early in the year, young children were not able to access milk from the cattle camps which further impacted negatively on their nutritional status. Fish, an important source of proteins is not easily accessible to the community as a result of enormous distances to the fishing grounds. Most of the markets in the area do not stock food stuffs which limits the community to only a few specific foods. This influences the type of food fed to infants which mainly comprises of carbohydrates and deficient in other essential nutrients that are vital for their growth and development. CONCERN in Aweil North and South counties reported that people in the area predominantly grew only sorghum, yet the climatic conditions would have supported the growth of other crops including the fast-growing vegetable varieties. This coupled with the poor socio-economic status rendered households incapable of accessing other food groups to constitute balanced diets.

### **Health:**

Child immunization coverage in Aweil remains perilously low, its importance in good child health and growth notwithstanding. This is reflective of poor access to and utilization of public health facilities and services in the area. Indeed, all IRC health care centers and units had closed down during the conduct of this survey. The nearly 10% increase in the prevalence of malaria among the under fives relative to the findings of the March 2006 survey is attributed to the onset of rains. Both the prevalence of ARI and diarrhea had decreased. The water and environmental care situation was very poor in Aweil. Practically all households were taking untreated drinking water while it was observed that the use of toilets was almost non-existent in the area<sup>12</sup>.

In Twic County GOAL and ACF reported although there are a number of health facilities in Twic County, access can be difficult due to the vast size of the County and the low population density. This means nearly one half of the population have to walk for more than 1 hour to reach the nearest facility, and 25% have to walk for more than 2 hours. Vaccination rates are very low in Twic County. This results in children being at increased risk of infection, and therefore malnutrition. In Gogrial West, Measles coverage was also generally low since most of the caregivers failed to avail their children for immunization due to the perceived fear that the vaccine could cause infertility to their children in future. This puts them at a higher risk of contracting measles and eventually slipping into acute malnutrition as a result of an already compromised immune system.

### **Water and Sanitation:**

Twic County, sanitation and hygiene remain problematic in Twic The majority of the community lack hygienic means of waste disposal. Hand washing with soap, especially after defecation, is not common in the community, and soap is not easily available at the household level. Access to water remains problematic as well; although 69% get their water from boreholes, a potable source, the average household (of approximately 6 members) uses an average of 60 liters of water/day. This equates to about 10 liters per person per day, an inadequate amount to provide proper hygiene for the family, and well below Spheres minimum standard of at least 15 liters per person per day. More than a quarter of the population surveyed has a walk of more than 30 minutes to their nearest water source, again greater than Sphere's minimum standard of 500 meters<sup>13</sup>. Gogrial West, Water and sanitation may have also played an indirect role in the current nutritional status of the community. Most people defecate in the open posing a risk on their health as they become more vulnerable to diarrheal diseases especially during the rainy season with children being the worst hit. The practice of treating drinking water was not common among the community members, which may have further predisposed them to infections and eventually malnutrition.

### **Child care and feeding patterns:**

Diet diversity was lacking in Twic. Out of 274 households, 65.3% (n=179) consumed only one food group in the previous day. Only 3.6% of household declared to consume vegetables. In addition to an inadequate diet, weaning practices are contributing to malnutrition among children. 67.9% of the surveyed children aged 6-9 months have yet to begin receiving complementary food. Risk of malnutrition

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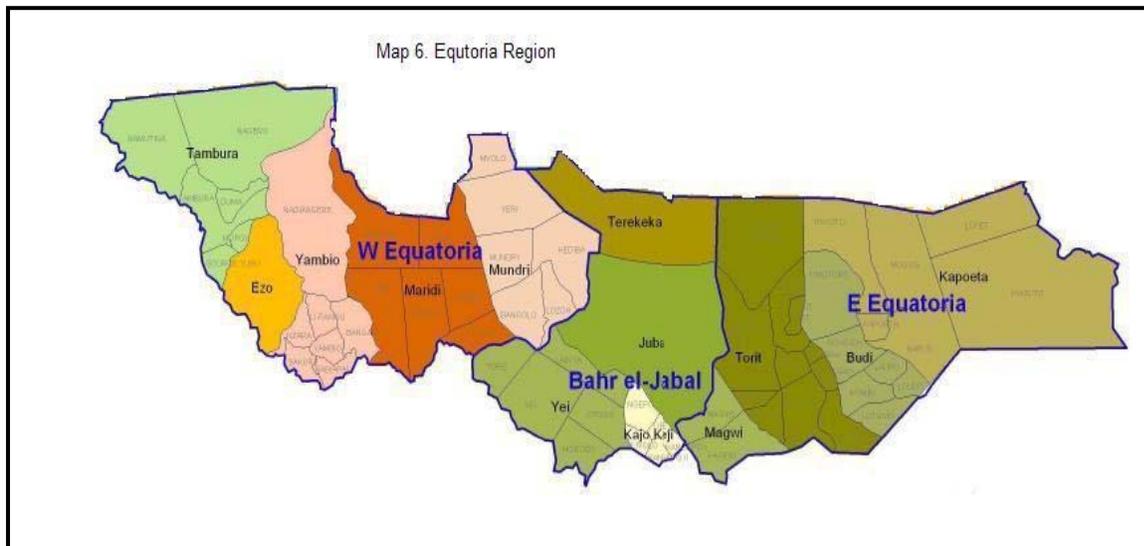
<sup>12</sup> CONCERN Aweil North and South Nutrition survey report.

<sup>13</sup> The Sphere Project, Humanitarian Charter and Minimum Standards in Disaster Response, 2004.

is high among these children, as breast milk alone provides insufficient calories to children of this age, at a time when there are high energy demands to support development, both physical and mental. Inadequate breastfeeding practices also contribute to malnutrition in the younger age-group (6-29 months), as only 31.4% of surveyed children less than 6 months are being breastfed exclusively. Children under six months receiving the majority of their energy needs from foods or liquids other than breast milk are at increased risk of malnutrition, as these foods take the place of more nutrient-dense breast milk. These foods or liquids run the risk of being contaminated, putting these children at further risk of infection. Poor child care and feeding practices may also have contributed to the high GAM rates in Gogrial West as most of the children are breastfed exclusively for more than one year, putting them at a higher risk of malnutrition. Like most of other communities in South Sudan, women spend most of their time on various household chores thus the small children are left unattended over long periods of time. This means that children, who are exclusively breast fed, stay hungry almost the whole day while their mothers are away. On the other hand, children aged 30- 59 months are mostly fed on sorghum and wild vegetables, a diet that falls short of several essential nutrients<sup>14</sup>.

### 3.2.3. Nutrition situation and malnutrition Trends in Equatoria

The greater Equatoria region is in the far south of Sudan and borders the states of West Bahr El Ghazal, Lakes and Jonglei to the north and Kenya, Uganda, the Democratic Republic of Congo to the south and the Central African Republic to the west. The region comprises the states of West Equatoria (Mvolo, East Mundri, West Mundri, Maridi, Iba, Yambio, Nzara, Ezo, Tambura and Nagero Counties), Bahr El Jebel (Yei, Lainya, Morobo, Terkeka, Juba west, Juba center, Juba South and Kajokeji Counties) and East Equatoria (Budi, Kapoeta East, Kapoeta Central, Kapoeta South, Kapoeta North, Lopit, Ikotos, Torit and Magwei Counties) and has a total population of 1.3 million. The area is extremely diversified ethnically and climatically, including the most productive area of South Sudan in the west and, in contrast, semi-arid conditions in the east. Although the west is known as a surplus food producing area, it lacks market infrastructure. The east, meanwhile, is destabilized by conflict and experiences chronic food insecurity<sup>15</sup>.



The table below summarizes the results of the three locations surveys conducted in Equatoria.

<sup>14</sup> ACF-USA Gogrial west nutrition survey report

<sup>15</sup> Annual Needs Assessment, 2004/2005

**Table 8:** Results of nutrition surveys implemented in Equatoria, 2006

DATE	AGENCY	LOCATION	COUNTY	STATE	GAM	SAM
May	ACF-France	Juba town and surrounding areas	Juba County	Central Equatoria	11.5% [8.8%-14.7%]	1.6% [0.7%-3.3%]

The region has been thought to have stable food security and is considered as the food basket of South Sudan. The nutrition survey result from the region confirm this believe, though the eastern Equatoria has experienced perennial food deficiencies. The average GAM and SAM for the three locations surveyed were below emergency cut off of 15% and 4% respectively.

## CONCLUSION

In 2006, ACF-USA sustained nutrition activities in South Sudan mainly in detecting malnutrition, building capacity of NNGOS on nutrition surveillance and nutrition treatment lastly advocating for appropriate response to reduce malnutrition in the Country.

ACF-USA implemented 10 surveys in South Sudan in 2006. The survey coverage was maintained to a minimum of two Payams for every location surveyed, and this enabled ACF-USA to uncover malnutrition stricken locations comprehensively. The response to recommendations made by ACF-USA was above 70% attributed to the seriousness the agencies placed in curbing malnutrition in South Sudan.

ACF-USA in its one of core value of capacity building received a tremendous response by both INGOS and NNGOS. In 2006 three nutrition surveys were held which covered 49 participants from 14 international NGOS, MOH and 1 Local NGO. Of the participants 39 were Sudanese nationals. For the first time the trainings were held in South Sudan mainly Rumbek and Malakal (previously they were held in Lokichoggio, Kenya). 40 individuals from 10 INGOS, MOH and 1 NNGO participated in the nutrition treatment training, 38 of the participants were Sudanese nationalities.

This clearly shows a remarkable demand of the ACF-USA organized training sessions, it's important to note that about 80% of the participants were of Sudanese nationality. This is a positive trend towards empowering the Sudanese nationalities in the brink of emergency and the inception of development. One of the main challenges to overcome is to translate the attendance of the trainings to implementation of nutrition surveys by local NNGOS, in line with these that ACF-USA in 2005 rolled out the NNGO capacity building program. Two NNGOS ACHA and SUVAD were trained and participated in conducting nutrition surveys with ACF-USA in 2005 while in 2006 ACHA and SMC were involved in nutrition surveillance capacity building program.

Surveys done in 2006 by nutrition agencies in South Sudan increased to 28, compared to 23 in 2005. Most agencies continued to survey the traditional malnutrition prone areas of Northern BEG and UN. Equatoria region has for years being regarded as a food secure zone; this was continued to be confirmed by one survey done in the region which revealed low malnutrition rates below the emergency cut off.

Generally the rate of malnutrition continued to stagnate just around 20% of GAM compared to the previous years. In 2006 the GAM was estimated at 18.0% and GAM of 2.5% compared to 18.5% and 2.5% GAM and SAM respectively in 2005. These has been the trend of malnutrition in South Sudan, it should be noted that it has been difficulty to address the underlying causes of malnutrition in South Sudan due to perennial insecurity, cultural barriers, natural calamities (drought and floods) and inadequate and/or insufficient health facilities. The trend is likely to improve in the upcoming years as the GOSS and agencies seek to address the root causes of malnutrition due to already prevailing stability in the country.

The following were some of the obtrusive aspects found in most of the assessments done in 2006.

- **Food security.** Though stability as a result of signing of CPA in two years ago cumulating to relative peace in South Sudan, hunger still continues to bite in South Sudan. In the recent past food security organization have reported improved food security situations in South Sudan, but this state has not yet resulted to improved nutrition state especially in Upper Nile and BEG regions of South Sudan. Many factors can be associated to the current food insecurity state but predominantly the food in security state is linked to the following factors.
  - Cultivation of small land for crops
  - Flooding in some regions
  - Lack of crop diversification
  - Lack of mechanized agriculture in most of the regions.The above factors contributed significantly to the food access state particularly Upper Nile and BEG. In addition to food insecurity, lack of food diversification has resulted to poor diet making malnutrition prevalent in the County. Most communities especially in Upper Nile and BEG cultivate only cereals while legumes and vegetables that contribute an integral part in provision of vital nutrients in the body have been neglected. Communities consuming unbalanced diets will definitely have malnourished individuals amongst them.
- **Utilization of health services.** The health services are not available in some of the regions in South Sudan, where they are available they are not evenly distributed across the regions. This makes most people to lack medical attention in time of need. Poor health seeking behavior too has played a significant role in causing malnutrition. Some people would rather seek medical attention from the traditional healers instead of the contemporary medical units, consequently seeking health services when they are already weekend and in state of malnourished.
- **Hygiene and sanitary practices.** The hygienic and sanitary practices have contributed significantly to the prevalence of diseases especially water and airborne diseases. Some of the pitiable hygienic practices are associated with cultural values, for instance resistance to safe human waste disposal while others are result of lack of knowledge on good hygienic and sanitary practices.

## RECOMMENDATIONS

Based on, the critical analysis of ACF-USA nutrition surveillance activities and the South Sudan Nutrition situation 2006. We recommend the following:

- MOH and agencies and to continue to monitor the nutrition situation in South Sudan to avert malnutrition through establishment of sentinel sites that will continuously monitor nutrition situation especially in malnutrition prone areas.
- Food security to devise ways in ensuring that crop production is enhanced, crop diversification and improved ways of crop production.
- MOH and health Agencies to increase the access to quality health services in the whole country.
- MOH and health agencies to intensify health education programs within all states in the Country.
- The Government of South Sudan and WATSAN organization to increase the access to portable water to most the communities in South Sudan.