



# Nutrition and food security early warning in Niger

Recommendations for the Famine Early Warning  
Systems Network (FEWS NET) and partners to  
monitor and address the information gaps in Niger

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## DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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## BACKGROUND

The nutritional emergency in Niger in 2004/5 highlighted the need to better understand the underlying, persistent burden of malnutrition in Niger, and to expand the capacity of FEWS NET and partner institutions to monitor, analyze and interpret malnutrition and other indicators relevant for early warning of future nutritional crises. To address this need, FEWS NET commissioned two interrelated special reports, as part of its surge effort for Niger:

1. A Special Report discussing the underlying causes of poor nutrition and the relevance to food security crises in Niger.
2. The present Special Report presenting guidance on monitoring nutrition and addressing nutrition-related food security gaps in Niger.

This Special Report aims to provide guidance to FEWS NET and partner institutions, specifically by:

1. Outlining the most common manifestations of malnutrition in low-income countries and noting their relevance to the collection, analysis and interpretation of nutritional data;
2. Identifying key areas where existing information could be better used and exploited by FEWS NET and partners; and
3. Identifying gaps in information related to nutrition that FEWS NET and/or partners could fill in order to create a better overall understanding of the nutrition situation in Niger, and to more effectively incorporate nutrition monitoring into the food security early warning system.

## MANIFESTATIONS OF MALNUTRITION

In order to identify information and monitoring gaps in Niger, it is important to first outline the basics of what we do know about malnutrition. In theory the basic causal factors leading to child malnutrition are fairly well understood (food insecurity, poor or inappropriate care and feeding practices and lack of access to quality public health). However, the precise pathways and subsequent clinical manifestations (visible physical effects) of malnutrition are still somewhat unclear. This section outlines the main types of malnutrition, how they are measured and why they are important, particularly in low-income country settings. Following this overview, nutritional surveys and surveillance are discussed.

### **Selective feeding: A general term used to describe all supplementary and therapeutic feeding programs for acutely malnourished children**

#### **SUPPLEMENTARY FEEDING**

Rehabilitation for acutely moderately malnourished children. Most supplementary feeding programs operate every two weeks on an outpatient basis and include a take home ration (blended food and vegetable oil) and basic treatment.

#### **THERAPEUTIC FEEDING**

Rehabilitation for severely acutely malnourished children. There are several types of therapeutic feeding. Inpatient care is for severely malnourished children with complications. Once stabilized most severely malnourished children are treated in outpatient treatment programs (OTP). The majority of children can be treated directly in OTP without the need for inpatient treatment.

## **ACUTE MALNUTRITION**

The term “acute malnutrition” is defined as the combination of wasting and edematous malnutrition (swelling of the feet and sometimes the lower limbs). In emergencies, the prevalence of acute malnutrition is used as an indicator of the severity of the crisis, and assists in determining what types of interventions may be required (if any). Acute malnutrition is also used for referral and admission to selective feeding programs. The objective of the measurement of acute malnutrition (assessing prevalence in a population, screening or referral and admission of individual children to feeding programs) will determine how acute malnutrition is measured. When assessing the prevalence of acute malnutrition at population level, it is defined as Weight-for-Height (WFH) of  $<-2$  Z scores and/or edema. This is also known as the global acute malnutrition (GAM) rate and encompasses both moderate acute malnutrition (MAM  $<-2$  and  $>-3$  Z scores) and severe acute malnutrition (SAM  $<-3$  Z scores and/or edema). GAM, MAM and SAM rates are usually reported separately. The MAM rate is used to determine the need for supplementary feeding programs. Similarly the SAM rate is used to determine the need for therapeutic feeding programs. The prevalence of edema is reported as part of the SAM rate and reported separately (See Annex 1).

Another measure of acute malnutrition, mid upper arm circumference (MUAC), is a highly sensitive indicator of mortality risk in young children.<sup>1</sup> It is also simple to use and understand and is now being increasingly used to identify, refer and admit malnourished children to therapeutic and supplementary feeding programs. MUAC and/or edema has often been used in rapid assessments to quickly gauge the extent of acute malnutrition in the initial stages of a crisis and/or when previously inaccessible areas open up before a population based survey (using WFH) can be conducted (see Annex 1).

Assessing acute malnutrition in an emergency is vital in part because severe acute malnutrition is associated with a mortality risk and therefore demands immediate action to prevent excess mortality.

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<sup>1</sup> Myatt, M et al A review of methods to detect cases of severe malnourished children in the community for admission to Community Therapeutic Care WHO Consultation on community-based management of severe malnutrition, November 2005

## CHRONIC MALNUTRITION

“Chronic malnutrition” or stunting (Height-for-Age  $< -2$  Z scores) begins soon after birth and continues well into the third year.<sup>2</sup> The reason that chronic malnutrition is not monitored during an emergency is that the underlying causes are associated with the so-called intractable causes (i.e., poverty) and it takes a long time to impact on rates of stunting.

## TYPE I AND TYPE II NUTRIENTS

Anthropometric (i.e., body measurements) surveys do not tell us anything about how malnutrition comes about. It is well recognized that the indicators and “cut offs” used to classify acute and chronic malnutrition are the end result (that is, late stage) of cumulative poor nutrition. In some cases, notably with edematous malnutrition, onset may be very rapid so that the child may appear healthy one day and clearly malnourished a few days later. However, the outcome is usually the result of very poor diet over time. It is now fairly well accepted that there are two groups of nutrient deficiency: Type I (“functional nutrients”) and Type II (“growth nutrients”) (Annex 2).<sup>3</sup>

Type I nutrients are required for specific metabolic functions. With a deficient diet, the person continues to grow normally, but when bodily stores are depleted the clinical symptoms are usually recognizable (for example, iron deficiency will lead to anemia and iodine deficiency will lead to goiter).

Type II nutrient deficiencies result in poor growth, stunting and wasting. A person can easily have a Type II deficiency that goes uncorrected. This is not a major problem for treatment because specially designed diets should contain sufficient amounts of Type II nutrients in a balanced way. However it is a problem for prevention. It is probable that most acutely malnourished (wasted) children in Niger are also stunted. Most nutritionists no longer use the term Protein-Energy Malnutrition (PEM) since it is clear that wasting and stunting are not the result of lack of protein or energy per se, but much more likely to be the result of a multiple nutrient deficiencies. In tracking and analyzing nutrition data and information, it is useful to keep this in mind.

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<sup>2</sup> Shrimpton, R et al Worldwide timing of growth faltering: Implications for nutritional interventions Paediatrics, May 2001,107 (5)

<sup>3</sup> Action Against Hunger (AAH) 2002 Assessment and Treatment of Malnutrition

# USING AND EXPLOITING EXISTING NUTRITIONAL INFORMATION

## NUTRITION SURVEYS AND ASSESSMENTS

Nutrition survey information should be used to confirm the severity of a crisis. There is broad agreement regarding good practices for gathering and analyzing anthropometric data for estimating prevalence of acute malnutrition. The UNICEF causal framework model has been widely adopted as the basis for nutrition assessments.

It is recommended that the UNICEF causal framework be used as the basis for conducting, analyzing and interpreting nutrition survey information.<sup>4</sup>

Nutrition survey data and information in Niger are not compiled and analyzed well. Most nutrition surveys are conducted on an ad hoc basis to meet the needs of varying agency objectives (usually selective feeding programs). As such this information is not very useful in gauging the bigger picture. To date in Niger a joint survey by the Government, UNICEF and the Centers for Disease Control (September 2005) has been the only nationwide nutrition and mortality survey conducted during the crisis period. It is much more useful to have several regional/national surveys and assessments that are very well analyzed than a plethora of local surveys that are poorly designed and analyzed, which happens all too frequently.

It is recommended that FEWS NET, its partners and donors (e.g., OFDA, GoN, UNICEF) commission region-wide nutrition, mortality and food security assessments on a regular basis.<sup>5</sup> The relationship between food security and nutritional status varies among different groups in Niger. Therefore analysis should include different livelihood groups and different geographical settings. Data and information may be compared to other situations using a simple risk/causal analysis table (see Annex 3).

## NUTRITION SURVEILLANCE

Nutrition surveillance is often part of an early warning system. The aim of such a system is to monitor trends rather than absolute levels of malnutrition. This allows for the interpretation of prevalence rates in comparison to what is “normal” for the time of year. Nutritional surveillance is not at all robust in Niger.

It is recommended that a nutrition, mortality and food security baseline be established in Niger against which to monitor trends. This may vary according to regions within Niger.

As part of the nutritional surveillance system the following data and information should be monitored:

- **Prevalence of acute malnutrition**

The Global Acute Malnutrition (GAM) rate should be tracked using available data and reported in comparison to the seasonal norm. High prevalence rates outside of the seasonal norm are a particular cause for concern and this should be clearly highlighted.

- **Prevalence of edema**

The prevalence of edema should be reported separately. This is because the causal pathways for edematous malnutrition are different from those leading to wasting. Edematous malnutrition may follow severe infections (such as outbreaks of measles); additionally high rates of edema often indicate widespread nutrient deficiency of Type 1 nutrients in the population and suggest an urgent need to pay attention to dietary quality including food aid rations. In Niger edema is relatively uncommon.

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<sup>4</sup> The nutrition check list outlined in SPHERE handbook (Appendix 4) is useful in this regard. The Sphere Project: Humanitarian Charter and Minimum Standards in Disaster Response, 2000

<sup>5</sup> For example, in Darfur there have been two region wide nutrition and food security assessments (September 2004 and September 2005)

- **Proportion of severe acute malnutrition (SAM) compared to global acute malnutrition (GAM)**

The proportion of SAM compared to GAM should be reported. If GAM is high (outside of the seasonal peak) and SAM is relatively low, this may indicate that people are stretched but able to fend off acute wasting through response strategies, such as selling assets or changing food consumption patterns. If the SAM is relatively high (usually >3%) this usually indicates a very serious situation and will likely coincide with increased admission to feeding centers. If HIV/AIDS prevalence is high, SAM rates may be particularly high compared to the GAM.

It is recommended that FEWS NET in collaboration with UNICEF report GAM rates in comparison to the seasonal norm. Particular attention should be given to reporting rates of edema separately and to monitoring and reporting and analyzing rates of SAM compared to GAM.

- **Admissions to therapeutic feeding programs**

Admissions to therapeutic feeding programs (inpatient and outpatient) should be tracked. This is currently done in Niger by UNICEF. However the analysis is weak. Admissions should be tracked according to seasonal norms. Increases in admissions before the peak season (when used in context) can be a sensitive indicator of an impending nutritional crisis. Admission of malnourished infants less than six months should also be reported. Infants under six months are not reported in surveys. As a result there may be under-reporting of the true caseload of severe acute malnutrition in the population of infants less than six months of age. In Niger, the caseload of malnourished infants under six months in the MSF inpatient therapeutic feeding centers is high. These infants have a high mortality risk.

It is recommended that FEWS NET in collaboration with UNICEF, MSF and ACF track admissions to therapeutic feeding centers. Increases admissions prior to the seasonal peak should be reported and noted. Admissions of malnourished infants should also be reported.

- **Program outcome indicators and coverage**

Program outcome indicators should be compared to SPHERE standards. This is already done by UNICEF. However there are very likely flaws in the reports from implementing agencies to UNICEF and therefore flaws in the compilation of data and analysis. Coverage must be included as an indicator of program access and impact. Coverage is also a good proxy indicator of the extent of community involvement (and understanding) in a program. In Niger, coverage of the selective feeding program has been found to be very low, thus large numbers of malnourished children are not accessing treatment. It is imperative that UNICEF track and monitor coverage.

UNICEF must effectively monitor selective feeding programs to ensure data and reporting are reliable and thus the compilation and analysis is accurate. FEWS NET in collaboration with UNICEF should monitor and report on program coverage.

- **Epidemics and seasonal disease outbreaks**

Disease outbreaks should be reported (such as measles and cholera), as they may impact on mortality rates. Seasonal peaks for diarrhoeal disease, malaria and acute respiratory infections (ARI) should also be investigated and noted. Where the prevalence of malnutrition is already high, a concurrent high prevalence of malaria will likely increase the number of cases of malnutrition with complications and thus those admitted for inpatient therapeutic treatment.

Seasonal disease patterns should be reported in relationship to nutritional data. This includes malaria, diarrhea and ARI. Major outbreaks of measles, meningitis and cholera should also be noted.

## GAPS IN INFORMATION AND INTERPRETATION

### HOUSEHOLD FOOD AVAILABILITY AND CONSUMPTION PATTERNS

In Niger the diet of most children is extremely monotonous, usually consisting of millet based porridge even when there are various types of foods in the household and the diet of older household members may be more diverse. The monotonous diet leads to nutrient deficiencies and often to anorexia (lack of appetite) and concurrent weight loss. Inadequate nutrient consumption often precedes weight loss and the anthropometric changes we use to define malnutrition. Measurement of dietary diversity should therefore be an important part of nutritional analysis. Careful monitoring of food consumption patterns, particularly for mothers and children, is essential. The monitoring of the quality, quantity and use of general food aid rations – particularly where dependence on food aid is known to be very high and complementary commodities such as vegetables and fruits are scarce - is also important.

It is recommended that household food consumption patterns including food use, dietary diversity, intra-household food allocation and cultural taboos be monitored and documented. This type of information would complement the Knowledge Attitudes and Practice (KAP) information collected by some agencies.

The sale of food aid commodities used in selective feeding programs has been observed in Niger and should also be monitored and analyzed. Large scale sale of specially designed food products such as “Plumpynut” usually indicates poor coverage of programs and/or poor program design and implementation and merits further investigation on the part of implementing partners and UNICEF.

WFP provided a “protection ration” to the households of severely malnourished children in Niger to reduce sharing, as well as to improve overall household availability of food (particularly for other children in the household) through provision of a blended food. This should also be monitored.

### COLLECTION AND TRIANGULATION OF DATA AND USE OF THRESHOLDS

Triangulation of available data and information is critical. This includes food security, mortality and morbidity data, nutrition surveys, information on seasonal prevalence rates and admissions to therapeutic feeding centers (Figure 1). It also should include information on availability and use of local foods garnered through focus groups discussions and household visits (such as those conducted by outreach workers and volunteers as part of Community Therapeutic Care (CTC) programs).<sup>6</sup> The inter-relationship between malnutrition and mortality varies. The nature of the inter-relationship is critical both for predicting and diagnosing crises. There is currently lack of coherence between the causes of malnutrition and the frameworks for decision making on selective feeding programs (i.e. appropriate response). Reliance on these frameworks based on thresholds (frequently quoted in the reports on Niger) often fails to adequately account for seasonal fluctuations, pre-emergency levels, trends and underlying causes (see Annex 4).

Food security and nutrition information should be collected from all groups in the affected population in a culturally acceptable manner. In Niger this means including women in assessments, surveys and in the gathering of information in Niger. Most of the collection, and interpretation of data and most nutrition programs are run by men. This is a significant obstacle in Niger that needs to be addressed. Information should be continually shared within and among sectors.

It is recommended that FEWS NET in collaboration with WFP and UNICEF attempt to effectively triangulate data and information.

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<sup>6</sup> There is a CTC working group in Niger. This group could be asked to gather and document appropriate information on nutrition and household consumption and food use patterns

It is recommended that FEWS NET should not simply rely on WHO thresholds to determine the severity of a crisis or to determine the need for a response, but rather data should be effectively interpreted in context (e.g., considering food access, care practices, public health information, as well as the distribution and trends in malnutrition over space and time).

It is recommended that women should be included in assessments and in gathering information on household food security and nutrition. This is essential in order to gain access and useful relevant information. Information should be continually shared within and among sectors.

## NUTRITION DATA AND INFORMATION: WHAT TO MONITOR IN NIGER

Type of data/information	Period	Considerations for reporting and interpretation
<b>Assessments and nutrition surveys</b>		
Nutrition, food security and mortality assessments	Initial assessment  Every 6 months	<ul style="list-style-type: none"> <li>• Causal framework should be used for the basis for conducting, analyzing and interpreting information<sup>7</sup></li> <li>• Region wide assessments are preferable to many ad hoc nutrition surveys</li> <li>• Analysis should include different livelihood groups (e.g. pastoral, agro-pastoral and agricultural)</li> <li>• Prevalence rates for acute malnutrition must always be compared to the seasonal norm</li> </ul>
Nutrition surveys	May be conducted every 3 -6 months by individual agencies to for program planning purpose and determine impact	<ul style="list-style-type: none"> <li>• Nutrition surveys conducted by various agencies should be interpreted with caution. They often represent only part of an area or region. Data should not be extrapolated out of context.</li> <li>• Use in combination with other information (see Figure 1)</li> </ul>
<b>Nutrition surveillance (monitoring trends)</b>		
Establishing a baseline		<i>*A baseline (according to season) needs to be established in Niger against which to monitor trends. This may vary according to region.</i>
Prevalence of acute malnutrition	Ongoing	<ul style="list-style-type: none"> <li>• Global Acute Malnutrition (GAM) rate should be tracked using available data (usually surveys).</li> <li>• Report in comparison to baseline and seasonal norm.</li> </ul>
Prevalence of nutritional Edema	Ongoing	<ul style="list-style-type: none"> <li>• Edema should be reported separately.</li> <li>• High rates of edema may indicate a serious situation and requires further investigation. Edema is not common in Niger</li> </ul>
Proportion of Global Acute Malnutrition (GAM) compared to Severe Acute Malnutrition (SAM)	Useful in initial assessment  Ongoing	If the GAM rate is high (outside of the seasonal peak, this may indicate that people are stretched but able to fend off acute wasting through coping and/or distress strategies. If the SAM rate is high (usually >3%), this indicates a serious situation. In areas of high HIV/AIDS prevalence SAM may be high compared to GAM irrespective of season. This is not the case in Niger.
Admissions to therapeutic feeding centers	Ongoing	<ul style="list-style-type: none"> <li>• Admissions to therapeutic feeding centers should be tracked according to seasonal norms</li> <li>• Increases in admissions before the peak season (when used in context) can be a useful indicator of an impending crisis (need for a response).</li> <li>• Admissions of infants &lt;6 months should be tracked. This is a high risk group with high mortality rates. Infants &lt; 6 months are not included in survey data.</li> </ul>
Program coverage	Ongoing	<ul style="list-style-type: none"> <li>• Program outcome indicators are usually reported by UNICEF.</li> <li>• Coverage is an important indicator of program access and impact.<sup>8</sup> Coverage should be &gt; 50% (Sphere)</li> </ul>
Epidemics and seasonal disease outbreaks	Ongoing	<i>*Seasonal patterns of disease by geographical region should be investigated (diarrhea, acute respiratory infection and malaria)</i> Seasonal patterns of disease should be reported in relationship to nutrition and mortality data
Household food availability and consumption patterns		<i>*Quantification of dietary monotony is an important part of nutritional analysis. Food use, dietary diversity, intra household allocation and cultural habits and taboos should be investigated, monitored and reported. This information should include household food availability and use for children and mothers (particularly breastfeeding mothers)</i>

\* Blue corresponds to data or information which is currently unavailable or not yet monitored

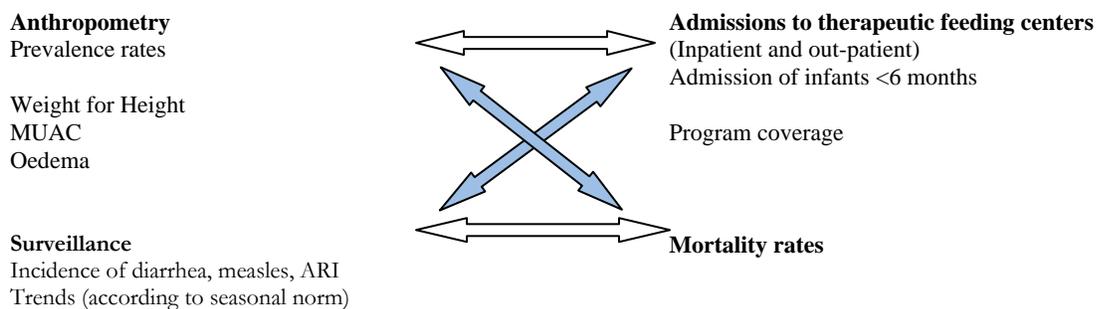
<sup>7</sup> See SPHERE, 2004, nutrition assessment list Appendix 4; page 180

<sup>8</sup> Coverage is key SPHERE indicator (>50% in rural areas and >70% in urban areas)

## TRIANGULATION OF DATA AND DEFINITIONS

Triangulation of available data and information is critical. This includes food security, mortality and morbidity data, nutrition surveys, information on seasonal prevalence rates and admissions to therapeutic feeding centers (Figure 1). It also should include information on availability and use of local foods garnered through focus groups discussions and household visits (such as those conducted by outreach workers and volunteers as part of Community Therapeutic Care programs). The inter-relationship between malnutrition and mortality varies. The nature of the inter-relationship is critical both for predicting and diagnosing crises.

**Figure 1: Triangulation of data**



### Contextual analysis

Seasonal norms and patterns  
Food security information  
Household food availability and consumption patterns  
Analysis based on causal framework  
Population size and structure and regional/geographic differences

**TABLE I: DEFINITIONS (ACUTE MALNUTRITION)**

	Definitions	Visible/clinical manifestations
<u>Global acute malnutrition (GAM)</u>	Weight for Height (WHZ) < -2 Z score and/or edema	Thin/wasted or bipedal edema
<u>Moderate acute malnutrition (MAM)</u> Population surveys  MAM for referral and admission to supplementary feeding programs	WHZ < -2 Z score  WHM < 80% Or < 125 MUAC without complications	Thin/wasted
<u>Severe acute malnutrition (SAM)</u> Population surveys  SAM for referral and admission to TFC/outpatient therapeutic treatment (OTP)  SAM for referral and admission to inpatient therapeutic care	WHZ < -3 and /or edema  WHM < 70% Or edema +/++ Or MUAC < 110 Appetite and no complications  WHM < 80% Or edema +++ Or MUAC < 110 Anorexia and one of the following LRTI, high fever, severe dehydration, severe anemia, not alert	Marasmus Edematous malnutrition also referred to as Kwashiorkor

## ANNEX 1: DEFINITIONS AND MANIFESTATIONS OF MALNUTRITION

Definitions		Visible/ clinical manifestations
<u>Global acute malnutrition (6-59 months)</u> GAM	Weight for Height (WHZ) < -2 Z score and/or edema	
<u>Moderate acute malnutrition</u> MAM (population surveys)  MAM for referral and admission to SFP (CRENAM)	WHZ < -2 Z score  WHM < 80% without complications Or < 125 MUAC	Thin/wasted
<u>Severe acute malnutrition</u> SAM (population surveys)  SAM for referral and admission to TFC/outpatient therapeutic treatment (OTP)  SAM for referral and admission to inpatient therapeutic care	WHZ < -3 and /or edema  WHM < 70% Or edema +/+++ Or MUAC < 110 (6-59 months) AND appetite and no complications  WHM < 80% Or edema +++ Or MUAC < 110 AND anorexia (no appetite and/or one of the following complications: LRTI, high fever, severe dehydration, severe anemia, not alert)	Marasmus Edematus malnutrition also referred to as Kwashiorkor
<u>Chronic malnutrition</u> <u>Severe chronic malnutrition</u>	Height for Age (HFA) < -2 Z HFA < -3 Z	Stunting (short for age) Severely short for age
<u>Underweight</u> <u>Severe underweight</u>	Weight for Age < -2 Z WFA > -3 Z	Failure to thrive Wasting and stunting composite

Weight for Height using standard deviation or Z score (WHZ)

Weight for Height using percent of median (WHM)

Mid Upper Arm Circumference (MUAC)

Kwashiorkor is defined by pitting edema of the feet + (lower limbs++ face +++)

Under-weight (low weight for age) is used for growth monitoring

## ANNEX 2: METABOLIC COMPONENTS OF TYPE I AND TYPE II NUTRIENTS AND THE EFFECTS OF DEFICIENCIES

Type I Nutrients	Type II Nutrients
Selenium, Iodine, Iron, Copper, Calcium, Manganese, Thiamine, Riboflavin, Ascorbic acid (vitamin C), Retinol (vitamin A), Tocopherol (vitamin E), Calciferol (vitamin D), Folic acid, Vitamin B12, Pyrodoxin (vitamin B6)	Nitrogen, Sulphur, Essential amino acids, Potassium, Sodium, Magnesium, Zinc, Phosphorus, Water
<b>Metabolism</b>	
Utilized in specific pathways	Utilized in all tissues
Nutrients working independently of each other	Balance needed between the different nutrients in the group
Variable tissue concentration	Fixed tissue concentration
Weak control over excretion	Fine control over level of excretion
Reserves in the body	No reserves
<b>Deficiency</b>	
Decrease in tissue concentration	No decrease in tissue concentration—decrease occurs due to reduction of tissue itself
Characteristic clinical symptoms	No specific clinical symptoms
Deficiencies appearing after a certain length of time	Deficiencies depend on daily intake

Source: ACF, 2002. Assessment and Treatment of Malnutrition

## ANNEX 3: FACTORS AFFECTING NUTRITION IN SELECTED SITUATIONS

SCN/Nutrition Information in Crisis Situations (NICS)

These categories are summations of the causes of malnutrition and the humanitarian response, but should not be used in isolation to prescribe the necessary response.

Situations in the table are classed into five categories relating to prevalence and/or risk of malnutrition:

I: Very high risk/prevalence where population is currently in a critical situation (either very high risk of malnutrition based on underlying causes) or very high prevalence of malnutrition and/or elevated mortality rates

II: High risk of becoming malnourished or already high prevalence rates

III: Moderate risk of malnutrition or moderately high prevalence rates. Maybe pockets of high malnutrition

IV: Not at elevated risk nutritional risk

V: Risk is not known.

	<b>Ethiopia</b> Hartushek and Fanfen IDP camps	<b>Ethiopia</b> Refugee camps in Gambella region	<b>Kenya</b> Northern Turkana	<b>Sudan</b> Darfur	<b>Niger</b> Parts of the South	<b>Uganda</b> IDP camps in Gulu district	<b>Chad</b> Oure Cassoni and Am Nabak refugee camps	<b>Western Saharawi</b> refugees in Algeria
Nutritional risk category	II	II	II	II/I	II	III	II	III
<b>Food Security</b>								
Households' livelihoods	☹	☹	☹	☹	☹	☹	☹	☹
External assistance	☹	☹	☹	☹	☹	☹	☹	☹
<b>Public health environment</b>								
Availability of water and access to potable drinking water	☹	☹	☹	☹	?	☹	☹	?
Health care	☹	?	☹	☹	☹	☹	☹	?
Sanitation	?	☹	☹	☹	?	☹	☹	?
<b>Social and care environment</b>								
Social environment	☹	?	?	☹	?	☹	☹	?
Child feeding practices	?	?	?	?	?	?	?	☹
<b>Delivery of assistance</b>								
Accessibility to population	☹	?	☹	☹	☹	☹	☹	☹
Resources for humanitarian Intervention	☹	☹	☹	☹	☹	☹	☹	☹
Availability of information	☹	☹	☹	☹	☹	☹	☹	☹

☺ Adequate

☹ Mixed

☹ Inadequate

## ANNEX 4: DECISION MAKING FRAMEWORK FOR THE IMPLEMENTATION OF SELECTIVE FEEDING PROGRAMS

Finding	Action required
Food availability at household level <2100kcal/p/day	Unsatisfactory situation: <ul style="list-style-type: none"> <li>• Improve general rations until local food availability and access can be made adequate</li> </ul>
Malnutrition rate* 15% or more or 10-14% with aggravating factors†	Serious situation: <ul style="list-style-type: none"> <li>• General rations (unless situation is limited to vulnerable groups); plus</li> <li>• Supplementary feeding generalised for all members of vulnerable groups, especially children and pregnant and lactating women</li> <li>• Therapeutic feeding for severely malnourished individuals</li> </ul>
Malnutrition rate* 10-14% Or 5-9% with aggravating factors†	Risky situation: <ul style="list-style-type: none"> <li>• No general rations; but</li> <li>• Supplementary feeding targeted to individuals identified as malnourished in vulnerable groups</li> <li>• Therapeutic feeding for severely malnourished individuals</li> </ul>
• Malnutrition rate* under 10% with no aggravating factors	Acceptable situation: <ul style="list-style-type: none"> <li>• No need for population interventions</li> <li>• Attention to malnourished individuals through regular community services</li> </ul>

\* Malnutrition rate is defined as the percentage of the child population (6 months to 5 years) who are below either the reference median weight for height -2SD or 80% of reference weight-for-height

† Aggravating factors:

- General food ration below mean energy requirement
- Crude mortality rate > 1/10,000/day
- Epidemic of measles or whooping cough

Source: WHO, 2002. The management of nutrition in major emergencies

### Problems in using a decision tree framework and thresholds

1. The framework re-enforces the “food first” culture of emergency response. The food based approach remains the dominant humanitarian response despite efforts to broaden the analysis and response to take account of the wider food security, maternal and child care, environment and public health issues.

2. The use of two or three ‘aggravating factors’ to interpret the prevalence of malnutrition is not consistent with the use of the conceptual framework which in addition to disease and food intake gives basic and underlying causes which contribute to malnutrition. Maternal and child care as an underlying cause is not covered by many decision making frameworks.

3. There are large global regional differences in levels of acute malnutrition and differences within countries. According to the WHO thresholds above many countries are constantly in a state of crisis.

4. Many countries experience normal seasonal changes in nutritional status. Seasonal change can result in a drop in the prevalence of acute malnutrition as large as 20% in the space of a three month period.



**U.S Agency for International Development**

1300 Pennsylvania Avenue, NW

Washington, DC 20523

Tel: (202) 712-0000

Fax: (202) 216-3524

[www.usaid.gov](http://www.usaid.gov)