



HARMONISED FRAMEWORK FOR PERMANENT ANALYSIS OF CURRENT VULNERABILITY IN THE SAHEL AND WEST AFRICA

Note on methodology

Version 3

A harmonisation of methods for identifying and analysing zones and vulnerable groups in the Sahel and West Africa

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1. INTRODUCTION

Initiatives for preventing food crises in the Sahel have been developed by several actors in the region over the past few decades. This has led to the implementation of various methodologies for monitoring food security.

In the early part of the decade starting in 2000, the Permanent Interstate Committee for Drought Control in the Sahel (CILSS), together with member States and partners, set up a framework for «Harmonising the identification and analysis of zones at risk and vulnerable groups in the Sahel», based on the harmonisation and efforts to ensure consistency in methodologies used by different actors. The idea is to define a set of workable guidelines that links the information produced to the needs of decision-makers. With this in mind, a Technical Pilot Committee grouping together all the institutions involved in this issue has been set in place at regional level. The Committee is charged with monitoring and guiding all the activities that come under the implementation of this initiative. A Technical Committee for Harmonised Framework has also been established to develop the technical aspects. Following formulation of the methodology, validation tests were carried out in the CILSS countries. These led to the production of a reference manual¹, the result of a process that started with an analysis of the existing one.

One of the strengths of the Harmonised Framework is its use of collection systems already in place, such as the permanent agricultural survey, adding information about accessibility obtained from households and supplying the results at administrative level 3. The Harmonised Framework also aims to undertake a new process based on establishing a baseline for the various risks and their impact on all aspects of food security. It is easier to draw up an accurate picture of a zone's conjunctural situation if it is placed in its structural context.

The crisis of 2005, which caused devastation in Niger, has however highlighted the importance of being able to distinguish food crises from nutrition crises and, above all, of being able to measure the degree of severity of food insecurity. This crisis has also underscored the importance of tracking other indicators which can enable information to be triangulated in cases where it is difficult to qualify the level of food insecurity (moderate food insecurity, crisis or famine).

At the same time, the Integrated Food Security Phase Classification (IPC) seeks to become a standardized scale for classifying the severity of food security situations. It consists of a method for analysing food security using a set of thirteen indicators that enables a classification of the situation's severity to be carried out, according to a phase of food insecurity (that is to say a level of severity or gravity) that goes from 1 (generally food secure) to 5

¹ CILSS, USAID, WFP, FEWS.NET, FAO, MIFRAC, IBIMET-CNR, ACIDI, Care, European Union. Harmonised Framework for Permanent Analysis of Current Vulnerability in the Sahel. Reference document. July 2006.

(famine). This approach is first and foremost based on an effort to obtain a consensus among food security experts in the various sectors (agricultural production, livestock, fisheries, health, trade, social services, NGOs, United Nations, Civil Society, etc.) on the diagnosis carried out in the regions, departments or livelihood zones studied. The IPC analyses and classifies *each* indicator, following internationally recognised thresholds, but it then determines the phase of food insecurity for the *whole* of the indicators, following the process of convergence of evidence. The process of convergence of evidence means that determination of the phase is not reached automatically, but through a consensus of technical experts, which is crucial. Indeed, the IPC takes into account information as varied as nutrition, civil insecurity, displacement of populations and food access and availability. Furthermore, the reliability of information cannot always be entirely guaranteed, and may vary greatly between one indicator and another. For this reason, a reliability index for each indicator enables a confidence index to be determined for the analysis and the classification as a whole, which allows an assessment of the global reliability to be made.

At the meeting of the Technical Committee of the Harmonised Framework on 24 and 25 July 2008 in Niamey, it was decided to use IPC elements to improve the methodology of the Harmonised Framework, given their complementary features. In particular it was agreed to add indicators borrowed from the IPC as well as their thresholds, expanding the analysis of secondary data and using the IPC scale of severity and cartographic protocols. This second version of the Harmonised Framework improved by the IPC will serve as a reference for all partners in the region.

2. OBJECTIVES OF THE NOTE ON METHODOLOGY

The objective of the note is to provide food security analysts in West Africa and the Sahel with baseline methodological elements to improve their analysis following the Harmonised Framework developed in the Sahel, improved by elements from the IPC.

This note therefore describes the key elements for implementing the new version of the Harmonised Framework.

3. GOAL AND MISSIONS OF THE HARMONISED FRAMEWORK

In order to enable national Early Warning Systems (EWS) to adopt an approach based on a harmonised conceptual framework, observations from the field and secondary data must be taken into account. Product analysis will use a system that breaks with methods based on composite indicators. In effect, these are difficult to interpret and the thresholds for distinguishing the categories that result are arbitrary, differing between one country and another and, at the end of the day, not comparable. The proposed framework uses a more

transparent approach since it is based on the convergence of evidence and consensus.

Vulnerability may be conjunctural or current. Many systems insist on indicators of a structural kind. For permanent monitoring of current vulnerability, the structural component is necessary because it constitutes the point of reference by which the current year is judged. But it cannot be the object of an annual collection system and analysis.

3.2.1. Goal

The goal of a permanent system for monitoring current vulnerability is the annual prevention of food crises and, failing that, rapid identification of the populations affected, together with adequate measures to alleviate their suffering.

3.2.2. Missions

The consensus that has emerged between national institutions, donors and regional and international bodies appears to focus on four essential missions to assign to national systems for permanent monitoring of current vulnerability:

- Classification of zones at risk according to their degree of food insecurity and identification of populations who are actually affected;
- Alerting and providing information to decision-makers and actors involved in food security;
- recommendations for measures and actions that might enable situations of food insecurity to be overcome;
- close monitoring of zones at risk and vulnerable populations.

3.2.3. Target populations

Given the characteristics of current vulnerability, the target area will be the rural community. Target populations will therefore be those living in rural areas affected by current vulnerability due to their activities (mainly farmers and herders). But in the medium and the long term, the target area will be extended to include urban populations, or by default those living in semi-urban settings, who face other kinds of risk, mainly linked to poverty.

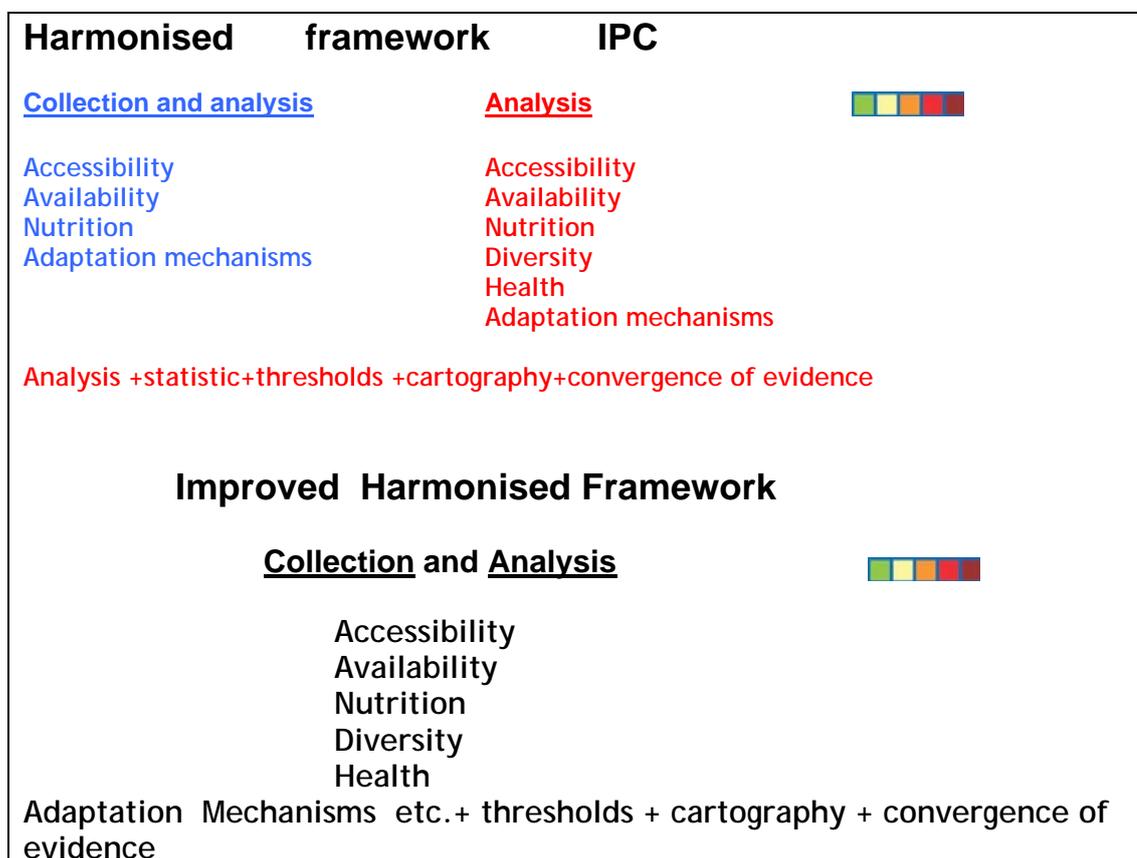
4. PRINCIPLES FOR IMPROVING THE HARMONISED FRAMEWORK BY THE IPC

4.1. General principles

The general principles that guided the development of version 2 of the Harmonised Framework improved by the IPC are: *i*) the conservation of tools used in the Harmonised Framework (collection and analysis of data regarding food availability and accessibility) and *ii*) complementing these with the

approach, indicators, thresholds and cartographic protocols of the IPC, as shown in figure 1.

Figure 1 : Principle of improving the Harmonised Framework with elements from IPC



4.2. Relations between the note on methodology and the reference manual

The various stages in implementation of the Harmonised Framework explained in the reference manual are maintained. The data analysed will present a picture of food availability and accessibility at administrative level 3. The conceptual and analytical framework of the Harmonised Framework is therefore conserved. It will be added to by elements from the IPC in the phases of supplementary analysis.

In practice, the approach continues to revolve around six stages, which are as follows:

1. zoning;
2. definition of profiles and establishing a baseline;
3. monitoring the current food situation;

4. evaluating shocks to determine zones at risk and vulnerable populations;
5. publication and diffusion of results.
6. close monitoring of zones at risk

Stages 3 and 4 are improved by using elements from the IPC, notably by making use of supplementary indicators – whose data sources are secondary data, while for stages 1 and 2, the methods for zoning and establishing the baseline are maintained.

4.3. Expansion of the Multidisciplinary Working Group (MWG)

The MWPs initially put in place to monitor crop cultivation, potential output, the state of pasture, the food situation, etc., were reviewed when the Harmonised Framework was set up in the countries². The groups of analysts will have to be expanded to include actors who will supply the other secondary data to be analysed (Services for nutrition, health, trade, United Nations, development actors etc.). This is necessary and constitutes a guarantee of transparency for the work in hand. The conclusions and recommendations will not be consensual and will be shared so they can be more easily implemented. The working group must also ensure that once validated, the information is properly and rapidly shared at the local level, where the information was collected.

4.4. Five phases of food security severity and a cartographic protocol

The improvement made by the IPC aims to give decision-makers a scale of severity consisting of five phases (or levels) of food insecurity:

1. Generally food secure;
2. Moderately food insecure;
3. Critically food insecure;
4. Extremely food insecure;
5. Famine.

Each phase of food insecurity is indicated by a colour (figure 2).

² These MWPs group together: Management of agricultural production; Management of internal trade and competition; Management of animal products; Animal health management; Information system on cereals markets; Information system on livestock markets; Management of plant protection; Management of water resources; Farmers and herders' associations ; Fisheries management; Management for forests and the environment; Management for poverty monitoring; National statistics management; Management for Plan and Programmes; NGO; Civil society notably consumer rights associations; The press.

Figure 2 : General description of the five phases of food insecurity

	Phase of food insecurity	General description
1	Generally food secure	Generally adequate and stable access to food
2	Moderately food insecure	Limited access to adequate food and accumulated risks of food situation deteriorating
3	Critically food insecure	Acute insufficiency of access to adequate food and accelerated exhaustion of livelihood assets causing the population to risk falling into phase 4 or 5
4	Extremely food insecure	Very serious insufficiency of access to food accompanied by excessive mortality, very high malnutrition and loss of livelihood assets
5	Famine	Total lack of access to food, very serious social disruption and massive displacement of populations as well as exhaustion of livelihood assets

4.5. Presentation of eleven groups of indicators

In order to characterise a region, department or zone with a determined livelihood, eleven groups of indicators will be successively analysed. The value of each indicator will be evaluated and compared with specific referenced thresholds, to determine the level of vulnerability. The thresholds have been determined according to international standards where these exist, via the IPC, or by default, by following national contingency plans.

Of the eleven groups of indicators, two come from the IPC (Exceptional phenomena and Access to water). And for three indicators (acute malnutrition, chronic malnutrition and civil security), the thresholds have been borrowed from the IPC.

1. Food availability and accessibility

It is not easy to define thresholds for most of the variables of food availability and accessibility. The situation is not exactly the same in all countries, and even within the same country, variations in agricultural output of, for example 10%, do not have the same implications for all zones. The Harmonised Framework proposes to classify situations as indicated in figure 3.

Figure 3 : Classification thresholds for food access and availability

	1 Generally food secure	2 Moderately food insecure	3 Critically food insecure	4 Extremely food insecure	5 Famine
Availability /accessibility	Generally adequate for the majority of the population	Nearly adequate for the majority of the population	Lack of guarantee due to deterioration of livelihood assets for the majority of the population	Very serious insufficiency; Inability to satisfy the basic needs for the majority of the population	Extreme insufficiency for the majority of the population

For the time being, while awaiting further developments in studying the feasibility of defining thresholds for this group of indicators, the following proxies can be used³:

- variations under way in the countryside's principle subsistence and cash crop output compared with the five-yearly average,
- variations in the monthly retail price of food products compared with the five-yearly average,
- variations in the monthly price of cash crops compared with the five-yearly average,
- variations in trade terms (livestock / cash crops; subsistence crops / cash crops) compared with the previous year and compared with the five-yearly average,
- variations in the total amount of remittances from migration compared with the five-yearly average (if available),
- the share of purchases and home consumption in food access,
- the animal fodder situation,
- the number of months covered,
- etc.

³ Most of these proxies were used during the regional analysis carried out in July 2009 by the regional working group CILSS/AGRHYMET, FEWSNET, FAO and WFP, following the Harmonised Framework, improved with elements from the IPC for the case of Senegal, Mauritania and Niger.

On the basis of the specific situation in each country and the data collected there, the analysis group for food security examines the proxies available, assesses their variations on the basis of past data, and classifies each zone in one of the five phases. It is clear that this classification is based on dialogue, which, in the absence of clearly established thresholds, allows the group to reach a consensus. But this consensus is first and foremost based on the expertise of members of the working group which, if expanded to include the entire spectrum of actors involved in the field of food security, enables accurate and reliable results to be produced.

2. Dietary diversity

Dietary diversity is an essential indicator for the analysis, diagnosis and monitoring and evaluation of food security and the nutrition situation. The score for dietary diversity is generally considered a good proxy for food security (cf.: Annex 1). The indicator translates the quality of the diet, notably through the adequacy of the intake of micronutrients and macronutrients, the coverage of energy requirements, variability of food consumption and access to food. The indicator is very closely linked to the nutritional state of the individual, without being exactly the same.

In practical terms, the score for dietary diversity is obtained by calculating the individual dietary diversity score (IDDS) or the household dietary diversity score (HDDS) over a reference period of 24 hours. The number of food groups can vary from one publication to another depending on the objectives (energy intake or adequacy of micronutrients). However, most works currently rely on the standardisation jointly proposed by FAO and the FANTA project run by the AED. This proposal sets out 12 food groups for households and 14 food groups for individuals (shown in the table below). For children aged 6-23 months, the list has been reduced to 7 food groups used in health and demographic inquiries since 2005. It should be noted that the presentation of food groups on the questionnaire (for data collection) does not strictly correspond to the standardised groups (for analysis). To facilitate information collection in interviews, some sub-groups may be divided further into several sub-groups.

Individual dietary diversity groups	Household dietary diversity groups
1. Cereals 2. Vegetables and roots rich in Vitamin A 3. White roots 4. Green leafy vegetables 5. Other vegetables 6. Fruits rich in Vitamin A 7. Other fruits 8. Offal (rich in iron) 9. Meat 10. Eggs 11. Fish 12. Pulses, nuts and seeds	1. Cereals 2. White roots and tubers 3. Vegetables 4. Fruits 5. Meat 6. Eggs 7. Fish and other seafood 8. Pulses, nuts and seeds 9. Milk and milk products 10. Oils and fats 11. Sugar products

13. Milk and milk products 14. Oils and fats	12. Spices, condiments and beverages
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Figure 4: Classification thresholds for food diversity

	1 Generally food secure	2 Moderately food insecure	3 Critically food insecure	4 Extremely food insecure	5 Famine
Dietary diversity	Diversified	Insufficient diversity	Highly insufficient diversity	Consumption of fewer than 3 food groups	Consumption of fewer than 2 food groups

3. Displacement of populations

The thresholds set for displacements are those proposed in the early warning system for Niger.

Figure 5: Classification thresholds for displacement of populations

	1 Generally food secure	2 Moderately food insecure	3 Critically food insecure	4 Extremely food insecure	5 Famine
Number of active household members	Normal seasonal exodus of active members: <20%	Departure of active members: 20-30%	NA	NA	NA
Departure of households	Departure of households <20%	Departure of households: 20-33%	Departure of households: 20-33%	Departure of households: >33%	

NA: not applicable

4. Malnutrition

Two internationally recognised indicators have been used:

Acute malnutrition: Acute malnutrition is the state of a person affected by significant recent dietary depletion, evidenced by wasting (emaciation) or bilateral oedema (kwashiorkor). It is measured by the weight/height ratio and by the presence of oedema. A quicker though less precise method for detecting acute malnutrition is to measure the mid-upper arm circumference.

In the case of acute malnutrition, the mid-upper arm circumference will be registered for children under five during household surveys. With the aim of strengthening an analysis of the links between malnutrition and food availability. There are two ways of evaluating the state of acute malnutrition from the mid-upper arm circumference: the first involves taking the rough measurement. A direct comparison is then made with different thresholds and the child is considered to be severely acutely malnourished if the mid-upper arm circumference is less than 115 mm⁴; the child is considered to be

⁴ This threshold was initially set at 110 mm. It underwent a revision by a joint-committee of Unicef-WHO and was raised to 115mm to take into account the adoption of the new reference. WHO-Unicef, 2009, WHO child growth standards and the identification of severe acute malnutrition in infants and children, A Joint Statement by the World Health

moderately acutely malnourished if the measurement is between 115 mm and 125 mm and is at risk of malnutrition if the measurement is between 125 mm and 135 mm. Above 135 mm, the child is held to be in a good state of nutrition. This approach has the advantage of providing fairly swift results so that decisions can be made on what action to take. For this reason, the method is very often used by humanitarian organisations. However, a disadvantage is that this approach can over-estimate malnutrition in young children.

The second phase involves evaluating the nutritional state by referring to a datum curve (WHO/NHCS 1978 or WHO 2006); this allows a Zscore (MUAZ) value to be obtained and, as a result, the child may be declared to have severe malnutrition (<-3 Zscore) or moderate malnutrition (<-2 Zscore and >-3 Zscore). Malnutrition (global) can also be established by considering children with values lower than -2 Zscore. An assessment of the severity of a population uses the same thresholds as those for weight/height.

Data for any nutritional investigations conducted by partners can also be used for an analysis of the situation in the zone being examined.

Figure 6 : Classification thresholds for acute malnutrition

Figure 5 : Classification thresholds for acute malnutrition

	1	2	3	4	5
	Generally food secure	Moderately food insecure	Critically food insecure	Food emergency	Famine
Weight/Height (under -2 Z-score)	<5%	between 5% and 10%	between 10% and 15%	>15%	
MUAZ (<-2 Zscore)					

Stunting: Stunting is a growth deficiency in a child which has a slow and cumulative effect as a result of an inadequate diet and/or repeated infections. It is measured by the height/age ratio. It is important to note that this is an indicator of chronicity and not severity. A level higher than 40% does not by itself signify a dietary emergency. On the other hand, in the case of a level of 40% stunting with more than 15% acute malnutrition, this latter level will exacerbate an already critical situation.

Organization and the United Nations Children’s Fund WHO Press, World Health Organization, Geneva, Switzerland

The body mass index (BMI) is used to measure the nutritional state of adults (excluding pregnant and breastfeeding women since the gain in normal weight affects the results). In an individual, when the BMI is between 17 and 18.49, there is said to be marginal malnutrition, between 16 and 16.99, there is moderate malnutrition and when BMI is < 16, malnutrition is considered to be serious. In a given population, a proportion of low-weight adults (percentage of adults with a BMI <18.5) can indicate food insecurity or the presence of widespread infectious diseases. Even when food security does exist, a significant proportion of low weight in adults puts members of this community who have weak energy reserves at risk should phenomena occur such as drought, during the hungry season or in the case of epidemics. The WHO proposes thresholds for low-weight percentages, presented in the following table, for the classification of health problems, based on BMI. (WHO, 1995 and WHO, 1997).

Figure 7 : Classification thresholds for chronic malnutrition

	1 Generally food secure	2 Moderately food insecure	3 Critically food insecure	4 Extremely food insecure	5 Famine
Height / Age (< 2 Z-score)	<20%	20 - 29% Increasing	30 - 39% Increasing	>=40%	NA
Body mass index (BMI) in women not pregnant aged 15 to 49 (<18.5 BMI)	5 - 9%	10 - 19%	20 - 39%	>= 40%	NA

NA : not applicable

5. Exceptional phenomena

Exposure to risks or exceptional phenomena has a negative impact on household livelihoods. Knowledge of these allows an assessment of the risk of a decline in household nutrition and food security. These threats take very diverse forms in West Africa and the Sahel: drought, locust invasions, violent winds/tornadoes, floods, economic crises and disturbances in subsistence or cash crop markets, socio-economic and political problems etc.

Figure 8 : Classification thresholds for exceptional phenomena

	1 Generally food secure	2 Moderately food insecure	3 Critically food insecure	4 Extremely food insecure	5 Famine
Exceptional phenomena					
Drought	Weak to moderate and localised	Recurrent with strong impact	Generalised	Generalised and prolonged	NA
Floods	Weak to moderate and localised	Recurrent with strong impact	Generalised	Generalised and prolonged	NA
Locust invasion	Weak to moderate and localised	Recurrent with strong impact	Generalised	Generalised and prolonged	NA

NA : not applicable

6. Civil security

It has been proposed that conflicts should be taken into consideration. This information is in itself an indicator of the impact of civil security.

Figure 9: Classification thresholds for civil security

	1 Generally food secure	2 Moderately food insecure	3 Critically food insecure	4 Extremely food insecure	5 Famine
	Peace	Unstable, Disruptive tensions	Low-level localised conflict	High-level widespread conflict	

7. Livelihood assets

Livelihood assets refer to the sustainable livelihoods approach. These assets are usually grouped into five types of capital:

1. physical (agricultural productive assets, etc.);
2. natural (water for livestock, pastureland, etc.);
3. financial (livestock capital, credit, debts, etc.);
4. human (health and education) ;
5. social (solidarity, cultural and political networks, etc.).

Three types of capital crucial in West Africa and the Sahel have been maintained (figure 10). The thresholds have been fixed so as to be in keeping with the indicators for adaptation mechanisms (cf. §9).

Figure 10 : Classification thresholds for livelihood assets

	1 Generally food secure	2 Moderately food insecure	3 Critically food insecure	4 Extremely food insecure	5 Famine
Development of livestock herds	Capital preserved (normal sales)	Moderate sales (increase of 1%-20% compared with normal levels)	Significant sales (increase of 20%-80% compared with normal levels)	80%-100% of capital sold	
Availability and access to pasture	100%-90% accessible	90%-80% accessible	80%-20% +/- accessible	Pasture available <20% or not accessible	
Productive assets	Capital maintained	Moderate sales 0%-20%	Significant sales 20%-80%	80%-100% of capital sold	
Water for livestock					

NB : the thresholds given are supplied by expert opinion

8. Access to water

Levels of water supply for populations has a strong influence on their degree of food security. But access to water can affect this. The indicators for impact and corresponding thresholds take account of access to water and its supply.

Figure 11: Classification thresholds for access to water

	1 Generally food secure	2 Moderately food insecure	3 Critically food insecure	4 Extremely food insecure	5 Famine
Access to water /availability	stable; >15 l/p/d	Unstable; ≈15 l/p/d	7.5-15 l/p/d	4-7.5 l/p/d	<4l/p/d

9. Adaptation mechanisms

Insurance strategy: reversible adaptation strategy, which maintains productive assets (lowering the quality and quantity of food, temporary economic migration, more sale of livestock, etc.).

Crisis strategy: irreversible adaptation strategy, which threatens future livelihoods (sale of agricultural material, sale of draught cattle, sale of breeding stock, etc.).

Distress strategy: exhaustion of adaptation mechanisms (sale of herds, sale of land and exodus, illegal livelihoods, etc.).

Figure 12: Classification thresholds for adaptation mechanisms

	1 Generally food secure	2 Moderately food insecure	3 Critically food insecure	4 Extremely food insecure	5 Famine
Adaptation mechanisms	NA	Insurance strategies	Crisis strategies	Distress strategies	

NA : not applicable

10. Mortality

This indicator allows, among other things, for information to be triangulated and for a more refined analysis of morbidity and malnutrition, among the population in general and children under five in particular.

Crude death rate: the mortality rate of a population whatever the cause. It is calculated by taking the number of deaths per day and for 10,000 inhabitants.

Child mortality rate: the mortality rate in the population among children under five. It is calculated by taking the number of deaths per day and for 10,000 children under five.

This information can be collected during household surveys, during SMART nutrition inquiries or as secondary data when it is available from other sources.

Figure 13: Classification thresholds for mortality

	1 Generally food secure	2 Moderately food insecure	3 Critically food insecure	4 Extremely food insecure	5 Famine
CDR	NA	< 0.5	between 0.5 and 1	Between 1 and 5 or double the baseline	>5
U5MR	NA	<1	Between 1 and 2	Between 2 and 10	>10

*CDR: Crude death rate (deaths per 10,000 persons/day) ;
U5MR : Child mortality rate (deaths per 10,000 persons/day) ;*

11. Morbidity

This indicator allows for information to be triangulated and for a more refined analysis of morbidity and malnutrition, among the population in general and children under five in particular. The principle diseases to take into consideration are those linked to mortality and malnutrition: measles, diarrhoea, acute respiratory infections, malaria, HIV-AIDS, etc.

Endemic: habitual presence of a disease that exists in a given region or a given population;

Epidemic: situation where there is a rapid increase in the number of cases, in a confined zone;

Pandemic: situation where there is a rapid increase in the number of cases, in a wide zone, and which affects the majority of the population.

Figure 14 : Classification thresholds for morbidity

	1	2	3	4	5
	Generally food secure	Moderately food insecure	Critically food insecure	Extremely food insecure	Famine
Morbidity	Endemic	Endemic	Epidemic	Pandemic	Pandemic

5. IMPLEMENTING THE HARMONISED FRAMEWORK

One of the approaches for analysing vulnerability is based on household food economy. Each household assures its food security through the following main components: agricultural production (subsistence and cash crops), animal production and revenues from livestock products, income-generating economic activities, migration and agricultural wages. It is through these various components that, each year, reductions or increases of food accessibility and availability are seen in each zone, following conjunctural biophysical or socio-economic events. An analysis of vulnerability, such as the Harmonised Framework improved by the IPC, is essentially based on a comparison of current and baseline food profiles and on the classification operated with the group of eleven indicators. It is conducted in six stages.

5.1. Stage 1: Baseline

A baseline of the different risks and their impact on each component of food security is established in each zone, as well as the capacities of the affected populations to deal with them. In the case of shocks (biophysical, economic or social), this baseline will serve as a basis for comparing the current situation and evaluating the risk in a given zone.

In as far as possible, it will inform the group of eleven indicators on a five-year basis, taking the last five years prior to the analysis of the year in progress.

The comparative analysis of the current value of indicators helps reveal whether there has been a shock and if so, what its impact is on the various components of food security. This analysis will be conducted through an appraisal of conjunctural situations of zones with regard to their structural situation and by means of dietary profiles.

5.1.1. Zoning

This stage consists of stratifying each country into homogeneous livelihood and survival zones, characterised by agricultural production, fisheries, natural resource use, income generating activities (IGA) and all other sources of revenue that benefit the populations of the zone and contribute to the meeting of their food needs.

Work has already been carried out by FEWS NET on the lifestyles of populations in a few West African countries (Burkina Faso, Chad, Mali, Mauritania, Niger, Nigeria). The aim of these studies was to set an early warning system in place for food insecure households, based on their food strategies (access to food, access to revenue and access to markets). The results of these studies can serve to help analysis in this first stage. Subsequently, for the other West African countries where this work has not yet been undertaken, the FEWS NET methodology for determining living conditions in zones may serve as a marker.

But for the moment it is not possible to evaluate the components of food security (agricultural production, livestock, IGA, etc.) by household livelihood zone without a national agricultural survey whose stratification would be based on these zones. In the agricultural survey, as they are currently conducted in West African countries, the most widely used stratification is that corresponding to the different administrative divisions. This is not just to satisfy users in their needs for development policies, but is also in keeping with collection systems, which generally use administrative divisions. However, in most cases, the household livelihood zones do not match countries' administrative divisions, the reference point for agricultural surveys. But instead of considering modifying the sampling for the annual agricultural survey in order to take account of household food economy, one solution could be post-stratification: the survey proceeds in the classic way, considering the administrative strata and afterwards, the variables (production) are aggregated, taking account of the household livelihood zones. Further developments will define the methodology more precisely. The hope is that it will be possible to better characterise the food economy zones and to monitor the quantitative aspect of their evolution.

The food profile used together with this type of zonage will thus make it possible to produce a more accurate picture of populations' living zones, taking into account both the administrative space and the living space of populations.

5.1.2. Profile of baseline food economy

The food profile is defined by the contribution of each component of food security at the 3rd administrative level. The major components of food security considered for this exercise concern the contribution of the elements mentioned here below to satisfying food needs:

- Crop production (cereals, tubers and horticulture);
- revenues generated by cash crops;
- revenues generated by livestock;
- fisheries products;
- natural resources;
- income generating activities (IGA);
- remittances from migration/rural exodus
- agricultural wages;
- various other activities of significant importance in the zone.

It will be a case of establishing food profiles by taking into consideration the average production of various components of food security during the five years prior to the year in progress.

Data on crop production (subsistence and cash crops) can be obtained through the permanent agricultural survey held in October/November. Data on livestock and fisheries are obtained through traditional monitoring conducted by the MWG. Information on other components (natural resources, IGA, remittances, wages, etc.) will be determined through specific studies or rapid surveys. Prices are those of MIS or, by default, those collected by other state institutions in charge of monitoring the dynamics of national prices.

The profile of food security at the 3rd administrative level is defined by the relative average contribution of each component. An evaluation of the contribution of components (listed below) can be made with the help of two scenarios:

Scenario 1: Determination of the wealth of the zone through the monetisation of its total production (agriculture, livestock, fisheries, natural resources, IGA, Migration).

The characteristic variables (components) are of a monetary nature (revenues from sales or work), or a quantitative nature (volume of production).

It will be a case of converting all the variables into monetary units, simply attributing value to the quantitative variables through the current price. One then needs to determine the relative contribution of each component (figure 15).

Figure 15 : Food profile

Agricultural Production	Component	Average Contribution	Monetary value
Cash crops	Agricultural production	$(X/Total)*100$	$X = (Average\ production\ millet * Average\ production\ millet) + (Average\ production\ maize * Average\ production\ maize) + etc.$
Livestock revenues	Cash crops	$(Y/Total)*100$	$Y = (Average\ production\ groundnuts * Average\ production\ groundnuts + (Average\ production\ cashew * Average\ production\ cashew) + etc.$
IGA and agricultural wages			
Migration	Total	100	$X + Y + etc.$

Scenario 2: Direct determination of contributions in the household food basket

The second scenario is that of determining the contribution through the contents of a household basket. It consists of a household survey during which questions will be asked about the provenance of the food products used in various dishes.

5.2. Stage 2: Collecting current data

This stage involves collecting data needed to implement the Harmonised Framework. The data is essentially secondary, in the sense that the analysis unit in charge of implementing the Harmonised Framework will not take it upon itself to collect the data per se. This information will come from the various data supply sources which, in most cases, have representatives in the food security analysis unit.

This stage in fact consists of drawing up an inventory of the different data, which will provide information for the group of eleven indicators. This data, as well as any secondary data that helps improve understanding of the food situation of a country, a region or a zone, may include:

- agricultural surveys conducted annually by countries to evaluate output, area of land and some factors related to production;
- recent agricultural and livestock censuses;
- validated nutritional surveys - Standardized Monitoring and Assessment of Relief and Transitions (SMART);
- reports on morbidity (health centre registers on malaria, measles, diarrhoea, acute respiratory infections, etc.);
- recent Multiple Indicators Cluster Surveys (MICS) and DSH supplying data on crude death rates, child mortality rates and malnutrition;
- baseline WFP (CFSVA) studies, zoning and food economy profiles (FEWS NET);
- price monitoring reports produced by Market Information Systems;

- poverty reports (PRSPs) that provide information on household livelihood assets;
- reports on remittances from migration supplied by National Statistics Institutes or the Central Bank;
- SAP vulnerability assessments providing information on food consumption, proxy for food security, adaptation mechanisms, erosion of livelihood assets (livestock, etc.);
- Specific reports following catastrophes (floods, fires, etc.);
- etc.

5.3. Stage 3: Analysis of livelihood zones

5.3.1. Handling of data

The data will be handled and converted into units compatible with the indicators for the Harmonised Framework, so that they can be compared with the corresponding thresholds. In cases where data cannot be directly compared with thresholds, it will nevertheless be taken into account if the working group deems this is appropriate. Where possible, the group will offer an appraisal of the reliability of the information analysed. Reliability means the quality of the data at the time of the survey and/or the information's age, since data loses value over the course of time.

5.3.2. Current food economy profile

This is the image of the baseline food economy profile. However, the production data are those for the year in progress. It must be established each year, in November at the time when the food outlook is being drawn up, and again in March for an updated picture.

In the first instance, a comparison of the current food economy profile with the baseline profile enables the three administrative divisions to be classified into zones of food security and zones of food insecurity.

This first classification, developed by the national SAP, must be kept on record and compared with the classification produced during the national workshop, which brings together all the food security experts, and must be based on the eleven groups of indicators (convergence of evidence).

5.3.3. Compilation of data in a reference matrix

The data is subsequently entered in a reference matrix which cross-cuts the different regions, departments or livelihood zones on the one hand, with the eleven groups of indicators on the other (table 1).

Each section of the table must be filled in with

1. the essential data
2. all other data that corroborate the choice of the phase of food insecurity.
3. the conclusion of the working group on the choice of the phase of food insecurity reached, comparing the data with the thresholds for the different phases of food insecurity for the indicator under consideration.

5.3.4. Determination of the phase of food insecurity

The last column in the matrix leaves space for indicating the working group's decision on the phase of food insecurity for each region, department or livelihood zone. The determination of the phase is also based on the principle of convergence of evidence, according to which a majority of evidence converges on a precise phase, even if this or that indicator may not concur. It is not a question of giving more importance to a particular indicator, but rather of viewing the indicators as a whole. An example is given in table 2.

It often happens that this or that indicator does not converge on the phase of food insecurity. This should be taken as an opportunity for a more in-depth look at the analysis. This is frequently the case with information on malnutrition, and triangulation with data on health allows a more refined picture to be obtained of the causes of malnutrition and, *in fine*, to distinguish food crises from nutrition crises.

So that the correct phase can be determined accurately, it is crucial that all people who have something to say have an opportunity to do so. The principle of convergence of evidence is more valid when all the experts are present in the working group.

5.3.5. Estimate of vulnerable populations

The estimate of vulnerable populations is generally based on available data and the methodologies which underpin it.

For example, the estimate of vulnerable populations according to the methodology of the harmonised framework is based on the determination of the minimum food requirement for households. This need is defined by a minimal quantity of different food products whose consumption is indispensable to human beings to ensure their survival and for the accomplishment of a minimum package of activities. The threshold of vulnerability is equal to the value of the Minimum Dietary Energy Requirements defined by the MDER norm. The average energy intake (CAEI:

Current Average Energy Intake) obtained through the various current profiles are compared with the MDER to identify vulnerable households.

So all households whose CAEI < MDER are declared vulnerable.

To estimate the global vulnerable population, one takes the total of vulnerable households, on the understanding that the average size of households can be ascertained. For the calculation itself, indexes will be adopted such as those used in the framework of poverty studies. For the time being, the calculation of populations has not yet been completed, but this does not prevent an estimate being made in a qualitative manner. Further developments on this issue will complete the process of the Harmonised Framework.

Table 2: Example of Reference Matrix and convergence of evidence

REGIONS	DEPARTMENTS	Total Population	Rural population	Principal livelihoods	Food accessibility and availability		Dietary diversity	Displacement of population		Acute malnutrition	Chronic malnutrition	Exceptional phenomena	Civil security	Livelihood assets			Access to water	Mortality		Morbidity	Phase of food insecurity
					Production of meals			Number of active members of household	Departure of households					Weight/height	Height/Age				Evaluation of livestock numbers		
Reg 1	Dep 1				Ph 2	Nd	Ph 2	Ph 2	Nd	Ph 3	Ph 2	Ph 2	Ph 1	Ph 2	Ph 2	Ph 2	Nd	Nd	Ph 2		Ph 2
	Dep 2				Ph 3	Nd	Ph 3	Ph 2	Nd	Ph 4	Ph 2	Ph 2	Ph 1	Ph 3	Ph 3	Ph 3	Nd	Nd	Ph 3		Ph 3
	Dep 3				Ph 1	Nd	Ph 1	Ph 1	Nd	Ph 2	Ph 1	Ph 1	Ph 1	Ph 1	Ph 1	Ph 1	Nd	Nd	Ph 1		Ph 1

Ph : Phase

Nd : not determined

The Phase of food insecurity of a particular department is based on the different phases of the eleven groups of indicators. For department 1, for example, the majority of indicators converge on phase 2, even though two indicators do not concur (acute malnutrition in phase 3 and civil security in phase 1). The principle of the majority of indicators is therefore adopted. On the other hand, even though there is not yet a system for weighting the indicators, the analysis group can opt to do this by mutual agreement, knowing the principal livelihood for the zone (structural situation), and privilege certain indicators rather than others. In that case, priority must be given to the convergence of these indicators.

5.4. Stage 4: Drawing up the map

Following the classification of the third administrative divisions in the different phases, a map is drawn up to resume and visualise the results. Other features that may be plotted on this map include certain causes (drought, floods) and consequences of vulnerability in populations (for example, higher malnutrition rates) for certain given zones (generally the zones classified in phase 3 upwards).

5.5. Stage 5 : Publishing results

In order to have an understanding of household food situations, analysis products are recorded in reports issued twice a year: in November, just after harvest, to have a provisional food situation and to pinpoint zones at risk, and in March, at the start of the hungry season, to have an updated picture.

These reports will be supplemented by monthly or bi-monthly bulletins that monitor zones at risk and vulnerable populations. They will exclusively deal with situations in zones or groups already identified as vulnerable as regards food security. The goal is to inform decision-makers of the situation that has prevailed in zones already known to be at risk, with an acutely precarious food situation; a synthesis of the events and facts that have unfolded during the month is given here.

So that different users can benefit from the information contained in such bulletins, it would be advisable to keep publishing deadlines reasonably short (a week after the end of the month).

5.6. Stage 6: Close monitoring of zones at risk

During this phase, household questionnaires will be distributed in all the territorial units identified as zones at risk. This step consists of collecting data every two months from the same sample households in the same villages of zones at risk and of monitoring the food and nutrition situation of vulnerable populations through current indicators. These indicators are the score for dietary diversity, the index for survival strategies, terms of trade, price of cereals, the global rate of acute under-nutrition, the global rate of chronic under-nutrition, etc.

The questionnaires will then be processed and a bi-monthly monitoring report produced. Each report must include:

- a diagnosis of the current situation,
- warning components,
- recommendations for actions.

The urgency and gravity of certain problems could lead to the conjecture that it would be better to carry out these monitoring operations on a more frequent basis. But given the extensive nature of the zones to be covered in some countries, coupled with the often limited human and financial resources, this level of frequency appears acceptable on a national scale.

ANNEXES

ANNEX 1 : CALCULATING THE WFP FOOD CONSUMPTION SCORE

The food consumption score is a composite indicator used by WFP as a proxy indicator for food security. It takes account of dietary diversity, together with the frequency that different food groups are consumed as well as their relative nutritional importance⁵. The recall period is the 7 days prior to the survey and the indicator is calculated at household level. The formula for the calculation is the following:

$$\text{Score} = a_{\text{cereal}} x_{\text{cereal}} + a_{\text{legmns}} x_{\text{legmns}} + a_{\text{leg}} x_{\text{leg}} + a_{\text{fruit}} x_{\text{fruit}} + a_{\text{animal}} x_{\text{animal}} + a_{\text{sugar}} x_{\text{sugar}} + a_{\text{milk}} x_{\text{milk}} + a_{\text{oil}} x_{\text{oil}}$$

With: a_i = Weight attributed to food group. x_i = Number of days consumed for each food group (≤ 7 days)

The table below presents the types of food considered, their corresponding food groups and the weight attributed to them.

Types of food	Food groups	Weight
Maize, millet, sorghum, rice, bread/dumplings, pasta	<i>Cereals and tubers</i>	2
cassava, yam, plantains, other tubers		
Groundnuts/Pulses (beans, cowpeas, peas, lentils, etc.)	<i>Pulses</i>	3
Vegetables (+ leaves)	<i>Vegetables and leaves</i>	1
Fruits (mangoes, oranges, bananas, etc.)	<i>Fruit</i>	1
Meat, fish, seafood, snails, eggs	<i>Animal protein</i>	4
Milk/Dairy products	<i>Dairy products</i>	4
Sugar, honey, other sugar products	<i>Sugar</i>	0.5
Oils and fats	<i>Oils</i>	0.5
Condiments, spices	<i>Condiments (*)</i>	0

Case studies in various countries have been used to produce standard thresholds to identify different levels of consumption:

Food consumption score (FCS)	Consumption profile
≤ 21	Poor
> 21 and ≤ 35	Borderline
> 35	Acceptable

However, in exceptional cases, these thresholds may be adjusted to take into account specific dietary habits.

The methodology described above is the result of action research and is therefore on-going. A partnership has been developed with research institutes such as IFPRI and universities such as Tufts University with a view to its progressive improvement.

⁵ Refer to user manual produced by WFP (*Food consumption analysis Calculation and use of the food consumption score in food security analysis*, WFP-February 2008)