



ACF INTERNATIONAL

# FOOD SECURITY & LIVELIHOODS SURVEILLANCE A PRACTICAL GUIDE FOR FIELD WORKERS





# **FOOD SECURITY & LIVELIHOODS SURVEILLANCE**

**A PRACTICAL GUIDE FOR FIELD WORKERS**

**TECHNICAL DEPARTMENT OF FOOD SECURITY AND LIVELIHOODS**

**ACF INTERNATIONAL**

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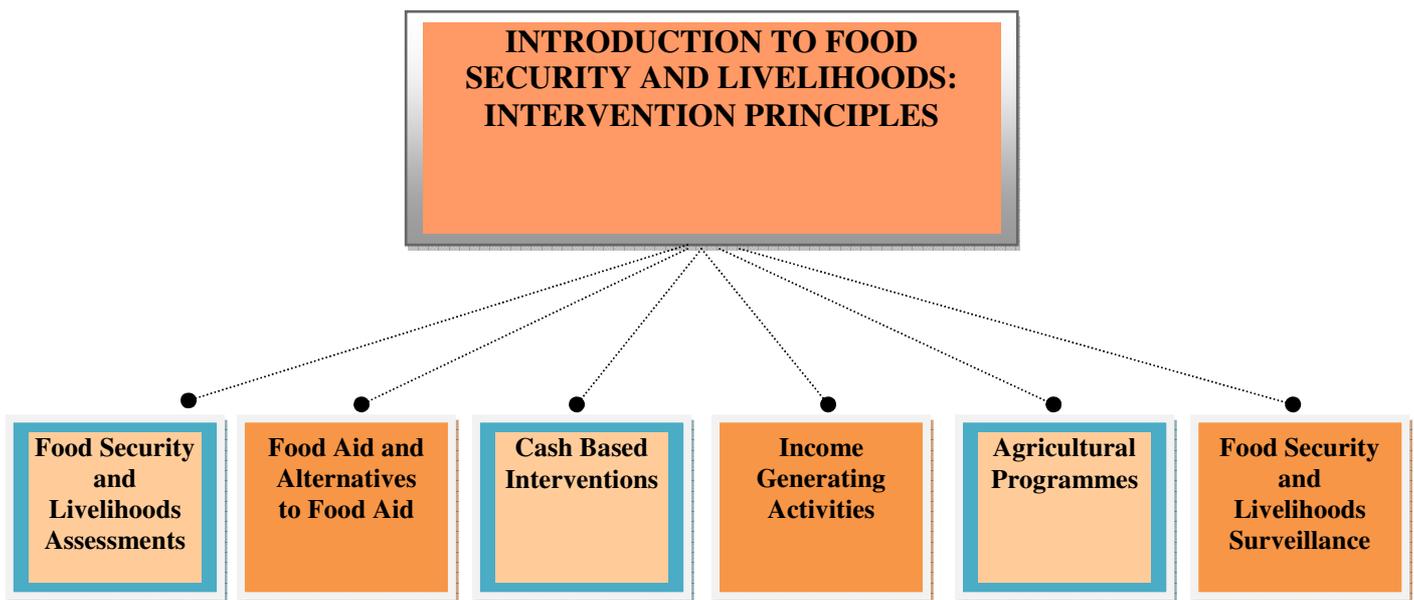
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## PREAMBLE

This book is part of a series of Food Security & Livelihoods books developed by Action Contre la Faim (ACF) and reflects a consolidation of experiences and research in the field over the past ten years. This series examines specific aspects of the different Food Security & Livelihoods programmes, especially the technical tools that can be used within the scope of actual projects. Each of these books can be read alone or used as a “set”, or a series constituting a ‘Food Security & Livelihoods kit’, as follows:



The books address a variety of audiences including the international humanitarian community, technical and operation field workers, and the public who wish to learn more about Food Security & Livelihoods at the international level. Each book contains a detailed index with examples of the different tools that can be used for the implementation of the programmes and a glossary of technical terminology. This series may eventually be extended to include other types of related Food Security & Livelihoods programmes, as research and knowledge is developed on various topics, such as areas of urban and pastoral food security, and areas such as community participation and social protection. All of these books are subject at all times to additions and or improvements, and are supported by the department of the Food Security & Livelihoods of ACF.

## OBJECTIVE OF THE BOOK

To support the mandate of ACF in the fight against malnutrition by providing a methodological, technical and practical reference tool for the implementation of Food Security and Livelihoods Surveillance Systems.

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## LIST OF ACRONYMS

ACF	Action Contre la Faim
AIDS	Acquired Immune Deficiency Syndrome
CFW	Cash For Work
CMAM	Community-based Management of Acute Malnutrition
CSI	Coping Strategy Index
DD	Dietary Diversity
DFID	Department For International Development
DHS	Demographic and Health Survey
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
ECHO	European Community Humanitarian Office
EU	European Union
EWS	Early Warning System
FANTA	Food And Nutrition Technical Assistance
FAO	Food & Agriculture Organization
FFW	Food For Work
FGD	Focus Group Discussion
FSL	Food Security & Livelihoods
GAM	Global Acute Malnutrition (includes both moderate and severe malnutrition)
GIS	Geographic Information System
GFD	General Food Distribution
HDDS	Household Dietary Diversity Score
HH	Household
HoM	Head of Mission (ACF)
HIV	Human Immunodeficiency Virus
IGA	Income Generating Activity
IPC	Integrated Food Security and Humanitarian Phase Classification
LFA	Logical Framework Analysis
ODI	Overseas Development Institute
OVI	Objectively Verifiable Indicator
MAM	Moderate Acute Malnutrition
MoA	Ministry of Agriculture

MoH Ministry of Health  
MSF Médecins Sans Frontières (Doctors without Borders)  
MUAC Middle Upper Arm Circumference  
M&E Monitoring and Evaluation  
NCA Nutritional Causal Analysis  
NGO Non Governmental Organization  
NICS Nutrition Information in Crisis Situation  
PCM Project Cycle Management  
PDM Post-Distribution Monitoring  
PRA Participatory Rural Appraisal  
SAM Severe Acute Malnutrition  
SMART Specific, Measurable, Accurate, Reliable and Timely (used for indicators)  
ToT Terms of Trade  
UN United Nations  
UNHCR United Nations High Commissioner for Refugees  
UNICEF United Nations International Children's Fund  
UNISDR United Nation International Strategy for Disaster Reduction  
UNOCHA United Nations Office for the Coordination of Humanitarian Affairs  
USAID United States Agency for International Development  
VAM Vulnerability Analysis and Mapping  
WFP World Food Programme

## INTRODUCTION

This book provides an orientation and guide to Food Security & Livelihoods Surveillance. It includes the principles and methodologies of this type of intervention that ACF food security & livelihood field teams have developed during the last few years.

This Guideline is a review and update of the 2006 ACF publication “Methodological Approach for Food Security Assessment and Surveillance”. Assessments are covered in another publication, “Food Security and Livelihoods Assessments – A practical Guide for Field Workers” (ACF 2010), while the surveillance component is treated in this separate booklet. This is the seventh book of the series and is conceived as a supporting document to the reference book, “Introduction to Food Security: Intervention Principles” which explains the basic notions, concepts, definition and general approaches to Food Security & Livelihoods; as well as the ACF Food Security & Livelihoods Policy Paper. The book sets the foundation and necessary understanding for all ACF Food Security & Livelihoods programmes, introduced in the previous five books: Agricultural Programmes, Income Generating Activities, Cash Based Interventions, Food Aid and Assessments.

A surveillance system is a powerful tool to document and analyse an evolving situation, and to form a response: either by advocating for, or by implementing timely responses and actions at the field level. However, surveillance systems are complex: they must stay true to their objectives, be light enough to be cost-effective, rapid and sustainable, and be able to adapt to a changing environment. A surveillance system is not just a set of surveys; it is an interconnected and integrated form of gathering data to reach a comprehensive understanding of a given situation and its evolution. The method always starts with an initial analysis of the context in which people live and the problems they face. This context analysis helps decide how and why a particular surveillance system would be more appropriate.

To facilitate the practical aspects of this guidance and to obtain a complete vision of the work that has been done (the why, when, how, with whom, where and what, etc) the following chapters gather experiences gained in more than 15 countries. Some of the boxes included in this guide serve to present advanced debates regarding surveillance, in addition to the general guidelines. The annexes include a variety of tools that will be helpful in development of a FSL Surveillance System.

The *first part* presents relevant concepts and definitions when planning to implement an ACF-FSL surveillance system. The *second part* focuses on external surveillance systems, and how to use them in the field. The *third part* presents step-by-step activities to actually implement a FSL surveillance system on the ground. The *conclusion* summarizes the key lessons learnt for a successful surveillance system. A *bibliography* completes this document, and various tools are given in the Annex section. The first annex provides a *glossary*— do not hesitate to refer to it during the reading. A full understanding of the terms used is essential.

# Part I

## PRINCIPLES AND CONCEPTS



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# 1

## 1. KEY TERMS DEFINITION

The following definitions of Food Security & Livelihoods related terms have been adopted by ACF:

**Food security** exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. The four pillars of food security are availability, access, utilisation and stability. The nutritional dimension is integral to the concept of food security. (FAO 2009)

**Availability** refers to the total food stock in a country / region (macro level) or within a given population or household (micro level); ‘a measure of food that is, and will be, physically available in the relevant vicinity of a population during a given period’ (HODDINOTT & Al., 2002).

- Availability may be limited by climatic factors (droughts/floods), political or military insecurity, a blockade of the zone, embargos, low production levels, inadequate post-harvest storage, and transportation difficulties related to poor road infrastructure and so on. Availability is essential to allow access to foodstuffs but it is not sufficient in itself.

**Access** refers to the capacity of a household to procure sufficient food to satisfy the nutritional needs of all its members; it is ‘a measure of the population’s ability to acquire available food during a given period’ (HODDINOTT & Al., 2002).

- Factors influencing access to food include economic factors (price of foodstuffs, incomes, employment opportunities), social and political factors (ethnic, religious or social discrimination; redistribution of resources within the population or the household, or access to the exchange network; transport difficulties or physical access to markets; mutual assistance, support from family and neighbours; government or humanitarian aid; credit), and factors related to agricultural production (access to land, seed), distance to market places, access to fishing or trade, etc.

**Utilisation** refers to the way in which food is used on a micro level (household—individual): the distribution of food within the household, its preparation and then absorption at the individual level; it is ‘a measure of whether a population will be able to derive sufficient nutrition during a given period’ (HODDINOTT & Al., 2002).

- The determining factors here are of a physiological (adequate assimilation of nutrients), hygienic (quality of water and general sanitary conditions), and educational order (conditions of conservation and processing of food, basic knowledge of nutrition).

**Stability** of the other three dimensions over time: Even if a person’s food intake is adequate today, he/she will still be considered food insecure if he/she has inadequate access to food on a periodic basis and is at risk of a deterioration of his/her nutritional status. Adverse

weather conditions, political instability, or economic factors (unemployment, rising food prices) may have an impact on a person's food security status (FAO 2008).

**Nutrition security** is a wider concept than food security and includes all dimensions of the conceptual framework of malnutrition (see below). A household has achieved nutrition security when it has secure access to food coupled with a sound sanitary environment, adequate health services and knowledgeable care to ensure a healthy life for all household members (IFPRI, 2004).

A **Livelihood** is the combination of all activities (agricultural and non-agricultural) making up the resources (economic and food) that allows the household to continue to exist (to meet its basic needs) and to develop. In other words, a livelihood comprises the capabilities, comprised of assets (including both material and social resources) and activities used by a household for a means of living. A household's livelihood is secure, when it can cope with and recover from stresses and shocks, and maintain or enhance its capabilities and productive asset base (Chambers and Conway, 1992).

**A Surveillance system** is the regular monitoring and analysis of the integrated FSL, Nutrition and WASH context of the targeted populations/areas and the efficient sharing of findings & recommendations in order to enable ACF and decision makers to define adequate strategies and have timely responses.

FSL surveillance systems can be linked with two other processes where FSL information data is collected and analysed: Monitoring & Evaluation of FSL programmes, and FSL assessments, which are defined within ACF as follows:

#### **Monitoring & Evaluation:**

- **Monitoring:** the systematic and continuous collection, analysis and utilisation of information on project achievements as implementation progresses. It is an on-going activity, taking place continuously throughout an intervention (ACF FSL M&E Guidelines 2011).

The **purpose** of monitoring is to provide the information by which management can identify and solve implementation problems, and assess progress in relation to what was originally planned, as well as to adjust the project if the objectives and needs are not being met.

- **Evaluation:** a systematic and impartial examination of humanitarian action intended to draw lessons to improve policy and practice, and enhance accountability (ACF FSL M&E Guidelines 2011).

The **purpose** of evaluation is to review the achievements of a project against planned objectives, and to use experience from the project to improve the design of future projects and programmes. Evaluations can take place during the implementation of a project (e.g. mid-term evaluation) or at the end of a project (final evaluation)

A **FSL assessment**<sup>1</sup> is a process where information is gathered to identify the main underlying causes of food and nutrition insecurity and risks to livelihoods across a range of settings, in order to identify responses that will save lives, preserve and reinforce the livelihoods of vulnerable population.

The **objectives** of an assessment will differ according to context, scope and available resources and will also depend on the type of assessment (rapid assessment, comprehensive or in-depth assessment) but will generally include:

- To identify hazards and vulnerabilities as part of preparedness activities and contingency planning
- To assess changes in food availability and food access as a result of a shock or a protracted series of shocks
- To analyse the underlying causes of food insecurity and threats to livelihoods in a surveyed area
- To identify the main geographic areas and livelihood groups that are vulnerable to food insecurity in a surveyed area
- To define vulnerability criteria that will allow these groups to be distinguished during the course of an intervention
- To assess local priorities surrounding needs and identify local capacities and resources to meet needs
- To recommend an appropriate response to address food security in the short to medium term and/or support and protect livelihoods in the long term

The three processes share many tools, especially for data gathering—do not hesitate to consult the *M&E for FSL Programmes Guidelines* and the “FSL Assessment *Guidelines*” for more concrete tools and field examples (see Table 1 on next page).

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<sup>1</sup> ACF uses more often the term « assessment », keeping the word « survey » for in depth quantitative assessment. However other stakeholders use the term « survey » more largely.

**Table 1 : M&E, FSL assessments, FSL surveillance – process comparison**

	<b>M&amp;E</b>	<b>FSL Assessment</b>	<b>FSL surveillance</b>
<b>FSL data collection, inc. primary &amp; secondary information</b>	Yes	Yes	Yes
<b>FSL data analysis and reporting</b>	Yes	Yes	Yes
<b>Main type of reporting</b>	ACF internal reports Donor reports Specific M&E report can be finalized for external sharing (e.g. PDM reports)	Assessment report, ideally also shared externally	Bulletins, surveillance reports, DVD, workshops... all outputs designed for external sharing
<b>Main target audiences</b>	ACF (internal) Programme donor Local partners (communities, authorities, administrations...) Lessons learnt can be shared with external stakeholders External evals should be systematically shared with Alnap etc	ACF (internal) Potential donor (proposal) Local partners (communities, authorities, administrations...) Should be shared with humanitarian national community (INGOs, LNGOs, UN agencies, donors...)	ACF (internal) National agencies (ministries...) Humanitarian national community (INGOs, LNGOs, UN agencies, donors...) Local partners (communities, authorities, administration)
<b>Objective</b>	Ensure ACF project quality for the targeted population	Define the need of an ACF intervention, and design the potential intervention	Provide the programming personnel and decision makers with appropriate information for FSL strategies quality enhancement.
<b>Timing</b>	According to the programme's timing Continuous process	when needed 1week to 3 months process	According to the surveillance objective Continuous process

In terms of phases of an evolving situation, it is important to visualize the ways in which assessments can feed into the setting up of a surveillance system, as well as be used to verify information. Specifically, in situations of change and volatility, it is important to address the emergency and rapid assessment needs, while formulating project objectives and incorporating this into the eventual surveillance system. The following table 2 describes the phases of data collection:

**Table 2 : Phases of Information and Data Collection**

Assessment type	When	Typical duration	Purpose – main outputs	Main methods used	Possible ACF programme action
<b>Initial investigation</b>	Onset of a new emergency	1-2 days	Preliminary determinations of the areas, population groups and numbers (rough estimates) of people affected, and the likely impact on food security.	Rapid secondary data review Contacts with key informants at national and local levels	No action or Setting of Humanitarian Agenda
	New crisis or access to a new area during an ongoing operation		Recommendations for immediate life-saving assistance, if needed. Whether further assessment is needed and, if so, the localities and priority topics on which a rapid assessment should focus.	A few site visits, if possible, with purposive sampling: -observation -key informant interviews -a few group interviews	Allocations from available in-country resources or region
<b>Rapid assessment</b>	Following preliminary investigation of a new sudden-onset emergency	2-6 weeks	Estimates of the extent, severity and probable duration of changes in food availability and in households' access to and use of food, and the capacities of the different groups to cope with the situation.	Thorough secondary data review Visits to all relevant administrative centres and logistic hubs	No action or Setting up a Project (Logical Framework)
	New crisis, or access to a previously inaccessible area, during an ongoing operation		Recommendations on measures – food and/or non-food – that could help to ensure that people have access to adequate food. Information on the resources available, the means by which specific measures could be implemented, and the contingencies to be planned for.	Visits to a representative sample of sites (all if small number): -key informant interviews, focus group discussions and a range of PRA techniques, with purposive sampling -exceptionally, quick HH survey with purposive sampling 'Descriptive' analysis	Allocations from available resources Refinement of implementation agreements Forming partnerships with other agencies
<b>In-depth assessment and setting up a Surveillance System</b>	In response to early warnings of a slow-onset crisis	1-3 month	A thorough analysis of: food availability (supplies and markets); the access that households in distinct socio-economic groups have to food, the use they make of it, and the sustainability of their coping strategies; the impact on livelihoods, the underlying causes of food insecurity and	Thorough secondary data review Extensive site visits	No action or Project start in slow-onset situations
	As soon as the situation permits in any operation expected to last for more than 6 months			-key informant interviews -in-depth focus group discussions -household survey with probability	Revision of primary project parameters, indicators and setting up of a surveillance system

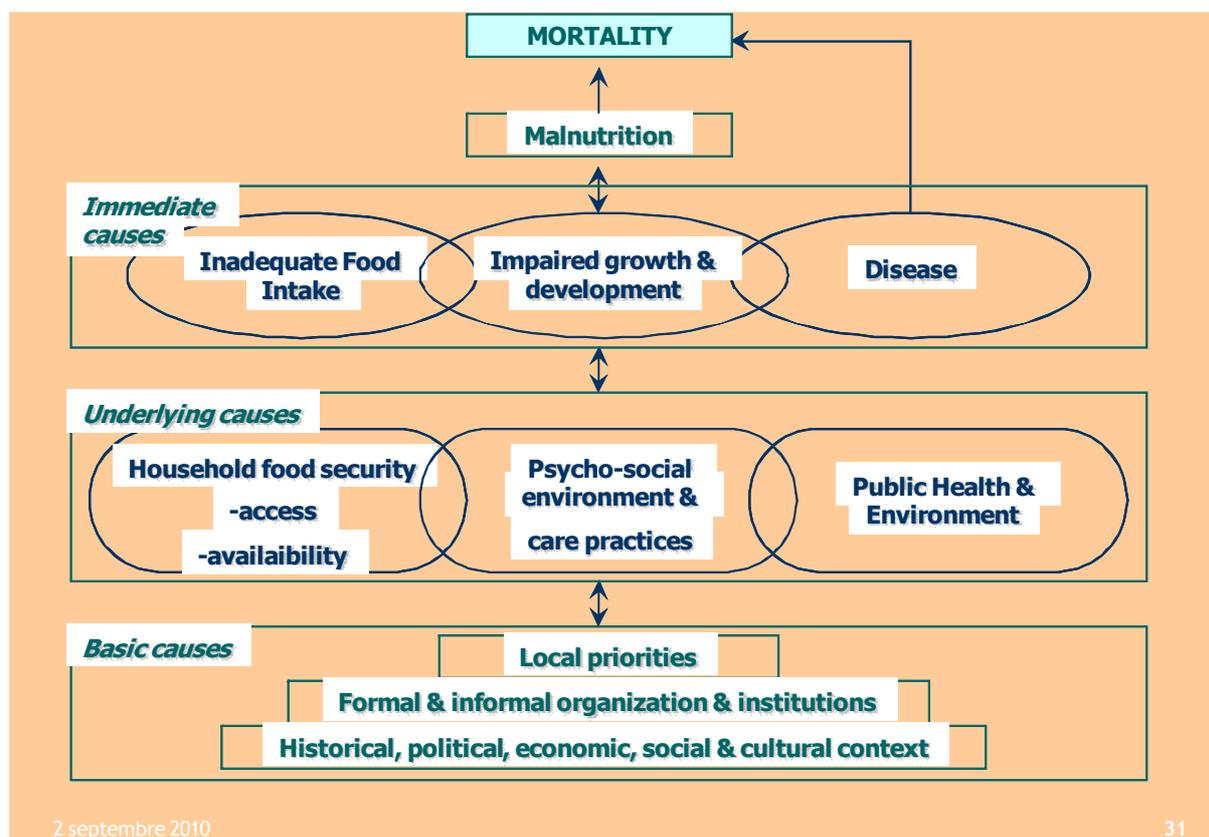
	Following a major change in an ongoing operation, or prior to preparing a new Project Cycle		the potential and risks for food security.  Recommendations on measures – food and/or non-food – that could (i) ensure that people have access to adequate food in the short term and (ii) promote recovery (protect livelihoods).	sampling Nutrition surveys Market surveys (quick, initial) Statistical (inferential) analysis	
<b>Surveillance System Review and Revision</b>	Ongoing operation		M&E of Surveillance System.	(see section – M&E of FSL Surveillance Systems)	Check indicators and methods, insert into project re-design. Reassess partnerships.

## 2. PRIMARY CONCEPTUAL FRAMEWORKS

### 2.1. ACF CORE MANDATE: FIGHTING HUNGER AND UNDERNUTRITION, WITH SPECIAL EMPHASIS ON ACUTE MALNUTRITION

The core of ACF’s mandate is “to save lives by eliminating hunger through the prevention, detection and treatment of malnutrition<sup>2</sup>”, and especially Severe Acute Malnutrition which directly threatens the survival of young children. In the Food Security & Livelihoods (FSL) sector, our role is more specifically to prevent undernutrition, as explained in the conceptual frame work of malnutrition below:

Figure 1 : Conceptual Framework of Malnutrition (ACF, adapted from UNICEF).



Thus, in order to prevent undernutrition, the FSL programme focuses on the “left side” of the framework: inadequate food intake & household food insecurity. However, in our analysis, we tend to consider a larger system (nutrition security as a whole, livelihoods and their environment), as food security is strongly linked and interacts with the other potential causes of undernutrition. Undernutrition causality is always complex, and almost never stems from a single determinant.

<sup>2</sup> For a definition of those terms, please refer to the Glossary in Appendix

Surveillance systems will largely cover the whole conceptual framework and hence will look at the broader scope of nutrition security: following undernutrition and its trends, as well as the main determinants of undernutrition and their trends. Thus, for analysis of the determinants of undernutrition, the ACF FSL surveillance “golden standard” is comprehensive and integrated surveillance systems. These include a few indicators of a wider scope (FSL, undernutrition, care practices, WASH, etc...) which can be based on data gathered by ACF, or in coordination with other agencies, with shared data based on each agency’s expertise.

***Food Security & Livelihoods Surveillance within ACF aims for a comprehensive and “integrated” system, based on the conceptual framework of malnutrition and integrating the wider notion of nutrition security.***

Depending on the situation, ACF surveillance activities may focus on food security only, or even on one specific food security determinant, sometimes in coordination with partners for other components, and sometimes not. The type and scope of a system will depend on the context and on the objective of the surveillance system.

## **2.2. FIELD CONTEXT ANALYSIS: NCA & SUSTAINABLE LIVELIHOODS APPROACHES.**

For analysing the complexity of a context, ACF uses two primary conceptual models<sup>3</sup>:

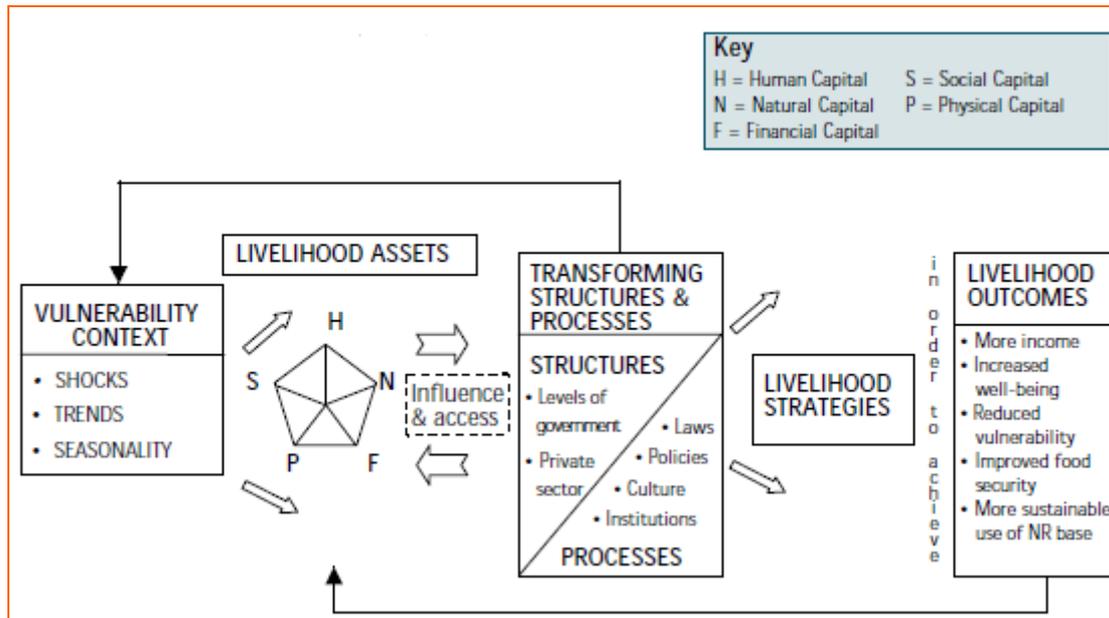
- The conceptual framework of malnutrition, which is the base for the **Nutritional Causal Analysis** approach (NCA)<sup>4</sup>. This consists of analysing all potential causes of undernutrition, as per the framework presented previously in Figure 1;
- The **Sustainable Livelihoods Framework**, presented in Figure 2. The ACF FSL assessment guidance is largely based on this conceptual approach. The FSL surveillance system uses both models.

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<sup>3</sup> As presented in ACF Food Security & Livelihoods Policy Paper

<sup>4</sup> A Nutritional Causal Analysis Guidelines should be issued by ACF in 2011.

Figure 2 : Sustainable Livelihoods Framework (DFID 1996)



In the sustainable livelihoods framework, food insecurity and undernutrition are potential negative outcomes. This approach is more commonly used within the humanitarian community in emergencies and displacement situations, and in ACF in particular, because: 1) it is more precise than many other frameworks in reflecting the actual situation; 2) it includes the most important indicators; 3) it is a sensitive tool for analysing trends over time and risks (based on vulnerabilities); and 4) it is widely recognized and known by most field actors now, and thus permits partners to share the same concepts and language. It also places emphasis on the dynamic aspects of food security, illustrating its non-static, often cyclical nature and provides various feedback loops which reflect the type of trends in unstable situations.

**The Sustainable Livelihoods Framework is used by ACF as a priority and is a practical and useful way of organizing FSL Surveillance Systems.**

The Appendix 2 provides further information and definitions relevant to the Sustainable Livelihoods Framework, and the bibliography offers additional readings and e-learning if needed<sup>5</sup>.

<sup>5</sup> You can also use the pre-departure training presentation of the livelihood concept: available on the FSL CD and on the ACF intranet.

Both frameworks (Conceptual Framework of Malnutrition & Sustainable Livelihoods) have clear advantages and ACF is currently developing a potential model that would combine the two, as per other efforts by WFP<sup>6</sup> (2009) or Sphere<sup>7</sup> (2010)<sup>8</sup>. While not all experts agree that the two frameworks can be combined, both provide a comprehensive model for analysis of FSL.

### 2.3. DISASTER RISK MANAGEMENT (DRM): A NEED FOR APPROPRIATE SURVEILLANCE

Related to ACF's priority in combating malnutrition, the areas of Disaster Risk Management (DRM) and adaptation to Climate Change are also evolving as strategic priorities of ACF, as well as other technical partners involved with food security. Just as prevention of malnutrition saves enormous resources (human and monetary), it has been demonstrated that managing the risk of food insecurity beforehand is far cheaper than trying to repair the damage afterwards. In addition, DRM approaches are rapidly being developed and deployed because they are less costly<sup>9</sup>. (It has been calculated that countries can save seven dollars in recovery costs on each one dollar invested in risk reduction measures.)

How can we define disaster risk?

*“Strictly speaking, there is no such thing as a natural disaster, but there are natural hazards, such as cyclones and earthquakes. A disaster takes place when a community is affected [or overwhelmed] by a hazard. In other words, the impact of the disaster is determined by the extent of a community's vulnerability to the hazard.” J. Twigg, 2001*

Within this model, *risk* is defined as the degree to which a population or persons would be affected by a given hazard or shock. Disaster risk results from the interaction of **hazards** or shocks (outside predictable trends) with **vulnerability** (which is not constant, but can change quickly). Figure 3 illustrates this concept:

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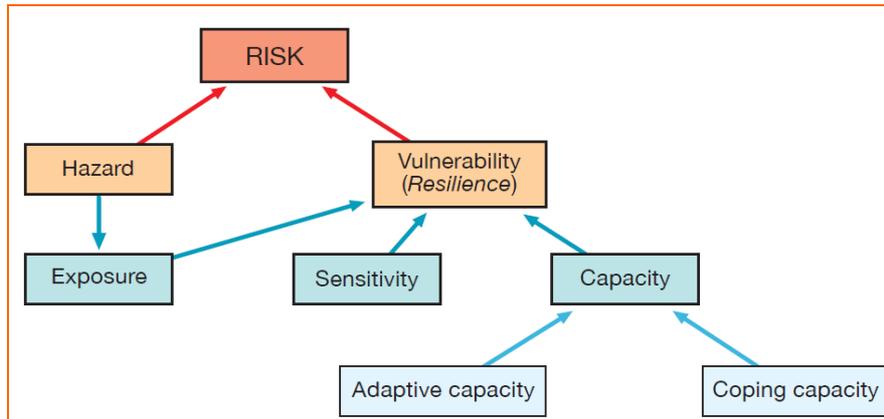
<sup>6</sup> WFP (2009) Emergency Food Security Assessment handbook. WFP: Rome. Available at: [www.wfp.org/content/emergency-food-security-assessment-handbook](http://www.wfp.org/content/emergency-food-security-assessment-handbook)

<sup>7</sup> ENN (2010) Sphere - Chapter 3 (1 July version): Minimum Standards in Food Security and Nutrition (unpublished)

<sup>8</sup> ACF (2010) The threats of climate change on undernutrition: A neglected issue that requires further analysis and urgent actions, in: SCN, 2010. Newsletter #38 – Climate Change: Food and Nutrition Security Implications. Available at: [http://www.unscn.org/files/Publications/SCN\\_News/SCN\\_NEWS\\_38\\_03\\_06\\_10.pdf](http://www.unscn.org/files/Publications/SCN_News/SCN_NEWS_38_03_06_10.pdf)

<sup>9</sup> World Bank and US Geological Society (cited in John Twigg, ed. (1998) Developments at Risk: Natural Disasters and the Third World, Oxford, UK: Oxford Centre for Disaster Studies, UK Coordinated Committee for the IDNDR.

Figure 3: A conceptual relationship of disaster risk and its components



$$\text{Risk} = \text{Hazard} \times \text{Vulnerability (V)}$$

where  $V = (\text{exposure} + \text{sensitivity})/\text{capacity}$

Vulnerability is related to the exposure of people to a hazard, their sensitivity to the hazard, and their capacity to address and cope with the hazard. For example, people living in a zone characterized by high drought occurrence (frequent exposure), who are rain fed crops dependents (high sensitivity), and who live in communities that are not prepared to face consequences of droughts (limited capacity) are at high risk of a disaster. Further, the capacity of people to deal with disaster is divided into: a) the **ability to cope** (e.g. reduction of household food consumption), commonly using short-term unsustainable methods, and b) the **ability to adapt** (e.g. using drought- or salt-resistant crop varieties), by using methods that keep pace with the changing nature of disaster. FSL Surveillance systems will need to look closely at both, and include analysis of situations where “coping” may erode options for later “adaptation”. For example, when drought affected households sell agricultural inputs or eat seed, they will naturally erode their future prospects of adaptation.

Thus, DRM will attempt to:

- reduce **exposure**, by giving an early and documented alert so people can hide or escape;
- reduce the **sensitivity** to disasters by helping the population to adapt their livelihoods to hazards or threats; and,
- increase the coping and response **capacity** of the different actors (e.g. communities, public authorities, humanitarian community, etc.).

Disaster Risk Management is not static. It is undertaken before, during and after a disaster occurs. DRM systems aim at giving an **early and documented alert** (where, what, population numbers, emergency needs foreseeable...).

Figure 4 : The Disaster Risk Management Cycle

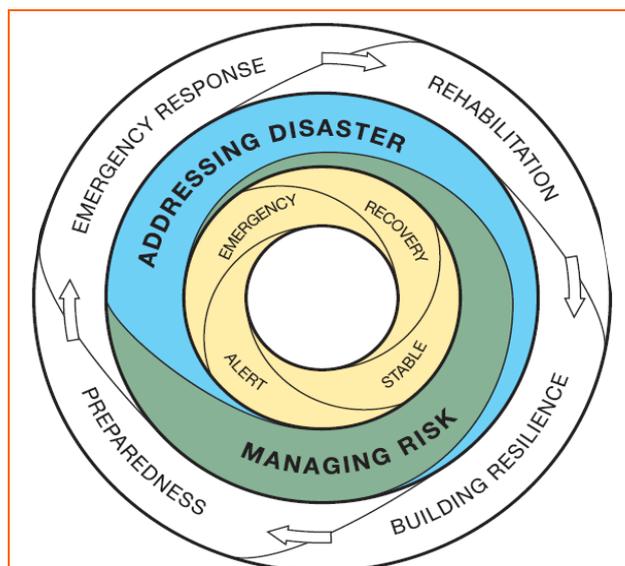


Figure 4 shows the disaster risk management cycle showing changes in the DRM focus (white) according to the context (yellow), with overall ACF action progressively emphasising risk management (green) in comparison to disaster operations (blue) after a disaster occurs.

ACF aims for five major objectives in its DRM Policy, which include:

- Putting in place and maintain systematic ACF contingency planning in all countries;
- Prepare for, and reduce exposure to hazards and threats (e.g. community contingency planning, protecting infrastructure, socio/economic and hunger safety nets...);
- Mitigating and prevent risk via vulnerability reduction and the building of resilience to disasters (e.g. sustainable livelihood support, sustainable management of natural resources, access to market promotion...);
- Minimising the impact of key drivers of risk by mainstreaming of the following key factors into all ACF projects: gender, environment, urban planning, migration, climate change;
- Building the capacity of local institutions and stakeholders who are mandated to support communities (e.g. public awareness, community capacity building, early warning systems...).

Undernutrition prevention (and the Conceptual Framework of Malnutrition) and Disaster Risk Management are complementary frameworks at ACF. An analysis of hazards and risks **before** their appearance (shocks), including trends, seasonality and their impact on nutritional outcomes, can allow for informed preventive activities. A **post-shock** analysis based on the NCA allows for the identification of factors that are sensitive to a given shock/risk (e.g. the drought directly impacts a pastoralist livelihood rather than petty business). In parallel, DRM allows one to know how to orient programmes to prevent undernutrition which can be “climate or disaster-proof”.

What does the Disaster Risk Management approach concretely change? The standard needs assessment approach concentrates on the determinants of undernutrition, food insecurity and/or unsustainable livelihoods. A DRM approach concentrates on the analysis of **risk**, especially in the context of protracted crises (recurrent drought, recurrent flooding, etc.), and orients actions to minimize the risk and consequences of future hazards, along with organizing a response to future crisis prior to the shock.

**An appropriate surveillance system will be a key component of the DRM approach:**

- First, to act as an Early Warning System (for more details see section 4.1).  
A solid assessment of risk (who is at risk, where, why and how) can be determined by documenting the evolution of a situation, analysing the shocks (drought, abrupt market evolution, crop or livestock pest, etc.) and the vulnerability of the context.
- Secondly, documenting, orienting and monitoring the whole DRM process will help deciding on what to do, when, how and where.
- Thirdly, to advocate for appropriate response and funding, targeting governmental institutions, NGOs, UN agencies & international donors.

**Food Security & Livelihoods Surveillance plays a key role within Disaster Risk Management: by documenting hazards and the vulnerability of the targeted population, it can act as an effective Early Warning System and moreover, FSL Surveillance can orient, document and monitor the entire DRM process.**

For further readings:

-On DRM

- ACF, 2010, "Community-Based Disaster Risk Management", Policy Document – Draft.
- Oxfam, 2008, "Introduction to Disaster Risk Reduction: A Learning Companion". Oxfam Disaster Risk Reduction and Climate Change Adaptation Resources, 16 p.
- UNISDR, 2005, "Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters, 25 p.
- CORDAID, IIRR, 2004, "Drought cycle management. A toolkit for the drylands of the Greater Horn of Africa". International Institute of Rural Reconstruction, Cordaid and Acacia Consultants, 253 p.
- ECB, 2007, "Leaving Disasters Behind: A Practical Guide on Disaster Risk Reduction" (available in downloadable chapters at [www.ecbproject.org](http://www.ecbproject.org))

-On Sustainable Livelihoods approach

- DFID Sustainable Livelihoods Guidance Sheets (available on internet, for instance on <http://www.enonline.net/resources/667>)
- FAO e-learning (free): "Livelihoods Assessment and Analysis", available on [http://www.foodsec.org/DL/dlintro\\_en.asp](http://www.foodsec.org/DL/dlintro_en.asp)
- Jasper and Shoham, Dec. 2002, "A Critical Review of Approaches to Assessing and Monitoring Livelihoods in Situations of Chronic Conflict and political instability". Working Paper 191, Overseas Development Institute (ODI).  
(<http://www.odi.org.uk/resources/download/1986.pdf>)

### 3. KEY CHARACTERISTICS OF A SUCCESSFUL FOOD SECURITY & LIVELIHOODS SURVEILLANCE

#### 3.1. THE PRINCIPLE OF “DO NO HARM”

**Surveillance data can reveal sensitive information;** it may provide evidence of social injustice and economic imbalances that may have political connotations. As a rule of thumb, everything must be done to avoid putting the surveyed population (or the ACF team) in danger. In some instances, ACF has created additional tensions between the population and the authorities. Placing the affected population and/or team members in any degree of heightened danger or insecurity as a result of FSL surveillance must always be avoided.

*Field example 1: Ivory Coast 2004*

**End a project if security of team or surveyed groups is at risk.** In 2004, ACF stopped its food security Surveillance project in Western Ivory Coast. The principal reasons where security:

- The FSL Surveillance team itself was afraid to go in half of the area for its security
- The security of the people providing information for the surveillance system could not be guaranteed. As a precaution, the project was ended.

*Field example 2: Endangering population*

**Maintain discretion in circulation of data.** In one country, ACF surveillance outputs were not appreciated by the national authorities. In consequence, the surveyed communities suffered from violence, thus the surveillance outputs were afterward kept internal within ACF.

#### 3.2. ACF ‘GOLDEN STANDARD’: COMPREHENSIVE AND INTEGRATED FSL SURVEILLANCE SYSTEMS

According to its mandate, any FSL surveillance system serving ACF should be oriented towards the prevention of undernutrition. Given the complexity of the causes of undernutrition, however, FSL information will not be sufficient to analyse and effectively prevent any deterioration of the nutritional situation. A **comprehensive and integrated data collection & analysis (both primary and secondary)** will reveal more powerful linkages between food security, livelihoods and nutritional status and outcomes.

*Field example 3: Malawi integrated surveillance*

**Combine a set of comprehensive indicators in collection and analysis.** In Malawi, ACF Surveillance (2003-2007) created a system whereby data from FSL and nutrition/health were integrated into a single analysis. This strengthened the ability for ACF staff to follow and understand the context, the risks for food insecurity and malnutrition in a given situation. The team was able to analyse the trends in depth, and even to propose accurate prediction of how the situation was likely to evolve. Appropriate recommendations, with a holistic view, were defined by the surveillance workshops (inc. national authorities & NGOs).

The extent to which a comprehensive set of indicators can be used to facilitate an integrated analysis will depend on the actual situation (context, resources, time, etc.) but such an integrated approach should be implemented whenever possible.

*Field example 4: Chechnya 2000-2004*

**Choose indicators that are practical and descriptive, and applied to the context.** In Chechnya, ACF surveillance (2000-2004) looked at Food Security and Livelihoods in their broadest definition, and aimed at providing a response to the needs of the war-affected population. The GAM levels were non-existent. The indicators followed were: population movements, availability of services, income sources, safe access to land, and freedom of movement (e.g. to access markets), state allowances and market prices.

### 3.3. COORDINATION & PARTNERSHIPS

ACF does not operate in isolation. Many other agencies at the field level often also work on FSL surveillance and efforts can be coordinated by using the same methods, by sharing data and/or results, and by jointly issuing reports. In many cases, an FSL Surveillance system aims to advocate with stakeholders by providing appropriate information and recommendations. Coordination & partnerships will help at each stage to:

- Design a system: working with the end-user of the information will ensure an appropriate collection of data, analysis and dissemination;
- Gather valuable information: working with others will ensure cross-checking and complete information;
- Formulate recommendations: when discussed with partners, recommendations will be more specific to project requirements, more feasible and easier to implement;
- Advocate more effectively with partners by ensuring that they believe in the assessments that have been conducted and the recommendations that have been drawn up. Coordination and partnerships will provide more buy-in;
- Increase coverage (in the case of implementation partnerships).

ACF Surveillance activities may often be one component of larger systems operated by other partners, such as the WFP or the FAO. Sharing efforts and information will often reduce duplication and save resources (such decisions will often depend on the particular expertise of ACF staff in a given location). In addition, a surveillance system will be more sustainable when initiated and implemented with partners; partners will be able to continue the surveillance, even in the absence of ACF. Coordinated systems with partners may also form part of ACF's exit strategy.

**Partnerships and coordination build efficiency and sustainability into an FSL surveillance system. The aim of surveillance is not to produce complex and technical reports but rather to come up with a synthesis of user-friendly information and recommendations to be shared among partners and stakeholders and used as a basis for decision-making.**

### 3.4. SURVEILLANCE AND THE PROJECT CYCLE

A surveillance system is a tool that is developed based on strategic objectives. Once objectives are defined, indicators can be defined and surveillance can be made within the project cycle. It is of vital importance that the surveillance activities and eventual system that is created be aligned fully with the ACF project cycle. This means that from the beginning, surveillance must be linked to objectives and with the plan, preparation and anticipated necessary resources to actually undertake a proper project that prevents and combats acute undernutrition in a given population. When conceiving your project cycle, you must have a Logical Framework (see examples in Appendix 8) and some idea of the actual use of the information, as covered under Section 4.

**There is no “ready-to-use” surveillance system. The most suitable surveillance system is the one that supports the decision making process to reach your strategic objectives and goals.**

### 3.5. FLEXIBILITY WITHIN SURVEILLANCE SYSTEMS

**A surveillance system must be adapted to development and changes in a given situation.** Sudden onset disasters can disrupt normal situations within hours. When designing a surveillance system, always choose a limited number of indicators to follow based on specific objectives and be ready to adapt them quickly to changing circumstances if/when the context changes.

#### **Example**

At the design stage of an EWS in a rice-import dependant rural context, the price of rice used to be extremely constant on the local markets and was therefore not included into the indicators. However this changed following the food price crisis and the price of rice had to be added into the system as an indicator.

### 3.6. PRACTICAL APPLICATION OF FSL SURVEILLANCE

It is important to always ask: **“Why is this data being collected?”** Any surveillance system must be practical and action-oriented. The delay between the collection of data and the release of the findings (report, oral communication, etc.) must be as short as possible (e.g. one month). In order to accomplish this:

- The indicators must be limited in number.
- The data collection process must be practical and not cumbersome.
- The composition and organization of the team must be specific to the task at hand (e.g. sufficient number of data collectors, 1 dedicated data entry clerk...)
- The data analysis must be prepared in advance: pre-defined analysis framework, reporting format and dissemination strategy.

Follow the “Good Enough Principle”: **It is better to have a good report on time rather than a perfect report too late. Better to have information in time every two months, than late information every month.**

### **3.7. SURVEILLANCE SYSTEMS RECOGNIZE SEASONALITY**

Once indicators have been selected based on the above criteria, it is important to recognize that their relative importance varies throughout the year and that they need to be interchangeable or flexible. For example, once the rainy season has begun, it is more important to track the trends in diarrhoeal diseases than in respiratory diseases, although the opposite is true during winter months. At the onset of the crop season, it is important to monitor seed availability, arable land, soil moisture and other factors to support crops. Afterwards, crop development should be monitored, followed by the harvest, food availability in markets to cover needs, prices and purchasing power. A proper understanding of livelihood systems is necessary to understand how monitoring variables move and change in time. In the analysis of the entire set of indicators, seasonality is what will give the most accurate idea of the overall food security situation.

## 4. FUNCTION OF A FSL SURVEILLANCE SYSTEM: USING THE SURVEILLANCE INFORMATION

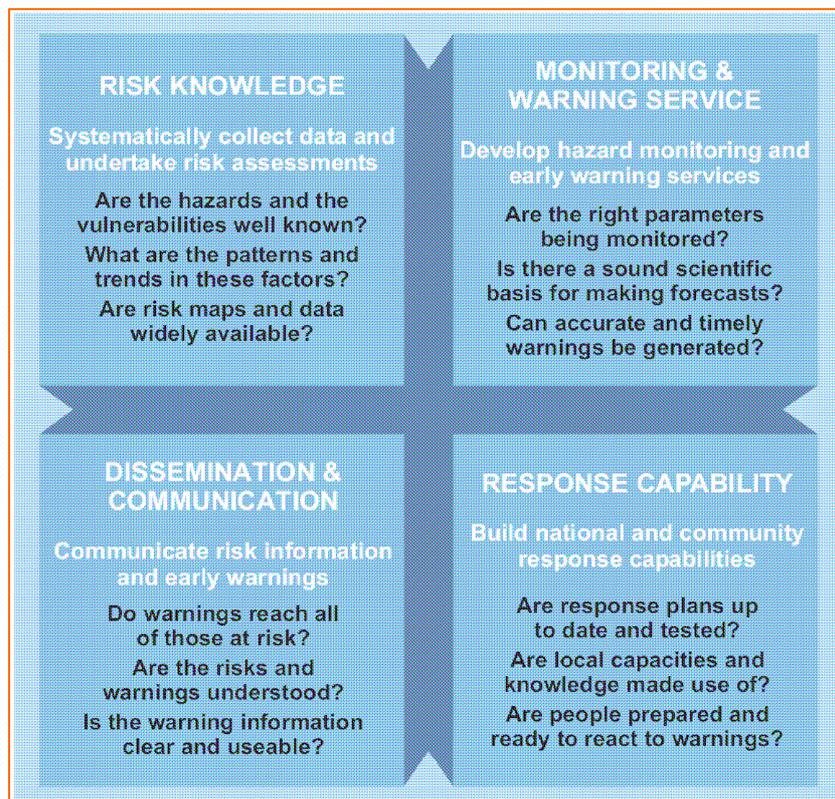
FSL surveillance can cover a wide range of objectives. The following section describes the main ways in which FSL surveillance systems are used.

### 4.1. EARLY WARNING SYSTEMS AND DISASTER RISK MANAGEMENT

The aim of a EWS is to provide timely information on the risks of a disaster occurring, from an effective analysis of the hazards, risks, vulnerabilities and capacities at the field level. **The EWS is comprised of a surveillance system and data analysis, but also must contain a RESPONSE component to be truly effective.** It is not valid to put together information and predict risk, without ensuring recommending activities to strengthen populations from vulnerabilities stemming from those risks.

Early Warning Systems (EWS) are well described in the humanitarian literature, and recent development and improvements of EWS have been made. They are in particular more sensitive to Disaster Risk Management<sup>10</sup> and Climate Change, to be more efficient. The key elements of an effective EWS are described in the Figure 5:

Figure 5 : Four Elements of People-centred Early Warning Systems (UNISDR 2006)



<sup>10</sup> See in particular UNISDR publication, as UNISDR, 2006, "Developing Early Warning Systems: a checklist"

### **Box 1: Key elements for a successful Early Warning System (adapted from UNISDR 2006)**

#### Risk Knowledge

Risks arise from the combination of hazards and vulnerabilities in one particular location. Assessments of risk require the systematic collection and analysis of data and should take into consideration the dynamic nature of hazards and vulnerabilities that stem from cross-cutting issues such as urbanization, rural land-use change, civil strife, food prices, environmental degradation and climate change. Risk assessments and maps help prioritise early warning system needs and guide preparations for disaster prevention and responses.

#### Monitoring and Warning

Capacity for warning lies at the core of the system. Predicting and forecasting hazards must rest on a sound scientific reasoning and a reliable forecasting and warning system operating 24 hours a day. Continuous monitoring of hazard precursors is essential to generate accurate and timely warnings. Warning services for different hazards should be coordinated where possible to benefit from shared institutional, procedural and communication networks.

#### Dissemination and Communication

Warnings must reach those at risk. Clear messages containing simple, useful information are critical to enable appropriate responses that will help safeguard lives and livelihoods. Regional, national and community level communication systems must be pre-identified and appropriate authoritative voices must be established. Multiple communication channels should be used to ensure that as many people as possible are warned, to avoid failure of any one channel, and to reinforce the warning message.

#### Response Capability

It is essential that communities understand the risks they face and respect/ trust the warning as well as know how to react. Education and preparedness programmes play a key role in raising awareness. It is also essential that disaster management plans are in place, well practiced and tested. The community should be well informed on different options for appropriate behaviour, on means to avoid threats, and the best ways to avoid damage and losses to livelihoods and property.

In addition to the aforementioned key Early Warning elements, the detection of anomalies or abnormalities within data results needs to be examined. Baseline data on vulnerability is crucial to identify any significant changes in food security trends and will serve to set off an early warning if necessary. It is however extremely important to analyse what is meant by “significant changes in food security” to identify whether these changes are in fact caused by true determinants or if they are caused by a temporary anomaly that would result in a ‘false positive’, just happens to be. This may even have to be validated by a rapid field assessment.

## 4.2. ADVOCACY

Information and recommendations stemming from a FSL surveillance system can be used for advocacy of stakeholders. Advocacy may be related to a specific problem identified such as food insecurity caused by microeconomic policies, or advocacy in favour of certain programme interventions by partners such as improved WASH to prevent diarrhoeal diseases and acute malnutrition.

### *Field example 5: surveillance for advocacy*

**Link surveillance data to specific issues: note it can be useful when advocating for human rights.** ACF organized a specific surveillance system to advocate for the defence of human rights of a given population (or sub-group). Field data on livelihoods, security conditions, shelter, freedom of movements, living conditions and rights of target population, was collected twice a year. This information was then formally reported with the support of the advocacy department, and disseminated from HQ to specific target audiences (UE Parliament members, French Parliament members, Human-Right organizations...)

Surveillance for advocacy rests on a few key principles:

- The reporting format: can be longer than in normal reports. The wording and presentation will be heavily **supported by the advocacy & the communication departments**, for maximum efficiency and adaptation to the specific target audience;
- The reporting can be either in written form, in the format of a DVD presentation (including maps, interviews...) as well as power point slides;

### *Field example 6: Malian breeders' association advocacy*

**Surveillance can be used by local populations for their own advocacy.** ACF has implemented a surveillance centred on pastoral livelihoods in Sahel. A Malian breeders association has used some of the outputs of this surveillance (DVD format) to call for government support.

- Target audience: decision-makers that are potentially outside of the humanitarian community (political circles, medias ...).

## 4.3. FOR ACF PROGRAMMING

Surveillance information will normally be a key part of the ACF programming cycle and in some circumstances may be kept fully internal, with no dissemination of the data/information at all. Such instances would for instance include:

- Surveillance to inform and adjust the programme's orientation based on better knowledge of contextual trends and underlying hazard, risks, vulnerabilities etc.;
- Surveillance as a part of the contingency planning, (for example, to be able to assess a critical degradation of the FSL situation and react accordingly);
- Surveillance as part of the DRM process (follow the DRM cycle, EWS).

*Field Example 7: Sierra Leone*

**Linking surveillance systems with M&E.** In Sierra Leone, (Makeni Project, 2006) the surveillance team was also in charge of Monitoring & Evaluation (M&E) of the WASH and the FSL programmes. Linking M&E of WASH & FSL activities was an effective way of ensuring the integration of the teams, and also allowed ACF to gain another perspective outside of the , project teams themselves. Linking surveillance with M&E permitted to see a potential evolution of the context due to the programme (measure of the programme impact).

Surveillance outputs will be reported mostly in internal ACF reports such as:

- Monthly reports (context analysis part)
- Donor reports
- Contingency plans
- Country strategies

They will have to be shared across the ACF team including in all technical departments and Head of Mission.

#### **4.4. FOR OPERATIONAL RESEARCH**

Surveillance systems can feed operational research:

- Innovative Surveillance systems are developed through operational research (ex. GIS pastoral surveillance system, Listening Posts...) for improved quality and efficiency of the surveillance information
- Surveillance databases can be used as operational research resources

*Field example 8: Surveillance and operational research in Guinea*

**Allow operational research use with data.** The ACF surveillance data (and especially the market data prices collected during the food price crisis in 2008) allowed a post-doctorate student to analyse the resilience of vulnerable households to high food prices.

Note that ethical considerations must always guide decisions on operational research of affected communities. For example, placebo testing of populations or the withdrawal of programmatic interventions that could negatively affect target groups should never be allowed. The rights to data and its uses should be clear and individual researchers should always attribute the source (to ACF or other relevant partners) in their reports. The surveillance database (methods, measurements etc.) should be defined, but if shared with interested external actors individuals should be protected. For example, “code names” of places and interviewees can be used to ensure their anonymity and security.

**Always define your surveillance database: after a check of the data quality, save under accessible software format and with appropriate support documents for a new user.**

#### 4.5. FOR INSTITUTIONAL STRENGTHENING

Developing the management and the technical capacities needed for FSL surveillance in local and government institutions can will ensure sustainability and provide a longer-term impact of ACF interventions. While certain trends such as changes in national structures and personnel can complicate these efforts, linkages with more permanent partners, such as UN entities, may support the ability for such systems to endure well beyond ACF's potential departure from a given field location or country.

##### KEY POINTS ON “Principles and Concepts”

-ACF FSL sector follows the **Conceptual framework of malnutrition**, and the **Sustainable Livelihoods Framework for understanding and organizing the context analysis**.

-ACF FSL sector mainstreams **Disaster Risk Management** into its approach. Surveillance systems are a key component of DRM, and should include its basic principles.

-ACF Golden Standard: **integrated surveillance systems are the ACF standard**; integration and holistic analysis is used to prevent undernutrition.

-Other **key characteristics of Surveillance Systems**

- **do no harm**: be aware of the sensitivity of the information (according to each context)

-**coordination & partnership** will be crucial for effectiveness in reaching objectives

-have a **clear objective** from the beginning, and organize your system around this objective

-you have to **monitor and evaluate** your surveillance system as in any FSL project, using pre-defined OVI and according to specified objectives

-your system has to be **flexible** and to adapt itself to the context evolution, for reaching continuously your original objective

-**reactivity**: the delay between the data collection and the information sharing must be as short as possible (e.g. 1 month)

-Surveillance can cover a **wide range of functions**, including Early Warning and Disaster Risk Management, Operational Research, Advocacy and support for ACF programming.

-There is no “ready-to-use” model for FSL surveillance systems: **different types** of Surveillance systems exist and should be used based on the context, the objectives and the functionality offered by the system

# Part II

## USING EXTERNAL SURVEILLANCE SYSTEMS INFORMATION



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# 2

Various surveillance systems are already developed in most countries and locations in which ACF operates. Partnerships and coordination mechanisms are critical to combine efforts, to expand coverage, to disseminate information more widely, and to have access to additional data that can assist ACF in reaching its programme objectives. There is no need for ACF to set up an additional FSL surveillance system if one already exists that we can use effectively for reaching objectives, such as the conception of programmatic responses, the evaluation of the impact of our programme<sup>11</sup>, advocacy, and/or early warning.

Even if it appears that we need a complementary surveillance system because the existing one is inadequate for the needs of ACF (e.g. not detailed enough in our area of intervention, our objectives are not fulfilled by it...), or that preferably it needs to be strengthened, then the external surveillance system information will always be important to gather, in order to:

- Cross-check our information;
- Complete our information (larger scale, additional indicators);
- Use our resources more efficiently.

It can be noted that ACF is part or has been part of several national surveillance systems (in Malawi and Burundi for instance). Further information regarding those partnerships is available in Part III.

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<sup>11</sup> In Ethiopia, the national nutritional surveillance showed the impact of ACF nutritional strategy: in the area covered by ACF moderate acute malnutrition rehabilitation program, levels of SAM and child mortality were significantly lower than in the neighbouring zones.

## 5. IDENTIFYING EXTERNAL SURVEILLANCE SYSTEMS

There is a distinction to be made between surveillance systems and information systems. Many stakeholders have information systems, gathering information on FSL, nutrition or health every year (or every two or four years) but these are not, as such, surveillance systems, as they do not focus on trends, but rather on a more global picture at one point in time.

However the line between a yearly survey and a surveillance system can sometimes be blurry, especially in the case of slowly-evolving indicators. For example, a four-year interval is not adequate for acute malnutrition surveillance, but could be adequate for measuring chronic undernutrition at the national level.

Hereafter are discussed all information systems, and not only surveillance as such, as all those sources may be useful while working on a surveillance system.

Each country / context will have its own information systems. The following is a list of tips to identify different sources of information systems, which include, but are not limited to:

- Large scale population-based surveys: such as the Demographic & Health Surveys (DHS)<sup>12</sup> supported primarily by USAID, and the Multiple Indicators Cluster Surveys (MICS)<sup>13</sup>. In the latter, socio-economical indicators are collected on a regular basis by various actors including the FAO which has compiled them in the country profile data bases (<http://www.fao.org/countryprofiles/resources.asp?lang=en>). Links for other main actor's data sets (WFP, UNDP, UNHCR...) are also available.
- Small scale surveys: they are numerous, as they are implemented by a large set of actors (NGOs, UN agencies, Governments, consultants...). For nutritional surveys, it can be useful to gather them in the existing major databases, such as NICS<sup>14</sup> or CRED<sup>15</sup>. For FSL surveys, no major data base collection is available yet. For now, it will be necessary to ask each stakeholder for a copy.
- National longitudinal monitoring systems are developed or have been developed in various countries, such as the National Surveillance Programme (NSP) in Ethiopia or the HKI programme in Bangladesh.

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<sup>12</sup> Available on [www.measuredhs.com](http://www.measuredhs.com). DHS surveys provide nationwide information on a large set of health & nutrition indicators, collected every 4 years. DHS is covering around 90 countries.

<sup>13</sup> MICS is a UNICEF surveillance system, collecting information every 5 years (every 3 years now) on nutrition, health, child education, child protection. The MICS 4 report has just been released, and all MICS are available on <http://www.childinfo.org/index.html>. Around 50 countries are covered by MICS.

<sup>14</sup> Nutrition Information in Crisis Situations: managed by the Sub Committee on Nutrition of the UN, they publish 3 reports per year where they analyse the nutritional & FSL situation in key contexts (<http://www.unscn.org/en/publications/nics/>), and maintain a data base of all nutritional surveys communicated to them (<http://www.unscn.org/en/publications/nics/database.php>).

<sup>15</sup> Centre for Research on the epidemiology of Disasters (WHO): they are maintaining the « Complex Emergency Data base » with many nutritional surveys available on <http://www.cred.be/>

-Early Warning Systems or Vulnerability Analysis systems regularly gather data mainly on food security. Various actors are invested in this data collection such as the WFP which partners in on reports such as the VAC<sup>16</sup> or the CFSVA<sup>17</sup>. Surveillance can be organized and gathered on a sub-region, with networks as the CILSS<sup>18</sup> in Sahel or the SADC<sup>19</sup> in Southern Africa.

**Two major systems compile a large set of tools (indicators data bases, maps, reports, etc): FEWSNET<sup>20</sup> which is funded by USAID, and the GIEWS<sup>21</sup> which is driven by FAO.**

See Appendix 3 for a list of existing external surveillance systems. They have been organized as follows:

- Global information systems, such as FEWSNET (Famine Early Warning System Network), the USAID led surveillance system, or the GIEWS (Global Information and Early Warning System) which is led by the FAO. The WFP Vulnerability Analysis and Mapping system is also included in this category.
- Information systems covering a specific geographical area such as the CILSS surveying Sahel countries.
- Information system focusing on a specific topic, such as pastoral livelihoods, livestock hazards, nutrition, health...

Note that at the end of the matrix, you will also find additional information databases, which can be useful when looking for secondary information.

This matrix has several limitations, including (a) the fact that it was designed in 2010, and could be outdated at the time of reading these guidelines and (b) it is far from exhaustive, due to length limitations. For each specific context the existing surveillance system will need to be analysed in order to determine whether an additional surveillance system or “add on” of variables is needed or not.

You will find additional guidance for identifying external FSL information systems in the “ACF FSL Assessments Guidelines”: in particular in appendix 5 p. 133 and in appendix 7 p. 145.

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<sup>16</sup> Vulnerability Assessment Committee. VAC reports are issued once a year in many countries, available on <http://www.wfp.org/food-security/reports/search>

<sup>17</sup> Comprehensive Food Security and Vulnerability Analysis Reports, available on <http://www.wfp.org/food-security/reports/CFSVA>

<sup>18</sup> Comité permanent Inter-Etats de Lutte contre la Sécheresse dans le Sahel, available on <http://www.cilss.bf/>

<sup>19</sup> Southern African Development Community. Their Regional Vulnerability Assessment & Analysis is available on <http://www.sadc.int/fanr/aims/rvaa/index.php>

<sup>20</sup> Famine Early Systems Network, available on [www.fews.net](http://www.fews.net)

<sup>21</sup> Global Information and Early Warning System (on Food and Agriculture), available on <http://www.fao.org/gIEWS/english/cpfs/index.htm>

## 6. HAVE A CRITICAL ANALYSIS OF THE SYSTEM

It is important to be cautious and circumspect with regards to the use of other FSL surveillance systems, as they may not be as fitting to the needs of ACF as initially apparent or the data may be compromised and lacking integrity. The system must always be closely examined: sources, methods, measurements, and indicators. It is also advised to cross-check with ACF staff field knowledge and information. Two major points have to be checked when using external surveillance information:

- What are the objectives of the external surveillance system? (e.g. following food availability differs from following food access)

### *Field example 9: Niger*

**Indicators often need to be adjusted over time and limitations within rigid external systems need to be examined.** In Niger the National surveillance system was one of the oldest in Africa, and appropriately linked to a response capacity. Originally it was set up to prevent acute food insecurity linked with poor harvests in this Sahel country. In 2005, the system's limitations were revealed: it overlooked the areas where most of the food insecurity and undernourished populations lived. After close analysis, one of the limitations that came out was the fact that the system was more about food availability rather than food access. The quality of the harvest was a key determinant, when people were relying on food markets for more than half of their food consumption in average.

- What is the methodology used for data collection? Are there limitations (sample size, methods, homogeneity, rigorousness, time of data collection vs. date of the report, etc)?

### *Field example 10: DHS surveys*

**Cross sectional surveys have their limitations.** The DHS surveys give fundamental information regarding health and nutrition indicators. However some data must be handled cautiously, especially the GAM data: for instance, GAM data is collected nationwide during a period of several months and does not show trend, geographical representation or seasonality factors. Thus its use is limited. The DHS does allow for an analysis between associated indicators though, such as GAM and housing status, or GAM and recent migration that could reveal interesting information for defining vulnerability and programme planning.

### *Field example 11: NSP in Ethiopia*

**Be wary of methodology and source when using other's data.** The National Surveillance Programme (NSP) in Ethiopia, led by Save the Children, showed excellent results in terms of early warning and large scale analysis of the trends. However an external<sup>22</sup> analysis showed weaknesses in the process at the micro-scale: information was gathered at the local authority level, with multiple biases and bargaining on the communication line: food security is highly sensitive information and has a massive political impact.

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<sup>22</sup> Enten, 2008, « L'Aide Alimentaire et la Politique des Chiffres en Ethiopie, 2002-2004 ». CRASH/Fondation, MSF, 72p.

## 7. EVOLUTION AND TRENDS OF THOSE EXTERNAL SURVEILLANCE SYSTEMS

Several major changes have taken place since the implementation of the pioneer Early Warning systems in the 70's. The first systems were more focused on food availability and on balancing production + importation with consumption + exportations. However they have major limitations, including:

- The fact that they are based on national statistics, themselves extremely poor in some countries (fragile States)
- The fact that they do not give information on the access to food: availability can be good despite a large part of the not being able to access food security.

This is true because the first systems focused on agriculture, but latter systems also studied other pillars of food security – not just food availability.

Major developments in FSL surveillance systems have taken place since the 1990s:

- A greater focus is given to field-based collected information within surveillance systems (with less reliance on national statistics)
- The indicators themselves have changed and include more socio-economical indicators: these draw from the household economy model developed by Save the Children, and the Livelihood Economy approach developed by DFID and others (Oxfam, Sen, etc.) which proved to be especially efficient in the field and allow for a wider range of indicator and analysis.
- More stakeholders are involved, including NGOs, civil society and communities themselves.
- The surveillance systems tend to be included in a global DRM process.

New tools appeared in parallel such as: GIS<sup>23</sup> tools and remote sensing satellite images and models permit a wide range of new data collection and interpretation (biomass measures and prediction of harvest and pastures resources; satellite imaging in case of natural disaster show the geographical extent of the event and greatly ease planning, targeting and early response...)

- Internet allows for the quick sharing of the information, and easy access to a huge quantity of databases and reports. The difficulty today resides primarily in the difficult task of sorting through large amounts of available information. Mobile phones also have the potential to facilitate quick result-sharing with the relevant and appropriate communities.

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<sup>23</sup> Geographic Information Systems is a set of tools that captures, stores, analyses, manages, and presents data that are linked to location(s). In the simplest terms, GIS is the merging of cartography, statistical analysis, and database technology.

## 8. LIMITS OF THE EXISTING MAIN SURVEILLANCE SYSTEMS

1. Although they are good at previewing possible impacts, the existing surveillance systems may be weaker when it comes to providing timely evidence on the impact of a shock on child undernutrition. Nutritional data may exist and FSL & vulnerability analysis information may be available – however stronger links could be made in some countries between these two indicators. Prevalence data on GAM and SAM are “late” indicators – they are obtained once the problem has already occurred and only once it is too late to set up preventive FSL activities.
2. The existing surveillance systems are poor on reporting the immediate impact of a global crisis (e.g. food price crisis, financial crisis). A new Global Impact and Vulnerability Alert System (GIVAS) is currently being designed by UN agencies in order to fill this gap.
3. Some systems are not well adapted to certain specific contexts: e.g. pastoral (ACF pastoral surveillance system developed in Sahel aims at covering this gap).

### KEY POINTS ON “Using External Surveillance Systems information”

-Do not “re-invent the wheel” but invest some time in searching for external surveillance systems applying to your area;

-Collaborate with the expertise existing in other agencies with high technical capacity – coordinate the collection and sharing of data to improve your own set of indicators and greater dissemination of reports;

-Always keep a critical view on information provided: cross-check and analyse the content, objective and methodologies of data collection & analysis.

# Part III

## FOOD SECURITY & LIVELIHOODS SURVEILLANCE SYSTEMS IN PRACTICE



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# 3

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## 9. DECIDING IF A SURVEILLANCE SYSTEM IS RELEVANT

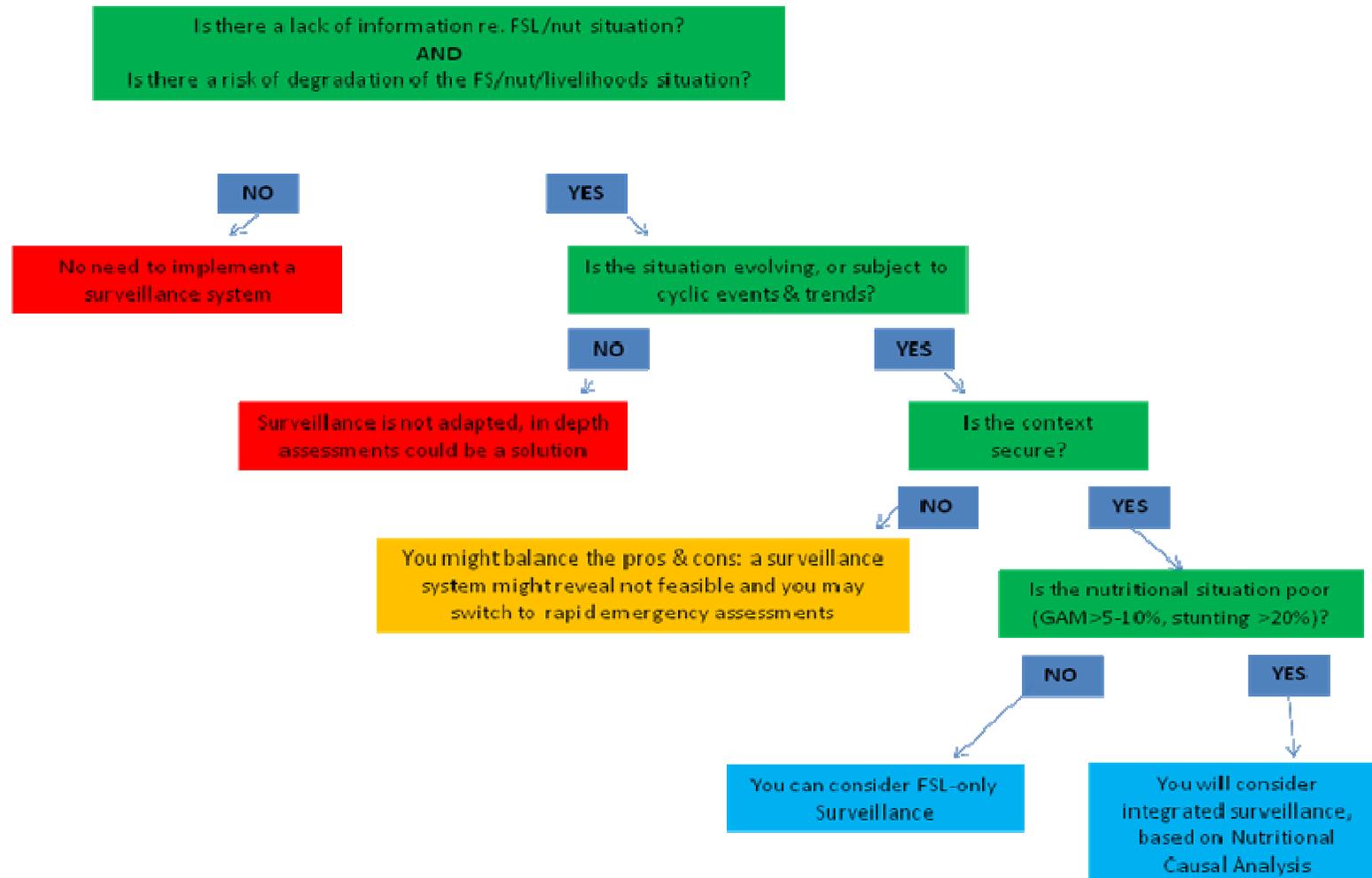
### 9.1. QUESTIONS TO BE ASKED PRIOR TO SETTING UP A SURVEILLANCE SYSTEM

The following questions will need to be answered in order to decide whether or not a surveillance system could be an option:

- Is there a lack of useful information on FSL/Nutrition indicators and their trend at the country/regional/local level, within ACF or with other actors?
  - If not, then there is no need to implement an additional surveillance system.
- Is the context evolving? Or subject to cyclical events or trends?
  - If not, then surveillance is not needed but an in-depth assessment could be a solution.
- Is the environment insecure?
  - If yes, it will be critical to find the right balance between reaching objectives (have appropriate information for decision making) and dealing with the constraints (strict security rules, access constraints). You can consider implementing a surveillance system in an unsafe environment: see concrete solutions in the following parts.
- Is there a risk of degradation of the food security/ livelihoods/ nutritional situation of the population in a given area? What is the expected time scale of this degradation?
- Is there a specific underlying issue that should be followed and that fits within ACF's mandate? (e.g. the refugees return process is putting the livelihoods in danger; the food pipe-line within the country is not appropriate; the undernutrition is not properly covered...)
- Have interventions sometimes continued even when they have become obsolete because of a lack of information available to make informed decisions regarding appropriate changes?

The decision tree below should help inform decisions when analysing the need for a FSL Surveillance system.

Figure 6 : Decision Tree – deciding to implement FSL surveillance



## 9.2. INVENTORY OF THE EXISTING INFORMATION SYSTEMS

Once it has been decided that a surveillance system is needed and appropriate, the next step is to make an inventory of available data and information regarding the FSL situation in the targeted context. The main external surveillance systems are listed in chapter II, but it will be necessary to conduct a local inventory of existing governmental, INGOs or UN -led surveillance systems.

The strengths and weaknesses of each of these surveillance systems will have to be assessed as well as the quality, timing and format in which the information is made available.

The following criteria should serve as a guide to the examination of external surveillance systems and/or partnering in the establishment of one:

- Strengths & weaknesses** – the extent that the information reflects a true picture of the situation and would allow ACF decision making based on objectives.
- Purpose for which data & information is collected** – whether the data is an “easy fit” for ACF objectives or lacks precision for practical use.
- Coverage and level of disaggregation** – the extent of the population included and whether it is possible to see trends related to gender, or other sub groups, such as ethnic origin, etc.
- Types of data collected** – and whether these are useful to ACF.
- Periodicity of data collection** – how often is the data collected and where
- Data management procedures** – integrity of methods of collection. Data entry and analysis;
- Information products** - extent of intellectual property rights and ability for ACF to publish data from that system (citing source of course).
- Means of communication** - the type and frequency of reporting.
- Main users** – the intended audience and practical applications used with the information.
- Financing arrangements** – the means that the system is sustainable and its implications on ACF resources and eventual exit strategy.

## 9.3. ASSESSING THE POTENTIAL HARM OF A SURVEILLANCE INTERVENTION

This step will be conducted in collaboration with the HoM and the logistic department. This assessment will include a clear political analysis of the context and the groups who could be exposed to a greater risk as a result of the information provided.

This is a full part of the decision-making process that takes place prior to setting up a new system.

## 9.4. ASSESSING THE DEMAND

Various assessments of FSL information systems have showed that a demand-driven format (by the final user of the information) is critical for their success.

The target audience will depend on the objectives and the functions of your surveillance system:

- Who would be interested by the information being released (NGOs working in the area covered, line Ministries, local authorities, local communities, UN agencies, ACF other technical departments, ACF FSL project team...)?
- Who are the decision-makers targeted by the recommendations being formulated? (NGOs, Ministries, local authorities, UN agencies, civil society, local communities...)?
- Who will be upset if NOT receiving the report, even if they will probably not read it (dissemination through emails comes at no cost and could appease certain stakeholders)?
- Is the report limited to a specific audience (sensitive information or recommendations that should remain internal)?

### **Box 2 : Potential primary users of an FSL surveillance system**

- Policy makers & their advisers in government
- Government officials, parliamentarians and their technical staff at the national/sub-national level
- Local government authorities
- Civil society
- The donor community
- Mass Media
- Researchers
- Training institutions
- Private sector
- Local communities
- ACF team & projects

Once a target audience has been defined, the strategic objectives will also need to be clearly stated. The following questions, based on expert advice, will guide the formulation of the objectives:

- What information is needed?
- What data is able to provide such information?
- Which indicators would provide that information?
- Who should be covered?
- What areas should be covered?
- How often? What frequency?
- What format of dissemination (oral/ written? length of the report?)

Note that part of your stakeholders could/should be ACF colleagues (nutrition department, WASH department, HoM...)

In order to implement the “users’ assessment”, it may be necessary to undertake several rounds of meetings and/or interviews. The assessment can be carried out through group meetings, individual or semi-structured interviews or by a questionnaire. It is important that all targeted users groups (down to sub-national groups) be given a chance to articulate their needs. Note that focus groups can be used to discuss and understand problems, but not to solve them. The method to be used must be decided upon based on the objectives identified.

One recommendation: in order to maximize the impact, it can be valuable to have part, or all, of the target audience actually reflected within the surveillance system, e.g. community owned. The best way to achieve this is to ensure that:

- the information collected is actually needed and relevant;
- the reports are read;
- the recommendations are appropriate, and reasonably feasible;
- the system actually has an impact (thanks to the surveillance system, the situation has changed positively for the surveyed population). Caution and sensitivity must be used – one should not expect the community to understand sophisticated indicators; the dialogue should be Simplified perhaps by working with an anthropologist or local expertise.

## 10. SETTING UP A SURVEILLANCE SYSTEM

**In most cases, all the processes described below can be implemented during the same period, and not one after the other.** Remember that setting up the Logical Framework (see 10.4 below) and the elaboration of strategic objectives must be done simultaneously to the planning of the surveillance system, so that data gathered is specific and relevant to the desired programmatic results and outputs.

### 10.1. ASSESS THE TARGET AUDIENCE & THE INSTITUTIONAL ENVIRONMENT

A substantial “stakeholder analysis” will be needed at this stage, in particular to understand the different organizational structures, to identify key decision makers, and to ensure the most powerful stakeholders are ‘on board’. Those institutional factors will be key to the effectiveness and sustainability of the FSL surveillance system.

The analysis should consider:

- Which institutions (inc. government, UN agencies, donors, INGO, local NGOs and CBOs...) have a mandate for FSL and/or nutritional activities in the surveyed area?
- Is there a focal point for FSL and/or nutritional activities?

As FSL is covering various sectors, it will be crucial to identify all stakeholders involved in the fields covered by the planned FSL surveillance, as well as the existing coordination and communication mechanisms between them.

### 10.2. DEFINE YOUR PARTNERSHIPS AND COLLABORATIONS

As mentioned, the development of partnerships can greatly help ACF reach its objectives. ACF strongly encourages and supports<sup>24</sup> partnerships to better reach its mandate by:

- Increasing the impact and enhance sustainability of our interventions
- Promoting local ownership, autonomy and self-sufficiency
- Sharing a voice and a greater influence
- Reaching those most in need
- Maximizing resources
- Learning and Innovating

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<sup>24</sup> ACF International Policy on Partnerships, 2010.

**Table 3 : « ACF only » vs. Multi-stakeholders surveillance systems**

	<b>Strengths</b>	<b>Weaknesses</b>
<b>“ACF only” surveillance system</b>	<ul style="list-style-type: none"> <li>-Appropriate when the target audience is ACF (ex. Surveillance system for M&amp;E of ACF programmes)</li> <li>-Easier to design &amp; implement</li> <li>-Sometimes the only solution (volatile states, advocacy on touchy issues...)</li> </ul>	<ul style="list-style-type: none"> <li>-Dissemination of the information is more difficult</li> <li>-Coverage is generally more limited</li> <li>-Sustainability is poor (depends on ACF funding &amp; presence in the area)</li> <li>-Costly</li> </ul>
<b>Multi-stakeholders surveillance system</b>	<ul style="list-style-type: none"> <li>-Improves the quality of the design (more adapted to the needs of the target audience)</li> <li>-Facilitates data triangulation &amp; cross-checking</li> <li>-Improves the quality of the recommendations (shared with more points of view)</li> <li>-Improves the impact of the surveillance system: reports more read, information more shared</li> <li>-Can improve the geographical &amp; technical coverage of the system (better capacity)</li> <li>-Can improve the sustainability</li> <li>-Can strengthen institutional capacity</li> <li>-Can limit the cost</li> <li>-Can avoid duplication of the data collection</li> </ul>	<ul style="list-style-type: none"> <li>-capacity building of the partner can be needed</li> <li>-Preliminary stages are time consuming</li> <li>-More organizational problems to solve at the implementing stage</li> <li>-Consensus to reach at each point</li> </ul>

The choice will have to be made according to the context and the specific objectives and constraints, but it must always be kept in mind that ACF is not the sole target audience and a strong collaboration with key target groups will be necessary to ensure buy-in and actual use of the surveillance information. For more information, please refer to §15. *Participating in joint initiatives and broader information systems*, p. 96.

### **10.3. SUSTAINABILITY & EXIT STRATEGY**

As in any project an exit strategy must be planned in advance to ensure it is sustained following the end of the ACF intervention or just for when the system will no longer be needed.

**Table 4 : Potential exit strategies**

Example of FSL surveillance system	Potential exit strategy
Objective: “to support the M&E of ACF programmes”	Your FSL surveillance stops when your programmes stop
Objective: “follow the return process of the refugees”	Your surveillance stops when 90% of the refugee are settled (afterwards you can continue surveillance, but on a different problematic)
Objective: “implement a sustainable national FSL & nutritional surveillance system”	Your surveillance stops when the line Ministries manage the whole process autonomously

#### 10.4. DEFINE YOUR LOGICAL FRAMEWORK

Properly defining the strategic objectives and desired results is one of the most important steps in determining a useful and accurate surveillance system. Without this your indicators will not be aligned with a decision making process, and the system itself will not be tied adequately to the project planning cycle.

The example below gives an example of one type of Logical Framework, and allows for ACF staff to set up the overall scheme of inputs for desired outputs, linked with indicators that will truly describe a given situation, its changes over time, and project success or revision requirements.

The logical framework is a “live” document. It can be compiled with partners and shared in order to provide maximum use. Various versions exist, but you will find in appendix some ACF examples. It should be revised periodically.

Some key points here:

- If you plan to work in partnership, then the Logical Framework will have to be built in coordination with the partner(s) in order for the collaboration begin properly.
- For the elaboration of the Logical Framework, considerate will be important to read the entire guidelines, in order to define the steps to be followed (e.g. activities in Part III), the results to be achieved (e.g. the function of your surveillance system, refer to Part I) and the indicators to be considered (see the M&E paragraph: Part III, §12, p. 89).
- Weak LFAs should be avoided at all cost. An LFA is weak when the objectives or results are actually processes rather than outcomes and are stated too broadly, or do not actually reflect the mandate of ACF.

**Table 5 : examples of weak & appropriate approach in a FSL surveillance Logical Framework**

	Weak	Appropriate
<b>Objective</b>	“to collect information”	“to support decision makers strategies by providing information”
<b>Results</b>	“data is collected”	“information is made available”
<b>Indicators</b>	“XX information bulletin are created, XX stakeholders are reached”	“at least XX% of the target stakeholders declare to read the bulletin, at least XX% of the recommendations are implemented in the field”

You will find in Appendix 7 examples of general and specific objectives that were used in Malawi. In appendix you will also find examples of surveillance LFA.

## 10.5. IMPLEMENT A COMPREHENSIVE INITIAL ASSESSMENT OF THE TARGET AREA

Based on the defined strategic objectives and an in-depth understanding of the situation will be needed to define the surveillance methodology. At this point it will be necessary to implement a comprehensive qualitative assessment of the area – if not already done.

The assessment can use both secondary data (collected by others and found in existing reports) and primary data (collected at the time by you or partners directly from field sites in surveys, interviews, etc.). This assessment will allow you to structure your target population according to what you want to follow (your main indicators). Classically, for a FSL surveillance system, a population will be structured around the following 2 steps:

1. Geographical zoning, for instance by Livelihoods Zones. You will be able to follow your indicators according to each zone, which will provide you accurate information. You can as well adapt your indicators according to your Zone (e.g. stress factors or hazards are different in a fishing area and in an area depending on agriculture)
2. Typology of the population, which can be relatively basic (e.g. “poor”, “average”, “not food insecure” or per livelihoods groups if there are several in your zone): in order to follow the trends and risks per category of population.

Examples of population typologies and geographical zoning, as well as concrete tools to manage this step, can be found in the ACF Assessment guidelines (p. 62-67).

## 10.6. DEFINE YOUR DATA COLLECTION METHODOLOGY

### 10.6.1. Sentinel sites or another system?

The main methodology employed in surveillance systems operating within the ACF network is the ‘sentinel sites’. One uses **sentinel sites** to collect information and data from these sites, on a regular basis. This tends to be used in reasonably stable situations or where there are cyclical crises accompanied by high risks of undernutrition. Using this methodology, ACF has a **series of data for monitoring the development of Food Security & Livelihoods over time**.

However sentinel sites have proven **less efficient** in a series of situations:

- If the context is very heterogeneous.

*Field example 12: Niger*

**Where high variations can occur in a small geographical area, avoid sentinel sites.** In Niger, the communities are widely relying on rain-fed agricultural production. The rains in the area are erratic that people frequently say “when it rains in Niger, a cow can have one horn wet, the other dry”. In such a context to limit major sampling biases, one should have an extremely high number of sentinel sites, or switch to another methodology of data collection (qualitative information, crosschecking with secondary quantitative information).

**-If the context is highly unstable:** the sentinel sites situation will be erratic and it not is possible to gain a clear picture of the general trends using the sentinel site methodology.

*Field example 13: site selection in Liberia FSL Surveillance*

**If the context is volatile and can change rapidly, avoid sentinel sites.** In Liberia, the FSL surveillance was following the return process in returnee areas. As the situation could quickly evolve, the team was going to each return area every 2 months, but collecting data from different communities every month. In a context where the roads were poor and the access difficult, it also allowed to a temporary disruption of the road conditions (quite frequent event).

“Ad hoc” sampling methodologies will be designed in those cases, or for specific issues; such as pastoral surveillance, based on fodder and water availability and pastoral movement’s analysis. If in this specific context and for this particular issue, a sentinel site sampling will not give the data needed and in appropriate quality, therefore the data collection methodology will have to be defined (see sampling methodologies p. 76 sq.). Do not hesitate to ask partners and experts who have known the situation for a long time to assist in the formulation of the data collection methods - as long as you are able to justify your choices and the quality of the final outputs. For specific sampling methodologies, you can also use the help of external stakeholders, such as research centres.

The sentinel site system provides information **on trends and changes over time**. It cannot be used to accurately state the overall situation, nor the proportion of the population who may exhibit the variable. For example, information is collected on “Terms of Trade” (for example how many Kg of cereals can be bought for the price of one goat) in a sentinel site system, it will be easy to notice if certain areas have deteriorating Terms of Trade – and then further probe by going to the areas with market surveys to validate this trend and discover why it is happening. Thus, sentinel site data collection will **not provide statistically representational** data of Terms of Trade, **but it can measure changes** and in a sense it can set off an alarm used to identify when something is wrong, all while providing solid information on the food security situation faced by households.

Thus, when a sentinel site methodology is implemented on the field, it is wise to complement it with other “ad-hoc” data collection means, if:

-The trends of the main FSL indicators change (increase) suddenly;

-In case of an (existing or anticipated) shock or stress (climatic, food price crisis...).

Given current global issues (the global food crisis, climate change, etc.) it is ACF's policy to always complement sentinel site data collection and analysis with other methods/ sources of data, wherever possible.

*Field example 14: Darfur 2006*

**Adapt the system according to the context and depend on partners who may be able to operate in areas more easily.** The surveillance system was organized with sentinel sites, but the volatile security situation did not permit the sentinel data collection to be continuous. Additional surveys were implemented in parallel (post-harvest assessments) joint with CHF and Samaritan's Purse.

### 10.6.2. Sentinel sites: how to proceed

The first step is to determine and define the first zones mapping: organize the area covered by ACF activities by **livelihood zones** (refer p.53). In each of those livelihood zones, you will identify "sentinel sites" (one or several according to your capacity, to the number of livelihood zones, to the homogeneity of the livelihood zone, etc).

**Sentinel sites** (which can be at the scale of villages, communities, urban blocks, etc.) are fixed at the beginning in the area of surveillance according to the initial zoning of the area and representative families are selected according to the household typology established in the preliminary information collection. The sentinel site must be representative of the relatively homogeneous zone in which it is situated.

These sentinel sites are tracked over time to monitor the evolution of the situation. The same (closed, direct and fixed) questionnaire is delivered on a regular basis (often monthly or seasonally) to the same households or to another household in the same typology grouping in the sentinel site; this household type is monitored over time to detect changes. The closed questionnaire must be accompanied by open questions in order to place the information contextually. It can be also completed by other sources of information in the same area (FGD, key informants interviews...)

From the initiation of the sentinel sites, the questionnaire and methodology must be validated by pilot tests. In order to make the most accurate observations, only minimal modifications should be made in the design and information collection method once it has been implemented. The key to successful data collection is to ensure that the tool is appropriate right from the start.

**Sampling of the sentinel sites** and the households within each sentinel sites -- can be an issue in itself:

- Never forget that **you are not looking for statistical representational data of the entire population (or of the entire Livelihood Zone)**, but rather for good tracking of the trends and changes.

-**Integrated surveillance systems** (not only FSL, but also nutritional, WASH, health indicators) pose the problem of sampling in sentinel sites:

**Figure 7 : Units and scales commonly used by the different sectors within ACF**

	<b>FSL</b>	<b>Nutrition</b>	<b>WASH</b>	<b>Health</b>
<b>Scale</b>	The livelihood zone	The area covered by nutritional activities	the geographical zone (natural characteristics + type of settlement)	the health zone (covered by one health structure)
<b>Unit</b>	The HH (categorized within a typology, e.g. wealth ranking)	The individual (child U5 in general)	The community	The population (stratified by age group)

Choosing an appropriate sampling method is very important as it will allow you to accurately analyse your results. For instance a nutritional survey can cover different livelihood zones, and different types of population, but should be complemented with other data to stratify results. In the analysis it will be difficult to integrate the FSL information if the FSL team does not know the particularities of the livelihoods or characteristics of the population (e.g. are they fishermen or cattlemen/breeders, are they a wealthy population or extremely poor/vulnerable etc.). Sampling priorities will have to emerge based on the frequency of the variable one expects (sampling size) and on the information that one is trying to know (stratified groups). The sampling method will need to be set realistically for the situation and will probably represent a compromise among various players. For example, the FSL experts may want to avoid sampling bias on livelihoods by having the same proportion of fishermen and breeders (relative to their group) while nutritionists may wish to follow a 30x30 cluster sampling methodology. According to the objective and priorities of the surveillance system, it will be important to balance and reach a consensus: e.g. organizing the nutritional surveys with several sub-surveys per livelihood zone, or asking a set of key FSL information within the questionnaire. In ACF's experience, this has been the solution adopted in Niger, Ethiopia and a number of countries.

*Field example 15: The "Listening Post" (LP) methodology for sentinel sites sampling*

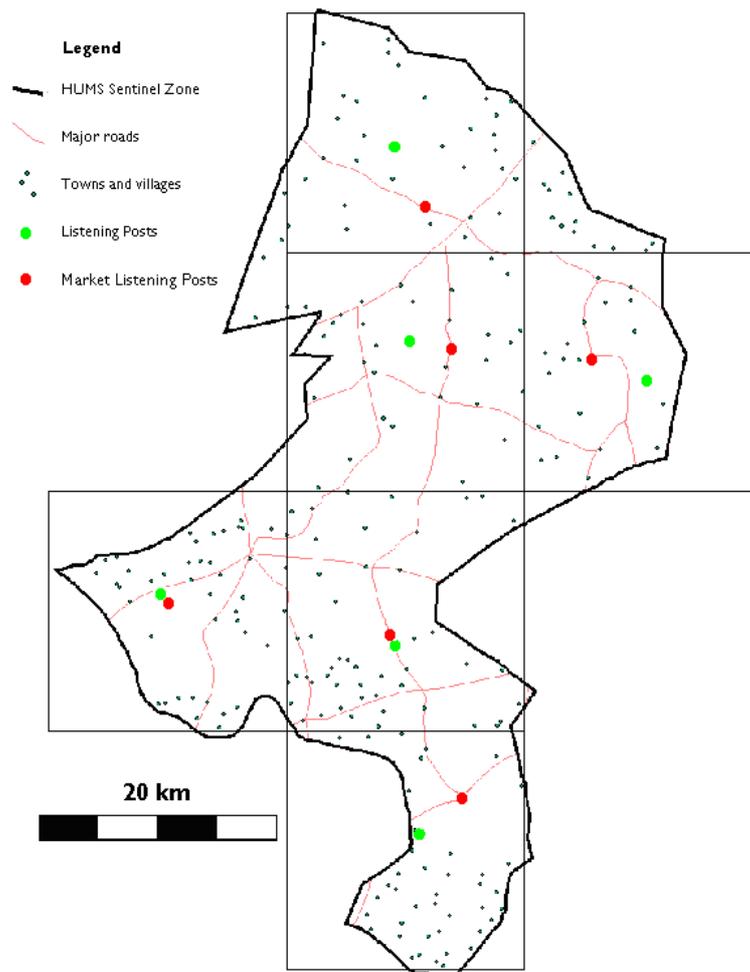
The Listening Post Surveillance System is currently in its pilot phase and is being tested out in a collaborative effort between ACF and Save the Children. The aim of this LP methodology is to provide information on how various shocks affect child undernutrition. One focus of this method is that the key nutritional indicator is not the undernutrition rate, (incidence over time), but the trends of weight gain or loss. In each listening post a sample of U5 children is followed, and their weight gain is measured on a monthly basis, together with FSL information. Measuring weight gain is more sensitive than the undernutrition rate, as it describes changes in a given population and can be "captured" prior to more extreme forms of malnutrition. The sampling is precise, (measurements on the same children or same homogenous livelihood/cultural group) in order to provide quality data with the benefit of a reduced sample size and a smaller number of key indicators. Note that the methodology is currently being developed but holds a certain promise on validity and usefulness of results.

The selection of the sentinel site in LP is done as follows:

1. The Livelihood Zones are mapped (as classically for any sentinel site sampling);

2. Each Livelihood zone is divided into equal sized and non-overlapping squares (not standard for sentinel sites – in general a sample of representative communities are selected at this stage). The number of squares required is the same as the number of Listening Posts to be selected. The community located closest to the centre of each square is selected to be a Listening Post and, where necessary, the market used by this community is selected to be a Market Listening Post.

Figure 8 : selecting Listening Post using Centric Systematic Area Sampling



3. Data is collected at various “posts” according to the indicator (as classically for the sentinel sites):

(i) Price of staple food is collected at the “Market Listening post”

(ii) HH food access is collected within the community “Listening post”

(iii) Context analysis is collected for the global Zone

(iv) Nutritional information is collected from at least 16 children per listening post. Those children are selected randomly within the “Listening Post” community

This methodology allows for several scales of analysis, within a globally “light” data collection system.

In the case of community-based sentinel sites, (including camps or urban situations) the system is adapted; indicators for each community are established, a focal point collects the information within the community, through key informants, observation and direct measurement (e.g. terms of trade). In this case there may not be specific household follow up, nor closed questionnaires, but the output is similar: it is sensitive to changes in the variable and the main steps will be followed (methodology definition; baseline data collection; pilot phase).

## 10.7. DEFINITION OF INDICATORS, THEIR THRESHOLDS AND THEIR BASELINE LEVEL

### 10.7.1. General consideration: how to define an indicator?

The surveillance indicators are the proxies that will measure a given variable in order to follow the development (or deterioration) of a situation. This situation could represent an issue or a likely problem that an initial assessment has identified. The main idea behind an indicator is that it should inform the decision making process. The decisions will be related to the programme cycles – defining the activities and inputs needed, advocacy for attention and resources (institutional commitments), and monitoring (ensure the intervention is effectively capturing the changes, and identifying the relevant programmatic adjustments that must be made to address these in the future): All indicators should

1. **Follow the “SMART” criteria:** Specific, Measurable, Achievable, Relevant, Time-bound.
2. Be related to the strategic objectives. It is unnecessary and time-consuming to **collect data for an indicator that is not really needed.**
3. Provide added knowledge. The indicators and the formulation of research questions should be based on an **in-depth qualitative understanding of the context (ref. § 10.5).**

*Field example 16: Malawi Food Security Index (FSI)*

**Be aware of small differences in various sub groups of the population when deciding on indicators.** In Malawi, the Food Security Index was proved to be a powerful measure in the pilot area, and was extended as such to another area. However the first area was mainly comprised of mainly maize consumers, while other areas were more cassava consumers. As the FSI was built around the maize consumption, it was missing not as accurate in the cassava consumption areas and had to be adapted.

*Field example 17: Liberia*

**Attention must be paid to cultural norms and language – let the local groups suggest indicators and language according to their own knowledge.** In Liberia, the number of meals was assessed to be a good proxy for the level of food insecurity. The question asked was “how many meals did you have yesterday?” The question had to be changed, as in the area covered by the FSL Surveillance a meal was considered a meal only if based on rice (cassava, bulgur or sweet potatoes were not meals)

4. **Indicators must measure trends, and be good proxies<sup>25</sup>** for what need to be measured. For example, collecting all the basic staples prices is good, but building a “basket” based on consumption patterns is better (inc. staple foods per season, basic HH items and other HH basic costs such as health/ education/ shelter). This would give a more accurate proxy for the cost of living. Another good proxy is the Terms of Trade (ToT) per type of livelihood: the trends of the price of 1 kilogram of wheat is good, the number of kilograms you can buy by selling one sheep, for example, is a better proxy to measure food access of a breeder in a livestock-based livelihood economy. If people depend primarily on agricultural labour, then the price of agricultural labour per day and the kilograms of main staple foods that can be bought with that sum will become your Terms of Trade.

*Field example 18: Liberia Surveillance lesson learnt*

**Establish a few dynamic indicators that would capture change; keep the system “light”.** In the first surveillance system design, multiple indicators were collected and a number of them were stable from one round to another. In consequence, the surveillance reports were very long (30 pages) and repetitive. Too Few developments or changes were presented and the reports were therefore not very useful and informative to the readers.

5. When indicators are being defined, it is critical to explicit **why these will be used to collect data**. Remember the question: information for what? It is important that the surveillance be tailored to actual needs rather than designed to please a donor or to adhere to some institutional reporting policy. It is in fact unethical to collect data when no suitable response can be implemented. In order to prioritize the indicators that are really needed, always refer back to the strategic objectives and desired outcomes (see Appendix 4).
6. **Baseline levels must be defined for ALL indicators** (whatever frequency you will apply thereafter). Threshold levels for each indicator must be carefully defined as well, as ad hoc or arbitrary thresholds can be misleading. For example, thresholds can be very sensitive to context. A “red” alert threshold in one location may be so chronically encountered that adaptation mechanisms are already in place, and in a sense this group might in fact be better off (in FSL and Nutritional terms) than a “yellow” area that has just changed rapidly. Although estimating thresholds will facilitate analysis and reporting, partners and experts should be involved in determining the baseline thresholds to avoid later confusion.

A list of potential indicators is given in appendix, and several useful indicators and methodologies for FSL surveillance will be analysed hereafter.

7. The different scales (micro-, meso-, macro, e.g. community/region/country) as well as the fact that they are static and/or dynamic, (e.g. population figures are static if no population movement, while coping mechanisms tend to evolve seasonally) must be

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<sup>25</sup> In statistics, a proxy variable is something that is probably not in itself of any great interest, but from which a variable of interest can be obtained (Upton, G., Cook, I. (2002) Oxford Dictionary of Statistics)

assessed. In addition, indicators are categorized as qualitative (descriptive) and quantitative (numeric): both can be included for cross-checking and primary data analysis purposes.

### **Box 3 : Qualities of a FSL surveillance indicators set**

A set of surveillance indicators should:

- Be **defined according to the objective** of the system;
- Be a good **proxy of the issue** you want to measure (e.g. food access, level of undernutrition...);
- Integrate shocks, trend and seasonality;
- Have a measured baseline (“normal” level of the indicator, and “normal” seasonality)’;
- Have clear and situation-**specific thresholds**;
- Measure trends and developments** /deteriorations;
- Be able to predict and foresee the probable development of the situation;
- Be decision and action-orientated:
- Comprise different scales and different type of indicators, for cross-checking and data analysis;
- Be easy/fast to collect and analyse.

### **10.7.2. Core Food Security & Livelihoods indicators**

According to the context and to the particularities of the FSL surveillance system, adapted indicators will have to be chosen. Hereafter are presented the “core” or essential FSL indicators types and some examples of the actual indicators that accompany them. In practice, this does not mean that all those core indicators need to be systematically included, but at least one per type (livelihoods, availability, access, utilisation and stability of all those dimensions) should be.

**Table 6 : Core Food Security & Livelihoods indicators (Adapted from: « Food Security and Livelihoods Assessments, a Practical Guide for Field Workers », ACF 2010, p.35)**

	<b>Types</b>	<b>Description</b>	<b>Indicator (example)</b>	<b>Possible Source</b>
<b>Livelihoods</b>	Institutional and policy environment	Socio-political context, past crises and conflict, ethnicity, social organization...	% of displaced population	UNOCHA, UNHCR
	Vulnerability context	Climate, geography, infrastructures, hazards.	Incidence of climate related shocks	UN, World Bank, local institutions
	Livelihood assets	Access to the different livelihood capitals	Livelihood asset score	
<b>Availability</b>	Food stocks	Sufficiency and diversity of food products in markets and households	Market survey trends	FAO
	Food imports	Origin, diversity and availability of food imports on the markets	% change in food imports	
	Market prices	Prices of staple food and basic commodities, variation & trends	Terms of trade Market Price Index	Sentinel sites (ACF)
<b>Access</b>	Food sources	Diversity & seasonality of food sources, changes...	Household Food Consumption Score (FCS) Individual/Household Diet Diversity Score (IDDS/HDDS)	
	Income sources	Diversity & seasonality of income sources, labour migration, debt, changes...	Poverty Index	UNDP, World Bank
	Coping strategies	Range of food consumption strategies (adaptive, coping, crisis, survival)	Coping Strategy Index (CSI)	WFP
<b>Utilisation</b>	Dietary diversity	Diversity of foods consumed over a fixed period	IDDS/HDDS	ACF
	Undernutrition prevalence	GAM/SAM rates, MUAC screening, aggravating factors & contextual elements	Anthropometric surveys (seasonal) Clinic trend data	All partners
	Water access & availability	Sources, quality, quantity & cost of water	WASH coverage	DHS, etc.
	Public health	Incidence & severity of outbreaks, changes in access to health care	HIS statistics	MOH, WHO, CDC,
	Care practice	Prevalence of and changes in breastfeeding; food sharing practices...	Data from 1 <sup>st</sup> 1000 days	MOH, UNICEF, WHO

Some additional points include:

- Each ACF FSL surveillance system should include measurable indicators on: **Livelihoods, Food Availability, Food Access, Food Utilisation and Stability, within the context of “risk factors”**. Other examples of indicators in each of those categories are proposed in Appendix 4.
- It may be possible to partner with other organizations, especially those who may have expertise at field level in FSL surveillance, in order for ACF to collect data on some of the indicators and partners to collect data on others. Likewise it may be possible to build-in efficiencies by having ACF cover one geographical area and a partner another (sharing data afterwards and analysing together) to better cover the project area.
- In addition to the core FSL indicators, additional indicators may be included according to the context and specific objectives of the surveillance system. Appendix 4 provides a large choice of indicators regarding nutrition, health, WASH.
- Each time information on Acute Malnutrition is collected, there needs to be a **treatment option where cases of SAM or GAM can be referred. This is a strong ACF ethical rule.**
- In extreme emergencies, when doing cross sectional nutrition surveys, data on **mortality as well as malnutrition must be collected.** This is because malnourished children may die, and their count can be “replaced” with newly malnourished children – masking the deterioration of the situation.

### 10.7.3. Baseline information: including seasonal trends

The first “round” of data collection will permit to collect the baseline level of each indicator – which will be the reference situation. This initial collection of data will provide the baseline levels for all indicators but will also help define the thresholds level such as “normal”, “excellent” and “crisis” levels for each indicator. Along with the qualitative in-depth assessment done prior to setting up the surveillance, this will help establish appropriate thresholds per indicator. In this baseline you will always build a **seasonal calendar, with “normal” variations of each chosen indicators** being clearly indicated on it: it will tremendously facilitate the analysis of the information at each round.

In addition, this baseline data collection will also serve as the first qualitative assessment. As for any data collection process, participatory approach (input from the community itself) should be used to ensure quality data gathering.

*Field example 19: Afghanistan Surveillance 2004*

**Baseline analysis will strengthen all later data collected in your surveillance.** This excerpt was taken from the Afghanistan 2004 surveillance report: “Once the sentinel sites have been identified, it would be advantageous to have strong baseline reports on these sentinel sites that can then be used as reference documents to better understand the evolution of the situation and to better focus on the weaknesses of the areas through appropriate indicators. This is certainly time-consuming but at the same time, it is an involvement that might be extremely beneficial afterwards.”

The questionnaire used for the baseline information might be more extensive than the one used for a 'normal round' of data collection. A good example is given in Appendix 9 which shows the questionnaire implemented in Malawi during a surveillance round, while Appendix 10 presents the questionnaire implemented by the same Surveillance system, but at the baseline stage.

In addition to this questionnaire, you will improve the understanding of a given situation at each sentinel site through additional research. For instance, proximity to a nutritional rehabilitation programme may have an impact on the nutritional levels in the community. Access to the road will have an impact in terms of access to markets, to health care and other services. This type of knowledge of each sentinel site will provide more precise information when analysing the data further in the process.

#### 10.7.4. Defining thresholds

A threshold is a way of grouping indicators into categories within a range of grades of extremes between "acceptable" to "unacceptable". The thresholds will be defined at the baseline stage, during the first round of data collection but may be subject to refinement over time as the situation (context and vulnerabilities) are better understood.

The definition of thresholds **can be made easier by using existing tools**: see the IPC thresholds in appendix, and refer to the Sphere standards in particular.

For WASH indicators, examples of thresholds per indicator are given in the ACF FSL Assessments Guidelines, in Appendix 4 p. 132.

But for most indicators, you will have to **define the thresholds according to the specific context** you are working in: the same activity (e.g. collecting fire wood) could be "normal" in one context, while equating to "coping" or even "distress" in another. The best way to define thresholds and to validate them is to **discuss them with the surveyed population**: they will be able to indicate the best indicators to determine a stress, and the appropriate thresholds to consider. "Aggravating factors" will also have to be considered, which may indicate that the situation is worse than what your pre-defined thresholds would let understand.

Hereafter some indicators that are suitable for measuring trends (and in consequence powerful for FSL surveillance) are briefly presented.

#### 10.7.5. Examples of Complex Indicators

Complex indicators tend to be more elaborate to set up and will demand greater expertise and training of ACF staff to be implemented properly, but the data revealed will often be more informative than some other more simple indicators.

## Food diversity/quality & HHDDS (Household Dietary Diversity Score)

Among the lowest income bracket population groups, HHDDS is a reference tool as a proxy for food access. Food access is a more sensitive indicator than food availability as a predictor of undernutrition. It **captures changes in a household situation over time** more accurately, which makes it extremely useful within any FSL surveillance system.

*“To better reflect a quality diet, the number of different food groups consumed is calculated, rather than the number of different foods consumed. Knowing that households consume, for example, an average of four different food **groups** implies that their diets offer some diversity in both macro- and micronutrients. This is a more meaningful indicator than knowing that households consume four different foods, which might all be cereals. A set of 12 food groups is used to calculate the HHDDS:”*

The questionnaire is adapted to the local context: locally available foods are listed under each food groups:

**Table 7 : HHDDS questionnaire format (source: Fanta 2006)**

	QUESTIONS AND FILTERS	CODING CATEGORIES
1	Now I would like to ask you about the types of foods that you or anyone else in your household ate yesterday during the day and at night.  <b>READ THE LIST OF FOODS. PLACE A ONE IN THE BOX IF ANYONE IN THE HOUSEHOLD ATE THE FOOD IN QUESTION, PLACE A ZERO IN THE BOX IF NO ONE IN THE HOUSEHOLD ATE THE FOOD.</b>	
A	Any [INSERT ANY LOCAL FOODS, E.G. UGALI, NSHIMA], bread, rice noodles, biscuits, or any other foods made from millet, sorghum, maize, rice, wheat, or [INSERT ANY OTHER LOCALLY AVAILABLE GRAIN]?	A..... <input type="checkbox"/>
B	Any potatoes, yams, manioc, cassava or any other foods made from roots or tubers?	B..... <input type="checkbox"/>
C	Any vegetables?	C..... <input type="checkbox"/>
D	Any fruits?	D..... <input type="checkbox"/>
E	Any beef, pork, lamb, goat, rabbit wild game, chicken, duck, or other birds, liver, kidney, heart, or other organ meats?	E..... <input type="checkbox"/>
F	Any eggs?	F..... <input type="checkbox"/>
G	Any fresh or dried fish or shellfish?	G..... <input type="checkbox"/>
H	Any foods made from beans, peas, lentils, or nuts?	H..... <input type="checkbox"/>
I	Any cheese, yogurt, milk or other milk products?	I..... <input type="checkbox"/>
J	Any foods made with oil, fat, or butter?	J..... <input type="checkbox"/>
K	Any sugar or honey?	K..... <input type="checkbox"/>
L	Any other foods, such as condiments, coffee, tea?	L..... <input type="checkbox"/>

HHDDS calculation is then relatively easy:

1. Calculate the HHDDS variable for each Household: equals the sum of A+B+C...+L. If the family has consumed any food of this group A=1, if the family has not consumed food of this group A=0. The maximum value is 12.

2. Calculate the HDDS indicator for the population: equals the sums of the HDDS divided by the total number of households.

For further information on HHDS see

[http://www.fantaproject.org/downloads/pdfs/HDDS\\_v2\\_Sep06.pdf](http://www.fantaproject.org/downloads/pdfs/HDDS_v2_Sep06.pdf)

Two additional proxy indicators are commonly used for assessing food consumption: the **Individual Diet Diversity Index (IDDS)** is considered as a good proxy for diet diversity & quality: it is based on the individual (because HDDS does not reflect **intra-household food sharing**) and considers 14 food groups, putting emphasis on micronutrients intake.

**The Food Consumption Score (FCS)** is calculated over a recall period of seven (7) days, weighted and used to define food consumption and food security. The choice of one of those indicators has to be done according to the context and the objective of the surveillance system. Please refer to the ACF Assessments Guidelines for more details (appendix 25 p.254).

### Food / Livelihood insecurity and Coping Strategies Index (CSI)

The CSI measures behaviour; it looks at coping strategies people use when they cannot access enough food. It has been widely used, especially for assessing the need for food aid, and the impact of food aid programmes. It will be organized in several steps:

- Step 1: Strategies: Getting the right list for the location/culture: how do people cope with the lack of food in your specific context?
- Step 2: Frequency: Counting the relative frequency of each strategies (see Table 8 below)

**Table 8 : Example of CSI questionnaire**

In the past 30 days, if there have been times when you did not have enough food or money to buy food, how often has your household had to:	Relative Frequency				
	All the time? Every day	Pretty often? 3-6 */week	Once in a while? 1-2 */week	Hardly at all? <1 */week	Never 0*/week
a. Rely on less preferred and less expensive foods?					
b. Borrow food, or rely on help from a friend or relative?					
c. Purchase food on credit?					
d. Gather wild food, hunt, or harvest immature crops?					
e. Consume seed stock held for next season?					
f. Send household members to eat elsewhere?					
g. Send household members to beg?					
h. Limit portion size at mealtimes?					
i. Restrict consumption by adults in order for small children to eat?					
j. Feed working members of HH at the expense of non-working members?					
k. Ration the money you have and buy prepared food?					
l. Reduce number of meals eaten in a day?					
m. Skip entire days without eating?					

- Step 3: Severity: Categorizing and weighting the strategies (in focus group discussions, by asking community members to sort the coping strategies according to their severity)
- Step 4: Scoring: Combining frequency and severity for analysis (you give a higher score the more severe the coping strategy is, and a higher score the more frequent it is)
- Step 5: Analysis: Correlating CSI with other information (what are the shocks? Seasonality? What does the CSI mean here and now?)

A manual on CSI has been produced by Care and the WFP, available on:

[http://www.fao.org/crisisandhunger/root/pdf/cop\\_strat.pdf](http://www.fao.org/crisisandhunger/root/pdf/cop_strat.pdf) The tool is also presented within the ACF Assessments Guidelines (appendix 26 p.255)

### Level of Food insecurity and Food Stress Index (FSI)

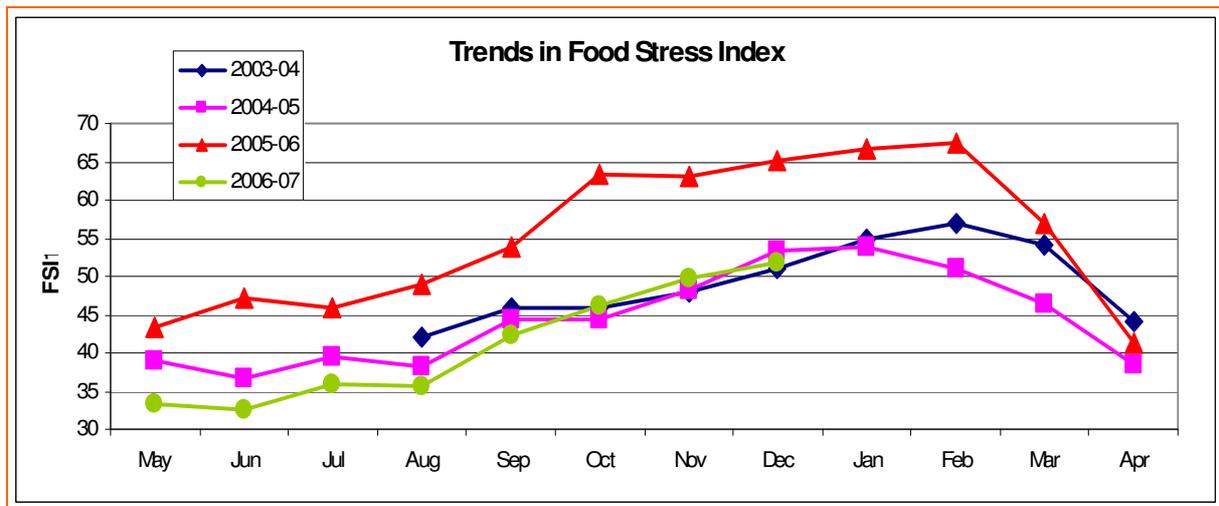
This composite indicator is a tool allowing for the integration of selected indicators. It has been developed by ACF in Malawi, and after adaptation, has been used in Guinea. The FSI was developed after more than one year of data collection, after realizing what the main indicators were, and a testing phase. The FSI was then presented to the stakeholders and adopted. It allows one to define a quantitative value of the level of food insecurity, to measure its trend and **allows some prospective planning**.

#### **Measure of the FSI, Malawi, 2005. Eight indicators:**

- 1.The proportion of households that have **very low supplies of starch / staple food**: less than 20 kg of maize, other cereal or dry cassava and no cassava or sweet potato ready for harvest. (weighted 1.0).
- 2.The proportion that face a **potential shortage** in the longer term: less than 50kg of maize, other cereal or dry cassava and no cassava or sweet potato ready for harvest in the next two months. (weighted 1.0).
- 3.Households with **income less than MK1000** per month. (weighted 1.0).
- 4.Households having difficulty **finding ganyu** (*casual work*). (weighted 1.0).
5. $100 * (3 - \text{meal frequency})$ . (weighted 0.33).
- 6.Household's **not having eaten groundnut or legume** on the previous day. (weighted 1.0).
- 7.Households reporting that they did **not have enough food** at some time in the month (weighted 0.33).
- 8.Households going entire days **without a staple food** (weighted 0.33).

The questionnaire is presented in annex 9. From this quick questionnaire, in Malawi, the Surveillance System was able to provide a simple indicator of the trends of food insecurity. The FSI was extended to the whole country (Figura 9), as well as per region, and also per livelihood, allowing comparisons of the situation in the different regions and allowing for the prioritization of interventions.

Figure 9 : Food Stress Index – Example of output (Malawi)



In this case, in addition, it was easy to follow the development and trends of the data resulting from each of the eight indicators composing the FSI, for a clearer picture of the situation (and of the solutions to be given accordingly).

Finally, the FSI permitted some **projections on probable trends**. The probable value of the FSI in the coming period was calculated, and better informed decision-making for planning purposes. The excel sheet presented a visual calculation of the probable value of the three coming months based on what had happened the three previous years.

#### Food access & Terms of Trade evolution

Terms of Trade are the ratio of exports and import prices (OECD). In FSL, terms of trade are considered at the scale of a production unit: a productive household. For instance in the case of a household producing mainly livestock and dairy product to sell, and having to buy wheat flour as their staple, the ToT of the family will be determined as the ratio of livestock products prices to wheat flour price (or basically the amount of wheat flour a household can receive for one unit of livestock).

Unless extreme and rapid, market prices trends, while providing valuable information on **food availability**, do not give enough information on **food access** and the impact on the families and their livelihoods. ToT provides an idea of household access to the market through its incomes. With this measure both the trends in household income and the quantity of staple food the family can buy will have to be estimated.

#### *Field example 20: Evolution of the Terms of Trade, Ethiopia, SNNPR, Sidama zone, 2008*

For one category of the population (coffee owners), the main source of income is the sale of coffee, and the main staple food is kocho (staple issued from enset) and maize. A simple way to estimate the Terms of Trade is:

1 kg of coffee is equivalent to 9.7 kg of kocho in August 2007

5.1 kg of kocho in August 2008-**47%**  
 1 kg of coffee is equivalent to 4 kg of maize in August 2007  
 1.8 kg of maize in August 2008-**54%**  
 The loss of purchasing power of this category of population was huge.

A complete methodology is presented in the ACF Assessment Guideline (Appendix 19, p. 228:230)

### 10.7.6. Nutrition as an indicator in FSL Surveillance

Linking FSL and nutrition (anthropometric) data is obviously desirable. However, it appears to be a complicated process, and can lead to the following dead-end:

- Undernutrition is rarely used for early warning: it is considered a trail indicator, meaning by the time children are malnourished the situation has already deteriorated - it is “already too late”;
- Nutrition & FSL indicators are collected and analysed by different teams, often using different methodologies. The recommendations are defined separately, and can even be contradictory.

**Table 9 : Differences between FSL and nutritional methodologies (Adapted from Chastres & Lejeune 2001)**

	<b>FSL analysis</b>	<b>Nutritional survey</b>
<b>Unit of analysis</b>	Household	Individual (child 6 – 59 months)
<b>Data categorization</b>	Breakdown by socio-economic category	Prevalence relates to the entire 6 – 59 months or breakdown by age groups (i.e. no breakdown by wealth group)
<b>Time period covered by the results</b>	Tells of the situation over previous months Can make projections over coming months Describes seasonal variation	Reflects the situation at one point in time (snapshot)
<b>Type of data</b>	Quantitative & qualitative data. Quantitative data is <b>rarely statistically representative</b> , but trends are generally valuable (crosschecked at several levels & with qualitative information)	Mainly quantitative data, statistically representative. However intervals of confidence are large (small samples) and <b>trends are not always possible to obtain</b> (overlapping confidence intervals).

- The two following assumptions are commonly made “there is food insecurity therefore there is child undernutrition” and “there is child undernutrition therefore there is food insecurity”, even when the NCA framework is largely communicated within ACF teams. In reality, the health and WASH situation is KEY to nutrition outcomes. WASH surveillance would help establish any links between Nutrition and FSL data. Disease

data can come from health authorities and may not need to be collected by WASH department (i.e. health ministry surveillance data can be collected and adds value to our own data/analysis).

*Field example 21: Niger*

In Niger, a FFW activity was organized aiming at improving the FSL and nutritional situation. At the end of the FFW activity, the M&E system showed (i) an improvement of the Food security indicators (food access, food availability) and (ii) a degradation of the nutritional indicators (anthropometrical measures on U5 population). Analysis showed that as the men were involved in migratory work, the workers were mainly women (inc. pregnant & breastfeeding), and that young children were left during several consecutive hours without proper care.

*Field example 22: Burundi*

In Burundi in 2004, a degradation of the FSL situation was clearly foreseen (poor climatic conditions, poor harvests, rise of the price of the staple food) and accordingly a degradation of the nutritional situation was also predicted. However the nutritional situation appeared to be globally stable. After analysis, it appeared that the population coped by using distress mechanisms (selling the land; selling house assets; women prostitution...) and managed to maintain a minimum diet for their children U5.

*Field example 23: Northern Sudan (Northern Darfur State, 2000)<sup>26</sup>*

A nutrition survey was conducted simultaneously to a household economy assessment. The HEA predicted a food deficit, based on poor cereal production, high grain prices and low groundnut prices. The anthropometric survey showed a high rate of global malnutrition and also signs of Vitamin A deficiency. An assessment of the morbidity rates, as part of the nutrition survey, showed that there had recently been a measles epidemic. If the undernutrition rates had been interpreted on the basis of the food deficit alone, the role of the measles epidemic as a major contributing factor would have been overlooked.

However, there have also been excellent combined FSL & Nutrition surveillance experiences within ACF (Uganda, Sudan...) which have provided a good picture of the evolution of both situations: food security/livelihoods & nutrition. They still have a limited predictive capacity, especially in terms of risk of undernutrition, as undernutrition causality is too complex and its components are linked.

Several options for improvement have been identified:

- HR cross-training: for a truly effective integration of FSL and nutrition within the system design, data collection, data analysis and recommendation writing, each team needs to know the basics of the other sector's technical knowledge and practical expertise.

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<sup>26</sup> From « Linking food security and nutrition information to understand the causes of child undernutrition: pitfalls and potentials ». By Claire Chastre and Sonya LeJeune. Published in Field Exchange issue 13 August 2001, <http://fex.enonline.net/13/analysis.aspx>.

In a Surveillance team, having staff from both programmes working together, visiting field sites, etc... can ease the process, especially if the Team Leader is properly trained him/herself.

-NCA clear methodology definition and common guidelines issuing: ACF is working together with external consultants to define a concrete field methodology.

-The “Listening Post Methodology” offers a different way of gathering nutrition & FSL information (adapted indicators): so far it is at the pilot stage, but seems promising (see Field example 14). The use of “weight gain” as a proxy for “nutritional trend” has already been tested by ACF in Malawi, and was successful (but heavy to maintain).

## 11. IMPLEMENTING A SURVEILLANCE SYSTEM

### 11.1. GETTING STARTED: PRACTICAL ISSUES

#### 11.1.1. Budgeting the system

The experience shows that it is always **better to have dedicated funding for the surveillance project**: when the FSL surveillance funding depends on projects funds, its sustainability is always a problem (e.g. funding gaps between two projects contracts, abrupt end of the surveillance due to lack of funds...)

The following should be included in the budget:

- The team (see the following paragraph for examples of team composition): The HR administrator will provide information on the cost based on the mission's salary scale. The team members will spend time in the field: do not forget the per-diem costs. Members of the team can belong to external organization (Ministries) and incentives can be necessary.
- Training costs: as noted in the following paragraph, training is essential for the surveillance team and a dedicated budget line is necessary.
- Transportation costs: this will also need to be factored in, try at all cost to avoid being fully dependant on other programmes cars by having a budget line for renting or purchasing your own surveillance project transportation means: the logistics team will help you to quantify your needs.
- Communication costs: phones, radio, satellite phone... to be determined with your logistician, according to the security rules applicable in your context
- Computers: at least one desktop for the data entry clerk, at least one laptop for the Programme Manager + at least one additional if the surveillance team is > 3 members
- Software: according to the needs. Sphinx, Epiinfo, GIS are all examples of software that could be needed... You will choose the software according to the specificities of your FSL surveillance system: if you plan for partnerships, ensure you are using software that can be easily accessed & used by your partners.
- Data collection equipment: stationeries, bags, rain clothes... according to your context
- Printing cost: for the data collection (questionnaires) and the data diffusion (reports). Part or the totality of the printing tasks may be externalized and the logistician can help assess those costs. According to the target audience, professional editing and printing skills could be required (and budgeted).
- M&E costs: M&E will demand time and staff. An external evaluation would be essential for improving and adapting the surveillance system and should be budgeted if your surveillance system is large enough.
- Equipment for the partner: computers, software, weight scale, motorbikes... according to their needs.
- Primary evaluation costs: if it has not been done before, a budget must be planned for all the primary evaluations that may be needed, such as the assessment of the needs of the target audience, baseline data collection etc.
- Other: projector in case of restitution workshops; GIS tools; hard disk for data base backup & capitalization...

At this stage, you will have your LFA and the budget, and will be able to finalize the proposal, submit it to a donor (which could be ACF private funds), and (hopefully) receive your project funds.

### 11.1.2. MoU and agreements with the external stakeholders

Before getting started, ensure all the Memorandum of Understanding and agreements needed are in place:

- with your partners
- with the authorities at all levels (national/ regional/ district/ communities).

Written and signed agreements must be kept to the extent possible, specifying the aim of your surveillance system and its organization, and that each point has been extensively discussed with each stakeholder: it will avoid many conflicts or misunderstandings.

## 11.2. SURVEILLANCE TEAM

The composition of the surveillance team is a function of

- The extent of the surveillance system (scale of the surveillance, integration within a national system, specific technical skills required...),
- The complexity of data collection and/or analysis needed,
- The timing of the data collection,
- The communication tools used

For a light ACF FSL surveillance system, the composition of the team can be classically:

- 1 project manager (national or international)
- 1 team leader (national)
- 4 data collectors (national)
- 1 data entry clerk (national).

The team composition will of course be defined according to your precise set-up (scale of the surveillance, integration within a national system...).

*Field example 24: Afghanistan*

**Temporary part time assistance can be used from staff employed in various sectors for data collection.** In Afghanistan (2004), Surveillance information was not collected monthly, but seasonally. In consequence the data collectors were coming from the WASH and the FSL team and dedicated to surveillance only when needed, which ensured the presence of skilled and experienced staff members even for a light and discontinuous process.

*Field example 25: Kenya & Sudan*

**A set of stable and part time staff can be combined.** In 2010, both countries were implementing an integrated surveillance including nutrition, FSL, WASH & health indicators. In both countries, the core surveillance team comprised 3-4 members on a permanent basis and a larger team of enumerators (more than 20 people) employed on a temporary basis for data collection.

*Field example 26: Central America*

**Community based collection can be undertaken, especially when more qualified personnel exists at that level.** In the community-based surveillance system supported by ACF in Central America, the data collection is ensured by the community, the data analysis and reporting by the municipality. ACF surveillance team is only in charge of the set-up and the monitoring of the surveillance system.

*Field example 27: Malawi – surveillance team for partnerships*

In Malawi, the FSL & nutritional surveillance was fully integrated within the in-line Ministries. ACF teams (4 members) were in charge of M&E and trainings, while data was collected by Ministry of Agriculture and Ministry of Health staffs, who were involved in the data analysis as well.

The profile of team members will be adapted to the type of indicators that are to be collected. In most cases, the surveillance team members have to be skilled and experienced as information is being collected not only via closed questionnaires, but also via Focus Groups Discussions, Key Informants Interviews, etc. for a proper analysis. Setting up a mentoring system of experienced staff (even borrowed from other agencies) and less experienced staff can help orient new staff. In refugee situations, the use of skilled staff that may exist within the displaced population will ease the process.

*Field example 28: Liberia*

**In refugee situations, skilled staff may exist in the displaced population.** In Liberia, the Surveillance aimed at following the livelihoods in the return area where the Liberian refugees were supposed to resettle. The following central research question was posed: “Are the return areas offering sufficient conditions or should the return process be slowed/ supported/ re-organized?”. In consequence indicators such as status of the health system, access to safe water, access to markets, nutritional situation were followed. The surveillance team was composed of **key national staff** that used to be members of the FSL, nutrition and WASH teams; this was done in order to ensure that the required skills and knowledge were present from the beginning, and only a data entry officer and a Project Manager (FSL expat) were recruited.

However, even if the team is skilled and experienced, they will need to be trained and introduced to the basics of their new position. The training should include:

- Basics on Food Security & Livelihoods: to ensure everybody is sharing the same language<sup>27</sup>
- Basics on Nutrition, WASH, Health in the case of integrated surveillance
- Basics on FSL surveillance<sup>28</sup>
- Basics on FSL assessments: data collection techniques, data analysis, data reporting
- Various technical skills that may be missing (computer skills, HR management...)

### 11.3. DATA COLLECTION

#### 11.3.1. Preliminary steps

We have seen that there are several steps in the data collection set up:

1. An in-depth knowledge of the context is needed, especially qualitatively (see §10.5 p.53)
2. The baseline information needs to be established: at this stage the baseline level of your indicators is collected, the threshold levels are defined, and the specificities of the sentinel sites are learned (refer to §10.7 p.58)
3. The periodic data collection begins at this point and remains a continuous process throughout the entire FSL surveillance.

**Table 10 : Steps & Tools for FSL surveillance**

Step	Before defining your indicators (what you want to follow), determine what could be good “proxy”	Baseline of your FSL Surveillance system	Regular collection set up
<b>Objective</b>	Knowing the area & context prior to define indicators. Structure your target population (zone mapping, typology)	Collect all your “static” indicators collect the normal and seasonal values of each dynamic indicator. In depth knowledge of each sentinel site.	Follow the trends and evolution of your indicators, and <b>be able to analyse and understand</b> them (different scales and points of view are needed)
<b>Tools needed</b>	Secondary information collection Qualitative primary information collection (FGD, key informants, household interviews...)	Secondary & primary information collection Quantitative & qualitative primary information (FGD, key informants, household questionnaires...)	Follow your key dynamic indicators at micro- and macro-level household closed questionnaires Key informants questionnaires FGD (women, men, youths...) guidelines Mapping exercise

<sup>27</sup> For instance you can use the Pre-departure training week material here, available from the ACF intranet (PowerPoint, case studies, trainers notes...)

<sup>28</sup> Here you could use existing training material, such as the 2-4 hours training available at your HQ on surveillance, or the self-training DVD on surveillance.

The regular collection set-up will be organized with particular care; it is better to take your time at this step than having to change the whole set up after a few months:

1. Draft all the methodological tools, together with the members of the surveillance team, the ACF other technical departments, and external stakeholders
2. Train the data collection team, and test the methodological tools as part of the training
3. Make the changes according to the results of your test, and validate your methodology.

#### **DO NOT FORGET**

-**Consent must always be obtained:** explain to the communities and people answering your survey why you are here, and that whether they answer or not the support they could receive will be the same. Explain that the interview is confidential. Then only ask for consent. If the interviewed person refuses, thank them politely for the time and go to another potential informant.

-**Communicating before/during/after your data collection process:**

- With the local authorities: ask for permission if needed, and at least let them know about the process (basic politeness which will avoid you tremendous potential problems)
- With the communities: let them know in advance about your data collection (who are you, why are you collecting this info, how and when will you collect this info), and **provide feedback on the findings.**

### **11.3.2. Quantitative vs. qualitative information**

Should quantitative or qualitative information be collected? The answer in most cases will be “both”: you will never be able to collect good quantitative information without collecting qualitative information

- a. *Before the data collection:* in order to know what you are looking for.
  - i. What is a good proxy appropriate to the context in which you are implementing FSL surveillance? E.g. a proxy for food insecurity could be a low number of meals per day. However in some places in Western Africa, people only consider dishes with rice as meals, and therefore a large serving of cassava and sauce at lunch would not be defined as a “meal” by a potential respondent there. ”. In Cameroon, the Baka population has a very large proportion of its food intake by snacking and the number of meals will definitely not be a good proxy in this situation either.
  - ii. What are the important trends? E.g. if you follow procedures “by the book”, and focus on food access, you could miss that there is a major disease on the main crop for instance. You need to assess the important trends and risks factors qualitatively before being able to collect them from a quantitative standpoint, using closed questionnaires and representative samples
- b. *During the data collection process:* in order to always cross-check the quantitative information collected (in case of sampling biases, or context changes – ACF is working mostly in changing contexts)

The quantitative data will:

1. Allow to test the hypotheses developed from qualitative information (is it a reality or only an exceptional case?)
2. Help quantify the qualitative data (e.g. from qualitative data you know there is food insecurity, and you are able to choose an appropriate proxy. From quantitative data collection you are able to measure the proportion of food insecure households)
3. Improve your advocacy and communication power – quantitative data is viewed as more reliable and trust-worthy (although this is not always the case given the biases, sampling errors, analysis mistakes...).

### 11.3.3. Sampling

***The below paragraph covers different types of sampling: sampling communities (or sentinel site) or sampling households (or families, or individuals...) will follow the same general rules.***

The purpose of good sampling is to better capture the information required for decision making, to ensure that is as representative as possible (describes a wider group of people), and that no bias is introduced. Bias is the enemy of good surveillance. As with any science, a hypothesis is formulated to prove or discredit a theory. If there is no real research and the data is manipulated to prove a hypothesis, even if it is false, then no truth is discovered. Similarly, the use of surveillance to discover truth is only possible if no bias is introduced. In sampling this means that every person in a catchment area has an equal number of chances of being included in the study. Perhaps the only time when an entire target population might be interviewed would be in a refugee centre where all new comers are screened. In most situations, a sample has to be chosen, and must be chosen randomly, even if the “universe” (in this case the livelihood group) is not randomly chosen. Therefore, the FSL teams will in general select a limited number of individuals or households to gather the information needed. You will find hereafter the different steps to be followed:

#### Determining the sampling unit

The sampling unit is “the element or unit selected in sampling which the data refers to” (ACF Assessment Guidelines p. 49). The sampling units used for FSL are generally the household, while the nutritionist will look at the individual (the U5 child, the pregnant or lactating woman...). For certain surveillance systems, a unit different from the household should be considered according to your surveyed population (e.g. the U5 main caretaker, the cattle...)

#### Determining the Sampling method

*Sampling methods are widely explained within the ACF Assessment guidelines: P.50-55, within Appendixes 13, 14 & 29. Do not hesitate to refer to this document.*

The figure 10 gives some keys for choosing a sampling method. You will find hereafter the definitions<sup>29</sup> of the different terms & methods used:

### **Non probability sampling**

Non-probability sampling is *any sampling method in which some units have no chance of being selected or if the probability of selection is unknown*. This is commonly used in qualitative methodologies including selecting key informants, organizing focus groups or interviewing traders in markets. Purposive, Convenience and Snowball sampling methods are the most common non-probability sampling methods. This method often involves the selective judgment of the enumerator or community leaders and has a high potential of introducing bias into the results.

1. **Purposive** – In Purposive sampling the researchers decide which particular groups or individuals to interview. Attempts are made to minimize bias and select a sample which best represents the population under study. Integrating this method at some level of the sampling process is common in FSL assessments and it is thus important to be acutely aware of potential bias in selection as this can lead to criticism of the whole assessment. Purposive sampling can be combined with other random approaches, for example, by specifying purposefully a number of communities or clusters to be visited, but then selecting respondents within the clusters randomly.

2. **Convenience** – In convenience sampling respondents are chosen because they are accessible or “convenient.” This results in a great deal of bias due to the diverse differences, especially with regards to geographic, political and social isolation, between individuals and communities which are easily accessible and those who are not.

3. **Snowball** – Snowball sampling resembles the process of taking a small ball of snow and rolling it to gather more and more snow along the way until it becomes a big ball. Key informants are often sought out due to their specific knowledge of the situation. These first informants then point the researcher to other possible informants. One may simply ask whether the respondents knows anyone else who has experience with the same issues and provide useful information. In this way new informants are discovered and the snowball grows.

### **Probability Sampling**

Probability sampling, also known as ‘*random*’ or *representative sampling*, is possible when every sampling unit has a chance of being selected, the probability of being selected is known and the selection of the sample is made using random methods. Both selections within a geographical area and the households or individuals within a given location should be made randomly. Random sampling is preferred to non-random methods as it is the only one which theoretically has the potential to represent the entire sampling frame. Probability sampling is used especially in cases where quantitative data is collected and statistical household questionnaires or collection of data at the household level, which will be generalized to the larger sample population. Possible methods include Simple Random Sampling, Systematic Sampling, Stratified Sampling, and Two Stage Cluster Sampling.

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<sup>29</sup> Adapted from « ACF Assessment Guidelines », p. 50 sq.

1. **Simple Random Sampling** – This method is used when a list of every household or individual is available. Respondents are selected randomly from the whole list using a random number table. It is equivalent to putting all names in a hat and selecting one at a time at random. In contexts where FSL assessments are undertaken it is very rare to have reliable lists available and thus this approach is not often used.

2. **Systematic Sampling** – This method is often used when there is a list of the households or, where such lists do not exist, the population is geographically concentrated and dwellings are arranged in a regular geometric pattern. This is the most common sampling method used to select households within a cluster and is often employed in camp situations and in urban contexts. After a first household is selected at random, the following households are visited 'systematically' using a "sampling interval" determined by dividing the total number of households by the number needed to give an adequate sample. For example, if 400 households are on a list, and 20 need to be interviewed, the first step is to choose the first household at random using a random number table or other method – let us consider the choice of # 220. Because 400 divided by 20 equals 20, our sampling interval will be 20. We then select every 20th household starting from # 220; 220, 240, 260 etc, continuing at the beginning of the list when the end is reached until we arrive at our target number, 20, and we have returned to our start point. The 'spin the pen method' also falls under the category of systematic sampling and is one of the most common sampling methods used in the field where lists are often unavailable.

3. **Stratified Sampling** – When the population being considered contains distinct strata or sub-groups, these can be sampled independently. This allows references about specific sub-groups to be drawn, which would be difficult if the population was sampled as a whole. This method is especially useful in FSL assessments where livelihoods or regional groups should be looked at in isolation for the purposes of understanding nuances specific to these groups and to compare them. In order to maintain statistical efficiency of the sample as a whole, sub-groups should be sampled proportionate to size, if population figures are known.

4. **Two Stage Cluster Sampling** – This is the most common sampling method used in FSL assessments. In the first stage of the process the population is divided into distinct units which are often defined by administrative or spatial boundaries. This commonly manifests as a list of villages with varied populations. In contexts of displacement where refugees or IDPs are spread over a large area the list may be composed of camps or 'evacuation centres.' Clusters are then randomly selected with the probability of selection being proportional to size to ensure each person in the whole area has an equal chance of being selected. After clusters are selected, a given number of respondents are chosen at random from each cluster. Where no population figures exist, figures must be estimated or area maps may be divided into sections and **assigned weights**.

The use of assigned weights is an important aspect of collecting statistically valid data. This basically means that you give one variable or set of data (or geographical area) a greater value than others.

One issue that is often misunderstood is that sampling size does not depend on the population being surveyed. Selecting a sampling frame (number and location) that will

provide statistically valid results will depend on the variable being studied, not the size of the population. The greater the anticipated frequency (prevalence) of a given measurement, the fewer sampling points are required. However if the anticipated variable is likely to be uncommon and of low prevalence, a much larger sample is required for accuracy. To be effective, choosing the sampling frame requires not only statistical knowledge, but a extensive experience and understanding of the target population and the variable being studied. The use of a statistical chart to determine sampling size for any one variable is something a statistician can devise easily, and then can be used by any layman to determine the number of entry points to collect. Certain agencies, such as WFP, have these charts already drawn up and ACF can request to use these.

In FSL surveillance, the goal is to capture trends much more than to have a proper representative assessment. In consequence, the **method most used for sampling in surveillance will be the purposive sampling**, in addition to more qualitative sampling (e.g. snowball sampling).

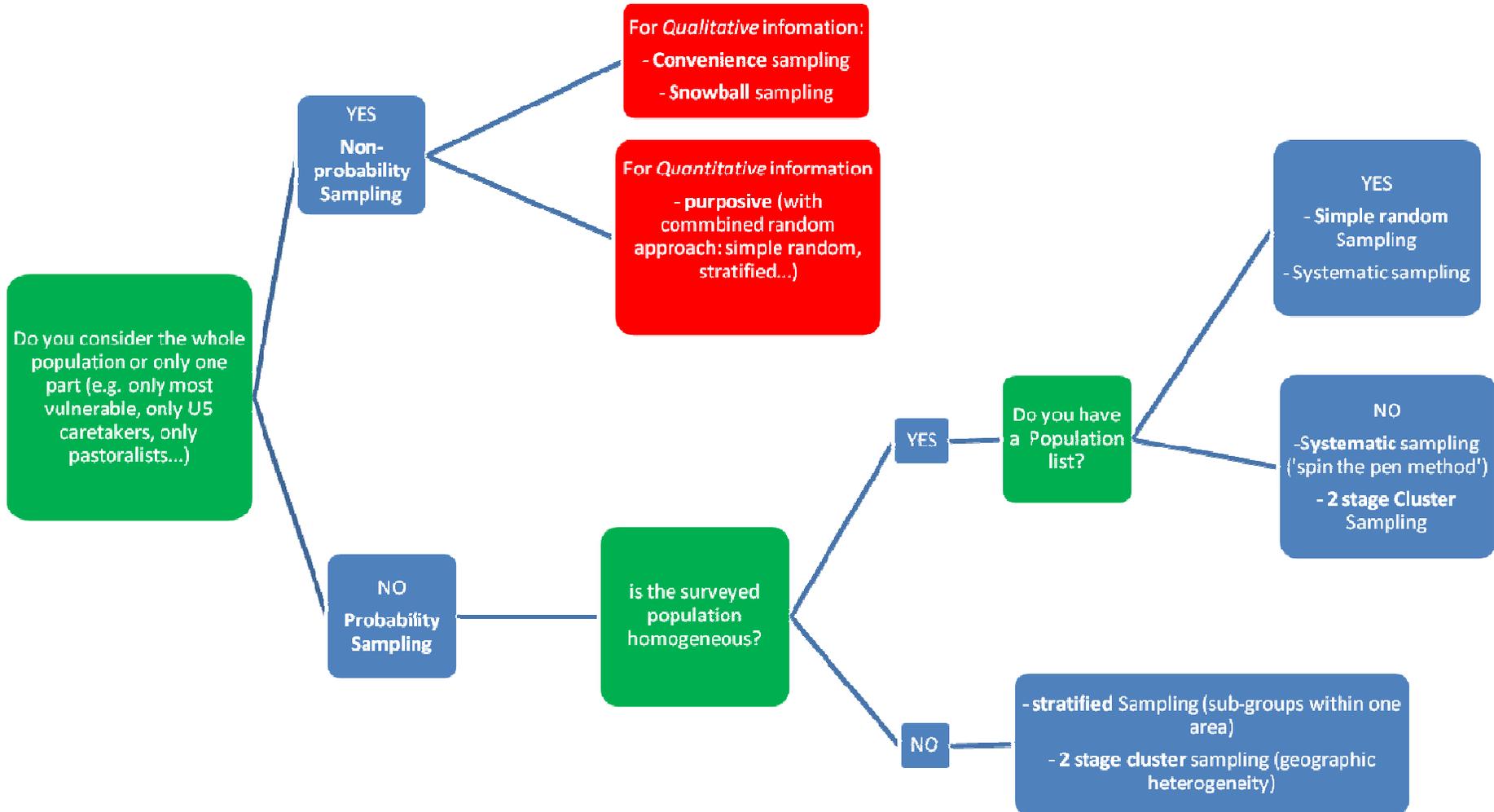
Remark: when the FSL surveillance is integrated with nutritional data collection, the statistical specific needs of the nutritionist will guide the sampling method. For instance the sampling method of the Listening Post methodology is specific (see Field example 14).

*Field example 29: Sampling methods in Uganda (integrated surveillance)*

A three stage cluster sampling method was used to select clusters and households.

- In stage one, 25 clusters of 12 households (sample of 300) were randomly selected in each of the 5 districts. In the second round, the sampling unit was changed to household instead of children as advised by Centre for Disease Control (CDC) to eliminate selection biases and also ensure households without eligible children are included in the sample. The 25 clusters were distributed in each livelihood zone (agricultural, agro pastoral and pastoral) according to population size. This provided an opportunity of data analysis by both districts and livelihood zones. The population in the same livelihood zone is homogeneous and the result is more representative of the actual situation.
- In the second stage, accessible population of the villages was entered in EpiInfo/ENA software and clusters assigned randomly.
- In the third stage, using the simple ballot system, a selected village or manyatta was segmented into units with 12 households (an estimate of one child per household was considered in Karamoja) based on locally accepted boundaries. Data was collected in a randomly selected zone. All children 6 - 59 months in the household were assessed and nutrition security questionnaire administered to all households.

Figure 10: Decision-Tree – Sampling methods



#### 11.3.4. Frequency & timing of data collection

The frequency & timing of data collection will depend on:

- The context: if the situation is evolving quickly, a **monthly** data collection will often be appropriate
- The type of indicators: some indicators are likely to evolve quickly (SAM rates, CSI, market prices...) while some are much more static (population figures, agricultural main events, chronic malnutrition rates). The static indicators should be collected at the baseline stage, and reviewed once a year, or even less often. The dynamic indicators will be collected each period of data collection, or once every 2-3 periods according to their evolution scheme.

*Field example 30: lessons learnt in Liberia – data collection frequency*

ACF was implementing a surveillance system covering the refugee return main areas. Data was collected every 2 months at the field level, inc. population movements, information on water points, latrines coverage, infrastructures availability... If the population data changed from one data collection stage to another, it was not the case for the infrastructure availability or the latrines coverage. The process revealed time and energy consuming, while the surveillance bulletin were difficult to digest for the readers, as the situation looked globally static from one period to another.

#### 11.3.5. Data triangulation / crosschecking

**Data triangulation is critical in surveillance**, especially because the samples tend to be small, increasing the biases and errors. Triangulation consists in crosschecking each finding:

- by asking another source (for key stakeholders, consider that an information is true only if crosschecked with the nearest person to the source of the information)
- By another method: e.g. qualitative and quantitative information, FGD and individual interviews, primary & secondary information...
- at another scale: household level/ community level/ district level – ensure the information is consistent
- At another time: was this information valuable last year/ season/ decade? If not why this change? (if yes the information is more likely to be true)

**All findings of FSL surveillance have to be crosschecked as part of data collection before being reported.**

### 11.3.6. Fatigue of the interviewed population

This is especially true when the surveillance system is based on sentinel sites, and with the same *households* being interviewed on a regular basis.

#### *Field example 31: Afghanistan Surveillance capitalization report 2004 (extract)*

“The problem surveillance has to face as a system is that surveyed villages do not understand and accept that several surveys take place without any help brought to them. At the same time, changing the location of a sentinel site would imply doing a baseline survey again, which is quite time consuming. By informing local and regional authorities on the results and making sure to explain them the purpose of the surveillance system at the very beginning would be a way of minimizing the survey fatigue. In case some villagers would participate in the surveillance, e.g. by collecting water indicators on a regular basis, they should be compensated somehow.”

Of course, when the population concretely sees the added value of the surveillance system for themselves, the problem is much less. A basic tool is to give feedback to the communities of the findings and recommendations made from the information collected from them.

#### *Field example 32: Ethiopia, Ogaden surveillance 2001-2003*

There was an immense informant fatigue, as Somali people tend to demand interventions if questions are asked. A solution found by the team was to translate the surveillance report in Somali and to circulate copy to informants (and to local and regional authorities).

Another solution found to lessen the weight on the interviewed household is to change households or even community from one round to another: the Livelihood zone remains the same, but different communities and households are interviewed, presenting globally the same characteristics according to your first baseline assessment. This solution increases the risk of errors in a way -- but when a household is too tired to answer to your monthly questionnaire, it tends to provide false information as well...

#### *Field example 33: Malawi, changing the sample*

In Malawi ACF was changing the families followed for FSL every year, and the ones followed for nutritional status of the U5 children every 2 years, while maintaining the same sentinel sites and the same criteria for selection of informants. We were doing the baseline survey every 2 years, to follow the changes in each sentinel site.

Of course in the case of community based surveillance system, the problem is completely different, as communities themselves decide to be part of the surveillance. In community based surveillance system one major bias can be the issue of communities exaggerating their vulnerabilities in order to receive assistance: this bias is met in any surveillance system, but emphasized in this particular case. Cross-checking and working in real partnership with the communities can limit this bias.

### 11.3.7. Fatigue of the surveillance team

Being a full-time member of the surveillance team, while not being part of the programme team appears to be difficult in the medium-term:

- It is psychologically difficult to collect data on extreme vulnerability without actually doing something about it, in one way or another: impact of surveillance is not obvious.
- The communities where the surveillance team collects the information can be harsh on them, asking for concrete retribution they are not allowed to give. More generally data collection implicates multiple travels, nights in sometimes precarious conditions and general tiredness.
- Repetitive tasks: if the first round of data collection is new, the 5<sup>th</sup> can be boring...

Some tips for keeping the surveillance team motivated

- Ensure that the team members fully participate not only in the data collection process, but also in the data analysis, formulation of recommendations, reporting and dissemination process. It will enrich the reports (the data collectors know the field better than the PM will ever do) and make their work more diverse and interesting.
- Ensure continuous training for the surveillance team as this acts as an excellent motivation tool.

*Field example 34: Sierra Leone Surveillance capitalization*

« We had surveillance team fatigue – they had peaks and troughs of motivation. Workshops and training was one way to overcome this. There were several departures over the last years – a number having been headhunted from other agencies as they had a very high standard in data collection and analysis. »

- Ensure that they are part of the M&E system, for each member of the surveillance team to measure the impact of his/her daily work.

### 11.3.8. Team turn-over

High local staff turn-over for ACF has been observed primarily due to two Human Resources related reasons to human resources:

- Salaries. ACF usually has lower salary scales than International Organizations/UN, thus missions sometimes tend to experience the problem of turnover. Solutions can be to revise the salary scale if justified, and to offer other motivation tools (staff training, trips, incentives, rapid promotional schemes, positive team management...)
- Partner Rotation. The partner may have its own schedule and priorities, and may ask for rotation of its human resources. The point has to be raised early in the discussion with the partners, and to be discussed within the formal protocol, letters of understanding and/or contracts and agreements. Ensuring a minimal stability within the team, at least for one year at a time, is vital for a properly implemented system.

## 11.4. DATA ENTRY

Data entry requires special training and skills. In addition, experience shows that:

1. It is better that only one person is assigned to data entry, to limit data entry errors.
2. It is better when the mission and/or the partner have the capacity to have one dedicated data entry clerk, with a dedicated desktop computer: it limits delays for this task. This data entry officer can be in charge of entering the data of FSL surveillance and other programmes data as well (nutritional entry data base, WASH data base...)

The following tips can be used to limit data entry errors:

- As mentioned, some software are excellent for data entry and are highly recommended as easy (free) tools that can accommodate many different types of indicators, not just anthropometric surveys.
- Some software has user-friendly data entry sheets (ex. Sphinx): do not hesitate to use them. Within Excel you can use helpful functions (e.g. "lists" prevent entering non authorized data). Do not forget at this point that the choice of the software has to take into account the partners' capacity to access it and to use it in the medium- to long-term (e.g. you will sometimes have to choose a cheaper and better known software over a better technically adapted one).
- Ensure to test the quality of your data entry (e.g. have routines to notice abnormal values)
- Double data entry and check for disparities is the best way of ensuring consistence between the data collected and the data analysed.

N.B. for the first round of surveillance, if working with new team members, it can be useful to enter the data on a daily basis to ensure that the questionnaire is correctly filled. If not you can correct the process before the data collection has ended.

**Do not forget data storage:** capitalize all data after controlling its quality in an accessible format for future analysis. Regular back-up should be done (monthly), and data bases should be sent regularly to the HQ (where the storage is more sustainable).

## 11.5. DATA ANALYSIS

Data analysis will be made easier if:

- Good baseline information is available,
- The threshold is already determined,
- Different scales of analysis have been determined
- Objectives have been clarified from the start.
- The analysis framework has been set in advance
- Indicators are simple and adequate to the context.

**Do not forget:**

- To **cross-check** the information with all external data that can be found (external surveillance systems, programme information – inc. M&E data, other stakeholders analysis, community feedback)

- To analyse **changes since the previous situation/ from previous year** at the same period.
- To analyse the trends and **the risks for the future**: what is likely to happen?

A bottleneck is often created by analysis – teams collect information and it is often the project manager who takes the responsibility for data analysis. **To analyse and write reports is time consuming and this aspect must be taken into consideration when planning the work of the whole surveillance team.** Unanalysed data must not be allowed to accumulate: this can create frustrations within the team and must be avoided. Recruiting a database analyst specifically dedicated to these issues is essential. Eventually this person should also train other staff in the use of the tool and the main objectives otherwise the whole set-up could breakdown when he/she leaves – even if just on holidays.

If this is not properly planned and organized, serious delays can occur; this would invalidate the information and equate to a waste of lot of time and effort.

## 11.6. FORMULATION OF RECOMMENDATIONS

Formulating recommendations can be quite political and, to the extent possible, this should be done in consultation with:

- The entire ACF team (inc. HoM, other technical departments)
- External stakeholders (especially those who are supposed to implement those recommendations)
- Local communities (at least have a feed back on pertinence and feasibility)

### *Field example 35: Malawi*

**At times it is best to wait and allow recommendations to be formalized with partners.** In Malawi, the FSL surveillance bulletin did not give recommendations, only the analysis of the trends and perspectives. This bulletin served as a base for discussion at the FSL & Nutrition Committee involving the line ministries, NGOs and donors, where the decisions were made and the recommendations were formulated.

### Avoid

- Formulating inappropriate recommendations
- Formulate politically correct but humanitarian incorrect recommendations
- “Blaming the victims” recommendations

### *Field example 36: Lesson learnt*

**Avoid incongruence between findings/results and recommendations.** In one ACF Bulletin, the GAM levels were 20-25% (extremely high) in the surveyed area during several consecutive months. One of the bulletins explained appropriately the nutritional and FSL situation (globally extremely poor), but the recommendations were contradictory: the bulletin recommended to 1. Give health & nutritional education and 2. Distribute mosquito nets for malaria prevention. Both recommendations were appropriate, but definitely incomplete in such a crisis situation.

In some contexts, where planned actions should be kept discreet for political reasons, the recommendations may be kept internal while the findings and analysis are disseminated externally if possible.

### 11.7. DATA REPORTING

The surveillance report needs to reflect the integrity of the methods, and provide concise and clear information to the audience. It should be accessible to the reader enabling him or her to easily visualize what changes have occurred since the last reporting period. In order to do this:

- The same reporting format should be used each time;
- It should be visual: making use of maps, graphs, charts and pictures as appropriate;
- It should not be too long, e.g. about 4-5 pages are adequate, with a one paragraph executive summary;
- It should state the methods, a brief summary of the findings/results, and end with clear recommendations;
- Contextual and qualitative information should be precise, clear and concise.

Presentation format and simplicity depends on the user, several versions of the same report can be disseminated according to the targeted public. The report should be clear, attractive and visual. User-friendly techniques such as highlights and summaries, graphs, diagrams, tables, maps, pictures, logos, etc. can be incorporated into the report.

A bulletin should include the logos of the partners, the title and date of release as well as the date of information collection, a section/box on the first page with the highlights for the reporting period, information under the indicator headings with changes in the situation, conclusions and recommendations. Keep in mind that the report could be printed in black & white when choosing colours. See Appendices 11-12-13 for examples of FSL surveillance reports.

In an emergency context a single/double page 'Special Report/Alert' can be produced and distributed for rapid reaction. Do not forget that most bulletins for external publication have to be validated by your HQ before dissemination, unless a specific exception is provided.

- **Conclusion & recommendations: most readers read ONLY those parts -- please do not neglect them!**
- **A surveillance report that is too long will not be read!**

## 11.8. INFORMATION DISSEMINATION & SHARING, FOLLOW-UP OF THE INFORMATION DISSEMINATED

To improve the uptake of information, a FSL Surveillance system must actively support and publicize the recommendations made.

Means of communication include:

- written reports.
- verbal briefings and presentations (inc. restitution workshops).
- media (internet, news media): use the existing networks to share your information as NICS (for all nutritional information, inc. Nutritional causal analysis), Reliefweb, Irinnews, Ochaonline...
- information panels where the data collected is showed to the whole community for the decision process to be made at community level. This is obviously the case for community-based surveillance systems.

*Field example 37: Sierra Leone communication strategy*

**Personal contact and short presentations to sensitize stakeholders is very effective.** In Sierra Leone in 2009, the ACF nutrition team issued a nutritional survey report which was showing important trends. The Nutrition coordinator prepared a quick PowerPoint presentation, and went to each key stakeholder herself: she presented the PowerPoint with the key information on her computer systematically, answered to any potential question and gave the paper copy of the survey.

Organize a follow-up meeting or phone call can be other ways to ensure that your information has been read and taken into account. Other advantages to this approach are:

- Measure the reach and the impact of our system
- Receive feedback (constructive criticism)
- Validation of dissemination tools
- Measure the level of understanding by the users

Follow-up can therefore be done through:

- Questionnaires
- Formal and informal meetings
- Phone conversations
- Follow-up of stakeholders interventions

*Field example 38: Southern Sudan communication strategy*

**Do not let the report become a “dead end”.** In Sudan (2007), an active advocacy & follow-up was implemented during 3 months after the release of the information. This follow-up was fully part of the M&E system.

The dissemination of surveillance information requires an effective communication strategy.

**Box 4 : Tips for designing a communication strategy**

In designing a communication and advocacy strategy you need to consider the following issues:

- You need to understand the institutional arrangements and clarify who (both institutionally and individually) is responsible for specific decisions. A stakeholder analysis is a useful tool for clarifying this. This sets the context for targeting key decision makers with the relevant analysis.
- Good communication is about winning the hearts and minds of power brokers. You have to engage with key people and ignite their interest.
- Communication needs to be persuasive. Examples of effective strategies may include the strategic use of hard-hitting oral presentations to convince decision-makers, or emphasizing cost-effectiveness to donors.
- Advocacy is about building consensus. Too often the FSIS stops at telling people there is a problem rather than building consensus on how to address the problem. In ideal situation advocacy needs to come from within the country, rather than be externally imposed.
- Influential, well-informed and respected people are necessary for driving communication. They should have access to power brokers who are, in turn, willing to listen.
- Any action proposed needs to be doable.

*(Source: FAO 2006, 'Distance Learning to Support Capacity Building and Training for National and Local Food Security Information Systems and Networks')*

## 12. MONITORING AND EVALUATION OF A FSL SURVEILLANCE SYSTEM

Besides creating a Logical Framework analysis for your project objectives and indicators to measure the impact of activities within your surveillance system, a strategic objective should be included that is able to monitor the actual data gathering system and ensure its integrity and accuracy.

The M&E of the FSL surveillance system can be implemented according to the Objectively Verifiable Indicators (OVIs) of your LFA. OVIs can include:

**Table 11 : M&E of Surveillance – Objectively Verifiable Indicators & Sources of Verification (examples)**

	OVI	Source of Verification
<b>Quality of the surveillance process</b>	-delay between data collection and report issuing -# of HH interviewed, of children measured, of FGD...	Surveillance reports
<b>Quality of the surveillance information</b>	- accuracy, credibility, reliability of the information -information demand-driven (according to the needs of the target audience)	Target audience survey
<b>Impact of the surveillance</b>	-# of recommendations taken up by the decision makers -EWS effectiveness (e.g. if there is a shock, did the EWS pick it up before hand? Did we get an alert? Did the system pick up any effect of the shock? What were the delays?)	Advocacy follow up reports DRM reports
<b>Capacity building (of the communities, of the Ministry staff, of the local partners...)</b>	-Local partners publishing good quality report every X months -training impact (KAP surveys, improvement of the key process indicators...)	Surveillance monitoring & evaluation reports Training reports KAP survey reports DRM reports

*Field example 39: Southern Sudan M&E*

In Southern Sudan a surveillance of the nutritional situation and its causes was implemented, and allowed the collection of nutritional, WASH and FSL information on a regular basis. The surveillance system is driven by the MoH, with support and collaboration from ACF. A yearly evaluation is implemented by ACF, on the following indicators: quantity and quality of the data provided, response to survey recommendations and advocacy initiatives, capacity building to implement surveys and nutritional programmes. (\*= advocacy follow-up ongoing)

**Table 12 : Recommendations and responses per location, ACF-USA nutrition surveys in South Sudan in 2007**

Survey location	Number of Recommendations	Number taken up	Number not taken up
Gogrial West County	10	10	0
Melut County	10	7	3
Malakal County	11	9	2
Khorfulus and Atar	11	11	0
South Bor (Padak)	7	*	*
Nyirol County	7	*	*
Renk County	10	*	*
Tonj North County	*	*	*
<b>TOTAL</b>			

And as for any FSL programme, a wider range of indicators will be included, such as unexpected positive and negative impacts of the surveillance system (not forgetting the “do no harm” principle), and any performance indicator that was not included in the LFA (in order to not be binding) but you estimate useful.

M&E information can be gathered internally, but an external evaluation could be important for learning lessons and improving your system (and ACF’s general know-how). Please refer to ACF M&E Guidelines (2011) and ACF Policy for Evaluations (2007) for more practical details on monitoring and evaluation of your surveillance system.

*Field example 40: M&E in Malawi*

**The surveillance system can monitor itself through inclusion of data related indicators.** In Malawi the system included a table of monitoring indicators, including timeliness of the data collection, quantity & quality of the nutritional data collected per round. In addition, an external evaluation was implemented, under the criteria of impact, coverage, coherence, appropriateness/relevance, sustainability, efficiency and crosscutting issues.

In terms of the M&E of the surveillance system, one of the key steps will be its relevance to the target audience. This can be done by:

- Assessing the demand for FSL information; different users have different needs and different languages when it comes to FSL. The decision makers and the groups who may influence the decision making process will have to be included in the assessment. The key questions here will be a) to determine their information priorities and frequency (and define terms) and b) to decide on the adequacy and accessibility of the current information. Assessing the existing FSL information: at this stage you will consider not only your FSL surveillance outputs, but also all other existing information in the context.
- Comparing the information you have with that demanded.
- Determining gaps and overlapping demands.
- Analysing the context of users (motivations, etc.) and determining how the data could be tailored for greater use and support by stakeholders.

### 13. “TEACHING THE ELEPHANT TO DANCE”: HOW TO ADAPT YOUR SURVEILLANCE SYSTEM

Surveillance systems will usually need to be adapted from the first conceptual phase, as the monitoring & evaluation system would show: e.g. the surveillance system is not meeting all the objectives, it is not efficient enough; the context has changed (in regards to the surveyed area & population and/or to the target audience and decision makers).

In the case of long term surveillance system (long term / protracted crisis), you could have implemented a sentinel site network for a long term surveillance system which will need revision: this long-term surveillance work must reflect the fact that just because a crisis is of long duration does not mean that it is constant over time in its nature, degree of intensity, or types of responses needed. Surveillance must indeed be nimble, and attentive, even when it is done from the same number of sites over the long-term.

Adapting your surveillance system will be done according to the results of the M&E system (e.g. changing the format according to the users’ needs, changing the periodicity according to the indicators trends, changing the indicator according to its relevance, etc.).

Changing the system also brings the risk of reducing the quality of the whole set up: if an indicator is changed, you will not be able to compare it with the data of the previous years, with reduces the efficiency of the whole surveillance system. Changing one indicator may imply changing data gathering tools.

Some tips here:

- Always take **sufficient time at the design stage**: if the baseline levels and thresholds are set appropriately, and the indicators efficient, the need for change will be reduced.
- Before making the changes, **implement a complete evaluation of the surveillance system** (see above). Changes are a difficult process, it is better to make all the necessary changes in the same period.
- Have a **“light” system**: if you have too many indicators, changing your system will be increasingly difficult.
- When changing a system, it could be effective to keep one or two key indicators that have been analysed on a long period in order to be able to follow their evolution even within the new surveillance system.
- When changing the system, do not only add indicators, or your surveillance system will be come quickly a “white elephant” or “kludge”: too heavy for reactivity, complicated and pointless. **Always maintain a limited number of indicators.**

## 14. SURVEILLANCE IN SPECIFIC CONTEXTS: SOME KEY POINTS

### 14.1. SURVEILLANCE IN CONFLICTS SETTINGS

In conflict settings, surveillance will have to be adapted in order to lower the risk to both the surveillance team and the population. Sentinel sites could be difficult to implement, and adapted surveillance methodologies will have to be found.

*Field example 41: Darfur data collection adaptation to insecurity*

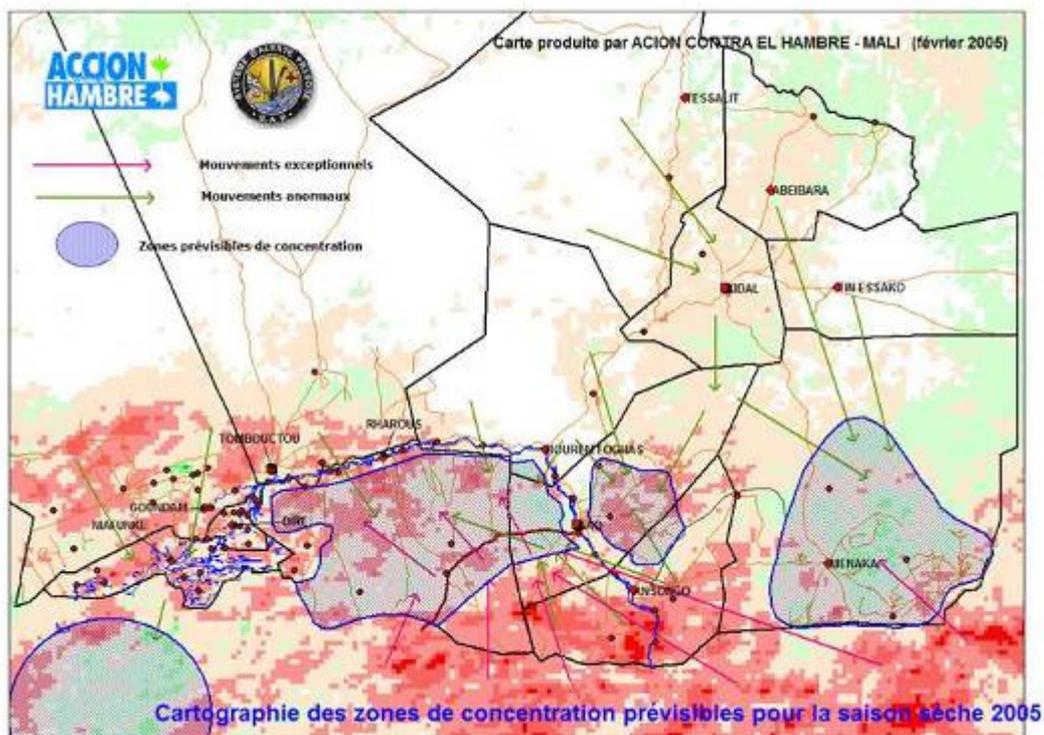
**Including community-based data gathering may make your system more sustainable in the event of conflict.** In 2006, data collection appeared to be impossible for one round of surveillance: security conditions did not allow field access. The solution found was to train literate members of the target communities, who filled in the questionnaires and gave them, back to the ACF surveillance team.

### 14.2. SURVEILLANCE IN PASTORAL CONTEXTS

The main characteristic of the pastoral context is that populations move: sentinel sites will not usually be an option unless pastoral movements are traditionally set (often based on watering holes) and data can be gathered in predictable locations. Progressively, however, this is not the case and movements are less and less predictable as environmental degradation and drought often affect the areas of movement. Thus in some countries (Mali and Niger), the ACF-E team manages an innovative surveillance system:

*Field example 42: Pastoral surveillance in Mali-Niger*

The Surveillance system has been built in partnership with various stakeholders (inc. Ministries and Research Centres). It is based on GIS and remote sensing tools, and aims at following the risks on the livelihoods of the pastoral population. The main indicators are the biomass availability in the traditional transhumance area, and the itinerary taken by the pastoral population (“normal” vs. changes in the movements), in order to be able to react quickly to a risk or a deterioration of the situation and to anticipate troubles that could occur in case of unusual concentration spots or abandoned areas. Biomass availability is obtained through analysis of satellite imagery (balanced and analysed through field measures and observation), and pastoral livelihoods and itinerary are gathered through interviews with key informants.



Since its beginnings in 2005, the data collection methodologies have evolved and improved on a continuous basis. The system is included in the existing National Surveillance system. In the future, the strategy is to:

- improve the existing system with new indicators and introduction of DRM activities
- extend the tools to other Sahel countries
- adapt and extend the tool to other pastoral contexts (Eastern Africa).

### 14.3. SURVEILLANCE IN URBAN SETTINGS

ACF has little experience of surveillance in urban settings. However, FSL information-gathering in urban contexts has been documented: refer to the ACF Assessment guidelines 2010 and to the ACF Urban Vulnerabilities Guidelines 2009<sup>30</sup>. Various urban assessments have been implemented (Freetown, Monrovia, Kinshasa, Ulan Bator, Abidjan, Bamako, Rawalpindi...) and have been documented by ACF-USA: do not hesitate to gather them. The only ACF FSL surveillance in urban context in 2010 is the Kabul experience (Afghanistan):

#### *Field example 43: Urban FSL surveillance – Kabul, Afghanistan, 2003-2004*

ACF was conducting FSL, WASH and Health & Nutritional activities in the Kabul, which provided a wide range of information. An integrated assessment was conducted, in partnership with key stakeholders within the city (inc. national services and key humanitarian actors). A first zone mapping was operated, and representative sites randomly selected. In each site, key FSL, nutritional, WASH and health indicators were gathered. The report produced was considered as a reference document for understanding the situation in Kabul. The following year, the same exercise was repeated and a second report was issued, showing the trends and the evolution of the context within a period of important stressors (price rise, return process, quick political evolution...). Due to the deterioration of the security conditions, the process was not repeated in the following years.

An interesting experience has been developed by the *Institut de Recherche pour le Développement* (IRD, French research Centre) in Ouagadougou, Burkina Faso:

#### *Field example 44: Urban FSL Surveillance – Ouagadougou, Burkina Faso, IRD – CILSS*

The studied population is the entire population of Ouagadougou, capital city of Burkina-Faso. Sixty zones have been sampled out of the 1069 defined for the population census, proportionally to their size (number of HH). In each zone 50 HH have been chosen randomly, for a final sample of 3000 HH. Those HH have been interviewed in June-August 2007, October-December 2007 and July 2008, while in parallel the market prices were monitored in July 2007 & July 2008. This system is still in place in 2010, and the Ministry of Health could take it over in a near future. It has been extended in 2009 to another town, Bobo-Dioulasso. The analysis has been based on the following indicators:

- Dependency ratio: no. of individuals <15 years old/ no. of individuals >15 years old;
- Economic score: based on the family assets (bicycles, house status...), equipments and hygiene facilities;
- Individual Dietary Diversity Score (IDDS);
- HFIAS (Household Food Insecurity Access Scale);

Their conclusion was that IDDS & HFIAS were most accurately measuring the evolution of the food security situation and of the food diversity in this urban area.

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<sup>30</sup> ACF, 2009, « Identifier les vulnérables urbains. Evaluer les moyens d'existence durables et les vulnérabilités urbaines », 94 p.

## 15. PARTICIPATING IN JOINT INITIATIVES AND BROADER INFORMATION SYSTEMS

To understand the role and added value of those partnerships, please refer to §10.2 *Define your partnerships and collaborations*, p. 50.

### 15.1. PLACE OF ACF WITHIN A BROADER FSL SURVEILLANCE SYSTEM

ACF can play various roles in broader information systems:

- Participate in the data collection only (no analysis, no reporting)

*Field example 45: participating in SAP-SSA, Burundi*

In Burundi, a national FSL surveillance system is covering the whole country, led by FAO in partnership with OCHA, UNICEF, and the Ministry of Agriculture. The data is collected by NGOs working in the field. ACF was collecting field information in each area of operation using a pre-determined format, and sending this information on a monthly basis to the SAP-SAA team. The system is funded by USAID, which was supporting the costs of the data collection. ACF stopped participating when its activities ended in the country.

- Participate in the design of a joint surveillance system, participate in the analysis of the data;
- Lead a joint initiative for a national coverage. See Field example 42: Pastoral Surveillance in Mali-Niger, p.94, or the following one:

*Field example 46: National nutrition & FSL surveillance system led by ACF, Malawi, 2003-2007*

In Malawi, a national nutrition & FSL surveillance system has been set up, led by ACF (ACF-USA in a first stage, followed by ACF-Spain), with the support of the Malawi Government, UNICEF, the European Union and other partners. The system was implemented during the pilot phase in 6 (out of 26) districts in 2003, and extended to the whole country in 2005. The surveillance sites were covering all livelihoods zones (apart from the protected areas) and was designed as follows:

- 5 health centres (surveillance sites) per district, according to their geographical location and the livelihood zones defined in Malawi.
- 70 children randomly selected from static growth monitoring clinics, nutritional follow up.
- 10 households randomly chosen from the 70 for food security follow up.

Nutrition indicators were: Sex, Weight in kg to 0.1 kg, Height in cm to 0.1 cm, Mid-upper-arm circumference (MUAC) in cm to 0.1 cm, Oedema, Diarrhoea, which permits the calculation of derived indicators (W/H, GAM, SAM...). FSL data were collected through a baseline questionnaire, followed by monthly data collection (see both questionnaires in appendix)

The surveillance system was using governmental structures and HR for its implementation, and aims to be at term implemented autonomously by the relevant Ministries. The capacity building component was developed in consequence, with training implemented at each level (on site, district level, headquarter level, community level sensitization).

In 2008, ACF handed the programme over to the Malawi government. Unfortunately this hand-over was not a success: “Data reporting dropped significantly. Paper data forms continued to trickle up to the central government level, yet much of the data was never entered into computers or analysed. This left the government, UNICEF, and their development partners without any systematic means of identifying acute changes in nutrition status throughout the country and with little information with which to make effective decisions about allocation of resources”<sup>31</sup>. After careful analysis of the challenges and constraints, a new system is being developed by UNICEF, based on nutritional & health data transmission through mobile phones.

### Box 5: Partnership with the local communities – Community-based surveillance systems

Community-based surveillance systems have their pros and cons:

**Table 13 : positive and negative attributes of community based surveillance systems**

Positive attributes	Negative attributes
-extremely powerful for DRM: the community identify its own risks, vulnerabilities and capacities, and can organize ad-hoc EWS and DRM components	-potential security risks for the community members in volatile contexts
-sustainability	-lack of resources in certain contexts (for data collection and analysis)
-community mobilization and ownership	-potential bias (if surveillance perceived to be linked with potential external support)
-lower costs (HR and logistics costs)	

ACF does not have a tremendous experience in community-based surveillance systems, but has developed a pilot experience in Central America. The information is gathered at the municipal level, directly from the communities and according to indicators defined together with them. The information is sent to the upper administrative level in case of problem (e.g. floods), for rapid tracking of the situation and of the intervention needs. This system is at its beginnings, but the first result seems promising and it has been expanded already to other countries in the sub region.

## 15.2. ESSENTIAL STEPS FOR SUCCESSFUL FSL SURVEILLANCE SYSTEMS IN PARTNERSHIPS

### 15.2.1. Pre-conditions for a partnership

ACF considers working with other organizations in every circumstance but critically, only decides to do so if the relationship:

- Provides ACF with technical support and know-how from experts in FSL surveillance, to develop staff knowledge in this area;
- Provides efficiencies in data collection and in reporting demands;

<sup>31</sup> <http://www.rapidsms.org/case-studies/malawi-nutritional-surveillance/>

- Is synergistic in nature and adds value to our work and consequently to the people and communities we serve;
- Brings together the right combination of resources, experience and know-how needed to reach our goals or solve the particular problem at hand; and
- Is based on the ethical principles described hereafter, which preserves the integrity and reputation of ACF, and ensures our continued commitment to the ACF charter and humanitarian principles in everything we do. The principle ACF considers are:
  - ⇒ Trust and respect
  - ⇒ Shared purpose
  - ⇒ Complementary nature
  - ⇒ Added impact
  - ⇒ Transparency & Accountability
  - ⇒ Inclusiveness and Collective action
  - ⇒ Mutual learning

For more information, please refer to ACF Policy on Partnerships (2010).

### 15.2.2. Assessing the capacity of the potential partner(s)

The strengths and weaknesses of any potential partners, including their technical capacity, financial sustainability, organizational sustainability, etc. should be assessed at this stage. The same should of course be done in parallel of the surveillance team in order to define the potential added value of a partnership.

### 15.2.3. Establishing a formal protocol and precisely defining the rules and roles

This formal protocol (sub agreement) has to be extensively discussed with the partners before final agreement.

In the case the partnership implies that both partners are part of the data collection, **the protocol should clearly state:**

- The type of data to be transmitted
- When, how often, and how it is to be sent (fax, electronically or disk).
- The software to be used
- The entity responsible for sending the data.
- Limitations for data use (including acknowledgement, issues of data ownership and conditions for sharing the consolidated data with third parties).
- What the recipient may give to the data provider (e.g. reciprocal access to databases, material support, copies of publications, etc.).

For the **field data collection**, the data will need to be collected using a common sampling frame, and using common data collection tools (questionnaires, guides...). The data collection team will have to follow the same training, in order to ensure that they share the same language and understanding of the FSL surveillance aim, principles and methodologies.

For the **data entry**, technical compatibility needs also to be ensured:

- There is a need for common standards to ensure that data from different sources can be integrated: the use of the same software packages and spreadsheets will be important for having a common database and avoid risks of processing delays and use of extra time and resources.
- The methods and tools used for data management should be harmonized: for instance use the same rules for coding each record.

**Data analysis** should not be divided among different systems. This may result in giving inconsistent or contradictory messages to decision makers. Defining the recommendations may be done by all partners through an appropriate workshop, where the findings of the data analysis are shared and discuss, and recommendations are proposed and validated by the group.

## 16. FOR A MANDATORY “BASIC FSL SURVEILLANCE PACKAGE”

Wherever there is an ACF FSL team, a basic FSL surveillance system should be in place:

### **Purpose of a FSL Surveillance System**

- To better understand the development and actual FSL & nutritional situation in the area of ACF coverage (or in the whole country?)
- To foresee the potential occurrence of a food/livelihoods crisis and provide ACF the time and opportunity to design, prepare and implement a response.

### **Primary Goals**

- To have a basic, easy, flexible, system that is sensitive and adapted to seasonal trends and that is also sensitive to the nutrition situation.
- To allow the preparation of actions and special activities in the case that the data indicates a deteriorating situation (e.g. they are going red!).

### **Potential activities**

- Together with the other ACF technical departments, design a table with: a) the indicators to follow, b) justification as to why they are valid, c) sources of data and means/methods of collecting the indicator variables.
- Define how to report them
- Define what to do in the case of the deterioration of the FSL situation (together with HoM/logistician/admin? As part of the contingency planning? As part of the mission strategy?)
- Define when to revise the indicators (their effectiveness/the development of the context/ the evolution of the ACF mission...)

*Field example 47: MSF Niger basic surveillance 2007*<sup>32</sup>

MSF Spain in Niger did not have FSL competences within its team (nutrition & health intervention). However to have a basic situation follow-up, a FSL consultant designed a basic system, the answer to a deterioration of the situation being “ask your HQ to send a FSL specialist for in depth assessment”. The following indicators were defined for the pastoralist livelihood.

Which indicator?	Why?	Where find the info?
Millet price: follow its evolution and see if its becomes abnormal (millet "tia">600-700 = access problem is critical)	Because the millet consumed is bought or exchanged, they do not produce any and are highly dependant on the cereal prices	Already gathered by the team Prices to be followed at national level (SAP, ACF, other MSF sections)
Availability and prices of staple food in the sub-region = millet, maize, gari (cassava flour), rice	Because staple food availability and prices are not fixed in Niger but in the subregion (millet in Nigeria, Maize in the coastal countries)	SAP, CCA, ACF
Sale price of livestock	Because main cash source for those HH	SAP, SIMB, Livestock Administration
Major livestock disease	Because main source of cash, food and capital for those HH	SAP, SIMB, Livestock Administration
Fodder availability in the North	Because major constraint for livestock	Livestock administration, ACF, SAP, SIMB, Fulla and Touaregs groups chiefs, AREN (Niamey), Préfets
Transhumance movements, nomads itineraries	Because if abnormal, indicate a problem (pasture land not available, insufficient fodder in particular in the northern areas) and will cause problems (livestock will create damages on the staple crops => potential harvest losses and high risk of violent conflict)	Livestock administration, ACF, SAP, SIMB, Fulla and Touaregs groups chiefs, AREN (Niamey), Préfets
Terms of trade livestock/ millet: “normal” or not? (price raises at Tabaski time, price decreases when food gap)	Because animals are sold during the hunger gap for buying millet Because if the livestock sale prices decrease dramatically, indicated a critical decapitalisation of the breeders, and also of the majority of the farmers in the area (livestock = farmer’s capital)	Already gathered by the team Prices to be followed at national level (SAP, ACF, other MSF sections) Ask the Livestock administration if the trends are “normal”

*Field example 48: Basic Surveillance in Afghanistan (2010)*

Since the ACF FSL team is facing significant operational constraints (volatile security situation, limited field access, frequent natural hazards and high seasonal incidence), and that it has limited capacities and resources to implement a proper surveillance system in the field, even though it is essential, a basic tool has been created to have a minimum understanding of what is happening if the FSL field.

The tool, called “**micro surveillance tool**”, uses Excel and contains two different sections: FSL indicator matrix and Market follow-up.

1. **The matrix:** It contains two spreadsheets:

a. One “guidance matrix” which lists a set of FSL thematic indicators (security, climate/weather events/population movements/ market/ water availability/ crop cultivation and harvest/ livestock/ HH diet/ HH coping strategies), arranged in a timeline which shows the normal or most likely evolution of each subject throughout the year.

b. The same matrix, but empty, which is to be filled with relevant information according to the guidance document. It should consider the questions rose in the “guidance matrix”.

<sup>32</sup> Daudet, 2007, « Le traitement de la malnutrition, et après ? Éléments de causalité, perception du traitement et insécurité alimentaire Bouza et Madaoua, région de Tahoua, Niger ». MSF-Spain, external report.

## 2. Market follow-up

This market monitoring looks at raw prices of livelihoods and FS basic items, their availability, and relevant ToTs. Raw prices and availability scores only are entered; price means, ToTs, and graphs are developed automatically. Some space is left under each graph to add on comments about trends and evolutions.

The complete tool is updated once a month and sent to the Coordinator together with the monthly report. Main highlights are incorporated into the monthly report narrative.

### KEY POINTS ON “FSL Surveillance systems in Practice”

Concretely, you will **have several steps of data collection** when setting up your surveillance system:

1. General assessment of your context, in order to (i) define your indicators: what do you want to follow & what could be a good proxy? (ii) structure your target population (e.g. Food Economy Zones and population typology)

2. Baseline construction: to understand the future evolution of your key dynamic indicators, you will need to know (i) the normal level of each dynamic indicator, its seasonal evolution, and the appropriate thresholds (when is the indicator “good”, “average”, and “bad”) (ii) the value of each static indicator (e.g. population figures) and (iii) the specificities of each sentinel site

3. Regular data collection: to follow the trends, you will need indicators at different scales (individual – household – community – FEZ – Region – Country) and from different sources (triangulation)

-Your **indicator set** has to:

-Be easy to collect and analyse

-Be defined according to the objective of the system

-Be a good proxy of the issue you want to measure (e.g. food access, level of undernutrition...)

-Integrate shocks, trend and seasonality

-Have a measured baseline (“normal” level of the indicator, and “normal” seasonality)

-Have clear thresholds

-Measure trends and evolution

-Be able to predict and foresee the probable evolution of the situation

-Be decision and action orientated

-Comprise different scales & different type of indicators, for cross-checking and data analysis

-Your surveillance system has to follow the general project standards: **based on a LFA** (with precise definition of your objectives and OVIs), following a proper PCM, and with **appropriate M&E**. Your Monitoring & Evaluation will be important for making your system **flexible and reactive to a change** of the environment.

-There is **no “standard” or “ready-to-use”** surveillance system: a good surveillance system is a system answering to its objective and filling its function in a specific context. **Innovation and creativity** are key for adapted and performing surveillance system: do not censure yourself!

-Surveillance should be **fully part of any ACF FSL project**, for (i) proper M&E of the FSL activities and (ii) reactivity in case of deterioration of the FSL situation.

## Conclusion: Key lessons learnt for successful surveillance systems

It is important to set aside sufficient time at the design stage to have a clear **Logical Framework Analysis** from the start:

- The objective and results will define:
  - the information that needs to be collected
  - the stakeholders that need to be sensitized: do not hesitate to work with them from the design stage for them to read your future reports (ranging from formal partnership to light coordination)
  - the periodicity of the data collection and data reporting
  - the dissemination plan of the data (written and oral)
- The Objectively Verifiable Indicators of your project LFA will ensure a proper M&E of your surveillance system, for it to be able to evolve according to the recommendations stemming from the monitoring in place.

**The “good enough” rule:**

- It is better to have a good report in time than a perfect report 3 months late
- It is better to have a short report which is read than a detailed report too long to be opened
- It is better to have a limited number of indicators that can be effectively collected, than an extremely complete set of data collection tools that will need 2 full months of data collection.
- In case of exceptional work overload, it is better to discard one round of data collected, than to have to wait for four month between the time of the data collection and the date of the report.

**Know the context** prior to designing your surveillance system:

- It will be impossible to choose the best indicator to follow the development of the context, without a good qualitative knowledge.
  - Once the indicators have been defined (and your sentinel sites, if any), create a detailed baseline including:
    - Reference value of each indicator (normal year/ good year/ bad year)
    - Seasonal calendar and seasonal evolution of each indicator
    - Specificities of each sentinel site (if any)
- Without this detailed baseline, data analysis will be extremely difficult.

**Be aware of data sensitivity**, which can be highly context-specific, in order to respect the “do no harm” principle.

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