Abstract

Information on nutrition provides us with one of the few means of evaluating the overall well-being of the population and the extent to which they have been affected by a particular crisis. Using the broader definitions of food security, information on nutrition prompts an analysis that goes beyond the issue of food availability and makes close interaction among sectors inevitable and possible. Understanding information on nutrition supports us in evaluating our concept of ‘normal’ food security and allows us to monitor the impact of crises as well as the interventions designed to address them.

This paper examines the nutrition information systems in Somalia, Sierra Leone, Eritrea, Ethiopia and Afghanistan as well as Kenya. Although the case studies emphasise the nutrition component of information systems, these are examined in the context of the food security and other sectoral information systems existing in each country. Recognising that the six countries studied are at various stages and levels of crisis, a number of similarities were seen and lessons drawn from their experiences.

The paper examines the extent to which existing nutrition information systems served the needs of humanitarian organisations during periods of crisis and suggests that in general the systems lack adequate coverage, are weakest in the areas of greatest need or simply collect information that is not adequate to inform decision making. The paper also examines the nature of investment in nutrition information systems during periods of crisis and discusses the failure in many instances to invest in longer term systems even in countries that are recognised to be prone to extremely serious periodic crises in food insecurity.

In an effort to support future discussion on more effective and efficient nutrition information systems, the issue of promoting intersectoral analysis is introduced. The efforts of some countries to achieve greater collaboration are described in a series of case studies. Finally, the paper emphasises the need to develop a better understanding on the information needs of a wide range of partners as the essential first stage in the development of stronger nutrition and food security information systems.
1 Background

FAO has promoted the exchange of experience between food security and nutrition information systems in order to develop and disseminate appropriate normative approaches and methodologies. The experience generated through the FAO/Food Security Assessment Unit (FSAU) in Somalia, has prompted an examination of systems in other countries experiencing crises and promoted the exchange of experiences in Sierra Leone, Eritrea, Ethiopia, Kenya and Afghanistan. Based on these experiences, this paper describes common features of existing systems and suggests an approach that might be considered in the effort to ensure that appropriate information systems are in place to support decision making in countries prone to and experiencing crises.

2 Introduction

Information on nutrition provides us with one of the few means of evaluating the overall wellbeing of the population and the extent to which people have been affected by a particular crisis. Using the broader definitions of food security, information on nutrition prompts an analysis that goes beyond the issue of food availability and makes close interaction among sectors inevitable and possible. Understanding information on nutrition supports us in evaluating our concept of ‘normal’ food security and allows us to monitor the impact of crises as well as the interventions designed to address them.

Measuring the nutritional status of young children during a period of crisis is merely a tool in evaluating the welfare of the entire population. Deterioration in the nutritional status of young children can of course increase both mortality and morbidity and so specific measures must be taken to respond to this, however, an understanding of the reasons for the effect of the crisis on a particular population is significantly more useful in the longer term. A focus on nutrition within a multisectoral system for data collection and analysis promotes less focus on the nature of the crisis and more on understanding the impact on the population.

Recognising that information systems at the beginning of a crisis are rarely adequate to serve the needs of either government or humanitarian organizations, systems in Somalia, Sierra Leone, Eritrea, Ethiopia, Afghanistan and Kenya were examined. Although the study focused on the nutrition information systems, these were examined in the context of the food security and other related information systems in each country.

The paper examines the extent to which existing nutrition information systems served the needs of humanitarian organizations during periods of crisis and describes the nature of investment in nutrition information systems. Drawing on the experiences of the countries studied, a number of issues are introduced that can be used to guide further discussion.

3 Study description

Between September 2002 and April 2003, the nutrition information systems in six countries were examined. Five of the countries visited (Somalia, Afghanistan, Eritrea, Ethiopia and Sierra Leone) had experienced recent civil unrest and serious food insecurity but the case of Kenya was also included to provide an illustration of a more stable country also facing challenges in supporting a functional nutrition and food security information system during periods of crisis.

This study involved an examination of information systems that monitored actual nutritional status of children under the age of five as well as the other sources of information utilized to develop an understanding of the influences on nutritional outcome. All countries had been affected by crises of varying degrees of severity and duration and a number of similarities were noted.
Using the FIVIMS ‘Conceptual Framework for Understanding Possible Causes of Low Food Consumption and Poor Nutritional Status’ as a broad guide, information systems were examined in relation to their effectiveness in providing the information required by decision makers during the periods of crisis.

Although food security information systems are now becoming more sophisticated in many countries, nutritional outcome remains a critical indicator for humanitarian organizations in considering the actual welfare of the population. Therefore, in each country, the study analysed the primary and accessible sources of information, the relevance and quality of the information, the links between the various information systems and the ultimate utilization of the information by the key actors.

4 Nutrition and food security information systems in crisis-prone countries – outside times of crisis

4.1 Overview of current systems

A number of sources of information on nutrition are available in all countries, some systems following international standards and supported by external resources and others established around local institutions.

- In all six countries, UNICEF had undertaken or planned to undertake regular Multi Indicator Cluster Surveys (MICS). These surveys use common standards and the indicators are comparable with those in other countries. Indicators on factors affecting the welfare of women and children are measured in addition to anthropometric measurements on children. This provides a very valuable source of baseline data on each country. Afghanistan’s study is planned for 2003 whereas all other countries visited were on track with the routine two-yearly study.

- A second potentially useful source of information on factors affecting nutrition and food security at household level is the Demographic and Household Study (DHS) which also uses common indicators, collects anthropometric data and receives external support from organizations such as UNFPA or UNDP. Undertaking this study in countries in crisis has been more difficult.

- Countrywide nutrition surveys (anthropometric data) have been undertaken periodically in the more stable countries to provide a national malnutrition rate. Occasionally it is possible to disaggregate this information to show differences per region but usually the sampling methodology does not allow this. Access and resource limitations reduce the chances of this kind of information being available in countries experiencing crisis, for example in Somalia and Afghanistan it has been impossible.

- The other (potential) significant source of information on nutrition is the existing government-run health facility based surveillance systems which are available in various forms in all six countries. These systems have been established in the past with various adaptation of the ‘growth monitoring’ (Road to Health) activity. In all the countries visited, these systems typically operate with very meagre resources and are generally not considered high priority activities. This can be seen in the lack of availability of even the most basic records in almost all countries visited. While this is understandable in Afghanistan where health services for women and children were clearly
a low priority for the previous government, it is more surprising in Ethiopia where the involvement of international organizations, particularly in nutrition and food security, has been quite substantial for the past ten years.

The systems are generally based on summaries of data from 'growth monitoring' systems or from routine weighing during such activities as vaccination and all use the weight/age indicator. They are typically based within the Ministry of Health. Collection of data is undertaken through health facilities but health facility personnel are usually not involved in analysing or interpreting the information they collect. Significant weaknesses existed in the systems in all countries visited and in general none of the facility-based nutrition surveillance systems were producing information of good quality and appropriate to the crisis-prone areas in which they were located. Some of these weaknesses included: (i) little if any feedback of information to information providers; (ii) data moved from provider to central level where the activity usually stopped; or (iii) data usually 'analysed' only at central level and analysis tending to consist of summaries only. Few of the countries had access to computers for data management and this was particularly striking in Kenya whose system has been maintained for years with the knowledge that little if any useful information is being generated.

In addition to these government-based systems, area-based food security and nutrition information systems supported by individual NGOs or projects can be seen in most countries. These have been established to enhance the quality of individual projects and frequently use state-of-the-art methodologies in monitoring, analysing and utilizing the information. They are neither designed nor intended to support a countrywide or sustainable information system. Examples are the Save the Children project areas of Ethiopia; ACF in Sierra Leone and the Arid Lands Resource Management Project in Kenya.

Some countries have information systems that concentrate on previously identified 'vulnerable areas'.

4.2 Mechanisms for sharing, analysis and utilization of information

In general, mechanisms for the inter-sectoral sharing of and analysis of countrywide information are not in place in most countries outside times of crisis. Information on nutrition is typically collected by the health sector whereas information on food security indicators tend to concentrate on food availability and the information tends to remain within the ministries of Agriculture, Livestock or Trade or the Central Statistics Office etc.

Where isolated, project-based information systems exist, analysis tends to be intersectoral and the information tends to be managed by that project with little formal involvement of government structures. Little if any convergence of the two systems usually occurs.

4.3 Analysis of systems outside times of crisis

Government-run nutrition information systems, based in health facilities, were generally weak, collected information only on chronic malnutrition, and did not transmit the information regularly or ensure efficient data entry. Very often, data was summarized routinely but was
then hardly used. In general, data remained within the health sector and little or no use was made of it by those producing the information at health facility level.

The MICS and DHS surveys provide very useful information on a national level and aim to present information by administrative area allowing comparisons to be made and vulnerable areas of the country to be identified. On the other hand, these surveys are undertaken every two to three years and so will detect crude changes over a period of years when the issue of interest during a crisis involves the extent of change over a short period of time. Information is also likely to be presented in major administrative boundaries which will not be sufficiently detailed to identify specifically vulnerable populations.

The most crisis-prone areas of a country are often also the areas with the least developed infrastructure or the areas that are most inaccessible due to insecurity. Consequently, the nutrition, food security and other relevant information emerging from these areas is generally of poorer quality and therefore less useful.

In general, longer term food security information tends to concentrate on food availability and nutrition information systems focus on anthropometric data. Information on these two issues individually cannot provide the information required to understand the dynamics of a country in crisis that ultimately impact on the overall welfare and nutritional status of a population. Sharing and analysis of information on food security and nutrition among the sectors is weak if it exists at all.

Use of information outside times of crisis is used for a number of purposes with governments utilizing both food security and nutrition information as part of their core statistics for monitoring at national level through the central statistics offices. International organizations such as FAO, UNICEF and WHO also use this information for monitoring country progress on a global level. Individual organization actively utilize data for project monitoring purposes. There is less evidence that outside times of crisis, information is utilized for the type of analysis that could lead to better planning and mitigation during periods of crisis.

5 Information systems in crisis-prone countries – during a period of crisis

5.1 Overview of common systems

All the countries included in this study had recently experienced or were experiencing a serious crisis in nutrition and food security. During this crisis, additional nutrition and food security information systems had been established to serve short-term information needs. The rationale behind this was that the existing systems could not (a) provide information on acute malnutrition, (b) identify if significant change had occurred in a short period of time, (c) identify particular vulnerable populations for the purpose of targeting or (d) monitor the impact of interventions. A number of common characteristics were documented as follows:

- During the period of acute crisis, the priority is to obtain the best quality information as quickly as possible and to support the decision making of international organizations and government where it functions. Therefore nutrition and food security information systems tend to focus on short-term information needs of humanitarian organizations during the prevailing crisis.

- A key issue of interest during the acute crisis is the collection of information which will assist in the identification of pockets of acute vulnerability.

- Qualitative nutrition information during periods of crisis focuses on indicators of acute (recent) malnutrition using weight for height indicators or measurement of mid upper arm circumference to indicate levels of wasting in the population.

- During periods of crisis, the use of nutrition surveys intensifies, utilizing the significant
human and financial resources of international organizations.1

- Food security information systems are established utilizing more sophisticated methodologies such as Vulnerability Assessment Mapping or Household Economy Analysis.

- Heavy investment of external funding on assessments, studies and surveys is utilized during the crisis with a strong reliance on external expertise.

- Information and especially raw data leaves the country during or immediately after the crisis.2

- Organizations in general support information systems and surveillance only in specific areas which have encountered crises and are considered more vulnerable, excluding assessment or analysis for other areas.

5.2 Design of information systems during the crisis period

In response to the unavailability of adequate information, separate systems have been established to serve short-term needs. Although many humanitarian organizations acknowledge a desire to build a new system to complement an existing system, with a longer-term focus, this rarely occurs because the immediate needs are too critical and cannot be sacrificed to allow the time for longer-term development issues. As a compromise, some superficial links are established between short-term and longer-term information systems but basically the systems run parallel.

Ultimately, the shorter-term (higher standard) information system tends not to be maintained after the crisis and insufficient thought is given to information systems until the next crisis approaches. The next crisis results in the same scenario again. Ethiopia is a good case in point. Longer term viability or sustainability of such a system is not usually a priority for international organizations with an emergency focus.

Examining information around the crisis period tends to diminish the accuracy with which the effects of the crisis can be measured. This is particularly relevant in the case of nutrition surveys which tend to be undertaken by international organizations in areas considered particularly vulnerable or affected and during the time of the crisis. Baseline information is usually not available and therefore the actual impact of the current crisis cannot be accurately evaluated. In Somalia, where baseline malnutrition rates are consistently high, ongoing monitoring with surveys outside times of crisis allows an analysis of the effects of crisis along with the even more serious causes of high baseline rates.

With the heavy investment of donor funds during a crisis, design of information systems is still very heavily reliant on the information needs of humanitarian organizations. Organizations are usually under pressure to identify priority areas for intervention and subsequently have to ensure that systems are in place to monitor the effectiveness of those interventions. International organizations commonly have the most prominent role in the design of the system on the consequent analysis and decision making.

During each period of crisis, substantial investment is made by external actors in assessing and analysing the nutrition and food security situation using significant resources and external expertise. Unfortunately, these systems run in parallel to the government systems, rarely cover the entire country and invariably collapse when the crisis is perceived to have passed. Unfortunately for many countries, these crises will reoccur and therefore international organizations need to recognize the need to ensure that governments are supported to develop and maintain information systems that serve both long- and short-term needs and ensure countrywide coverage.

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1 A nutrition survey can cost around US$10,000 although the inclusion of external expertise can increase this amount very significantly.
2 A good example is the complete unavailability of raw data from nutrition surveys at government level in all countries studied.
Even within a protracted ‘complex emergency’ such as Somalia, periods of lower level crisis exist which present opportunities to examine information needs and to adapt existing systems to meet those needs more efficiently.

In general, information availability during a period of crisis concentrates on a short period of time around the crisis. Whether the crisis is related to conflict or not, useful analysis is impossible in the absence of the longer term perspective.

5.3 Intersectoral sharing and use of information

Outside times of crisis, few systems exist for the routine sharing and analysis of nutrition and food security information among the different government sectors. This presents an inherent challenge in utilizing the information for decision making. The level of understanding of cross sectoral issues and their relationships requires substantial development, particularly among the technical personnel in the ministries of health and agriculture.

During periods of crisis, sharing of information is most frequently undertaken among international organizations during monitoring and evaluation exercises and is used in decision making related to emergency programme interventions. With the significant amount of information available during periods of crisis, substantial potential exists for the development of longer-term systems for a coordinated approach to the sharing and analysis of information related to nutrition. Organizations in many sectors have expressed a strong interest in developing more sustainable systems of monitoring nutritional status and food security.

In both Ethiopia and Afghanistan, FAO and WFP play significant roles in the collection and analysis of information on food security. UNICEF collects and analyses information on nutrition, health, water and sanitation. During the initial analysis of the collection and use of information in both countries, insufficient technical support was available for the ongoing analysis of all available information to enable either vulnerability analysis or optimal design of effective interventions.

In all countries included in this study, a number of common features emerged related to coordination of nutrition and food security information systems, these involved:

- A very high level of commitment towards the sharing of information expressed by international organizations i.e. an awareness of this issue certainly exists.
- Consensus that greater interaction among sectors is essential but difficulties exist in identifying how this can be achieved.
- Even among international organizations, technical support was required for the actual analysis and interpretation of food security, nutrition and health related information for a more coordinated programme design.
- A desire for consistent conclusions to emerge from the various assessments.
- A sincere interest and willingness to participate in joint assessments.
- Willingness to be flexible in their current assessment approach. In all countries, WFP demonstrated a high level of flexibility in its willingness to adapt the VAM system to respond to the specific information needs.
- A desire to have standard assessment methodologies for use by all organizations. When possible, this methodology would include issues related to food security, livelihoods and nutrition.
Towards more effective nutrition and food security information systems in crisis-prone countries

Acknowledging that the existing systems in most crisis-prone countries fail to meet the information needs during times of crisis, a realistic objective for these countries could be defined as: the development of sustainable, countrywide systems that serve both short- and long-term information needs.

Such a system might consider the following issues:

- Systems to be established within country-based structures – ideally within a government (where available and amenable), although the commitment of the governments to the establishment, maintenance and use of such information systems is probably lower in the countries of greater need.

- With the investment of substantial resources utilized in information collection during periods of crisis, when humanitarian assistance is at a peak, the sustainability of systems in the absence of these extraordinary resources needs consideration. Advocacy is required for longer term commitment from donors (this can be a particular challenge in a country that has been categorized as being in a ‘complex emergency’ as much of the allocated donor budgets focus on very short term funding cycles).

- The system needs to be transparent and utilize standard and easily understood methodologies of data collection and analysis.

- **Countrywide cover** needs to be considered. Concentrating on traditionally vulnerable areas excludes the possibility of relevant comparisons.

- No prescribed overall system or methodology should be imposed or accepted – each country will need to design a system to suit available resources, existing system, needs etc.

- Accept that in crisis-prone countries, some trade-offs and compromise will be necessary (relevant when modelling on any state of the art methodology or system). Acceptable and unacceptable trade-offs need to be acknowledged.

Information needs in crisis-prone countries

The main objective of information collection during a period of crisis is to enable the various actors to undertake an evaluation of the effects of that crisis on the population. By identifying the extent and nature of the effect and where the most affected populations are located, humanitarian organizations can begin the process of designing appropriate interventions. Without an understanding of the situation prior to the crisis, humanitarian organizations have
little choice but to use international standards as their main reference point. This alternative is less than ideal.

8 Functions of a food security, livelihoods and nutrition information system

The ultimate impact of food insecurity, poor health and the wide range of socioeconomic and cultural influences on a population can most efficiently be monitored by observing changes in nutritional status. Through a deeper understanding of the relationship among these factors, the effects of a strength or weakness in one area on another can be identified. Subsequently, designing interventions that are based on more comprehensive analysis will be more likely to have an impact on the overall welfare, and therefore nutritional status, of the population.

In countries prone to crisis, the use of good information systems in decision making will enable interventions to be designed that aim to reduce vulnerability to future crises. Many crisis-prone countries are experiencing dynamic shifts in livelihoods and an understanding of these influences will help in providing direction to policy makers, ultimately having the potential to shape the future outlook for the country’s population.

9 Challenges in the design of more effective nutrition and food security information systems

9.1 Understanding information needs

A variety of expectations exist in relation to the types of information required (as in the demand for more nutrition surveys in most countries) and a responsibility exists within each sector to articulate the meaning and relevance of the various indicators available. The need to move beyond quantitative indicators where appropriate, and to examine qualitative data more critically, is recognised by some but not all organisations. Developing this understanding of the relevance of various types of information will help to differentiate between real gaps in information and expectations. This will ultimately lead towards a determination of the real information requirements of the various players.

Despite the high level of interest in nutrition, appropriate information is also scarce. As described earlier, anthropometric data is often not available and so more comprehensive and useful information might be achieved through studies of the prevalence of micronutrient deficiencies, an understanding of diets, seasonality issues related to food availability and access and information on the nutritional value of foods that have been preserved, stored and reconstituted using traditional methods.

9.2 Viability of systems

The review has highlighted the failure of many existing food security and nutrition information systems in crisis-prone countries to provide the type of information required during times of crisis. These systems are usually curtailed by inadequate financial and technical resources. More effective information systems in use during crisis periods require the investment of substantial resources but often run in parallel to the existing systems. Systems established during periods of crisis are unable to undertake longer term analysis of underlying factors and vulnerability as comparable historical data is unavailable.

During periods of crisis, in particular those related to food insecurity, political instability and population movement, it is likely that significant external support and resources will be
available. The information needs of international organizations that invest significant resources in the country are high in order to target the resources efficiently, monitor and evaluate their interventions and remain accountable to their donors. On the other hand, this presents unique opportunities to invest resources and technical expertise in the development of establish longer-term information systems.

It is unrealistic to expect that efficient information can be maintained without continued resource investment. This investment is required to ensure quality control and reliable analysis. Advocacy with donors is required to ensure that longer term funding commitments are made available.

9.3 Human resource capacity

The lack of support to human resource development is one of the greatest missed opportunities in all countries visited. During periods of crisis, the reliance on external expertise in assessment and analysis is quite substantial. International staff employed for the duration of the emergency have little time to think of sustainability – which inevitably requires an in-depth understanding of the country and its existing systems. The frequent turnover of external experienced staff in emergency situations is an additional significant constraint – most of these staff will not be in place for the period required to establish a sustainable system and it is unlikely that any of them will return for the next crisis to observe the consequences of the previous short term approach. While staff in crisis-prone countries usually receives training, much of this involves skills that relate to project implementation whereas the skills required in assessment, analysis and management are frequently not a priority.

Most of these countries have no relevant third level courses in nutrition and even in Kenya, which offers courses in nutrition up to Masters Degree level, no component is offered on food security and nutrition information systems, nor is emergency nutrition a component in any of the courses. The handful of national staff with relevant skills tend to move in the non-governmental sector and rarely return to work with the government where the longer term systems need to be established. The need for training in nutrition has been recognised in all countries. Apart from formal training, it is clear that partners in government ministries require ongoing support to facilitate their meaningful participation in discussions with other sectors.

9.4 Use of the available information for the design of interventions and policy development

During periods of crisis, most organizations use the available information on food security and nutrition to support targeting of short-term interventions, in particular the distribution of food aid, selective feeding programmes and the provision of seeds and tools. The design of longer term interventions will involve a broader analysis of food security and nutrition information. In all countries studied, further support is required in order to utilize the information for the development of relevant nutrition and food security policies. Much could be achieved using currently available information such as determining seasonal unavailability of essential components of the diet and the development of food-based approaches to addressing these.

10 Conclusion

An understanding of factors influencing nutrition prompts a far more detailed examination of food security, health and care practices. Nutrition provides an area of common interest for players in all sectors and the use of nutritional status as one of the most useful indicators of the welfare of the populations in countries experiencing crisis is likely to continue.

In general, current information systems in the countries studied lack adequate coverage, are weakest in the areas of greatest need or simply collect information that is not adequate to inform decision making. This study documents the failure in many instances to invest in
longer term systems even in countries that are recognised to be prone to extremely serious periodic crises in food insecurity.

In an effort to support future discussion on more effective and efficient nutrition information systems, the issue of promoting intersectoral analysis is introduced. This paper emphasizes the need to develop a better understanding on the information needs of a wide range of partners as the essential first stage in the development of stronger nutrition and food security information systems.

While a level of commitment exists among organizations to strengthen information systems in crisis-prone countries, investment in human resource capacity development is essential as is funding commitment for the maintenance of more effective information systems.

The existing gaps between information needs during and outside times of crisis need to be identified and addressed. Although this ideally needs to be undertaken outside times of crisis, opportunities exist during periods of crisis when availability of resources is high.