

## Overview

- Findings from three nutrition assessments conducted in June 2007 in Middle and Lower Juba indicate a **serious** nutrition situation in the Agro Pastoral and Pastoral population and a **critical** nutrition situation in the Riverine population. Retrospective crude mortality rates indicate an alert situation (CMR between 1 and 2/10,000/day) in two of the three livelihood zones:
  - The Juba Riverine Nutrition Assessment findings report a **Global Acute Malnutrition (GAM)** rate of **15.4%** CI: (13.4-17.4) and a **Severe Acute Malnutrition (SAM)** rate of **3.2%** CI: (2.3-4.2). The <sup>3</sup>crude mortality rate was estimated at **1.98/10,000/day** CI: (1.29-2.67)
  - The Juba Pastoral Nutrition Assessment findings report a **GAM** rate of **13.4%** CI: (11.0-15.8) and a **SAM** rate of **1.3%** CI: (0.5-2.1). The crude mortality rate was estimated at **0.85/10,000/day** CI:(0.47-1.23)
  - The Juba Agro pastoral Nutrition Assessment findings indicate a **GAM** rate of **10.2%** CI: (8.0-12.4) and a **SAM** rate of **1.3%** CI: (0.4-2.2). The crude mortality rate was estimated at **1.1/10,000/day** CI: (0.79-1.41).
- Although the nutrition situation in the Riverine population remains critical and to a lesser extent in the Agro Pastorals and Pastoral populations, there are indications of an improvement across the Region. This improvement is seen to a larger degree in the Pastoral and Agropastoral populations and is likely to be associated with increased access to milk and milk products following significant recovery of livestock body conditions, kidding and calving during the Deyr 06/07 season.
- Morbidity rates in these populations remain high, most notably as a result of Acute Watery Epidemic (AWD) in the last few months where a cumulative number of 3,690 cases were reported with a **Case Fatality Rate (CFR)** of **7.16%** (*WHO June 29<sup>th</sup> AWD bulletin*) reported in Juba. This AWD outbreak is also likely to have contributed to the elevated mortality rates.
- As part of the Post Gu '07 seasonal assessment, the nutrition team of FSAU have been conducting rapid assessments using MUAC in areas of the country not surveyed this year. These results, along with additional nutrition and health information from health centres, selective feeding centres, sentinel sites and nutrition assessments, will be analysed together to provide an updated integrated analysis

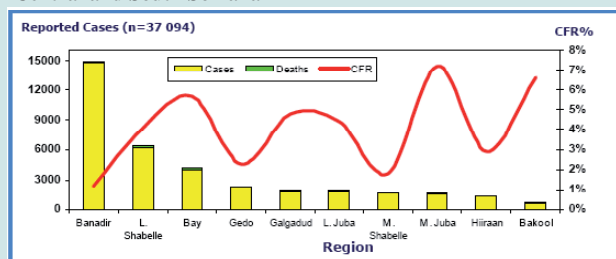
1 Global Acute Malnutrition (Weight for height Z scores < -2 and/or bilateral oedema)  
 2 Severe Acute Malnutrition (Weight for Height Z scores < -3 and/or bilateral oedema)  
 3 90 days recall period  
 4 CFR refers to the number of deaths per 100 cases. Prompt and appropriate medical management of cases would enable the CFR to remain at manageable levels <2% in rural settings and <1% in urban settings.

of the nutrition situation across the country. This analysis, with a new *Estimated Nutrition Situation Map*, will be presented in a Special Gu Nutrition Update, next month.

### Acute Watery Diarrhoea (AWD) – Highlights from the WHO Update 29<sup>th</sup> June 2007

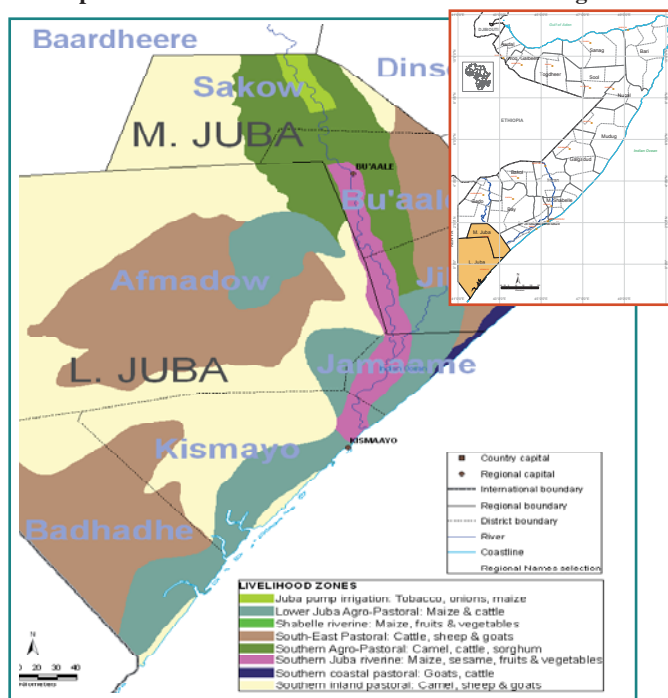
Between January 1<sup>st</sup> and June 29<sup>th</sup>, 2007, **37,301** cases of AWD were reported from the ten regions of South and Central Zone including **1,133** related deaths, with a case fatality rate (CFR) of **3.05%**. Although Middle Juba reported only 5% (1690) of the total reported cases, they reported the highest overall CFR of **7.16%**. A total of 2000 cases, (6%), were reported from Lower Juba, with an overall CFR of **4.35%**. The overall CFR continued to decrease from 4.32% in epidemiological week 14, with no related-deaths reported from all regions in week 26 (**CFR=0.00**). **The Acute Watery diarrhoea trend has shown that the number of reported cases is decreasing in all regions except Middle Juba.**

Figure 1: Distribution of AWD cases, deaths, and CRF by region, Central and South Somalia



In the northwest zone, a total of **3,019** cases of AWD have been reported including **43** deaths (**CFR=1.19%**) between January 1<sup>st</sup> and July 13<sup>th</sup>, 2007. **The overall CFR shows a decreasing trend from 5.26% in epidemiological week 20 to 1.43% in the current week (week 28).** Awdal region reported the highest CFR of **2.23%**. The number of reported AWD cases shows a decreasing trend in all regions in the northwest zone.

Map 1: Livelihood Zones Middle & Lower Juba Region



## SPECIAL FOCUS ON MIDDLE AND LOWER JUBA

### Context

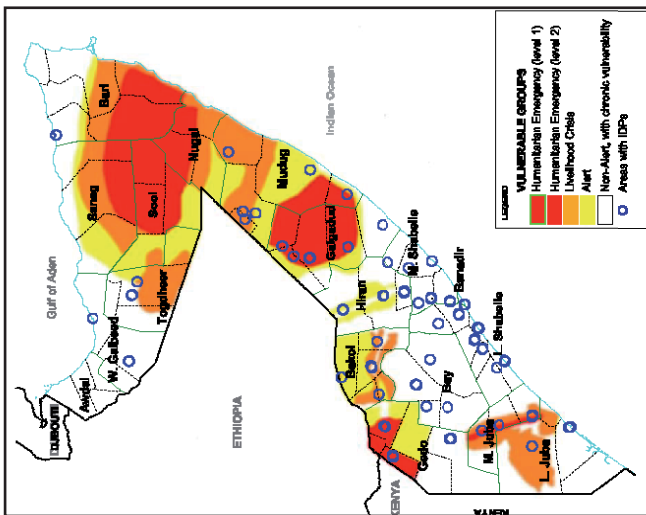
Middle and Lower Juba Regions are located in the Juba Valley in Southern Somalia (*See Map 1*). The regions border Kenya to the west, the Indian Ocean and Lower Shabelle Region to the southeast, Gedo Region to the north and Bay Region to the east. Middle Juba Region is comprised of three districts (Bu'aale, Sakow/Salagle and Jilib) and Lower Juba is comprised of five districts (Badhadhe, Hagar, Afmadow, Kismayo and Jamame). The total population of the <sup>5</sup>two regions is estimated at 624,667 who fall into five livelihood zones<sup>6</sup>: Riverine, Pastoral, Agro-pastoral, Coastal and Urban.

5 Middle Juba has a population size of 385,790 and Lower Juba of 238, 877

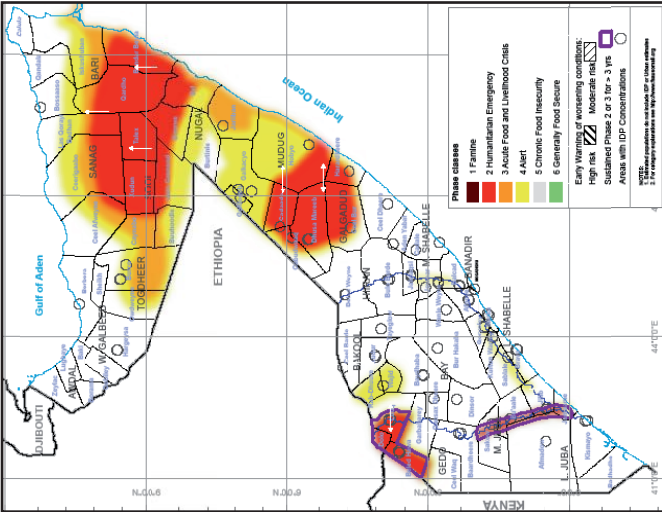
6 The Baseline Profiles are currently being revised by FSAU

TIME-SERIES OF THE INTEGRATED PHASE CLASSIFICATIONS (IPC) MAPS FOR SOMALIA 2004 – 2007

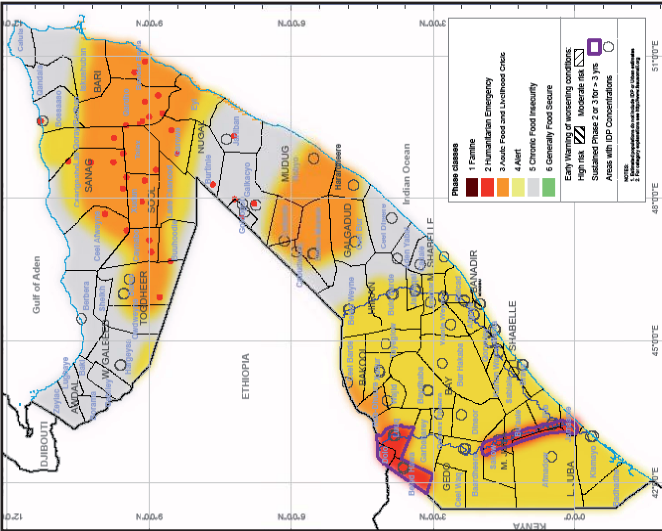
POST GU 2004 (JULY '04)



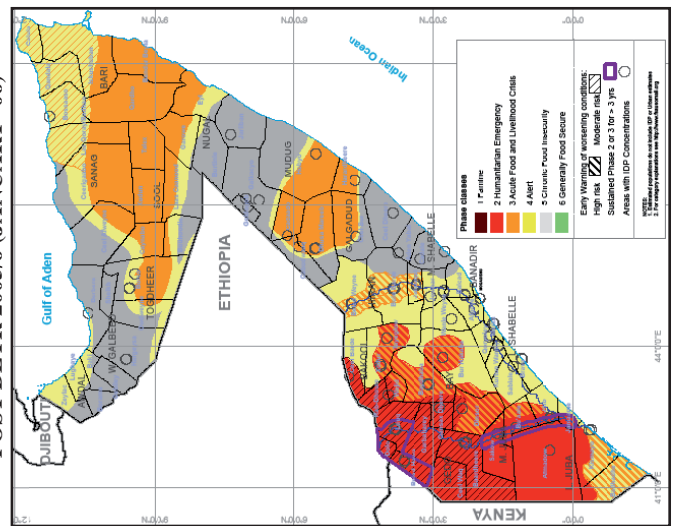
POST DEYR 2004/5 (JANUARY '05)



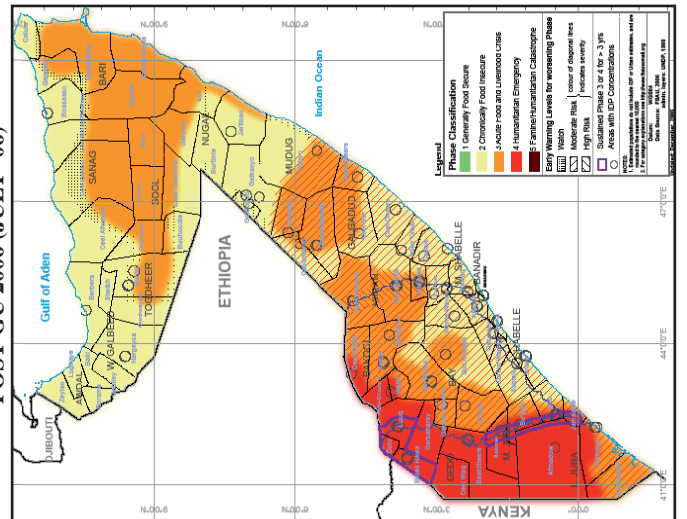
POST GU 2005 (JULY '05)



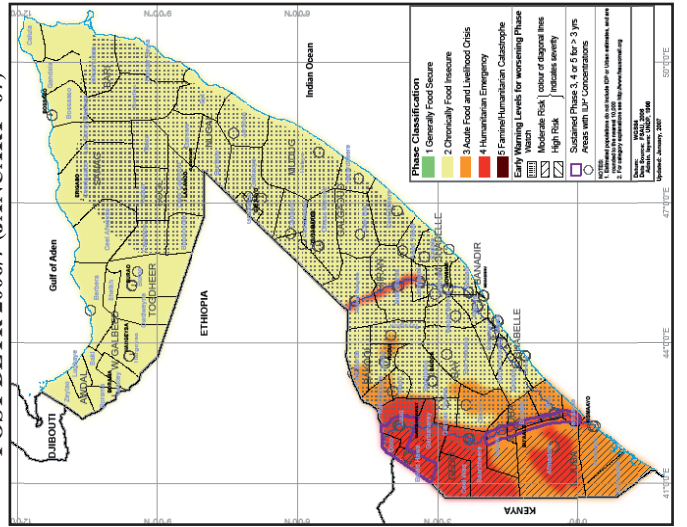
POST DEYR 2005/6 (JANUARY '06)



POST GU 2006 (JULY '06)



POST DEYR 2006/7 (JANUARY '07)



Since the collapse of the Somali Central Government in 1991, South and Central Somalia, including Middle and Lower Juba Regions, have faced a series of disasters, both natural (floods and droughts) and man-made (poor governance, sporadic armed conflict and widespread human rights abuses). The aftermaths of which, have been limited resilience for parts of the population to recover from shocks. The FSAU Integrated Phase Classification series of Maps from 2004 (See page 2) highlights sustained Humanitarian Emergency (HE) or Acute Food and Livelihood Crisis (AFLC) in parts of Middle and Lower Juba Regions over the last few years. For the Riverine group, the humanitarian emergency situation has been sustained for over three years (indicated by the purple line).

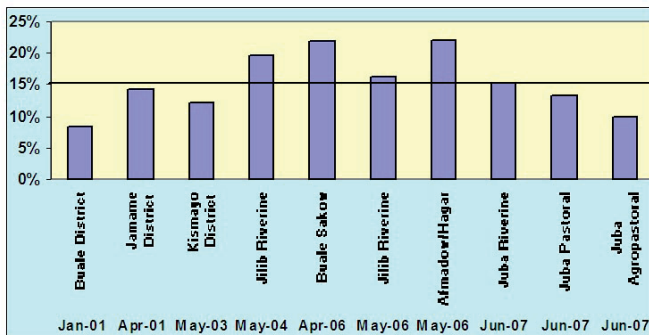


Photo 1. Arare Village flooded, Jamame District, Jan 2007 (FSAU)

**Historical Nutrition Situation**

Historical data on nutrition surveys conducted in Middle and Lower Juba Regions indicates a serious nutrition situation with global acute malnutrition levels ranging from 10-22.0%, with three assessments reporting above the emergency threshold of >15% in this timeframe as illustrated (Figure 2). Although a direct comparison between assessments is not possible, due to the varying locations and timings of the assessments, with the exception of Bu'ale District assessment (January 2001), these trends illustrate a persistent serious nutrition situation with results of >10%, being reported throughout 2001 to current time. However, what is of note is the downward trend in the prevalence of acute malnutrition in 2007.

**Figure 2. Trends in Acute Malnutrition 2001 to 2007, Juba Regions, Expressed in Z Scores, (<-2 Scores WHZ)**

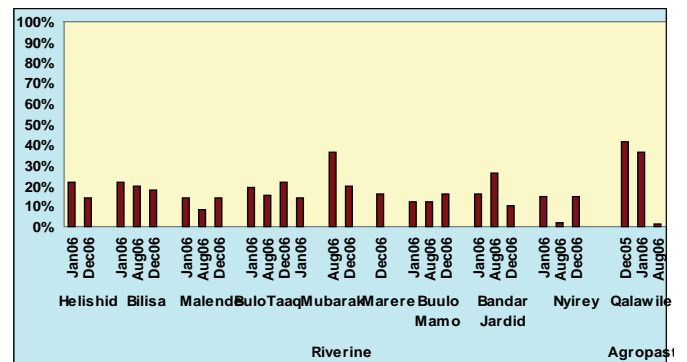


Of most nutritional concern are the **Riverine population**, who have experienced a series of shocks over recent years, which has resulted in high levels of nutritional vulnerability and limited opportunities to recover.

This is the result of the high reliance for food and income from rain fed and irrigated crops, which are very susceptible to losses from flooding. In addition, with limited alternative opportunities to diversify livelihoods, a history of marginalisation with limited external support and sub standard water and sanitation facilities, these populations have very low resilience when faced with a shock. This is already observed in the higher levels of acute malnutrition reported from the assessments conducted in the Riverine areas in (Figure 2). Further to this, following the Deyr '06/07, the nutrition situation in Juba Riverine had indicated deterioration from the already critical situation.

This was associated with the severe flooding in November and December '06 (Photo 1) where an increase in water borne diseases was being reported, in addition to significant loss of food stocks and crops planted. Trends in levels of acutely malnourished children from the sentinel sites in these areas had indicated an improvement earlier in 2006 (Jan to August) but from August '06 to December '06 deterioration in the levels of acutely malnourished children had been reported in several sites due to this shock (Figure 3).

**Figure 3. Levels of acutely malnourished children from sentinel sites in Juba Valley, Agropastoral and Riverine livelihoods**



The historical timeline of events in the Middle and Lower Juba Regions and their potential contribution to the sustained serious nutrition situation is provided in the table beginning overleaf.

Historical Timeline of Events In Middle and Lower Juba Regions and Their Potential Contribution to The Sustained Serious Nutrition Situation		
Year	Events And Potential Risk Factors for Acute Malnutrition	Nutritional Status Outcome
1991	<ul style="list-style-type: none"> <li>• Collapse of the Somalia Central Government and with it, governance problems and sporadic armed conflict in Middle and Lower Juba Regions. This led to widespread human rights abuses, interruption to normal livelihood practices and reduced access to food and health care services.</li> <li>• Heavy fighting and insecurity in Kismayo leads to heavy looting of crops, livestock and assets in the surrounding areas.</li> <li>• The Gu rains are average but the Deyr rains failed. This marks the beginning of drought conditions reported in parts of South and Central Somalia and leads to reduced availability of meat, milk and milk products for consumption, livestock deaths and crop failure.</li> <li>• Massive displacement of people within Somalia and across the border into refugee camps in Kenya in search of assistance</li> <li>• Food Economy Baseline Profile (2000): <b>A Poor – Medium year</b></li> </ul> <p><i>(Sources: FSAU Food Economy Baseline Profile, 2001-2002, FSAU Nutrition Update for April 2007; Inter Agency Assessment Gedo Region, February-April 2000).</i></p>	<i>Nutrition data not available this year for Juba</i>
1992	<ul style="list-style-type: none"> <li>• Ongoing insecurity across the two Juba Regions limits access for humanitarian actors</li> <li>• Drought and famine conditions continue in the South. Total collapse of livelihoods following massive livestock deaths (limiting access to meat, milk and milk products for consumption) and crop failure. This leads to high numbers of internally displaced populations within the region and across the border to Kenya</li> <li>• ICRC provides relief food in region</li> <li>• 'Operation Restore Hope', UNITAF, commences in Somalia December 1992</li> <li>• FSAU Baseline Profile: <b>A Bad year</b></li> </ul> <p><i>(Sources: FSAU Food Economy Baseline Profile, 2001-2002, FSAU Nutrition Update for April 2007; Inter Agency Assessment Gedo Region, February-April 2000).</i></p>	<i>Nutrition data not available this year for Juba</i>
1993	<ul style="list-style-type: none"> <li>• Ongoing insecurity and fighting with populations in Kismayo and Sakow badly affected</li> <li>• UNISOM takes over from 'Operation Restore Hope' (UNITAF) in May, enabling humanitarian food assistance to commence in South Somalia, including Middle and Lower Juba Regions. UNISOM sponsors 'Kismayo Airport Juba land reconciliation'.</li> <li>• End of the drought. Improved rainfall leading to increased production in both agriculture and livestock sectors</li> <li>• A cholera outbreak in the Juba Valley mainly in the Agro pastoral and Pastoral areas kills large numbers of people</li> <li>• FSAU Livelihood Profile: <b>A Normal-Good year</b></li> </ul> <p><i>(Sources: FSAU Food Economy Baseline Profile, 2001-2002, FSAU Nutrition Update for April 2007; Inter Agency Assessment Gedo Region, February-April 2000)</i></p>	<i>Nutrition data not available this year for Juba</i>
1994	<ul style="list-style-type: none"> <li>• UNISOM's continued presence in Somalia</li> <li>• The Somali Aid Coordination Body established to coordinate humanitarian response in Somalia</li> <li>• UNHCR coordinates refugee repatriation movement from Kenya to Juba</li> <li>• The Absame tribe peace conference is held in Doble</li> <li>• Medium rains are received, pasture becomes available and livestock conditions and production are good. Crop production is good and prices of food commodities normal across the regions.</li> <li>• FSAU Baseline Profile: <b>A Good year</b></li> </ul> <p><i>(Sources: FSAU Food Economy Baseline Profile, 2001-2002, FSAU Nutrition Update for April 2007; Inter Agency Assessment Gedo Region, February-April 2000).</i></p>	<i>Nutrition data not available this year for Juba</i>
1995	<ul style="list-style-type: none"> <li>• UNISOM withdraws from Somalia due to heightened insecurity.</li> <li>• UNHCR repatriates Middle and Lower Juba refugees from Kenyan camps</li> <li>• Gu &amp; Deyr rainfall failure causing crop failure and poor livestock condition</li> <li>• FSAU Baseline Profile: <b>A Good year</b></li> </ul> <p><i>(Sources: FSAU Food Economy Baseline Profile, 2001-2002, FSAU Nutrition Update for April 2007; Inter Agency Assessment Gedo Region, February-April 2000).</i></p>	<i>Nutrition data not available this year for Juba</i>
1996	<ul style="list-style-type: none"> <li>• Average crop production but very poor livestock condition</li> <li>• Massive livestock slaughter due to disease (suspected severe Foot and Mouth Disease) and drought.</li> <li>• Southern Somalia is classified as a humanitarian emergency zone by the UN Appeal for 1996/97</li> <li>• Refugee movement to Kenya</li> <li>• FSAU Baseline Profile: <b>A Bad year</b></li> </ul> <p><i>(Sources: FSAU Food Economy Baseline Profile, 2001-2002, FSAU Nutrition Update for April 2007; Inter Agency Assessment Gedo Region, February-April 2000).</i></p>	<i>Nutrition data not available this year for Juba</i>
1997	<ul style="list-style-type: none"> <li>• El-Nino rains, increasing water and pasture availability, resulting in good livestock production in the short term. However, with continued heavy rains, large numbers of people, shoats and camel deaths occur. An unknown camel disease leading to livestock deaths is reported.</li> <li>• The persistently heavy rains cause serious floods, deaths and extensive damage to infrastructure and property. Hundreds of thousands of people are displaced and significant crops and livestock lost. Flood recession commences towards the end of the year.</li> <li>• Communicable disease outbreaks mainly, malaria and acute watery diarrhoea, causing high mortality are reported</li> <li>• FSAU Baseline Profile: <b>A Mixed Year</b></li> </ul> <p><i>(Sources: FSAU Food Economy Baseline Profile, 2001-2002, FSAU Nutrition Update for April 2007; Inter Agency Assessment Gedo Region, February-April 2000).</i></p>	<i>Nutrition data not available this year for Juba</i>

<p>1998</p>	<ul style="list-style-type: none"> <li>Rift valley fever outbreak in Juba Valley following El-Nino floods</li> <li>The Saudi Arabian Government, the main importer of Somalia's livestock, imposes a ban due to RVF. This leads to reduced income access options for Somalia including Middle and Lower Juba Regions</li> <li>Pasture and water availability normal</li> <li>High infestation of birds and rats severely attack crop causing major damage. Suspected anthrax and tick borne diseases attack livestock.</li> <li>There is serious clan fighting in Sakow District from November 1998-April 1999.</li> <li>FSAU Baseline Profile: <b>A Mixed year</b></li> </ul> <p><i>(Sources: FSAU Food Economy Baseline Profile, 2001-2002, FSAU Nutrition Update for April 2007; Inter Agency Assessment Gedo Region, February-April 2000), February-April 2000)</i></p>	<p><i>Nutrition data not available this year for Juba</i></p>
<p>1999</p>	<ul style="list-style-type: none"> <li>Battle for control of Kismayo continues</li> <li>Normal Gu rains and crop production but the Deyr is below normal</li> <li>FSAU Baseline Profile: <b>A Normal Year</b></li> </ul> <p><i>(Sources: FSAU Food Economy Baseline Profile, 2001-2002, FSAU Nutrition Update for April 2007; Inter Agency Assessment Gedo Region, February-April 2000)</i></p>	<p><i>Nutrition data not available this year for Juba</i></p>
<p>2000</p>	<ul style="list-style-type: none"> <li>There is unusual live-stock migration from Kenya, M&amp;L Juba to the Juba riverine areas for pastures and water, due to the drought</li> <li>Crop and livestock production are low</li> <li>The livestock ban imposed by the gulf countries in 1998 on Somali livestock due to Rift Valley Fever (RVF) still in place</li> <li>FSAU Baseline Profile: <b>A Mixed Year</b></li> </ul> <p><i>(Sources: FSAU Food Economy Baseline Profile, 2001-2002, FSAU Nutrition Update for April 2007; Inter Agency Assessment Gedo Region, February-April 2000)</i></p>	<p><i>Nutrition data not available this year for Juba</i></p>
<p>2001</p>	<ul style="list-style-type: none"> <li>Continued unusual livestock migration to the Juba riverine areas for pastures and water, due to the drought</li> <li>Closure of the Kenya- Somalia border due to conflict and insecurity in the Juba areas</li> <li>Disrupted trade link between Juba Valley and Mogadishu due to fighting in the riverine areas</li> <li>FSAU Baseline Profile: <b>A Bad Year</b></li> </ul> <p><i>(Sources: FSAU Food Economy Baseline Profile, 2001-2002, FSAU Nutrition Update for April 2007; FSAU Monthly reports for February &amp; August 2001, Inter Agency Assessment Gedo Region, February-April 2000)</i></p>	<ul style="list-style-type: none"> <li>FSAU/UNICEF Bu'aale District Survey reported a <b>GAM rate of 8.4%</b></li> <li>Jamame District survey (FSAU/ UNICEF/ April 2001) reported a <b>GAM rate of 14.3%</b></li> </ul>
<p>2002</p>	<ul style="list-style-type: none"> <li>Poor Deyr '01/02 rains lead to significant crop failure and out-migration of livestock in search of water and pasture. There is significant loss of assets especially in the poor wealth groups and cereal prices become extremely high and inaccessible for majority of the poor</li> <li>Light Gu rains lead to an improvement in water and pasture availability, and crop production. Cereal prices reduce with the Gu harvest and become more accessible.</li> <li>FSAU Baseline Profile: <b>A Very Bad Year</b></li> </ul> <p><i>(Source: FSAU Monthly Reports, February 02: July-Aug 02: FSAU Food Economy Baseline Profile 2001-2002)</i></p>	<ul style="list-style-type: none"> <li>Afmadow Town (FSAU April 2002), Rapid MUAC assessment with <b>9.5%</b> identified as acutely malnourished (N=200) with MUAC (&lt;12.5cm or oedema)</li> <li>Hagar Town (FSAU April 2002), Rapid MUAC assessment with <b>10.5%</b> identified as acutely malnourished (MUAC &lt; 12.5 cm)</li> <li>Jilib District, 8 villages (FSAU October 2002), Rapid MUAC assessment with <b>14.6%</b> identified as acutely malnourished with MUAC &lt; 12.5 cm (N=365)</li> </ul> <p><i>(Source: Nutrition Updates for April &amp; October 2002)</i></p>
<p>2003</p>	<ul style="list-style-type: none"> <li>Poor Deyr 02/03 performance in Afmadow and Hagar but average - normal in the riverine areas <i>(FSAU Monthly Report for March 2003)</i></li> <li>Food insecurity situation following poor Gu 2003 rains.</li> <li>Insecurity disrupts seasonal migration of agro pastoralists and pastoralists to grazing areas, leading to food insecurity in these groups</li> </ul> <p><i>(Sources: FSAU Monthly reports August-December 2003)</i></p>	<ul style="list-style-type: none"> <li>Kismayo District survey (FSAU/May 2003): <b>GAM: 12.2%</b></li> <li>Jilib riverine villages (FSAU/July 2003): MUAC assessment recorded <b>28% acute malnutrition</b> (MUAC&lt;12.5 or oedema).</li> <li>Jilib riverine villages (FSAU/Oct 2003): <b>MUAC</b> assessment recorded <b>14.8% acute malnutrition</b> (MUAC&lt;12.5 or oedema).</li> <li>Kismayo IDP rapid assessment (FSAU/March 2003): <b>21%</b> acute malnutrition amongst under fives (MUAC&lt; 12.5 cm or oedema).</li> </ul>
<p>2004</p>	<ul style="list-style-type: none"> <li><b>The FSAU Post Gu '04 Analysis:</b> 54,000 people in the riverine community of the Middle Juba are faced with a <b>Humanitarian Emergency</b> and 61,000 with a <b>Livelihood Crisis</b> due to chronic and on-going civil insecurity. Consecutive seasons of near crop failure, unaffordable food prices, limited income earning opportunities, and limited social support networks have pushed this fragile group into a state of humanitarian emergency. An additional 59,000 agro-pastoral and pastoral households face a livelihood crisis in Afmadow and Jamame Districts.</li> <li>Therapeutic and supplementary feeding programs by MSFH on-going in Marere, Jilib District</li> </ul> <p><i>(Source: The FSAU Post Gu '04 Analysis, Technical Series Report IV.2 Sept. 2004)</i></p>	<ul style="list-style-type: none"> <li>Jilib riverine survey ( FSAU/UNICEF /May 2004) reported a GAM rate of <b>19.5%</b> and USMR of 5.4/10,000/day</li> <li>FSAU Post Gu Integrated Nutrition Situation Analysis indicates: <b>A Critical Nutrition Situation</b> coupled with high disease burden <i>(Source: The FSAU Post Gu '04 Analysis, Technical Series Report IV.2 Sept. 2004)</i></li> </ul>

<p>2005</p>	<ul style="list-style-type: none"> <li>• FSAU Post Deyr '04/05 Analysis:             <ul style="list-style-type: none"> <li>o Juba Riverine areas are of significant concern due to the continuing and chronic state of Humanitarian Emergency, with an estimated 83,000 people in a state of <b>Humanitarian Emergency</b> with no improvement since the previous FSAU assessment in Sept '04.</li> <li>o Excessive rains and river floods destroyed more than half of the maize production. Civil insecurity, the main underlying cause of the areas vulnerability, continues to disrupt economic activities and undermine people's livelihoods food security and well being</li> </ul> </li> <li>• FSAU Post Gu '05 Analysis:             <ul style="list-style-type: none"> <li>o 116,000 people in the Middle and Lower Juba Valley are in a state of <b>Chronic Humanitarian Emergency</b>, with a further 20,000 in a state of <b>Acute Livelihood Crisis</b>.</li> <li>o The deteriorating situation of the Juba Riverine communities is attributed to the devastating floods during the May-June 2005 which destroyed standing crops (including fruit trees) and underground granaries or bakaars, submerged farms and villages, destroyed feeder roads and cut-off settlements and villages from the main towns and markets.</li> <li>o The Pastoral and Agro pastoral populations in the Juba valley region in a state of <b>Alert</b>. (Sources: <i>The FSAU Post Deyr '04/05 Analysis, Technical Series Reports IV.3 Feb 2005; The FSAU Post Gu'05 Analysis, Technical Series Reports IV.7 Sept. 2005</i>)</li> </ul> </li> <li>• Therapeutic and supplementary feeding programs by MSFH on-going in Marere, Jilib District <i>(Source: MSFH 2005, Monthly reports on Therapeutic and supplementary feeding programs)</i></li> </ul>	<ul style="list-style-type: none"> <li>• FSAU Post Deyr 04/05 Integrated Nutrition Situation Analysis indicates <b>A Critical Nutrition Situation</b> in M&amp;L Juba and <b>Very Critical Nutrition</b> in the Riverine areas (Source: <i>The FSAU Post Deyr 04/05 Analysis, Technical Series Report IV.3, February 28, 2005</i>)</li> <li>• FSAU's first round of sentinel sites conducted in 8 sites in <b>Juba</b> indicate levels of acute malnutrition of &gt;15% WHZ or oedema.</li> <li>• Bu'aale riverine (Sukeyla village) (FSAU/July 2005): MUAC assessment recorded <b>27.4% acute malnutrition</b> (MUAC &lt;12.5cm or oedema)</li> </ul>
<p>2006</p>	<ul style="list-style-type: none"> <li>• FSAU Post Deyr '05/06 Analysis:             <ul style="list-style-type: none"> <li>o An estimated 235,000 people in Middle and Lower Juba face a <b>Humanitarian Emergency</b> and 110,000 face an <b>Acute Food and Livelihood Crisis</b> as a result of prolonged <b>drought</b> that has led to crop failure and loss of livestock. All livelihood systems are affected. Juba Riverine community are now faced with 'Sustained <b>Humanitarian Emergency</b>' for preceding 3 years.</li> <li>o Middle and Lower Juba are also hosting a large number of people from north eastern Kenya and Gedo, who have migrated into the area and have settled around strategic boreholes and water points along the Juba River.</li> </ul> </li> <li>• FSAU Post Gu'06 Analysis:             <ul style="list-style-type: none"> <li>o 210,000 in Middle and Lower Juba Regions are faced with a <b>Humanitarian Emergency</b> and 87,000 with an <b>Acute Food and Livelihood Crisis</b></li> <li>o The overall performance of the Gu rains throughout the season was poor, both in intensity and distribution over time and geographically, despite some improvement in pasture and browsing conditions in the hinterland. Water availability is critical. Many pastoralists and agro pastoralists have migrated towards the riverine and coastal areas in search of water due to water shortages and high competition for resources from in-migrated livestock from Gedo and North-eastern Kenya.</li> <li>o Middle and Lower Juba regions have also experienced a third consecutive season of cereal crop failure. As a result, households stocks are extremely low, leading to increased staple food prices and poor access to food for most of the poor households in these regions. (Sources: <i>The FSAU Post Deyr '05/06 Analysis, Technical Series Reports IV.8 Feb 2006; The FSAU Post Gu '06 Analysis, Technical Series Reports V.9 Sept. 2006</i>)</li> </ul> </li> <li>• Therapeutic and supplementary feeding programs by MSFH in Marere, Jilib District on-going. <i>(Source: MSFH 2006: Monthly reports on Therapeutic and supplementary feeding programs)</i></li> </ul>	<ul style="list-style-type: none"> <li>• FSAU Post Deyr 05/06 Integrated Nutrition Situation Analysis indicates <b>A Critical Nutrition Situation</b> coupled with high disease burden in Middle Juba and a serious nutrition situation in Lower Juba (Source: <i>The FSAU Post Deyr 05/06 Analysis, Technical Series Report IV.8 February 2006</i>);</li> <li>• Jilib Riverine Nutrition assessment (FSAU/May 06) indicates a critical situation with a <b>GAM rate of 16.2%</b></li> <li>• Afmadow Hagar Districts Nutrition Assessment (FSAU/May 06) report a <b>GAM rate of 22.0 %</b></li> <li>• Bu'aale, Sakow Districts Nutrition Assessment (FSAU/Apr06) report a <b>GAM rate of 21.9%</b> <i>(Source: FSAU Nutrition Survey Reports)</i></li> <li>• FSAU Post Gu'06 Integrated Nutrition Situation Analysis indicates <b>Critical - Very critical</b> in Middle and Lower Juba (Source: <i>The FSAU Post Gu'06 Analysis, Technical Series Report V.9, September 15, 2006</i>)</li> </ul>
<p>Jan-June 2007</p>	<ul style="list-style-type: none"> <li>• FSAU Post Deyr '06/07 Analysis:             <ul style="list-style-type: none"> <li>o A total of 110, 000 people in <b>Humanitarian Emergency</b> and 170,000 in <b>Acute food and Livelihood Crisis</b>.</li> <li>o The humanitarian situation of the Riverine populations in Juba Valley is critical and deteriorating due to the compounding impacts of the previous drought and severe flooding this season leading to total maize crop failure though some off season production is expected from March '07 onwards. Of the riverine population in the Juba Valley, 106,000 people are in a state of <b>Humanitarian Emergency</b> and 12,000 are in a state of <b>Acute Food and Livelihood Crisis</b>. Of these, in Middle Juba, 66,000 people are in Humanitarian Emergency and 5,000 in Acute Food and Livelihood Crisis and in Lower Juba, 40,000 people are in a state of Humanitarian Emergency and 7,000 in Acute Food and Livelihood Crisis.</li> </ul> <p>In the pastoral and agro pastoral areas, the food, livelihood and nutrition situation has improved since the Gu'06. Pastoral recovery continues due to the good rainfall in the Gu '06 and the exceptionally good rainfall in the Deyr '06/07.</p> <p><i>(Source: The FSAU Post Deyr 06/07 Analysis, Technical Series Reports V.12 March 2007)</i></p> </li> <li>• Acute watery diarrhoea cases indicating a declining trend in South Central Somalia except for Middle Juba. Additionally, whereas Middle Juba reported 5% of all the cases for Jan-June 29<sup>th</sup>, 2007, the highest CFR of 7.16% was also reported here <i>(Source: WHO June 29th 2007 bulletin on Acute Watery Diarrhoea)</i></li> <li>• Therapeutic and supplementary feeding programs by MSFH on-going in Marere, Jilib District <i>(Source: MSFH 2007, Monthly reports on Therapeutic and supplementary feeding programs)</i></li> </ul>	<ul style="list-style-type: none"> <li>• FSAU Post Deyr 06/07 Integrated Nutrition Situation Analysis indicates a <b>Critical Nutrition Situation</b> in Middle and Lower Juba, and a <b>Very Critical Nutrition</b> situation in the Riverine Population. (Source: <i>The FSAU Post Deyr 06/07 Analysis, Technical Series Report V.12, March 7, 2007</i>)</li> <li>• FSAU led Nutrition Assessments in June 2007             <ul style="list-style-type: none"> <li>o M&amp;L Juba Riverine report a <b>GAM rate of 15.4% (13.4-17.4)</b></li> <li>o M&amp;L Juba Pastorals report a <b>GAM rate of 13.4% (11.0-15.8)</b></li> <li>o Juba Agro-Pastorals report a <b>GAM rate of 10.2% (8.0-12.4)</b></li> </ul> </li> </ul>

CURRENT SITUATION IN JUBA VALLEY

Food Security Context

In Juba Valley the **pastoral** livelihood system is the predominant livelihood with about 34.5% of the Middle and Lower Juba population engaged in cattle, camel, goat and/or sheep rearing. Their main source of income is sale of livestock products (milk, ghee, meat) as well as live animals. Livestock, especially cattle, are normally traded in Kenya, with good prices during the <sup>8</sup>*Gu* and *Deyr* season as well as the beginning of the <sup>9</sup>*Jilaal* (January – March). Pastoralists are most vulnerable to malnutrition and food insecurity during drought or in the dry seasons of *Jilaal* and *Hagar* when there is reduced or limited access to pasture and/or water to sustain their livestock; or when the Kenyan border is closed, restricting their access to livestock markets.



Photo 2. Healthy Cattle, Jabikore Village, Buale District, June 2007 (FSAU)

The second most important livelihood system is the Agro-pastoral which is practiced by 29.4% of the Juba Valley population. **Agro-pastoral** populations combine livestock rearing (cattle, camel, shoats) with agricultural (maize and sorghum) production. The Agro-pastoral crop production depends on rain or *dhesheks*<sup>10</sup> for water. During the cultivation period (*Gu* and *Deyr* rainy seasons), animals are moved away from the farming area resulting in reduced access to milk. In the dry season livestock are moved towards *dhesheks* and riverine areas, with core households remaining at home. Depending on the type and size of crop establishments and livestock at their disposal, Agro-pastoral populations may have more options for dealing with shocks that predispose them to nutrition and food insecurity.

The **Riverine** livelihood group constitutes of pure farmers who live within three kilometers of the Juba River. They mainly access food and income through production and sale of crops. They are sedentary, keep negligible stocks of livestock, and are highly vulnerable to nutrition and food insecurity in the event of shocks such as floods and crop failure in the *Gu* and *Deyr* seasons. The **Urban** group's main source of livelihood constitutes of employment, trade and casual labour. Food is mainly accessed through purchase; therefore a secure environment, that enables access to income and essential basic services, is key to sustained nutrition and food security. The coastal group of Kismayo and Badhadhe undertake fishing and collect lobsters for food and income generation as their main livelihood. They are mostly vulnerable to nutrition and food insecurity in June – September when the sea is rough and fishing becomes dangerous.

7 FSAU Livelihoods Baseline Profile, 2000.

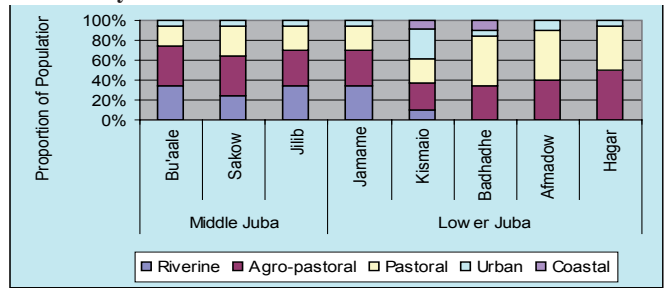
8 *Gu* refers to the long rains (Apr-Jun) while *Deyr* refers to the short rains (Oct-Dec) seasons.

9 *Jilaal* refers to the hot and dry (January - March) season; *Hagar* refers to the cool and dry (July – September) season

10 *Dheshek* refers to water holding depressions, where recession cropping is commonplace

Figure 4 highlights the proportions of the Juba population by livelihood.

Figure 4: Proportion of M&L Juba Population by Livelihood Systems



The FSAU Post Deyr '06/07 analysis<sup>11</sup> estimated a total of 280,000 people in Middle and Lower Juba Regions to be in a state of Humanitarian Emergency (110,000) or Acute Food and Livelihood Crisis (170,000), and in dire need of humanitarian assistance or livelihood support. This was a slight reduction in the total number requiring some form of assistance from the Post *Gu*'06 when a total of 297,000 people were identified to be in need. Although the total number of people in crisis is roughly the same in the *Gu*'06, an improvement was also reflected in a general shift from **Humanitarian Emergency (HE)** to **Acute Food and Livelihood Crisis (AFLC)** from 210,000 in **HE** and 87,000 in **AFLC** during *Gu*'06<sup>12</sup> to the *Deyr* projection (Jan - June '07) of 108,000 in **HE** and 163,000 in **AFLC**. In general, the food, livelihood and nutrition situation for pastoralists improved due to the good rainfall of *Gu*'06 and exceptionally good *Deyr*'06/07 rains.

Health Context

As mentioned earlier, the Juba Regions are highly susceptible to flooding and thus to water borne disease. In 2007 there has been a wide spread epidemic of Acute Watery Diarrhoea (AWD) throughout the country with no exception in the Juba Region.

Figure 5: Acute Watery Diarrhoea Cases and Case Fatality Rate in Middle and Lower Juba Regions 1st Jan 26th June 2007

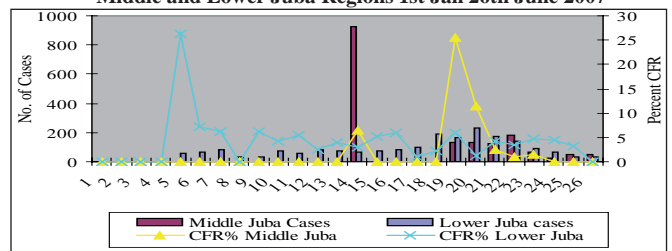


Figure 5 provides a summary of AWD cases and case fatality rates (CFR) in Middle and Lower Juba Regions from January 1<sup>st</sup> – June 26<sup>th</sup>, 2007 (Source of Data: WHO AWD June 28<sup>th</sup> Update). In total from Jan 1<sup>st</sup> to 29<sup>th</sup> June, 1,690 cases of AWD were reported in Middle Juba with a CFR of 7.16%.

In Lower Juba 2000 cases have been reported in the same period with a lower, yet still concerning, CFR of 4.35%. One of the biggest challenges in the Juba's is the delivery of humanitarian assistance which, when delivered in a timely manner, can greatly reduce the fatalities associated with AWD. However limited access by humanitarian actors, due to the ongoing insecurity and poor road conditions, prevent the needs of the population being met.

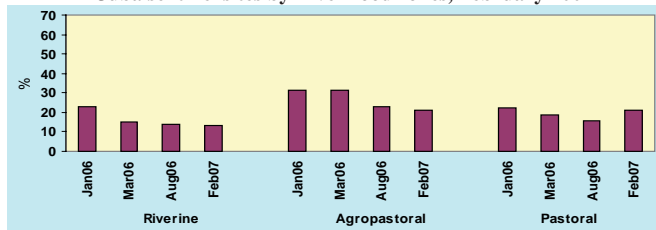
11 FSAU 2006/07 Post Deyr Analysis. Technical Series V.12; March 2007

12 FSAU 2006 Post Gu Analysis. Technical Series V.9; September 2006

**Nutrition Context**

The overall nutrition situation in Middle and Lower Juba indicated a slight improvement for most of the areas in the period six months prior to the last post *Deyr* analysis possibly associated with the positive impacts of the *Gu'06* rains and other mitigating factors such as increased humanitarian support. However, localised areas of deterioration were reported, with an increase in seasonal morbidity trends. In addition ongoing risks of conflict and disease in lower Juba were still of concern. Therefore the nutrition situation at that time in these areas was classified as critical with an uncertain trend for the following months.

**Figure 6: Distribution of acutely malnourished children in the Lower Juba sentinel sites by Livelihood zones, February 2007**



The most recent sentinel site surveillance data<sup>13</sup> indicated that nutrition situation in these areas was consistent with the food security analysis classified as critical in the Pastoral and Agro pastoral populations and very critical in the Riverine populations. Additional information from Maternal and Child Health Centres showed similar trends in acute malnutrition in the regions. Communicable diseases especially the acute watery diarrhoea outbreak aggravated the nutrition situation as highlighted above. Therefore in order to determine the current nutrition situation, FSAU and partners<sup>14</sup> conducted three nutrition assessments in Juba valley (Middle and Lower Juba) in June 2007 based on three main livelihood systems:- Pastoral, Agro pastoral and Riverine livelihood systems (*Map 1*). The two stage cluster sampling technique of 30 by 30 was used. Hence 906-936 children were assessed at household level, while retrospective mortality assessment was conducted in 906 households (irrespective of whether or not they had an under five) in each assessment.



*Photo 3. Child being measured in nutrition assessment, Sakow District, June 07 (FSAU)*

**Table 1: Summary of Findings**

Indicator	No	%	95% CI
Total number of Households surveyed	474	100	
Total number of children assessed	936	100	
Global Acute Malnutrition (WHZ<-2 or oedema)	144	15.4	13.4 – 17.4
Severe Acute Malnutrition (WHZ<-3 or oedema)	30	3.2	2.3 – 4.2
Oedema	6	0.6	0.2 – 1.1
Global Acute Malnutrition (WHM<80 or oedema)	109	11.7	9.8 – 13.6
Severe Acute Malnutrition (WHM<70 or oedema)	13	1.4	0.9 – 1.9
Children reported to have diarrhoea in 2 weeks prior to study	124	13.2	11.2 – 15.6
Children reported to have ARI within 2 weeks prior to study	57	6.1	4.7 – 7.0
Children reported with suspected malaria/febrile illness in 2 weeks prior to study	213	22.8	20.1 – 25.6
Children reported with suspected measles within one month prior to study (N=877)	14	1.6	0.9 – 2.7
Children (9-59 months) immunized against measles (N=877)	666	75.9	72.9 – 78.7
Children who have ever received polio vaccine (N=936)	924	98.7	97.7 – 99.3
Children supplemented with vitamin A in last 6 months	569	60.8	57.6 – 63.9
Households who reported to have consumed <4 food groups (N=474)	18	3.8	2.3 – 6.0
Households who reported to have consumed ≥4 food groups (N=474)	456	96.2	94.0 – 97.7
Children 6-24 months reported to be breastfeeding(N=329)	161	48.9	43.4 – 54.5
Children introduced to other foods before 6 months (N=329)	281	85.4	81.0 – 89.0
Under five Mortality Rate (U5MR) as deaths/10,000/ day	3.01		1.72 – 4.29
Crude Mortality Rate (CMR) as deaths/10,000/ day	1.98		1.29 – 2.67

The results indicate a critical nutrition situation according to WHO classification. Since the past nutrition assessment were conducted based either on administrative boundaries or covering part of the livelihood zone, it is not feasible to do a direct comparison of the current findings with past results. Nevertheless, the nutrition assessments conducted in Jilib Riverine in May 2006 recorded a **GAM rate of 16.2%** (13.8 – 18.8) and a **SAM rate of 4.2%** (3.2 – 6.0) while the Bu'aale & Sakow districts nutrition assessment carried out in April 2006 recorded a very critical nutrition situation with a **GAM rate of 21.9%** (19.3 – 24.8) and a **SAM rate of 6.6%** (5.1 – 8.4). The current results are, therefore, showing a persistence of a critical nutrition situation in the Riverine livelihood zone.

The retrospective crude and under five mortality rates were estimated at **1.98 CI: (1.29 – 2.67)** and **3.01 CI: (1.72 – 4.29)** deaths/10,000/day respectively, both indicating an 'alert' situation (WHO). The crude mortality rate is higher than the rates recorded in the earlier assessments conducted in May 2006 in Jilib Riverine, 0.80 (0.32 – 1.28) & Bu'aale and Sakow district, 0.16 (0.39 – 0.83) assessments and hence an indication of a deteriorating situation. Under five mortality rate is equally higher than the rates recorded during the above assessments but as the confidence intervals overlap the difference is not statistically significant. The overwhelming majority (>80%) of deaths were reportedly caused by diarrhoea. It should be noted that the mortality recall period covered months April and May 2007 that experienced the AWD outbreak with high case fatality rates (CFR) ranging from 5.88 - 25.58% recorded in Middle and Lower Juba (WHO report). As of 29<sup>th</sup> June 2006, the CFR in Middle and Lower Juba were 7.16% and 4.35% respectively both above the recommended threshold of 1% for urban and 2% for rural populations. Other reported causes of deaths included suspected malaria/febrile illnesses, complications arising during birth, and ARI. The majority of the assessed households (96.2%) consumed a diet comprised of four or more food groups (mean=5.9) which is a reflection of a diversified diet. The source of most of the food was humanitarian food assistance distributed by WFP and partner agencies.

Consumption of a diversified diet has a potential of enhancing nutrition status and this may have minimized risks of malnutrition. Child feeding practices were evidently sub-optimal. Less than half (48.9%) of the children aged 6-24 months were breastfeeding at the time of the assessment, while the majority, 85.4%, had been introduced to complementary foods before the age of 6 months. This is contrary to the international recommendations for exclusive breastfeeding up to the first six months of life; introduction of appropriate complementary

**CURRENT NUTRITION SITUATION**

**Findings of the June 2007 Juba Valley Livelihood Based Nutrition Assessments**

**Riverine Population Assessment Findings**

A total of 936 children aged 6 – 59 months and measuring 65 – 109.9 cm in height/length from 474 households were assessed with mortality data collected from 902 households. Preliminary results reported a **GAM rate of 15.4%** CI: (13.4 – 17.4) and a **SAM rate of 3.2%** CI: (2.3 – 4.2).

<sup>13</sup> FSAU Nutrition Update March 2007  
<sup>14</sup> UNICEF, WVI, SRCS and Muslim Aid

food at the age of six months and continued breastfeeding up-to the age of 24 months and beyond (WHO). Impact of poor childcare practices was further demonstrated with analysis indicating that younger children were relatively more malnourished with 17.4% of the children aged 6-29 months being malnourished as compared to 13.7% of the children aged 30- 59 months. The difference was however not significant ( $p>0.05$ ).



Photo 4. Children playing, Afmadow Town, June 2007 (FSAU)

The reported morbidity rates in the two weeks prior to the assessment was high, with about 36% of the assessed children reported to have suffered from one or more of communicable diseases during this time frame. Suspected malaria/febrile illness and diarrhoea recorded the highest prevalence of diseases having reportedly affected

22.8% and 13.2% of the children respectively. It is of note that a very high proportion of the population access their drinking water from unprotected sources (50-70%) and this is likely to have contributed to the high incidence of diarrhoea (Photo 5), in addition access to sanitation facilities is low ranging from 20-50%. About 55% of the children had sought medical services from public health facilities and this may have mitigated the negative impact of morbidity on nutritional status to some extent. The remaining 26% sought health services either from traditional healers, private clinics or used 'own' medication while 19% did not seek for any assistance. With exception of polio immunization (98.7%) that was within the range of the recommended coverage, the other health programmes; Vitamin A supplementation and measles vaccination were far below the recommended minimum coverage of 95% as illustrated in the table 1.(Sphere 2004).



Photo 5. Humans and livestock sharing water, Jabikore Dheshek, Buale District, June 2007 (FSAU)

The persistence of a critical nutrition situation is attributed to high morbidity coupled with poor child care and feeding practices. Past and current assessments point to the fact that malaria is endemic in the area while diarrhoea is a frequent occurrence especially during

the wet seasons. Poor breastfeeding practices and early introduction of complementary and irregular feeding do not only deny the child nutritional benefits associated with breast milk, but also expose to risks of morbidity. It is also noted that most of the land in the riverine zone is still inundated with flood water since Deyr 06/07. Consequently, farmers have not planted maize crop which is the staple food in the area and hence rely on food aid. In some of the areas where water has receded, some farmers have planted sesame, a cash crop. The negative impact of heavy rains is demonstrated further, where livestock often move away from the area to avoid tsetse flies infestation hence depriving households of milk and the associated milk benefits. These factors could partly explain the critical nutrition situation while good dietary diversity may have mitigated the situation to some extent. Even though dietary diversity is high this is mainly due to food aid from WFP and partners. The nutrition situation of the Riverine population requires close monitoring due to the chronic and highly vulnerable nature of this crisis.

### Pastoral Population Assessment Findings

A total 919 children aged 6- 59 months and measuring 65 cm and/or less than 110cm were assessed with mortality data collected from 906 households. The results of the assessment are presented as follows:

Table 2. Summary of the Juba pastoral assessment findings

Indicator	n	%	95% CI
Total number of households surveyed	456	100	
Total number of children assessed	919	100	
Global Acute Malnutrition (WHZ<-2 or oedema)	123	13.4	11.0 – 15.8
Severe Acute Malnutrition (WHZ<-3 or oedema)	12	1.3	0.5 – 2.1
Oedema	2	0.2	0.0 – 0.6
Global Acute Malnutrition (WHM<80% or oedema)	62	6.7	5.0 – 8.5
Severe Acute Malnutrition (WHM<70% or oedema)	2	0.2	0.0 – 0.6
Children reported with diarrhoea in 2 weeks prior to assessment	227	24.7	18.2 – 31.2
Children reported with ARI within two weeks prior to assessment	157	17.1	11.7 – 22.5
Children reported with febrile illness in 2 weeks prior to assessment	278	30.3	24.8 – 35.7
Children reported with suspected measles within one month prior to assessment (N=878)	37	4.2	1.9 – 6.5
Children (9-59 months) immunised against measles (N=878)	233	26.5	13.3 – 39.8
Children who have ever received polio vaccine	877	95.4	93.2 – 97.6
Children reported to have received vitamin A supplementation in last 6 months	198	21.5	9.9 – 33.2
Proportion of children 6-24 months reported to be breastfeeding (N=270)	149	55.2	46.7 – 63.7
Children (6-24 months) reported to have been introduced to other foods before 6 months	262	97.0	93.3 – 100
Proportion of households who reported to have consumed $\leq 3$ food groups (N=456)	73	16.0	7.3 – 24.7
Proportion of households who reported to have consumed $\geq 4$ food groups (N=456)	383	84.0	75.3 – 92.7
Under five Death Rate (U5DR) as deaths/10,000/ day	2.52		1.00 – 4.04
Crude Death Rate (CDR) as deaths/10,000/ day	0.85		0.47 – 1.23

Results recorded a **GAM rate of 13.4%** (CI: 11.0 – 15.8) and a **SAM rate of 1.3%** (CI: 0.5 – 2.1). The crude and U5 mortality rates of 0.85 (0.47–1.23) and 2.52 (1.00–4.04) respectively ranged from normal to 'alert' levels in the assessment among the Pastoral population in Juba valley.

These results indicate a serious situation but an improvement in the nutrition situation estimated as part of an integrated analysis following the Deyr '06/07. Two oedema cases (0.2%) were reported during the assessment. In relation to previous assessments conducted in this region, direct comparison may not be feasible but integrated analysis shows an improvement from very critical levels in two previous assessments<sup>15</sup> in Afmadow/Hagar and Bu'aale/Sakow nutrition assessments conducted based on administrative district boundaries when **GAM rate of 22.0%** CI: (19.4 - 24.9%) and 21.9% CI: (19.3 – 24.8) were reported. The assessments followed a period of drought-induced humanitarian emergency that affected the most of southern Somalia due to poor *Gu* '05 rains and failed *Deyr* '05/06 rains that resulted in massive animal deaths and human suffering. Since then, significant humanitarian interventions have taken place and the region has received good rains in the *Gu* '06 and *Deyr* '06/07 leading to significant recovery of livestock conditions and improved access to milk and other livestock products. Dietary diversity was high with 84% of the households consuming four or more food groups in the previous 24 hours. Improved milk consumption (91.4%) and recent supplies of cereals, pulses and oil from humanitarian food assistance, in addition to access by purchase of sorghum (readily available in the market) have contributed to improved dietary diversity and by extension to improved nutrition status. However, poor access to health services and low coverage of vitamin A supplementation (21.5%) and measles vaccination (26.5%) among the pastoralists are worrying and require urgent attention. This, coupled with consistently high morbidity rates, especially diarrhoea (24.7%) and suspected malaria/febrile illness (30.3%) are possible aggravating factors to the nutrition situation. Almost half (46.6%) of the assessed children reportedly fell ill from one or more of the communicable diseases during the two weeks (one month for measles) prior to the assessment.

Analysis continues to show strong association between malnutrition and morbidity rates, with children who fell ill being 1.6 times more likely to be malnourished (RR=1.57 CI: 1.11-2.11). Poor feeding practices remain one of the main risk factors of malnutrition in the region, given 44.8% of children stopped breastfeeding prematurely and most (84.4%) children were prematurely introduced to complementary



Photo 6. Teenage mother, Doble Village, Afmadow District, June 2007 (FSAU)

foods within three months of their life. Frequency of complementary feeding showed a significant association with acute malnutrition with those who were fed less than five times a day more likely (1.28 < RR= 3.18 < 7.92; p=0.03) to be malnourished than those who were fed at least five times as recommended (Sphere, 2004). Limited access to protected water sources and sanitation facilities also remain a huge concern with only 25% of the population using water from protected sources and a slighter higher 33% using sanitation facilities, both of which are likely to have contributed to the elevated diarrhoeal incidence. Continued measures to enhance sustainable livelihoods, water & sanitation facilities, access to health services and nutrition care practices are therefore recommended to sustain the Juba Pastoral population on a path to full livelihood and nutritional security.

proportion (60%) of children aged 6 – 24 months were still breastfeeding, contributing positively to the children’s nutritional status. Mortality data indicates a crude mortality rate (CMR) of **1.1** (0.79–1.41) and under five mortality rate (U5MR) of **2.47** (1.27–3.68). Both rates indicate an alert situation according to WHO classification. Diarrhoeal disease was the main cause of death reported by the households. This was not surprising following the acute watery diarrhoea (AWD) outbreak which occurred in South Central Somalia including the Juba valley in January 2007. Not surprisingly over the recall period (March 2007 and June 2007) for the mortality data collection, WHO had reported significantly high AWD case fatality rates in both Lower and Middle Juba, as illustrated earlier.



Photo 7. Children Playing, Doble Village, Afmadow District, June 2007 (FSAU)

The proportion of children who had suffered from one or more communicable childhood diseases during the two weeks prior to the assessment was high (40.3%). As shown on table 3, the proportion of children that had reportedly suffered from diarrhoea, ARI and suspected malaria two weeks prior to the study was 16.6%, 11.7% and 26.6% respectively. Disease and poor food intake remain the immediate

causes of acute malnutrition among children. In the Juba Agro-pastoral incidence of diarrhoea and ARI were significantly associated with children’s nutritional status (p-value<0.05) with children suffering from these illnesses one and a half times more likely to be acutely malnourished than their healthy counterparts. Again as earlier highlighted, the AWD outbreak contributed to the high prevalence of diarrhoeal diseases and predisposed children to malnutrition. Past studies and qualitative data showed that sanitation and water quality for household consumption remained poor. While diseases continue to predispose children to malnutrition, concern remains on child care practices as about 46% of the sick children’s caretakers did not seek medical assistance when their children were ill. Further, the majority (89%) of the children were introduced to complementary foods before the age of 6 months which predisposes them to disease and malnutrition. Past studies have shown that vitamin A greatly improves the immunity of individuals, hence reducing the disease burden of a population. However, as shown on table 3, measles immunisation and vitamin A supplementation coverage were far below the WHO recommended coverage of 95%.

In summary the nutrition situation in Juba Valley, though still serious, has indicated some recovery in recent months following the good Deyr ’06/07 rains. However, in order to ensure nutrition recovery of the population to acceptable levels, intensive efforts to address the underlying causes of malnutrition through enhanced delivery and access to health care, enhanced availability and access of protected water services, enhanced sanitation facilities and education opportunities to enhance care practices for mothers, are essential in a peaceful and secure environment. This will require a shift in current focus from life saving and humanitarian interventions to parallel humanitarian and long term sustainable development assistance.

**Training and courses announcements**

- Nutrition in Emergencies Course, University of Westminster, UK, on 10th-14th September. For details contact, Kate Godden at k.godden@wmin.ac.uk
- Public Health in Complex Emergency (PHCE) Course, Makerere University Institute of Public Health (IPH) in Kampala on December 3-15. Information and application forms are also available at: www.phcetraining.org

**Other related publications and Releases**

- o FSAU/FEWSNET Climate Data Update , July 2007
- o FSAU Food Security and Nutrition Brief, June 15<sup>th</sup> 2007
- o FSAU/FEWSNET Market Data Update, June 2007.
- o FSAU/FEWSNET Climate Data Update, June 2007

16 GAM rates 22.0% (19.4 – 24.9)  
17 GAM rates 21.9% (19.3 – 24.8)

**Agro Pastoral Population Assessment Findings**

A total of 915 children aged 6 – 59 months were assessed from 443 households. Mortality data was collected from 901 households. Preliminary results indicate a **GAM rate of 10.2% (8.0 – 12.4)** with a **SAM rate of 1.3% (0.4 – 2.2)**. The results indicate a serious nutrition

Indicator	No	%	95% CI
Total number of households surveyed	443	100	
Total number of children assessed	915	100	
Global Acute Malnutrition (WHZ<-2 or oedema)	93	10.2	8.0 – 12.4
Severe Acute Malnutrition (WHZ<-3 or oedema)	12	1.3	0.4 – 2.2
Oedema	0	0	0
Global Acute Malnutrition (WHM<80 or oedema)	63	6.8	5.0-8.8
Severe Acute Malnutrition (WHM<70 or oedema)	7	0.8	0.3-1.3
Children reported to have diarrhoea in 2 weeks prior to study	152	16.6	10.7 – 22.5
Children reported to have ARI within 2 weeks prior to study	107	11.7	8.2 – 15.2
Children with suspected malaria/febrile illness in 2 weeks prior to study	243	26.6	18.7 – 34.4
Suspected measles within one month prior to study	15	1.6	0.6 – 2.7
Children (9-59 months) immunised against measles (N=882)	432	49.0	34.4 – 63.3
Children who have ever received polio vaccine	855	93.4	91.6 – 94.9
Children supplemented with vitamin A in last 6 months	203	22.2	19.6 – 25.0
Households who consumed ≤3 food groups (N=443)	80	18.1	14.7-22.0
Households who consumed ≥4 food groups(N=443)	363	81.9	78.0 – 85.3
Children 6-24 months who are breastfeeding (N=244)	134	60.0	48.1 – 61.7
Children introduced to other foods before 6 months	217	88.9	84.3 – 92.6
Under Five Mortality Rate (U5MR) as deaths/10,000/day	2.47		(1.27–3.68)
Crude Mortality Rate (CMR) as deaths/10,000/day	1.1		(0.79–1.41)

situation according to WHO classification. Nutrition surveys conducted in the Juba valley in Afmadow/Hagar districts<sup>16</sup> and Bu’aale/Sakow districts<sup>16</sup> in April/May 2006 both indicated global acute malnutrition rates of about 22%. The Juba Agro Pastoral population, which forms about 30% of the population in the Juba Valley, was included in these assessments. Although direct comparison of the assessment findings is not feasible, the assessment findings indicate an improvement in the nutrition situation. Since April/May 2006, there has been an ongoing improvement in the food security situation in the Juba Agro-pastoral livelihood zone following improved Gu’06 rains and exceptionally good Deyr ’06/07. This is reflected by an increase in the proportion of households that were consuming a diversified diet (81.9%) during the current assessment and also trends observed from the FSAU sentinel surveillance sites in agro pastoral areas. The observed improved dietary diversity partly accounts for the improvement in the nutrition situation due to increased access to milk and cereals. Additionally, a relatively high