THE PRACTITIONERS' GUIDE

TO THE HOUSEHOLD ECONOMY APPROACH

rhvp
Regional Hunger and Vulnerability Programme

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The Food Economy Group

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Tanya Boudreau, of F.E.G, compiled and edited the **Practitioners' Guide to HEA**. She could not have completed this task without the enormous input and help of the main contributing authors: Mark Lawrence, Penny Holzmann, Michael O'Donnell, Lesley Adams, Julius Holt, Laura Hammond, and Arabella Duffield.

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The Real Heroes

This guide and toolkit would not have been possible were it not for the many international and national fieldworkers who have spent long weeks and months in the field talking to villagers and key informants and diligently pulling out the story of poor peoples' lives from the data. They have pioneered new ways of obtaining and analysing HEA data in order to find the best way of helping the people they talk to. This guide is a product of their labours.

Finally, to the thousands of household members, district officers, and traders who have given so many of their precious hours so that we may better understand their lives: we hope this Guide helps to fulfil the tacit promise that is made in exchange for all those hours - that a better understanding will lead to actions that improve their lives.

About RHVP

RHVP is a regional programme working primarily in six southern African countries[1] to improve short- and longer-term responses to hunger and vulnerability. It is funded by the UK Department for International Development (DFID) and Australian Aid (AusAid). It provides support to policy makers and practitioners, working with international, regional and national partners to maximise impact.

[1] Lesotho, Malawi, Mozambique, Swaziland, Zambia and Zimbabwe

ABBREVIATIONS

AAH	Action Against Hunger
CAP	Consolidated Appeal Process
CCZ	Consumer Council of Zimbabwe
CFSVA	Comprehensive Food Security and Vulnerability Assessment
DFID	Department for International Development
DRC	Democratic Republic of Congo
EPA	Extension Planning Area
FAO	Food and Agricultural Organization of the United Nations
FEG	Food Economy Group
FEWS NET	United States Agency for International Development (USAID) Famine Early Warning System
HEA	Household Economy Approach
IDS	Institute of Development Studies
IHM	Individual Household Model
LZ	Livelihood Zone
MVAC	Malawi Vulnerability Assessment Committee
NGO	Non-Governmental Organisation
ODI	Overseas Development Institute
PPA	Participatory Poverty Appraisal
REST	Relief Society of Tigray
RRA	Rapid Rural Appraisal
RHVP	Regional Hunger and Vulnerability Programme
SADC	Southern Africa Development Community
SC UK	Save the Children UK
SENAC	Strengthening Emergency Needs Assessment Capacity
SLF	Sustainable Livelihoods Framework
VAC	Vulnerability Assessment Committee
USAID	United States Agency for International Development
WFP	United Nations World Food Programme

GLOSSARY

Analysis spreadsheet	A spreadsheet used to carry out the **outcome analysis**. There are two types: the *single zone spreadsheet* used to prepare scenarios for a single livelihood zone, and the *integrated spreadsheet*, used for the analysis of larger geographical areas of up to 12 livelihoods zones.
Baseline	The quantified analysis of sources of food and income and of expenditure for households in each wealth group over a defined reference period.
Baseline storage sheet	A spreadsheet that enables field teams to enter, check and analyse individual interview data in the field, and to analyse and summarise field data during the interim and final data analysis sessions.
Chronic food insecurity	A household is chronically food insecure when it consistently fails to meet its minimum energy requirements.
Coping capacity	The capacity of households to diversify and expand access to various sources of food and income, and thus to cope with a specified hazard.
Hazard	A shock such as drought, flood, conflict or market disruption which is likely to have an impact on people's livelihoods
Household	A group of people, each with different abilities and needs, who live together most of the time and contribute to a common economy, and share the food and other income from this.
Household economy	The sum of ways in which a household acquires its income, its savings and asset holdings, and by which it meets its food and non-food needs.
Livelihood protection threshold	The total income required to sustain local livelihoods. This means total expenditure to: (i) ensure basic survival (i.e. all items covered in the **survival threshold**) (ii) maintain access to basic services e.g. health and education (iii) sustain livelihoods in the medium to longer term e.g. purchase of seeds or veterinary drugs, and (iv) achieve a minimum locally acceptable standard of living e.g. purchase of basic clothing or coffee/tea.
Livelihood zones	Geographical areas within which people share broadly the same patterns of access to food and income, and have the same access to markets.
Outcome analysis	An analysis of how access to food and cash for each **wealth group** will be affected by a defined hazard, and of the extent to which other food or cash sources can be added or expanded, or non-essential expenditure reduced, to make up the initial shortages.
Problem specification	The translation of a **hazard** such as drought into economic

	consequences at household level.
Projected outcome	A quantified estimate of access to food and cash, taking into account the shock and household responses to it, in relation to a **survival** and **livelihoods protection threshold**.
Reference period	A defined period (typically 12 months) to which the **baseline** information refers, needed in order to analyse how changes in the future (in production, for example) can be defined in relation to the baseline.
Risk	The likelihood of a particular outcome, such as unusual hunger or food insecurity
Scenario outcome	A quantified estimate of access to food and cash arising from an **outcome analysis**, taking into account the effects of the hazard and household responses to it, for each of the **wealth groups**.
Seasonal calendar	A graphical presentation of the months in which food and cash crop production and key food and income acquisition strategies take place, also showing key seasonal periods such as the rains, periods of peak illness and the hunger season.
Survival threshold	The total food and cash income required to cover the food and non-food items necessary for survival in the short term. It includes (i) 100% of minimum food energy needs; (ii) the costs associated with food preparation and consumption; and (iii) where applicable, the cost of water for human consumption.
Vulnerability	People are vulnerable to particular hazards if they are expected to be unable to cope with a defined **hazard**; for example, they are vulnerable to crop failure if such a hazard is likely to reduce their access to food or cash below a defined threshold.
Wealth breakdown	The process by which people within a **livelihood zone** are grouped together using local definitions of wealth and the quantification of their assets. The level of division depends on how the community view their society, and the purpose of the analysis.
Wealth group	A group of households within the same community who share similar capacities to exploit the different food and income options within a particular **livelihood zone**.

INTRODUCTION TO THE GUIDE

About the Toolkit

The Toolkit, of which the **Practitioners' Guide to HEA** makes up one component, was developed in order to assist the RHVP in its objective of strengthening the capacity of government and national and international non-governmental organisation (NGO) staff to undertake accurate, reliable and relevant vulnerability assessments and analyses in southern Africa, especially within national Vulnerability Assessment Committees (VACs) and the Southern Africa Development Community Regional VAC (SADC-RVAC). It is hoped that the toolkit will improve the quality of analysis upon which response decisions are made and help to identify, design and implement effective measures to increase the resilience of households in the region.

Guidance on the Household Economy Approach (HEA) has to date been provided by the manual *The Household Economy Approach – A resource manual for practitioners*, produced by SC UK in 2000, and by resources and training materials produced since then by F.E.G. and SC UK. The HEA Toolkit aims to bring together and consolidate this considerable volume of material and to provide an up-to-date guide to the approach, to its use in the field and to its application for particular purposes

The toolkit comprises three elements:

1. *A Guide to HEA*: this is targeted primarily at those who are involved in using assessment results to inform decisions on response and to assist in programme planning. It aims to help policy makers and programme planners understand the methodology, interpret results and engage critically in the process of translating results into programme and policy recommendations.
2. *The Practitioners' Guide to HEA*: this is a practical 'how to' guide for those participating in the fieldwork and analysis of a household economy assessment.
3. *The Trainers' Guide to HEA*: this is targeted at those facilitating HEA trainings and comprises guidance materials on organising and running trainings, including session outlines, exercises and presentations.

About the Practitioners' Guide

This guide is aimed at those carrying out HEA assessments, and is intended to serve as both a refresher guide for experienced practitioners and a set of reference reading materials to accompany formal trainings for new practitioners. The Practitioners' Guide is presented as a series of chapters; the expectation is not that this guide will be read cover to cover, but rather that individual chapters will be used as 'modules', each self-contained and specific to a particular aspect of HEA. This is not meant to be used as a 'do-it-yourself' guide for those with no exposure to HEA. Nevertheless, each subject is presented in clear, logical steps that should - in conjunction with formal training - enable fairly quick uptake for relative new-comers to HEA.

There are seven chapters included in the Practitioner's Guide and two supplemental guides. The chapters are presented in an order sequential to the implementation of the HEA framework, starting with an overview of the HEA framework and moving through practical field work to outcome analysis and response planning. The last chapter

explores how HEA links to other frameworks and emerging relevant issues of concerns. Also included are two supplements: the first supplement is on market assessment, with specific treatment of how to use market assessment in response analysis. (Other aspects of market assessment integral to HEA are included within each of the chapters.) The second supplement is for advanced HEA practitioners who are being trained to take on team leader roles. A short summary of what can be found in each session is presented below:

Chapter 1, Introduction to the Household Economy Framework, provides an overview of the HEA framework, explaining the theoretical underpinnings of the approach and the basic steps in the analysis.

Chapter 2, Livelihood Zoning, describes the first step of the Baseline Assessment, reviewing what a livelihood zoning is, why one is necessary, and how it is done. It tackles issues like the relationship between livelihood zones and administrative boundaries, naming conventions, and how to include secondary information sources.

Chapter 3, Baseline Assessment, provides a step-by-step description of the activities involved in gathering the core secondary and field information required to construct a HEA baseline. Updated material includes guidance on how to analyse and store baseline information, and how to cross-check all aspects of the field data.

Chapter 4, Outcome Analysis, details the process and requirements for predicting livelihood outcomes. The first part of the chapter provides an overview of the elements involved in: designing a problem specification, incorporating household coping capacity, understanding expandability, and finally running an outcome analysis. The process is then illustrated using a practical example from Kenya.

Chapter 5, Translating Outcomes to Action, provides the practitioner with an opportunity to consider the steps involved in response analysis, including both the principles underlying appropriate humanitarian actions and the practical approaches used. Five case studies are employed to demonstrate these approaches in different contexts, including early warning systems, emergency needs assessments, rehabilitation planning, social protection, and poverty analysis. The second part of the chapter focuses on how to communicate HEA results most effectively to decision-makers, reviewing key tips on product development, processes of engagement, and presentation skills.

Chapter 6, Adaptations of HEA, highlights methodological developments applying HEA in urban assessments and the analysis of pastoral economies. A third section focuses on the application of rapid HEA assessments by highly experienced practitioners. Clear guidance is provided on how these types of assessments differ from 'classic' agricultural settings, and useful tips and tools are made available to the practitioner.

Chapter 7, Emerging Links, Issues and Approaches, highlights exciting new areas of work that HEA practitioners and thinkers have entered into recently, and/or expect to develop innovative engagement with in the future. This chapter reviews how HEA links to the Sustainable Livelihoods Framework; how power, conflict and political economy research informs HEA; it explores the links between HEA and other vulnerability analysis tools and discusses the relevance of HEA for nutrition research (and vice versa). The chapter then goes on to describe how HEA can be used to more practically define chronic and transitory food insecurity; and finally, there is a discussion of how HEA can

be used to help provide targeted information on special needs groups, such as children and HIV/AIDS affected communities.

The Market Assessment Supplement provides an introduction to the use of market analysis in determining the appropriate range of responses to acute food insecurity.

The Team Leaders' Supplement is designed to provide additional targeted guidance to advanced HEA practitioners. In particular, the material is designed to provide detailed guidance on two processes and tools that the team leaders need to become skilled at: the Baseline Storage Spreadsheet; and Outcome Analysis (using the Single Zone Spreadsheet and the Integrated Spreadsheet).

CONTENTS[2]

[2] This is an abbreviated version of the contents provided to give practitioners an overall idea of what is contained in each chapter. A table of contents with page numbers is provided at the beginning of each chapter. This is in keeping with the idea that these chapters can be used as separate modules, and hence the page numbering starts over with each new chapter.

THE PRACTITIONERS' GUIDE TO HEA

Chapter 1: Introduction to the Household Economy Approach Framework

1 INTRODUCTION TO THE HOUSEHOLD ECONOMY FRAMEWORK

This chapter introduces practitioners to the HEA Framework by defining the basic terms used in HEA and describing the six steps in the analytical process. Special attention is given to providing a background on the origins of the approach, especially in relation to the information demands of decision makers. The reader is taken methodically through the framework components, and time is devoted to explaining what each step of the framework is and why it is necessary. How market analysis fits into the HEA Framework is also introduced.

By the end of this chapter, practitioners should be able to define and explain the relationship between the following terms: baseline, livelihood zoning; wealth breakdown, livelihood strategies, outcome analysis, problem specification, coping capacity, projected outcome, survival threshold, livelihood protection threshold, and market assessment.

This chapter was co-authored by Penny Holzmann and Tanya Boudreau, who drew extensively on sources from F.E.G. and Save the Children-UK.

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RELATED TRAINING SESSIONS

The **HEA Training Guide** provides the following sessions relevant to Chapter 1:

MODULE 1: INTRODUCTION TO THE HEA FRAMEWORK

- *Session 1: Basic Food Security and Livelihood Concepts*
- *Session 2: Introduction to the HEA Framework*

INTRODUCTION

The Origins of the Approach

HEA was developed in the early 1990s by Save the Children-UK in order to improve the ability to predict short-term changes in access to food. At that time it was already widely recognised that rural people in poor countries do not depend solely on their own production for survival, but employ a range of strategies to get the food and cash they need; and that it was therefore people's ability to gain access to enough food, rather than just their ability to produce it themselves, that determined the likelihood of hunger or famine. This revolution in thinking was based largely on theories advanced by Amartya Sen[1], which suggested that famines occur not from an absolute lack of food, but from systematic inequalities that keep some people from obtaining access to that food. The key, then, to predicting famine and more localised food shortages, was to understand these systems, and mapping the links between people and supplies of food. But the difficulties in operationalising this concept of 'access' meant that early warning methodologies tended to focus largely on monitoring food supply, using rainfall, production and price data. A methodology was needed that could convert an understanding of how people gain access to food and income into a useful analytical context; and in turn this context needed to provide the basis for understanding how people might be affected by a shock. This was one of the keys to providing practical information to guide more effective decision making.

A practical way of getting at 'access'

In HEA, 'access' encompasses the fundamental ways people obtain food, including: their fields (own production), the market (purchase), their relatives and friends (gifts/loans); and humanitarian relief. HEA translates Amartya Sen's entitlement theory into a way of obtaining information for appropriate action.

To be useful for decision making, the approach had to be capable not just of indicating that people are failing to obtain enough food, but also of quantifying the problem and suggesting possible approaches to intervention. It had to yield results in a common currency that allow comparisons to be made between different areas and groups so that resources can be prioritised and goods or services allocated in relation to actual need. It had to be capable of providing reliable information on large populations with diverse economies, at a reasonable cost. And, crucially, it had to be a predictive approach, to allow for the assessment of future needs. These requirements directed HEA's development hand in hand with the conviction that an understanding of people's normal economy - how they usually make a living, their savings, reserves and assets – had to be at the core of an approach seeking to gauge the impact of shocks on households.

Linking information to action

To be useful for decision making, the approach had to:

- quantify the problem
- allow for comparisons
- provide reliable results for large populations
- point to appropriate responses
- be predictive

[1] Sen, Amartya, *Poverty and Famines: An Essay on Entitlement and Deprivation* (1981)

The approach has come a long way since then. Because an understanding of livelihoods is at its heart, the applications of HEA have moved beyond famine early warning and have been refined and adapted in response to both field experience and the needs of particular decision makers. These needs, while varied in context and scope, in nearly all cases boil down to the following fundamental questions, as relevant to designing an intervention for social protection as to contingency planning for emergencies: Where is assistance needed, and of what type? Who needs it? How much is needed, when and for how long?

At the same time, over the past fifteen years, other frameworks and tools have been developed that contribute to and complement HEA. Specifically, and importantly these include the Sustainable Livelihoods Framework (covered in more detail in Chapter 7) and various market-analysis tools, which provide a framework to study the function of the market place across and within different countries (covered in the Market Supplement to this Guide).

Two aspects of market analysis have always been integral to HEA: the investigation into how households use markets to obtain the food and basic goods and services they need to live; and the way that various market shocks trickle down to the household level. In developing countries, understanding the (typical) pyramid structure of market producers, vendors, middlemen and national and international business magnates helps us understand the important role of the household in this system and also the fragility and vulnerability of these households to not only national but international and sometimes even geo-political events/shocks. Understanding the links between the household and these different levels, and related household consequences of changes at one or another point in the pyramid is squarely in the realm of classic HEA. The market angle that HEA typically has **not** addressed is in analysing the capacity of markets to absorb additional supplies and their capacity to meet new demands (e.g. understanding how markets will respond to increased cash in hand, crop surpluses or labourers). Understanding these questions is at the heart of determining appropriate response options and interventions. The Market Supplement deals with these market questions in more depth.

What is HEA?

The Household Economy Approach is a livelihoods-based framework for analysing the way people obtain access to the things they need to survive and prosper. It helps determine people's food and non-food needs and identify appropriate means of assistance, whether short-term emergency assistance or longer term development programmes or policy changes. It is based on the principle that an understanding of how people make ends meet is essential for assessing how livelihoods will be affected by wider economic or ecological change and for planning interventions that will support, rather than undermine, their existing survival strategies.

A framework not a field method

HEA is an analytical framework. It defines the information that needs to be gathered and the way in which it should be analysed in order to answer a particular set of questions.

At its heart is an analysis of: 1. how people in different social and economic circumstances get the food and cash they need; 2. their assets, the opportunities open to them and the constraints they face; and 3. the options open to them at times of crisis. It involves the analysis of the connections among different groups and different areas, providing a picture of how assets are distributed within a community and who gets what from whom.

It is important to note that HEA is an analytical framework, not a specific method of information collection. It defines the information that needs to be collected and the way in which it should be analysed in order to answer a particular set of questions. It is a framework for organising a vast array of information – some of which is local knowledge, some of which is census data, some of which is crop production data, and so on. It functions as a powerful way to make practical use of both existing secondary sources of information as well as primary information.

A number of different information collection methods can be used at various points in the framework. See **Table 1**. Over the past ten to fifteen years, the primary information needed for **HEA baselines** has been gathered largely through the use of rapid rural appraisal methods – mainly semi-structured interviewing of focus groups. This is because experience has shown that these non-survey methods are the most effective and efficient way of gathering and piecing together the many bits of information required to build up the baseline pictures. The flexibility and cross-checking facility of rapid appraisal methods has been essential for ensuring high-quality analyses of how local economic systems work. While it is theoretically possible to gather the baseline information using household survey methods, much of the information for the zoning and wealth breakdowns would be challenging to collect that way. At this point, there are no published examples of where HEA baseline data (including the livelihood zoning, wealth breakdowns and livelihood strategies steps) has been collected using survey methods, so it is difficult to describe or compare that approach to the rapid appraisal methods that are currently used.

However, there are aspects of the baseline, such as household size and composition, for example, or spending on healthcare, that are more appropriately obtained through survey methods. For these pieces of information, secondary data sources or targeted survey work, add tremendous value. Randomly sampled surveys containing such demographic information are also a more flexible way than purposively sampled focus group discussions to disaggregate household economy information below the wealth group level. Other aspects of the framework – such as the monitoring information required to put together the problem specifications, or to track outcome predictions – may be better suited to household survey methods, depending on time, funding and personnel.

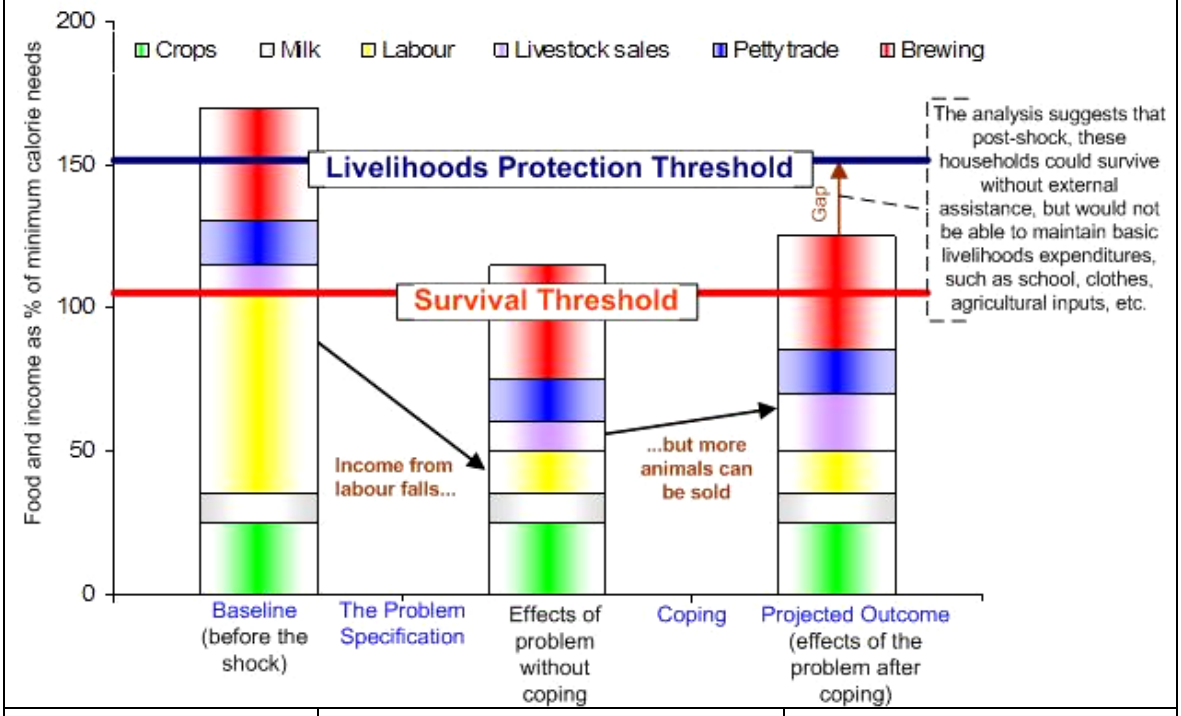
Table 1. Typical methods used to gather information for the HEA Framework

Step in the Framework		*Information collection methods used (to date)*
Baseline	Livelihood Zoning	Semi-structured interviews; participatory workshops; secondary data review
	Wealth Breakdowns	Semi-structured interviews; proportional piling; census data review (to cross-check household composition)
	Analysis of Livelihood Strategies	Semi-structured interviews; review of secondary data (to cross-check yields, production, livestock numbers, etc.); proportional piling; participatory seasonal calendars and community mapping
Outcome Analysis	Problem Specification	Household surveys (to gather monitoring data such as crop production and prices); Semi-structured interviews; review of secondary information, especially time series data
	Analysis of Coping Capacity	Semi-structured interviews; review of secondary data (on labour markets, herd composition, viable off-take rates, etc)
	Projected Outcomes	No additional information goes into this step; this step comprises an analysis and processing of the data and information gathered in the previous steps

THE BASICS OF THE FRAMEWORK

HEA was developed on the principle that information about events that beset a particular area or community – late rains, land reform, rising food prices, falling cotton prices, closure of mines – can only be properly interpreted if seen against the context of how people normally live. For instance, households who depend on their own production for much of their food needs will be affected by drought more severely than households who buy more of their food using income gained from casual employment in the towns. These more market-dependent households, on the other hand, will be affected more by a rise in food prices or by macro-economic events that undermine employment opportunities. In other words, an understanding of people's livelihoods is essential for an accurate analysis of the impact of any significant change, including climate, market, or political shocks[2], program interventions, or policy changes, on households. A simplified illustration of the conceptual

Box 1. The Household Economy Analytical framework: a simplified illustration



Baseline: *The first bar shows total access to food and income in a reference year. This is the baseline picture before the shock.*	***Effects of problem without coping:*** *The second bar shows how access is affected by a shock like drought in a neighbouring country, which floods local labour markets, reducing income from labour.*	***Outcome Analysis:*** *The third bar shows access to food and income taking into account the household's coping strategies. In this case, more animals are sold than usual.*

The 'y' axis represents food and income as a **percentage of minimum annual calorie requirements**. In short, food and income sources are converted into kilocalories which are then compared to 2100 kcal, which represents the internationally accepted minimum energy requirement per person per day. While overly simplified in this graphic for the purposes of illustration, this is an important concept in HEA because converting food and income into a common currency allows analysts to quantify and make comparisons. See Chapter 3 for more details.

[2] While the term 'shock' is used extensively throughout this guide, it is done so as a practical short hand for all types of changes – both negative and positive – that can be modelled using the HEA framework.

framework is shown in **Box 1**.

The first bar in the chart represents total access to food and income in a reference year for a particular group of people with similar access to food and income. This is the baseline, which presents a picture of the 'typical' household economy: of household assets; the strategies employed to derive food and income and the relationships between households and with the wider economy; and how households use that income to meet their basic needs, for investment or for social obligations. One important point to make here is that the quantities represented in the bar charts are a percentage of minimum food energy requirements. In other words, all food and income sources have been converted into their calorific equivalencies, i.e. the calories in food consumed, plus the calories that could hypothetically be purchased if all cash income was used to buy grain, and then compared to the internationally accepted standard of 2100 kilocalories per person per day. This has the advantage of allowing for like-to-like comparisons, and also of ensuring that a rigorous cross-checking can take place. In most instances, HEA uses the measure of 2100 kilocalories rather than a more sophisticated nutritional measure (such as the ideal dietary composition) because this meets the immediate requirements of the decision makers who tend to demand HEA information, and it fits within the practical limitations of most assessments. This is not to say that energy alone is a sufficient measure of nutritional adequacy; but it is the first measure of whether or not people will starve. Further analysis along nutritional lines is possible with HEA, although targeted nutritional survey work is likely to be more appropriate for gaining specific pieces of nutritional information. See Chapter 7 for more on the relationship between HEA and nutrition.

The second bar in the chart – the effects of the problem without coping - shows us how specific sources of food and cash income are affected by a shock. In the hypothetical case presented in **Box 1**, the shock is a drought in a neighbouring country, leading to an influx of labourers from the drought-affected area in search of work, who flood local labour markets reducing the daily wage. The effects of shocks are specific to different livelihoods and to different levels of wealth, and the detailed problem created by a 'shock' for particular households is defined in HEA as the 'problem specification'. In the illustrative example provided in **Box 1**, the problem specification is shown between bars one and two, and results in reduced income from employment as shown in bar 2. It is worth noting here that HEA can be used to consider the effects not just of negative shocks, but also of positive changes. So, for instance, it is possible to consider just how much extra income might be obtained by poorer households who are provided with two goats, and what this might translate into in terms of increased food security. Or the relative food security benefits of a subsidy on kerosene might be weighed up against a price cap on staple maize. Throughout the rest of the **Practitioners' Guide**, it is important to keep in mind that 'shocks' are used as a short hand for any measurable meaningful change that can be modelled, including both negative hazards as well as positive changes.

Third, the framework takes into account household capacity to adapt to the economic stress caused by the hazard by drawing down on assets, cutting back on expenditures, or expanding other sources of food or cash. This is shown in the coping step, which is placed in between the second and third bars above. In this example, households are able to sell more livestock than usual, and this increases their access to food and income. In other cases, it may be that households could find alternative employment opportunities elsewhere – although they would be competing with people in the same position. They may be able to draw further on the social obligations of relatives. Or they may be able to cut down on non-essential expenditure and use the cash for staple food instead.

The final result – the projected outcome – is shown in the third bar. The projected outcome is, in essence, a consideration of the extent to which households will be able to 1. meet their basic survival needs (*the survival threshold*) and 2. protect their basic livelihoods (*livelihoods*

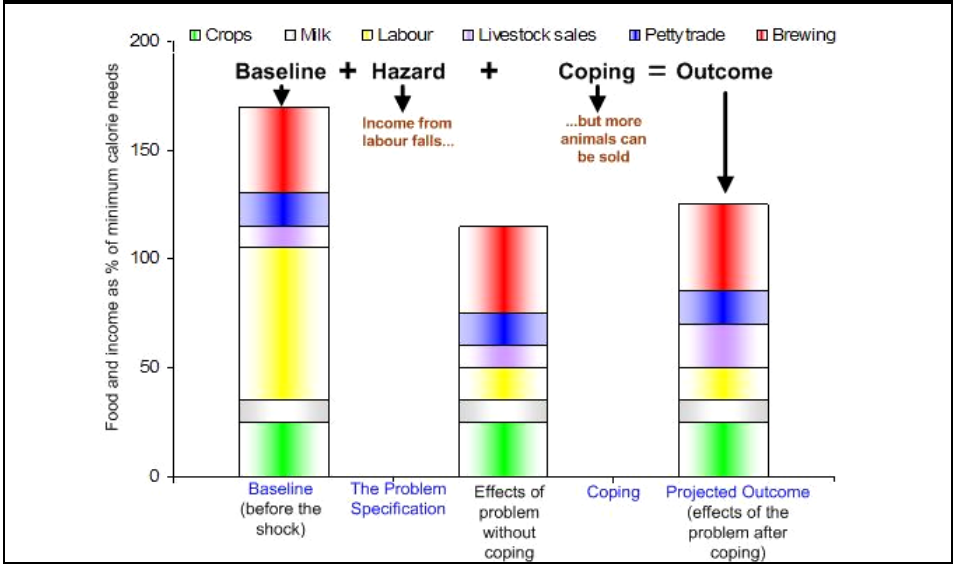
protection threshold). The two horizontal lines shown in **Box 1** illustrate these two thresholds. For a more complete description of the composition and role of these thresholds, please see **Box 8** on **page 17**.

The Steps in the Analysis

In HEA, the simple illustration of the framework above is translated into four core areas of the conceptual framework, as illustrated in **Box 2** :

Baseline + Hazard + Coping = Outcome

Box 2. Core areas of the conceptual framework



These areas are broken down into a number of steps, which are summarised in **Figure 1**, and again in **Table 2**, where the rationale underlying each step is also given.

Figure 1. Steps in HEA Analysis

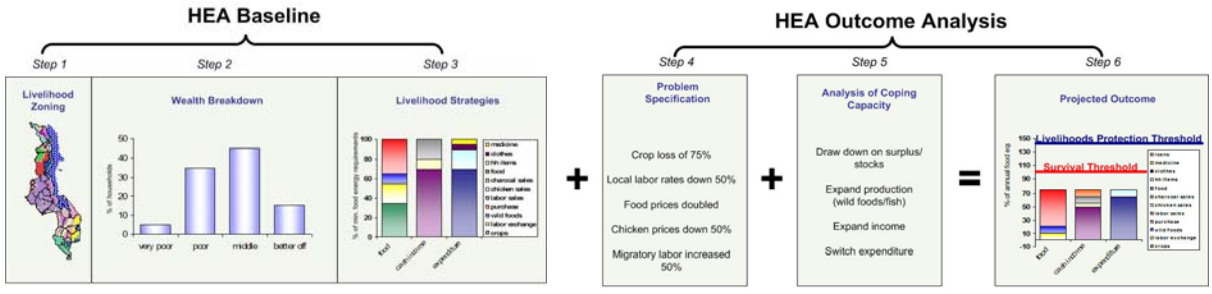


Table 2. Steps in HEA analysis with description and rationale

	Steps in HEA	What is it?	Why is it needed?
BASELINE	*Step 1. Livelihood Zoning*	A delineation of areas within which people share broadly the same patterns of livelihood	It provides a livelihoods-based sampling frame; allows you to target assistance geographically; and to customise indicators for livelihoods monitoring systems.
	Step 2. Wealth Breakdown	A grouping of people based on local definitions of wealth and a quantification of assets	It disaggregates the population into common 'access' groups, which allows you to see important differences in households' vulnerabilities to different shocks and to estimate numbers of people who will be affected by different changes.
	Step 3. Analysis of Livelihood Strategies	A categorisation and quantification of people's sources of food and income, and their expenditure patterns, using a common currency.	It enables comparisons to be made across wealth groups and livelihood zones, facilitating prioritisation of resources. It also provides a starting point for outcome analysis.
OUTCOME ANALYSIS	*Step 4. Problem Specification*	Translation of a hazard or other shocks into economic consequences at household level	It allows you to mathematically link the shock (or positive change) to each relevant livelihood strategy
	Step 5. Analysis of Coping Capacity	Analysis of the ability of households to respond to the hazard	It helps you to determine how to support people's own efforts, and to provide external assistance before households turn to damaging strategies; it highlights relevant indicators to monitor.
	Step 6. Projected Outcome	Prediction of the effects of the hazard in relation to a survival and livelihoods protection threshold.	It clearly predicts whether and when assistance is needed to help people survive and/or protect their livelihoods. It also models the potential beneficial effects of proposed policies or programs.

At the heart of HEA is a depiction of how people get by from year to year and of the connections with other people and places that enable them to do so. This is called the **Baseline** and has three components: livelihood zoning, a wealth breakdown and an analysis of livelihood strategies for each of the identified wealth groups.

The **Outcome Analysis** is the investigation of how that baseline access to food and income might change as a result of a specific hazard such as drought or as the result of a positive change, such as a program input or beneficial price policy. It consists of three steps: first, the translation of a hazard such as drought into economic consequences at household level (such as a percentage fall in crop production or increase in food prices compared with the baseline), which is referred to in HEA as the 'problem specification'; second, the analysis of

the capacity of households in different wealth groups to cope themselves with the hazard. And finally, access to food and income at household level is predicted for a defined future period and compared to two critical thresholds: the survival and livelihood protection thresholds. This last step is referred to as the 'projected outcome'.

The Baseline: Steps 1 through 3

Why are livelihood zoning and wealth breakdowns necessary?

Livelihood zoning and wealth breakdowns are both means by which a population can be divided into groups that have reasonably similar characteristics and that therefore allow for useful analysis. Grouping households together in some way is necessary in any population analysis since it is not possible to consider each household individually; and the most logical way of doing this for the purposes of livelihood analysis is to group people who share similar livelihoods, that is, similar patterns of access to food and income.

How people gain access to food and income is determined by two main factors: geography (since this determines what the options are) and wealth (since this determines how people can utilise those options). The first two steps in an HEA assessment are therefore livelihood zoning and the identification of wealth groups.

Step 1: Livelihood Zoning

People's options for obtaining food and cash income are determined to a great extent by where they live. In Swaziland, for example, households in the dry lowveld region where the agro-ecology is suited more to pastoralism will have very different livelihood options to those in the wetter mid- and highveld areas which favour agriculture. But it is not just agro-ecology which determines livelihood patterns – it is also access to markets. Market access affects the ability of people to sell their production (crops or livestock or other items) and the price they obtain for these goods. Thus households with good access to the urban complex of Manzini, Mbabane and Matsapha in Swaziland have quite different options to those living in the western mountains.

Since patterns of livelihood depend so much upon geography, the identification of livelihood zones is a necessary first step for any livelihood-based analysis such as HEA. A livelihood zone is an area within which people share basically the production system (that is, they grow the same crops, or keep the same types of livestock) and have the same access to markets.

Chapter 2 provides a number of examples of livelihood zone maps. Each of them shows how the zoning takes into account differences not just in production – distinguishing between, for example, (in Mozambique) the fertile, surplus-producing Limpopo and the rain fed Interior Zone (see the Limpopo Basin Zoning map in Chapter 2, **Box 1**) – but in access to employment markets. This distinguishes livelihoods in the Lower Limpopo from those in the Upper Limpopo as is access to trading markets (which is at the heart of livelihoods in the coastal zone).

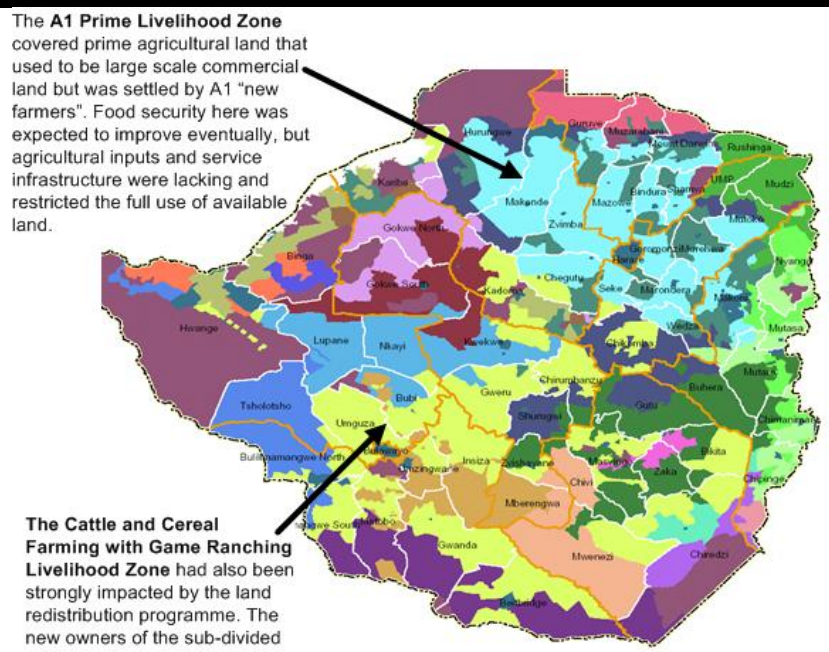
Zoning involves the preparation of maps, together with analyses of the options for obtaining food and income within each zone and the marketing networks that determine the patterns of exchange between zones. Taken together, these three factors of geography, production system and the marketing system by and large determine the economic operations of households within a particular livelihood zone. They also determine their vulnerability to particular hazards such as drought, conflict or market dislocation, since vulnerability is a function of a) the normal activities of households and b) the activities they turn to in

response to a hazard. These, like the normal activities, are determined by the same three factors of geography, production and markets and trade.

More detail is provided in Chapter 2 on just how a livelihood zoning is done. An important point to make here, however, about the determination of zone boundaries is that it is not a one-off exercise but a process, the end objective of which is to improve on current knowledge and analytical capacity. As such there are still benefits to be gained from zoning areas or countries which are in a state of flux.

The livelihood zone boundaries of Zimbabwe, for example, were updated in March 2003, at a time of significant social and economic change caused by the government's fast track land reform programme which had been initiated in June 2002 and which had a profound impact on the long-term structure of livelihoods of large numbers of households both within the commercial farming regions and in neighbouring areas who traditionally had relied on employment opportunities there. These changes were exacerbated by continued economic stagnation, high inflation and uncertainty over future policy. These changes notwithstanding, the Zimbabwe VAC undertook an updating of the national zoning map through a nationwide series of workshops held in each province. The resulting livelihood map, with two of the most affected zones highlighted, is shown in **Box 3**.

Box 3. Example of a livelihood zoning conducted in a period of flux: Zimbabwe, 2003



Step 2: Wealth Breakdown

Geography is not the only factor that determines the pattern of livelihood. While geography tends to define a household's options for obtaining food and income, the ability to exploit those options and to survive in a crisis is determined largely by wealth. In other words, what people have by way of land, capital and livestock, together with their educational status and access to political and social networks determines the ways in which they will be able to get food and cash, as well as the ways in which they will respond to sudden or long-term change. Gender and social status plays an important role in determining this access to food

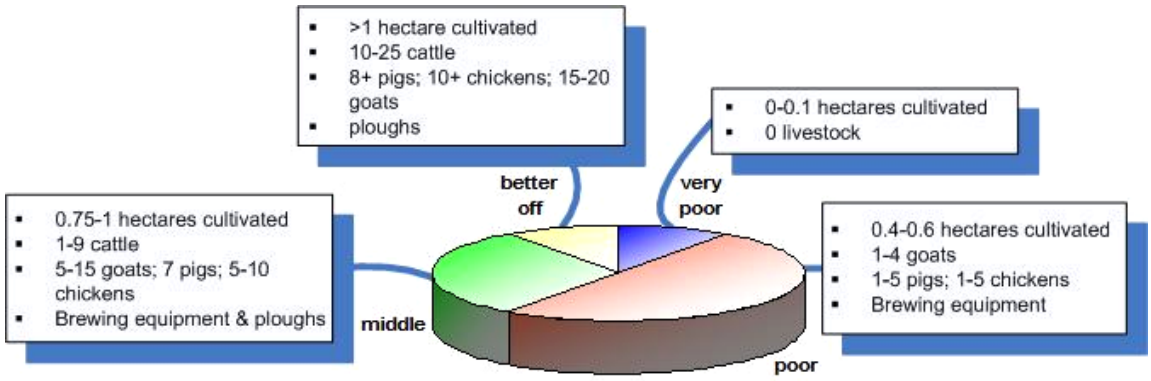
and cash, and responses to shocks and change. Poor female-headed households with little land may work for better-off households to get money to buy food; the better-off may use profits from agriculture as capital to engage in trade. In the event of a crisis, poor and better-off households will be affected differently and therefore warrant separate examination. The investigation of differences between households is central to building a meaningful analysis of food security and vulnerability to different hazards.

Mapping critical links within a community

In southern Africa, the poor are commonly dependent on the rich for casual agricultural employment. This provides the poor with an important source of income. But it makes them vulnerable to any decline in expenditure on the part of the rich – for example as a result of HIV/AIDS.

To capture these variations, HEA seeks to characterise typical households within each zone according to at least three (commonly four and sometimes more) wealth groups. A wealth group is a group of households that share similar capacities to exploit the different food and income options within a particular livelihood zone. The level of division depends on how the community view their society, and the purpose of the analysis.
In the field, wealth categories are defined through interviews with local key informants. 'Poor' and 'better-off' are thus relative to local standards, not to an externally defined one. Often these standards are predictable along general livelihood lines: landholding size and labour availability define wealth in a poor agricultural economy; land quality and access to fishing equipment in agro-fishing communities; livestock herds in pastoralist economies. Family size - specifically the balance between productive and dependent members - is often a determining factor.

Box 4. Example of a wealth breakdown: Chongwe-Nyimba Plateau Valley Livelihood Zone, Zambia



The main determinant of wealth in this livelihood zone is cattle ownership, which in turn determines the number of plough oxen that a household owns and the area of land that it is able to cultivate. The number of other types of livestock owned and the agricultural inputs that a household can afford are also related to this. The very poor group includes households that are headed by elderly, terminally ill or widowed members, often supporting small numbers of young dependents, some of whom may be AIDS orphans. Households in this group are highly dependent on gifts and handouts. The poor are highly dependent on the labour opportunities provided by the middle and better-off groups.

Finally, there is another reason for taking different levels of wealth into account when conducting a livelihood analysis. The rich and poor within a community are almost always connected in some way. Commonly, the poor are dependent on the rich for casual

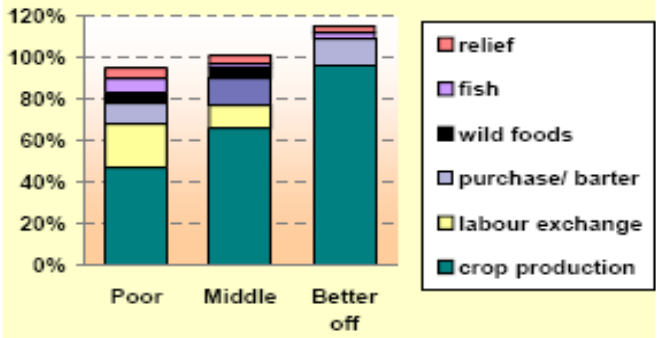
agricultural employment. These linkages between rich and poor (food or cash gifts; livestock loans; employment) need to be taken into account for effective programme planning.

Step 3: Analysis of Livelihood Strategies

Having grouped households according to where they live and their wealth, the next step is to examine patterns of food and cash income and patterns of expenditure over a defined reference period. This gives a baseline picture of exactly how households get the food and cash they need, and of what they spend their money on.

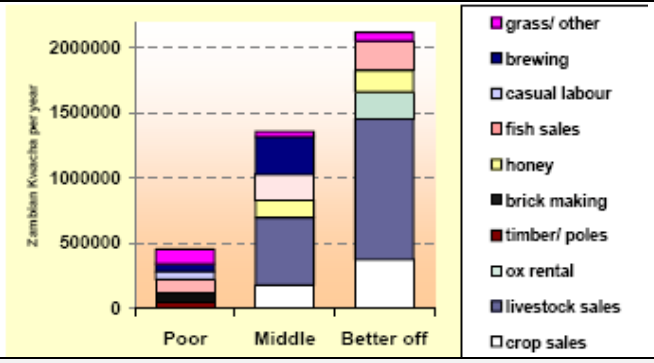
Box 5. Quantification of food, cash and expenditure: an example from West Zambezi, Zambia

Sources of food



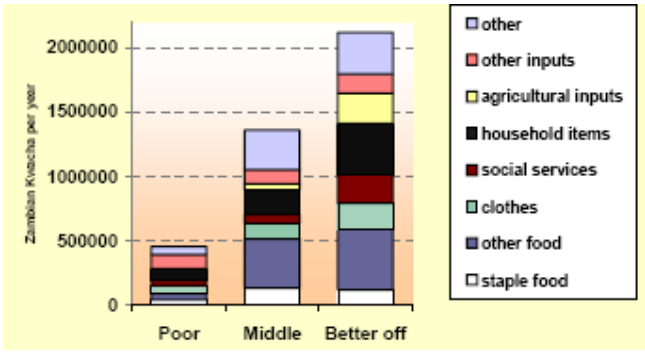
Poor households get less than half of their food from their fields. Half of the balance comes from working for others and being paid directly in staple food. The other half comes from market purchase or bartering fish, from direct fish catch consumption, from the collection of seasonal wild foods and from relief. All these activities give them less than 100% of their basic food requirement. This is the structure of food insecurity.

Sources of cash



We also see the constraints of poverty: the poor cannot afford to buy the grain and other inputs to do brewing, one of the main income sources of the middle group. The proportionately biggest earner is livestock, which the poor have virtually none to sell, and they have no cash crops either. They cannot even afford the hives which allow profitable honey production.

Patterns of expenditure



As to quality of life, the poor have exceedingly little to spend on other food like relish, or on almost anything else. And what of the chronic nature of poverty? The poor - and even the middle, who are pretty poor too - have very little to spend on agricultural inputs, so they can't improve their own production. They have very little to spend on education (the main component of social services) so that secondary school especially, which can offer a future, is beyond the means of perhaps half the population.

Source: Zambia Vulnerability Assessment Committee, *Zambia Livelihood Map Rezoning and Baseline Profiling*, Lusaka, Zambia. October 2004.

Many approaches to livelihood analysis describe how people acquire food and cash. **The difference with HEA is that it provides quantitative information**; information is gathered on *how much* food or cash households gain from a particular source, and on *how much* they spend on certain items and basic services over the defined period (see **Box 5**).

Such quantification is needed in order to allow a new situation – say, the closing off of employment from a particular source, or poor rains – to be judged in terms of its likely effect on livelihoods. It allows decision makers to compare levels of need across different populations and areas, and to prioritise and allocate resources accordingly. The need to compare and prioritise applies as much to decisions on tackling chronic poverty (which groups are the poorest, and where are they?) as it does to emergency resource allocation. Equally, a quantified approach is needed for assessing and comparing the impact of positive change on different groups and different areas.

Information quality

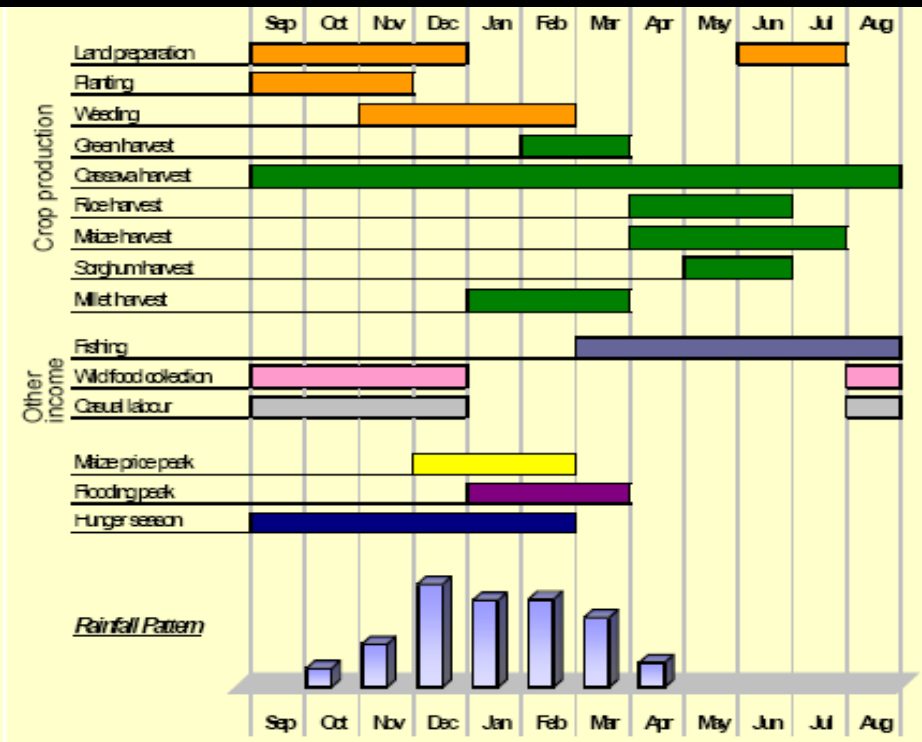
The very nature of the information sought in an HEA inquiry makes it possible to check for consistency. That is because, on the one hand, there are a finite and relatively small number of economic options available to households; these define the broad parameters of the investigation. On the other hand, there is a minimum food requirement that households must be meeting if they are surviving, and a certain level of income they have to acquire in order to afford their stated expenditure.

That is not to say that the information gained is comprised of only numbers, or that it lacks the capacity to provide a 'qualitative' analysis of the conditions and situation of the households studied. HEA is a systems-based, rather than a correlative approach. This means that conclusions are drawn from a holistic analysis of livelihoods – that is, taking into account all the means by which people survive, all their resources and all their options – rather than from an analysis which aims to find relationships between selected factors or symptoms such as prices and rates of migration or of wild food collection. The aim of the baseline enquiry is therefore to build up a logical and comprehensive picture of livelihoods that is amenable to such a systems analysis; each 'bit' of information gathered has to make sense in relation to the rest. In these terms the approach gains rigour from the fact that the information has to 'add up' in quantitative, as well as logical, terms.

The necessarily holistic view of livelihoods which is at the core of HEA also has implications for the internal consistency of the information gathered. The way in which HEA information is usually collected is described in Chapter 3. It is worth noting here that the very nature of the information sought in an HEA inquiry makes it possible to check for consistency. That is because, on the one hand, a finite and relatively small number of economic options are available to households; these define the broad parameters of the investigation. On the other hand, there is a minimum food energy requirement that households must be meeting if they are surviving, and a certain level of income they have to acquire in order to afford their stated expenditure. So the various ways in which a household acquires food - from its own production, from payment in kind, from purchase - must add up to its minimum food needs; and the various ways in which a household earns cash - labouring, crop sales, petty trade - must in total equate with its stated expenditure and with its observed standard of living. By comparing the two sides of the equations, and through a number of other cross checks, gaps and inconsistencies in the information can be challenged and a coherent and logical account of how households make ends meet can be put together.

A seasonal analysis of food and income acquisition strategies (see **Box 6**) is a key part of the baseline analysis, since among the rural poor seasonal variations in food access, own-labour needs and employment opportunities tend to define the livelihood options that people pursue and the constraints that they face – with corresponding implications for the timing of both emergency and longer-term interventions. A seasonal or month-by-month HEA

Box 6. Seasonal calendar: West Zambezi LZ, Zambia



analysis can also bring to light the extremely tight financial margins by which the poor survive.

An important aspect of the baseline description is the understanding of links to markets. Most households in most parts of the world depend on the marketplace both to buy some or all of their basic needs and to earn the cash with which to do so.

Understanding links between communities and their different markets allows us to understand and predict options in times of crisis. HEA assessments examine where people buy different goods, where those goods come from, where people sell the goods and services they themselves supply and where they go or come from to look for work. In order to properly understand the economic gain of particular livelihood strategies, we need to know how prices and labour rates change from season to season and how this corresponds with the need of (particularly poor) households to buy or sell or work. We need to know which markets are of greatest importance in order to judge how observed changes in price or access at particular markets will affect households over a wider geography. Chapter 3 provides guidance on market-related information needs specific to the baseline assessment. The Market Supplement provides additional advice on the type of market information and tools used in response analysis.

Once the baselines have been compiled, the idea is that they can be used repeatedly over a number of years - until significant changes in the underlying economy render them invalid. Rural economies in developing countries tend not to change all that rapidly however, and a good household economy baseline will generally be valid for between 3 and 10 years. What varies is the prevailing level of food security, **but this is a function of variations in hazard, not variations in the baseline**. Put another way, the level of maize production may vary from year to year (hazard), but the underlying pattern of agricultural production does not (the baseline).

The picture of household economy that is built up in this way can be put to a wide number of uses. Examples of these different applications can be found in Chapter 5 of the **Practitioners' Guide** and in Chapter 3 of **A Guide to HEA**.

The Outcome Analysis: Steps 4 through 6

Outcome Analysis: what is it and why is it needed?

As a predictive approach, HEA is concerned with understanding the effect that a particular shock or change will have on household access to food and income. This is done by assessing (i) how access to food and cash will be affected by the shock or change; and (ii) the extent to which households will be able to make up the initial shortages through various coping strategies; or, in the case of positive change, the contribution any additional or freed-up income would make to the household economy.

HEA was developed in order to predict changes to people's access to food and non-food needs. This is clearly an important facet of an early warning tool; contingency plans need to be built on the basis of scenarios which show what is likely to happen over the coming six to twelve months.

Predicting effects depends on understanding relationships

Understanding links between communities and their markets allows us to understand and predict outcomes in times of crisis.

But a predictive facility is important for other reasons. Agencies need to plan for service provision or deliveries for the time at which they are likely to arrive. A needs assessment approach is of little use (and is potentially even harmful) if it only assesses current needs, and does not allow agencies to plan according to a realistic implementation timetable. For example, by the time emergency or rehabilitation aid has reached people (with typical lead times of up to six months required for internationally-shipped food aid, for example) it may be unnecessary at best, and in the worst cases harmful. Similarly, the planning of a poverty reduction measure needs to be able to take into account the effects of inflation, changes in government policy and employment availability, if intervention levels appropriate at the moment of implementation are to be set.

The facility to predict how livelihoods will be affected by change is also essential for a proper understanding of poverty and of poverty reduction measures. Poor people live in a context that is far from static and their livelihoods are constantly affected by changes in prices, in employment opportunities and in government policy. Analytical frameworks that seek to identify the nature and causes of poverty must also be able take into account the impact of such changes.

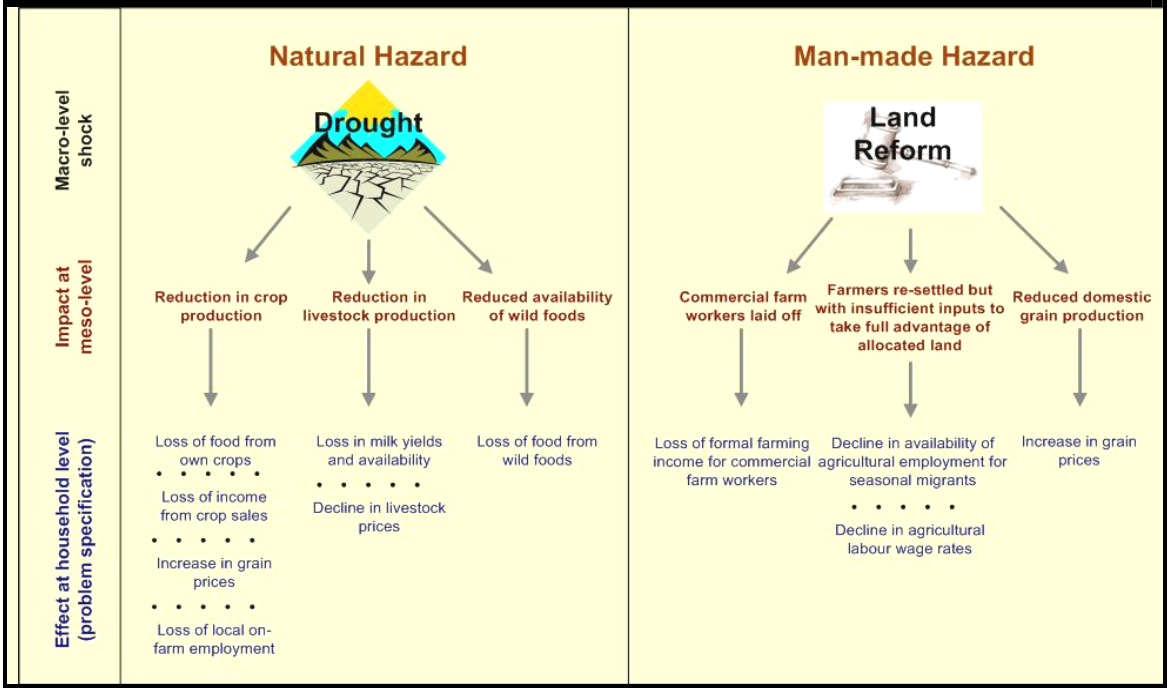
Step 4: The Problem Specification

The first step in analysing how the baseline household economy will be affected by a particular hazard is to analyse the hazard itself. This is a necessary step in itself because just knowing that a hazard might occur or has occurred is not sufficient for the analytical purposes of livelihoods analysis. The hazard needs to be translated into quantified economic consequences that link clearly to baseline information on livelihood strategies. For example, production failure in southern African can have a number of consequences in relation to agricultural livelihoods beyond the obvious loss of crop and livestock production. These include the loss of income from local agricultural employment, from cash crop sales and from livestock sales (through reduced prices), and the reduced availability of wild foods.

The first step in compiling the hazard information is to determine the relevant shock factors for analysis, using the baseline information as a guide; that is, for each wealth group and livelihood zone, to identify those sources of food or cash that contribute significantly to total food or cash income so that a reduction in access to that one source may have a significant effect on total access. That income source in the current year, compared to the reference year, can then be monitored. In most cases crop production and price information will be essential information to analyse. However, there may be cases, for instance with fishing communities or pastoralist groups, where crop production is of minimal importance.

Information on natural hazards – crop and pasture failure - is obtained from existing monitoring systems (e.g. crop assessment data or market price monitoring information) and from data collected in the field. This information is then broken down into what it means in terms of problem specification. Some examples are given in **Box 7**.

Box 7. Translation of macro-level hazards into household problem specifications



The task of obtaining the information necessary to create a 'problem specification' is clearly critical, but one which HEA is not designed to undertake. HEA relies on meteorological and agricultural systems to provide predictions of crop production or pasture availability. Similarly, it relies on others to do the political and economic analysis required to predict future trends: how prices will change, what markets will do, or which state entitlements will be lost. HEA takes up the reigns at the point where these analyses leave off, determining how these macro-level changes will impact on specific food and cash income sources at the household level. Where analysis at the macro-level does not exist or is of poor quality, HEA practitioners may at least, working with a broad view of the economic or political situation and an understanding of what households are vulnerable to, be able to ask some of the right questions to determine the nature and scale of future shocks. The focus group discussions and

The need for collaboration

The translation of hazards into problem specifications is an important point of linkage between HEA and other information and analytical systems, and an area in which collaboration could be developed.

semi-structured interviews commonly used in HEA make it amenable to incorporating inquiry at this level, provided that additional interviewing time is budgeted.

Steps 5 and 6: Household Coping Capacity and Projected Outcome

In the last two stages of the analysis of the impact of a shock on access to food and income at household level, account is taken of the response strategies that different types of household will employ to try and deal with the problem they face. The key questions are:

- Which of the existing food and income options can be expanded under current circumstances?
- What additional options can be pursued?
- Can expenditure be reduced?
- What effect will these responses have on access to food (i.e. *how much* extra food can be obtained in these ways)?
- How does the final access to food and cash relate to the minimum survival and livelihoods protection thresholds?

In other words, this is a quantified analysis of households' ability to diversify and expand access to various sources of food and income, and thus to cope with a specified hazard.

As in the case of the baseline analysis, the analysis of household coping capacity provides insights into the opportunities and constraints surrounding the expandability of food and income options for different types of household in different areas, highlighting where and how the various options might be supported by different types of outside intervention.

Not every response strategy available to households is included in an outcome analysis. Strategies may be excluded if they have undesirable or damaging side effects that threaten the sustainability of livelihoods in the medium to longer term, such as selling all productive assets, taking children out of school or entering into prostitution. Providing assistance may be justified not only to prevent outright hunger, but also to minimize the use of damaging coping strategies and thus to preserve assets and protect livelihoods. HEA enables various levels of intervention to be modelled which explicitly either include or exclude particular coping strategies (see, for example, the Serbia scenario analysis in Chapter 3 of **A Guide to HEA**).

Thus, only those strategies that are appropriate responses to local stress are included. In this context, appropriate means both 'considered a normal response by the local population' and 'unlikely to damage local livelihoods in the medium to longer term'. In many agricultural areas, for example, it may be usual for one or more household members to migrate for labour when times are hard. Provided the response is not pushed too far (i.e. too many people migrating for too long a period of time), this can be considered an appropriate response to stress. Similarly, in a pastoral setting, it is usual to increase livestock sales in a bad year. This again is an appropriate response to economic stress - provided the increase in sales is not excessive.

Modelling behaviour is not the aim

The objective of the outcome analysis is not to model household behaviour, but to determine the **limits of household coping**.

In HEA, therefore, the most important characteristic of a response or coping strategy is its cost, where cost is measured in terms of the effect on livelihood assets, on future production by the household, and on the health and welfare of individual household members. It is important to note that including a particular coping strategy in the analysis does not imply that households will necessarily follow that particular strategy. For example, if the analysis takes into account the income that could be earned from the

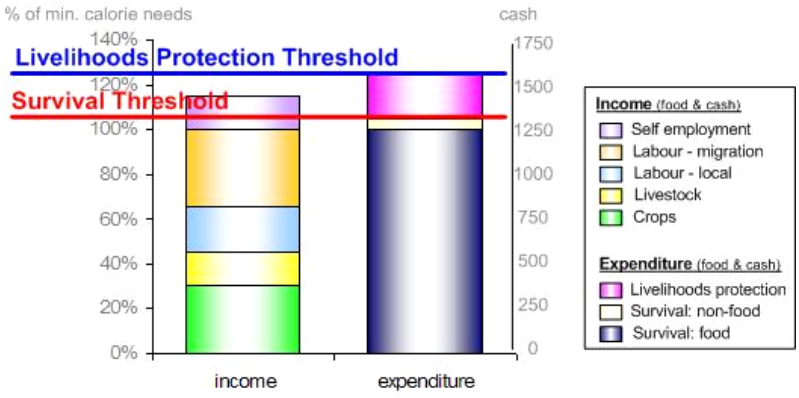
Box 8. Livelihoods and Survival Thresholds: Triggers for Appropriate Livelihoods-based Responses

HEA establishes the basis for setting two important thresholds which are designed to trigger appropriate responses: the **Livelihoods Protection Threshold** and the **Survival Threshold**. **The Livelihoods Protection Threshold** is the line below which an intervention is required in order to maintain existing livelihood assets and strategies. **The Survival Threshold** is the line below which intervention is required to save lives. These thresholds are compared to total income (including both food and cash) and total expenditure. This comparison can be made either to an assessment of current conditions or to a predicted outcome. This allows analysts to model the projected effects of:

- *hazards* (drought, for instance)
- *policy changes* (e.g. a market-related shift); or
- *project inputs* (e.g. a fodder expansion initiative)

The thresholds provide a livelihoods-grounded and evidence-based reference point against which to judge the likely outcome of different events or policy shifts, and to plan accordingly. They show just how much of a gap will be left, and in this way provide guidance on the magnitude of the required response. And because the baseline income and expenditure graphs against which the thresholds are compared are actually an illustration of the relevant livelihood strategies in use, they can help guide thinking about what kind of response (food, cash, market, etc) might be most appropriate.

Livelihoods Protection and Survival Thresholds



In the example provided, income is sufficient to cover basic survival needs, but there is a gap between minimum livelihood requirements and available income. In this case, an appropriate response might include a cash transfer program, or in kind support to cover one or more of the expenditure requirements.

The Survival Threshold represents the total income required to cover:

a) 100% of minimum food energy needs (2100 kcals per person), plus
b) the costs associated with food preparation and consumption (i.e. salt, soap, kerosene and/or firewood for cooking and basic lighting), plus
c) any expenditure on water for human consumption.

Note: *Items included in categories b) and c) together make up the survival non-food expenditure basket, represented by the ivory bar in the expenditure graphic.*

The Livelihoods Protection Threshold represents the total income required to sustain local livelihoods. This means total expenditure to:

a) ensure basic survival (see column to left), plus
b) maintain access to basic services (e.g. routine medical and schooling expenses), plus
c) sustain livelihoods in the medium to longer term (e.g. regular purchases of seeds, fertilizer, veterinary drugs, etc.), plus
d) achieve a minimum locally acceptable standard of living (e.g. purchase of basic clothing, coffee/tea, etc.)

sale of additional (but not all) livestock, it **does not suggest that households will necessarily take up that strategy**. Rather than sell more animals than usual, they may decide to employ one or more of the other strategies open to them – including those considered to be more damaging: they may reduce food intake, or send a household member away permanently to find work. The point is that the analysis of household response is not an attempt to model behaviour - that is, to predict which options a household will take up in a crisis and which they won't. Rather, it is an attempt to define a level of access below which households have little choice **but** to pursue strategies that are likely to be damaging in the long term; in other words, a level of access below which the analysis shows that outside intervention is appropriate.

The final output from the outcome analysis is the **projected outcome**: a quantified estimate of access to food and cash, taking into account the hazard and household responses to it, for each of the wealth groups. It shows where different households fall in relation to two locally-defined thresholds – one that defines the minimum survival requirements, and the other that sets out what it takes to protect people's livelihoods (see **Box 8**).
Based on the best available evidence, it shows which groups of households will and will not be able to respond to a shock on their own, without the use of strategies that would undermine either their health or their longer term welfare. It provides decision makers with a transparent link between household realities and a justification for providing external support of a particular type and amount, and for a set duration. Just as important, it makes clear the likely consequence of a failure to mount an intervention and establishes useful monitoring indicators and thresholds so that response plans can be adjusted as time goes by.

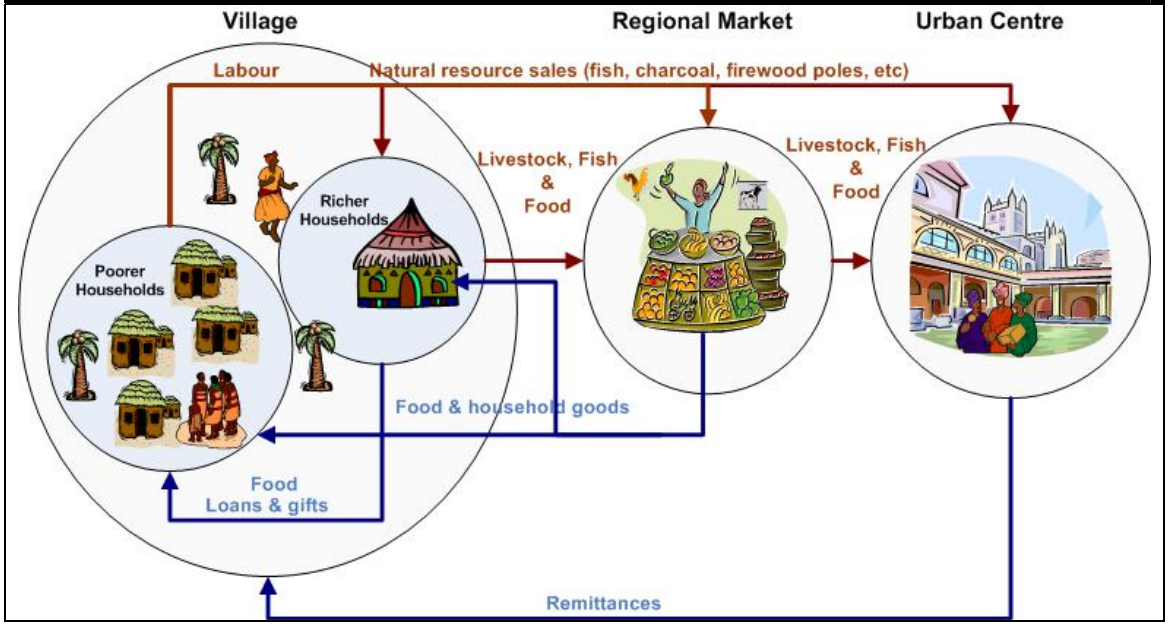
WHERE MARKET ANALYSIS FITS INTO THE HEA FRAMEWORK

Market assessments in HEA aim to get an idea of how markets function and related implications for the vulnerability of households to different market shocks. They provide correlative evidence for information gathered during household economy interviews on the prices and quantities of goods and services traded, and price variations across seasons and years.

Market analysis in HEA should be distinguished from detailed market studies which focus on, for example, the marketing of one crop and involve specialised economic modelling. These go into considerably more detail than is required (and practical to gather) for HEA studies. HEA studies do not claim to be able to provide information to guide strategic plans for improving businesses, or improving market efficiency. For this it is advisable to contact microfinance specialists and market economists. Our focus is on the nexus of the household, community and its most immediate markets. HEA aims to obtain an overview of how regional, national and international markets serve the population, but the focus is generally on local-level access to food, non-food items and basic services. National level market analysis requires a different approach. HEA's unique focus on the household allows it to provide clear information about the implications of problems related to markets on the household economy.

During an HEA study, practitioners encounter a wide range of actors each of whom interacts with the market in different ways. Just what is sold to whom and when determines much about the advantage or disadvantage that different households hold in relation to the market. Sometimes the members of households act in the capacity of producers, and at other times of year, they are consumers. Richer households tend to sell surplus amounts of the things they produce (like crops or livestock) and they have the luxury to sell at times that are advantageous for them. Poorer households tend to be caught in cash flow crunch that forces them to sell essential portions of what they produce (i.e. not surplus food) at the least profitable time of the year (e.g. just after harvest). Traders act as intermediaries between market levels (local, regional, and urban) and profit from the margins generated by the

Figure 2. The critical links between households and markets

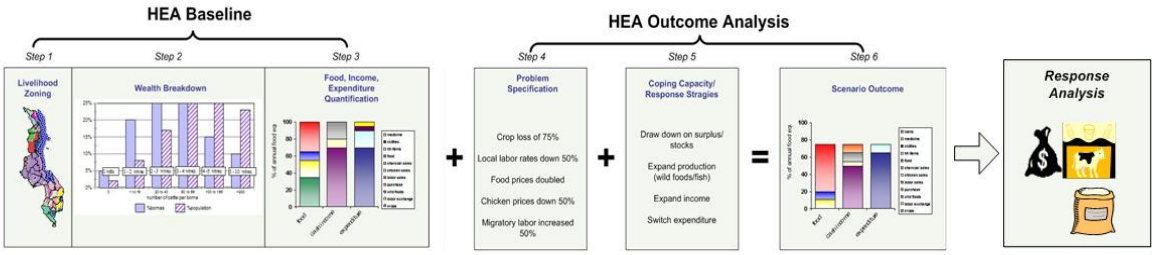


changing balance between supply and demand. **Figure 2** illustrates some of these links, showing how the household engages with other households locally, and how each of these interacts with regional markets and urban centres to sell goods as well as to procure basic goods and services, to invest, and to procure other items. The diagram highlights the reciprocal exchange between richer and poorer households for goods, labour and services, which have as much of a social basis as an economic one.

HEA takes up and adapts market analysis tools as necessary given the circumstances. For instance, if it seems from household information that markets are strong and people get good prices in both good and bad years then we might be satisfied with understanding only the flow of commodities into and out of an area. However, if we find out that crop prices are extremely low in good production years, and this seems to be a major factor in keeping people poor then it becomes necessary to investigate where, in the marketing chain, the biggest bottlenecks are so that recommended interventions result in improved access to markets and better prices for food and inputs.

As suggested by **Figure 3**, which summarises how market analysis fits into the HEA framework, market analysis in HEA is not a separate study. It is an integral component of understanding the household economy and in gauging how changes in the wider economy translate into household effects; as such it has relevance at every step of the process. Knowing how to organise the essential pieces of market-related information required to carry out the different steps in the HEA process is critical for translating this potentially vast area of enquiry into a practical input to the Framework.

Figure 3. Where market assessment fits in the HEA Framework.



WHY you need to know about markets	Which areas have access to which markets is one of two main determinants of livelihood zone boundaries	The exchange relationships between wealth groups and the ability to profit from the market are determinants of the wealth breakdown	People either produce their food or they use the market to get it. Understanding labour, food, livestock and other markets is central to quantifying food and income.	Any shock – even a production shock – has market effects. And those market effects in turn have household consequences.	People use the market to cope with shocks. They try to sell more food stocks, more livestock, more labor, etc. And they try to buy more food.	Projections of food or income deficits will rest on assumptions about what will happen to a whole range of prices.	All interventions will affect markets in one way or another. We want to optimize the use of aid resources to meet identified needs while at the same time minimizing negative side effects.
WHAT you need to know about markets	We need to know where people sell their wares (livestock, labor, crops, etc.) both within the country and across the border	We need to understand the connections between households in the community, and how households translate – through market interactions - their assets into different levels of wealth.	We need to understand just how much food and how much cash income different wealth groups obtain through market mechanisms.	We need to be able to understand the nature of the shock and how this will affect the prices and quantities of the things people sell and buy as this will affect their purchasing power.	We need to understand both the opportunities the market presents as well as its limits as a coping response.	We need to be able to make the best predictions about prices. And we need to be able to monitor these prices against the thresholds set in the scenarios.	Is an external response necessary (i.e. will prices exceed people's purchasing power)? If so, which type of intervention maximizes utility for those who need help and minimizes harm to longer term livelihood strategies
HOW you get the inform-ation	Market mapping & Livelihood Zoning Format *– markets section*	Baseline Assessment **Interview Form 3** *– wealth breakdown section*	Baseline Assessment **Interview Form 2** **Interview Form 4**	Historical price trend data Baseline Assessment **Interview Form 2** **Interview Form 1** *– hazards and timeline section*	Analysis of labour & livestock markets (the limits of demand) Baseline Assessment **Interview Form 3** *– bad year section*	Historical price trend data Baseline Assessment **Interview Form 2**	Market integration studies Historical price trend analysis

THE PRACTITIONERS' GUIDE TO HEA

Chapter 2: Livelihood Zoning

2 LIVELIHOOD ZONING

This chapter provides guidance on how to undertake a livelihood zoning exercise. It also sets forth minimum standards to define what a livelihood zoning is, what needs to be included in one, and what it is not, thereby providing a useful reference for interpreting a wide array of map products in livelihood terms. However, it is generally expected that only experienced HEA practitioners will undertake Livelihood Zoning, as this is an area that requires particular skills and a wide body of experience in many country settings. Therefore, this chapter is less a do-it-yourself guide, and more a take-along reference for team members who are being led by an experienced HEA team leader. It can also be used by analysts who are evaluating the validity of livelihood zoning maps or to guide new zoning initiatives and the design of scopes of work.

After reading this chapter practitioners should be able to define what a livelihood zone map is and what value it adds for early warning systems, planning a survey or assessment, emergency needs provisioning, baseline studies, and development planning purposes. They should be able to list the kinds of factors that define a livelihood zone and those that do not; they should be able to name a livelihood zone, and describe the basic outputs of a livelihood zoning. Practitioners should be able to provide a clear explanation of the way that livelihood zones relate to administrative boundaries. In addition, they should be able to describe the basic process for undertaking a livelihood zoning and some of the common pitfalls involved in zoning.

The text for this chapter comes from a Livelihood Zoning Guide that was originally written by Mark Lawrence, Alexandra King and Julius Holt of the Food Economy Group (F.E.G.), using materials prepared by themselves and by Tanya Boudreau and Jennifer Bush (also of F.E.G.) for a variety of assignments, including contracts undertaken for the USAID FEWS-NET project, for Save the Children UK and for the UN World Food Programme.

List of Boxes

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RELATED CD FILES

The CD that accompanies the **Practitioners' Guide** contains the following files relevant to Chapter 2, found in the Chapter 2 Directory:

- **Annex A: National Livelihood Zoning Example (Malawi.. continued from main text of Chapter 2)**
- **Annex B: Livelihood Zoning Format**

RELATED TRAINING SESSIONS

The **HEA Training Guide** provides the following sessions relevant to Chapter 2:

MODULE 2: BASELINE ASSESSMENT

- *Session 4: Livelihood Zoning*
- *Session 20: Incorporating Secondary Information*

BACKGROUND

What is a Livelihood Zone Map?

A ***livelihood*** may be defined as the sum of ways in which households obtain the things necessary for life, both in good years and in bad. Most obviously, these necessities include food, water, shelter, clothing and health care, with education often included too. The household is taken as the unit of reference because it is by far the chief unit through which populations anywhere operate for production, sharing of income and consumption.

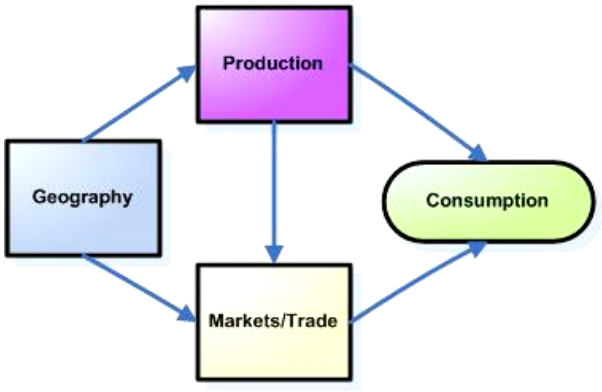
Patterns of livelihood clearly vary from one area to another, which is why the preparation of a ***livelihood zone map*** can be a useful first step for many types of livelihoods-based analysis. Local factors such as climate, soil, access to markets etc. all influence livelihood patterns. For example, people living in a fertile highland area have very different options from those living in a semi-arid lowland area. In highland areas, people generally pursue an agricultural pattern of livelihood, whereas in the lowlands they grow few crops and are either pastoralists or agro-pastoralists. Those living in a coastal or lakeside zone may follow a livelihood based upon fishing or combining fishing with other activities, and so on.

Where to draw the line

A Livelihood Zone Map is a map which shows areas within which people share broadly the same patterns of livelihood

Agro-ecology is one aspect of geography which determines patterns of livelihoods. Another factor is market access. Market access affects the ability of people to sell their production (crops or livestock or other items) and the price they obtain for these goods. Since patterns of livelihood depend so much upon geography, it makes sense to divide a country or a region into a number of ***livelihood zones***. These we can define as areas within which people share broadly the same pattern of livelihood (i.e. broadly the same production system -agriculture or pastoralism for example - as well as broadly the same patterns of trade/exchange). An example of a livelihood zone map based on information gathered from southern Mozambique is presented in **Box 1**.

Livelihood zoning involves more than just the drawing of maps. A livelihood zone map is of little use unless it is accompanied by a basic description of the patterns of livelihood in each zone, and ideally by an analysis of the underlying reasons for differences between zones. This means analysing in some detail the production and trade/exchange options in each of the zones and the influence that the underlying geography has on each of these. We can think of these three factors as linked to consumption as follows: Geography affects both the options for production (climate, soil, etc.) and for marketing/trade (roads, proximity to urban centres, etc.), which in turn affect consumption by the household. Household production (of food and other items) may either be directly consumed or may be traded/exchanged for other items in the market. Consumption is also critically determined by what is available in these markets, and how people obtain the means to purchase these commodities.



However, geography is not the only thing that determines the pattern of livelihood. Geography tends to define the different livelihood *options*, but the extent to which people exploit these options depends upon a number of factors, of which *wealth* is generally the most important. In an agricultural zone, for example, different people will own different amounts of land, and may obtain different yields, often because they can afford improved seeds, fertiliser, pesticides and herbicides, while others cannot. Similarly, in a pastoral zone, not everybody owns or has access to the same number of animals, and not everybody can afford veterinary or other services. These are examples of how household wealth affects the pattern of livelihood within a zone, and any analysis of food security or livelihood must take these differences in wealth into account. Often, therefore, a wealth breakdown is the next step in the analysis, following the livelihood zoning exercise.

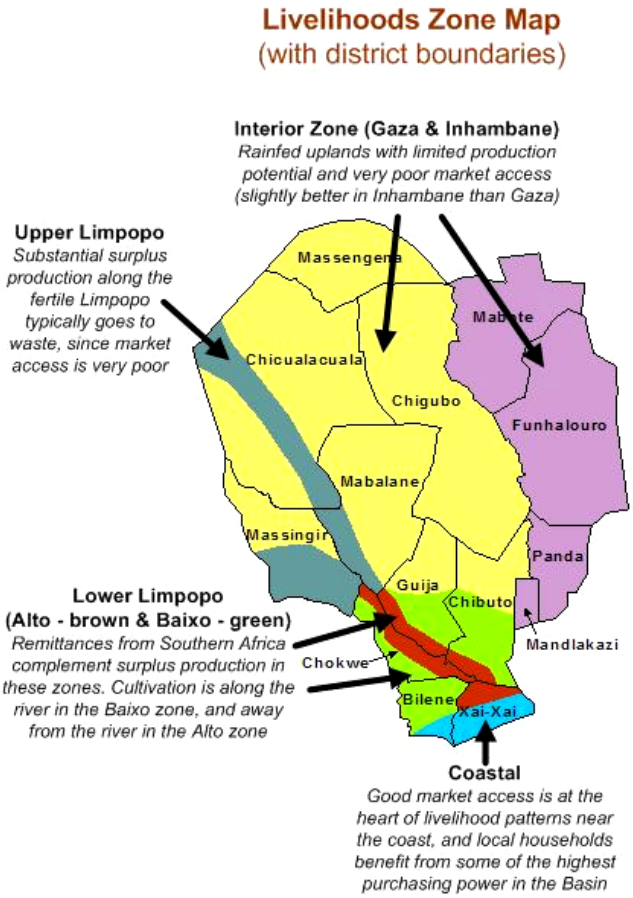
Box 1. The Limpopo Basin, Mozambique

The zoning map to the right was completed in 2001 as part of FEWS NET's MIND project in Mozambique, which aimed to provide livelihoods zoning and baseline information for use in contingency planning and disaster mitigation programs.

A livelihood zone is an area within which people share broadly the same means of production and broadly the same patterns of trade/exchange.

The basic outputs from a livelihood zoning are:

- A map showing the different zones in relation to conventional administrative boundaries.
- A breakdown of the population by livelihood zone and administrative unit
- A basic description of each zone's geography, production system and patterns of trade/exchange.



Why Do a Livelihood Zoning?

There is increasing interest in using livelihoods analysis as the 'lens' through which to view a number of problems ranging from emergency response to disaster mitigation to longer-term development. This interest rests upon two basic observations:

1) That information about a given area or community can only be properly interpreted if it is put into context with how people live.

2) That interventions can only be designed and managed in ways appropriate to local circumstances if the planner knows about local livelihoods and whether or not a proposed intervention will build upon or undermine existing strategies.

Interpretation of information

Food security assessment provides an example of the value of livelihoods-based analysis. This is because it has been found that: *an analysis of local livelihoods is essential for a proper understanding of the impact– at household level - of hazards such as drought or conflict or market dislocation.* Total crop failure may, for example, leave one group of households destitute because the failed crop is their only source of staple food. Another group, by contrast, may be able to cope because they have alternative sources of food and cash income. These alternative sources - such as livestock to sell or relatives elsewhere who can assist - can help make up the production shortfall. Given that the impact of a hazard varies according to the livelihood context, it follows that effective hazard impact assessments must be based upon an analysis of livelihoods.

Design and management of interventions

There are several frameworks for livelihoods-based project planning and management. In one example--the DFID Sustainable Livelihoods Framework—a central concept is the five capitals (natural, physical, human, social and financial), which, in interaction with policies, institutions and processes, determine the types of livelihood strategy that people are able to pursue. The first two of these—natural and physical capital—are clearly determined largely by geography, which means that a livelihood zone map can be a useful starting point for this type of livelihoods-based analysis.

In sum, a livelihood zone map provides a division of the country into reasonably homogeneous zones defined according to patterns of livelihood. It is a means of dividing the population into relatively homogenous groups for a range of analyses, providing a livelihoods basis for various types of survey or assessment, including emergency assessments and baseline studies for development planning purposes. It can be used as the sampling frame for household questionnaire surveys and for rapid assessments. It can form a basis for prioritising the needs of different parts of the country and for targeting assistance on a geographical basis. It can also be the starting point for customizing indicators for a livelihoods-based food security monitoring system.

What Defines a Livelihood Zone?

Geography, production and markets

Most livelihoods are complex, and are shaped by a wide range of factors. In order to simplify the process of defining livelihood zones, it is suggested that the analyst focus on three primary factors. These are set out in the Livelihoods Triangle featured above, and are:

- **Geography**: There are two classes of geographical factors: ***natural*** and ***man-made*** (corresponding to natural and physical capital in the DIFD framework). The most important natural factors are topography (i.e. the physical features of an area, including mountains, coasts, rivers, plains), altitude, soil, climate (i.e. temperature and rainfall) and vegetation. The most important man-made factors are those related to infrastructure (roads, railways, telecommunications).

- **Production**: There are several types of rural production system, with the most basic division being between ***agricultural, agro-pastoral*** and ***pastoral systems***. (See **Table 1** for a detailed description of these systems.) The system of production is determined by a range of factors, of which geography is clearly the most important. Other factors include the marketing system (e.g. demand for one product as compared

Table 1. Main Categories of Production System

	Main characteristics	*Additional notes:*
Agriculture	Example of main types of Agricultural Livelihood Zones: • Rain-fed and/or Irrigated • Food crop and/or cash crop • Crop surplus or crop deficit zone • Hand and/or animal/mechanical traction • Short or long rains dependent • Lowland – highland – mid-highland • High potential – low potential • Fertile or infertile soils • Sparse or densely populated	In this type of zone, the main activity is crop production, typically supplemented by livestock keeping but on a small scale (e.g. 1-2 dairy cattle and poultry for most households). We want to rank the main crops consumed and the main crops sold.
Pastoral	Indicate: Agro-ecological zone	Pastoral livelihoods are those where the core or main activity is the raising of livestock. We want to rank the main types of livestock based on their importance to household food and income.
Agro-Pastoral	Indicate whether: *Crops more/less important than Livestock* Plus any of the agricultural or pastoral characteristics	Agro-pastoralists both herd livestock and grow crops.
Fishing	Indicate whether: Sea, Lake, River, Pond etc. Offshore and/or Inshore Boats, Nets and/or Lines	In this type of zone, fishing typically provides both a source of food and a source of income.
Labour Based	Indicate whether: Plantation – Ranch – Urban Local work – seasonal migration – long-term migration Type of plantation (tea etc.)	In this type of zone the majority of people derive their income from labour and purchase most of their food[1]
Hunter-Gatherer	Indicate whether: Hunting of animals more/less important than gathering of wild plants	Hunter-Gathers derive a substantial proportion of their *FOOD* from hunting and gathering (not just income, as in the case of pastoralists that may collect and sell charcoal, for example.)
Other (e.g. Mining, Trading)	Indicate main characteristics	Include any other types of livelihood pattern not listed above.

[1]This will apply to many workers employed full time on large commercial ranches and plantations (e.g. tea or coffee estates). It does not apply to smallholders growing their own tea or coffee (whose livelihood is agricultural). People that both farm and find work on ranches or plantations (perhaps seasonally) can be described as having an agriculture + labour-based livelihood. Similarly, people that both farm and find work in urban areas also have an agriculture + labour-based livelihood. This is true whether the urban area is close by or distant (in which case 1-2 or family members may migrate for all or part of the year).

to another, the experience and capital resources of traders), the financial and banking system (e.g. availability and affordability of credit) and government policy (e.g. development policy, pricing policy, policy on the provision of production inputs, etc.). It is quite possible for two livelihood zones to be similar geographically, but one to be based, for example, upon food and livestock production, while another is given over to the production of sugarcane because agro-ecological conditions are favourable, farmers in the zone are encouraged to grow the crop, there is a processing factory nearby and there are good roads/railways to transport the final product to market.

- **Markets/Trade**: The market system determines the ability to sell primary production, to trade goods and services and to find employment (whether in the formal or the informal sector), all of which have a profound influence on the pattern of livelihood. Three factors are particularly important; these are a) the ***demand*** for products, goods, services and labour, b) an ***efficient system for marketing*** these, and c) the existence of ***basic infrastructure*** to support market and trading activities. The existence of demand (a) is obviously a key factor. Proximity to a large urban centre, for example, often has a profound influence on rural patterns of livelihood (e.g. because of urban demand for rural produce such as fruit and vegetables or urban demand for unskilled casual labour). The efficiency of the marketing system (b) is also important. This is determined by a number of factors, including the experience of traders, their access to capital, credit and equipment (e.g. trucks, storage depots), and government policy and legislation affecting trade (e.g. systems of licensing, taxation, duty, etc.). Finally, the existence of basic infrastructure (c), especially transport and communications, has an obvious and important influence on the market system.

Taken together, these three factors by and large determine the economic operations of households within a particular livelihood zone. They also determine their vulnerability to particular hazards such as drought, conflict or market dislocation, since vulnerability is a function of a) the normal activities of households and b) the activities they turn to in response to a hazard. These, like the normal activities, are determined by the same three factors of geography, production and markets/trade.

Factors Not Taken Into Account When Defining Livelihood Zones

Two types of factors are not taken into account when defining livelihood zones. These are:

1) The **hazards** to which different areas may be exposed. Many rural areas are exposed to a range of hazards which may either be natural (e.g. drought or flood) or man-made (e.g. conflict or market dislocation). Hazard exposure is clearly a factor that affects patterns of livelihood, since people will tend to adopt certain strategies either to mitigate the effects of a particular hazard (e.g. cultivation along a river margin to mitigate the effects of drought), or to increase their resilience or ability to recover from a hazard (e.g. the accumulation of livestock that can be sold in a crisis). By and large these types of response will be captured by the analysis of the production system, and it is not therefore necessary to include hazard exposure as a fourth factor defining livelihood zone boundaries (although it is, of course, important to include information on hazards as part of the description of the livelihood zone).

   Supposing, however, there is a difference in the pattern of hazard exposure within a single zone that is otherwise broadly homogenous in terms of livelihood? If, for example, the northern half of a particular zone tends to be more drought-prone than the south? This by itself does not justify a division of the zone into two, since both areas share a similar pattern of livelihood and a similar *vulnerability* to

drought, which is the most important consideration at this stage of the analysis. If, in a particular year, the north suffers a drought while the south does not, then, obviously, separate analyses of outcome will be required for the north and for the south, but this is not an analysis that requires the division of the zone into two at the stage of compiling the basic livelihood zone map.

2) The level of **service provision** within a particular zone. It is not, for example, usual to divide a livelihood zone into two because one part has better health or education services than another. Why not, when, as has already been stated, a livelihood may be defined as the sum of ways in which households obtain the things necessary for life, including health care and education?

   To explain this it is necessary to go back to the reason for preparing a livelihood zone map, which is to assist with emergency and development decision-making. In these cases we may be trying to answer questions such as; how will people in different areas be affected by a hazard (e.g. drought), and what might be their need for food and/or economic assistance? Or how best can we design development interventions that will support rather than undermine existing livelihood strategies? These are questions that are best answered through an understanding of the economic operations of individual households, not in relation to existing levels of local service provision.

   This is not to say that mapping levels of service provision would not be a useful activity in its own right. However, rather than incorporating this into the definition of individual livelihood zones, the most useful procedure might be to overlay maps of service provision onto the final livelihood zone map. This would help to identify which parts of which zones are poorly served, perhaps highlighting priority areas for intervention in the health and education sectors.

Relationship Between Livelihood Zones and Administrative Boundaries

Ideally, livelihood zone boundaries would coincide with administrative boundaries, but this is not always possible because homogenous ecological and economic zones often cross political boundaries. As a result, within one administrative unit, it may be possible to find pastoralists living alongside agriculturalists, or agro-pastoralists alongside fishing communities.

Box 2. Examples of Administrative Boundaries

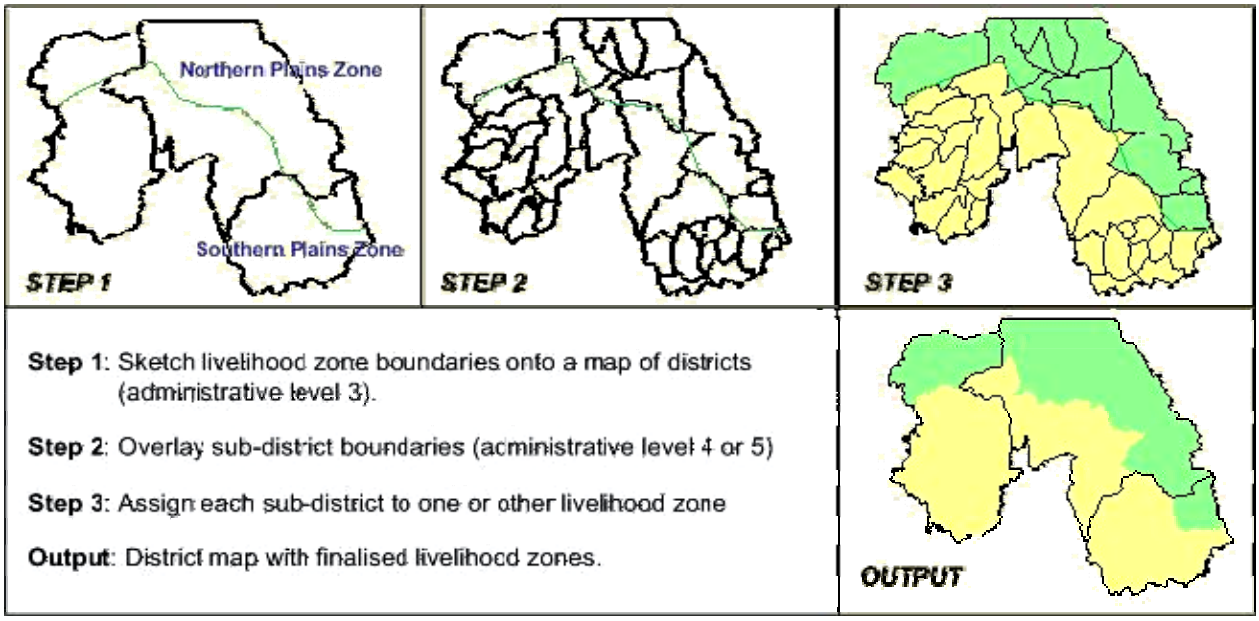
There are typically five administrative levels to be found in a country, beginning at level 1 (the whole country), then level 2 (the primary administrative sub-division, e.g. the region or province), and counting onwards to the lowest administrative unit, which is typically a group of villages.

Examples of Administrative levels, by country				
Administrative level	*Ethiopia*	*Kenya*	*Zambia*	*Niger*
1	Country	Country	Country	Country
2	Region	Province	Province	Department
3	Zone	District	District	Arrondissement
4	Woreda	Division	Constituency	
5	Kebele / PA	Locality	Ward	

However, because resource allocation and service provision decisions are made on the basis of administrative units, not livelihood zones, it is important that livelihood zones correspond in some way to the lowest level of administrative unit. Ideally livelihood zone

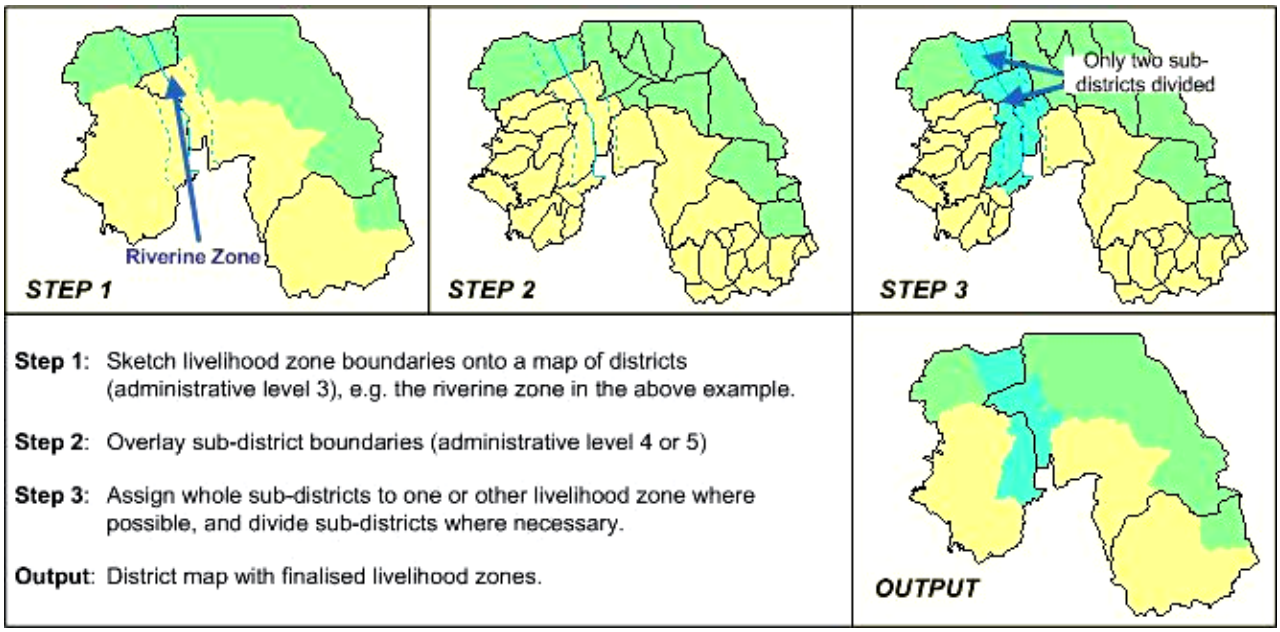
boundaries will broadly overlap with the lowest level of administrative unit (i.e. level 4 or 5), but this is not always the case, and sometimes even these very smallest administrative units have to be sub-divided. See **Box 2** for details on the levels of administrative boundaries.

Figure 1: Drawing a Livelihood Zone Map (where livelihood zone and administrative boundary roughly coincide)



Practically, the simplest way of preparing a livelihood zone map is to draw the preliminary livelihood zone boundaries onto a blank district map (i.e. administrative level 3,). Most participants in the exercise will be familiar with district boundaries and will be able to use these as a guide as they sketch out the livelihood zone boundaries. They may not be so familiar with lower level boundaries (i.e. administrative level 4 or 5) and may also find this

Figure 2: Drawing a Livelihood Zone Map (where livelihood zone and administrative boundary do not coincide)



level of detail confusing at this stage. Having sketched out the boundaries in this way, the next step is to assign lower level administrative units to each of the preliminary zones. One way to do this is illustrated in **Figure 1**. This is to overlay the lower level units, in this case the sub-districts, onto the district map and to assign each sub-district to one or other livelihood zone. Another way is to have participants check through a list of lower level administrative units (e.g. the most recent population census), again assigning each sub-district to one or other livelihood zone. Using this method, it is possible at the same time to estimate the population of each livelihood zone.

The procedure for dealing with livelihood zone boundaries that do coincide with administrative boundaries is illustrated in **Figure 2**.

Where sub-districts have to be sub-divided like this, it is necessary to estimate the percentage of the sub-district population that falls into each livelihood zone. There are several ways of doing this, of which the simplest is to split the population in proportion to the area of each zone within the sub-district. A more sophisticated approach is to take both the area and the estimated population density of each zone into account.

How Does a Livelihood Zone Map Differ from other Types of Map?

A livelihood zone map defines areas within which people share broadly the same means of production and broadly the same access to markets. This is different from other common types of map that complement but are not exactly the same as a livelihood zone map:

Agro-Ecological Zone Maps: This type of map often delineates areas that share much the same production potential. These maps are about what *people could grow or produce* rather than what *people actually do*, which may be different. For example, an agro-ecological zone map may indicate that a given zone is suitable for cultivating a particular crop, but that crop may not actually be grown in that zone. In one area, for example, sorghum may be best suited to the agro-ecological conditions there; however, many farmers from that area may chose instead mainly to plant maize, for economic or cultural reasons. Alternatively, in the case of a cash crop, market conditions may not at that moment favour its cultivation in the zone. It is what people are currently doing that we are concerned with in a livelihood zone map.

Land-use Maps: This type of map usually indicates how land is being used and what type of vegetative cover exists in different parts of the country. This is not the same as a livelihood zone map because people pursuing a common livelihood pattern may exploit more than one type of land, perhaps at different times of the year. Agro-pastoralists, for example, may graze their animals in one area (perhaps defined as shrub-land on a land use map) while they cultivate crops elsewhere (perhaps in an area defined as herbaceous crop). Similarly, smallholder farmers may cultivate food crops in one area and cash crops (e.g. tea or sugar cane) in another, and each of these may be defined as a different area on a land use map. In a livelihood zone mapping exercise we are interested in defining areas within which people share the same livelihood and exploit broadly the same set of natural resources, even if this encompasses more than one type of land use or vegetative cover.

Needs Assessment Maps: These maps are based on a current assessment of the needs of certain populations, due to a hazard, such as drought. Livelihood zone maps should help emergency teams to understand why certain groups are in need, as well as help them to determine levels of need. However, a livelihood zone map is very different from a needs

assessment map as it is not about levels of need in times of stress, but about how people make a living in most years.

In sum, the types of map mentioned above provide useful reference material when creating a livelihood zone map. However, they are different things. On their own, they cannot be used in a simple way to define livelihoods (nor can any other single secondary source of information). A great deal of what defines livelihoods is invisible in secondary data. That is why the approach to defining livelihood zones is key informant based, not secondary data based.

How to Name Livelihood Zones

Livelihood zones should have unique names that are useful descriptors and that do not cause confusion. Names should be short, but informative. The easiest way to make them informative is to capture two key characteristics from the following: location in the country, topography, vegetation, or dominant economic activity.

- Location in the country – e.g. northern, southern, or a specific region
- Topography – e.g. mountains, highlands, lowlands, hills, plains, valley, coastal, riverine, lakeshore, roadside, oasis
- Vegetation – e.g. forest, savannah, marshland, desert
- Dominant economic activity – e.g. mining, tea, coffee, sugarcane, coffee, cotton

In terms of names to avoid, "Zone 12A" is not a useful name because it provides no description of the zone. Names that are based upon crops grown or livestock raised may cause confusion unless the crop or type of livestock is unique to the zone. For example, the name "The Cattle Zone" implies that cattle are not kept in other parts of the country, whereas the reality may be that cattle are more important in "The Cattle Zone" but are also kept in smaller numbers elsewhere in the country. Equally, a crop should only be listed as a 'dominant economic activity' where the crop is very distinctive for that zone (i.e. not maize where maize is grown very widely in the country).

Outputs from a Livelihood Zoning

The output from a livelihood zoning exercise is not just a map; it is also a way of describing and dividing the population. The following outputs are expected:

- Map with livelihood zone boundaries and districts (admin level 3) overlaid
- Table listing lowest level administrative units (admin level 4 or 5) by livelihood zone
- Cross-tabulation of the population by livelihood zone and district
- Basic description of each zone, including:
    - Geography (topography, climate, soils, etc)
    - Production system (agricultural, pastoral, etc)
    - Markets/trade (trade flows, including employment)
    - Hazards affecting the zone (drought, flood, etc.)
- An optional output for presenting trade information: a map of major trade flows (with description) as an overlay to the livelihood zone map.

Where have Livelihood Zonings been Conducted?

At the time of the publication of the **Practitioners' Guide**, Livelihood Zoning had taken place in the following countries (either at the national or sub-national level) and urban centres (please see Chapter 6 for more on zoning in an urban setting).

- Afghanistan
- Angola
- Burkina Faso
- Burundi
- Chad
- Djibouti (city and rural)
- Ethiopia
- Guatemala
- Haiti
- Harare, Zimbabwe
- Hargeisa (Somaliland)
- Honduras
- Lesotho
- Liberia
- Malawi
- Mali
- Mauritania
- Mozambique
- Nicaragua
- Niger
- Nigeria
- Rwanda
- Sierra Leone
- Somalia
- Southern Sudan
- Swaziland
- Tanzania
- Uganda
- Zambia
- Zimbabwe

Table 2. Zones Per Country: Some Examples

Country/Region	*Number of Zones*
Less diverse	
Mauritania	7 zones
Niger	8 zones
More diverse	
Guatemala	16 zones
Zimbabwe	24 zones
Most diverse	
SNNP Region in Ethiopia	43 zones
Note: When completed, Ethiopia promises to have well over 100 zones	

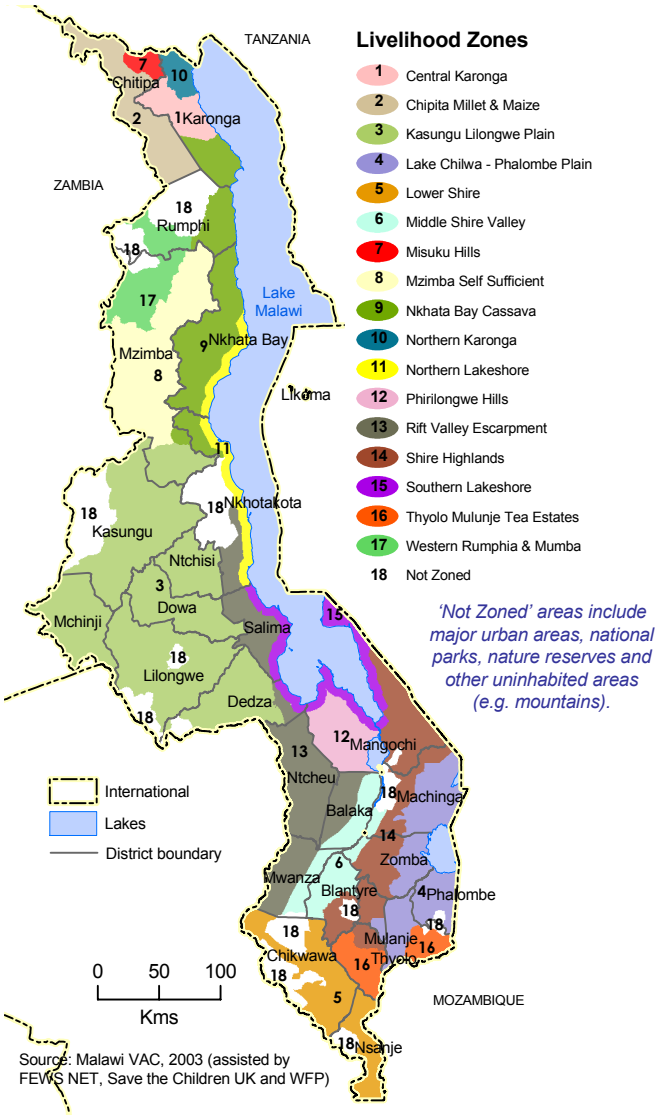
Examples of National Livelihood Zoning: Malawi and Djibouti

The following pages illustrate the outputs of livelihood zoning exercises from Malawi and Djibouti. The Malawi exercise was mainly based on types of crop production, while livelihood zones in Djibouti were defined mainly on the basis of patterns of trade/exchange. Note that the formats of the two case studies differ slightly. The content is the same; it simply shows that there is more than one way to present the same type of material. A continuation of the Malawi output, with a cross-tabulation of the population by livelihood zone and district, and zone by zone descriptions, is provided in **Annex A**, located on the CD that accompanies the **Practitioners' Guide**.

Case Study 1 : Malawi National Livelihood Zoning

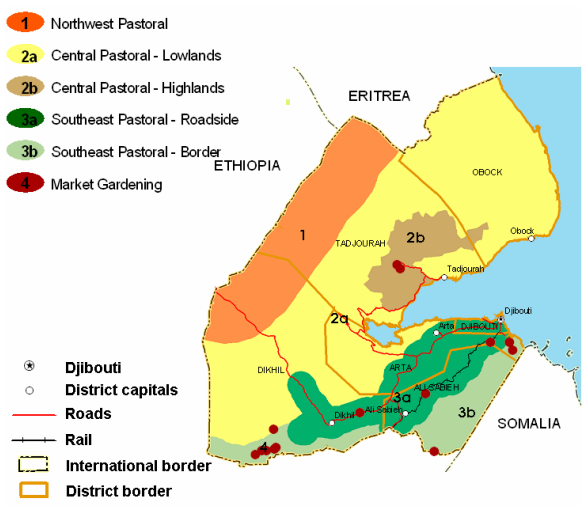
POPULATION BY LIVELIHOOD ZONE

Livelihood Zone	Population
Chitipa Millet and Maize	112,620
Misuku Hills	35,110
Northern Karonga	108,554
Central Karonga	43,254
Northern Lakeshore	183,108
Western Rumphi & Mzimba	115,312
Mzimba Self-Sufficient	454,876
Nkhatabay Cassava	274,429
Kasungu Lilongwe Plain	3,249,092
Southern Lakeshore	393,578
Rift Valley Escarpment	1,040,591
Phililongwe Hills	205,584
Shire Highlands	1,038,400
Middle Shire Valley	404,970
Lake Chilwa/Phalombe Plain	1,155,384
Thyolo Mulanje Tea Estates	649,330
Lower Shire Valley	630,879
Total	**10,095,070**



Case Study 2 : Djibouti National Livelihood Zoning

Despite the country's small size (23,200 km^2) and small rural population[12], there is considerable diversity in rural patterns of livelihood. The main productive activity in rural areas is livestock keeping (due to the hot climate and lack of rain - <150 mm rainfall per year in most areas). Nowhere, however, can the majority of the population survive on livestock income alone. The national economy is dominated by Djibouti city, and most of the cash income to supplement livestock keeping is urban in origin. The main difference between the four rural livelihood zones is in their economic relationship to Djibouti city and the secondary towns.



1: Northwest Pastoral Zone

Geography: The zone consists of mountains, hills and plains. Main season rains for the zone (July-September) drain onto the plains giving rise to an important source of late summer pasture.

Production: Livestock-keeping is the main activity.

Economy: Far from the major towns, access to the urban market is poor and few households receive remittance income from Djibouti city. The zone's only advantage is its proximity to Ethiopia, where maize and sorghum can be bought for half or less of the price in Djibouti. People in the zone also trade salt with Ethiopia and collect and sell *onga* (doum palm leaves, for mat-making).

Hazards: Drought and disease affecting livestock. Crop failure in Ethiopia affecting food prices.

Livestock	Goats, Camels	**Main Income Sources**	Sale of: livestock, butter, salt, *onga*

2: Central Pastoral Zone - 2a: Lowland Sub Zone, 2b: Highland Sub Zone

Geography: Geographically varied, including the Mabla and Goda mountains (*Highland Sub Zone*), their foothills and the coastal plain (*Lowland Sub Zone*).

Production System: Cattle are kept in the highlands compared to camels in the lowlands – this is the main difference between sub zones. Goats are kept everywhere.

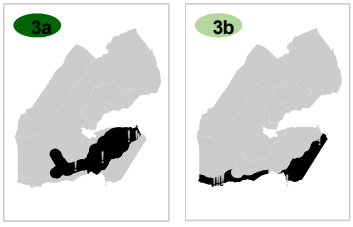
Economy: Most households in this zone survive on pension income or remittances from family members in Djibouti city. Sale of firewood is a secondary income source for those living along the main coast road, but is less of an option further inland.

Hazards: Reduced salary/pension income, increased food prices, drought/disease.

Livestock	Cattle, Camels, Goats	**Main Income Sources**	Pensions/remittance, Firewood

[2]There is considerable uncertainty as to the population. Most estimates are in the range of 450,000–700,000 for the country as a whole (with the UN estimate for 2003 being 702,000). Sixty to eighty percent of the population are thought to be resident in Djibouti city.

3: SOUTHEAST PASTORAL ZONE – *3a: Roadside Sub Zone*, *3b: Border Sub Zone*



Geography: Hills, valleys and plains. The Southeast Pastoral Zone has relatively good road and rail access to Djibouti's main urban markets.

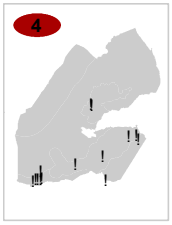
Production System: Livestock-based, with milking camels especially important in the *Roadside Sub Zone* – the purchase of fodder for camels is common here.

Economy: Communities close to the main road and rail corridors (the *Roadside Sub Zone*) sell fresh milk to the urban market, where demand is strong and prices high. More remote communities sell firewood and charcoal (the *Border Sub Zone*).

Hazards: Drought/disease, reduced salary/pension income, increased food prices.

Livestock	Goats, Camels	**Main Income Sources**	Milk, Firewood/charcoal, Pensions/remittance

4: MARKET GARDENING ZONE



Geography and Production System: The irrigated production of fruits and vegetables is practiced in *wadi* areas, mainly in the south of the country and in Tadjourah district.

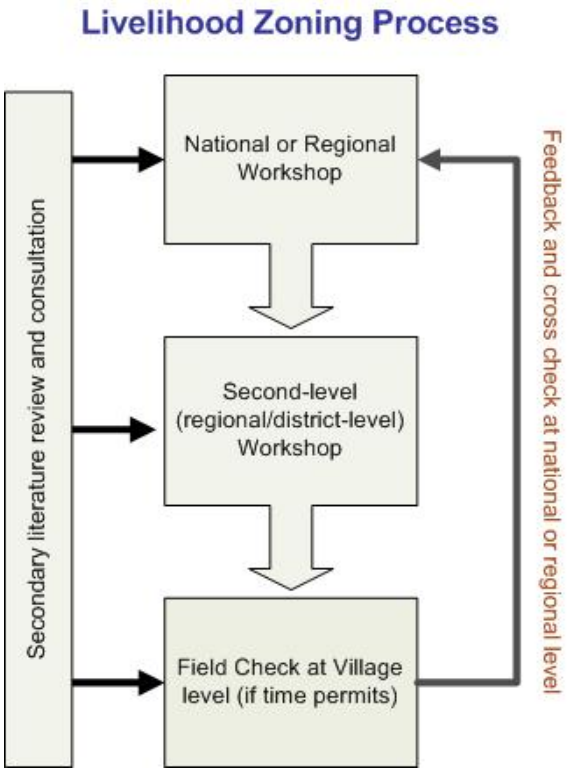
Economy: Djibouti city and the main towns are the main market for these products. The activity was introduced with government assistance in the 1980s. It is now in decline due to a number of factors including persistent drought, lack of pump maintenance, the high costs of production, poor roads (and high rates of crop loss en route to market) and competition from cheaper imports from Ethiopia.

Hazards: Drought, flood, crop pests and diseases, increased input prices, reduced salary/pension income, increased food prices.

Livestock	Goats, Sheep	**Main Income Sources**	Sale of fruit/vegetables, Pensions/remittance

HOW TO DO IT

This section provides a guide to the steps required to produce a livelihood zone map. The process relies heavily on key informants. We have already indicated that conducting a livelihood zoning is not about manipulating secondary data in a computer or using one single existing type of map. Instead, livelihood zoning is an iterative process, gathering information from key informants, verifying data with the field, then cross-checking with secondary sources. The process involves a clear structure as elaborated below.



Livelihood zoning begins with a workshop to obtain a preliminary map and zone descriptions. This initial workshop will be held either at national or regional level. Questions that arise at this level can then be followed up at a second level during consultations with key informants and possibly some village visits. After this, it is wise to return to the first level to agree any changes with partners and to get a consensus on the 'final' map. It is important to emphasize at all stages, however, that there can always be further changes to the map as a result of future more detailed fieldwork.

Whether you start at the national level (Admin Level 1[3]) or at the regional level (Admin Level 2) depends on the size and complexity of the country in question. In a small country, with relatively little geographical variation, it is best to start at national level and then proceed to regional level for confirmation and clarification. In a large country, with great geographical variation, it is usually best to start at regional level and then proceed to district level (Admin Level 3) for confirmation and clarification.

Preparing for a Livelihood Zoning Workshop

Pre-workshop activities for facilitators

- Select and organise a venue
- Invite participants
- Purchase workshop materials
- Compile secondary materials
- Review secondary materials
- Meet with selected key informants to discuss livelihood zones

[3] Please see **Box 2** for a description of administrative levels 1 – 5. These vary from one country to the next, but the most common terms have been used in this section.

Who to invite

Participants in a livelihood zoning workshop should include technical staff from relevant line ministries (e.g. agriculture, livestock, meteorology, natural resources, fishing), NGOs and international organisations. Participants need to have a broad knowledge of the country or region. When selecting them, it is useful to include people who grew up, or have been based for part of their working life, in one or other parts of the country. It is also useful to include some participants from Admin Level 2 in your Level 1 workshop (or Level 3 participants in your Level 2 workshop, depending on where you start the process). The maximum number of participants in the workshop should be 20 people, plus 1-2 facilitators to lead the exercise. Any more than this number becomes unmanageable and the quality of output suffers.

Information and materials required

The following secondary source information should be obtained before the workshop. Some of the information is essential, as indicated below.

1. List of administrative units and population down to admin level 4/5 (with – if possible – a breakdown of population by rural/urban etc) – *essential*

2. Maps:
   - Regional maps showing administrative divisions down to level 4/5 (*essential*), digitised if possible[4]
   - National topographical maps showing major admin units, contours, roads, rivers, etc. 1:250,000 or 1:500,000 scale – *essential*
   - Agroecological/land use maps
   - Soil maps
   - Vegetation maps
   - Population density map

3. Rainfall data for major weather stations, by month, long term average (last 20-30 years)

4. List of crops actually grown in order of importance by district and seasonal crop calendars

5. List of livestock types in order of importance by district

6. Any other general descriptions of the geography and economy of the country or region.[5]

The basic materials and equipment required for the workshop is as follows:

- An LCD or overhead projector
- Large copies of the maps mentioned above to post on the wall (these will be used by participants to hand draw proposed livelihood zone boundaries.)
- Notebooks, pens and pencils for participants

[4] You will need mapping software with digital map files and the ability to overlay administrative boundaries with towns, roads, railways, rivers, and livelihood zones.
[5] A very useful source of information can be a secondary school geography textbook or atlas.

- Flipchart paper, masking tape and marker pens

Pre-workshop preparation by workshop facilitators

It is helpful if the workshop facilitators are familiar with the country or region that is being zoned. They should start the workshop with a rough hypothesis about the types of zones in the country or region and where they are located. This should include a basic map in their own heads on the basis of a review of secondary data and preliminary discussions with selected key informants. The purpose of this hypothesis is not so the facilitators can dictate the livelihood zones to the participants, but so that they can guide the process with a basic understanding of the area in question.

Time required

The facilitators will require about two days to review secondary information (assuming it has already been compiled) and to develop a preliminary hypothesis in discussions with 2-3 key informants. The workshop itself requires two days. Between two and five days should be allocated for follow up in the field depending on travel time and the number of questions that emerge in the workshop. After the fieldwork, half a day should be adequate for a final consultation with key partners before producing the outputs. At this point, after roughly 7-10 days, you should be ready to produce the outputs (brief descriptions of each livelihood zone, a 'final' map in digital form, and a population table). It is difficult to estimate how many days will be required to do this because it depends on the number of zones that are identified and how much mapping data is already digitised.

Workshop Programme

1. Introduction: During the first morning of the workshop, the facilitators should provide an introduction to zoning: what it is, why you do it, how you do it, and examples from other countries and regions. This guide should provide the core elements of the introduction.

2. Listing productive systems: Following the introduction, it is important to have a practical exercise to get participants thinking along the same lines. A plenary session to list the broad productive systems that can be found in the country or region is a useful starting point (e.g. agricultural, agro-pastoral, pastoral, labour-based, hunter gatherer). Then, a discussion on how to sub-divide further will produce a more detailed list of productive systems in the country or region. Useful materials for this exercise include a large topographical map that can be posted on the wall and a reference table of productive systems (Annex C).

3. Mapping productive systems: The next step is to draw the productive systems that you have listed on a large map that just shows the basic administrative boundaries (perhaps to Admin Level 3) and main geographical features (mountains, rivers, lakes).

4. Introducing market access: One way to introduce the topic of market access and trade is to overlay towns, roads, and railways on the production system map that you have just drawn. Consider the main sources of household income for each zone and markets for products sold (including labour) and products purchased. Outline key trade routes (where people sell things and the subsequent flow of goods, and where they buy things and their original source) and employment markets. Using this understanding of markets, consider whether you need to subdivide or change any of the productive system zones mapped in Step 3 above. Does market access differ significantly within any of the productive systems that you have outlined?

5. Develop descriptions of the livelihood zones: Using the format in **Annex B**, (which can be found on the accompanying CD in the Chapter 2: Annexes folder) describe the main characteristics of each livelihood zone. The format includes sections to describe the main category of livelihood, the main characteristics of the production system, topography, vegetation, other natural resources, climate, market access, hazards (and their frequency) and household-level response strategies.

6. Refine livelihood zone boundaries: Using a map of the lowest available administrative level (level 4 or 5) and the most recent census of population by administrative level, assign each administrative unit to a livelihood zone. This will allow a precise map to be drawn and population figures to be calculated for each livelihood zone.

At every stage in the process, you can use the various maps and secondary data that were initially compiled to ***cross check*** your zones. For example, a map showing areas where tea is the main crop may help you to draw a livelihood zone that is centred on tea. Rainfall data may confirm similar climate patterns within livelihood zones. Crop and livestock information may help you to distinguish between livelihood zones.

As you are defining livelihood zones, ***list questions*** and issues that remain unresolved and that require follow up at the next administrative level. This should remind everyone that the product of the two-day workshop is not final, but part of an ongoing process to define zones.

Follow Up at the Next Administrative Level

Participants in your first workshop (whether at national or regional level, depending on where you choose to start) may be very well informed. Furthermore, you may have managed to include participants from the next administrative level in your first workshop. In these cases, you may not have many (or any) questions to follow up afterwards. However, assuming that you do have some questions or issues that need clarification, then there are two alternative ways to proceed.

First, if stakeholder consensus at the second administrative level (regional or district) is important, then it is useful to hold small, short workshops at this level also. These would be more rapid versions of the first workshop, described above, and would use the livelihood zone map already developed as a starting point. Second, the facilitators can travel to important administrative centres (Admin Level 3) and meet key informants in the agriculture, livestock and planning sectors in a more informal manner. When selecting the centres to visit, the list of questions developed in the first workshop should act as a guide. The purpose of the workshop or of the informal meetings at this level is to confirm the map, clarify any outstanding issues and develop your understanding of the livelihood zones. One issue that might need to be clarified is in which livelihood zone to place some of the lower level administrative units.

If there is time, and as a further optional activity, village visits can be scheduled to clarify any topics that remain unclear. As you are driving through livelihood zones as part of this exercise, don't forget to keep your eyes open and observe the differences between zones. This can help in defining the boundaries between zones.

Common Pitfalls

The following are examples of some pitfalls that are commonly made when defining livelihood zones:

- Zones are defined only on the basis of crop and livestock production, ignoring markets and exchange.
- Zones are defined on the basis of sources of food or sources of income, but the link is not made to underlying causes such as geography (altitude, rainfall, rivers) and markets.
- Zones are split on the basis of difference in wealth (i.e. a wealthier or poorer village with the same livelihood sources is mistakenly used as a basis for splitting a zone).
- Geographical areas at opposite ends of the country are placed in the same livelihood zone, ignoring questions of market access. Although there can be local splits, zones are usually discrete geographical entities.
- One of the factors used to define zones is exposure to current hazard. This is understandable because people sharing the same basic livelihood may at the time of the zoning be pursuing different activities at different intensities because of their exposure to current hazard (e.g. if one part of an area is affected by drought, while another is not). However, this is incorrect because livelihood zones deal with underlying patterns of livelihood (including responses to different types of hazard), but not exposure to current hazard *per se*. One problem of including current hazard is the implication that the livelihood zone map will have to be revised each year.
- Administrative boundaries are ignored at all levels, making it very difficult to link information gathered for the livelihood zones to decision making.
- Zones are combined in the interest of reducing the total number in the country when there are very real differences between them.
- Livelihood zone maps are drawn using a small number of colours despite the fact that there are a large number of zones, making many zones indistinguishable.

FREQUENTLY ASKED QUESTIONS

Q. What happens when two groups of people live in the same area but pursue quite different patterns of livelihood, e.g. for cultural reasons or because of differences in ethnicity?

A. By and large, where you live defines your livelihood options, but not everybody can or chooses to exploit these options in exactly the same way. The most common reason for pursuing different patterns of livelihood within a single zone is a difference in wealth. In an agricultural area, for example, most of the farmland may be owned by a relatively small number of better-off households, with the majority of the poor making a living as farm labourers. In this case, both groups are making use of the same basic livelihood options, but in different ways because of their different levels of wealth. Occasionally, however, other cultural or ethnic factors may result in quite different patterns of livelihood being pursued within the same geographical area. Consider, for example, a lakeshore zone within which there are two groups: cattle keepers that do not fish and fisherfolk that keep a few cattle. The first thing to check is that these apparent differences in livelihood are not just reflections of differences in wealth. The test of this is that within each livelihood there should be people living at quite different levels of wealth (e.g. fisherfolk with boats and more cattle versus fisherfolk without boats and with few cattle). If this is the case, then two patterns of livelihood need to be defined. The fact that the groups pursuing these patterns of livelihood live in exactly the same geographical area poses little problem for most aspects of the analysis – the two groups are simply considered as separate livelihoods. The problem is how best to represent this situation on the map. The simplest solution is to consider the base from which each group operates. Even though both groups graze their cattle within the same area, perhaps the home villages of the fishing group are along the lakeshore, while the cattle-only villages tend to be inland? If so, two zones can be defined on the basis of each group's home base. If this is not the case, i.e. the fishing villages are genuinely intermixed with the cattle-only villages, then another means of mapping the two zones has to be found. One solution might be to colour in the zone with stripes of two colours, one colour representing each pattern of livelihood.

Q. How are the issues of migration and location of residence handled when calculating population figures?

A. Most people, even nomadic pastoralists, have a place that they (at least mentally) consider to be their base or their home. Provided the majority of household members spend the majority of the year at that base in years that are not particularly bad, then this should be considered their home and they should be included in the livelihood zone. Examples: For a highland Ethiopian family that sends two household members to work in the lowlands for 4 months of the year almost every year, the highlands are their home and livelihood zone. In contrast, wealthy Nicaraguan families who have agricultural businesses in rural livelihood zones but live in towns for most of the year are part of the economy of the rural livelihood zones but are not part of the population of those livelihood zones.

How do you draw the line between urban and rural livelihood zones (both on a map and when calculating population figures)?

A. In this guide, we are looking at rural economies and therefore are not as concerned with zoning urban centres. As far as the rural zones are concerned, it often makes sense to include the smaller towns in these, since many small-town dwellers participate in rural economic activities such as farming and livestock raising. In practical terms, you will have to decide on a figure (e.g. >5000) or a description (e.g. Admin Level 4 centre) beyond which you will exclude the population from your rural zone.

Q. How many livelihood zones should there be in a country?
A. There are always practical considerations or compromises to keep in mind when defining livelihood zones. It is possible to define more and more detailed livelihood zones and to finally end up with hundreds of zones that are nearly indistinguishable and a complicated system that will never be used. It is generally more practical to have a smaller number of broader zones, but it depends on the purpose of your zoning exercise. For what purpose is the information going to be used? It may take little effort to define and draw a new zone and to calculate its estimated population, but if the percentage of the national (or regional) population in the zone is tiny (i.e. less than 1%-2%) then how useful will the information be for emergency or development purposes? Will it be worth the effort to gather and continuously update information on a very small zone? At the same time, in the interests of having a 'manageable' number of livelihood zones, outright inaccuracy must not be allowed. Geographical areas that clearly have different livelihood patterns should not be combined. So there is obviously a trade off between simplification and accuracy. A small country, or a country with little geographical and livelihood variation, will generally divide into 8-15 rural livelihood zones. A large country with great geographical and livelihood variation[6] may divide into as many as 70-80 rural livelihood zones. See **Table 2** for a few examples.

Q. Can variations in health factors, like HIV/AIDS prevalence, result in different livelihood zones?
In theory, it is possible that HIV/AIDS prevalence could be so high as to alter a production system and result in a fundamental change in the pattern of livelihood of a population in a given geographical area. If this is the case, it may justify the definition of a separate zone, or more likely a sub-zone within a larger zone. However, to date this has not been a basis for defining livelihood zones.

Q. How frequently does a livelihood zoning need to be updated?
A. Rural economies in developing countries tend not to change all that rapidly, and a good livelihood zone map will generally be valid for roughly 10 years. What varies is the prevailing level of food or livelihood security, but this is a function of variations in hazard, not variations in the underlying pattern of livelihood itself. Put another way, the level of maize production may vary from year to year (hazard), but the underlying pattern of agricultural production does not (the livelihood).

[6] A country with great geographical and livelihood variation has mountains and deserts and everything in between. It has a coastline and large interior lakes. It has both smallholder and commercial agriculture, livestock rearing and fishing.

THE PRACTITIONERS' GUIDE TO HEA

Chapter 3: Baseline Assessment

3 BASELINE ASSESSMENT

This chapter provides reading material to be used in conjunction with a training course on baseline assessments or as a refresher course for a previously trained practitioner. It is not a teach-yourself-guide to carrying out HEA baseline assessments. In practical field assessment work, the best way to guarantee an acceptable degree of accuracy in terms of information collection is to have good interview techniques and mechanisms for cross-checking. How questions are asked and how answers are cross-checked during and after the interview are critical. These techniques are most effectively transferred through a training exercise and through practice rather than through written guidelines. The training programme linked to this chapter should clarify how to use the interview formats and focus on appropriate field techniques to improve the accuracy of information obtained.

After reading this chapter, practitioners should be able to list and describe the five core activities involved in gathering baseline information, and the two main activities associated with analysing and storing field information. They should be familiar with and able to explain a number of key terms and concepts, including: key informants; rapid rural appraisal; semi-structured interviews; district interviews; community interviews; household representative interviews; seasonality and seasonal calendars; wealth groups and wealth breakdowns; reference years; categories of food, income and expenditure; kilocalorie calculations; cross-checking (internal and external); preliminary, interim, final analysis; and the Baseline Storage Sheet.

The text for this chapter is based on a combination of sources, including: text taken from the F.E.G. Guide to Rapid Food Security Assessment (originally written by Mark Lawrence, Julius Holt and Alexandra King) and the SC UK Facilitators' Resource Pack for Ethiopia. Mark Lawrence provided the text for the sections on Analysing and Storing Baseline Information. Julius Holt wrote the section on rural agricultural economies. Lesley Adams contributed to the section on Market Assessment as did Michael O'Donnell and Tanya Boudreau. Tanya Boudreau wrote the Introduction and provided supplemental text and graphics specific to this guide.

List of Boxes

List of Figures

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RELATED CD FILES

The CD that accompanies the **Practitioners' Guide** contains the following files relevant to Chapter 3, found in the Chapter 3 Directory:

- **Annex A: Main Interview Formats**
  - Interview Form 1: District Level
  - Interview Form 2: Market and Trader
  - Interview Form 3: Community Leader
  - Interview Form 4: Household Representatives

- **Annex B: Specialised Market Forms**
  - Form 2A: In-depth Trader Interview for the Baseline
  - Form 2B: Market Prices
  - Form 2C: Post-disaster Assessment to Guide Response
  - Form 2D: Labour Market
  - Form 2E: Trader Interview – Hazard Assessment
  - Form 2F: Inputting and Graphing Raw Time Series Market Data
  - Form 2G: Monitoring Prices Against Projections

- **Annex C: Supplemental Market Guidance**
  - Guide 1: Market Chain Analysis
  - Guide 2: Interpreting Time Series Data
  - Guide 3: Trader Interview Preparation
  - Guide 4: Price Data Collection Preparation
  - Guide 5: Market Structure Diagrams
  - Guide 6: Mapping Markets and Commodity Flow
  - Guide 7: Market Integration
  - Guide 8: WFP (and MSU) Guides to Selecting an Appropriate Response
  - Guide 9: Oxfam Decision Map for Response Planning

RELATED TRAINING SESSIONS

The **HEA Training Guide** provides the following sessions relevant to Chapter 3 in the **Practitioners' Guide**:

MODULE 2: BASELINE ASSESSMENT

- *Session 1: Introduction to the Field Process*
- *Session 2: Ensuring High Quality Field Information*
- *Session 3: The Livelihoods Field Handbook*
- *Session 4: Livelihood Zoning*
- *Session 5: Market Assessment*
- *Session 6: The Reference Year*
- *Session 7: Seasonal Calendars*
- *Session 8: Wealth Breakdowns*
- *Session 9: Baseline Livelihood Strategies*
- *Session 10: Introduction to Kilocalorie Calculations*
- *Session 11: Meru Lowland Exercise*
- *Session 12: Coping Strategies*
- *Session 13: Household Representative Interviews*
- *Session 14: Review of Field Forms*
- *Session 15: Field Testing and Interview Practice*
- *Session 16: Storing Baseline Information*
- *Session 17: Analysing Baseline Information*
- *Session 18: Understanding Agricultural Economies*
- *Session 19: Non-food Needs Baseline Information*
- *Session 20: Incorporating Secondary Information*

INTRODUCTION

A Household Economy Baseline is a defined set of basic data on food, income and expenditure for each of (usually) four main wealth groups within a livelihood zone. The wealth groups are typically from among the following categories: very poor, poor, middle (sometimes split into lower and upper middle) and better-off. Taken together these data provide a basic description of how typical households living at different levels of wealth survive; how they obtain food, how they generate income, and how they organise their patterns of expenditure. Typically, baseline data are compiled for a defined 12-month period or 'reference' year. Since the focus of the analysis is on patterns of consumption, our concern is to map out the consumption year, not the calendar year. In an agricultural setting this begins with the harvesting of main season crops and concludes 12 months later at the end of the annual hungry season. In a pastoral setting, the consumption year typically begins soon after the start of the main season rains, when an increase in milk production brings an end to the previous year's hungry season.

As mentioned in previous chapters, the household economy approach is primarily an ***analytical framework***, i.e. it defines the data to be collected (for a specified purpose), and sets out how that data will be analysed and used. It is ***not a particular method of data collection***. Data may be collected using rapid assessment procedures or other survey methods[1]. However, because of both quality and practical considerations, most assessments designed to gather the majority of Household Economy baseline information[2] over the past twelve to fifteen years have used rapid assessment approaches (see **page 3** of Chapter 1 for more on this subject) for which a set of best practices and procedures have been developed over time. These are presented in the chapter that follows. It should be noted that information for other areas of the Framework (the Problem Specification, in particular) are more appropriately gathered by survey methods. And particular aspects of the baseline information requirements, such as demographic data, rely on household survey methods as well.

If you are reading this chapter, chances are you are preparing to undertake a baseline Household Economy assessment in the field. You have likely already read or received training in the first and second chapters of this guide, which introduced you to the main features of the HEA Framework and the concepts and steps involved in conducting a livelihood zoning exercise – a prerequisite for carrying out a baseline assessment in a single livelihood zone.

The next step is to take part in the actual implementation of an HE assessment. The most important principle to keep in mind is that your work needs to be guided by a keen and continual focus on what you need to know. It is easy to be led down tangential paths; or to spend an unbalanced amount of time on one area, forgetting about the whole picture. It is helpful to think of an HE assessment as an iterative learning path with each stop along the way allowing for increased knowledge, detail, and precision. If you are clear about the objectives of your overall journey, and the specific goals of each stop along the way, you will gain the maximum amount from your investigation, and your final picture will be rich in substance and accuracy. Thus the most important preparation you can make for field work is

[1] The subject of why HEA uses RRA techniques rather than survey methods to collect baseline information is covered in more detail in the HEA training materials: particularly in **Module 2** (*Baseline Assessment*), **Session 1** (*Introduction to the Fieldwork*) of the Training Guide.

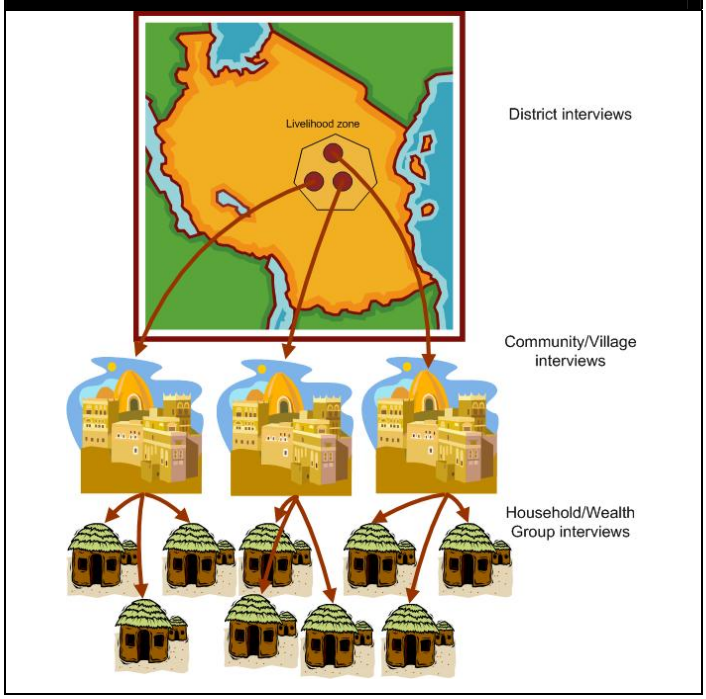
[2] Certain aspects of HEA Baseline information are typically obtained indirectly, from census or other data that uses survey instruments.

to learn and really understand what you need to know at each of the levels of enquiry. This will make you an efficient field practitioner, and help you to apply and develop appropriate techniques and tools along the way.

Where you'll be gathering your information

In the field there are typically three levels at which inquiry takes place. All HEA baseline assessments include interviews at the community or village level, and then a further set of interviews at the household level. Most assessments also include district-level interviews. The core process involved at all stages is one of grouping, selecting and moving on to the next level. At the district level, you group representative villages or communities, select ones you will visit, and then move to the community level. At the community level you group households according to common wealth determinants, select representative households, and move on to the household level for further enquiry. It is at the household level that the detail begins to emerge, and that the pieces of the puzzle begin to fit together.

Figure 1. Where the interviews take place



At the district level.

District interviews are necessary in order to develop or refine livelihood zones, and to choose villages where interviews will be conducted. Another important reason to begin at district level is to inform district officials of your work and to obtain agreement and clearances to work at the village level. District administrative offices can also usually provide information critical for understanding market networks, and for building up a timeline of events for the zone, including any unusual hazard events, good production years, and conflict events. Many district offices also house data on production and prices, which is important for building up the reference information for designing a good problem specification, and for developing a monitoring system. Usually the visits to the district administrative offices take around a half a day. The section on what to expect at the district level and how to carry out the district interviews starts on **page 15**.

At the community level.

The community level is where things begin to get interesting. It is here that you begin to learn how the local economy functions and how households fit into this context. You will have already learned at the district level what kinds of crops and livestock are raised in this area; but it is from the community that you begin to understand just what role crops and livestock play in determining wealth, status and power. You may have learned about the natural resources available in the area from having read secondary literature; but it is from the community that you begin to get a sense of just who takes advantage of these

Figure 2. Relationship between field work activities and HEA framework steps

resources, how, and to what end. And you may have even learned which markets tend to service this community in discussions with district officials; but with the community leaders you find out who benefits most from these markets and how. Your objective at the community level is to learn enough to move on to the next level: the households. And in order to do this you need to conduct a wealth breakdown interview, to find out what determines who is poor and who is better off in this community; and just what percentage of the population falls into different categories of wealth. Once your wealth breakdown is complete, community leaders are asked to help select representatives from different wealth groups (very poor, poor, middle, rich, etc) and your interviews are arranged for the coming days. The wealth breakdown interviews tend to take a couple of hours, or half a day once travel and set up is taken into account. The section on community interviews begins on **page 27**.

At the household level.

Household members are the true source of information about livelihoods in any area. Their knowledge is irreplaceable and is rarely, if ever, captured by sets of statistics or data. Interviews at this level are structured conversations that follow a path of inquiry designed to pull forth and begin to put in place the varied pieces of an elaborate puzzle. In a good interview, you can often learn more in two hours than you could in weeks of searching through secondary literature. The true comparative advantage of the household level interview is the opportunity it affords for adding things up and making sense of the system and rules that govern the household economy and by extension, the community networks of rights, obligations and exchange. While you may have found out who grows what kinds of crops and keeps what livestock during the community-level interview, in the household interviews you'll learn just how much it costs in terms of labour, inputs and opportunities lost in order to cultivate a certain crop; you'll learn how much you can harvest from a half-acre, and what happens to the crop when it is harvested – how much gets eaten green, stored, sold, and saved for seed. You will learn what happens when the grain stores run out, and how much food a day of weeding can buy. You will learn who in the community works for whom, who shares with whom, and what happens to these labour and sharing networks in a year when sharing is not an option. While you may have learned at the district and community levels what kinds of livestock are owned, it is in the household interviews that you begin to understand which livestock are sold, how that money is spent, how much in

both land and financial resources it costs to maintain a herd, and how many livestock a household needs to retain to ensure the herd is productive in coming years. The household is the nexus at which a livelihood takes its form, and there is no substitute for what you will find out in these days of work. Detailed guidance on the information required at the household level and the methods for obtaining this information is provided in the section that begins on **page 35**.

What resources are required?

Human and time resources

Table 1 outlines the human resources required for a baseline assessment. Two contexts are considered: 1. a single-zone in-depth baseline, usually associated with project planning requirements (e.g. for poverty reduction, social protection, monitoring/evaluation, emergency needs, or development planning purposes); and 2. a national baseline, usually required for early warning or national needs assessment purposes. The exact time required varies according to factors such as the geographical spread of the area covered, prior knowledge of and existing information about the area and the extent of organisational support in the field (for example, ongoing projects can provide useful information as well as access to knowledgeable key informants). It is recommended that the single-zone in-depth baseline be undertaken by at least two 2-person teams. For the larger-scale national work, at least four teams per region are recommended. The table is based on this assumption.

Although there are no hard and fast rules about sample frame and sample size, there is a body of experience that can provide some guidance. The most important factor to consider is the number of interviews undertaken with each wealth group. Practical experience indicates that for an in-depth baseline assessment in one livelihood zone, at least 8 villages should be visited, and at least 10 interviews should be done per wealth group[3]. Separate interviews should be conducted with men and women because women's and men's income and expenditure may be quite different. Detail and accuracy are gained when you have both sides of the story. It is usually desirable for at least two interviewers to work together (to allow for the minimum of triangulation between different investigators) and you need a minimum of two teams. One two-person team can do a maximum of two household representative interviews in one village in one day, along with some visual checks and informal discussions. Therefore, with 8 villages, it will take two teams approximately 14 days to complete both the community leader and household representative interviews. Additional time is required for secondary literature review (2 days), training (5-6 days), interviews at the district level (2 days), the interim and final analysis (3-4 days), for report writing and for travel. With one team, therefore, at least 24 work days need to be set aside to complete the baseline work, plus travel time and 10 days of report writing.

For the preparation of national baselines at least four teams are required. More time needs to be spent at the outset on the secondary literature review (with more ground to cover). But doubling the number of teams allows for each livelihood zone to be done in around half the time so that the actual field work (not including training, analysis or travel) for one zone might take only 6 days in a livelihood zone, as opposed to 10. See **Table 1**.

[3] If you do separate interviews for men and women in each village, with 2 interviews (separate men and women interviews) per wealth group, you would end up with 16 interviews per wealth group, not 10. However, in practice, time usually does not allow for this number of interviews to be conducted. A minimum of 10 is required based on past experience of what is necessary in order to ensure information quality, but more can be done if time allows. If time does not allow, the team leader determines, based on the quality of the interviews so far, which wealth groups have sufficient coverage, and which require additional attention.

For rapid assessments associated with emergency needs determinations a smaller number of interviews can be conducted and fewer villages visited; perhaps half the number suggested above. Larger teams can also allow the work to proceed more rapidly. See Chapter 6 (*Adaptations of HEA*) for more on rapid HEA assessment procedures.

Table 1. Human and time resources required for Baseline Assessments

Step	*Human Resources*		*Time*	
	Single zone in-depth baseline	Large-scale national	In-depth sub-national	Large-scale national
1. Secondary Literature Review	2 Team Leaders with local counterpart	1 survey director and one local counterpart	2 days	5 days
2. Training *Note: This step is only necessary if the participants are not experienced HEA practitioners.*	1 team leader per 10 participants, maximum 20 participants = 2 facilitators/team leaders		5-6 days	
3. District Key Informant Interviews	Number of districts depends on size of livelihood zone; entire team may be involved in each interview, or teams could split up depending on logistics.	With 4 team leaders, you can split into 4 teams and cover up to 4 districts a day	In practice it takes about ½ day per district including set up time. So with 4 districts, 2 days in total need to be put aside for this, leaving out travel time.	1 day per district (leaving out travel time) – total time depends on number of districts included in survey
4. Community Leader Interviews	8 communities per livelihood zone; 1 Team Leader and 1 – 2 team members per interview; so each team does a total of 4 interviews at this level.	With 4 teams, you could split up and cover 8 communities a day	With set up time, these interviews normally take around ½ day. With two teams, you could cover these interviews in a total of 2 days (spread out over the assessment period)	4 teams could complete these interviews in one livelihood zone in 1 day (not including travel time). Total number of livelihood zones will determine total time
5. Household Representative Interviews	10 household representative interviews per wealth group; 1 Team Leader and 1-2 team members per interview	With each team able to conduct 2 interviews a day, you could do 8 interviews a day.	It is reasonable to expect a team to do 2 household interviews per day. It is, therefore, possible for two teams to do 40 interviews in 10 (non-consecutive) days (excluding travel time).	8 villages could be covered in approximately 4 days with 4 teams doing 2 interviews each a day. (4 wealth groups x 8 villages = 32 interviews/8 interviews a day = 4 days per livelihood zone
6. Interim Analysis	Entire team	Entire team	1 day	1 – 2 days per

in Field				livelihood zone
7. Final Analysis	Entire team	Entire team	2-3 days	5-6 days for region
8. Report Writing	Team Leaders	Team Leaders	5 days each (10 days total)	Around 3 days per livelihood zone plus 5 days for the national overview
TOTAL			At least 34 days (not including travel time)	A country with 10 livelihood zones (3 regions) would take 120 days (not including travel time)

Other resources required

Other resources, depending on the country and circumstances, include:

- Transport to the region and in the field
- Accommodation for international and national consultants
- Expenses and per diems for international and national staff
- Stationery, paper and printing

BACKGROUND ON RURAL AGRICULTURAL ECONOMIES

A primary feature of nearly all developing countries is that their rural population is far larger than their urban population. As a rule of thumb, the poorer a national economy, the greater the proportion of people whose livelihoods are based on getting a living directly from the land, producing staple and other food, cash-crops or livestock. Pastoralism, a form of land use where people are wholly or overwhelmingly dependent on herding animals on open grazing and browse, is a minority system in most countries where it appears as a mode of livelihood. HEA has quite frequently been used in pastoral settings, and also on a number of occasions in urban settings, as described in Chapter 6: Adaptations of HEA. But by far the majority livelihood around the developing world is that of the farming smallholder, and so that has been the default subject of HEA analyses to date.

The first thing which is striking about smallholders today is how rarely they are simply subsistence farmers, more or less self-contained except for the purchase of a few goods on the local market. In most places that picture is now a generation or two out of date. The modern setting is increasingly dominated by cash even in remote areas - cash which mediates not only the exchange of goods but of rural labour. HEA studies have shown us that around half of households in a typical smallholder economy gain more of their food and other rural products from the market than from production on their own land. There are two main reasons for this. One is the reduced size of their smallholdings due to natural increase of the local population, where the doubling of numbers within 25-30 years cannot be matched by the expansion of agriculture on viable land. The second reason is the growth in market access - in road communications and transport together with a growing urban demand for higher - value rural produce (as well as export demand in some cases). The following sections describe how these challenges and opportunities are reflected in the livelihoods of smallholder households, and therefore in HEA analysis.

The basic building blocks

All three basic kinds of rural product - food, cash crops, and livestock - are affected by the amount of available, arable land. In the case of crops there is an obvious connection, but the question then arises of the possibilities of intensifying production on the same amount of land. For rural households in developing countries, this challenge is increasingly difficult to meet. The cost of chemical fertilizers, especially with the disappearance of subsidies in the last decade or so of Structural Adjustment, is increasingly prohibitive for poor farmers to use on staple crops, and even limits what they can put on cash crops with good price prospects. At the same time, mechanisation efficiencies depend on a minimum size of land as well as sufficient inputs.

In many agricultural settings livestock and their products bring as much cash to farmers as the produce they are able to sell from their fields. In highland Ethiopia people commonly refer to their small stock as 'our money'. At the same time, milk is an important addition to the diet, and a highly palatable one, when rural households are in a position to consume significant quantities. But arable land is usually critical for a farmer's livestock production too. Those same Ethiopians have an old saying: "A man who has many animals has much land." This is not only because of direct grazing resources around the fields, but because crop residues usually form an important part of livestock feeding, especially for cattle. In recent times the expansion of cultivation is mainly achieved at the cost of encroachment on open pastures, to the extent that these 'commons' are under threat of disappearance in many an agricultural system, and crop residues and even bought feed-cakes made from waste material of food processing industries must increasingly substitute for natural grazing.

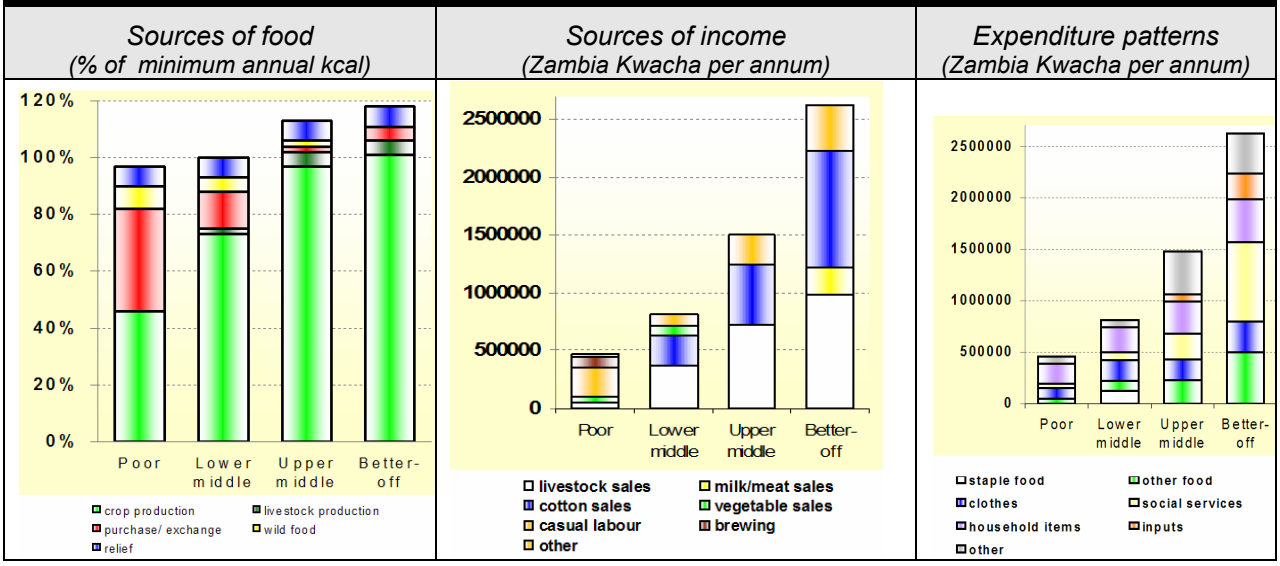
HEA records the ways in which communities adapt to land shortage, insofar as they can without simply migrating to the city. This adaptation cannot be understood without looking at the wealth division within the community. Except in the very rare circumstance of rigid official control of land *users* as well as land ownership, population pressure has the effect of accumulating land use in the hands of wealthier members of the community. This comes about by various means. A poor farmer under a particular need or misfortune may take loans from a richer neighbour which he cannot repay, so that first his labour and then his land, or the use of it, become increasingly forfeited to the creditor. Or a farmer may rent out a proportion of his land to a richer neighbour because he cannot cover the labour or other inputs required to use all his land profitably; or because he needs to pay somehow for the rent of draught power, whether oxen or tractor, which he doesn't own himself; or simply because it is more profitable for him to work elsewhere than to devote his labour to his land. Some or all of these factors tend to be even stronger in the case of female-headed households.

Thus whilst wealthier farmers produce the surpluses of staple crops, poorer farmers tend to get half or more of their livelihood from activity off their own land, because they have no other option or because of opportunity cost judgements. But the corollary is that they must be able to buy the food and other essentials that they do not produce, and so the cash economy - the availability of paid work, the going wage for it, and the price of goods - becomes paramount. These fundamental factors are analysed in a quantified way between the three pillars of HEA inquiry: sources of household food; sources of household cash; patterns of household expenditure.

An example of rural household livelihood patterns

Households at different levels of wealth within the same livelihood zone can differ quite markedly in their sources of food, i.e. where they obtain the bulk of the food they actually consume. The graphs in **Figure 3** represent a livelihood zone in south-east Zambia, just off Lake Kariba, which as a whole is relatively self-sufficient in staple food production when not subject to drought or flooding. The year of reference is 2004; a year of more or less ordinary levels of production, (and when food relief was distributed across the board but did not, in this case, reflect acute need). There is a notable skewing of self-sufficiency and surplus production for sale, towards the two upper wealth groups who together comprise some 40%

Figure 3. Gwembe Valley Livelihood Zone, Zambia



of all households. The poor wealth group who comprise about a further 40% are usually unable to obtain more than half of their staple food requirement from their own fields, whilst the lower middle 20% have a gap of some one-fifth of their requirement. The poor make up most of their gap by working for others and obtaining payment directly in food ('exchange' of labour'); the lower middle group do this too but may rely more on food purchase. Seasonally collected wild foods are 'free' (although they require labour to gather and process) and even the upper middle households take advantage of this resource. But only they and the better off, who own by far the greater part of the area's cattle, are able to drink milk ('livestock production'), to any real extent, whilst at the other end the poor have no cattle and mainly not even any goats, so that if they very occasionally drink a little milk, it is milk donated to them by neighbours or kin.

Some principles about rural household economies

HEA data expressed in this way tend to give a very clear picture of the fundamentals of the rural economy, in this case showing where people get their food and cash. The pattern seen is one repeated very frequently in different African countries. In this - a not-wealthy rural area of a low income country, which is heavily dependent on a very limited repertoire of agricultural production - one thing that stands out is the **more than five-fold difference between the earnings** of typical poor and better off households (about $105 versus $540 per household of 6-8 people). The second thing of note is the great difference between the poor and the rest in *sources* of earnings. In this case, **to be poor is essentially to work for others**; in addition you try get value out of your labour by **self-employment**, in this case brewing and selling local beer, with ingredients usually purchased rather than produced by yourself; elsewhere, common forms of self-employment are cutting and selling firewood and grasses, or making handicraft items from grass, wool, wood or clay.

The threshold between poverty and relative wealth (as measured in local terms) is clearly defined by two factors. One is the **ownership of livestock**, and in this case the market demand from the not-too-distant capital city, Lusaka, adds value to animals and milk products. The second factor is the **capacity to produce cash crops profitably**. In this case the main cash crop is cotton, with its demand for labour (family or hired), fertilizers and pesticides. Elsewhere the staple maize or other crop may also be the cash crop in the sense that surpluses are regularly grown for sale by wealthier households. 'Other' earnings in this example include the hiring-out of oxen and ox-carts, remittances from family members working in the city or elsewhere, some small-scale trading, and sales of pigs and guinea fowl which are kept in numbers by some households.

The cash economy

Wealthier farmers produce the surpluses of staple crops, while poorer farmers tend to get half or more of their livelihood from activity off their own land…

But the corollary is that they must be able to buy the food and other essentials that they do not produce, and so the cash economy - the availability of paid work, the going wage for it, and the price of goods - becomes paramount.

In looking at expenditure, additional principles emerge: staple food purchase is a feature only of the lower middle households because on the one hand the poor obtain food by working directly for it as payment (as shown above), whilst the wealthier households cover their staple requirements from their own production. By contrast, 'other food' purchases - the daily relish items and the oil and sugar that add quality and palatability to the diet - are almost a luxury for the poor, without even considering milk products, or meat, or fish brought in from the nearby Lake Kariba. The poor have other pressing demands for the little cash they can spend: **the most basic 'household items' -**

salt, soap, candles or diesel for a single lamp, milling costs - mount up day by day to represent their major expenditure.

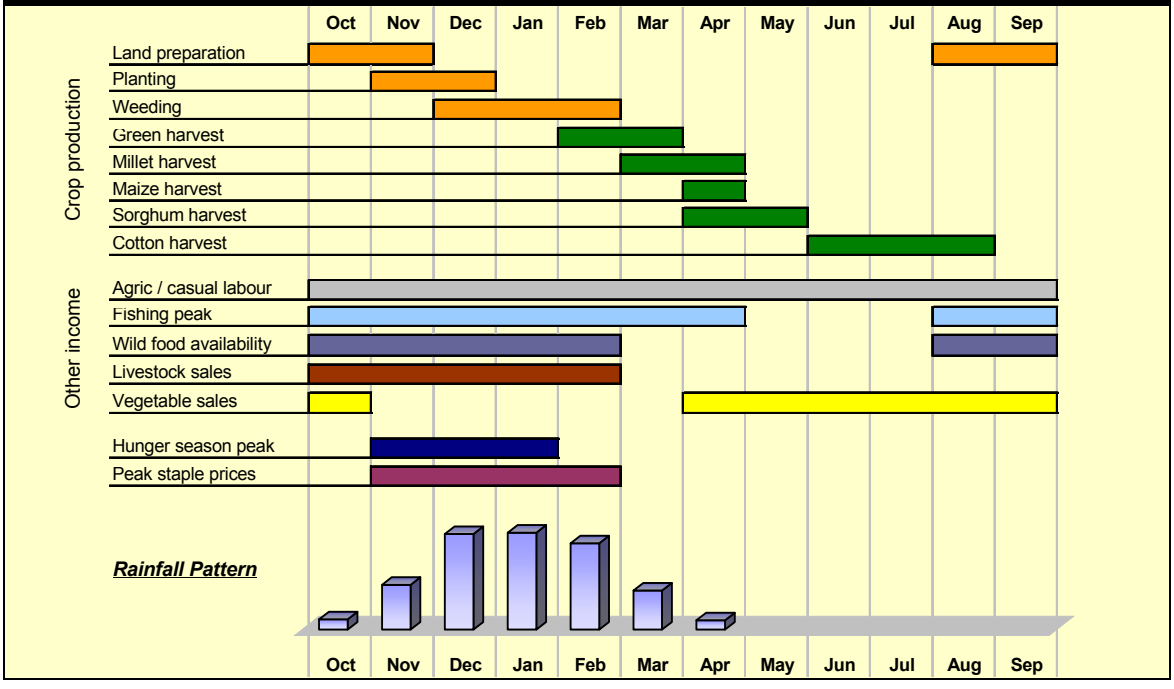
On the other hand, **the wealthier you are, the more you spend on agricultural inputs**, notably for cash cropping as seen above, and on clothes, and on 'other' items, which typically includes the costs of ceremonies as well as modest luxuries ranging from a radio and batteries to the beer produced by poorer households, or bus fares for town visits and perhaps a bottle or two of the commercial beer. But the **most glaring difference between the better off and the others is the expenditure on social services**. This includes mainly expenditure on education, and less regularly on medicine. The education element is of particular significance in offering a longer-term message. **Poor people no less than better off households are clear, and often voluble in discussion, about the crucial value of education for their children**. In a sense it is seen as the one real path away from the problems encapsulated above as 'land shortage': education out of direct dependence on land and into the wider sphere of professional employment. What the above graph tells us is that the poorer 60% of households can hardly afford to put their children through primary schooling, which anyway does not usually lead to employment. On the other hand, wealthier people can at least face the costs of secondary schooling, which very often requires paying for a child to live away from home in a town, if not of education beyond that.

Finally, we see something about the **inter-dependence of the different wealth-groups**: the poorer households could not survive here without being hired by the wealthier households. The wealthier households could not maximise their profits from farming, especially of cotton, without the labour of the poor; and they even make back some of their money from poorer households by hiring draft animals to them. On the other hand, the wealthier households are the main customers for the vegetables produced and the beer brewed by the poorer farmers.

Seasonality

Rural life is commanded by the seasons, and HEA fieldwork always involves early on the construction with villagers of a seasonal activity and events calendar concentrating on production, markets and food availability among other things. **Figure 4** illustrates the main

Figure 4. Seasonal calendar for the Gwembe Valley Livelihood Zone



components of a seasonal calendar from the Gwembe Valley Livelihood Zone.

This example shows the dynamic view obtained in this way of household economy revolving around a single rainy season giving five months of agricultural moisture. We see the staggered harvests of staples - millet, maize and sorghum; we note that the cotton harvest comes later, so that labour does not have to be divided between grain and cash-crop harvesting, although it must be shared during part of the respective growing periods. We see that the all-important local casual employment for the poor lasts all year to a greater or lesser extent from land preparation beginning in August through planting and weeding to harvesting which for cotton reaches into the next August. We see that the small contribution of different wild foods spreads usefully across part of the dry season as well as the wet season, as does the minority fishing activity, whilst vegetable production is a dry-season occupation, depending on small irrigation. We see that livestock sales peak during the rains, when the animals are in better condition from the regenerated grazing, and the price food purchase is at its highest before the harvest. Finally we see that for many a poor household, despite all the activities in which they engage on and off their land, there comes a season of hunger before the harvest, when previous harvest stocks are long gone, and food purchase prices are high, and even labour payment in grain must wait until the new harvest - a period only broken by the consumption of green maize, at some cost to the mature harvest.

How to Gather Baseline Information

A full household economy baseline contains the following information:

Table 2. Core information requirements for an HEA Baseline	
*General information for the **livelihood zone***	
Wealth Groups	A breakdown of households into groups based on common means for obtaining access to food and cash income, and similar levels of wealth/income (both food and cash).
Seasonality	A seasonal calendar showing key times of the year related to food, cash and expenditure activities and activities central to related sectors (especially health/water).
Key Reference Data *(for problem specification and outcome analysis)*	• Market prices in reference year • Yields and acreage planted for key crops in reference year • Livestock numbers in reference year • Population data
*For **each wealth group** (poor, lower middle, upper middle, rich), data on the following is required:*	
Food:	Sources of food and the contribution of each source, expressed as a % of minimum annual food energy needs for the household.
Cash Income:	Sources of cash income and amounts of cash generated in the reference year from each source.
Expenditure:	Amounts of cash spent in the reference year on four defined categories of expenditure including survival: food, survival: non-food, livelihoods protection, and other.

Your objective throughout the assessment will be to gather information that allows you to fill in the requirements stated above, with the highest degree of accuracy possible. **Step 1** is to *gather baseline information* and the first set of activities, detailed to the right, is designed to achieve that goal. Guidance on step one activities is provided on **pages 12- 43**. **Step 2** is to *analyse and store the baseline information* you have gathered. Guidance on the second step activities is provided in the second half of this chapter, beginning on **page 44**.

STEP 1. GATHER BASELINE INFORMATION

Activity 1. Compile and analyse secondary data

Activity 2. Visit district level and carry out key informant interviews

Activity 3. Visit market and conduct trader interviews

Activity 4. Visit community (village) level and interview community representatives

Activity 5. Conduct interviews with household representatives

Activity 1. Compile and Analyse Secondary Data

One of the first preparatory activities for a baseline assessment is to gather appropriate secondary information. This information will help with refining livelihood zones and with defining the economic consequences of particular hazards. In addition, it should provide background information for your interviews with wealth groups and information on yields, production levels and prices to cross-check against[4].

Table 3. Secondary information requirements

Sources	Type of information
Ministry of Agriculture	Agricultural data (including historical data and current projections on crop yields and production levels)
National Statistical Office/census department	Population data
Early Warning Department	Market price and other hazard monitoring data
Meteorological Office	Rainfall data
World Food Programme	Food aid distribution figures
FEWS NET, WFP/VAM and EU food security units	Consolidated and worked-through analysed data sets
Ministry of Health, UNICEF and NGOs	Nutrition surveys
NGOs	Food security surveys or localized studies on rural livelihoods; information on interventions
Academic institutions	Local studies on rural livelihoods

What you're really after from the above data

- Main geographic and environmental features of the area/s under consideration
- Brief historical background, particularly significant events in the past 5-10 years – droughts, floods, conflict etc.
- Main food and cash crops grown, by livelihood zone, including:
  - Yield per hectare for major crops – for the last 5-10 years
  - Crop production levels by season – for the last 5-10 years
  - Seed requirements per hectare
- Main livestock kept, including:
  - Lactation periods (wet and dry seasons, good and bad years)
  - Milk yields (wet and dry seasons, good and bad years)
- Land ownership and access issues
- Main labour activities
- Other relevant household or local economic activities
- Price data – time series for the last 5-10 years for staple food, crops, livestock and livestock products, labour, etc.
- Known migration patterns (labour or livestock related)
- Main markets accessed (for food, livestock, other)
- Maps of areas to be visited
- Administrative units in each livelihood zone
- Population data (as disaggregated as possible)

[4] It is assumed, in compiling this guide, that a Livelihood Zoning will have taken place prior to the baseline assessment. It is possible, when carrying out a rapid assessment, to combine the zoning and baseline steps, but it is not recommended. Therefore, the guide is written on the basis that the only zoning activities that may need to occur at the baseline stage is the normal checking and refining of the boundaries.

• Historical data on food aid distributions (both planned and actual figures, as disaggregated as possible)
• Rainfall figures – time series data

Extracting and summarising much of the above information from secondary sources is important; it can help refine your parameters of analysis in the field, and narrow down the field of information required; however, certain information can only be obtained at district or village level and some of it will not be available at all. Also, it is often useful, even where secondary information exists, to *confirm* its accuracy with government and village key informants (as it may be out of date or inaccurate). The subject of secondary information is covered in more detail in the Training Guide, **Module 2** (*Baseline Assessment*), **Session 20** (*Incorporating Secondary Information*).

Activity 2. Visit District Level and Carry out Key Informant Interviews

When you arrive at district level

It is important to get off to the right start at the district level, making sure that district officials not only understand the nature of your mission, but are brought into the process in an inclusive and participatory way. Even though time is always in short supply, try not to rush through the introductions. Give people around the table the time to voice questions or concerns. Make sure your intentions are clearly stated. It is also important to fully explain your schedule and plan so that logistical arrangements can be made, if necessary. After introducing yourselves and making sure the mission is clear, the team should divide into two. While part of the team is interviewing key informants at district level, one or two people should visit the market centre (see section below on trader interviews, starting on **page 21**). **Session 5** (*Market Assessment*) of **Module 2** (*Baseline Assessment*) in the Training Guide covers in more depth the subject of how market assessment and analysis fits into HEA.

The role of the team leader

The team leaders in an HEA baseline assessment play a critical role in keeping the assessment on track, resolving questions and debates, leading the analysis, and ensuring the quality of the information. In particular, the team leader is responsible for:

- Setting the schedule
- Ensuring the selection of districts and villages meets the assessment's objectives
- Deciding on the team composition
- Helping resolve technical questions and debates
- Helping sort out logistical issues
- Ensuring an appropriate reference year is selected
- Making sure interview forms are customised to take account of local variations
- Reviewing completed interview forms
- Inputting interview data into the Baseline Storage Sheet
- Leading analysis sessions

Who you should talk to

In the world of information about poor, rural populations, a 'key informant' is somebody you consult because you think he or she has sufficient knowledge of a group or given population, or can usefully describe a subject area (e.g. local market patterns). They may be government workers or NGO employees (working on agricultural, veterinary or other programmes), teachers, representatives from village organisations (farmers' union, women's union), traditional local leaders or traders. You should ask to speak to certain individuals not because they hold a position in government, but because they have a certain knowledge and understanding of the area. The district office can be a starting point, but, time permitting, this should not be your only point of contact at this level.

What makes a good investigator?

- A keen interest and curiosity
- Your knowledge (but not your preconceptions)
- Patience
- A sense of humour

Information to collect

Interview Form 1, included in Chapter 3: Annex A on the CD that accompanies the **Practitioners' Guide**, should act as a checklist for your discussions at district level and includes the following categories of information: livelihood zoning, market prices, agricultural and livestock yields, a timeline of events in recent years (positive as well as negative), current hazards, a seasonal calendar (optional), and a wealth breakdown (optional). The form contains the *minimum* amount of information you should gather for each topic – it is not meant to be restrictive.

A note about the interview forms

The Interview Forms provided along with this Guide should be used as ***reporting formats***, not as ***questionnaires***. In other words, these forms are a place to organize and record the output from an interview **after** the interview. They can be used during the interview as a checklist, if necessary, to make sure all the information is covered, but not as questionnaires. If they are used as questionnaires, they greatly limit the flexibility and cross-checking potential offered by semi-structured interviewing.

Box 1. Important principles of Rapid Rural Appraisal to keep in mind

Management of bias:
- Be aware of who you are talking to. It is always useful to know how long your informant has been in the area and what contact s/he has had with villagers themselves.
- Be clear about the geographical area your informant is referring to.
- Try to assess how the interview went. Were the respondents well-placed to know about the various subjects under discussion? What might have motivated the respondents to give certain answers?

Optimal Ignorance:
- For speed and efficiency, the team must have a clear idea of the minimum information set required.

On the spot analysis:
- Allowing follow-up and clarification of issues in the field.

A learning process:
- The researchers' understanding of the problem grows throughout the field study.

Use of indigenous knowledge:
- This is clearly central to the approach. But the researcher should also try to understand problems from the informants' point of view.

Flexibility:
- While the researcher must have a clear conception of what information s/he is trying to get, the approach must be sufficiently flexible to allow adaptation to any new situation arising in the field.

Triangulation:
- It always pays to get two or three points of view, and to cross-check between these. In RRA this involves using different investigators, different respondents, different information sources and different techniques.

The first two pages of the form cover the main aspects of livelihood zone refinement and checking, and market price information for the main district market. The following pages are specific for one livelihood zone. **If detailed information for more than one livelihood zone is to be covered at district level, then further copies of these pages will be required.**

The seasonal calendar and wealth breakdown exercises are optional at district level, depending on the time that the team has and the level of detail/knowledge that the key informants have regarding the situation at village and household level. Although some key informants at district level are very well informed, wealth breakdowns are usually best conducted at village level.

How you should carry out the interviews

Box 1 and **Box 2** contain important rapid appraisal and semi-structured interview tips relevant for all aspects of the field work, not just the district interviews. **Sessions 2** (*Ensuring High Quality Field Information*); **3** (*The Livelihoods Field Handbook*); **13** (*Household Representative Interviews*); and **15** (*Field Testing and Interview Practice*) in the Training Guide are designed to prepare you for interviewing in the field. For now, be sure to study the tips in **Boxes 1** and **2** and consider how to apply them in your work.

Box 2. Semi-structured interview tips

- Questions can be asked (or answers provided) in any order. At the end of the interview, check that all the various questions have been posed.
- Try to keep the flow of the interview going as you would a conversation, with one question leading to the next in a natural way.
- Keep track of the story you are being told. Is it consistent? Clarify inconsistencies.
- Finish enquiries into one topic before moving on to the next. But balance this with following the flow of the conversation, keeping a track of leads, so that you can follow these up later.
- Cross-check as much as possible, both by asking the same question in different ways and by comparing the response of different people. But don't ask the same question over and over again.

Before you leave this level

- *Select villages to visit.* One of the main objectives at this level is to select the villages you are going to visit. Therefore, before ending your district key informant interview, make sure you have asked district officials to help you select at least ten villages to visit per livelihood zone. You should conduct interviews in at least six to eight villages. Always identify more villages than you will have time to visit in case things do not go according to plan in a particular village and you are forced to find another one. For example, you may discover when you arrive in a village that it is market day and no one has time to meet you or that there is a funeral and villagers are occupied. In this case it is important to have a back up plan. As with district selection, these should be villages that are typical of the livelihood zone in terms of their 'normal' situation. They should not be villages in 'transition' areas, which are areas along the border of two livelihood zones, where a clear picture of the zone is difficult to obtain.

- *Gather any relevant secondary literature. See **Table 3** for further guidance*

- *Obtain necessary letters of introduction or directions to selected villages*

Activity 3. Visit Market and Conduct Trader Interviews

Background

The objective of your market assessment during the baseline is to find out how the market typically functions and what this means for households in the livelihood zone. Understanding fluctuations in prices over the year and year to year is important because it determines terms of trade for people in the zone, which helps us analyse what constraints and opportunities households face in the market, highlighting, for instance, what cash income they can make for the goods they sell and how much cash they need to have in order to pay for the basic goods they need to buy. In the process, we are aiming to find out something about the relationship between local markets and the wider economy, because it is the demand from this larger environment, and the physical connections between this demand and the local economy that will determine just how much households can benefit from the sale of their livestock, labour, crops and other commodities.

Table 4. Core market-related information requirements in HEA

Why do we need market information in HEA?	*The core market-related questions*
As an input to the **baseline picture**: people only get part of their food from their own production, and the poorer the household, the more it tends to rely on the market.	• What is the balance of household food that comes from the market at different times of year? • Where do households get their cash income at different times of year? • How much do the items that people must buy cost at different times of year?
As an input to the **outcome analysis**: An accurate **projected outcome** can provide enough lead time to avert a food crisis. This depends on the ability to create reasonable scenarios about what will happen to the prices of goods that people buy and sell (which shapes the **problem specification**) and then to monitor against these scenarios.	• How elastic are local/regional/national labour/livestock/food markets? • What happens to normal seasonal price patterns in a bad year? In a good year?
As part of the **response analysis**: The main goal of HEA practitioners is help decision makers take the best course of action to help save lives, protect livelihoods and reduce poverty. Determining whether or not markets are an appropriate channel for distributing goods or services is a central part of this effort.	• Will there be enough supply in the market if cash vouchers are provided to purchase the needed commodity? • What will happen to prices? • How integrated is the market?

The core market-related questions we are trying to answer in relation to different parts of the HEA Framework are presented in **Table 4**. These are outlined in a bit more detail below:

The Baseline

The main goal during baseline market assessment is to explore *to what extent markets for core goods and services are functioning effectively at different times*.

Step 1: Livelihood Zoning

Access to markets is one of three main determinants of livelihood zone boundaries, with the others being geography and production system. Where people sell their produce and which markets they depend on to procure food and other items is an essential piece to grasp in order to understand vulnerability to market shocks. This information is obtained through key informant interviews and by mapping markets. A key tool for this activity is mapping the flow of major commodities – usually food crops, plus livestock in a pastoral environment.

Step 2: Wealth Breakdown

Market assessment at this stage needs to help us understand the market relationships between different wealth groups. The ability of each group to profit from market interactions is a major determinant of wealth. Therefore we need to find about connections and interdependencies between different types of households within the community and how those households transform their assets through market interactions into different levels of wealth. A particular issue of interest at this stage is contractual agreements which enable people to make better use of certain resources that they may otherwise be unable to exploit. For example, a crop sharing agreements for farm land may allow for a mutual benefit for a widow with land but lacking in labour and a labourer with no land. Another example is the keeping of small ruminants owned by richer households by poor households, in return for a share of the offspring and perhaps with some cash or food payment. Credit relationships also can be of mutual benefit. It is important to recognise that power imbalances can in some situations result in these arrangements becoming exploitative.

Step 3: Food, Income and Expenditure Quantification

All population groups rely on the market to a greater or lesser extent to get food: they exchange goods and services in the market either to generate cash to buy food, or in the form of direct exchange for food (barter and labour exchange). They also rely on the market as source of the non-food items and basic services that they buy. And the process of earning income involves markets of different sorts: international markets for cash crops, national markets for livestock, urban markets for the skills a person has, local markets for vegetables and petty trading, etc. This makes an understanding of markets vital for explaining people's food security, their constraints and their opportunities. It is also important to understand how markets react to changes from good years to bad years. As crop production falls or rises, how does the supply of grain into and out of the area change? how does its price change? do people try to sell more livestock or do more casual work? will livestock prices and wage rates change in response?

Our information for this step comes from a number of sources. Interviews with households tell us about quantities and prices in different seasons and different types of year (good, average, bad); and we cross-check this information with data on prices (and to a lesser extent quantities) from traders as well as from key informants.

Hazard and outcome analysis

Step 4: Problem specification

At this stage we need to find out about the effect of a given shock on market prices and quantities exchanged. Market assessment at this step focuses on the collection of price data in the local markets – and from secondary data sources – for all commodities which are traded by the study population, and we need to understand change in quantities traded. We are essentially trying to determine the change in price and quantity for all items bought and sold – compared to the reference year. Determining the price problem specification requires us to review the prices that have already been recorded up to that point in the marketing year (post disaster), and we need to predict how prices are likely to change during the months leading up to the next consumption period. (See **Figure 4** in Chapter 4 for an illustration of a typical monitoring cycle.)

So, while in the last step our interest lay in understanding in general terms how market prices fluctuate according to supply and demand, and how markets function, we need to draw further on this kind of market assessment and compare the reference year to the current year to guide the price problem specification.

Step 5: Analysing Coping Capacity

At this step, where the value of coping strategies is incorporated into the calculation of impact of a shock on households, we need to know the market-related limits of these coping strategies. For instance, if our baseline information tells us that in one area villagers try to make up for crop production deficits by selling extra livestock, it is important to understand how prices will change when more livestock enter the market because this determines the extent to which people can expand their income by selling livestock. This requires an understanding of *market elasticity*:

Non-market limiting factors

We have to be aware of limits to "coping" which are related to household assets (or capital) rather than to the market. These limits are explored in household economy and wealth breakdown interviews.

Labour scarcity, technology and transport are all limiting factors that may be a constraint for one household – or group of households – but not for others.

- What will happen to the price if more people try to sell more livestock (what is the relationship between price and supply?)
- Will people be able to sell *more* than they usually do during difficult times, and at what price? Will the demand for livestock increase if the price decreases? (is the demand for livestock elastic or inelastic in relation to price?)

The same analysis must be done with all important commodities. If people migrate for work to a town where they don't normally go to is there likely to be a reduction in wage rates, or is the town able to absorb an increase in labour supply?

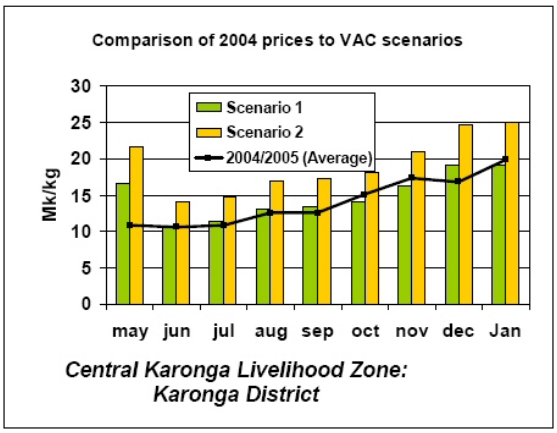
At this stage of the analysis it is necessary to check on what actually happens with markets, and make sure the predictions are as accurate as possible by asking people *who should know* – in the case of labour markets this might be the urban planning department, for instance; or a large employer.

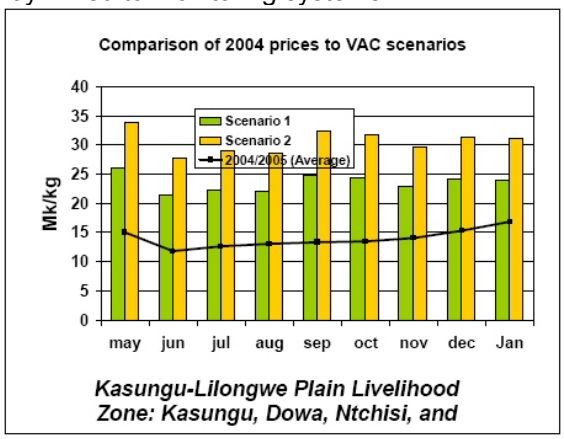
Step 6: Projected Outcome

Market assessments for this step are concerned with monitoring prices to check our assumptions about what will happen to the prices for a whole range of commodities, as these prices have formed one key element in the calculation of the scenarios and have a significant bearing on the scale of response planned. Monitoring price changes as they happen and seeing the degree of fit to our predictions may result in an adjustment to the intervention. (See **Box 3**.)

Box 3. Linking price projections to outcome analysis and response plans

The following graphs depict two scenarios for grain prices over the course of the year for which a projection was being made (2004), based on different possible inflation rates. This is compared to the actual prices observed from month to month, indicated on the black line. While in Central Karonga Zone the actual price closely matched Scenario 1, the actual price in the Kasungu-Lilongwe Plain was lower than predicted, and the outcome analysis should have been revised accordingly. Response plans can be updated at key points of the year when the links between assumptions in outcome analysis are transparently linked to monitoring systems.





Source: FEWS Malawi – Monthly comparison of 2004 prices to MVAC scenarios

The section below provides guidance on the minimum information required to meet the **baseline requirements** and the minimum reference information needed for the **outcome analysis**; where appropriate, suggestions are offered for useful additional information relevant to the **problem specification and response analysis** that could be gathered if the team has enough time. The Market Supplement, which accompanies the **Practitioners' Guide**, contains more detailed tips and tools on markets, with a lengthier treatment of the particular information requirements associated with **response analysis**.

When you arrive at the market

The first thing to find out is the location of local markets and the market day associated with each, so that you can plan for a market visit to fit with your assessment schedule. Markets are usually organized into different sections: cash crops; grain and pulses; vegetables and fruit; livestock; crafts; firewood/charcoal etc.

Make sure you check with the local population to find out which markets they use; it could be that the most important market for them is not the local market but a market farther away. For example, the local market might not be a specialist trading location for livestock, even though livestock are sold there in small numbers; a market which is farther away, and on the trade route with markets abroad might be far more important in determining livestock prices than the local one.

Who you should talk to

Traders are a useful source of information on past and present prices, normal seasonal price variations, and expected price trends in future. Information collected at this level will be helpful in defining the economic consequences of the current hazard that households face – and their development over time. For each market visit, you need to organize to visit two or three people on the main market day. You will need to collect price data from retailers and producers selling their own produce, and you will also need to interview the larger traders (wholesalers).

Information to collect

In HEA we are focused on the markets for the most important commodities that people sell to get cash, and the 'cheapest' staples that most people rely on when their stocks runs out. Important commodities sold will typically include grains, cash crops, livestock and/ or casual labour.

Table 5 highlights the formats and guidance you will use in collecting the market information. The left-hand column indicates tools associated with the minimum information required; tools for assessments where you have more time to focus on market information are indicated in the right hand column.

Table 5. Tools for market information collection

At a minimum	*If you have more time*
Interview Form 2: Annex A	Variants of Interview Form 2: Annex B
Guide 3: Annex C	Guide 6: Annex C
Page 18 of the Livelihoods Field Handbook	Guide 1: Annex C
Format 2F: Annex B	Guide 5: Annex C
Guide 2: Annex C	

In a typical baseline, we are particularly interested in the following information:

- The prices of the most important items that households buy and sell in the livelihood zone at different times of years and in different types of years.

To obtain information for constructing an accurate problem specification, we also need to know:

- How well linked the local market is to the wider economy, which is indicated by how efficiently local commodities are sold on to areas of bigger demand, and how much of a 'mark up' is placed on commodities produced elsewhere but purchased locally. Linked to this, we will also occasionally want to know about the supply chains that link producers of certain key goods and the final consumers of those goods and services. To determine efficiency we need to know something about how *competitive* markets are and how *integrated* they are.

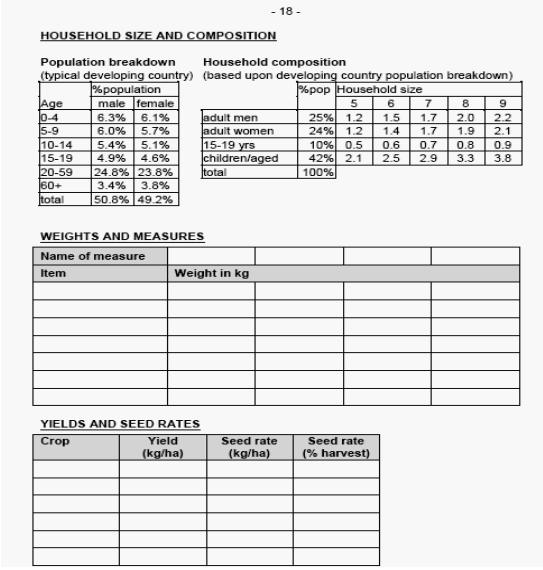
Interview Form 2 in **Annex A** on the CD provides a checklist of the minimum information you need to cover in the Trader Interview. Guide 3 in **Annex C** on the CD provides more detailed guidelines and tips for interviewing traders. For assessments where additional detail on

markets is needed, the practitioner should use one of the variants of Interview Form 2, provided in **Annex B** on the CD.

Collecting price data

The data collected on the current prices of key goods and services is used primarily to cross check information collected during the **Household Representative Interviews** on things like prices, weights and volumes of measures. The data collected on the range of prices during the reference year helps provide a basis for developing seasonal fluctuation graphs.

Box 4. Recording common standards: The Livelihoods Field Handbook



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HOUSEHOLD SIZE AND COMPOSITION

Population breakdown (typical developing country)

Age	%population male	%population female
0-4	6.3%	6.1%
5-9	6.0%	5.7%
10-14	5.4%	5.1%
15-19	4.9%	4.6%
20-59	24.8%	23.8%
60+	3.4%	3.8%
total	50.8%	49.2%

Household composition (based upon developing country population breakdown)

	%pop	Household size 5	6	7	8	9
adult men	25%	1.2	1.5	1.7	2.0	2.2
adult women	24%	1.2	1.4	1.7	1.9	2.1
15-19 yrs	10%	0.5	0.6	0.7	0.8	0.9
children/aged	42%	2.1	2.5	2.9	3.3	3.8
total	100%					

WEIGHTS AND MEASURES

Name of measure				
Item	Weight in kg			

YIELDS AND SEED RATES

Crop	Yield (kg/ha)	Seed rate (kg/ha)	Seed rate (% harvest)

Page 18 of the Livelihoods Field Handbook
Is where you will find blank formats for recording the weights and measures and yields and seed rates that will be used as common standards by the assessment team.

In your practical training before going to the field, you will prepare in advance the data collection section of the form for collecting market prices Interview Form 2. In this process, you will modify the form to include locally-specific commodities, and to eliminate items that are not relevant for the area and you will be led through the instructions for collecting this information with the market assessment team (Guide 4, **Annex C**). One of the most important functions of this initial review with the team is to ensure that all members are using the same standards in their information gathering, referring to a standard category for each commodity, and using accurate measures of the weight and volume for each. The Livelihoods Field Handbook, which is reviewed in **Session 3** (*The Livelihoods Field Handbook*) of the Training Guide, provides a common reporting format for recording standard weights and measures which should be used by the team during the fieldwork. See **Box 4**.

Comparing information from traders with historical price trend analysis

A time series of market prices provides important evidence for understanding seasonal and year-to-year trends, market integration and marketing constraints for particular commodities. It is best to review any secondary information you managed to gather in the capital or district headquarters before your interviews with traders so that your questions can be more targeted and intelligent. Here we explain the process for collating and interpreting secondary market price data in more detail. This information will be used when constructing a problem specification and scenarios in the Outcome Analysis.

Checklist for determining price data quality

- Is the market from which the price was collected specified?
- Is the weight/ measure specified?
- Is the commodity sufficiently specified (e.g. white maize, yellow maize, maize meal; local/ imported…)

1. Gather and collate the historic data In most district offices price data is collected on a regular basis. Even if there is no formal early warning system it is likely that such data is being collected, even if it is not locally analysed. The data might be collected by the Ministry of Agriculture, the Bureau of Trade, or perhaps the Central Statistics Office (if there is one), or it might be collected by national or international NGOs as part of their programme monitoring system.

2. Data entry Obtain as much data as you can from the relevant office and transfer it, if it is in hard copy, to your computer. An excel file, Format 2F, has been provided to facilitate this transfer. This format can be found in **Annex B** on the CD and has been set up to automatically graph your data.

3. Interpreting time series price data You need to graph the price data you obtain in order to see trends and patterns. Format 2F has been set up to automatically graph time series data input into the relevant cells. It has sufficient space for 5 years of data for 12 commodities. For those who have never used spreadsheets to graph time series data the file provides a useful starting point. Please also see Guide 2 in **Annex C** for more on how to interpret time series data.

Information about how markets function

How the market functions is directly related to an area's relative poverty; if households in Area A get less for the same goods that households in Area B are selling, it stands to reason that Area A will continue to be worse off in relative terms. In addition, in a year when a shock occurs, households in areas where markets function poorly tend to be less able to use the markets to cope; when crops fail, prices for staple foods will likely be even higher for an area that is not well connected to the national market infrastructure. This is because regional or national supplies do not reach the local area quickly or at all, leaving the shortfalls in local production unmet. As supplies drop, prices rise. How integrated and competitive the market is ultimately determines whether local commodities fetch a higher or lower price in relation to other areas in the country or region; and whether local households have to pay more or less in relation to these outside areas in order to obtain basic goods and services. This information is important because it sets a context for understanding households' constraints and opportunities, which can lead to better development planning; and it also helps determine whether households in an area will be able to cope, or will need humanitarian assistance, in bad years.

One of the basic tasks is to examine whether prices and changes in price levels for the same good in different markets move in sync with one another when price differences related to transport costs are taken into account. If so, the market is said to be well-integrated.

Interview Form 2A in **Annex B**, contains questions which are useful for getting a basic understanding of how well markets function. This information, while not absolutely essential for filling in the baseline requirements, should be prioritised if extra time permits. The form is divided into two sections:

1. **General questions about the trader's operations in the reference year**
   - Trading volume for particular commodities and the marketing chain: Where supply for different commodities comes from and reasons for fluctuation in supply and demand for these commodities.
   - Trader's capacity: storage capacity, access to transport; position in the market (size compared to others), the number of competitors (other retailers, other wholesalers), access to credit and whether the trader extends credit to others; and whether he has access to market information.

- Marketing margins and transport costs: how expensive and difficult is it to physically move goods between markets
- Market regulation: how government control and market intervention affect traders.
- Marketing constraints and opportunities.

2. Questions for wholesalers trading in commodities which are of particular importance to the livelihood zone, such as food crops, cash crops and livestock

- Volumes and price traded in peak and slow trading periods
- Trade routes for the two major types of commodity traded
- Changes in a "bad" year
- Explanation of recent price trends
- Marketing constraints

Also, if time permits, It may be helpful for you to develop some market maps, as these can help present in visual terms the connections and relationships between different markets:

- When the trader explains the market route it will be easier for you if he or she draws the links in the chain, particularly if you don't know the names of the markets, or their location. Some guidance on market mapping has been provided in Guide 6 of **Annex C**.

- Map out the market chain through which local produce is sold and staples and important inputs are brought into the area. See Guide 1 in **Annex C** for information on market chain analysis. Traders can tell you who they buy from and who they sell to, the price at which they buy and sell (gross margin) and what the marked up price includes (the purchase price, plus which other marketing costs plus how much profit). (See **Table 2** in Guide 1). If you also ask them how many people are buying and how many are selling at each link in the chain (and the relative market share of the buyers) you will start to develop an idea about competition. You can also map the trading links as a market structure (see Guide 5 in **Annex C**). Together, this information adds up to a picture about how the market functions.

Information about market regulation

Despite a push for liberalization over the past decade, many governments still intervene in one way or another in the dominant cereal markets (e.g. maize in southern Africa and rice in many countries in south and southeast Asia). Regulation may be targeted at increasing the competitiveness of national actors, or at ensuring the survival of an at-risk population. Examples of some common objectives and means of regulation include:

- inhibiting traders from selling grain abroad (which may be achieved through an absolute ban or a tax on exports)
- increasing the competitiveness of local farmers by providing them with production support (e.g. U.S. and European farm subsidies)
- encouraging people to buy locally by imposing a duty on imports
- ensuring the survival of food insecure populations by maintaining a strategic reserve of grain which is released on to the market in times of short supply
- imposing price controls on key foods to try to make them affordable (e.g. in Zimbabwe, where price controls have led to the creation of a parallel black market for goods at higher prices)

In all cases, these policies have an effect on the price of commodities on the market, and the links between the policy and its price effect needs to be understood in order to see how future changes in policy might affect prices, and the welfare of households.

Examples of relevant questions in this area of enquiry include: What are the official market regulation policies? Do people adhere to these policies? Is there a strategic grain reserve and how is this managed? What role do donors have in maintaining this reserve and influencing the policy? How are official taxes levied? Do people have to pay unofficial taxes? How are traders taxed, and do farmers selling their produce in the local market have to pay taxes? Does the taxation system exclude some from trading? Or otherwise negatively affect how they trade?

This information can be collected from early warning agencies, donors, government marketing agencies, planning departments, and food relief agencies.

Before leaving this level

Make sure the trader interviews have provided you the following information, at a minimum:

- a completed Interview Form 2 (or one of the more detailed variants)
- sufficient reference information on prices and markets that can subsequently be used to cross-check information at the household level
- a clear trend of how prices and trading patterns change across good, bad and average years, and
- an understanding of how local markets function to serve as a basis for price projections in the outcome analysis step (see Chapter 4) and the response planning process

Activity 4. Visit Community and Interview Community Representatives

When you arrive in the community

First, seek out the village leader(s) and explain the purpose of the visit and what you would like to do. Explain that you would like to start your activities in the village with a group of 6-8 men and women who can explain the overall situation of people living in the area. See **Box 5** for more tips on the introduction.

Before completing the community level interviews you should aim to do four things:

- gather ***background information*** on the village (including details of recent hazards and household-level responses),
- prepare a ***seasonal calendar*** of activities
- do a ***wealth breakdown***, and
- ***arrange for further interviews*** with small groups of people from each wealth group.

It is advantageous to divide the information collection responsibilities, with **one sub-team gathering background and seasonal calendar information with 3-4 key informants**, while **the other sub-team does a wealth breakdown and arranges for further interviews with another 3-4 key informants**.

The team that does the wealth breakdown should always arrange the wealth group interviews, because only they (and their key informants) will have a good picture of the precise characteristics of each wealth group. If the team decides to split in this manner, then the two teams should brief each other while waiting for the wealth group interview participants to gather. This is important as there will be plenty of information from each interview that will be useful as background and for cross-checking purposes during the wealth group interviews.

Box 5. Tips for introducing your team in the village

Welcome the participants to the interview and thank them for coming. Explain carefully that you are not part of an official delegation or mission to the region, but that you have come to try and understand better the real situation of local people.

Explain the objective of your visit:

- *that you have come to understand better how people in this area are living*
- *that your visit is not linked to any short term intervention but may help people to make more appropriate planning decisions in the future*
- *that the village has been selected to represent the local area, and that the information given will not directly affect the level of assistance received by the village*

Never make any promises of assistance to the village.

Make sure the whole team is clear on the key points in the introduction before the interviews take place, and spend time with the translators to make sure they are also clear about your collective message before starting the interviews.

What you need to know before the interview

What defines differences in 'wealth' in HEA?

Within any community, even one where everybody can be considered poor in absolute terms (i.e. compared to other better off parts of the country or compared to those living in the developed world), there will be different types of household, who live in different ways, and who will respond in different ways (with differing levels of success) to periods of food shortage. The wealth groups within a livelihood zone are sets of households who have similar asset holdings, and employ similar strategies to gain access to food and cash income.

What makes an HEA wealth breakdown different from a wealth ranking?

HEA wealth breakdowns focus on what **causes differences in wealth** (such as access to land, labour and capital). This makes them distinct from a 'wealth ranking' which focuses on grouping indicators, or outcomes, of wealth, such as roofing type or number of assets.

It is important to bear in mind that for the wealth breakdown ***we are thinking of wealth in relative (and local) terms***. Statistical data may indicate that 80% or even 90% of the population of the district lives below the national poverty line, but this is measuring poverty on a national, absolute scale. In a livelihoods analysis we are interested in understanding the differences in livelihood pattern within the community, because these differences determine how people will be affected after shocks or changes in access. In other words, because we are interested in differences in how people obtain access to essential goods and services, and because basic economic logic suggests that this will vary depending on access to land, labour and capital, it is not useful to lump 80% or 90% of the population solely on the basis that these people fall below a certain absolute income. Wealth groups are derived from community-based key informants, and thus the size of each group, and the description of the livelihood patterns of each group, will be determined by the *local* socio-economic environment and by how options for obtaining access to food and income vary across wealth levels. The HEA income data can, however, be used to place wealth groups in relation to national poverty lines if necessary.

What is a reference year and why is one needed?

The actual wealth breakdown must be connected to a particular year – the reference year that you will use throughout your interviews**.** Which year should you choose as the reference? While HEA practise used to define the reference year to be the one that occurs most frequently, in practice, this does not always make for a good interview, especially if this type of year has not occurred recently. It is hard for interviewees to recollect details if you chose a reference year that occurred more than two years in the past. Also filling in gaps in asset profiles (i.e. taking into account losses or gains in livestock herds over subsequent years, for instance) provides a challenge as well if the year was too far back.

Therefore, practically speaking, in terms of the ability of interviewees to recollect details (including quantities and prices), it is usually best to choose a recent year. The most recent 12 month period is ideal[5], provided there hasn't been an unusually large amount of food aid distributed and provided it wasn't a very good year. If either of these situations applies, then

[5] Note that the reference year is a consumption year and, in cropping areas, should start in the month when people normally start to consume food from their fields (green or mature). This is different from the agricultural year, which usually starts when people start preparing their fields or planting seeds.

it is very difficult to understand coping or response strategies and it makes sense to choose

Box 6. What is a 'Reference Year'?

A **household economy profile (or baseline)** describes a population in a particular year. Since a livelihood profile contains **prices** and **quantities** of production etc. we need to know which period the data comes from (since this will affect whether we interpret it as high or low). Ideally all interviewers should be using the same year. The baseline or reference year household economy profile is essentially **a set of reference information**, with values in a particular year for how much is produced, bought, earned, sold etc., and how people made decisions (e.g. what crops people grew, what they did with their cows' milk, where their livestock migrated to and when, how they store their crops and for what periods).

It is important to have this information linked to a particular year so that the baseline information can provide the context against which monitoring and projections can be done. This is the only way to ensure that existing monitoring systems and data collection regimes (such as the Ministry of Agriculture data, or price data) can be used in conjunction with the HE baseline.

In practice, it is best to use the last consumption year as the reference year as long as it was not a very good year, or so bad of a that there was unusual out-migration or food aid received. Using a bad (but not very bad) year as the reference year has certain advantages in that it already highlights the types of coping strategies people employ, and provides a good indication of just how expandable different options are. It is best to avoid using a very good year as the reference year, because typical patterns of livelihood may be lost or misunderstood in a surplus year.

an earlier year. A poor (or typical) year in which people survived without unusually large amounts of food aid is ideal. If the year chosen is not the most recent year, care must be taken to update key asset information (e.g. livestock ownership) that may have changed in the interim (e.g. if there has been a drought). **Session 6** (*The Reference Year*) in Module 2 (*Baseline Assessment*) of the Training Guide provides more detail on how to choose a reference year.

Information to collect

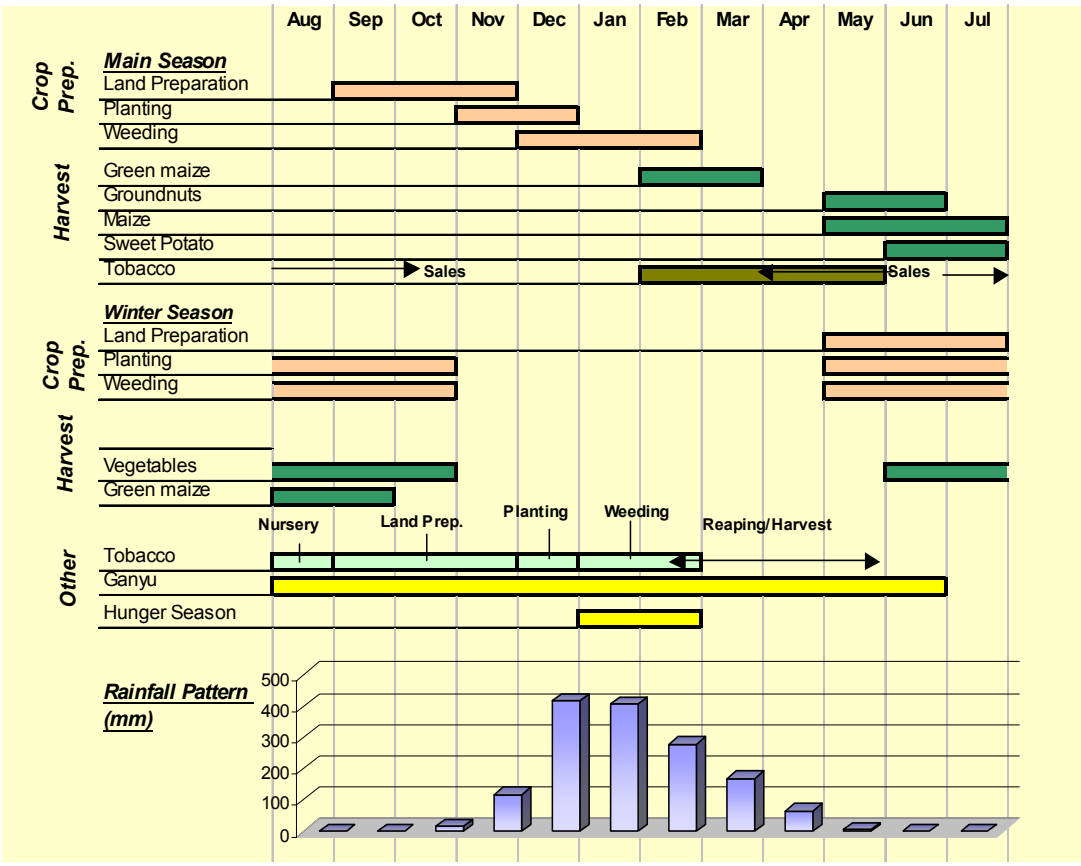
Interview Form 3 (in Chapter 3: **Annex A** on the CD) outlines the main points that you should cover during the community-level interview. Once again, the form contains the *minimum* amount of information you should gather for each topic – it is not meant to be restrictive. In your practical training before going to the field you will have an opportunity to review each of the interview forms in detail in **Session 14** (*Review of Field Forms*). Take a moment now to look over Interview Form 3 so you are familiar with the minimum information required at this level.

*For the team gathering **Background** and **Seasonal Calendar** information*

The first part of the form on *background information* covers chronic hazards and a timeline of periodic hazards (at least 5 years), plus household responses to these (which should be as detailed as possible). This should be followed by a discussion of current hazards. Basic information on crop and livestock production should be touched on, including 'normal', recent and expected yields. A list of the main markets that are used by villagers should be compiled, along with market prices for the most relevant items (prices now, last season and in the reference year). Much of this information will be used for defining the current hazard and its expected consequences at household level.

All aspects of a household economy are influenced by seasonality. ***Seasonal calendars*** are the basic tool for seasonal analysis. **Box 7** illustrates just how much information is contained in a seasonal calendar, and how critical this information can be.

Box 7. Seasonal Calendar from Western Rumphi and Mzimba, Malawi



Understanding seasonal variations is essential in order to understand the multiple effects of a shock that occurs at a particular time of year, among other things.

Seasonal calendars help reveal:

- when crops are planted, eaten green, harvested and sold
- how food access varies through the year for different groups
- which indicators are useful for monitoring seasonal food access
- availability of rainfall and water, which affect crops, grazing, migration and disease

Session 7 (*Seasonal Calendars*) in Module 2 (*Baseline Assessment*) of the Training Guide provides more detail on what seasonal calendars are and how they can be used. **Page 3** of Interview Form 3 in Chapter 3: **Annex A** will guide you through the main points to cover in developing a seasonal calendar.

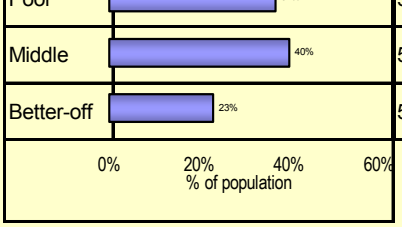
*For the team covering the **Wealth Breakdown** information*

The last two pages of Interview Form 3 outline the main information required for the wealth breakdown. In the Training Guide, **Session 8** (*The Wealth Breakdown*) of Module 2 (*Baseline Assessment*) provides more detail on the concepts involved in wealth breakdowns and the process of conducting this important interview.

The minimum set of information required for the ***wealth breakdown*** is:

- The proportion of households in each wealth group (normally obtained through proportional piling)
- The typical household size & dynamics – permanent members, including wife/wives, of different wealth groups. (Note: People 'eating from the same pot' may not be constant throughout the year, which needs to be taken into account when quantifying food and income.)
- The assets owned and or accessed by different wealth groups – including land owned and land cultivated; livestock owned and borrowed; savings and other assets
- Other economic or social activities/characteristics typical of each group (i.e. The poor may work for the wealthy and/or receive gifts from them)

Box 8. Wealth breakdown results from Western Rumphi and Mzimba, Malawi



	Wealth Group Information		
	HH size	Area planted and how	Livestock
Poor	5-7 members	1-1.5 acres by hand, using household labour	0-4 pigs, 7-10 chickens
Middle	5-7 members	2-3 acres by hand, using household labour and some hire labour	0-5 pigs, 10-15 chickens
Better-off	5-7 members	4-5 acres by hand, using household and hired labour	0-4 cattle, 3-7 goats, 2-6 pigs, 15-20 chickens

How to conduct the wealth breakdown interview

The types of question that can be used to start the wealth breakdown include:

- *We know that households are not all living in exactly the same way – what is it that makes one household better or worse off than another in this area?*
- *What are the different characteristics of households who are doing well, or not doing well, in this area?*

Further prompting will then lead to discussion and estimates of household size and asset ownership and so on. Bear in mind that the terms "rich" and "poor" may be loaded with subjective pre-conceptions and should be avoided. It is often easier to talk about differences in how people obtain access to food and cash: those who have to work for others to get food; or those who hire people; use

What is a household?

A household is the basic community unit at which resources are managed. It is typically a group of people eating from the same pot.

"better off" rather than "rich". Listen carefully to pick up the terms your informants use try to use similar language. Your conversation should be carefully crafted to provide the space to let your informants define the wealth groups.

Establishing the wealth criteria

Your goal in the first instance should be to develop agreed-upon wealth criteria of each of the wealth groups such as:

Table 6. Example of wealth criteria

	Household Type			
Wealth Criteria	*Poor*	*Lower Middle*	*Upper Middle*	*Better Off*
Number of people in hh	2 - 3 (usually with disabled members)	5 - 7 (with 1 or 2 productive members)	5 – 7 (with 2 or more productive members)	5-7 (with 2 or more productive members)
Number of acres cultivated	0 - 0.5	0.5 - 2	2 - 4	2 – 10
Number of shoats	0 – 1	1 - 5	5 - 10	>10
Number of cattle	0	0	1 - 3	>3
Number of chickens	0 – 3	3 - 8	5 - 10	5 - 10

Finding out how many households fall into each group

Once you have come to an agreement on the wealth criteria for each group, you need to find out the proportions of households falling into each of these groups. The best way to do this in the field is through proportional piling. Proportional piling is an RRA technique in which 100 beans, nuts or beads of equivalent size are used to represent the total number of a particular set (e.g. households, cattle, children, etc) and interviewees are invited to divide the pile and group according to the relative size of a particular category of interest (e.g. poor vs. better off households; female vs. male cattle; children who attend school vs. those who do not, etc.). Proportional piling, beyond simply being a tool for quantifying sub-sets, is a useful communication device. Once the division is made, you can use the visual map of groups that has been created to refine your questions, confirm your understandings, cross-check your results, and ensure that your communication with your interviewees has been clear. Having something to point to can help you save time and develop a rich, interactive conversation. You will practise how

A common pitfall

Keep in mind that – depending on household size and composition – the percentage of households is typically not equal to the percentage of the population. For example, if the poorest households are also small (with 2 or 3 people, say) while middle households are larger (with 6 or 7 people) then even if the poorest make up 20% of the households in the area, this will represent far less than 20% of the people in the area. Make sure informants are clear about whether you are asking for the percentage of households, or percentage of the population

to do proportional piling in your practical training in **Session 8** (*The Wealth Breakdown*) of Module 2 (*Baseline Assessment*).

HEA practitioners aim to divide the population into four or more wealth groups, because – in reality - a breakdown with fewer than four groups tends to mask real differences in access. When you proportional pile the groups, if there are fewer than four groups and one is very large, you should sub-divide it, asking your key informants to describe critical differences *within* the group. It may even be necessary to divide beyond four groups (for instance if there is a very rich group that constitutes only 1 or 2% of the households); even though it may not be possible to conduct intensive interviews with this kind of group, it is sometimes useful to include these in the subdivision simply as a means of ensuring you have a complete picture of the community economy. It is necessary to do at least ten interviews per livelihood zone for each of the four wealth groups identified (see **Table 1**); and there may be cases when doing a few additional interviews with the very richest (if five wealth groups have been identified) can provide important information to cross check labour or service demand.

Setting up the next interviews

The last task is to set up interviews with representatives of the wealth groups identified. Therefore, as the wealth breakdown exercise is coming to a close, you should ask the community representatives doing the wealth breakdown to select 3-5 people from each of the different wealth groups for further interview. You should be *very* clear about who you would like to meet and make sure you give the leaders enough time to gather people. You should be as specific as possible when you are requesting interview participants. Rather than asking 'Could you please bring me 4 poor women to interview?', you should ask 'Could you please bring me 4 women who cultivate about 1 acre each, own about 5 shoats, and have a family size of about 6? They shouldn't be too old and they should have husbands who are alive and living with the family (for at least part of the year).' The details of the request will vary from one place to the next, but the point is to be as specific as possible – using what the key informants have told you about what is typical for each wealth group. You should mention that you want normal, active people who can explain how they are surviving – not the very old, or feeble-minded. Be clear when you request a group of women if you want female-headed households or not – whichever is typical for the wealth group – as it is easier to interview a consistent group. It is best to ask for households that represent a specific level of assets within the most important defining criterion. For instance, in an agricultural area, where the amount of land cultivated is a critical determinant, it may be the case that lower middle households comprise those that cultivate between 0.5 – 2 acres; however, it helps to minimize the variability in replies that ultimately results from households at the extreme ends of the range if you ask for households that represent **a certain point in this range** – for example, households that **cultivate 1 acre** rather than asking for households that cultivate between 0.5 and 2 acres.

The household representative interviews are normally done with 3-5 village members each representing households of a particular wealth group. As a rule, it is usually not possible to do more than two household representative interviews in a day[6]. Even if the time permits, it is too taxing on the interviewers, and the third interview tends to be of poor quality. It is advantageous to interview groups of men and women separately. This is because women and men have different perspectives, different access to different sources of income and food, and different responsibilities. In countries where there are cultural restrictions on women, you may have to find out about the prevailing norms and organise your interviews accordingly (with, for instance, female members of the assessment team assigned to women

[6] However, it is possible to do one community leader interview and two household representative interviews in a day, if such a schedule can be arranged.

interviewees). You may want to interview other specific members of the community if your research agenda requires this: for example, children, household afflicted by HIV/AIDS or that have taken in orphans, or disabled individuals. Chapter 7: Emerging Links, Issues and Approaches goes into more depth on how to proceed in these cases.

You should be clear that you want to speak with new people – not the people who participated in the community-level interviews. It is especially important to provide sufficient time to the leaders to gather the right people. If you expect to meet wealth group representatives immediately, then the leaders will round up anyone who happens to be nearby and they may not fall into the groups you have requested. Also, they may not have time to sit through a two-hour interview. The ideal scenario is to do the community level interview late one afternoon and then return the next morning for the wealth group interviews (proceeding to the next village in the afternoon for another community level interview). This allows the leaders enough time to request people to attend and to warn them that the interview will be about 2 hours. It also gives the participants time to make other arrangements for the activities they would normally be carrying out during the interview period. If you decide to arrange your interviews in this way, you should write down the precise details of who you want to meet the following day for the leaders to refer to when they are arranging the groups.

If you decide to conduct wealth group interviews on the same day as the community level interviews and want to give the leaders enough time to gather participants, one way to use the intervening time usefully is to make some ***household visits***. A couple of the participants from the community key informant interview can be requested to take team members to the homes of people in specific wealth groups (while other community representatives are arranging the wealth group interviews). **Page 9** of the Livelihoods Field Handbook includes the rationale and some guidance for these visits. They should only be carried out if you have enough time as they are less important than the wealth group interviews.

Before leaving this level

For the team gathering Background and Seasonal Calendar information

The team that concentrated on gathering background and seasonal calendar information must make sure they have collected the following:

- ***background information*** on the village (including details of recent hazards and household-level responses) as set forth in Interview Form 3,
- enough information to prepare a ***seasonal calendar*** of activities
- information to put together a ***timeline***
- enough information to choose or refine the decision about a ***reference year***

For the team covering the Wealth Breakdown information

The essential tasks for this team are to:

- do a ***wealth breakdown***, and
- ***arrange for further interviews*** with representatives from each wealth group.

Activity 5. Conduct Interviews with Household Representatives

When you get to the interview

There are a few things that need to be discussed and understood at the outset of the interview. These include the basic introduction including the purpose of your visit, confirmation of the wealth category, and a discussion of the reference year. Establishing clear communication on these three points is essential for a good interview. Confusion, potential bias, and misunderstandings can be avoided by taking the time to establish a good basis for your interview in the beginning. While you may feel the pressure of time constraints, the effort spent on the front end can help you avoid wasted hours in the long run.

Introductions

Introduce your team to the household representatives of each wealth group in much the same way as you started the community level interview, letting everyone at the interview know why you are there, what you hope to accomplish, and why they have been asked to come speak to you. Take the time necessary to make sure it is clear you are not there to hand out food aid, or provide direct assistance. If your interviewees feel comfortable sharing their names, invite them to do so at this time.

Confirming your wealth category

The second task is to make sure that the group of people you are talking to falls into the wealth category you expect to interview. It is sometimes useful to re-create the proportional piling exercise from the interview with the leaders, explaining what you learned the day before about the characteristics of each group, and finding out in an open-ended way which category your interviewees fall into. Another way to go about this task is to obtain a few personal details from each of the interviewees – How many acres does each cultivate? How many shoats does each own? Once you have confirmed you have a homogenous group and are ready to start the interview, you should thank and then politely excuse the village leaders who organised the groups (if they are still around). You can explain that you have already heard their views and will now be discussing the situation of a particular wealth group. You can also say that you know they are busy and thank them for already giving up so much of their time for the team.

Box 9. Household representative interview tips

- Make sure you understand to whom you are talking. Clarify which wealth group the interviewees represent. Check that their appearance corresponds with their supposed wealth group. Find out if any of them are related to participants in the community level interview.
- Ask participants to represent their wealth group, not to speak as individuals.
- Be clear about the time period to which the questions refer.
- Remember the basic questions: who? what? where? when? why? how often? How long? how much? how many? what then? what else? what if?
- And keep asking why…

At the start of the interview you should remind the interviewees that they have been selected as **representatives of households with particular characteristics in the community** (e.g. households that cultivate 1 acre and spend part of the year working for larger farmers in

the community). Explain that you do not want them to talk about their own personal situation unless it is 'typical' for households with those particular characteristics. You will have to repeat this point throughout the interview. You will need to establish the household size that they think is 'typical' for the group and then ask all questions in relation to a household of that size.

Confirming the reference year

The next thing to discuss is the reference year. It is important that you establish at the outset the year that you are going to be discussing and regularly remind the participants of the reference year to which you are referring. This is easiest if the year is the last 12 months (with the important exceptions mentioned above).

Having established these main points with the group, you are now ready to ask how households in this particular wealth group obtained their food and cash income in the reference year.

Information to collect

Interview Form 4 outlines the minimum amount of information required from the **Household Representatives Interviews**. You will review this form and become familiar with it during your pre-fieldwork training. In a nutshell, you will be gathering quantitative information on people's sources of food and cash income, and their essential expenditure requirements.

The checklist in **Box 10** provides a general list of the types of food and cash sources you are likely to come across, as well as typical expenditure categories.

On food sources

Not 'what' but 'how'

HEA is concerned with the economic question of **how people obtain access to food** rather than the nutritional question of exactly **what** people consume.

One important thing to keep in mind is that HEA is concerned with the economic question of **how people obtain access to food**. It is less concerned at this level with the question of just what people consume. So your line of questioning should be aimed at mapping out the links that determine the pathways of access – or **how** people get their food. This is quite different from asking people **what** they eat. The reason for this is that if we understand *how* people get their food, we will be able to systematically analyse just what kinds of things might close down those avenues, and help find ways to improve access, and keep it open in the event of a shock. This is what makes HEA useful for a wide range of programming options, including both longer term development design and emergency relief interventions. That is not to say that HEA does not uncover information about what people eat. It does, and this information can be useful for those conducting nutritional assessments, and for in-depth studies of dietary diversity. (See Chapter 7 for more on the links between HEA and nutrition assessments.) However, understanding *what* people eat, while interesting from a nutritional research perspective, does not offer the same degree of utility from a programming point of view. And it offers little entry point for understanding vulnerability to different hazards, or the relative risk of hunger given different changes in the economic context.

The standard categories for organizing information about sources of food include:

- own crop production

- livestock production
- purchase (including barter)
- labour exchange
- collection (e.g. wild foods, hunting, fishing)
- gifts and relief
- credit/loans

Box 10. Categories of food, income and expenditure

Food	Income	Expenditure
Own Crop Production • Cereals: *Maize, sorghum, millet* • Pulses: *beans, chickpeas, groundnuts* • Tubers: *cassava, sweet potatoes* ***Own Livestock Production*** • Milk • Meat: *beef, chicken, pig, lamb* ***Collection*** • Fish • Wild Foods: *nuts, berries, leaves* ***Purchase*** • Purchase (*including barter*) ***Labour Exchange*** • Food in kind for labour (*including meals provided on the job*) ***Gifts and Relief*** • Food Aid • Gifts ***Credit*** • Local loans • Formal credit	***Crop and Livestock Sales*** • Crop (and crop residue) sales • Livestock sales • Livestock product sales: *milk, ghee, skins* ***Labour Sales & Remittances*** • Local labour: *agricultural labour, local herding, construction, brick making* • Migratory labour: *agricultural labour, town labour, mining, domestic work* • Salaried employment • Self-employment: *handicrafts, brewing, charcoal making* • Remittances: *money sent by someone living outside the village* ***Sales of Collected Goods*** • Fish sales • Collected goods sales: *wild foods, firewood, grass, honey* ***Small Business & Trade*** • Petty trade: *purchase and re-sale of goods on small scale* • Trade: *purchase and re-sale of goods on large scale* • Transport: *taxi, pick-up* • Small business: *village kiosks, milling, tea stall, agro-processing* • Rental/Hire: *ploughs, livestock, vehicle, housing* ***Gifts*** • *Cash from relatives/neighbours* • *Sales of relief food* ***Credit*** • Formal credit and local loans	***Survival food*** • Staples: *cheapest cereals and pulses* ***Survival non-food*** • Soap • Salt • Oil • Paraffin or Firewood to cook and see at night • Water (if applicable) ***Livelihood Protection*** • Primary and secondary school: *including fees and books/materials* • Basic health care • Livestock inputs: *pest control, vet services, fodder, minerals, labour, drugs* • Crop inputs: *ploughing, seeds, fertilizer, fungicide, insecticide, labour, materials* • Inputs for business: *brewing, tea, etc* • Clothing • Sugar • Grinding • Repayment of loans/credit ***Other*** • Non-staple food: *milk, meat, sauce items, vegetables*[7] • Gifts • Beer • Tobacco • Funerals • Travel

As we are primarily interested in understanding how a household meets its minimum calorie needs, the focus is on the main energy-producing staple foods. For example, information on items such as spices or coffee may be important for calculating income and expenditures, but will not contribute significantly to total caloric intake.

[7]For most purposes, the cost of a diverse diet/micronutrients is not included in the survival threshold because in practice the cost would be so high that everyone in most areas where HEA is practised would fall below the survival threshold. This would not be helpful to decision-makers concerned with prioritising scarce resources. This is not to say that a threshold representing adequate dietary diversity could not be established and presented for outreach and advocacy purposes. Please see Chapter 7 again to find out more about how HEA can be used to help inform and understanding of dietary diversity and micronutrients.

Differentiating between sources of food is at the core of the assessment because **the way a household obtains its food defines its vulnerability to different hazards**, and ultimately its risk of hunger. For example, your risk of hunger obviously increases if you are wholly dependent on crop production and a drought occurs. Likewise, your risk of hunger is lower if you depend on sources of income, like remittances, that are outside the drought-affected zone.

Once you have a general list of food sources, you will need to ask and prompt in order to obtain details for each one. For the main production categories – crops and livestock – you will need to find out how much is produced and what is done with the production, quantifying the amount consumed, sold, given away, etc.

On income sources

Interviewees will tell you that their income comes from some of the following general sources:

- Crop and livestock sales (you should already have these from the previous food questions but you may need to confirm prices)
- Labour, employment and remittances
- Self-employment (this includes things like handicrafts, brewing, charcoal making);
- Small business & trade
- Gifts
- Credit

Once you have a complete list, you will need to ask and prompt in order to obtain details for each one. Again you will need to quantify each income source, according to *number of people engaged in an activity*, *volume of sales*, *frequency of sales* and *price/s* obtained. Interview Form 4 outlines the information required.

On expenditure items

Information on expenditure is important in order to know what else besides food is purchased and what might be temporarily cut back in difficult times. **Box 11** sets out the four basic categories of expenditure. These are related to specific response thresholds, as explained in Chapter 1, in ***Box 8****. Livelihoods and Survival Thresholds: Triggers for Appropriate Livelihoods-based Responses*.

The specific composition of each category will be locally-defined. For instance, in an urban area, where water is purchased, expenditure on water will need to be included in the survival non-food category, whereas in a rural area where households do not spend cash on water, water will not feature in any of the categories. Likewise, in a pastoral area, the livelihoods protection category might include substantially more expenditure on veterinary services and possibly fodder, whereas agricultural inputs and travel costs associated with purchasing seeds might fall into the livelihoods protection category. These local variations notwithstanding, what the categories represent in terms of their relationship to appropriate responses (as defined in **Box 11**) should be consistent across contexts.

A common problem with expenditure information is exaggeration of the items and quantities purchased. You need to use your judgement and experience to explore and discuss the figures. You might emphasize, for example, the type of year to which you are referring (i.e. not a good year), and the fact that you want the 'typical' pattern for the wealth group (not an

unrealistic ideal or exceptional situation). Be clear that you want to know what households in that group *actually* spent, not what they would *like* to have spent.

Box 11. Categories of Expenditure

Survival - food: The amount of money spent on basic staple foods, i.e. those providing the bulk of food energy at minimum cost.

Survival - non food: The amount of money required to cover the cost of preparing and consuming ood plus any cash expenditure on water for human consumption. This is the amount of money that cannot, except in the most extreme conditions, be switched to staple food purchases. The survival non-food basket includes basic items such as water (where people must buy water), salt, soap, , kerosene for cooking, etc.

Livelihoods Protection: The amount of money required to protect existing patterns of livelihoods, i.e. the amount that must be spent on items that are essential in terms of either i) maintaining access to basic services (e.g. routine medical and schooling expenses) or ii) the maintenance of livelihoods in the medium to longer term (e.g. purchase of seeds, fertilizer, veterinary drugs, etc.) or iii) the maintenance of a minimum acceptable standard of living (e.g. purchase of basic clothing, coffee/tea, etc.)

Other: The amount of money left over for expenditure on other non-essential or discretionary items, such as better quality clothing, more than the minimum on foods as set out in the 'survival' and 'livelihood protection' categories, cigarettes, etc.

Other information: The next section in Interview Form 4 asks interviewees to predict the situation in the coming year and how it will compare with the reference year. You should go through each source of food and income from the reference year and quantify the changes in quantity and price that the interviewees expect. You should also explore any new strategies for obtaining food or cash income that households in the wealth group may pursue (or have already started pursuing).

Some examples:

- *Instead of selling 50% and consuming 50% of milk in normal times, pastoralists may sell 75% in difficult times, as the price of milk is high and the exchange value with staple food is good.*
- *Instead of selling 5-8 goats normally, agro-pastoralists may sell up to 10 in difficult times without damaging the herd's reproductive potential.*
- *Similarly, additional firewood, charcoal or other bush products may be collected in difficult times due to the loss of food and income from crops*

Finally, if you have time and if the wealth group representatives have been particularly forthcoming with information that adds up and makes sense, you may want to repeat the ***wealth breakdown*** exercise with this group. Because of time constraints, you may need to do a rapid version of the relevant section (last two pages) of Interview Form 3 – just get the main characteristics (land area cultivated, livestock holdings, and household size) and proportional pile the percentage of households in each group.

How to conduct the interview

With the household representative interviews you should keep in mind that you will be holding a conversation with people who may or may not have had experience in this kind of setting before. While many of the participants in your interviews so far (district level, market/trader, and community leader) have been involved in interviews with outsiders, it is less likely that household members have had this kind of exposure before. So you must be sensitive to how you come across, and be especially careful to keep in mind the semi-structured interviewing dos and don'ts that you will learn during your practical training in Session 13 (*Household Representative Interviews*).

Relax!

By setting up your interview as a guided conversation rather than a stilted question-answer session you increase your chances of creating a relaxed and open environment that encourages truthful, complete, and interesting replies.

When you do your first interviews you may want to use Interview Format 4 as a checklist, keeping it in hand and following the order set up there. However, as you gain more experience, you will find your own best way of conducting an interview. Each interview has a different flow to it, and you will become more adept at making the most of openings provided by interviewees, exploring issues in a non-linear way while still staying on track. By setting up your interview as a guided conversation rather than a stilted question-answer session you increase your chances of creating a relaxed and open environment that encourages truthful, complete, and interesting replies.

Make sure that you **cross-check calculations** during the interview. Please see additional guidance on cross-checking starting on **page 41**:

- Add up *total food intake* to make sure you have found close to the minimum 2100 kilocalories per person per day.
- Add up *total income* and *total expenditure* to make sure these are similar to one another.

Probe to make sure you have a clear answer to each question which makes sense in the context of other information you have to hand, for example on crop yields, milk yields and seasonal activities (gained from seasonal calendars).

Probing

Do not be shy about challenging your key informants. But you must do it politely. It is your responsibility to show that a) you do know something about local livelihoods, b) that you do not accept blindly what you are told and c) you are interested in the explanations and justifications for information you are given.

Keep in mind that despite your best intentions some interviews do not go well. There are a few key clues to indicate an interview that is going off-track:

- Information is not being volunteered readily
- One person is dominating the discussion and refusing to allow others to participate
- When you cross-check, things do not become clearer, and contradictions get worse
- If the information were true, the informants would be dead
- Members of the group cannot reach a consensus

If you feel things are going wrong, the following tips can help you bring things around:

- Check again who is in the group. Sometimes problems arise because participants come from different wealth groups. In this case, reform the group, or even continue the interview with one participant only
- Make sure that you are all focusing on the right reference year
- Sometimes explaining that things are not making sense - and that you will disregard the data if this continues - can lead to a change of attitude by the respondents

If things do not improve, give up as soon as politely possible and move on to the next interview. You should inform the organizing community leader (through your team leader) that the interview did not go well and discuss the reasons why. This helps increase the odds that future interviewees will be better prepared to be open and honest.

Details on cross-checking

It is important to go into the interview knowing how you will cross check and interpret the information you are hearing as you obtain it. The following guidance is provided to help you make the most of your time in the interview, and to ensure that you pursue things that do not make sense, or gaps that have been left in the picture. In essence, cross-checking comes down to understanding how things work, and being able to keep track of the information you are obtaining so that you can follow up if your information is not adding up. The guidance below is organised around useful cross-checking principles to keep in mind for food, income and expenditure. You will learn more about the calculations involved in these cross-checks and practise them in your practical training before going to the field, especially in **Sessions 10** (*Introduction to Kilocalorie Calculations*) and **17** (*Analysing Baseline Information*) in Module 2 (*Baseline Assessment*) of the Training Guide.

Food cross-checks

Two basic assumptions underlie the approach and give it its rigour. These provide the fundamental logic for the cross-checks you should employ in judging the accuracy of the information about food sources:

- If people survive and reproduce, they must in most years consume at least a minimum number of kilocalories. Asking ***'does it add up?'*** – in the sense of explaining how poor households access their minimum requirements – represents a basic cross-check on the quality of the field data.
- There are a limited number of ways in which a household can obtain food and income. Systematic and careful exploration of these will reveal how even poor households meet their minimum requirements in most years.

One of the interviewers should be adding up and cross-checking the figures and percentages ***during the interview***. With a little practice and organisation it is fairly easy to check if your food sources are adding up to about 100% (e.g. 2100 kilocalories per person per day) during the interview. **Box 12** describes the calculation of kilocalories in full, and also suggests one quick general method of calculation. **Page 11** of the Livelihoods Field Handbook lists the kilocalories found in a variety of foods and **pages 12-17** provide 'look-up' tables for estimating kilocalories directly from quantities of food.

Simple cross-checks can help make a good interview, for example:

- *If you are told that people only got 2 sacks of maize last harvest, but you know from secondary sources and the wealth group breakdown that low yields are 2 sacks/acre*

- *and most people in the wealth group farm 2-3 acres, you are in a position to question the information the group is providing.*
- *If your food sources don't add up to approximately 100%, you can suggest that something seems to be missing, and quickly review the key information: the household size/dynamics; have all food sources been mentioned; and so on …*

Income cross-checks

You can use the same principle of adding things up to cross-check income information as well. One of the interviewers should add up the income information during the interview. At an absolute minimum, the income should exceed the expenditure on food outlined on page one of Interview Form 4 (because we know that households also have non-food expenses).

As with food sources, there are simple techniques to help you cross-check during your interview, such as:

- *If you have been told people only sell 1-2 goats per year, yet you know from the wealth breakdown that they have 20-30, you can ask for an explanation of why so few are sold.*
- *If you are told that the selling price for a donkey is a certain amount that you think this is low, you should ask for clarification, letting your interviewees know what other people have mentioned obtaining per load.*

Box 12. Calculating kilocalories

How to proceed:

Example: You have identified that households in a particular group typically produce 3 x 90kg sacks of sorghum per year. What percentage is this of their daily food needs? (Note: HH size = 6)

Solution:

A) **How many calories does the sorghum contain?**
3 sacks of sorghum = 270 kg.
1 kg of sorghum provides 3550 kcals.
3 sacks of sorghum provide 270 x 3550 kcals = 958,500 kcals.

B) **How many kcals is this per person per day?**
958,500 ÷ 6 people = 159,750 per person per year
159,750 ÷ 365 days = 438 kcals per person per day (pppd)

C) **What % is this of 2,100 kcals per person per day?**

438 ÷ 2100 x 100 = 21% of 2,100 kcals

FULL CALCULATION:

$$\%\ \text{of kcals} = \frac{270\ \text{kg} \times 3550}{2100 \times 6 \times 365} \times 100 = 21\%$$

QUICK CALCULATION:
Re-organising the full calculation:

$$\%\ \text{of kcals} = 270\ \text{kg} \times \frac{3550}{2100} \times \frac{1}{6 \times 365} \times 100 = 21\%$$

$$= 270\ \text{kg} \div \frac{2100}{3550} \div (6 \times 365) \times 100 = 21\%$$

$$= 270\text{kg} \div 0.59 \div 2190 \times 100 = 21\%$$

where 0.59 = no. kg of food required to provide 2100 kcals or ***KG PER PERSON PER DAY (KG PPPD)***

and 2190 = total number of days food required by the household in a year (6 people x 365 days) or ***DAYS FOOD REQ^{D}***

General quick calculation = ***KG FOOD ÷ KG PPPD ÷ DAYS FOOD REQ^{D} x 100***

Expenditure cross-checks

You should cross-check total expenditure against total income during the interview. If the expenditure is higher than the income you can indicate this to the interviewee and suggest

that the information is not adding up and needs to be reviewed. Debt and credit should be considered in all cases, but particularly in these circumstances. A final step in the expenditure section is to discuss which items purchased in the reference year could be foregone in a bad year (or, if the reference year was a bad year, in an even worse year). Reducing non-essential expenditure is a key response strategy for many households in bad years. We are interested in understanding the non-staple food items (and quantities) that are considered to be absolutely essential.

Before leaving this level

As this is the final level of the baseline assessment, this is your last opportunity to fill remaining gaps, resolve inconsistencies, and make sure that you have a complete picture of the way in which households meet their annual food and cash income requirements, and how they typically spend their money.

One way to make sure that all the blanks are filled in and no questions remain is to fill in the **Baseline Storage Sheet** (See Activity 2 in the next section) with information from all of the interviews. Because this tool has a number of built-in cross checks, and also a space for all the required information, it is a good way to ensure you have a complete set of baseline information before you leave the field. The next section discusses how to analyse your field information, and how the Baseline Storage Sheet is filled in.

How to Analyse and Store Field Information

The second part of a baseline assessment revolves around the procedures employed to analyse and store the baseline information gathered in the field. There are two main activities associated with this step: 1. analyse field information; and 2. fill in the Baseline Storage Sheet. The rest of this chapter is devoted to providing guidance on these two activities. Because the Team Leaders are responsible for filling in the Baseline Storage Sheet in the field, advanced guidance on this topic is provided for Team Leaders in the Team Leaders' Supplement.

STEP 2. ANALYSE AND STORE BASELINE INFORMATION
Activity 1. Analyse field information
Activity 2. Fill in the Baseline Storage Sheet

Activity 1. Analyse Field Information

One of the strengths of rapid assessment procedures is that data collected in the field can be analysed and reviewed on-the-spot. This is important because it allows findings to be shared between team members every day. In this way gaps in the information can be identified and followed up, new leads can be shared and appropriate avenues of further enquiry developed and pursued. It is also important that team members share their experiences with the field methodology; this will help to identify which particular approaches work best in any given setting and will help ensure that all team members follow similar and effective procedures in the field. You will be introduced to these concepts and have a chance to discuss them in more detail in Session 17 (*Analysing Baseline Data*) of Module 2 (*Baseline Assessment*) during your practical training.

Preliminary, interim and final analysis

There are basically three stages to the analysis:

Preliminary analysis: This includes the rapid calculations and cross-checks carried out during and immediately after each interview. These calculations should be carried out by the interviewers themselves. They should then be cross-checked by the team leader, who should provide feedback to team members on a daily basis.

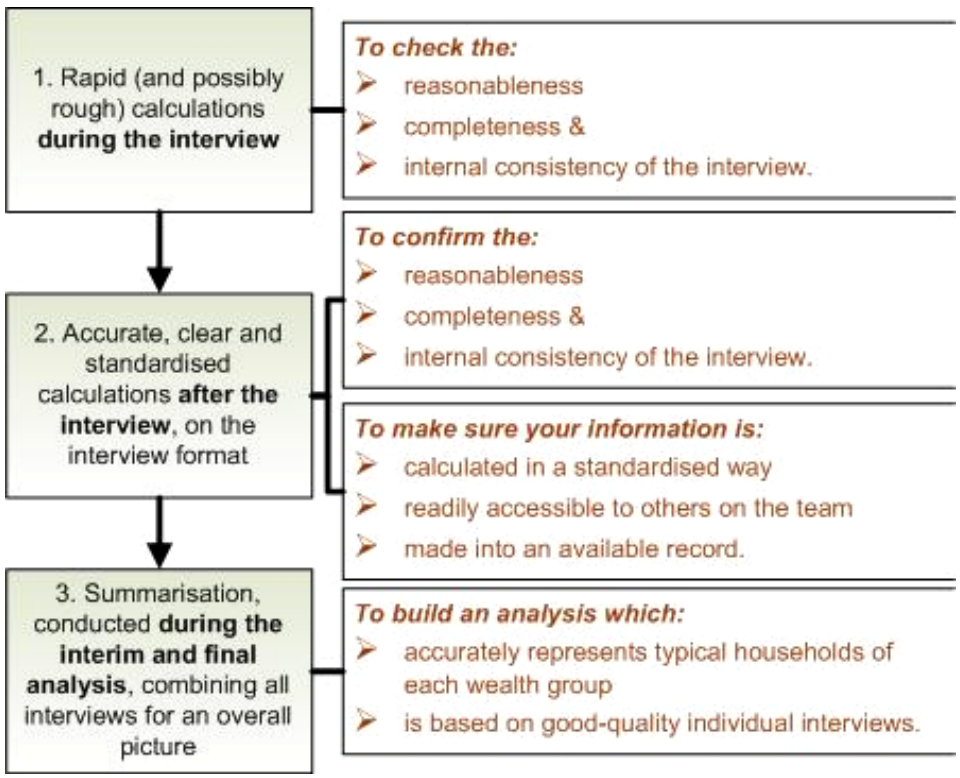
Interim analysis: This should be carried out by the whole team together roughly half way through the fieldwork (e.g. after the first 4 sets of community and wealth group interviews have been completed). Interim analysis requires about a day and involves compiling and quickly running through the results obtained so far. The main purpose of the interim analysis is to identify key questions and issues for follow-up in the field. For example, if the first wealth breakdowns indicate an unusually high percentage of poor households in the livelihood zone, the interim analysis is the time to ask whether this is a fair reflection of the situation in the zone, or if it is a reflection of the way the teams are posing the wealth breakdown questions. Similarly, if the amount of cash income obtained from one source (e.g. firewood) is relatively high, is there an explanation for this (e.g. strong demand from a neighbouring urban market) or does it require additional follow-up in the field.

Final analysis: This is carried out by the whole team together once all the interviews have been completed. It involves compiling the findings from the various interviews (district, market, community, and wealth group), summarising the results and completing a series of cross-checks. The most time-consuming parts of the analysis are the compilation of the wealth breakdown and the analysis of food, income and expenditure for each of the wealth groups. Other tasks for the final analysis include finalisation of the seasonal calendar and the preparation of bullet points for the livelihood zone profile.

The interim and final analyses can be carried out in one of two ways. Either the results from the various interviews can be listed and summarised on flipcharts, or the analysis can be done using the Baseline Storage Spreadsheet (see **page 49**). The latter method is recommended, as it is requires less time, and generates a permanent record of the analysis that can be referred to in the future. The most effective way of completing the analysis with the Baseline Storage Spreadsheet is to attach an LCD projector to the computer containing the Storage Sheet file so that the individual interview data and emerging analysis can be projected onto a screen or wall. This enables all members of the team to follow the analysis and helps to promote their full engagement in the process.

Calculations are carried out at all stages of the analysis. **Box 13** indicates when and why these calculations are done.

Box 13: When and why calculations are done



This section focuses on the third set of calculations - summarising and cross-checking the data - and outlines each step in the analysis process: a) wealth breakdown and b) analysis of baseline food, cash income and expenditure by wealth group.

Summarising results

The amount of data available for analysis is generally small, and detailed statistical analysis is not therefore justified. Nor is it appropriate to report results to a very high level of precision. Taking the wealth breakdown as an example, it is not appropriate to report that 33.2% of households are poor (even if that is the average of the results obtained). This is too high a level of precision given the data available. Instead, it is preferable to report the results as a range, such as 30%-35% or 25%-40%. Although results included in reports will generally be presented in ranges, a single central value (referred to here as the mid-point) will also be required for the many calculations that form a routine part of Household Economy analysis. **Table 7** suggests a standard procedure for estimating a single central value from a limited amount of data, and for deriving a range around this central value or mid-point. In order to avoid excessive precision in the reporting of individual data, it is usual to round the calculated mid-point either up to down, e.g. to the nearest whole value, or to the nearest 5%.

Table 7: Suggested procedure for deriving mid-points and ranges from a limited amount of data

1. List individual results	2. Sort from lowest to highest	3. Exclude the lowest and highest values and take an average of the remaining values. This is used to derive the mid-point or central value.	4. Define the range based upon the 2nd lowest and highest values.
28 32 38 38 42 35 21 28	21 28 28 32 35 38 38 42	~~21~~ 28 ⎫ 28 32 average = 33 35 38 38 ⎭ ~~42~~	~~21~~ 28 ◄ 28 32 35 38 38 ◄ ~~42~~
Note: The term mid-point is used throughout this guide to indicate the best measure of central tendency for the purposes of household economy analysis.		Average = 33 mid-point = 32.5 *(see Table 8)*	mid-point = 32.5 Range: 25-40 (to include 2nd lowest and highest values)

Table 8 provides suggestions for how to round mid-points either up or down, and suggests possible ranges around different levels of mid-point.

The process of summarising the data from a rapid assessment is more than just a process of automatic calculation. Rather, it is one of critically reviewing each set of data to decide how much 'weight' to give each result. This can mean excluding more than the highest and lowest values (or could mean excluding fewer than two values, depending upon circumstances). There are many reasons for assigning different weights to different results, including:

- Location-specific factors (e.g. atypical village close to road, with irrigated land, etc., in an area where these attributes are relatively uncommon)

Table 8: Suggested ranges and mid-points for use in Household Economy Analysis

1. The Wealth Breakdown			
	Round the mid-point to the nearest:	Set the range to a minimum of:	Examples: mid-point and range in brackets
	2.5%	5%	2.5% (0%-5%) 7.5% (5%-10%) 15% (10%-20%) 37.5% (30%-45%)
2. Other results			
Result:	Round the mid-point to the nearest:	Set the range to a minimum of:	Examples: mid-point and range in brackets
1-10	0.5	1	milking cows: 0.5 (0-1) land owned (ha): 3 (2-4) household size: 6 (5-7)
10-25	1 or 2.5	2	goats: 11 (10-12) sheep: 15 (14-16) chickens: 17.5 (15-20)
25-50	2.5	5	27.5 (25-30) 30 (25-35) 45 (40-50)
50-100	5	10	55 (50-60) 85 (70-100)
100 and above	10 or 25	20	130 (120-140) 160 (150-170) 225 (200-250)

- Differences in wealth group being described (e.g. upper verses lower end of the 'middle' group)
- Variations in reliability – some interviews are simply better than others, and greater weight should be attached to information derived from these.

Cross checking

Checks can be made of both the internal and external consistency of the results.

Internal Consistency

Internal consistency checks include two general categories: 1. comparing what you're finding to a reasonable reference point or set of information, and 2. looking at trends across wealth groups. These include:

You will have the chance to participate in a number of internal consistency cross-checking exercises in your practical training during Session 17 (*Analysing Baseline Data*) of Module 2.

External Consistency

The main checks of ***external consistency*** are in relation to secondary source information. Some examples include:

- **Crop yields**: how do village-level yields compare with Ministry of Agriculture yields?
- **Household size**: how do reported household sizes compare to census figures?
- **Livestock herd composition and herd dynamics**[8]: how does this compare with what is expected? (You will be introduced to herd composition and herd dynamic cross-checking tables and exercises in Module 2: Session 3 – *The Livelihoods Field Handbook*- during your Baseline Assessment practical training).

Table 9. Internal consistency cross checks

1. Comparison between information and reference data/information

Category		Cross check reference
Food intake	***Should add up/be equal to…***	at least 2,100 kilocalories per person per day in reference year
Income		Expenditure
Number of days of agricultural labour 'sold' by poor		Number of agricultural labour days 'bought' by better-off
Gifts received by poor		Gifts given by better-off
Land rented out		Land rented in
Livestock borrowed		Livestock loaned

2. Trends across wealth groups should pass a test of 'reasonableness'

- does total production increase with wealth group?
- does cash income increase with wealth group?
- does the percentage of off-farm versus on-farm income change consistently across wealth group?
- does the proportion of expenditure on staple food decrease with increasing wealth?

There are a number of possible reasons for things not adding up. Some things to review if this problem arises:

- Is the level of food intake physically possible (vs. observation)?
- Has the household size been overestimated (perhaps by including members who spend all or part of the year elsewhere)?
- Did the team collect information on food and acquisition by ALL household members (men, women and youths)?
- What about food and income sources that are often missed (e.g. beer, tea with sugar, payment in kind for work, support from relatives to cover health or education expenses, remittances)?

[8] The term herd dynamics refers to changes that occur in a livestock herd during the year, i.e. the numbers of animals added to the herd (through births and purchases) and the number removed from the herd (through death, sale and slaughter).

Activity 2. Fill in the Baseline Storage Sheet

The Baseline Storage Sheet is used to document and cross-check each interview and to facilitate post-field work analysis. It is a simple Excel spreadsheet that enables field teams to enter, check and analyse individual interview data in the field. It is also the basic tool that field teams use to analyse and summarise field data during the interim and final data analysis sessions. It has space to record the results from two levels of interview; those undertaken at community level, and those undertaken at wealth group level. The team leader will be responsible for entering data into the Baseline Storage Sheet; details specific to this task are, therefore, left out of the **Practitioners' Guide** and included instead in the Team Leaders' Supplement. Below you will find a general description of the Storage Sheet, what advantages it provides and the procedure for its utilisation. Session 16 (*Storing Baseline Information*) of Module 2 (*Baseline Assessment*) in the Training Guide provides additional guidance on the Baseline Storage Sheet.

Individual interview data are processed as follows: The field interviewer completes his/her own calculations of the results by pencil and paper. This is done very rapidly at the time of the interview itself (so that interviewers can keep track of progress during the interview) and in more detail in the evening after the interview. This encourages the interviewer to re-examine the results and to identify any questions for clarification and follow-up the next day. The calculations also form the basis of a cross-check at the next stage – data entry. Data entry is the responsibility of the team leader, who enters the detailed data from that day's interviews each evening. The Baseline Storage Sheet automatically completes the calculation of the results (i.e. total food access, total cash income, total expenditure) for immediate comparison with the pencil-and-paper calculations of the interviewer. This checks both the calculations of the interviewer and the data entry of the team leader.

Box 14: Data storage and quality control in the field

The baseline storage spreadsheet is a key tool in terms of storing data in the field and maintaining data quality. It:

- encourages active checking and cross-checking of data by the field teams themselves;
- facilitates rapid on-the-spot analysis, so that any inconsistencies or questions can be resolved by the field teams before they leave the survey area;
- minimizes data entry errors, while at the same time speeding up the processing of basic field data,
- provides a permanent record of individual interview results and the analyses completed by the field teams, so that these can be checked by a supervisor at a later date.

The Baseline Storage Sheet can help increase the accuracy and integrity of the field information by performing a number of calculations that form the basis of key household economy cross-checks:

- calculation of total food access. If this is very much below 100% of minimum food energy needs, and people clearly did not starve in the reference year, then more questions need to be asked and clarification obtained.
- calculation and comparison of total cash income and expenditure. If these are very different, then further follow-up is required to resolve the apparent inconsistency.
- calculation of rates of off-take for each type of livestock (i.e. the percentage of the herd sold and slaughtered in the reference year). This can be compared with a set of reference values; again any major deviation signals the need for further follow-up in the field.

- a cross-check on labour payments, which determines whether the amount of money reportedly earned by poorer wealth groups roughly balances with the amount that the better-off report paying for labour.
- a cross-check on agricultural productivity. This compares the production per unit area obtained by different wealth groups, to check that trends are consistent across wealth groups and are consistent with reported rates of input use, etc.

The first three of these checks are useful at the level of the individual interview (and when summarising the overall results for each wealth group). The last two are used during the interim and final analyses to check the consistency of results across wealth groups and for the livelihood zone as a whole.

The first step in using the Baseline Storage Sheet is to enter the data from the individual interviews. Once this is done, the next step is to summarize the results for each wealth group. This is done within the Baseline Storage Sheet, the layout of which facilitates two types of comparison; a) a comparison of individual interview results within each wealth group and b) an analysis of trends across wealth groups. In each case the spreadsheet facilitates the process of identifying outlying results and identifying the central value to be taken as representative of the wealth group as a whole.

The last step in the analysis is a final cross-check of the results by an experienced supervisor who was not a member of the field team. This can be done either in the field (by a roving supervisor) or at a centralised post-field work analysis session.

FREQUENTLY ASKED QUESTIONS

Q. What happens when some interviews with community leaders result in three wealth groups and others produce four wealth groups?
A. Standard HEA practise in rural areas is to sub-divide into at least four wealth groups. Any fewer is likely to miss significant variations in access to food and/or income. In rare cases, it may be sufficient to divide into three groups (for instance, if you are focusing on just one group for the purposes of programme planning, or if it's a highly skewed feudal economy) but in the end it is the team leader's role to make sure everyone is following and adhering to a standard procedure. Any deviations which occur within the first few interviews should be rectified before proceeding.

Q. What should be done when teams return from community interviews from across the zone with different reference years? Since it is possible for two areas within one livelihood zone to have had quite different hazards in recent years, how is this reconciled?
A. Current practice is to choose the reference year *before* the teams head to the field, and then to work with district officials to choose villages where the reference year was neither particularly good, nor particularly bad. The training pilot field work is an opportunity to test whether or not the reference year will work in that zone, and also to refine the selection of villages. Before starting the real fieldwork, you should have an agreed upon reference year, and a list of villages where the reference year was similar in 'hazard' terms.

Q. What happens when there are different types of activities within one wealth group? For instance, 30-40% might be doing petty trade whereas the other 60-70% are gathering firewood. They make more or less the same amount of income but the activities are different.
A. Typically the major income activities for a wealth group will be similar. So, for instance, 75% of their income will come from a combination of, say, crop and livestock sales, with a remaining 25% coming from other smaller sources. If you are finding consistent and significant variations in the major income sources, (e.g. 60% report that livestock sales provides 75% of their income, whereas the other 40% say crop sales provides most of their income) this means their vulnerability to hazards is different and you should consider sub-dividing the wealth group. Your team leader should make the final call on this. A more common scenario is to find the smaller sources are not consistent across the wealth group, as suggested in the above question. In this case, do not sub-divide the wealth group, but find a way to clearly report on these differences. If the sources can be grouped under a common category (e.g. basket weaving and brewing could be grouped as 'self-employment') this may be your simplest solution. Another alternative would be to group the variable income sources into an 'other' category, and explain what this comprises in the text of your report. In doing your analysis you would take an average of the various incomes to use in the Baseline Storage Sheet.

Q. Sometimes it is easier for interviewees to remember the household economy data from the reference year based on their local calendar year rather than based on the consumption year. If this is the case, then there may be issues of accounting for stocks from the previous consumption year and losing some stocks from the year under scrutiny. How can this be dealt with?
A. This is a fairly rare occurrence. But you should use the consumption year regardless, because it simply becomes too complicated otherwise. Try to use visual RRA tools (such as seasonal calendars) to help interviewees square the calendar year with the reference year, or work with local informants to make up a flip chart with visual symbols representing months

or seasons starting from the harvest onwards to help foster a common reference point in the interviews.

Q. What do you do with relatives that are there 30-50% of the time 'eating from the HH pot' but not for the remainder of the time. What household size figure do we take?
A. Any time you have household members away, or additional members eating from the household pot, this is calculated either as a benefit or a cost to the household budget (respectively). Specifically, you would include migratory relatives in the household figure, but count any time they are away as direct food from 'labour migration'. In the case of children eating at relatives' houses for significant periods of the year, you can count this as 'child away'. For example, for a household of 6 people with one person away for 5 months per year, roughly 7% of annual food can be accounted for by that person while away (5/12 x 1/6 /100 = 7%). So this is represented on the sources of food bar chart as 7% = "direct food from migratory labour". Although the alternative scenario – having additional relatives eating from the household pot - is less common (only because it is less possible to generalise this activity to the entire wealth group), you would treat these additional relatives as a cost to the household food budget, representing this either on the expenditure side, or by increasing the required kcals per day to incorporate their extra consumption and then calculating the % food energy required against this new figure.

Q. Should incentives be given to interviewees?
A. It is not standard practise to pay interviewees for a number of reasons, not least of which is the difficulty in determining an appropriate rate, and the likelihood of biasing the types of interviewees you receive. It should be avoided. However, verbal appreciation should always be extended; and it is not inappropriate to arrange for suitable refreshments, such as tea or coffee.

Q. Sometimes the community interview information on food, cash and expenditure for different wealth groups differs from the information you receive from household representatives of those wealth groups. How is this resolved?
A. You should give more weight to the household representative interviews on information about livelihood strategies (specific food, cash and expenditure information) unless you have good reason to believe that the household representatives are hiding particular pieces of information that the leaders have offered up. You should give more weight to the community interviews on the wealth breakdowns.

THE PRACTITIONERS' GUIDE TO HEA

Chapter 4: Outcome Analysis

4 OUTCOME ANALYSIS

This chapter is aimed at the practitioner who wants to become familiar with the steps and basic calculations involved in Outcome Analysis. It is not a comprehensive guide to Outcome Analysis, and does not take the practitioner through the details of the F.E.G. Single Zone Spreadsheet or the Integrated Spreadsheet. For more advanced practitioners and team leaders, this guidance can be found in the Team Leaders' Supplement. If you are reading this chapter, it is expected that you have already read through Chapters 1, 2, and 3 in the **Practitioners' Guide** and have participated in Baseline Assessment training. It is also assumed that you have been involved with the collection of baseline information in at least one livelihood zone.

After reading this chapter, practitioners should be able to describe both the theory behind and the basic calculations involved in the three steps associated with Outcome Analysis, including: the problem specification, coping strategies, predicted outcomes. They should be able to explain what is meant when practitioners say that HEA does not model behaviour; and provide an explanation for why certain coping strategies are not included in HEA Outcome Analysis. They should be able to fill out the Standard Calculation Format and complete the calculations therein. Practitioners should be able to detail which items go into the survival food, survival non-food and livelihoods protection basket. And it should be possible for the practitioner to enter into an informed discussion of the types of responses that might be reasonably associated with different types of deficits.

This chapter was co-authored by Mark Lawrence and Tanya Boudreau, with significant input from Penny Holzmann

List of Boxes

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RELATED CD FILES

The CD that accompanies the **Practitioners' Guide** contains the following Annexes relevant to Chapter 4 found in the Team Leaders' Supplement Directory:

- **Annex A: Expandability – Calculations and Storage**
- **Annex C: The Integrated Spreadsheet**

RELATED TRAINING SESSIONS

The **HEA Training Guide** provides the following sessions relevant to Chapter 4:

MODULE 2: BASELINE ASSESSMENT

- *Session 6: The Reference Year*

MODULE 3: SEASONAL ASSESSMENT

MODULE 4: OUTCOME ANALYSIS

- *Session 1: Introduction to Outcome Analysis*
- *Session 2:Problem Specification and Coping Capacity*
- *Session 3: Introduction to the Single Zone Spreadsheet*
- *Session 4: Assessment of Non-food Needs*
- *Session 5: Linking Outcome Analysis to Response Analysis*
- *Session 6: Response Strategies – Switching Expenditure*
- *Session 7: Response Strategies – Expandability of Food and Cash Income*
- *Session 8: Problem Specification - Key Parameters*
- *Session 9: Problem Specification – Defining an Example Problem*
- *Session 10: The Single Zone Spreadsheet - Running the Example Problem*
- *Session 11: Planning the Response*
- *Session 12: The Integrated Spreadsheet*

INTRODUCTION

Outcome Analysis is the term used to describe the final three steps in HEA analysis. These steps are designed to produce a rational and defensible statement about the predicted effects of a hazard(s), or positive change (s) on household livelihood strategies (i.e. their ability to obtain food and cash income, and to acquire the non-food items they need to live).

Figure 1 and **Table 1**, below, serve as a reminder of the steps in HEA analysis, introduced in Chapter 1, and the reasons that each is required.

Figure 1. Steps in HEA Analysis

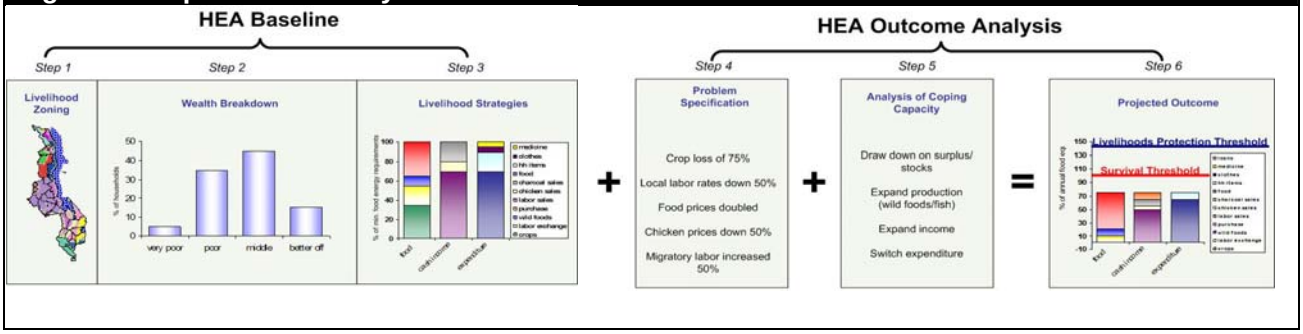


Table 1. Outcome Analysis steps with description and rationale

	Steps in HEA	What is it?	Why is it needed?
OUTCOME ANALYSIS	*Step 4. Problem Specification*	Translation of a hazard or other shocks into economic consequences at household level	It allows you to mathematically link the shock (or positive change) to each relevant livelihood strategy
	Step 5. Analysis of Coping Capacity	Analysis of the ability of households to respond to the hazard	It helps you to determine how to support people's own efforts, and to provide external assistance before households turn to damaging strategies; it highlights relevant indicators to monitor.
	Step 6. Projected Outcome	Prediction of the effects of the hazard in relation to a survival and livelihoods protection threshold.	It predicts whether and when assistance is needed to help people survive and/or protect their livelihoods. It also models the potential beneficial effects of proposed policies or programs.

The information that emerges from a baseline assessment is of use on its own for a wide range of applications, including poverty analyses and development planning (See Chapter 5 for more on this). However, in order to be of use in early warning work, scenario planning, emergency response planning, and other areas that require predictive estimates, baseline information needs to be combined with an analysis of hazards (Step 4 in **Table 1** and **Figure 1**), and households' coping capacity (Step 5 in **Table 1** and **Figure 1**). It is this process of combining baseline information with hazard and coping information in order to make predictive statements that forms the core of Outcome Analysis.

BACKGROUND

Food security assessment and analysis is most often conducted in order to provide decision makers with a basic set of information upon which to make choices about whether or not to provide assistance to a particular group of people in a particular location; what kinds of assistance to provide; when to start the program; when to end it; and how the assistance can be best targeted. One minimum requirement of this information is that it be provided early enough in a planning cycle to ensure appropriate actions can be taken. This means that to be of use for planning purposes, food security analysis needs to have a predictive capacity. Of course there are cases where a food security crisis is already occurring, with clear indications of stress on the population, and perhaps even signs of malnutrition emerging. But in these cases, the damage has been done, and aid will come too late if at all. The objective of HEA is to help prevent such crises, and the crucial steps in the analysis that allows for predictive work are those contained in the Outcome Analysis.

Being there in time

Outcome Analysis is the process by which information on a hazard (i.e. an event such as drought, insecurity or market dislocation) is combined with household economy baseline data to project likely future access to food and non-food goods and services at household level.

During the last dozen years, food security analysis has increasingly contained a strong livelihoods element. That is, the household has been taken as the point of reference, and analysis has been based on a systems approach that takes into account the economic operations of typical households.

Before this time, it was typical for food security analysis to be based on indicator approaches which typically used late, aggregate, or incomplete indicators. For instance, malnutrition indicators would be used to point to a food security crisis; but – as an example - malnutrition is both a late indicator, and an imprecise one. Malnutrition has multiple roots, and it is difficult to make a direct causal link between food insecurity and malnutrition without more context information. Another common food security conclusion that analysts would draw was that a drop in crop production necessarily meant that people would be food insecure in coming months. While crop production, as an indicator, has the advantage of being early enough to allow for preventive action, it does not always follow that a drop in production will lead to household food deficits. As discussed already in previous chapters, people rely on multiple options for obtaining food, and can increase reliance on alternative means if crop production is poor. Prices, as indicators of a food security outcome, are similarly inadequate: while a staple food price increase may indicate stress at the household level, it is difficult to interpret just how and whom it will affect without knowing who depends on purchase, to what extent and at what time of year.

Indicators vs Systems Approaches

A systems-approach to food security analysis aims to understand first the components that make up the local economy, so that the effects of a change in one part of the equation can be properly interpreted in another.

Indicator approaches are based on more generalised assumptions about causal relationships (e.g. production drop = food insecurity).

HEA allows us to appreciate elements which are crucial for a properly rounded view of food security but which are mostly invisible in official statistics. For instance, we are able to represent household cash income from casual employment or wood/charcoal selling or handicrafts; we can inquire into household capacity to adapt to economic stress, especially failed crop or livestock production; and we can appreciate household activities at different periods in the yearly cycle.

More recently, there has been a growing desire to broaden the analysis beyond food security to look at a wider range of possible interventions: for instance, cash as an alternative to food, and non-food assistance to complement responses that increase food availability and access.

A number of tools for carrying out HEA Outcome Analysis have emerged as a result of the need to take a more holistic view of livelihood patterns into account when making food security projections, and to craft the response to potential food security risks in non-food terms (such as cash, or in-kind alternatives such as salt, soap, or kerosene, etc.). The first and simplest tool is the Single Zone Spreadsheet, which allows the user to see the effects of one or more hazards on households' access to food and cash income, and the resulting impact on their ability to purchase a whole range of required goods. This analysis is done by livelihood zone, and enables the analyst to see effects on different wealth groups (i.e. poor, middle, and better off households) in the zone.

One of the challenges has been to incorporate this livelihoods-based perspective into large-scale sub-national or national analyses of food and livelihood security, particularly with respect to early warning and emergency needs assessment. The development of the HEA Integrated Spreadsheet, which allows for the concurrent analysis of a number of different hazards and a number of different livelihood zones (with multiple wealth groups therein) has greatly facilitated the process of using HEA for early warning and outcome analysis at the national level (e.g. Somalia and Malawi).

In the following chapter, general guidance is provided on the principles and some of the calculations that underlie the three steps that make up the Outcome Analysis process: problem specification; coping capacity analysis; and predicted outcome. Most practitioners who are not of team leader status are unlikely to be in a position to use the tools developed to run Outcome Analysis on their own: the Single Zone Spreadsheets and the Integrated Spreadsheets. This tends to be the responsibility of the team leaders. As such, detailed guidance on these tools is provided in the Team Leaders' Supplement rather than in this chapter.

A GENERAL OVERVIEW OF THE THREE STEPS IN OUTCOME ANALYSIS

The Problem Specification

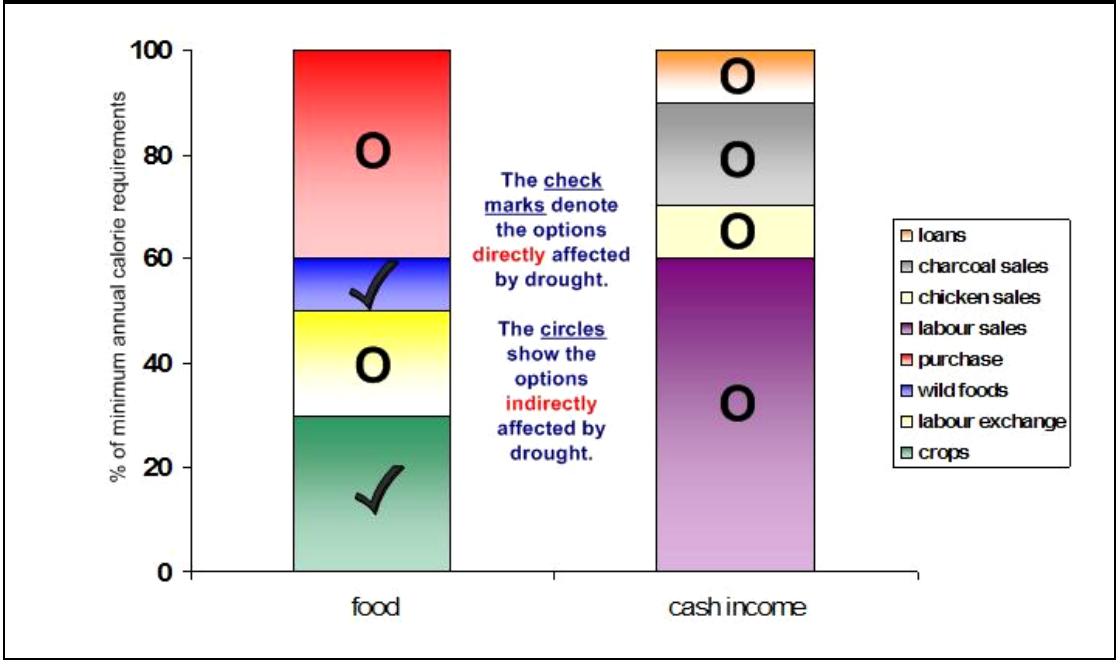
The first step in analysing how the baseline household economy will be affected by a particular hazard is to analyse the hazard itself. It is necessary to translate the hazard into quantified economic consequences that can be mathematically linked to household-level baseline information on food and income options or expenditure items. It is not enough, for instance, to say that a drought has occurred. Drought has many potential effects, and just how these play out in relation to household livelihoods depends in part on:

- which strategies specific to that livelihood zone will be affected by the drought (this is related to the baseline – see below); and
- the magnitude of the event (this is specific to the problem specification).

Determining the relevant factors to monitor: "key parameters"

The first step in compiling the hazard information is to determine the relevant factors for analysis, using the baseline information as a guide. These factors are referred to in HEA as "key parameters"; that is, for each wealth group and livelihood zone, the sources of food or cash that contribute significantly to total food or cash income so that a reduction in access to that one source may have a significant effect on total access. For example, a drought in southern Africa may cause a production failure but it will almost certainly have a number of consequences in relation to agricultural livelihoods beyond the obvious loss of crop and livestock production. These include the loss of income from local agricultural employment, from cash crop sales and from livestock sales (through reduced prices), and the reduced availability of wild foods. **Figure 2** shows how a drought directly affects crop and wild food production, and indirectly affects all of the other options for obtaining food and cash income.

Figure 2. Illustrative effects of drought on food and income



For example, even something like charcoal sales, which is not immediately undermined by drought, will be influenced indirectly. As more people turn to this option to increase their income, the resulting increase in supply is likely to lower prices, potentially cancelling out the benefits of increased sales.

Taking the illustrative case in **Figure 2**, the three most important sources of food in this livelihood system are 1. crop production, 2. labour exchange and 3. food purchases. Therefore, these are the "key parameters" and the most important indicators to monitor related to each of these, respectively, would be:

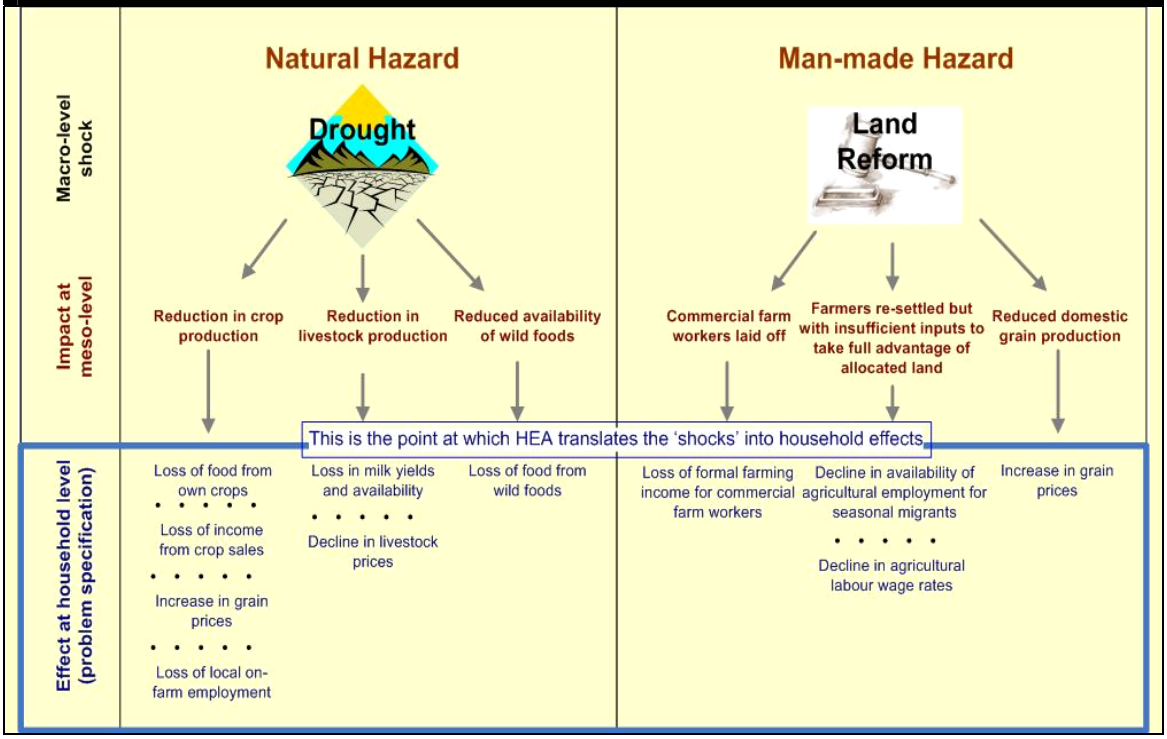
- yields and area planted;
- wage rates and labour demand;
- and staple prices.

Wild foods, while a component of overall food income, could be considered a lesser source, and therefore not absolutely essential to monitor, especially if resources for monitoring were limited, as they tend to be.

In almost all cases, crop production and prices are going to be critical factors to monitor. However, there may be isolated cases where a purely pastoralist or fishing livelihood may preclude the need to monitor crops, or cases where the relative balance of one food source over another makes a clear case for adding additional parameters to a government's standard monitoring system. HEA baselines allow for the development of customised indicator sets, helping target scarce monitoring resources effectively, and justify a clear allocation of labour resources in the field.

The information related to these indicators (i.e. yields, area planted, wage rates, labour availability, staple prices) is obtained from existing monitoring systems (e.g. crop

Figure 3. Translating macro-level shocks into household effects



assessment data or market price monitoring information) and occasionally from dedicated data collection efforts in the field, where time and resources permit.
The task of obtaining all of the information necessary to create a 'problem specification' is clearly critical, but one which HEA is not designed to undertake. HEA relies on meteorological and agricultural monitoring systems to provide predictions of crop production or pasture availability. Similarly, it relies on others to do the political and economic analysis required to predict future trends: how prices will change, what markets will do, or which state entitlements will be lost. HEA typically takes up the reigns at the point where these analyses leave off, translating these macro-level changes into specific food and cash income effects at the household level. Although in many cases, if the analysis on these macro-level changes has not been done, HEA practitioners must do the best they can to fill in this information gap. An example of just where this translation point lies is given in **Figure 3**.

Determining the magnitude of the shock

The next step in the problem specification, after identifying which "key parameters" to obtain monitoring information for, is to analyse just how big the problem will be for each of these components of the livelihood system. Whether information exists on these parameters, and whether the information is reliable, depends on how complete and accurate the established monitoring systems in a country are. However, the main objective for each factor is to quantify the change – in percentage terms – from the reference year. **Table 2** gives examples of the types of problems that are specified in relation to the hazards presented.

Table 2. Illustrative problem specifications related to two hazards: drought and war

Hazard	Household effect	Problem specification for HEA
Drought	Reduced crop production	Crop production 30% of reference year
	Reduced livestock production	Milk yields 80% of reference year
	Reduced wild food production	Wild food production 75% of reference year
	Loss of income from agricultural labour sales	Agricultural labour sales are 48% of reference year. *(This is because the number of jobs available has declined to 60% of the reference year and wage rates are 80% of the reference value)*
War	Market closure	Staple food prices increase 200% above reference year
		Livestock prices fall to 75% of reference year
	Crop inputs looted/destroyed	Crop production 30% of reference year
	Reduced access to grazing lands	Milk yields 50% of reference year

Assuming the existing monitoring systems are effective, then the process of defining a problem specification is quite simply one of calculating this year's production or price as a percentage of the reference year's. So, for instance, in the example below, the production data for the districts falling into a livelihood zone has been organised for ten years. The baseline/reference year – 2002 – has been shaded in grey.

Agricultural Production (MT)		1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Current year
Livelihood Zone	Dist. 1	2000	1000	2300	4000	2000	3800	2200	3000	1300	1900	1000
	Dist. 3	2500	1200	2200	3500	2100	3300	2400	2000	1700	2000	900
	Dist. 6	1800	1300	2000	3000	2200	3500	2100	2500	1555	2200	1200
	AVERAGE	***2100***	***1166***	***2166***	***3500***	***2100***	***3533***	***2233***	***2500***	***1518***	***2033***	***1033***

The livelihood zone's average production for the reference year is **2,233 MT**. The livelihood zone's average production for the current year is **1033 MT**. Thus, the production problem specification would be:

'Current year' (1033) divided by 'reference year' (2233) X 100 = 46% (rounded).

The same basic process would apply to any of the production problems. The income problems are slightly more complicated because they require the analyst to consider both the availability of the commodity sold, and the price at which it is sold in the current year compared to the reference year. (See **page 16**.)

Analysis by administrative unit

It is worth noting here that the problem specification is typically not applicable to an entire livelihood zone as given in the example above. In practical terms, the average for a livelihood zone may be meaningless because of the variability of hazards from year to year. So it is currently standard practice to define the problem at the sub-livelihood zone level, depending on available data sets.

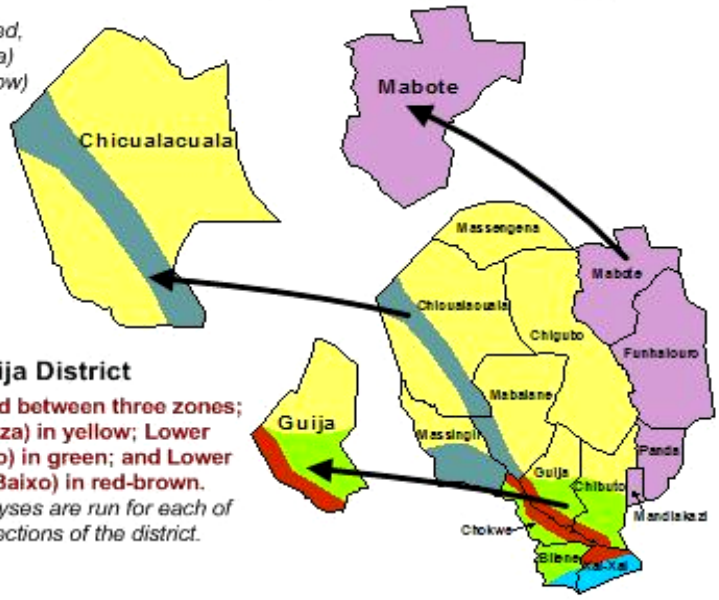
Box 1. Analysis by administrative unit

Mabote District

The whole of Mabote district falls into the Interior (Inhambane) Zone. *The Mabote analysis uses the Interior (Inhambane) baseline, but hazard data specifically from Mabote District*

Chicualacuala District

Chicualacuala is divided between two zones. *Two analyses are prepared, one for the Interior (Gaza) section of the district (yellow) and one for the Upper Limpopo.*



Guija District

Guija is divided between three zones; Interior (Gaza) in yellow; Lower Limpopo (Alto) in green; and Lower Limpopo (Baixo) in red-brown. *Separate analyses are run for each of the three sections of the district.*

Even though only one household economy baseline is developed per livelihood zone, the outcome analysis can still be run district by district.

Official production and price data are usually available at the district level (i.e. at administrative level 3). It is not typical to find such data at a lower level, and it is almost

never available by livelihood zone[1]. In addition, decision-makers usually require output by administrative area (since this is the level at which interventions are implemented). HEA has therefore developed an approach that utilises district level input, allowing baseline information to be used in conjunction with existing government data systems, making it complementary to these systems rather than competitive with them.

Although only one baseline is developed per livelihood zone, this does not mean that the Outcome Analysis can only be run for the livelihood zone as a whole. If a zone is divided between several districts (e.g. the Interior Gaza zone in the Limpopo Basin), it is possible to run separate analyses for each district within the zone. Equally, when a single district is divided between two or more zones (e.g. Chicualacuala and Guija districts in the Limpopo Basin) separate analyses can be undertaken for each livelihood zone within the district. **Box 1** shows how this is done.

Where a large zone covers more than one district this approach has the added advantage of a more detailed geographical analysis of hazard impacts than if data are aggregated for the livelihood zone as a whole. For example, the level of crop failure during a drought tends to be greater in the north than the south of the Limpopo Basin in Mozambique. In this case it makes much more sense to analyse the situation for the different districts within a large zone, such as the Interior (Gaza) zone, rather than averaging the level of crop failure across the zone as a whole.

Household Coping Capacity

The next step, after defining the problem and calculating its magnitude for each of the relevant aspects of the baseline picture, is to take account of the coping strategies that different types of households will employ to try and deal with the problems they face. The key questions here are:

- Which of the existing food and income options can be expanded under current circumstances?
- What additional options can be pursued?
- To what extent will these responses be able to increase access to food and/or cash (i.e. *how much* extra food/cash can be obtained from these different sources)?

In other words, this is a quantified analysis of households' ability to diversify and expand access to various sources of food and income, and thus to cope with a specified hazard. This area of analysis is commonly referred to in HEA as 'expandability'. Information on expandability is collected during the baseline study, usually by referring back to previous years and investigating the extent to which particular sources of food or cash could be expanded in bad years. To this extent, a determination of what is possible in terms of people's coping capacity is derived from actual field work.

However, 'expandability' in HEA is not just a reflection of what is *possible*. It is also, in part, a judgment of what is *acceptable*. **Box 2** lists the types of coping strategies typically used by households[2]. The strategies are organized according to three categories from low to high

[1] The exception here is with satellite imagery, such as NDVI and WRSI, which can present results in any defined polygon, including livelihood zones.

2 Note that some strategies usually included in lists of coping strategies are not included here, e.g. strategies that maintain primary production in the face of a hazard (e.g. re-planting of crops, replacement of long-cycle by short-cycle crops, long distance grazing of livestock). This is because in household economy analysis these aspects of coping are captured in the 'hazard'. Replanting of crops and replacement of long- by short-cycle crops

cost. Note that cost is not just a function of the type of activity, but the extent to which it is utilised (as in the livestock sale and labour migration examples described below). Typical low cost strategies include consumption of stocks (rather than selling them), or reduction of expenditure on non-essential items and buying food instead. These options do not put the households longer term survival at risk nor do they undermine the health of its members.

Examples of high cost strategies, on the other hand, would include decreased calorie intake (below the minimum required level), the sale of all livestock or reduced spending on water. These coping strategies undermine the viability of the household in the long term and they put its members at risk in health terms. As such, they are not considered acceptable and would not be employed in the Outcome Analysis to reduce a potential deficit. If all the potential coping strategies were included in the analysis, this would have the effect of minimising and almost certainly under-estimating the need for assistance as measured by deficit from a household economy deficit[3].

In other words, because Outcome Analysis aims ultimately to provide decision makers with information that allows for enough lead time to implement interventions to protect both lives and livelihoods, the **intervention trigger point** in the analysis is set before people have to resort to coping strategies that would undermine livelihoods or put at risk lives.

Thus, only those strategies that are appropriate responses to local stress are included. In this context, appropriate means both 'considered a normal response by the local population' and 'unlikely to damage local livelihoods in the medium to longer term'. In many agricultural areas, for example, it may be usual for one or more household members to migrate for labour when times are hard. Provided the response is not pushed too far (i.e. too many people migrating for too long a period of time), this can be considered an appropriate response to stress. Similarly, in a

Box 2. Types of coping strategy

Low Cost *(included in outcome analysis)*

- Reduced expenditure on non-essential items (beer, cigarettes, ceremonies, festivals, expensive clothing, meat, sugar, more expensive staples, etc.)
- Harvesting of reserve crops (e.g. cassava, enset)
- Consumption rather than sale of any crop surplus

Medium Cost *(included in outcome analysis)*

- Increased sale/slaughter of livestock (sustainable)
- Intensification of local labour activities
- Short-term/seasonal labour migration
- Intensification of self-employment activities (firewood, charcoal, building poles, etc.)
- Increased remittance income
- Increased social support/gifts
- Borrowing of food/cash
- Sale of non-productive assets (jewellery, clothing, etc.)
- Collection of wild foods

High Cost *(excluded from outcome analysis)*

- Unsustainable sale/slaughter of livestock
- Long-term/permanent migration (including distress migration of whole households)
- Excessive sale of firewood/charcoal (e.g. because of its effect on the environment)
- Sale/mortgaging of productive assets (land, tools, seeds, etc.)
- Prostitution
- Child labour
- Reduced expenditure on productive inputs (fertilizer, livestock drugs etc.)
- Reduced expenditure on health and education
- Reduced expenditure on water
- Decreased food intake

are captured through the crop production 'problem' and the effects of long-distance grazing are captured through the livestock production 'problem'.

[3] This is because the inclusion of a strategy in the outcome analysis has the effect of reducing the deficit, effectively delaying any intervention until that strategy has been fully utilised. It would not, for example, make sense to include the sale of ***all*** livestock in the outcome analysis, as this would delay intervention until all livestock had been sold – rendering pastoral households destitute, for example. Likewise it makes no sense to include undesirable stress-induced activities such as prostitution in the calculation of outcome, since this would reduce the estimated assistance requirement by an amount equivalent to the income that can be earned from prostitution.

pastoral setting, it is usual to increase livestock sales in a bad year. This again is an appropriate response to economic stress - provided the increase in sales is not excessive.

The limits of coping

Outcome analysis does not model household behaviour. It identifies the point at which households will no longer have the option to use acceptable coping mechanisms.

In household economy analysis, therefore, the most important characteristic of a coping strategy is its cost, where cost is measured in terms of the effect on livelihood assets, on future production by the household, and on the health and welfare of individual household members. But it is important to note that including a particular coping strategy in the analysis does not imply that households will necessarily follow that particular strategy. For example, if the analysis takes into account the income that could be earned from the sale of additional (but not all) livestock, it does not imply that households will necessarily take up that strategy. Rather than sell more animals than usual, they may decide to employ one or more of the other strategies open to them – including those considered to be more damaging: they may reduce food intake, or send a household member away permanently to find work. The point is that the analysis of household coping is not an attempt to model behaviour - that is, to predict which options a household will definitely take up in a crisis and which they won't. Rather, it is an attempt to define a level of access below which households have little choice but to pursue strategies that are likely to be damaging in the long term; in other words, a level of access below which the analysis shows that intervention is appropriate.

Figure 4: An Example of an Outcome Analysis for Poor Households from the Wolayita Maize and Root Crop Livelihood Zone in Southern Ethiopia

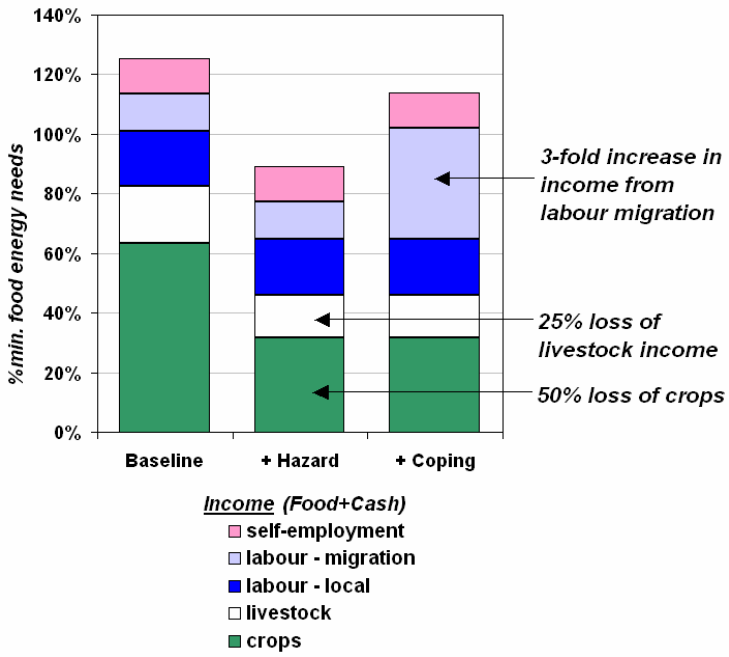
Three types of quantitative data are combined to predict outcome; data on baseline sources of food and cash, data on the hazard and data on coping strategies.

First of all, the effects of the hazard on baseline sources of food and cash income are calculated (middle bar in the chart).

Then the effect of any coping strategies is added in (right-hand bar).

The result is an estimate of maximum total food and cash income for the current year.

Note: *In this graphic, food and cash income have been added together and, in this case, expressed in food terms. (The results could also be expressed in cash terms – see* ***Figure 5****).*



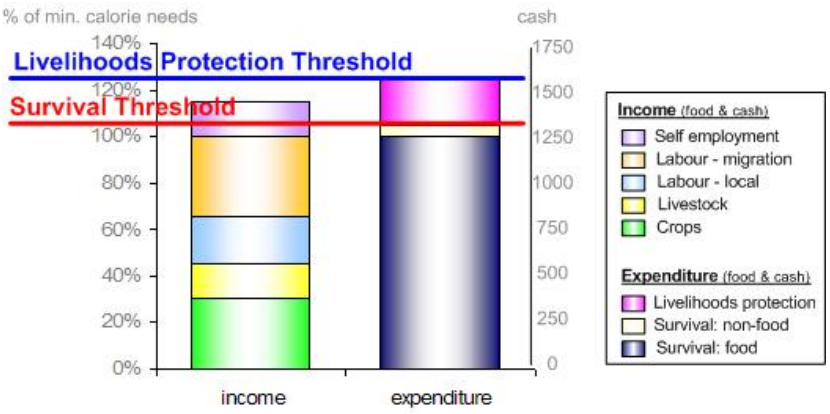
Predicted outcomes: defining the intervention threshold

The predicted outcome step is a systematic attempt to determine where different households fall in relation to clearly defined intervention thresholds. It is an analysis designed to set forth, with the best available evidence, a clear picture of which groups of households will be unable to respond on their own to a shock, without the use of strategies that would undermine either their health or their longer term welfare. It provides decision makers with a transparent link between household realities and a justification for providing external support of a particular type and amount, and for a set duration. Just as important, it makes clear the likely consequence of a failure to mount an external intervention and establishes useful monitoring indicators and thresholds in order to appropriately adjust response plans as time goes by.

The output from an outcome analysis is an estimate of total food and cash income for the current year, once the cumulative effects of current hazards and income generated from low- and medium-cost coping strategies have been taken into account (see **Figure 4**).

Figure 5: Comparison of Projected Income against Two Clearly Defined Thresholds

Projected total income (including income from low- and medium-cost coping strategies) is compared against two thresholds defined on the basis of local patterns of expenditure.



The Survival Threshold represents the total income required to cover:

a) 100% of minimum food energy needs (2100 kcals per person), plus
b) the costs associated with food preparation and consumption (i.e. salt, soap, kerosene and/or firewood for cooking and basic lighting), plus
c) any expenditure on water for human consumption.

Note: *Items included in categories b) and c) together make up the survival non-food expenditure basket, represented by the brown bar in the expenditure graphic.*

The Livelihoods Protection Threshold represents the total income required to sustain local livelihoods. This means total expenditure to:

a) ensure basic survival (see above), plus
b) maintain access to basic services (e.g. routine medical and schooling expenses), plus
c) sustain livelihoods in the medium to longer term (e.g. regular purchases of seeds, fertilizer, veterinary drugs, etc.), plus
d) achieve a minimum locally acceptable standard of living (e.g. purchase of basic clothing, coffee/tea, etc.)

The next step is to compare projected total income against two clearly defined thresholds to determine whether an intervention of some kind is required. The two thresholds – the ***Livelihoods Protection Threshold*** and the ***Survival Threshold*** – are described in **Figure 5**.

The ***Survival Threshold*** is the amount of food and cash income required to ensure survival in the short-term, i.e. to cover minimum food and non-food needs. The "survival non-food" category generally includes the costs of preparing and consuming food plus any cash expenditure on water for human consumption. In highland Ethiopia, the basic items required in addition to staple food itself are salt (to add minimum flavour), soap (so that hands can be washed before eating) and a very small amount of kerosene (so that people can see to prepare and consume food in the evenings). In most rural agricultural areas, water is obtained free of charge, and there is no need to include water in the survival non-food expenditure basket. Expenditure on water can be significant in other settings, however, e.g. in urban areas and among pastoralists. In these cases, lack of cash may prevent people from accessing sufficient water, even where it is available, and so water should be included in the list of expenditures required for survival. In this type of situation, the existence of a survival deficit (see **Figure 6**) indicates that an intervention to improve access to water will be required in addition to any measures that may be necessary to improve water supply.

Shelter and clothing are also basic requirements for survival, and it may on rare occasions be appropriate to include these in the "survival: non-food" basket. The point to bear in mind here is that the items included in the "survival: non-food" basket should be those required to ensure survival in the short term. In most settled rural situations, expenditure on shelter and clothing can usually be forgone in a bad year, with repairs to housing and replacement of clothes being postponed until better times. Situations in which failure to spend money on shelter and clothing could be life-threatening might include war (where shelters are destroyed and clothing looted), and sudden onset disasters such as an earthquake, hurricane or flood.

The ***Livelihoods Protection Threshold*** is the amount of food and cash income required to protect local livelihoods. This means a level of income that gives people the option to maintain expenditure on basic non-food goods and services at the levels prevailing in the reference year (assuming the reference year was neither especially good not especially bad). This does not mean that people will have exactly the same standard of living as in the reference year (since the livelihoods protection basket excludes non-essential items such as beer and cigarettes), nor that they will pursue exactly the same activities as in the reference year (since the *Livelihoods Protection Threshold* is set at a level that assumes additional income can be generated from low- and medium-cost coping strategies). But it does mean that – provided they prioritise these items – people can continue to spend similar amounts of money on inputs and on health and education as in the reference year.

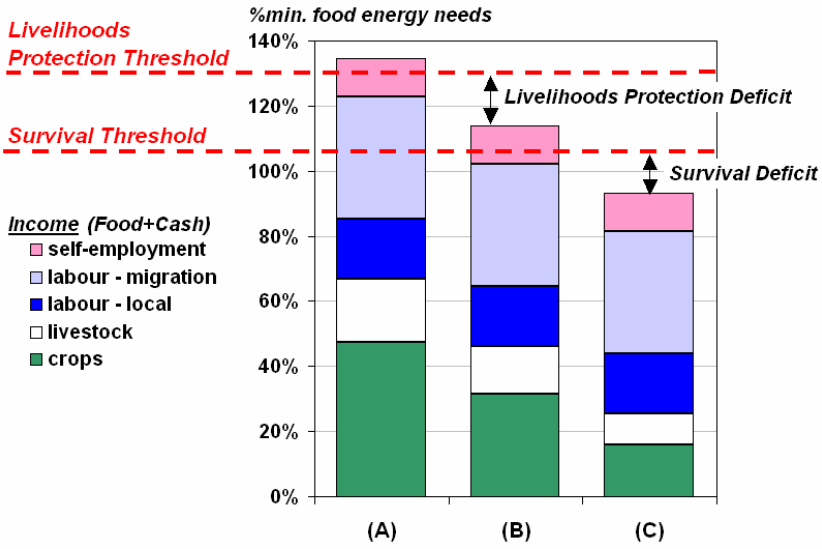
Besides these essential non-food goods and services, the *Livelihoods Protection* expenditure basket can also contain a number of items that – while not absolutely essential for survival – can nonetheless be considered essential in terms of sustaining a minimum locally acceptable standard of living. It is usually quite easy to identify these items through discussions with local key informants. Tea and sugar, for example, are considered essential among Somalis, and it is appropriate to include these in the *Livelihoods Protection* basket in Somali areas. For highland Ethiopians, on the other hand, tea and sugar will be replaced in the *Livelihoods Protection* basket by coffee and berberi (a mix of spices based on chilli pepper). Clearly, the exact composition of the *Livelihoods Protection* Basket will vary from livelihood zone to livelihood zone, depending upon local circumstances. This applies not only to items such as tea and coffee, but also to inputs (e.g. veterinary drugs in pastoral areas verses fertilizer in agricultural areas) and to health expenditures (e.g. expenditure on anti-malarials in lowland but not highland areas).

Figure 6: What it means if total income falls below one or other threshold

If total income falls below one or the other threshold, this implies that an intervention of some kind is required.

The figure compares three different situations, of progressively greater severity and urgency.

(A) – No deficit: In this situation, total income (including income from low and medium-cost coping strategies) is sufficient to ensure basic survival and to protect existing patterns of livelihood. There is no pressing need for an emergency intervention.



(B) – Livelihoods Protection Deficit: Total income is no longer sufficient to cover the cost of survival plus the expenditure required to protect local livelihoods, and an intervention of some kind is required to cover the deficit. At this level, local people can still cover expenditure on survival (including the consumption of 2100 kcals per person per day), provided they accord these needs a high enough priority. In other words, people should not have to go hungry at this level[1], although they will have to resort to other high-cost strategies including a reduction in expenditure on productive inputs, on health and on education. The primary objective of intervention at this level is to protect livelihoods, both in the current year and for the future.

(C) – Survival Deficit: At this level, total income is insufficient to cover the cost of survival, even if full use is made of all the available low- and medium-cost coping strategies, and all the money usually used to protect livelihoods is switched to the purchase of staple foods. It is very probable that people facing this type of deficit will go hungry, unless they resort to other undesirable high-cost coping strategies (see **Box 2** for a description of these). The primary objective of intervention at this level is to protect health and life in the short-term.

The difference between situations (B) and (C) is primarily one of the scale and urgency of the problem. There is no implication that different types of intervention should be used to address different types of deficit, e.g. that a survival deficit should be addressed through the distribution of food aid or that a non-food intervention is required to address a livelihoods protection deficit. The only point to bear in mind in relation to the type of deficit is that the intervention selected must be commensurate with the scale and urgency of the problem. There is little point, for example, in proposing a distribution of soap to fill a survival deficit. Something much larger in scale will generally be required, which will usually mean a distribution of food or cash, or a market intervention on a relatively large scale.

[1] Although they may choose to do so, if, for example, not increasing livestock sales or not migrating for labour has a higher priority than maintaining food intake.

Another important point about the *Livelihoods Protection Threshold* is that, as defined here, it is set relative to local conditions rather than relative to international standards, such as

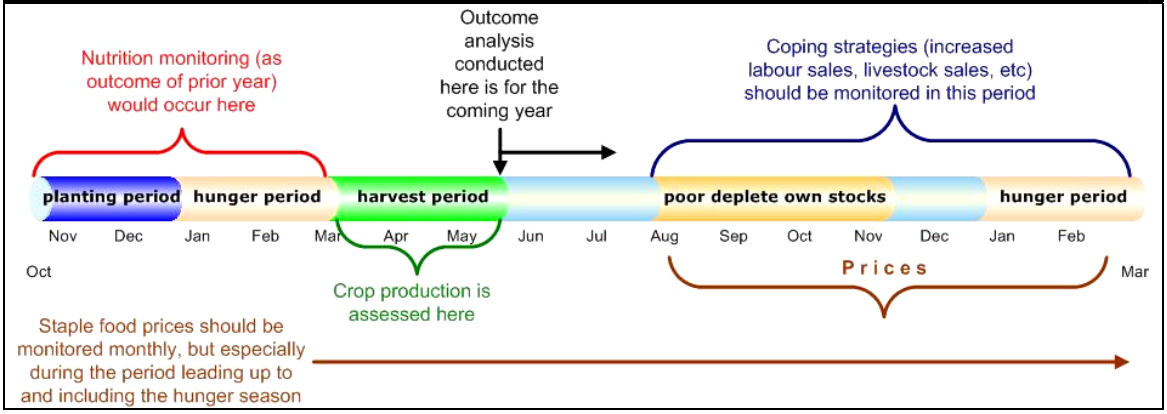
Sphere. This is an area for further debate and further work, i.e. should the *Livelihoods Protection Threshold* be set relative to international standards? and if so, which standards should be adopted for those items not covered by, for example, Sphere (which does not include standards for firewood or for fertilizer, for example).

When and what to monitor: the monitoring cycle

Typically an Outcome Analysis covers a 12-month period beginning with the main harvest (in an agricultural setting) or the main season rains (in a pastoral setting). An initial analysis will normally be prepared immediately after the harvest or after the rains, projecting access for the next 12 months, with updates prepared at various times during the remainder of the year (e.g. after a subsidiary harvest or secondary rainy season). In many cases it will be useful to prepare a preliminary analysis before any assessment fieldwork is undertaken, using whatever information is available to hand, and then to re-run the analysis once the fieldwork has been completed. This type of preliminary analysis can help identify gaps in the available data, which in turn helps with the planning of the fieldwork.

Different aspects of the livelihood system should be monitored at relevant times during the production and consumption year, see **Figure 7**. For instance, just as it makes sense to conduct the national crop assessment(s) during the harvest period (or periods), it makes sense to monitor predicted coping responses at the time they are projected to occur – usually in the period just after poorer households run out of their own stocks.

Figure 7. A typical monitoring timeline in southern Africa



Malnutrition rates are an outcome indicator, meaning they reflect the reality after a crisis, rather than providing an indication of an impending crisis. Therefore, it makes the most sense to monitor these at the tail end of the consumption season, during the hunger months. Keep in mind they will be reflecting the previous year's conditions at this time. Prices, another critical input to the outcome analysis, need to be monitored against the projected trajectory throughout the consumption year, but especially in the period leading up to and including the hunger season. This is because, as discussed previously, in the hunger season, prices will be the main determinant of food security for poorer households, who typically depend on the market to secure the majority of their food after they run out of their own stocks. The **predicted outcome scenarios** will be linked to assumptions about what will happen to prices, and these assumptions need to be carefully monitored. See **Box 3** on page 18 for more on price projections. If the actual price diverges from the predicted one, the projected household needs will have to be adjusted.

HOW TO DO THE CALCULATIONS

A number of calculations are involved in designing a problem specification and in incorporating a household's coping capacity into the outcome analysis. The following section provides guidance on these calculations.

Calculating the Problem Specification

A production problem

Household economy baseline data provide the starting point for investigating the effect that a hazard will have on household access to food and non-food goods and services. The baseline levels provide the reference point for all problem specifications. Suppose a typical 'poor' household harvests 10 x 50 kg sacks of sorghum in the reference year. This would be enough to cover roughly 50% of minimum annual food energy needs (the baseline). If sorghum production is reduced to half of reference by drought (the hazard), it follows that 'poor' households will harvest 5 sacks on average, and their access to own sorghum production will fall to only 25% of annual food needs (the outcome). This very simple calculation can be summarised as follows:

$$\text{Current year access to own sorghum production} = \text{Reference year access to own sorghum production} \times \frac{\text{Current year production}}{\text{Reference year production}}$$

$$= 50\% \times \frac{5 \text{ bags}}{10 \text{ bags}} = 25\%$$

For this type of calculation, the hazard has to be expressed in quantitative terms, e.g. crop production = 50% of reference; sorghum purchase price = 120% of reference, and so on. This process of expressing the hazard in quantitative terms is known in household economy analysis as 'problem specification'. In the above example the sorghum crop production problem, expressed in percentage terms, equals:

$$\text{Crop production problem (district data)} = \frac{5 \text{ bags}}{10 \text{ bags}} \times 100 = 50\%$$

District level data can also be used to derive a crop production problem, with the advantage that this is the level at which most data are collected by government and non-government monitoring systems. Suppose district production in the reference year is 36,000 MT, and in the current year is 18,000 MT, then:

$$\text{Crop production problem (district data)} = \frac{18{,}000 \text{ MT}}{36{,}000 \text{ MT}} \times 100 = 50\%$$

This same basic calculation can be used to derive a 'problem specification' for each of the various sources of food and cash income. It is obvious, however, that these calculations can only be done if the relevant data for the reference year are available (e.g. the figure of 36,000 MT for district level sorghum production in the above example). This is why it is so

important to compile a set of reference year monitoring data for use alongside the household economy baseline data on food, income and expenditure (see Chapter 3, **Annex A**, Interview Forms)

An income problem

The total amount of cash income generated from a particular source varies as a function of:

i) access to the income source (i.e. quantity), and
ii) the price for which it can be sold.

These two aspects of the problem are specified separately, and then combined to derive the overall or consolidated problem. The following examples should make this clearer.

Example 1: Calculating a Problem Specification for Cattle Sales

Suppose there is an outbreak of foot and mouth disease in a particular area. This may have two effects: to reduce cattle sales and to reduce cattle prices, which will both tend to reduce the income of households that normally sell cattle. Suppose a household sells four cattle in the reference year, for 100,000 SS each, making total livestock income 400,000 SS. If it can only sell three in the current year, for 80,000 SS each, then this year's income will be 240,000 SS in total. In this case,

$$\text{The 'quantity' problem} = \frac{\text{3 cattle sold this year}}{\text{4 cattle sold in the reference year}} \times 100 = 75\%$$

$$\text{The 'price' problem} = \frac{\text{80,000 SS this year}}{\text{100,000 SS in the reference year}} \times 100 = 80\%$$

$$\text{The overall or 'consolidated' problem} = 75\% \times 80\% = 60\%$$

$$\text{current income} = \text{400,000 SS (reference year income)} \times 60\% = \text{240,000 SS}$$

Example 2: Calculating a Problem Specification for Sorghum Sales

Suppose there is a severe drought and a failure of the sorghum harvest in a particular district. This may have two effects: 1. to reduce the amount of sorghum available for sale and 2. to increase sorghum prices, which together will change the income of households that normally sell sorghum. Suppose a household sells 4 sacks of sorghum in the reference year, for 30,000 SS per sack, making sorghum cash income 120,000 SS. If there is a 50% failure of the harvest, it follows that it can only sell 2 sacks in the current year[1], but perhaps at a higher price of 45,000 SS. In this case, this year's income will be 90,000 SS in total, and:

$$\text{The 'quantity' problem} = \frac{\text{2 sacks sorghum sold this year}}{\text{4 sacks sorghum sold in the reference year}} \times 100 = 50\%$$

$$\text{The 'price' problem} = \frac{\text{45,000 SS this year}}{\text{30,000 SS in the reference year}} \times 100 = 150\%$$

$$\text{The overall or 'consolidated' problem} = 50\% \times 150\% = 75\%$$

$$\text{and current income} = 120{,}000 \text{ SS (reference year income)} \times 75\% = 90{,}000 \text{ SS}$$

Note that there is a seasonal component to this particular analysis, since farmers (especially poor farmers) tend to sell staple cereals after the harvest. The sales price in the baseline is therefore a post-harvest price, and the current year price should also be post-harvest.

[1] Assuming for the moment that there is no 'switching' between sales and consumption

Example 3: Calculating a Change in the Cost of the Minimum Non-Food and Livelihoods Protection Expenditure Baskets

In the same way as it is possible to calculate a price problem for various sources of food and cash income, it is also possible to incorporate changes in the cost of the *survival non-food* and *livelihoods protection* expenditure baskets. Suppose that sugar is an important component of the *livelihoods protection* expenditure basket (as it is in Somalia), and that the price of sugar increases by 20%, then the overall price problem for the essential expenditure basket (103%) can be calculated as follows:

Component of livelihoods protection expenditure basket	Cost of basket in the reference year	Price problem (%)	Cost of basket in the current year
Sugar	175,000 SS	120%	210,000 SS
Other items	950,000 SS	100%	950,000 SS
Total	1,125,000 SS	103%	1,160,000 SS

Changes in staple food prices also need to be taken into account. This is done by calculating a staple food price problem as follows:

$$\text{Staple food price problem} = \frac{\text{Price of staple food this year}}{\text{Price of staple food in the reference year}} \times 100$$

There are potentially two types of difficulty with this calculation:

a) ***the time of year when purchases are made:*** In cropping zones, purchases tend to be seasonal, with most food being bought in the pre-harvest hungry season months. It follows that pre-harvest prices should be used when calculating the staple food price problem. For pastoral zones, on the other hand, where staple food purchases tend to be less seasonal, it is appropriate to base the staple price problem on a 12-month average for prices.

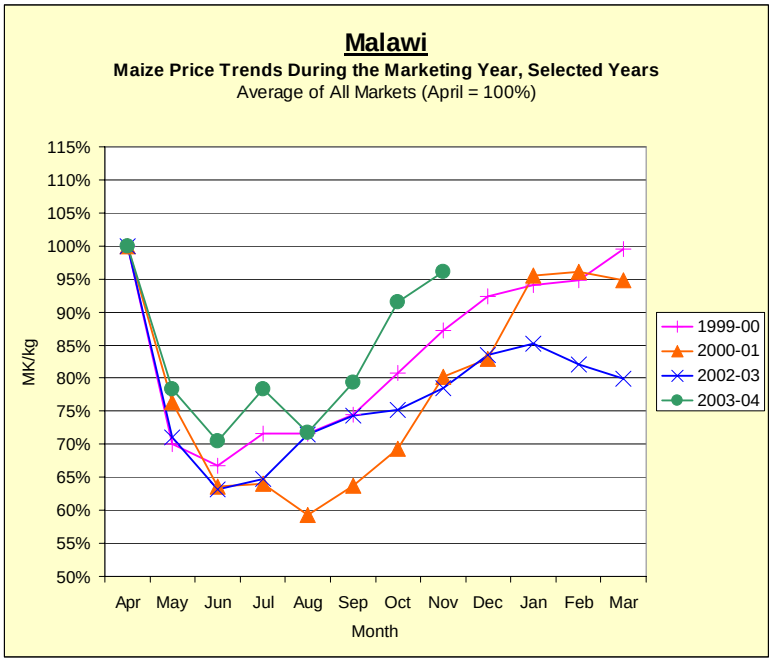
b) ***the time of year the assessment is being undertaken:*** For the purposes of decision-making it is important that the assessment should be undertaken as early in the consumption year as possible. In the case of a cropping zone, this usually means at about the time of the main harvest. The problem is that a staple food price is

required for the following hungry season, which may be 8-12 months after the current harvest and the current assessment. It follows that a price projection has to be prepared in advance. There are two ways of doing this. The first is to base the projection upon an analysis of seasonal trends in prices (see **Box 3** below). The second (which can be used in the conjunction with the first) is to develop a projection based upon information from traders and others with first hand knowledge of market conditions.

Box 3. Staple price problem specification from Malawi

In Malawi the consumption year runs from April to March, and this example refers to an outcome analysis prepared in December 2003 for the period April 2003 to March 2004. The main period for maize purchases in Malawi runs from October to March. By December, of course, maize price data were not available for the whole of this period, and a price projection had to be prepared for the months ahead. This was done by reviewing seasonal price trends in recent years, as follows:

The right-hand graph shows seasonal maize price trends for 2003-04 and for three recent years (but excluding 2001-02, when prices rose very sharply). In 2003, maize prices fell in the post-harvest period, but not quite so far as in previous years, and from August onwards prices rose quite rapidly. Based upon this graph, it seemed likely that maize prices would reach a peak between January and March, and that the average price from October to March would be about 10% above the price in November. Since the overall average price in November (i.e. averaging across all markets surveyed) was 13.5 MK/kg, it follows that the average purchase price for Oct'03-Mar'04 would be approximately 15 MK/kg, or 1.5 MK/kg above the November price. This was the price used to prepare the staple food problem specification for this particular analysis.



Note: Prices are expressed as a percentage of the price in April in order to correct for inflation.

How to Calculate and Incorporate Coping Strategies

As discussed before in this chapter, the objective of Outcome Analysis is to investigate the effects of a hazard on future access to food and to non-food goods and services. This involves combining three types of information; information on baseline access, information on the hazard (i.e. factors affecting access to food and cash income, such as data on crop production or market prices) and information on coping strategies (i.e. the sources of food and cash income that people turn to when exposed to a hazard). The following formula, which should be familiar to you now, summarises the approach:

Baseline + Hazard + Coping Capacity = Outcome

Broadly speaking, there are three categories of activity that households can employ to maximise access in response to a hazard. They can:

1) Increase food access, by, for example, consuming rather than selling crops, increasing purchase and expanding alternative food sources (e.g. casual labour paid in food, wild foods, gifts, loans, etc.)

2) Increase cash income, by, for example, finding more paid work, selling additional livestock, etc.

3) Switch expenditure to staple food purchase, by reducing non-essential expenditure (e.g. clothes, cigarettes) and purchasing cheaper staple foods (e.g. sorghum rather than sugar).

Which strategies to include

As discussed already on **pages 8** and **9**, not all the coping strategies that are available to households are included in an outcome analysis. Strategies may be excluded if they have undesirable or damaging side effects that threaten the sustainability of livelihoods in the medium to longer term. In a crisis, the aim should be to prevent hunger *and* to preserve those assets that are essential to the way of life. Coping strategies can be classified as:

a) **Strategies that are not damaging to livelihoods**, e.g. changes in diet (switching to cheaper foods), sale of non-essential assets, migration of individuals for work, sustainable increases in livestock sales.

b) **Strategies that may be damaging to livelihoods**, e.g. sale of productive assets, unsustainable sale of livestock.

These latter strategies are generally excluded from an HEA Outcome Analysis, even if they are in fact common responses to crisis locally. This is because the objective of the outcome analysis is not simply to model household behaviour, but to identify the most appropriate types of intervention, and the scale of intervention required. In the analysis, outcome is measured in terms of total access to food and cash income after the effects of the hazard and the coping strategies have been taken into account. The practical implications of measuring access are that it enables the user to answer questions such as:

Quantifying coping

"Expandability" is the term used to describe the amount by which a given source of food or cash income can increase in response to a crisis.

- which wealth groups in which zones are likely to face a deficit?
- how many people will face a deficit?
- how big will the deficit be?

This type of information is essential for decision-making about various types of emergency intervention, including the need for food aid and other types of assistance - in which case the size of the deficit and the number of people affected are critical pieces of information. If follows from the outcome analysis equation

Baseline + Hazard + Coping Capacity = Outcome

that the deficit calculated will vary according to the magnitude of the coping capacity. Taking livestock sales as an example, we may assume that people sell no more livestock than in the reference year, or that they sell some additional livestock or that they sell all their livestock. As more livestock sales are included, so the deficit will tend to get smaller and the need for intervention will also appear to be less. However, excessive livestock sales, while reducing the immediate deficit, will also threaten the sustainability of livelihoods in the longer term, which is clearly undesirable. In the case of livestock sales, for example, the sale of some additional livestock could be included in the coping step, but not the sale of all livestock.

The following section uses the example of Somalia to provide a detailed example of which strategies are incorporated into the Outcome Analysis and which are left out, and why. Although based on Somalia, the strategies will be familiar to those working in rural areas of most developing countries.

Strategies available to rural Somali households

Table 3. Expandability: increasing food access

Particular Strategy	*Notes*	*Inc. in Analysis?*
Reduce sale/increase consumption of crops	This is potentially quite an important strategy in zones where 'poor' households sell rather than consume a proportion of their food crops. This is especially the case where the crop is sold post-harvest at a relatively low price. In a bad year all types of household can to some extent switch from selling to consuming food crops.	Yes
Consumption of any surplus	Better-off households in the more productive zones do not necessarily sell all their surplus production; they may also put some aside for storage. In a bad year that proportion of production that is normally stored can be diverted towards consumption.	Yes
Increase purchase	This is everywhere an important strategy for all wealth groups.	Yes
Increase gifts and loans	Gifts and loans may be in either food or cash. These are important strategies in Somalia, and they should be included in the analysis. It is, however, difficult to know by how much each of these sources can be expanded.	Yes
Expand other alternative food sources (e.g. wild foods)	There is very little access to wild foods that can yield significant amounts of food energy (such as wild grains or wild roots and tubers). This severely limits the effectiveness of wild food consumption as a response to crisis in Somalia.	No, these are not significant sources of additional food in bad years.

Table 4. Expandability: increasing cash income

Particular Strategy	*Notes*	*Inc. in Analysis?*
Increase sales/reduce consumption of milk and ghee/butter	Milk and ghee/butter are relatively high-value products and increasing the sale of these in a crisis is potentially quite an important coping strategy. (Where milk production declines, then it may only be possible to increase the proportion sold, rather than the absolute amount, but this still constitutes a potentially important coping strategy.) Unfortunately, relatively little is known of milk markets in Somalia, and the relationships between supply, price and	No

Table 4. Expandability: increasing cash income

Particular Strategy	*Notes*	*Inc. in Analysis?*
	demand. It seems likely that demand (i.e. the amount of money available to buy milk), which is mainly urban, will at best remain relatively constant in a crisis. If production declines (e.g. due to drought) and prices increase, then it is likely that the amounts purchased by urban households will decline. The overall effect may well be that sales remain a constant percentage of production. In this case it is safest to assume no expandability of milk and ghee/butter sales.	
Increase sales of livestock	Increased sale of livestock is a standard strategy for pastoralists. There are two factors to consider, a) livestock herd size (and the number of animals that can be sold without threatening the herd viability in the longer term) and b) the capacity of the market to absorb extra sales. Research data exist for a number of areas of East Africa that can be used to estimate sustainable levels of offtake, but little is known of the capacity of Somali markets to absorb the additional animals. The main market is urban. The basic assumption must be that there is some elasticity in urban demand (especially as prices fall), and that traders will buy wherever livestock are available and of reasonable quality. Availability will tend to be higher and prices lower in drought-affected areas, and traders will therefore move to and increase their purchases in these areas. In most cases, therefore, it is reasonable to assume some increase in livestock sales. In the case of a generalized and severe drought, however, it may be that the capacity of markets to absorb additional animals will be exceeded, in which case it may be best to reduce the expandability of livestock sales or to set it to zero.	Yes
Expand sale of labour locally	Casual labour may be paid for in either cash or food. Attempting to expand labour is an important coping strategy pursued by 'poor' households at times of crisis. The overall effectiveness of the strategy may be questioned however, since there is little evidence that local work opportunities increase significantly in a bad year, and labour rates are likely to decline when food is scarce. If we assume that the amount of money available to pay local labourers remains relatively constant (surely a best case scenario, since rural employers will be affected by local problems as well) then there would seem to be two possibilities. The first is that the same amount of work gets done at the 'normal' wage rate. The second is that more work gets done, but at a lower wage rate (perhaps the most likely, since poor households often report doing more work in a bad year). In either case, total income from local labour will remain constant, in which case it is not appropriate to specify any expandability for this income source.	No
Increase out-migration in search of labour	Out-migration in search of labour is an important strategy in certain areas.	Yes
Expand other income sources (e.g.	Not a great deal of information is available on the market for rural products such as firewood, grass, handicrafts etc.	No

Table 4. Expandability: increasing cash income		
Particular Strategy	*Notes*	*Inc. in Analysis?*
sale of firewood)	in Somalia. Demand is probably relatively inflexible, so that any increase in market supply will tend to be counteracted by a reduction in prices, bringing little net benefit to the rural producer. In this case, total income from these sources will remain constant, and it is not appropriate to specify any expandability. In the case of firewood and charcoal, there is the additional consideration of the effect on the environment to consider. These negative effects are a further reason for not including any expansion of these activities in the analysis.	
Sell other assets	Poor and middle households in Somalia own few assets that can be sold in the event of a crisis, and those assets that are owned (e.g. clothes, basic furniture) tend to be of low value. Moreover, prices are likely to fall quite sharply in a crisis, as supply rapidly exceeds demand. Asset sales are unlikely to be an effective response to crisis therefore.	No
Increase gifts, remittances and loans	These are important strategies in Somalia, and they should be included in the analysis. It is, however, difficult to know by how much each of these sources can be expanded.	Yes

Table 5. Expandability: switching expenditure to staple food purchase		
Particular Strategy	*Notes*	*Inc. in Analysis?*
Reduce non-essential expenditure (e.g. clothes, cigarettes, *khat*)	Reducing non-essential expenditure and using the money to purchase staple foods or other essential items is potentially quite an important strategy for all wealth groups.	Yes
Purchase cheaper staple foods	Sugar in everywhere purchased by all wealth groups in Somalia and in some areas there is scope for switching expenditure from more expensive sugar calories to cheaper sorghum. There may also be scope for reducing expenditure on meat, oil and pulses, and using the money to purchase cheaper staple foods.	Yes

Please see the Team Leaders' Supplement, **Annex A: Expandability – Calculations and Storage** for more on the expandability calculations.

AN EXAMPLE OF HOW THE APPROACH WORKS

The following worked example (**pages 23** to **26**) is designed to introduce the practitioner to how all the steps in HEA Outcome Analysis are put together and to revisit the types of calculations that are made. The example is from the Meru Lowland Livelihood Zone in Meru District, Kenya. It concerns households in the "middle" wealth category, with a household size of 6 people. It is run using the example 'current' year of 2001 and the example 'reference' year of 1998.

Once this initial worked example has been completed, a more general Standard Calculation Format is introduced (**page 30** onwards). The format is helpful because it encourages a common approach to the calculations. It also has the advantage that information on coping strategies is recorded in a set fashion so that once these and the baseline data have been entered, the format can be used repeatedly to analyse different scenarios. The Standard Calculation Format is the foundation for the *Single Zone Spreadsheet*, which is introduced in the Team Leaders' Supplement.

The basic output from an Outcome Analysis is a calculation of deficit. Two types of deficit are calculated – the *survival deficit* and the *livelihoods protection deficit* (see **page 13**). In the initial examples set out below (**pages 23** to **30**), only one deficit is calculated. This is equivalent to the total deficit (*survival plus livelihoods protection*). The separate calculation of the *survival* and *livelihoods protection* deficits is explained from **page 31** onwards.

The Baseline

Sources of food

There are two rainy seasons in this zone and farmers plant in both seasons, but only one season is reliable: the so-called 'short' rains in October – December (referred to here as the main season). Crops planted during the second season (the so-called 'long' rains from March – May) are eaten green or straight from the fields and do not produce a dry harvest. A farmer's consumption year runs from the start of the green harvest in January to the following December. In other words, it can be considered a calendar year.

The following table indicates the contribution of each different source of food to household annual requirements. The results are also entered in Column A of **Table 1** *on* ***page* 26***.*

The basis of the calculations is detailed in Chapter 3 and also in Session 8 (*Introduction to the Kilocalorie Calculations*) in Module 2 (*Baseline Assessment*) of the **Training Guide**. A short review is provided here: If a household of 6 people was to only consume maize, it would require 11½ sacks (1150 kg) to meet their minimum food energy requirements for a whole year. If they were to only consume beans, they would require 1200 kg. If they were only to consume milk, they would require 6,500 litres for a whole year.

Food source	*Description*	*Total food*
Green crops	Households eat green crops in both rainy seasons, annually covering 2 full months of food income (one month from each season).	2/12 mo = 17%
Harvested maize (minus sales and seed)	The main season harvest is in February. 6 sacks (of 100kg each) of maize are produced. 1½ sacks are sold, ½ a sack is kept for seed and the 4 remaining are consumed.	4/11.5 sacks = 35%
Milk (minus sales)	Middle households own 2 cows that yield 1 litre of milk each per day for 10 months of the year. Half the milk is consumed	300/6500 liters = 5%

Food source	*Description*	*Total food*
	and the other half is sold.	
Payment in kind	In most middle households, the man migrates to neighbouring highland areas to work for about three months of the year. While he is away, he receives all his meals from his employer. This food is entered in Table 1 as 'payment in kind'.	1/6 people x 3/12 months = 4%
Purchase	The household purchases the remainder of its food, or approximately 4 sacks of maize and 50 kg of beans.	4/11.5 sacks maize = 35% 50/1200 kg beans = 4%
Total Food	→	**100%**

Sources of income

The table below provides the contribution of each source of income for middle households. The results are also entered in Column A of **Table 2** *on* ***page* 26**.

Income source	*Description*	*Total income*
Sale of livestock	sell 2 calves at Sh 6000 each	12000
Sale of livestock products	sell 1 litre of milk per day at 25 shillings per litre for 10 months (calculated assuming 1 month = 30 days)	7500
Sale of own crops	sell 1½ sacks maize at 550 shillings each	825
Labour sales	Work for 5 days per week for 3 months at 60 shillings per day (calculated assuming 1 month = 4 weeks)	3600
Sale of firewood	sell 4 bundles per week throughout the year at 30 shillings per bundle (calculated taking 1 year = 52 weeks)	6240
Total income	→	**30165**

Note: Sh = Kenya Shilling

Expenditure

Food*: Totalling up daily / weekly purchases, the household bought 4 sacks of maize and 50kg of beans during the reference year. Maize cost 10 shillings a kilo and beans 25 shillings per kilo.*

Item	*Quantity*	*Price*	*Total shillings*
Maize	400 kg	10 shillings/kg	4000
Beans	50 kg	25 shillings/kg	1250
Total	→	→	**5250**

Non-food items: The remainder of household expenditure goes on non-staple items in the reference year. The household did not save any money in the reference year, so income equalled expenditure.

These results are summarised in Column A of **Table 3** *on* ***page* 27**.

The Hazard

The major problem affecting the Meru Lowland zone in 2001 was a lack of rain in both 1999 and 2000, which resulted in harvest failure for the second year in a row. In addition, livestock sales were increased during 2000 to cope with the drought in that year.

The situation after the main season rains of October - December 2000 was:

- **Short rains crops**: Little maize germinated and, after normal green consumption (one month), only 1½ sacks were harvested. 0.1 sack was kept for seed and 1.4 sacks were kept for consumption.
- **Long rains crops**: The forecast for the second season rains in March to May was a likelihood of poor rains. It was predicted that there would be no second harvest, but growing conditions would be sufficient for enough maize production to be eaten green for a month, as in the reference year.
- **Livestock**: On average one cow was sold during the drought in 2000 (the previous year) and the remaining cows have failed to give birth, which means that farmers had no calves to sell and no milk production in 2001.
- **Prices**: Maize and beans had doubled in price from the reference year.

The results of the scenario for 2001, assuming that everything else was unchanged, is presented in Column B of **Tables 1 - 3** on **page 26** to show the immediate impact of the drought on each source of food and income, before the responses to the hazard are taken into account.

Coping Strategies

When the contribution of baseline sources of food declines, households try to expand the amount of food they can get from the remaining options, or they seek alternative options. The following coping strategies are employed in the Meru Lowlands:

- Households want to preserve their **livestock assets** and therefore they don't want to sell their one remaining cow, especially because that cow is of limited market value due to deteriorating condition as a result of the prolonged drought.
- Households double the number of days they **collect firewood**, and if necessary take it further to sell so as to get the same price as in a normal year.
- Men look for **migratory work** earlier and stay away for longer, thereby doubling the food and cash income from migratory labour.
- Households **minimise expenditure** on non-food items to 725 shillings per month (8700 per year) during the drought year.
- Households use their remaining income to **purchase** maize alone. They are given **gifts** of beans, in a similar quantity to what they used to buy, by neighbours.
- In 2001, there were no major relief distributions, nor school feeding. No gifts of money were received from better-off households in the zone or from relatives living in other parts of Meru or outside the district.

Column C of **Tables 1 - 3** on page 26 presents the 'final picture' for 2001, after taking into account the above options for households to expand their food and cash income. This includes the amount of maize that they could buy if they spent all remaining income, after minimum non-staple expenditure, on maize.

The results suggest that once the effects of the hazard and the coping by middle households are taken into account, there remains a deficit equivalent to 11% of annual food

needs. This indicates that some type of intervention would be required to bring middle households' access to food up to minimal levels.

This could be:

- a food aid intervention of some kind (free food distribution or food-for-work),
- a cash or voucher-based programme (free cash or vouchers or cash-for-work), or
- a market intervention to stabilise maize prices.

In each case, the data in **Tables 1 - 3** below can be used to estimate the level of assistance required. In the case of a food aid distribution, the amount of food aid required can be calculated from the deficit. The amount of cash required from a cash-for-work programme can be estimated from the amount of money needed to purchase maize to fill the deficit – assuming prices remain at twice the reference level. Finally, the level to which prices would need to be stabilised by a market intervention can be calculated, from the amount of money middle households have available for food purchase and the amount of food they need to buy.

Box 4. The Effect of Drought on Middle Households in the Meru Lowland Livelihood Zone, Meru District, Kenya

Table 1: Food Sources (% of annual HH food needs)	**Baseline (A)**	**Initial effect of shock (B)**	**Final picture (C)**
Green crops	17%	2/12 mo = 17%	17%
Harvested maize (minus sales & seed)	35%	1.4/11.5 sacks = 12%	12%
Milk (minus sales)	5%	0%	0%
Payment in kind	4%	4%	x 2 = 8%
Purchase – beans	4%	2% (see below)	None = 0%
Purchase – maize	35%	17% (see below)	48% (see below)
Gifts			4%
Total	100%	52%	89%
Deficit	0%	48%	11%

Table 2: Income Sources (in shillings)	**Baseline (A)**	**Initial effect of shock (B)**	**Final picture (C)**
Sale of livestock	12000	0	0
Sale of milk	7500	0	0
Sale of maize	825	0	0
Labour migration	3600	3600	x 2 = 7200
Sale of firewood	6240	6240	x 2 = 12480
Total	30165	9840	19680

Table 3: Expenditure (in shillings)	**Baseline (A)**	**Initial effect of shock (B)**	**Final picture (C)**
Maize	4000	4000	10980
Beans	1250	1250	0
Non-food items	24915	4590	8700
Total	30165	9840	19680

Notes on maize and bean purchase:

Column B: It has been assumed that expenditure on maize and beans remains constant. The amount purchased is halved, since prices for both items have doubled.

Column C: Maize purchase = 10980 ÷ 20 Sh/kg = 549 kg ÷ 1150 kg x 100 = 48%

Estimating Expandability

The above exercise is organised in the sequence baseline + hazard + coping capacity, with coping capacity being considered in relation to a specific hazard. For the analysis of other different hazards it is more useful to analyse expandability in general terms, independently of the hazard. This idea is explored further below, taking the Meru Lowlands as an example and entering the results into a Standard Calculation Format on page 30.

'Expandability' may be defined as the amount by which a given source of food or income can be increased in response to a hazard. Keep in mind that hazards have both direct and indirect effects, and the effect of the hazard may be to eliminate the gains sought by attempts to increase a source of income. Expandability refers only to the added value of an attempt, not to the attempt itself. Put another way, expandability represents the amount by which a given source of food or income can be expanded, provided access to that source of food or income remains the same as in the reference year. In the Meru Lowlands, for example, access to migratory labour can be doubled so long as conditions in the neighbouring highland zone – where migratory labour is found - remain normal. That doubling represents the expandability. If a drought affects the Meru highlands as well as the lowlands, this will reduce the ability of Meru lowlanders to find additional work there. For the moment, we will leave aside the hazard's effects on 'expandability' – they are taken into account later in the calculations.

In the Meru Lowlands we are told that a number of sources of food and income are expandable, as follows:

Table 6. Expandability of Food Sources (% minimum food needs)

Source of Food	*Expandability*	*Explanation*
Harvested Maize	13%	1½ sacks of maize are sold in the reference year, but none are sold in the drought year. The response in this case is to switch from selling to consuming maize. Provided the hazard does not affect the maize harvest, 1½ sacks can be consumed rather than sold, equivalent to 13% of minimum food needs.
Payment in kind	4%	In the reference year, the man migrates for 3 months of the year and receives all his meals from his employer. This provides the equivalent of 4% of the household's minimum food needs. In a bad year, the man can migrate for a further 3 months, generating another 4% of minimum food needs for the household.
Purchase - beans	-4%	Households cut back on the purchase of beans in a bad year, and purchased beans are replaced by gifts (see below). This reduction in purchase has the effect of *reducing* food access

		by 4%, so the expandability is negative.
Purchase - maize	xxx	It may be possible to expand maize purchases in a bad year. However, the expandability of maize purchases is not calculated in advance. Instead it is calculated from current year income and expenditure.
Gifts	4%	Gifts of food are not common in the reference year, but they are an option in a bad year. Middle households can expect to receive 50 kg of beans on average as a gift in a bad year, equivalent to 4% of minimum food needs.

Table 7. Expandability of Income Sources (Sh per year)

Source of Income	*Expandability*	*Explanation*
Livestock sales	0	In a reference year, middle households sell two calves for Sh 6000 each. The only way they can increase sales is by selling a milking cow (which is what they did in 2000). However, this is undesirable since it represents the sale of half the productive animals they own. The sale of this additional animal is therefore excluded from the analysis and expandability is set to zero.
Maize sales	-825	In a bad year, the 1½ sacks sold in the reference year are consumed instead. This has the effect of *reducing* income by Sh 825, so the expandability is negative.
Labour migration	3600	Income from labour migration can be doubled in a bad year, generating an additional Sh 3600 of income.
Firewood sales	6240	Income from firewood sales can be doubled in a bad year, generating an additional Sh 6240 of income.

In addition to these changes in food and income, changes in expenditure pattern are also an important component of the response:

Table 8. Changes in Expenditure Pattern

Expenditure Item	*Explanation*
Minimum non-staple	Households may minimise expenditure on non-essential food and non-food items. Minimum non-staple expenditure is the amount of money that should be spent to purchase basic food and non-food items ***besides*** staple foods. The minimum non-staple basket includes basic items such as salt, soap, water, kerosene for cooking, basic health costs etc[4]. In the case of the Meru lowlands, minimum non-staple expenditure amounts to Sh 8700 per year.
Purchase of cheaper staple foods	As well as minimising expenditure on everything other than staple foods, households may also switch from purchasing more expensive staples (e.g. beans) to cheaper items (e.g. maize). There is not a great deal of scope for this in the Meru Lowlands, since most money is already spent on the cheapest staple, maize. However, middle households do switch from purchasing a combination of maize and beans to purchasing maize only.

Calculating the Hazard

As discussed previously in the section on problem specifications, hazard effects are expressed in terms of the quantitative effect that the hazard has on access to each source of food and income, always expressed as a percentage of the baseline or reference quantity. In the Meru Lowlands example, the hazard or 'problem' is a relatively simple one, and is calculated as follows:

[4] Note that the minimum non-staple basket is here equal to the sum of the survival non-food and livelihoods protection baskets.

Table 9. Problem Specification			
Food or Income Source	*Baseline Quantity*	*Current/projected quantity*	*Current quantity as % of baseline quantity*
Green crops	2 months	2 months	100%
Maize	6 sacks	1.5 sacks	25%
Milk	300 liters	0 liters	0%
Livestock sales	2 calves x 6000 Sh	0 calves	0%
Other sources of food and income			100%

Calculating the Outcome

The outcome is calculated using the standard calculation format as follows (see Meru Lowlands example on next page):

1. Enter baseline information on food, income and expenditure into the 'Baseline' column.
2. Enter estimates of expandability for food and income into the 'Expandability' column.
3. Leave the row for maize purchase blank for the moment, as changes in purchase will be calculated from income and expenditure at step 9.
4. Add expandability to baseline access and enter the result in the 'Baseline + Expandability' column.
5. Enter the current problem of access to food and income in the 'Current problem' column.
6. Multiply the figures in 'Baseline + Expandability' by the corresponding 'Current problem' % and enter the result in the 'Final picture' column. Do this for all sources of food and income, except purchase.
7. Calculate total income (Sh 19680 in the example) and carry this down from **Table 2** to the bottom right-hand cell of **Table 3** (i.e. total expenditure).
8. Enter any change in the cost of the minimum non-staple basket into the 'Current problem' column of **Table 3**. Multiply the baseline minimum non-staple cost by the 'Current problem' % and enter the result in the 'Final Picture' column. In the Meru lowlands example, there is no change in the cost of the minimum non-staple basket, which remains Sh 8700.
9. Calculate the amount of money available for staple food purchase. In this case = 19680 – 8700 = 10980. Carry this down to **Table 4** (cash available). Calculate the amount of staple food that can be purchased, bearing in mind the price of staple food, and any change in this resulting from the hazard. In this case = 10980 ÷ 20 = 549 kg. Estimate the % of minimum food needs that could be covered by purchase (= 549 ÷ 1150 x 100 = 48%)
10. Carry the amount of staple food that can be purchased up to the 'final picture'/purchase row of **Table 1**.
11. Complete the calculation of total food access and calculate any deficit (**Table 1**).

The result obtained using this method is the same as that presented on page 26.

Box 5. Meru Lowlands Example Entered into the Standard Calculation Format

Livelihood Zone	Meru Lowlands, Kenya	Wealth Group	Middle
Baseline year/type	'Normal'	HH size	6
Current year/type	2nd year of drought	% of community HHs	50%

Table 1. Food	Baseline	Expandability	Baseline + Expandability	Current problem	Final picture
Green crops	17	0	17	100%	17
Maize	35	13	48	25%	12
Milk	5	0	5	0%	0
Payment in kind	4	4	8	100%	8
Purchase: beans	4	-4	0	100%	0
Purchase: maize	35	See below			48
Gifts	0	4	4	100%	4
Total					**89%**
Deficit					**11%**

Table 2. Cash income	Baseline	Expandability	Baseline + Expandability	Current problem	Final picture
Livestock sales	12000	0	12000	0%	0
Milk sales	7500	0	7500	0%	0
Maize sales	825	-825	0	25%	0
Labour migration	3600	3600	7200	100%	7200
Firewood sales	6240	6240	12480	100%	12480
Total	**30165**				**19680**

Table 3. Expenditure (cash)	Baseline			Current problem	Final picture
Minimum non-staple	8700			100%	8700
Staple food	5250				10980
Other	16215				
Total	**30165**				**19680**

Table 4. Staple purchase	Cash available	Price/kg	Kg purchased	% kcals
Maize	10980	20	549 ÷ 1150 x 100 =	48%

Splitting the Total Deficit between Livelihoods Protection and Survival Deficits

In the examples presented so far, a single total deficit has been calculated, equivalent to the sum of the survival and the livelihoods protection deficits (see **page 13**). In this section, this total deficit is split into its two component parts.

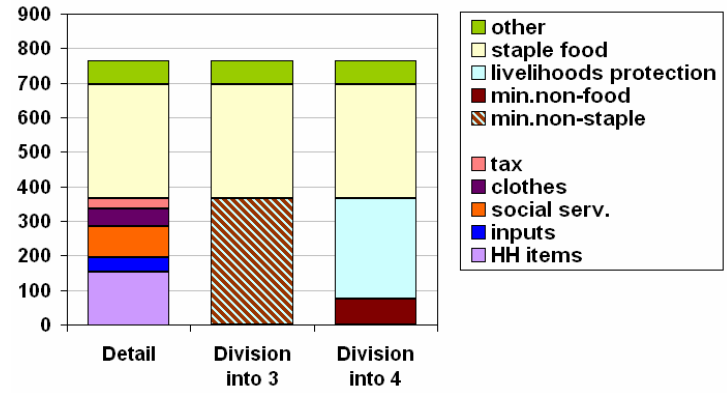
The first step is to refine the analysis of household expenditure (as illustrated in the right-hand graphic). So far, household expenditure has been split into three categories:

Minimum non-staple: The amount of money reserved for basic food and non-food expenses *besides* staple foods.

Staple: The amount of money spent on basic staple foods, i.e. those providing the bulk of food energy at minimum cost.

Box 6. Revision of expenditure categories

Wolayita Maize and Root Crop LZ, Ethiopia
Expenditure Patterns of
Poor Households (birr per year)



Other: The amount of money left over for expenditure on other non-essential or discretionary items, such as clothing, more than the minimum quantity of meat and vegetables, cigarettes, etc.

Minimum non-staple now needs to be divided into two categories:

Survival non-food: The amount of money required to cover the cost of preparing and consuming food plus any cash expenditure on water for human consumption. The survival non-food basket includes basic items such as salt, soap, kerosene for cooking, etc.

Livelihoods protection**:** The amount of money that must be spent on items that are essential in terms of i) maintaining access to basic services (e.g. routine medical and schooling expenses) or ii) the maintenance of livelihoods in the medium to longer term (e.g. purchase of seeds, fertilizer, veterinary drugs, etc.) or iii) the maintenance of a minimum acceptable standard of living (e.g. purchase of basic clothing, coffee/tea, etc.)

The graphs in **Box 7** illustrate the process of deficit calculation based upon this revised analysis of expenditure. The presentation of the results differs from that in **Figure 6** (where food and cash income were added together). Here separate graphs are presented of food access and patterns of expenditure. The following graphical conventions – used throughout the remainder of this guide - are also introduced:

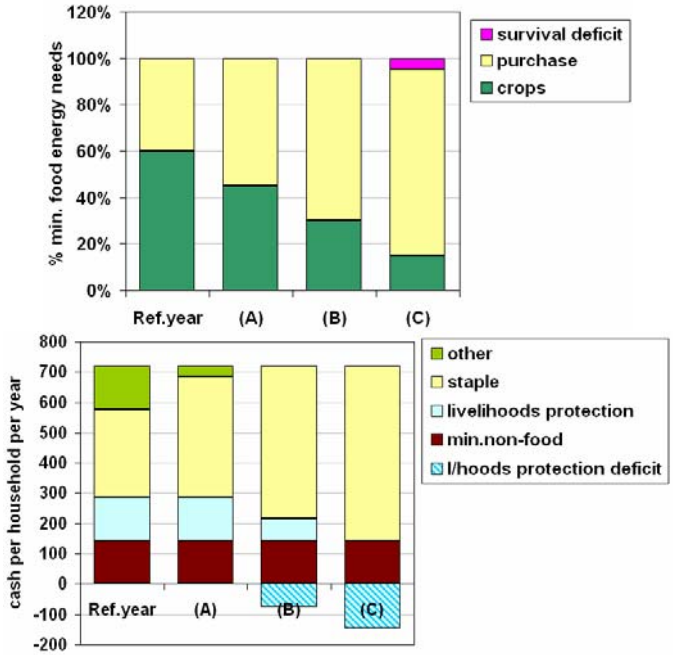
a) to express the *survival deficit* in terms of food and to include this on the food access graph.
b) to express the *livelihoods protection* deficit in terms of cash and to include on the expenditure graph.

Note, however, that this is purely a convention in terms of graphing, so that the two deficits can be presented separately. It should not be taken to indicate that a survival deficit must be

addressed through a food aid intervention. Nor should it be taken to indicate that a *livelihoods protection* deficit must be addressed through a cash intervention.

Box 7. Calculation of Survival and Livelihoods Protection Deficits

Three scenarios showing the calculation of the survival and livelihoods protection deficits



Scenario	Crop failure	Type of Deficit
(A)	25%	None
(B)	50%	Livelihoods protection
(C)	75%	Survival + Livelihoods protection

The example is a very simple one in which there are only two sources of food (crops and purchase), and looks at the effect of different levels of crop failure (assuming this has no effect on total income).

(A) 25% crop failure: At this level households have enough food plus cash income to cover their basic survival (i.e. 100% of minimum food energy needs plus survival non-food expenditure) and to protect their livelihoods (livelihoods protection expenditure). This can be achieved by switching expenditure from 'other' to 'staple'. This type of switching is enough to compensate for the loss of crop production and there is no deficit.

(B) 50% crop failure: Households can no longer afford to cover both i) the increased expenditure on staple food required to compensate for the loss of crop production and ii) existing expenditure on the livelihoods protection basket. They do however have enough income to cover basic survival, provided they cut back on expenditure on livelihoods protection. At this level they face a *livelihoods protection deficit* (shown on the expenditure graph as the blue-shaded block below the x-axis).

(C) 75% crop failure. At this level, even if all expenditure (besides minimum – or survival non-food) were switched to staple purchase, it would still not be possible to cover 100% of minimum food needs. Households therefore face both a *survival* and a *livelihoods protection* deficit.

When setting up this type of analysis, there are important decisions to be taken about which items to include in the *survival non-food* and *livelihoods protection* baskets, and how much expenditure to include for each item. In the analysis presented above (which deals with poor households from the Wolayita Maize and Root Crop LZ in Ethiopia), the guiding principle is one of maintaining access for poor households at reference year levels (rather than trying to increase access to a higher, perhaps more acceptable level).

This means that the livelihoods protection basket for the poor is composed of items that are purchased routinely by poor households, and that the level of purchase is set at that prevailing in the reference year. This is appropriate for the type of Outcome Analysis

described here, where the objective is to determine the type and amount of assistance required to protect people against the worst effects of a particular hazard.

It would not be appropriate for a more general analysis of poverty or of livelihood security, where the question may not be about maintaining the status quo, but about the absolute level of access and whether this is acceptable. Suppose, for example, that poor households can only afford to send one child to primary school, whereas on average they have two children of primary school age. For the purposes of an emergency needs assessment, the relevant question is 'can poor households continue to pay for one child to attend primary school', and the schooling costs for one child should be included in the livelihoods protection expenditure basket. For a more general assessment of poverty, however, the relevant question is 'can poor households afford to send all children of primary school age to school?', in which case it would be appropriate to include the schooling costs for two children in the livelihoods protection expenditure basket.

If the principle for the purposes of emergency assessment is to maintain access for poor households, what about the middle and the better-off groups? For these, a two-pronged approach is suggested. For:

> Household items: (salt, soap, kerosene, clothing): poor household expenditure should be the base for calculating the needs of other groups (with adjustment for household size).
>
> Schooling, medical costs and inputs: Reference year expenditure should be the basis for calculating the needs of different wealth groups.

The effect of this is to include more expenditure, and potentially more items, in the livelihoods protection expenditure basket of the middle and better-off compared to the poor (since these groups usually spend more on items such as schooling, health care and inputs). This may seem unfair, but it is consistent with the objective of maintaining existing access in a bad year.

In the next section, the Meru Lowlands example is re-visited to illustrate the separate calculation of survival and livelihoods protection deficits.

Defining Survival Non-food and Livelihoods Protection Expenditure Baskets: the Lowland Meru Example

The example below continues the analysis of the Meru Lowlands from **page 30**. The first step is to re-analyse the existing survival non-food expenditure basket and decide which items should be included in the survival and livelihoods protection baskets.

Box 8 suggests such a division. In this case only the most basic items are included as survival non-food. These are salt, soap and kerosene, for which expenditure totals 2460 Sh per household per year. All other items have been included in the livelihoods protection expenditure basket. This includes inputs (the only significant one in this LZ being water for animals), expenditure on social services (health and education), taxes and a limited number of expenditures to improve the palatability of the diet (small amounts of sugar and oil, and some expenditure on the grinding of grain).

The next step is to incorporate these two expenditure baskets into the Outcome Analysis. Instructions for doing this are provided below, followed by a re-working of the Meru

Box 8. Meru Lowlands Example: Definition of minimum non-food and livelihoods protection expenditure baskets

Item	*Amount and measure*	*Cost per measure*	*No. times purchased/year*	*Total expenditure/year*
Survival non-food expenditure				
Salt	1 kg	25 /kg	12	300
Soap	1 tablet	30 /tablet	52	1560
Kerosene	300 ml	50 /300 ml	12	600
Sub-total:				**2460**
Livelihoods protection expenditure				
Sugar	2 kg	40 /kg	12	960
Oil	1 l	50 /l	12	600
Grinding	10 kg	10 /kg	12	1200
Water for animals	Per week	50	20	1000
Taxes	Per year	400	1	400
Health costs	Per year	1200	1	1200
School fees	Per year	880	1	880
Sub-total:				**6240**
Total:				**8700**

Lowlands example with a separate calculation of the survival and the livelihoods protection deficits. The results of this analysis indicate that, given the conditions specified, middle

households face a livelihoods protection deficit equal to 2590 Sh per household. They do not, however, face a survival deficit. A review of the composition of the livelihoods protection expenditure basket suggests a number of ways in which this deficit might be filled, other than through the provision of cash or food assistance. The options, the combined value of which should total 2590 Sh per household include:

- Provision of cash
- Provision of food
- Provision of water free of charge
- A temporary waiving of school fees and the provision of free pens and notebooks
- A temporary reduction in health care charges and the provision of free drugs
- A waiving of taxes in the current year

Calculating the Outcome: Assuming the baseline access and expandability estimates have already been entered into the calculation format, along with the problem specification, the revised steps to complete the analysis are as follows:

1. Multiply the figures in 'Baseline + Expandability' by the corresponding 'Current problem' % and enter the result in the 'Final picture' column. Do this for all sources of food and income, except purchase.
2. Calculate total income (Sh 19680 in the example) and carry this down from **Table 2** to the 'Final Picture/Total' cell of **Table 3**.

3. Specify any change in the cost of the survival non-food and livelihoods protection baskets in the 'Current problem' column of **Table 3**. Multiply baseline minimum non-food cost by the 'Current problem' % and enter the result in the 'Final Picture' column. In the Meru lowlands example, there is no change in the cost of the survival non-food basket, which remains Sh 2460.
4. Calculate the amount of money available for staple food purchase as total minus survival non-food. In this case = 19680 – 2460 = 17220. Carry this down to **Table 4** (cash available). Calculate the amount of staple food that can be purchased, bearing in mind the price of staple food, and any change in this resulting from the hazard. In this case = 17220 ÷ 20 = 861 kg. Estimate the % of minimum food needs that could be covered by purchase (= 861 ÷ 1150 x 100 = 75%)
5. Carry the amount of staple food that can be purchased up to the 'final picture'/purchase row of **Table 1**. Add together the 'final picture' data for all food sources to estimate total food access.

   If total food access is less than 100%, then calculate the survival deficit (**Table 1**). To complete the expenditure analysis, enter the amount of cash available for staple purchase into **Table 3** (under staple food), and enter zero for expenditure on 'livelihoods protection' and 'other' (since it follows that if there is a survival deficit, then there will be no spare cash for either 'livelihoods protection' or 'other' expenditure). Finally, multiply livelihoods protection expenditure in the baseline by the current problem for livelihoods protection expenditure and enter the result under 'deficit' in the 'final picture' column of **Table 3** (this is the livelihoods protection deficit).

   If total food access is equal to or greater than 100% (as in the Meru Lowlands example), then calculate the %kcals that has to be purchased to bring total food up to 100% (59% in the example), and enter this for 'final picture/staple purchase' in **Table 1**. Now calculate how much it would cost to purchase these kcals and enter this under 'staple food' in the 'final picture' column of **Table 3** (1150 kg x 59% ÷ 100 x 20 Sh/kg = 13570 Sh in the example). Continuing with **Table 3**, multiply baseline livelihoods protection expenditure by the current problem for livelihoods protection expenditure and note the result (6240 in the example). Now calculate the amount of cash currently available for livelihoods protection expenditure as total expenditure – survival non-food – staple (3650 in the example). If this is greater than (or equal to) the current cost of the livelihoods protection expenditure basket (just noted), enter the latter figure into 'final picture/livelihoods protection expenditure'. If it is less, then enter the amount of cash available for livelihoods protection expenditure into 'final picture/livelihoods protection expenditure' and enter the difference between the two figures (current cost – cash available) as the 'final picture/livelihoods protection deficit'. (In the example, since 3650 is less than the current cost of the livelihoods protection expenditure basket, 6240, livelihoods protection expenditure is set to 3650 and the livelihoods protection deficit to 6240 – 3650 = 2590 Sh).

6. Finally, calculate expenditure on 'other' as total expenditure – survival non-food – staple – livelihoods protection (=0 in the example).

Box 9. Meru Lowlands example with analysis of survival and livelihoods protection deficits

Livelihood Zone	**Meru Lowlands, Kenya**	**Wealth Group**	**Middle**
Baseline year/type	'Normal'	HH size	6
Current year/type	2nd year of drought	% of community HHs	50%

Table 1: Food	*Baseline*	*Expandability*	*Baseline + Expandability*	*Current problem*	*Final picture*
Green crops	17	0	17	100%	17
Maize	35	13	48	25%	12
Milk	5	0	5	0%	0
Payment in kind	4	4	8	100%	8
Purchase: beans	4	-4	0	100%	0
Purchase: maize	35	See below			59
Gifts	0	4	4	100%	4
Total					100%
Survival deficit					**0%**

Table 2: Income (cash)	*Baseline*	*Expandability*	*Baseline + Expandability*	*Current problem*	*Final picture*
Livestock sales	12000	12000	24000	0%	0
Milk sales	7500	0	7500	0%	0
Maize sales	825	-825	0	25%	0
Labour migration	3600	3600	7200	100%	7200
Firewood sales	6240	6240	12480	100%	12480
Total	**30165**				**19680**

Table 3: Expenditure (cash)	*Baseline*	*Current problem*	*Final picture*
Survival non-food	2460	100%	2460
Livelihoods protection	6240	100%	3650
Staple food	5250		13570
Other	16215		0
Total	**30165**		**19680**
Livelihoods protection deficit			**2590**

Table 4: Staple purchase	*Cash available*	*Price/kg*	*Kg purchased*	% kcals
Maize	17220	20	861 ÷ 1150 =	75%

Having completed the Outcome Analysis, practitioners need to make sure that this information actually leads to appropriate action. Chapter 5, *Translating Outcomes into Action*, introduces the link between HEA information and action, and provides a number of case studies of HEA's application in different settings and towards different ends.

THE PRACTITIONERS' GUIDE TO HEA

Chapter 5: Translating Outcomes into Action

5 TRANSLATING OUTCOMES INTO ACTION

The following chapter aims to help the practitioner understand important principles and approaches used to translate HEA outcomes into effective action, exploring first how HEA outcomes have been used in a wide range of settings, and second discussing the best approaches for communicating results to decision makers.

The chapter begins with a discussion of the links between HEA outputs and core decision maker information requirements, followed by a general description of the common principles that underlie HEA response analysis. Five case studies are used to demonstrate the specific approach employed in linking HEA outcomes to action in different contexts, including: early warning and scenario development; emergency food and non-food needs; social protection; and poverty analysis

The goal of the second part of the chapter is to increase the effectiveness with which practitioners communicate messages to decision makers. In doing so, it outlines key principles and strategies for reaching decision makers aiming to increase the likelihood that HEA information not only becomes integrated into relevant decision-maker processes, but also that core messages are clearly conveyed – a prerequisite for appropriate response and action.

By the end of this chapter the reader should be able to describe: the link between key decision maker questions and aspects of the HEA Framework; the basic principles employed in HEA response analysis; the main steps involved in HEA's application in early warning systems, needs assessments and poverty analysis; and he/she should be able to demonstrate the principles of communicating effectively to decision makers.

This chapter was written by Tanya Boudreau, who drew on material written by Penny Holzmann and by Mark Lawrence; Richard Choularton and Stephen Anderson reviewed the draft and provided incisive comments.

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RELATED CD FILES

The CD that accompanies the **Practitioners' Guide** contains the following files relevant to Chapter 5, found in the Chapter 5 Directory:

- **Annex A: Response Analysis Guidance**
  - WFP and MSU guides to selecting an appropriate response
  - Oxfam decision map for response planning
- **Annex B: Decision Maker Briefs**
  - Example of a FEWS NET Alert
  - The Limpopo Food Aid Brief
  - The Limpopo Development Brief
- **Annex C: Livelihood Profiles**
  - Guidance Notes for Preparing a Livelihood Profile
  - Example of a Livelihood Profile
- **Annex D: Presentations**
  - Examples of Good Power Point Practice
  - Examples of Bad Power Point Practice

RELATED TRAINING MODULE

MODULE 5: TRANSLATING OUTCOMES INTO ACTION in the **HEA Training Guide** contains training material relevant to this chapter.

BACKGROUND

HEA practitioners share a conviction that their field work is not research for the sake of research but rather an efficient enquiry designed to translate information into action. HEA aims to 'short cut' a process that might otherwise take years of anthropological study, providing the information that decision makers require in the time frame they need it, with sufficient rigor and validity to encourage consensus. As explained in Chapter 1, HEA was developed and refined in response to decision maker demands. **Table 1** summarises the core questions that face most decision-makers in the humanitarian community and shows how HEA contributes to answering these questions. It is important to note, however, that although HEA outputs are tightly linked to decision maker processes, the information itself is not biased to meet specific outside interests. Rather, HEA provides a structured framework for organising local knowledge and realities - information that otherwise framed may be interesting but impenetrable - in a manner that is concise, accessible and pertinent to decision makers.

Table 1. How HEA helps address core decision maker questions

Core question	*How HEA helps answer the question*
WHO	***Wealth breakdowns*** help group the population in a way that shows who will be most affected by different shocks.
WHAT	***Livelihood strategy identification, description and quantification*** (Food, income, expenditure) shows what can be done to support existing livelihoods, and, just as important, what might harm them.
HOW MUCH	***Outcome analysis*** determines what kinds of gaps will be left in the event of a shock or multiple shocks. This leads directly to an analysis of how much help is needed.
WHERE	***Livelihood zoning*** helps group people in a way that allows you to see where affected populations are or might be in the future.
WHEN and FOR HOW LONG	***Outcome analysis***, combined with the use of seasonal calendars, provides a basis for determining when different types of assistance are needed and for how long.

These questions are at the core of decision-makers' information requirements whether the context is one of an emergency, or rehabilitation, or development. An informed discussion about what should be done to help people can only take place if we understand how people normally live, and how they are affected when certain components of their livelihood are destroyed, or alternatively, enhanced. It is HEA's capacity to address these questions in a quantitative, deliberate way that encourages it application in so many areas of humanitarian work.

HEA AND RESPONSE ANALYSIS

Response analysis is an increasingly important aspect of the work of HEA practitioners and the links between appropriate response and HEA information is a subject of growing work. **Table 2** outlines the steps in the process of linking HEA Outcome Analysis to Response Analysis in the specific case of early warning and needs determinations. In Poverty Analysis or Social Protection, the steps are slightly different, but still centred on the basic premise that a baseline understanding of livelihoods needs to be the starting point for appropriate response analysis. More details on these steps are provided in the case studies in this chapter.

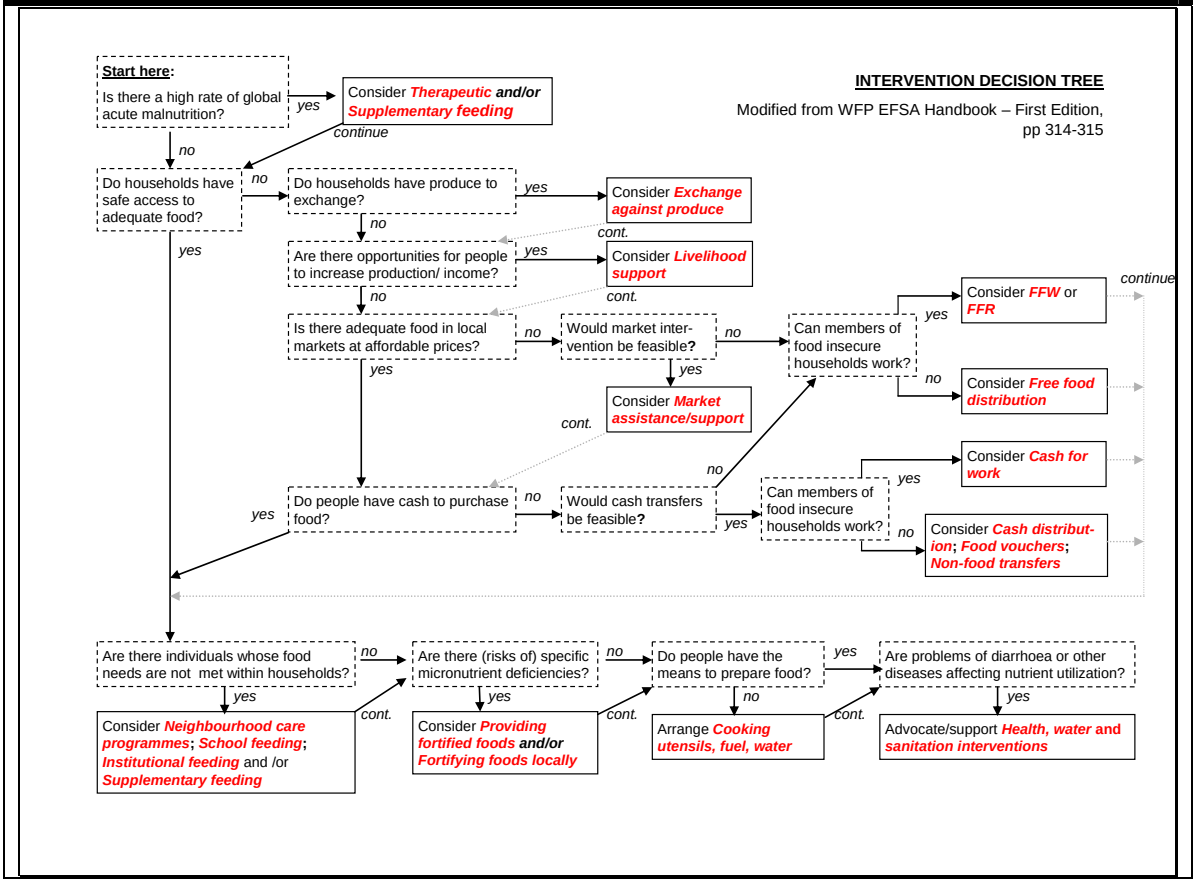
Table 2. Steps in Translating HEA Outcomes into Response Analyses

Step	*Activity*	*Resources*
PREPARE THE LIVELIHOODS BASELINES		
	Finalise baselines	
1	Finalise survival non-food and livelihood protection expenditure baskets	• Baseline storage spreadsheets
2	Finalise expandability of food and income	• Baseline storage spreadsheets
	Enter baseline data into single zone spreadsheets	
3	Enter baseline data into single zone spreadsheets	• Baseline storage spreadsheets • Blank single zone spdshts
4	Analyse the baseline data to identify the most important sources of food and cash income for monitoring/problem specification; Record the results on key parameter and problem specification sheets	• Blank key parameter and problem spec sheets
PREPARE THE PROBLEM SPECIFICATION – BY DISTRICT		
5	Compile available data and specify problem *by district* Data will include: • district level crop production data • market price data • relevant field reports • data from rapid field assessments Record assumptions made in compiling problem specification	• Key parameter and problem specification sheets • Data for problem specification
RUN THE OUTCOME ANALYSIS – BY DISTRICT AND LIVELIHOOD ZONE		
6	Run outcome analysis using single zone spreadsheets Run one analysis for each livelihood zone within each district	• Filled key parameter and problem specification sheets • Completed single zone spreadsheets
PLAN THE RESPONSE – BY DISTRICT		
7	Decide upon the most appropriate type of intervention, based upon: • results of the outcome analysis • other information from the livelihoods baselines • other information on the district Depending upon the type of intervention proposed, calculate • numbers of people in need • quantities of assistance required • duration and timeframe for intervention	• Results of outcome analysis • Wealth breakdown by LZ • Population by district/LZ • Intervention decision tree • Food aid/cash assistance calculation sheet
PLAN FOLLOW-UP FIELD WORK AND MONITORING ACTIVITIES		

8	Plan follow-up field work to verify the assumptions made in preparing and running the outcome analysis; Prepare plans to update the analysis as new data becomes available (e.g. market price monitoring, seasonal crop production data)	• Filled key parameter and problem specification sheets • Field verification format
Source: Mark Lawrence, Ethiopia DPPC Livelihood Integration Unit Training Materials		

HEA practitioners use a number of existing tools to work their way through different response options. A modified version of the WFP Intervention Decision Tree, shown in **Box 1**, is one example of a practical tool used for the purpose of emergency response. Others, such as those produced by Oxfam and MSU, are used as well, and included in Chapter 5, Annex A, *Response Analysis Guidance*. The questions (on the decision tree below) related to whether household have adequate access to food, cash to purchase food, and the ability to work, etc. are answered through the HEA baseline assessment work and outcome analysis. Questions about levels of malnutrition are answered through nutrition surveys and monitoring.

Box 1. Intervention Decision Tree



This chapter will not repeat information about how to carry out the steps in the Intervention Decision Tree or how to calculate deficits. That information is covered elsewhere in the Practitioners' and Training Guides (See Chapter 4, *Outcome Analysis* in the **Practitioners' Guide**; and Module 4 - *Outcome Analysis* - in the **Training Guide**) and in other resources, such as the WFP Emergency Food Security Assessment Handbook. The Market Supplement also details a number of emergency response options (e.g. cash transfers, vouchers, local purchase, imported food aid, market support) and provides suggestions as to their appropriateness in different circumstances.

Rather, the first part of this chapter presents the four core principles that underlie thoughtful humanitarian action, followed by some case studies of HEA's application in response analysis. These principles of humanitarian action constitute the shared assumptions that guide response analysis in HEA; and they play a role in the design of the practical applications of HEA presented in the next section, so they are made explicit here before delving into the detailed examples.

Four Core Principles of Humanitarian Action

*First, the response should be **proportional to need.***
Increasingly skewed income distributions and vast economic inequalities exist in almost every country on earth. With much of the world's population living on under a dollar a day, there are obvious needs everywhere. However, inherent in the above principle is the recognition that humanitarian aid and development resources are limited. Prioritising on the basis of proportional need strives to ensure that those who are worst affected by a hazard will be afforded at least the means of survival. This principle is perhaps the most important driver behind the development of HEA; it has generated the requirement for quantitative outputs and led to the application and refinement of the 'survival' and 'livelihood protection' thresholds. Without common thresholds it is not possible to implement a response based on proportionality to needs, because there is no way to otherwise objectively measure and thus compare needs. Through the development of quantitative outputs and common thresholds, HEA helps determine levels of need in an objective evidence-based manner consistent with international (in relation to food energy) and locally acceptable minimum (in relation to non-food needs) standards. (See **Case Studies 1 and 2**.)

*Second, the response should provide **maximum benefit** to those who require assistance and **minimum harm** to livelihood systems.*
Household economies are distinct elements in a web of connected economic, social, and political systems. The history of humanitarian aid is littered with the unintended negative consequences associated with disrupting these systems. An outside intervention almost inevitably generates some cost somewhere – whether to a market's efficiency, or to a set of social relationships, or to someone's political gain. The key is to carefully weigh the costs and benefits to different stake holders so that action can be taken conscious of potential outcomes; and ameliorative steps can be taken where possible. Timing is also an essential element of maximising benefit and minimising harm. A food aid response provided too late, for instance, can flood the post-harvest market with unnecessary food, bringing down prices just when farmers are counting on selling their produce. Or a food for work project that interferes with key planting times can force household members to make difficult choices about how to allocate their limited labour reserves. Using HEA's predicted outcomes in scenario building has been particularly useful in this regard. (See **Case Study 1**).

*Third, the response should **meet short term emergency needs** (where relevant) while **laying the foundation for long term development**.*
Certain kinds of assistance are appropriate at certain times and not others. A short term direct food aid transfer may be the best option immediately following a sudden-onset hazard, such as a flood or earthquake. But over time, the goal is to strengthen local livelihood systems, not replace them. Developing an overall understanding of households' changing resource constraints (in particular their labour constraints) and opportunities from season to season and year to year is critical in getting aid programming right from start to finish. (See **Case Studies 2, 3**, **4** and **5**.)

*Fourth, a **balance** must be found **between** the **ideal** response and **practical realities**.*

This principle may be controversial to some, who would argue that it is the practitioners' job to identify an appropriate response, and the duty of others to find the resources to meet the needs. While this is an attractive proposition, it is one that is not likely to lead to effective action. For decision-makers, a host of practical and operational considerations – linked for example to cost, resource availability, technical capacity and security - will determine the final decision on how to intervene. It is important therefore for needs assessment staff and decision-makers to interact and strike the best possible balance between the ideal and the feasible.

MULTIPLE USES OF HEA ANALYSIS

While the need to predict requirements for emergency food and non-food relief in southern Africa remains pressing, governments and development agencies increasingly recognise the need for longer-term approaches to reducing poor people's vulnerability to shocks beyond the short-term emergency funding cycle. To identify realistic interventions requires an appreciation of the constraints faced by the poor and the opportunities open to them to lock into the wider economy. On this basis, HEA offers a form of analysis that provides this contextual understanding and that enables the effects of potential interventions to be modelled.

HEA's relevance has spread beyond its first use in quantifying food needs. This is because the approach is centred on an understanding of how people normally make ends meet, from year to year. It gives us a holistic view of household operations and strategies, including the needs and uses of cash income beyond immediate food purchase. Such a basis is required to understand the effect of shocks; but it is potentially no less important in what it offers on the rehabilitation and development side of the equation. This next section illustrates how a single central core of HEA information can have multiple applications; and it details a few of the particular approaches used to customise its use.

Table 3: Where has HEA been used?

Agricultural	Mozambique, Malawi, Swaziland, Zambia, Lesotho, Zimbabwe, Tanzania, Ethiopia, Rwanda, Burundi, DRC, Sudan (north and south), Niger, Mali, Liberia, Sierra Leone, Tajikistan, Pakistan, Myanmar, Chechnya, Bangladesh, India, Cambodia
Pastoralist / agro-pastoralist	Somalia, Somaliland, south Sudan, north Sudan, Ethiopia, Angola, Djibouti, Tanzania, Kenya, Burkina Faso
Urban	Angola, Zimbabwe (Harare), Djibouti (Djibouti City), Somaliland (Hargeisa), Somalia (Belet Weyne), north Sudan (Khartoum), Palestine, Kosovo, Serbia, Montenegro, Macedonia, DRC (Bunia, Kinshasa)
Coastal (including fishing) communities	India, Indonesia, Sri Lanka, Puntland/ Somalia
Refugee camps	Kakuma/Kenya, Bangladesh, north Sudan, Tanzania, Ethiopia, Chad, Uganda
Internally Displaced Persons	Burundi, Sierra Leone, southern Sudan, Somalia, Khartoum, Liberia, Ingushetia

The wide range of settings in which HEA has been applied, shown in **Table 3** above, has enabled the approach to be tested in varying circumstances and adapted according to different contexts (agricultural, pastoral, urban), for different purposes and for different stages of the project cycle. The Guide to HEA contains a comprehensive set of examples of HEA's uses, summarised below in **Table 4**.

Table 4: Uses of HEA and examples of applications detailed in the Guide to HEA		
Application	*Case Study*	*Which part of the HEA framework is involved?*
Disaster preparedness, relief and recovery		
Designing **early warning and monitoring** systems	**Rural** Malawi: MVAC Ethiopia **Urban** Harare	➢ **Baseline** helps identify what people in a livelihood zone are vulnerable to so that relevant parameters can be monitored ➢ **Outcome analysis** undertaken at key points of year, using monitoring data to define the problem
Developing scenarios for **contingency and response planning**	Limpopo Basin, Mozambique Serbia	➢ **Outcome analysis** used to develop scenarios and identify indicators for monitoring and updating of response plans
Assessing **emergency food and non-food needs**	Mashonaland, Zimbabwe	➢ **Outcome analysis** used to measure current and projected access against thresholds
Post-emergency **rehabilitation**	Earthquake recovery, Pakistan	➢ **Baseline** and **outcome analysis** used to map out pre-crisis livelihood strategies and post-crisis opportunities
Poverty reduction and social protection		
Identifying appropriate **poverty reduction** strategies	Thar desert, Pakistan Tigray, Ethiopia	➢ **Baseline** used to identify key constraints and opportunities for different wealth groups, and strategies for minimising/exploiting them
Determining appropriate **safety net levels and other social protection measures**	Turkana, Kenya Singida, Tanzania Djibouti	➢ Develop quantified **Baseline** profile of current access to food and cash income and expenditure patterns ➢ Use **Baseline** to identify key constraints and opportunities for different wealth groups, and strategies for minimising/exploiting them ➢ Use **Baseline** to determine gap between current and desired standard of living ➢ Use **Scenario Analysis** to analyse projected impact of proposed social protection measures
Identifying appropriate **market support** interventions	Upper Limpopo, Mozambique MLVP, Ethiopia	➢ **Baseline** used to identify areas of potential for different wealth groups and key market constraints
Monitoring and evaluation		
Monitoring and evaluating the impact of interventions on households	Tigray, Ethiopia MLVP, Ethiopia	➢ **Baseline** used to establish target thresholds for food and income generation and as starting point against which to measure impact ➢ **Outcome analysis** used to show which hazards might interfere with reaching targets so these can be factored into evaluation

In this chapter, we will not go into each of these applications, but instead will use five case studies to demonstrate the general steps involved in translating HEA outcomes into response analysis in different circumstances. In particular, the case studies demonstrate HEA's use in:

- Designing early warning and monitoring systems with the use of scenario planning
- Assessing emergency food and non-food needs
- Identifying appropriate rehabilitation activities in sudden-onset disasters
- Considering appropriate social protection measures
- Designing poverty-reduction programmes

Early Warning, Scenario Planning and Monitoring Systems

The HEA framework has been used as the foundation for food security early warning and monitoring systems in both rural and urban areas. It has been used to design livelihoods-based national food security early warning systems in southern Sudan, Somalia and Malawi. Elsewhere, it has been the means by which livelihoods analysis has been integrated into early warning systems, including in the Sahel where the first multi-country livelihood zoning profiles were developed, taking into account the dynamics of food access at a supra-national level.

Food security early warning systems aim to inform governments and international agencies of impending food crises **before** they occur. The critical distinction between these systems, and general food security assessments, is the requirement for a prediction to be made about how a shock or set of shocks will affect a population in the future. In order for this to happen, the system needs to be able to:

1. predict the shock(s)
2. predict the effects of the shocks on different populations
3. monitor the indicators associated with the prediction

Early warning in much of southern Africa is set in a context of fragile livelihoods, low and deteriorating resources and assets, and shocks. In terms of rain failure, the most common event is not catastrophic drought but the 'bad year' that pushes many poor households over the hunger threshold. In such environments, **early warning efforts require sensitivity to differences which may appear marginal between localities and between households.** There must be an ability to discern whether a small shock might result in a significant food security problem, and conversely whether the market may in some circumstances mitigate the effects of even a relatively large shock. There must be an ability to predict the effect of economic shocks, such as steep rises in the price of grain or the collapse of cash crop prices. And increasingly, systems must give early warning not just of hunger, but of acute impoverishment where people cannot cover essential non-food needs. In sum, quite fine distinctions need to be

Case Study	*General Approach*
Malawi: MVAC System	➢ Develop livelihood-specific seasonal monitoring systems using HEA baselines ➢ Develop problems specifications for key parameters using monitoring data ➢ Create scenarios and run outcome analyses ➢ monitor indicators to track the scenarios ➢ Adjust response plans

made between different types of economic effect on different types of household, which will allow more considered choices about intervention to be made.

At the same time, program planners require significant lead time to set up resource and logistical flows, and once established, they need to know how long assistance will be required. The longer the lead time, the less expensive the delivery of goods tends to be, and the more beneficial the effects. HEA establishes a baseline picture of households' food and income, and their cash expenditure requirements, and then, through the use of scenario analysis, allows the analyst to estimate the likely effects of different shocks or multiple shocks on households' access to their basic food and non-food requirements. It is possible to predict with a high degree of certainty, just how big or small food and income deficits will be even if the effects take time to set in. The following case study details the steps employed in developing the early warning system in Malawi

Case Study 1. Early warning of food crises in Malawi

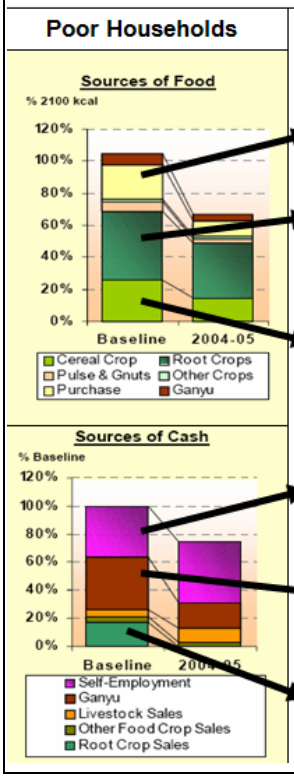
Since 2003 Malawi's Vulnerability Assessment Committee (VAC) has used HEA as the basis for estimating emergency food and/or cash needs. Projections are made in March/April, providing humanitarian agencies with a lead time of eight to nine months before the hunger period starts in December.

Step 1. Develop livelihood-specific seasonal monitoring systems using HEA baselines

Baseline livelihoods data was compiled in 2003 for most of the country. This consisted of quantified data on household livelihood strategies in around eighteen livelihood zones. See the 'baseline' bar in **Box 2** for an example of the type of information produced. (Since that time, more baseline data has been collected in additional zones). On the basis of these livelihood-specific pictures it was possible to focus monitoring activities on priority indicators (called 'key parameters' in HEA) within each zone. (You will have a chance to learn about key parameters in more depth in **Module 4** – *Outcome Analysis* – in the Training Guide.) This helped streamline monitoring activities. Instead of having to re-create the entire food security picture each year, annual assessment activities in March and April could limit their focus on building up the problem specification requirements: cross-checking and refining crop

Box 2. Identifying Key Parameters and monitoring indicators

Central Karonga, Malawi



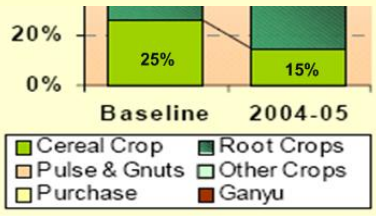
Key Parameter	Indicator to monitor
Food Purchase	Staple food prices
Root Crops	Cassava production
Cereal Crop	Maize production
Self Employment	Price paid for locally produced goods
Ganyu	Wage rates
Root crop sales	Cassava prod. and prices

production estimates – of both cereal and cash crops - and other 'hazard' information such as changes in the price of maize, cotton or tobacco, or changes in the availability of *ganyu* employment.

Step 2. Develop problem specifications for the key parameters

The key parameters were then used to develop a problem specification, based on available monitoring information. In the case of Malawi, these problem specifications are developed in March, just after the third round of crop assessments. The crop production from the March harvest is one of the major determinants of how people will be faring in the consumption year ahead, and especially in the typical hunger period, which starts around December in a normal year. So this information is the one 'known' factor that can be used in developing the problem specification at that point. The other essential information to put together is price information (for cash crop, staple foods and wage rates). Production and price information on the current year is expressed as a percentage of the reference year – which is called the problem specification. See **Box 3**.

Box 3. Example of a crop problem specification from Malawi, 2004-05

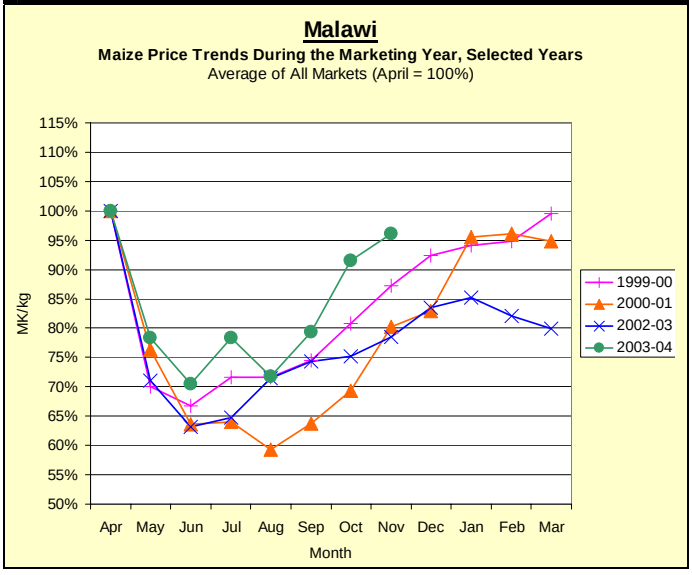


The problem specification for own maize crops in this case is 60% of the reference year. Since, in the reference year, these households obtain 25% of their annual calorie needs from their own maize, with production cut to 60% of the reference year, own maize would cover only 15% of their annual needs in 2004/05.

Step 3. Create scenarios and run outcome analyses

However, because not all of the problem specification data will remain constant over the year (in particular, prices of staple foods and cash crops and wage rates change over the year as supply and demand rises or falls) it is necessary to make some educated guesses about where prices might be at key points in the year. For instance, in Malawi, staple food prices tend to be highest from December through February, when many people have run out of their own stocks and are depending on the market so supply the household's food. See **Figure 1.** (For more detail on this step refer to **Box 3** in Chapter 4.)

Figure 1. Seasonality of cereal prices in Malawi



Given that the market is the most important source of food for households at this time of the year, an estimate of staple prices for the December – February period needs to be made in previous March, at the time of the harvest, and then tracked as the year progresses. In Malawi, three scenarios were generated based on assumptions about grain

prices in the December to February period.

The assumptions are based on an analysis of how the year compares to previous years, and what happened to prices in those years, factoring in the effect of inflation. Once reasonable scenarios are developed, the outcome analysis is run, using – in Malawi's case – a modified version of the F.E.G. Integrated Spreadsheet. (For more guidance on the integrated spreadsheet, refer to **Module 4** of the HEA Training Guide, *Outcome Analysis*).

The output of this analysis includes the number of people who will require food and/or cash relief in all affected districts for each scenario, and which wealth groups will be affected. It also provides a quantitative estimate of how much food and/or cash would be required to fill the gap.

Step 4. Monitor indicators to track the scenarios & adjust response plans

The uncertainty associated with the scenarios is gradually reduced as the year progresses. By monitoring staple prices and other key parameters, it soon becomes clear which, if any, of the scenarios is most realistic.

In Malawi, the most important indicator to track as the year moved on was the price of staple foods. As shown in **Box 4**, it was possible to carefully follow the price trend and compare it with each of the scenario projections month by month, enabling response planners to modify their logistical plans a few months in advance.

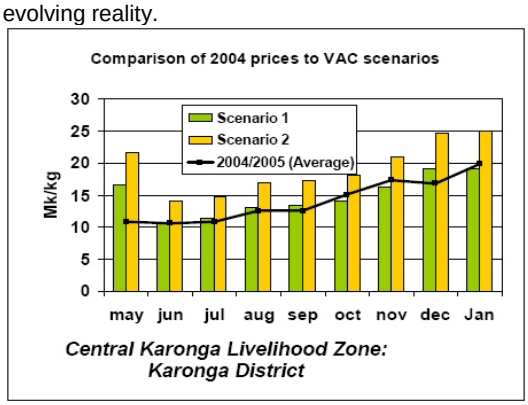
The end result is a projection of food security needs across the country based explicitly on an analysis of households' access to food - that is, taking into account all their sources of food and income, their assets, and their patterns of expenditure - rather than solely their production. See **Figure 2**.

One reason why HEA has been successful in adding value to early warning systems is because the initial investment to obtain the baseline data pays off year after year.

Once established, the baselines become the reference point for each year's analysis, which means that increased focus and time can be spent refining the monitoring systems that produce the

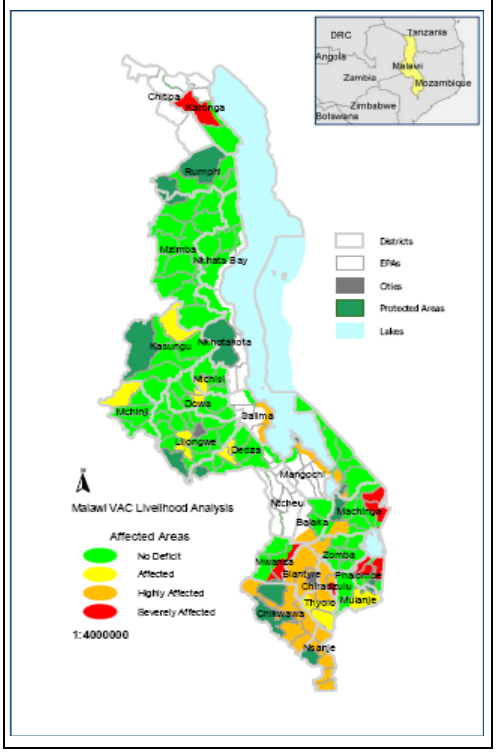
Box 4. Monitoring prices against scenarios

The graph below shows how maize prices from May through December of 2004/January 2005 (*depicted in the black line)* compared to the scenario projections made in March of 2004 (*shown in the green and yellow bars*) in Central Karonga District. In this case the price closely followed the projection made in Scenario 1. In areas where prices were different from the scenarios the outcome analysis and response plans needed to be revised accordingly. Monitoring against vetted and transparent scenarios enables decision makers to quickly revise response plans in line with an evolving reality.



Source: FEWS Malawi

Figure 2. Food security projection: MVAC 2004 results



information necessary for the problem specification. This is an important point of distinction between an HEA-based early warning system and other systems, which tend to gather new reference information each year.

Assessing Emergency Food and Non-food Needs

Central to the challenge of responding effectively to humanitarian crises is the recognised need to improve assessment practice, to achieve a more consistent and accurate picture of the scale and nature of the problems people in crisis face, and to ensure that decisions about response are properly informed by that understanding. The lack of a systems-wide, transparent method for prioritising responses has been identified as a major problem and a contributing factor to the inequitable allocation of humanitarian resources across different contexts. There is a recognised need for greater consistency in the way problems are framed, in terms of observable symptoms, proximate causes and acute risk factors.[1]

Case Study	*General Approach*
Mashonaland, Zimbabwe	➢ Develop quantified profile of current access to food and cash income and expenditure patterns ➢ Compare current and projected access to internationally recognized minimum calorie standards, and locally defined non-food thresholds.

Two other points about food security assessments in particular are relevant here. Firstly, there is a broad consensus that they should provide a basis for determining a broader range of intervention options than is currently the case. This is certainly considered to be the case in southern Africa. RHVP highlights "the increasing prevalence of chronic vulnerability which is not being effectively addressed by orthodox humanitarian responses… [RHVP] seeks to shift the emphasis of policy from ad hoc emergency responses (primarily food aid) to regular, guaranteed and appropriate social protection measures to meet chronic needs."[2]

Secondly, it has been suggested that needs assessments should distinguish more clearly between situations where the primary rationale for food assistance is to save lives and situations where the main rationale is to protect assets or livelihoods[3].

HEA's strengths in needs assessment are that: 1. it is a relatively simple and conceptually clear framework which can be applied across different settings; and 2. it allows for the consistent application of thresholds. The assumptions used in any particular HEA analysis are explicit, and can be challenged and adjusted according to changing circumstances. And because HEA is based on a holistic view of livelihoods – estimating the effect of change on both food and cash income, and on the need to sell assets or forego non-food expenditure – it enables a range of possible interventions to be identified. This is illustrated in the example from Zimbabwe that follows.

[1] Darcy, J. and Hofmann, C-A. (2003)*According to Need? Needs assessment and decision-making in the humanitarian sector*. Humanitarian Policy Group Report 15, ODI, London.
[2] RHVP leaflet, February 2006, at www.wahenga.net/index.php/about_us/about_rhvp/
[3] Darcy & Hoffman

Case Study 2: Mashonaland, Zimbabwe: Assessing Needs in the face of Macroeconomic Shocks

As part of a series of food security assessments across southern Africa following the 2001-2002 drought, SC-UK carried out HEA assessments in the Mashonaland Provinces of Zimbabwe in July and August 2002. The assessments focused on communities that were particularly vulnerable to changes in the wider macroeconomic and political climate, such as the land reform programme and rising food prices, as well as to drought. These included informal mining communities, commercial farming/resettlement areas, and normally food secure communal areas that border commercial areas. One of the objectives of the assessment was to determine households' ability to access food, non-food items and services in those communities at that time, and to predict how this might change over the following eight months.

The analysis showed how access to food over the four months prior to the assessment varied between the different communities. It illustrates how HEA provides the facility to provide (i) a quantitative, comparative picture of the immediate needs of communities with very different livelihoods; and (ii) a qualitative analysis of the fundamental problems facing each community and the risks to which they were vulnerable.

In this case, the very high rate of inflation meant that the most appropriate form of relief was food aid, rather than cash or vouchers. In other situations, HEA has - sometimes in conjunction with market assessments - been used to identify which types of interventions are appropriate, and to determine an effective balance of response.

Step 1. Develop baseline profile of current access to food and cash income and expenditure patterns in order to determine appropriate responses

The first task for the emergency assessment team was to put together HEA baseline information for the groups at risk. This quantified information, presented in **Figure 3**, provided important evidence for determining appropriate emergency food and non-food responses. The descriptions that follow contain a glimpse of that evidence.

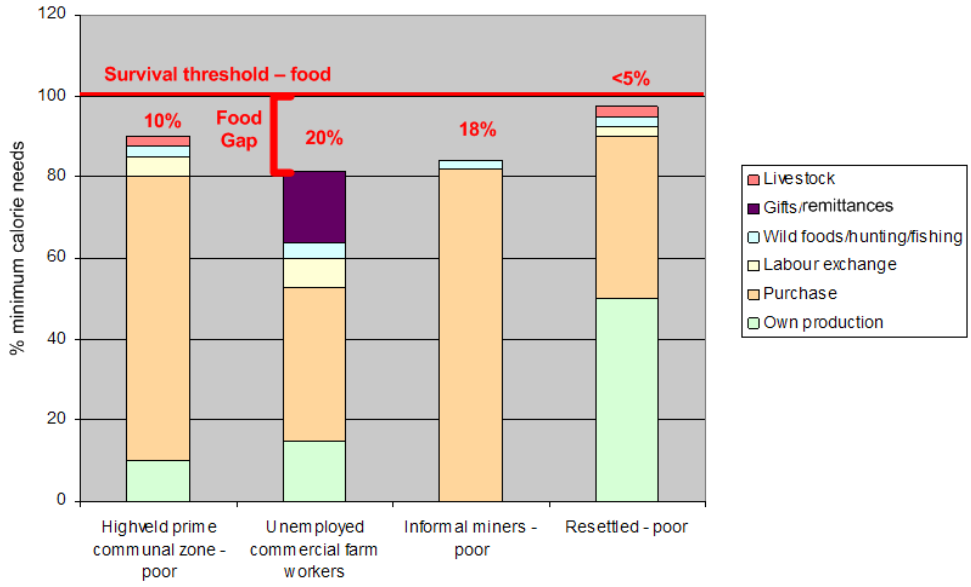
The poor in the highveld communal zone
This is one of the most prosperous areas of communal lands. But the poor have been affected by (i) drought, reducing their own crop production and labouring opportunities; (ii) land reform, reduced labouring opportunities on neighbouring commercial farms; and (iii) high inflation rates for essential items. Appropriate responses: Food aid to close the food gap; improved input provisions to help increase yields.

Unemployed commercial farm workers
Since losing their jobs on the commercial farms, these households have no formal income, and no access to limited casual work provided by newly-settled farmers, who tend to favour fellow re-settlers. Gifts and remittances from relatives on neighbouring farms will dry up as more farms close. Already their food gap is the highest of all four groups analysed. Appropriate responses: In the near term, food aid will be an important option for these households. Because their livelihoods are entirely income-based and, therefore, vulnerable to inflation, direct food aid provisioning, or appropriate market interventions to keep prices stable, is advisable.

Informal miners

Inflation is causing the value of income from mining to decline. These households used to depend on seasonal employment on the neighbouring commercial farms to compensate for seasonal dips in mining income. With the closure of so many farms, this source of cash is no longer open to mining families. Appropriate responses: These households are not vulnerable to drought but are very vulnerable to inflation. Given the rising cost of food and other goods in Zimbabwe, appropriate emergency measure would include free food aid, market interventions to keep prices stable, and/or direct provisioning of non-food goods.

Figure 3. Patterns of food access for poor households in Mashonaland, Zimbabwe following the macro-economic changes



Resettled farmers
These households tend to be more food secure than neighbouring farmers in the communal areas. But they lack the inputs to cultivate more than 20-50% of their allocated land. Appropriate response: There is no need for relief for current consumption, but there is an urgent need for agricultural inputs, credit, and improved infrastructure and service provision.

Step 2. Compare current and projected access to internationally recognised minimum calorie standards and locally defined non-food thresholds in order to determine scale of response

The food gaps represented in **Figure 3** are the basis for determining absolute levels of food aid required. This is the same as the 'survival food' threshold in other HEA graphs. For instance, the poor unemployed commercial farm workers face an annual deficit of around 20%. This is equivalent to approximately 240 kg of maize for a household of 6. This, along with a population figure for the population at risk would provide response planners with the necessary information to estimate food aid tonnage requirements.

The 'survival non-food needs' threshold was not established in this particular case study. However, if it had been, it would include the cost of items necessary to prepare and consume the food (such as kerosene or firewood, salt and oil) and water, depending on local availability of the latter.

Identifying Appropriate Rehabilitation Activities in Sudden-onset Disasters

When sudden shocks, such as floods, tsunamis or earthquakes occur, the tendency for aid agencies is to respond with as much speed as possible, but not always with a great deal of circumspection. Because of the speed with which it can be used, HEA has been an effective assessment tool in sudden-onset disasters, helping provide a framework for determining the most logical and beneficial courses of action. This was the case with an HEA assessment carried out in Pakistan in 2005, which was tasked with considering the impact of the October earthquake on livelihoods in parts of Azad Jammu and Kashmir.

Case Study	*Principles of how to do it*
Earthquake recovery, Pakistan	➢ Map out pre-crisis livelihood strategies, and post-crisis opportunities using HEA baselines and scenario work.

The analysis highlighted the importance of markets to the pre-earthquake rural economy both within and outside the area, which was highly cash-based and strongly linked to urban centres through employment and remittances. With households purchasing more than 70% of their food needs, and with much of their income earned outside the area, it was clear that an understanding of markets was central to an understanding of livelihoods and of how lives could be saved.

Another important feature of HEA in response planning is its ability to highlight and describe (and quantify) the importance of the links between households of different wealth groups, and the links between households and the wider economy. This, along with the points above, is illustrated in the following case study.

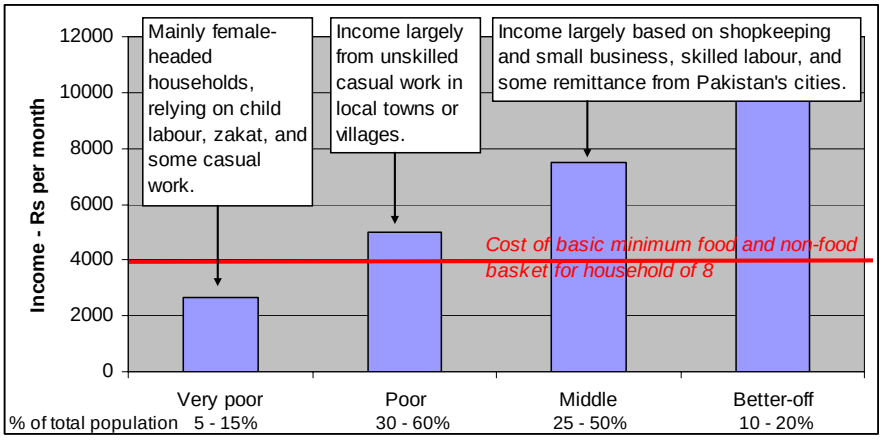
Case Study 3: Pakistan: Integrating livelihoods analysis into post-earthquake recovery programming

Following the earthquake of October 2005 in Pakistan, humanitarian agencies needed to find out what impact the earthquake had had on the livelihoods of different population groups, and what interventions would be effective in promoting livelihoods recovery.

Map out pre-crisis livelihood strategies, and post-crisis opportunities using HEA baselines and scenario work

With its relief effort ongoing, Save the Children UK carried out a rapid (12-day) assessment in Muzaffaradbad and Bagh districts. The resulting wealth breakdown and baseline analysis

Figure 4. Income levels of four wealth groups in affected districts pre-earthquake



(**Figure 4**) showed the different pre-earthquake livelihood patterns of affected wealth groups and enabled a better analysis of ways in which these households' normal modes of living could be restored. It also highlighted just how strikingly poor the poorest group was.

In general the assessment recommended that:

- as markets gradually began to function again, remaining food relief needs should be
- addressed by a gradual substitution of cash for in-kind food aid;

Table 5. Implications for programming from HEA analysis

Aspect of analysis	*Finding*	*Implication for interventions*
Disaggregated income analysis	***Poorer:*** While the earthquake had damaged homes across all wealth groups, it affected the very poor and the poor worst. These households had relied on employment in towns and villages before the earthquake. But the men needed to stay close to home to rebuild their houses. They were also reluctant to leave wives and daughters in tents, which meant that they could no longer access their most significant source of income. ***Better off:*** In contrast, many of the better off were still receiving foreign remittances or government salaries.	***Poorer:*** **Cash support** to families to rebuild their homes to allow men to go back to work. ***Better off:*** Better off are more able to meet their consumption needs.
Looking beyond the village	For the poor, the restoration of livelihoods was also dependent on employment becoming available again in villages and local towns, and on food and other goods becoming available locally as before.	**Markets should be supported** as soon as possible to get back to normal, such as through support for reconstruction and credit to shopkeepers.
Looking at seasonality of income	The poor and very poor earn little or nothing in the winter months (December to February). Normally they rely on credit from local shopkeepers during this time. But shopkeepers were also affected and were not offering credit.	Again, **supporting local shopkeepers** to re-establish themselves will help the poor survive over the winter.
Use of thresholds to identify the chronically poor	The poorest families were predominantly female-headed households. Women very rarely work outside the home in villages and options for making a living for widows are extremely limited.	**Improved long-term social protection programme of regular cash transfer** and of support to keep their children in school for these and other chronically poor households

- until families had rebuilt shelters in villages, or been provided with semi-permanent shelter in camps, free relief was more appropriate than 'for-work' interventions. Cash-for-work activities could be considered after shelter had been restored, although more employment was likely to be available by that time;

- if agencies went ahead with food-for-work activities, they should consider both the labour supply in the household plus the need for families to have cash to purchase non-food needs.

Select conclusions drawn from the analysis and implications for programming are shown in **Table 5**. Perhaps the most important message was that damage to businesses, shops and offices should be considered not as an 'exogenous' factor in relief and reconstruction activities but as central to the successful rehabilitation of livelihoods. Household-level interventions (such as cash transfers) should be complemented with support to the market.

Considering Appropriate Social Protection Measures

Social protection initiatives can be broadly described as those that "provide income or consumption transfers to the poor, protect the vulnerable against livelihood risks and enhance the social status and rights of the marginalised."[4] As such, the concept covers a wide range of both economic and rights-based interventions, from emergency relief and supplementary feeding, pensions, disability allowances, health insurance and agricultural input subsidies to campaigns for workers' rights. Targeted transfers to poor households, on which HEA analysis is perhaps most clearly suited to provide guidance, is just one of many possible social protection measures.

Identifying the most appropriate type of intervention in a given situation is recognised as a key challenge for vulnerability assessment methodologies. HEA offers two important perspectives that can support the decision making process. First, decisions on the most appropriate instrument - including those that seek to effect change within political, social or legal structures - must be grounded in an appreciation of the constraints and opportunities of *households* as they relate to the wider economic and political environment. The effectiveness of an intervention must also be judged by results at the *household* level. HEA offers such a form of analysis. Second, HEA can model the potential impact of different interventions on the household economy, especially in terms of asset ownership and households' ability to afford particular expenditures. This enables decision makers to compare the possible effects of different measures. The following case study outlines the general steps used in applying HEA to a social protection problem.

Case Study	*General Approach*
Singida, Tanzania	➢ Develop quantified **Baseline** profile of current access to food and cash income and expenditure patterns ➢ Use **Baseline** to identify key constraints and opportunities for different wealth groups, and strategies for minimising/exploiting them ➢ Use **Baseline** to determine gap between current and desired standard of living ➢ Use **Scenario Analysis** to analyse projected impact of proposed social protection measures

Case Study 4: Singida, Tanzania: Considering Social Protection Measures

Within Tanzania, there is a national commitment to social protection as an important element of poverty reduction. In 2005, SC-UK undertook a poverty and vulnerability assessment using HEA in Singida, one of the poorest districts in Tanzania. The information was used to

[4] HelpAge Int, Save the Children UK, IDS (2006)

inform a number of different angles on the social protection agenda, including health care provision, guaranteed direct transfers, and land/asset provisioning.

Develop quantified baseline profile of current access to food and cash income and expenditure patterns

The first task of the team was to develop a useful description of household livelihoods which could act as a basis for understanding, in this case, expenditure patterns and the extent to which households could afford to pay fhe CHF enrolment fee. Singida Rural District is located in one of the poorest areas of the country, the semi-arid Central Plateau. The HEA baseline determined that agro-pastoralism is the basis of household livelihoods, and consequently, land holding and animal ownership are the main determinants of household wealth. The better off households generate income by selling their livestock and crop production, and earn upwards of 300,000 Tsh in a typical year. Poorer households face land and labour constraints and rely heavily on working for others, typically earning less than 300,000 Tsh a year, with very poor households only reaching 150,000 Tsh.

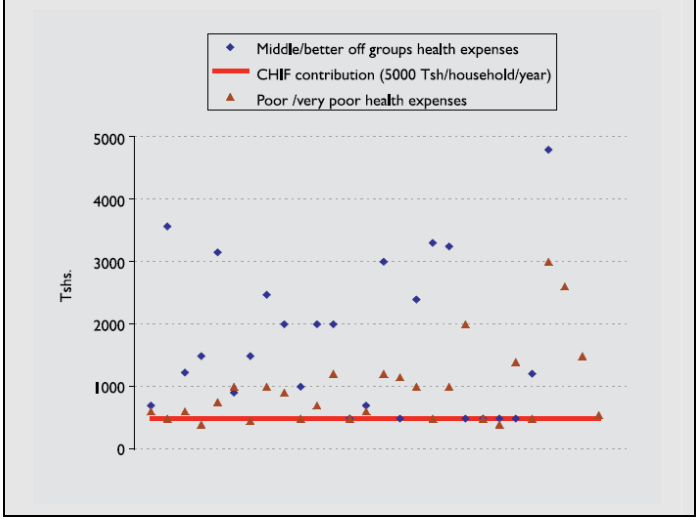
Use baseline to identify key constraints and opportunities for different wealth groups, and strategies for minimising/exploiting them

With respect to the national health care debate, the Government of Tanzania set up a health insurance scheme called the Community Health Fund (CHF) which was designed to provide health services on the basis of annual pre-payment of a 5,000 Tsh fee. The idea is to pool the risks of health costs, ensuring that everyone can obtain affordable care when required. However, only 30% of the population in Singida District was enrolled in CHF, and so, at the time of the study, one of the questions was: why? And were economic barriers a factor in the low enrolment? One angle of the HEA enquiry was designed to address this question.

An analysis of household expenditures showed that poorer households spent significantly less money on health care than richer households. This is illustrated in **Figure 5**. Qualitative information from key informants corroborated this, as it was reported that the very poor and poor are more likely to self-treat when they get sick.

However, it was also noted that the poor, when they spent money on health costs, would pay (over the year) at least 5,000 Tsh or more, indicating that it was theoretically possible for these households to afford the CHF contribution most years. So why was there such a low rate of CHF membership among the poor?

Figure 5. Health expenditure by wealth group



The answer to this question has to do with the way that income is earned for the poor: it trickles in incrementally, from daily labour, with households living on very small margins. The main constraint to paying the CHF fee was the fact that it needed to be paid in one instalment. According to the HEA baseline, and the seasonal calendar, there are seasonal constraints to accumulating a single lump of 5,000 Tsh as well. For example, during the period

when malaria is highest (which is during the rainy season, when food prices are highest as well), poor households typically earn about 500 Tsh/day, which is just enough to cover 3.5 kg of grain. This is the equivalent of 2100 kilocalories for a household of 6. Additional constraints on very poor households are reflected in the competing demand for their limited income and include:

- Over half their annual income needs to be spent on food in a typical year
- It costs around 10% of annual income to send two children to primary school (again a single outlay expenditure).

Better off households, on the other hand, generate a larger amount of cash at one time by selling livestock, and are in a better position to pay the fee at one time.

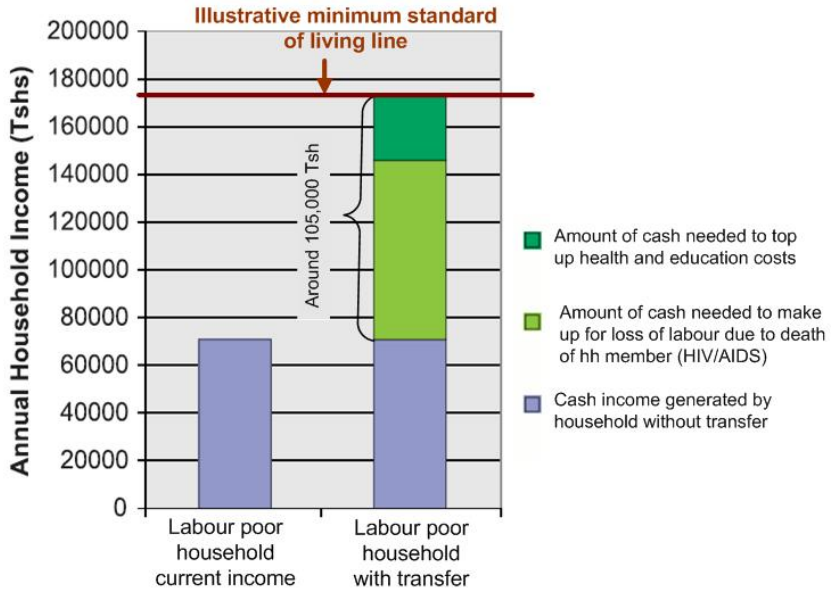
Under the circumstances, it would be difficult for households to pay into a scheme on the basis that it *might* offset costs (but might just as easily be a lost expenditure if no one gets sick) when there are other pressing and certain expenditures to juggle.

So what strategies might be appropriate for minimising the constraints that poor households face to obtaining access to affordable health care? One form of social protection is to institute a policy change that reduces the overall cost of an adequate standard of living by abolishing certain fees. In this case, either a selective waiver for households earning less than 300,000 Tsh, or a universal abolishment of the CHF fee would be appropriate. This would ease the financial burden on poor households while freeing up cash for other pressing needs, such as school, and ensuring they had the same access as better off households to basic and emergency health care.

Use baseline to determine gap between current income and desired standard of living

Many social protection programmes aim to ensure that a particular minimum standard of living is met by all households. This may be achieved by instituting a policy change that brings down the cost of living for all households (as suggested in the health care cost example above) or it may be achieved through providing a targeted guaranteed transfer to households that fall below a minimum threshold. A quantified HEA baseline can help shape an appropriate policy direction (see above example) and it can also help determine who should receive a targeted transfer, and in what amount. For instance, in the Singida case, one group that deserved special attention was the labour poor households. These households had only one productive member, often due to the death of one of the adults to HIV/AIDS, and were at a particular disadvantage in both growing food and earning sufficient income, since

Figure 6. Calculating a guaranteed transfer

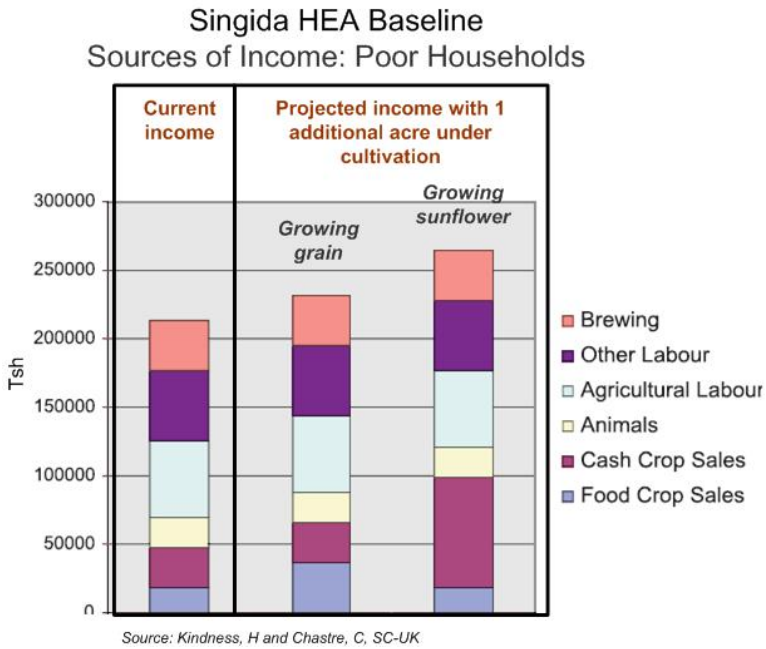


both required substantial labour inputs. A transfer of 70-80,000 Tsh would be roughly equivalent to what an active adult could earn in a year, and would compensate for the loss of this labour. However, this is still below a minimum standard of living, which would include the costs of basic health care for the households and the cost of two children attending school. If you topped up the labour poor household's income to a middle household income, it would compensate for this additional expenditure. Thus it is possible, using quantified income and expenditure information, to argue that an appropriate total transfer to labour poor households would be around 105,000 Tsh a year.

Use Scenario Analysis to analyse projected impact of proposed social protection measures

Guaranteed transfers might be one part of a social protection package; but measures that promote livelihood growth and development form a logical additional component. In the case of Singida, the baseline analysis pointed to land being a critical constraint for poor households. As such, the question became, what effect on income would the cultivation of one more acre have? And what crop would be most beneficial?

Figure 7. Scenario analysis to show income benefits from cultivating one more acre



Scenario analysis helped answer these questions, as shown in **Figure 7**.

If households use the additional acre to grow grain, they will no longer need to purchase food in most years. This will decrease their total expenditure by 38,000 Tsh, and at the same time, they could earn some extra cash from selling some of the extra grain (18,000 Tsh), resulting in a cumulative income effect of 56,000 extra Tsh. If they use the extra acre to grow sunflowers, they could increase their direct income by 51,000 Tsh. Thus, the overall financial gain of growing grain might be greater for the household; however, the flexibility of more direct cash from sunflowers might be more attractive to poorer households, and afford more benefits to the wider economy. Scenario analysis allows for a measured and thoughtful weighing up of different social protection measures, providing some gauge for their potential effect, as well as an initial view into potential detractions. Testing these measures before they are implemented helps save precious money and time, and increases the likelihood of their success.

Poverty Analysis & Poverty Reduction Strategies

Case Study	*General Approach*
Thar desert, Pakistan	➢ Use HEA baselines in discussions with local informants to identify key constraints and opportunities for different wealth groups. ➢ Do causal mapping and analysis to identify how and where (micro and macro levels) the constraints can be minimised and opportunities can be maximized.

An analysis of poverty clearly has a somewhat different focus than an emergency or post-emergency needs assessment. Its aim is usually to help identify possible poverty reduction programmes or strategies, or to provide input into the design of such programmes and the identification of the target population, or to feed into the design of monitoring and evaluation systems. But, while the information is used in a different way, many of the elements of a poverty analysis are shared by other uses of HEA: a consideration of who the poor actually are and their characteristics; the options they have for economic survival; the seasonal patterns of their survival strategies; and the economic and social constraints they face year on year and the origins of those constraints.

Answering important questions about poverty

HEA has been an effective tool for analysing poverty because it:

- Identifies who the poor are
- Maps out their connection to the wider economy
- Quantifies income and expenditure and compares this to minimum threshold levels
- Helps disentangle how households survive through both expected and unexpected changes that occur seasonally, and year to year

HEA has been found to offer insight into the circumstances of the poor, the obstacles that make and keep them poor; and into the kinds of intervention that might make a sustainable economic difference to different groups. First of all, it provides a contextual understanding of the poor and who they are, of their survival patterns and of their access to goods and services. Developing such an understanding – of what survival actually entails for poor people - is the essential first step in any poverty reduction work. Secondly, by considering the connections by which the poor survive over the year – either with better off households within the community or with sources of capital outside the area – it is able to offer an analysis of the constraints faced by the poor not just in terms of their assets, but in terms of the patterns of dependence and obligation that are perpetuated year after year. Thirdly, because it offers a quantitative picture of assets and of income and expenditure among different wealth groups, it allows poverty to be measured and monitored, and thresholds to be set. And finally, it recognises the dynamic context within which the poor live as they try to recover from shocks – price rises, drought, a cut in local employment opportunities. As a predictive framework, HEA provides a means by which the dynamic nature of poor people's livelihoods, often manifested through asset loss and impoverishment, can not only be understood but can be planned for in programme management.

Case Study 5: Thar Desert, Pakistan: Identifying Poverty Reduction Measures

The following case study from work that Save the Children UK did in the Thar Desert in Pakistan illustrates how an HEA assessment can be used to identify interventions that would

be effective in helping the poor, by looking at the constraints facing them and at the potential for developing the few opportunities open to them for earning income or building assets. It shows the importance of starting with an analysis of asset distribution within the community, especially if this is highly concentrated. Since labour is commonly the poor's only productive asset, local relationships between the poor and the better off are of interest. In southern Africa, this is commonly in relation to employment; in the Thar Desert, these relationships centre around land and credit. But in general, where so many have so little, an understanding of the relationships the majority poor depend on to make ends meet, and of the way in which they use their labour from month to month, must guide the design of any intervention package seeking to raise their standard of living.

This case study does not detail each step in the approach used (the approach is summarised in the box on the previous page) but rather presents the conclusions of this process in **Table 6**, below.

Table 6. Links between HEA findings and poverty reduction interventions

Assessment finding	*Implication for interventions*
Land: Almost 60% of the population owns no land and cultivates the land of the better off on a sharecropping basis. In exchange for his labour, the sharecropper gets between 50% and 75% of the harvest depending on the arrangement. In practice, loan repayments are often deducted from the harvest, leaving the sharecropper with very little.	*Ownership of land is the single biggest reason for differences in wealth. Addressing this serious inequity could be very beneficial for poverty reduction. But bringing about changes in land ownership are notoriously difficult to achieve.*
Credit: The giving and taking of loans is a central feature of the economy of the Thar Desert. In an average year, all but the better off take loans – primarily for consumption purposes rather than investment - and spend more than they earn. Money is borrowed in a number of ways: • Landowners provide food or cash to their sharecroppers during the hungry season; • Shopkeepers provide credit; people borrow from moneylenders as a last resort, at very high interest rates. • While the middle group tends to have sustainable levels of debt, the poor and particularly the very poor struggle to repay their constantly accumulating debts, which can be passed from generation to generation.	*Programmes aimed at cancelling debts or at least swapping them for lower-interest loans make sense and should be pursued.*

Livestock: As with land, the better off sometimes have more livestock than they can look after themselves. In certain cases, they hire someone for a monthly wage to herd their livestock. But there is also a practice whereby a poorer family takes responsibility for the livestock for a long period in exchange for half of any offspring that are born during that time, and all of the livestock products (milk and butter) that are produced. This is one of the only ways for poorer families to acquire animals for themselves, as saving income is almost impossible.	*Accumulating livestock is one of the few ways poor households manage to acquire capital. This could be promoted through livestock programmes which help poor households attain small livestock that are resilient and low in maintenance costs. The establishment of small cooperatives could be considered, together with support in marketing and business skills.*
Education: The very low level of asset ownership among the poor – especially of land and livestock but also human capital in the form of education and skills – severely limits the potential for the very poor and poor to accumulate wealth.	*Investment should be made in skills training in sectors where there is likely to be demand – particularly in the coal mining sector which is expected to be developed in the district. Investment in adequate schooling facilities should also be made, to tackle the lack of literacy and basic education which is a huge economic hindrance.*

HEA in this case helped identify the two central features that defined the household economies of the poor: 1. their lack of assets – in terms of land, livestock, education and skills; and 2. their debt problem. By extension, it was possible to make a strong case that a successful poverty reduction strategy must address both the problem of indebtedness and the lack of assets among the poor. Tackling one problem without the other would not accomplish the goal.

PRESENTING AND COMMUNICATING RESULTS TO DECISION-MAKERS

The previous section presented a number of ways in which HEA has been used to inform decision making over the years. The application of HEA baselines and outcome analyses span a wide range of contexts. However, unless the information from these analyses can be conveyed to decision makers in a format and through processes that reach them, the information and the valuable time of hundreds of people – especially busy poor household members – is wasted.

This section of the **Practitioners' Guide**, therefore, aims to discuss effective ways to make sure that important HEA outcomes and response analyses are presented and communicated to decision makers in a way that will increase the chances that appropriate actions will be taken.

Understanding Your Audience

Strategies designed to influence decision makers need to start with an understanding of what decision makers need to know, how decisions are made, and the networks through which decision-makers operate. While, admittedly, there is no single profile of a 'decision maker', there are still common tendencies shared by most decision makers. These are summarised in **Box 5**.

Box 5. Four common decision maker characteristics

- Decision-makers have busy schedules and limited time.
- Decision-makers in development and aid need to coordinate with others and usually require consensus around their actions.
- Decision-makers have to make their case to others, and need the ammunition to do so.
- Decision-makers need significant lead time to acquire resources and logistical arrangements for responses/projects.

Below each of these characteristics is developed into an appropriate strategy or set of strategies for making sure your points reach decision makers.

1. **Decision makers have busy schedules and limited time**. A one- or two-page brief, or a presentation, or direct participation in decision-makers' processes, is the best way to convey the minimum set of information with the maximum effect to people who can take action. There is an important function for a comprehensive baseline or assessment report, but this is not the right tool for translating information into action. Given the time constraints of most decision-makers, it is not reasonable to expect anyone with a busy schedule to read a long detailed report.

2. **Decision makers in the humanitarian community need to coordinate with others and usually require consensus around their actions**. It is critical to engage in the processes and meetings that decision makers attend throughout the annual cycle of planning. This engagement allows you to bring information to the table as soon as it is generated and encourages trust and cooperation. In this context, when information that requires action is available, one of the most effective ways to convey it is through a joint presentation to the key decision makers (donors,

NGOs, government, etc) involved in funding, designing and carrying out the required response. Momentum develops when a room full of key people agree an action is necessary. Follow on meetings are quickly planned, and a sense of joint responsibility and ownership is built.

3. **Decision makers, once convinced, have to repeatedly make their case to others and need the ammunition to do so**. Be prepared to put together a series of briefing papers or notes in response to a decision maker's request. Think in terms of a press kit approach, where saying the most in the least amount of time is critical. Try to imagine the kinds of questions a decision maker might need quickly to have responses for, and provide as many of these answers up front as possible. But for those you missed, be prepared to provide responses with minimal turn around time.

4. **Decision makers need significant lead time to acquire resources and to make logistical arrangements for interventions/projects**. Although HEA practitioners are often not in control of determining when an assessment takes place, keeping this principle in mind is still important. In practice it suggests that the time between the end of an assessment or analysis and the issuance of a briefing note or presentation should be kept to a minimum. Sometimes a full baseline report will need to wait until the core messages can be conveyed. In addition, the timeframe for planning annual needs usually revolves around set budget periods. It is important to ensure that your information is provided in a coherent, concise and logical way as early into the needs assessment planning period as possible in order to ensure that decision makers have an opportunity to incorporate it into their overall request to donors. This may require doing interim scenario-based analyses, and then narrowing down the scope and detail as more information becomes available. This can also help 'whet' the appetite of decision makers, and to generate the demand for more focused analyses as the season progresses.

The Importance of Process

Perhaps the most important principle to keep in mind is that *process is just as important as product*. Without access to decision makers, your messages will never be heard, no matter how true, empirically-based and well-presented. It is through pathways of influence that information reaches those who can make the best use of it. One of the best ways to establish these routes is to build a network of influential partners with intersecting interests in humanitarian issues.

In southern Africa, much effort has gone into building these types of networks. With respect to HEA outcomes, the most important of these are the Regional and National Vulnerability Assessment Committees (R/VACs). These are the forums that guide decisions on how and when to carry out assessments, and they provide a critical link to governments, UN, donors and other NGOs. Building the credibility and capacity of these networks is one important way to solidify the link between high quality information and better response.

A good example of this is provided by the effectiveness of the Malawi VAC in helping to avert a humanitarian crisis in Malawi just a year after the country's 2001/2002 food crisis. As presented in **Case Study 1** above, since 2003, the Malawi VAC has used HEA as the basis for estimating food and cash ''entitlement gaps'[5]. This estimate – because it forms the

[5] An entitlement gap represents the difference between minimum household food and cash requirements and what the analysis project that people will be able to acquire, given certain stated assumptions about market prices. By leaving open the question of how to respond specifically to the gap, the Malawi VAC invites dialogue and planning amongst the donors and program planners, thus building buy-in, coordination and ownership in the process.

consensus view in Malawi and because it is based on a solid and defensible series of analyses – has been included, almost verbatim, by WFP/FAO in their annual CFSAM, providing the basis for annual food needs appeals. By most analysts' accounts, the Malawi VAC was instrumental in linking an accurate early warning with an appropriate and effective response in 2003/4. Not least of the reasons for this was the process of awareness, ownership and consensus building, and capacity development that took place before and during the release of the results of the HEA outcome analysis. Numerous network members took part in the field work to obtain the information on which the projections were based; government staff were trained in the analytical framework used to reach the conclusions; VAC meetings were used as a mechanism for keeping members up to date on findings and conclusions; and the results were circulated before a final draft was issued so that consensus could be achieved.

Four important principles, demonstrated by the example above, underlie most successful processes of engagement in effective networks.

1. Build relationships and trust. It is easy to forget – after five weeks in the field, dusty and tired – that people listen most carefully when they trust you. And trust is a product not just of the integrity of your information, but the quality of your relationships. Take opportunities when you can to strengthen bonds with decision makers and people who have access to them, including their technical advisors who should form part of your network.

2. Stay involved. People move institutions. With the relatively rapid rates of turnover in the humanitarian world, the people of power today may be gone tomorrow, and as they go a new landscape emerges. Opportunities for engagement and influence are constantly changing. It is therefore important to exercise patience, persistence, and a willingness to stay involved, even when the environment seems less than ideal. A seat at the table ensures that when conditions are right, you can move quickly to influence outcomes more positively.

3. Anticipate needs. It is important to keep ahead of the annual planning cycle, staying prepared for the surge in requests for information that comes every year just after the harvest, and mobilizing others to do the same. Working with others to establish a clear planning cycle, with roles and responsibilities outlined and assigned, is a good way to make sure that decision makers get the information they need when they need it.

4. Go the extra mile. There are those who do and those who do more. In the long run, doing more usually means you have more influence – directly or indirectly – on decisions. If you've written more, presented more, gone to more meetings, your influence is stronger by default.

Design Products that Reach Your Audience

Effective processes and high quality information products are mutually reinforcing; hand in hand they are the recipe for translating HEA outcomes into action. A network of dedicated people with no message to gather around soon loses focus and disintegrates. An excellent set of briefing papers with no mechanism for delivery sits on a shelf gathering dust.

The previous section focused on the principles for building an effective network and set of processes. The following section sets out some core principles for generating targeted information products. Three products are given special attention:

1. Decision-maker Briefs;
2. Livelihood Profiles; and
3. Presentations.

Decision-maker briefs

As discussed above, decision makers have limited time, and few read lengthy reports. One- to two-page briefing papers are most effective when trying to convey an important message. You can always provide back up documentation if requested. The principle for designing a good decision maker brief is opposite to that of writing a good academic paper. In academic papers, a case tends to be built slowly by introducing sequential pieces of evidence, and the conclusion comes last, after the case is made.

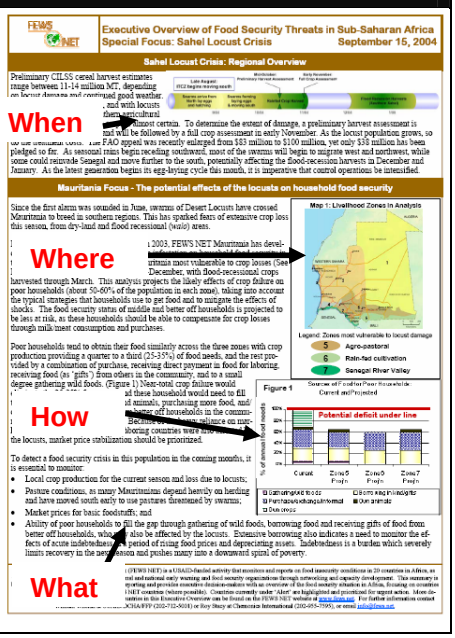
In writing a decision maker brief, you need to start with the conclusion and then support it with relevant evidence. FEWS NET Alerts and Executive Overview Briefs are good examples of effective products – short, concise, and designed to deliver only necessary information. See **Box 6**. Chapter 5, Annex A (on the CD) contains an example of a FEWS NET Alert.

Box 6: **FEWS NET Executive Overview Brief**

A one-page brief can be a powerful means of communicating to decision makers. This example, from the back of a FEWS NET Executive Overview Brief in September 2004, details the likely effects of locusts on households in three livelihood zones of Mauritania. On just one page the most pressing questions facing decision makers at that time were addressed. These included:

- When will the locust damage occur?
- Where will the effects be worst?
- How will households in these areas be affected?
- What needs to be done now?

By focusing just on what the decision maker needs to know it is possible to make your point, include pertinent details, and draw conclusions in a short space. If you hook someone's interest, he or she can always request more information, which puts you in a good position to develop a more fruitful relationship.



A few common elements are included in most FEWS NET Alerts and Executive Overview Briefs. These form a general basis for what should be included in any one-page brief for decision makers:

1. A *visual timeline*: this can be an excellent way to convey a lot of information in a small amount of space. Use this tool to show a whole range of information, such as: when the hunger season sets in, when deliveries should start (and stop), when monitoring of certain indicators needs to take place, when revisions to contingency plans should take place, etc.

2. A *map*: Maps are essential devices for orienting decision makers. Most will not have access to livelihood zone information, so it is essential to provide this information in visual form, highlighting where people will be suffering most from particular shocks, or where they are most likely to be resilient. Keep the maps simple and direct, but use them to maximum effect, annotating with text boxes or arrows where appropriate.

3. A section in which *core messages* are communicated. This section answers the questions: who has been affected; how have they been affected; where are they; what needs to be done? When, and for how long?

Slightly longer thematic briefs on particular subjects customised for specific audiences are also effective. These can be drawn from a baseline report, and are best developed just after an assessment, when information is still fresh. A good example of this kind of product is the Limpopo Development Brief or the Limpopo Food Aid Brief, both of which drew on information obtained during a baseline assessment in Mozambique's Limpopo Basin in 2001. (These can both be found in Chapter 5, Annex A on the CD that accompanies this guide.) Whereas the Baseline Report was written to provide a repository of information about households in the livelihood zone, including standard categories like food and income sources, expenditure patterns, and market access, the Briefs were written to address the concerns of unique target audiences. **Box 7** shows just how different the conclusions from one HEA baseline can be if they are targeted to different audiences.

It is unlikely that you would include this kind of detailed and specific guidance in a general baseline report. But to expect a decision maker to sift through the baseline to pull out relevant information and design these conclusions him/herself is unreasonable. You need to make the logical links explicit, and put them together in a format that is easily readable.

Box 7. Limpopo Basin, Mozambique: Targeted conclusions from decision-maker briefs

Food Aid Brief Conclusions	*Development Brief Conclusions*
1. Non-emergency food aid is not likely to be an appropriate resource in the Limpopo River Basin Complex. Risk-minimizing agricultural practices and highly fertile soils along the river basin guarantee that sufficient food from households' own crop production is obtained every year, and in most years, stocks are more than adequate to last throughout the year. Significant involvement in mining employment in South Africa ensures access to cash income even in years when crop production in the Limpopo Basin Zone is not optimal. 2. Food for work may not be an appropriate distribution mechanism because labor is the biggest constraint to production in this area, not land. With at least two cropping seasons, labor crunch times occur throughout the year. 3. Food aid after a flood in the Limpopo Basin Complex should be carefully targeted. With specific reference to floods, food should be targeted to the 20% of households living along the river basin itself (the baixo areas) and only while markets are being restored. Once food is available in markets, households should be able to purchase food with remittance money from South Africa	1. Development planners need to take into account that the Limpopo River Basin Complex is a high risk, high return area. Efforts of development planners to maximize returns without consideration of the risk-minimizing strategies employed by resident households may increase households' vulnerability to floods. 2. Cassava sales in the *alto* areas and tomato sales in the *baixo* areas are the most important sources of cash income for households with more than ½ ha. Improved marketing of these cash crops would increase incomes for rural households. 3. Animal traction fills an important labor gap in the Limpopo River Basin Complex. Continued efforts at restocking and improved animal health are well-placed. 4. Cashew trees were once an important source of cash income in the Limpopo Basin Complex. Replanting and maintenance of this resource could bring additional income to rural households.

Source: FEWS NET/FEG, 2001, Limpopo Basin Decision Maker Briefs

Doing so greatly increases the chances that the information will be used and converted into action.

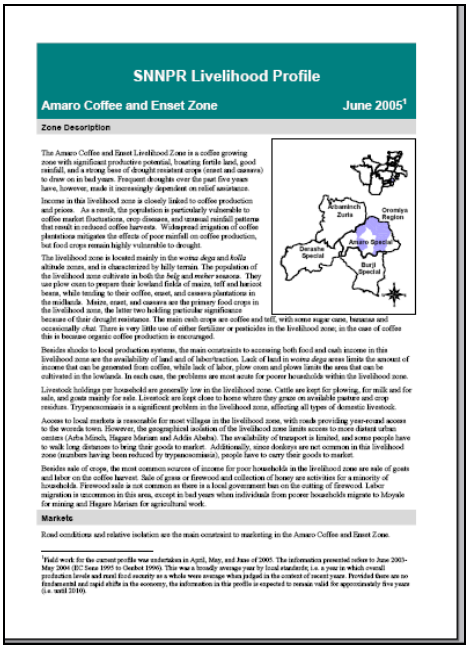
Principles for designing a good decision maker brief include:

1. Anticipate the questions to which decision makers in different sectors need answers (do informal surveys or read papers related to that sector if necessary)
2. Organise the outline of your brief around these questions
3. Respond to the questions concisely. Use only information relevant to the answers in your response.
4. Pull together supporting graphics and evidence.
5. Keep the brief short – anything over five pages is probably too long. Appearances matter. A two-page, double-sided brief does not look as daunting as a four page report, so print double-sided.

Livelihood profiles

The products discussed above – targeted briefs and presentations – are highly digested and audience-specific outputs. They do not capture all the relevant information gathered in a baseline assessment. Livelihood profiles are designed to do just that, but in five pages rather than fifty. The principle, again, is to say as much as possible in as little space necessary. **Box 8** illustrates how this is done. Detailed guidance on how to construct a livelihood profile is provided on the CD that accompanies the Practitioners' Guide in Annex B, *Guidance Notes on Preparing a Livelihood Profile*. An example of a set of Livelihood Profiles from SNNP Region in Ethiopia can be found there as well.

Box 8. Livelihood Profiles: Content and Design



SNNPR Livelihood Profile

Amaro Coffee and Enset Zone June 2005[1]

Zone Description

The Amaro Coffee and Enset Livelihood Zone is a coffee growing zone with significant productive potential, boasting fertile land, good rainfall, and a strong base of drought resistant crops (enset and cassava) to draw on in bad years. Frequent droughts over the past five years have, however, made it increasingly dependent on relief assistance.

Income in this livelihood zone is closely linked to coffee production and prices. As a result, the population is particularly vulnerable to coffee market fluctuations, crop diseases, and unusual rainfall patterns that result in reduced coffee harvests. Widespread irrigation of coffee plantations mitigates the effects of poor rainfall on coffee production, but food crops remain highly vulnerable to drought.

The livelihood zone is located mainly in the *woina dega* and *kolla* altitude zones, and is characterized by hilly terrain. The population of the livelihood zone cultivate in both the belg and meher seasons. They use plow oxen to prepare their lowland fields of maize, teff and haricot beans, while tending to their coffee, enset, and cassava plantations in the midlands. Maize, enset, and cassava are the primary food crops in the livelihood zone, the latter two holding particular significance because of their drought resistance. The main cash crops are coffee and teff, with some sugar cane, bananas and occasionally chat. There is very little use of either fertilizer or pesticides in the livelihood zone; in the case of coffee this is because organic coffee production is encouraged.

Besides shocks to local production systems, the main constraints to accessing both food and cash income in this livelihood zone are the availability of land and of labor/traction. Lack of land in *woina dega* areas limits the amount of income that can be generated from coffee, while lack of labor, plow oxen and plows limits the area that can be cultivated in the lowlands. In each case, the problems are most acute for poorer households within the livelihood zone.

Livestock holdings per household are generally low in the livelihood zone. Cattle are kept for plowing, for milk and for sale, and goats mainly for sale. Livestock are kept close to home where they graze on available pasture and crop residues. Trypanosomiasis is a significant problem in the livelihood zone, affecting all types of domestic livestock.

Access to local markets is reasonable for most villages in the livelihood zone, with roads providing year-round access to the woreda town. However, the geographical isolation of the livelihood zone limits access to more distant urban centers (Arba Minch, Hagare Mariam and Addis Ababa). The availability of transport is limited, and some people have to walk long distances to bring their goods to market. Additionally, since donkeys are not common in this livelihood zone (numbers having been reduced by trypanosomiasis), people have to carry their goods to market.

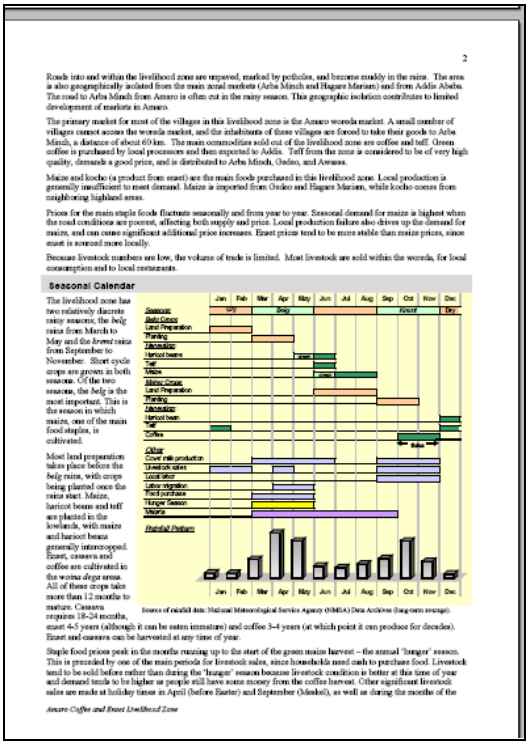
Besides sale of crops, the most common sources of income for poor households in the livelihood zone are sale of goats and labor on the coffee harvest. Sale of grass or firewood and collection of honey are activities for a minority of households. Firewood sale is not common as there is a local government ban on the cutting of firewood. Labor migration is uncommon in this area, except in bad years when individuals from poorer households migrate to Moyale for mining and Hagare Mariam for agricultural work.

Markets

Road conditions and relative isolation are the main constraint to marketing in the Amaro Coffee and Enset Zone.

[1]Field work for the current profile was undertaken in April, May, and June of 2005. The information presented refers to June 2003-May 2004 (EC June 1995 to October 1996). This was a broadly average year by local standards; i.e. a year in which overall production levels and rural food security as a whole were average when judged in the context of recent years. Provided there are no fundamental and rapid shifts in the economy, the information in this profile is expected to remain valid for approximately five years (i.e. until 2010).

PAGE 1: The first page of the Profile normally contains a map showing where the zone is within the country and in relation to administrative boundaries. It also includes a basic introduction to the livelihood zone, including geography, climate vegetation, natural resources, population density etc. A section on markets typically falls on this page, describing patterns of food crop, cash crop, livestock and labour sale within and outside the zone.



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Roads into and within the livelihood zone are unpaved, marked by potholes, and become muddy in the rains. The area is also geographically isolated from the main zonal markets (Arba Minch and Hagere Mariam) and from Addis Abeba. The road to Arba Minch from Amaro is often cut in the rainy season. This geographic isolation contributes to limited development of markets in Amaro.

The primary market for most of the villages in this livelihood zone is the Amaro woreda market. A small number of villages current access the woreda market, and the inhabitants of these villages are forced to take their goods to Arba Minch, a distance of about 60 km. The main commodities sold out of the livelihood zone are coffee and teff. Green coffee is purchased by local processors and then exported to Addis. Teff from the zone is considered to be of very high quality, demands a good price, and is distributed to Arba Minch, Gedeo, and Awasa.

Maize and kocho (a product from enset) are the main foods purchased in this livelihood zone. Local production is generally insufficient to meet demand. Maize is imported from Gedeo and Hagere Mariam, while kocho comes from neighboring highland areas.

Prices for the main staple foods fluctuate seasonally and from year to year. Seasonal demand for maize is highest when the road conditions are poorest, affecting both supply and price. Local production failure also drives up the demand for maize, and can cause significant additional price increases. Enset prices tend to be more stable than maize prices, since enset is sourced more locally.

Because livestock numbers are low, the volume of trade is limited. Most livestock are sold within the woreda, for local consumption and to local restaurants.

Seasonal Calendar

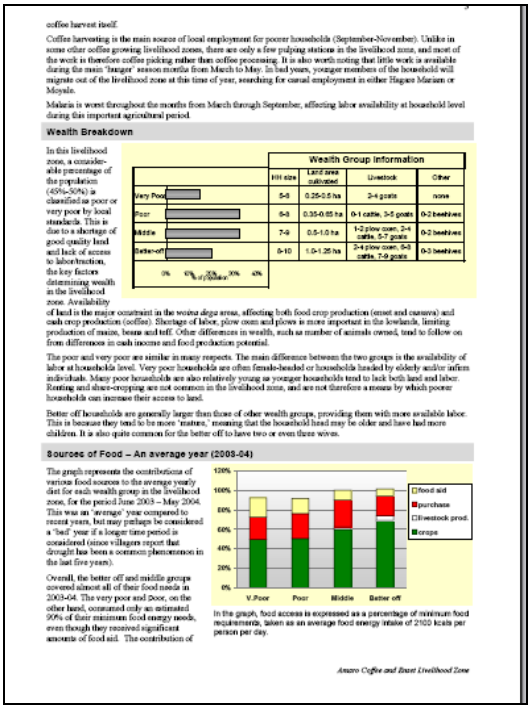
The livelihood zone has two relatively discrete rainy seasons, the *belg* rains from March to May and the *kremt* rains from September to November. Short cycle crops are grown in both seasons. Of the two seasons, the belg is the most important. This is the season in which maize, one of the main food staples, is cultivated.

Most land preparation takes place before the belg rains, with crops being planted once the rains start. Maize, haricot beans and teff are planted in the lowlands, with maize and haricot beans generally intercropped. Enset, cassava and coffee are cultivated in the *woina dega* areas. All of these crops take more than 12 months to mature. Cassava requires 18-24 months, enset 4-5 years (although it can be eaten immature) and coffee 3-4 years (at which point it can produce for decades). Enset and cassava can be harvested at any time of year.

Staple food prices peak in the months running up to the start of the green maize harvest – the annual "hunger" season. This is preceded by one of the main periods for livestock sales, since households need cash to purchase food. Livestock tend to be sold before rather than during the "hunger" season because livestock condition is better at this time of year and demand tends to be higher as people still have some money from the coffee harvest. Other significant livestock sales are made at holiday times in April (before Easter) and September (Meskel), as well as during the months of the

Amaro Coffee and Enset Livelihood Zone

PAGE 2: The second page includes a seasonal calendar, providing details on the timing of the main agricultural and other seasonal activities during the year; showing at which times of year households have access to different sources of food and income; indicating how the market price of staple foods varies seasonally; and highlighting how the timing of a hazard will affect seasonal food security.



coffee harvest itself.

Coffee harvesting is the main source of local employment for poorer households (September-November). Unlike in some other coffee growing livelihood zones, there are only a few pulping stations in the livelihood zone, and most of the work is therefore coffee picking rather than coffee processing. It is also worth noting that little work is available during the main "hunger" season months from March to May. In bad years, younger members of the household will migrate out of the livelihood zone at this time of year, searching for casual employment in either Hagare Mariam or Moyale.

Malaria is worst throughout the months from March through September, affecting labor availability at household level during this important agricultural period.

Wealth Breakdown

In this livelihood zone, a considerable percentage of the population (45%-50%) is classified as poor or very poor by local standards. This is due to a shortage of good quality land and lack of access to labor/traction, the key factors determining wealth in the livelihood zone. Availability of land is the major constraint in the *woina dega* areas, affecting both food crop production (enset and cassava) and cash crop production (coffee). Shortage of labor, plow oxen and plows is more important in the lowlands, limiting production of maize, beans and teff. Other differences in wealth, such as number of animals owned, tend to follow on from differences in cash income and food production potential.

	Wealth Group information			
	HH size	Land area cultivated	Livestock	Other
Very Poor	5-8	0.25-0.5 ha	2-4 goats	none
Poor	5-8	0.35-0.85 ha	0-1 cattle, 3-5 goats	0-2 beehives
Middle	7-9	0.5-1.0 ha	1-2 plow oxen, 2-4 cattle, 5-7 goats	0-2 beehives
Better-off	9-10	1.0-1.25 ha	2-4 plow oxen, 5-8 cattle, 7-9 goats	0-3 beehives

The poor and very poor are similar in many respects. The main difference between the two groups is the availability of labor at households level. Very poor households are often female-headed or households headed by elderly and/or infirm individuals. Many poor households are also relatively young as younger households tend to lack both land and labor. Renting and share-cropping are not common in the livelihood zone, and are not therefore a means by which poorer households can increase their access to land.

Better off households are generally larger than those of other wealth groups, providing them with more available labor. This is because they tend to be more "mature," meaning that the household head may be older and have had more children. It is also quite common for the better off to have two or even three wives.

Sources of Food – An average year (2003-04)

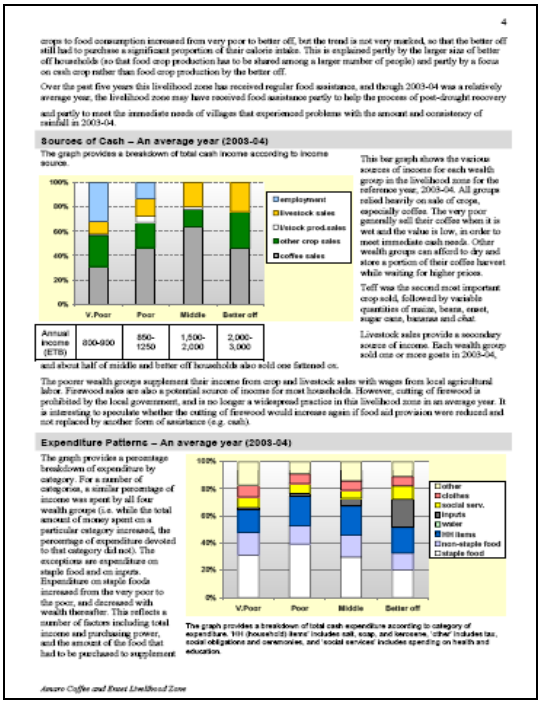
The graph represents the contributions of various food sources to the average yearly diet for each wealth group in the livelihood zone, for the period June 2003 – May 2004. This was an 'average' year compared to recent years, but may perhaps be considered a 'bad' year if a longer time period is considered (since villagers report that drought has been a common phenomenon in the last five years).

Overall, the better off and middle groups covered almost all of their food needs in 2003-04. The very poor and poor, on the other hand, consumed only an estimated 90% of their minimum food energy needs, even though they received significant amounts of food aid. The contribution of

In the graph, food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

Amaro Coffee and Enset Livelihood Zone

PAGE 3: A bar chart showing the percentage of community households in each wealth group is provided on page 3, with details on household size and composition, area planted and type of cultivation, livestock holdings/other assets (ploughs, fishing boats, etc.). This page also includes a bar chart with information on food access for the main wealth groups along with descriptive text, either in relative or absolute terms, depending on the quality of the data.



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crops to food consumption increased from very poor to better off, but the trend is not very marked, so that the better off still had to purchase a significant proportion of their calorie intake. This is explained partly by the larger size of better off households (so that food crop production has to be shared among a larger number of people) and partly by a focus on cash crop rather than food crop production by the better off.

Over the past five years this livelihood zone has received regular food assistance, and though 2003-04 was a relatively average year, the livelihood zone may have received food assistance partly to help the process of post-drought recovery and partly to meet the immediate needs of villages that experienced problems with the amount and consistency of rainfall in 2003-04.

Sources of Cash – An average year (2003-04)

The graph provides a breakdown of total cash income according to income source.

This bar graph shows the various sources of income for each wealth group in the livelihood zone for the reference year, 2003-04. All groups relied heavily on sale of crops, especially coffee. The very poor generally sell their coffee when it is wet and the value is low, in order to meet immediate cash needs. Other wealth groups can afford to dry and store a portion of their coffee harvest while waiting for higher prices.

Teff was the second most important crop sold, followed by variable quantities of maize, beans, enset, sugar cane, bananas and chat.

Livestock sales provide a secondary source of income. Each wealth group sold one or more goats in 2003-04, and about half of middle and better off households also sold one fattened ox.

Annual income (ETB)	800-900	850-1250	1,500-2,000	2,000-3,000

The poorer wealth groups supplement their income from crop and livestock sales with wages from local agricultural labor. Firewood sales are also a potential source of income for most households. However, cutting of firewood is prohibited by the local government, and is no longer a widespread practice in this livelihood zone in an average year. It is interesting to speculate whether the cutting of firewood would increase again if food aid provision were reduced and not replaced by another form of assistance (e.g. cash).

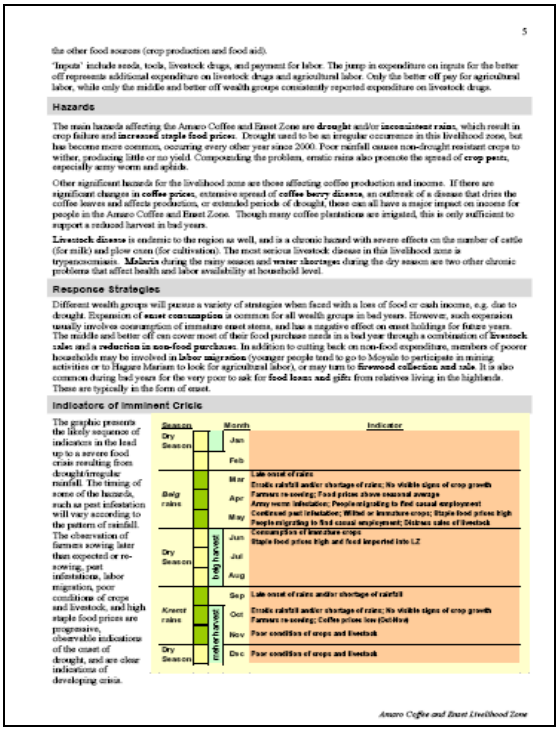
Expenditure Patterns – An average year (2003-04)

The graph provides a percentage breakdown of expenditure by category. For a number of categories, a similar percentage of income was spent by all four wealth groups (i.e. while the total amount of money spent on a particular category increased, the percentage of expenditure devoted to that category did not). The exceptions are expenditure on staple food and on inputs. Expenditure on staple foods increased from the very poor to the poor, and decreased with wealth thereafter. This reflects a number of factors including total income and purchasing power, and the amount of the food that had to be purchased to supplement

The graph provides a breakdown of total cash expenditure according to category of expenditure. 'HH (household) items' includes salt, soap, and kerosene, 'other' includes tax, social obligations and ceremonies, and 'social services' includes spending on health and education.

Amaro Coffee and Enset Livelihood Zone

PAGE 4: The fourth page includes bar chart analyses of both cash income and expenditure for the main wealth groups. A proportional breakdown is given where quantitative data are unavailable. Otherwise, the results are expressed in cash terms, illustrating the difference between wealth groups in absolute terms. The text provides a description of the reasons for differences between wealth groups.



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the other food sources (crop production and food aid).

'Inputs' include seeds, tools, livestock drugs, and payment for labor. The jump in expenditure on inputs for the better off represents additional expenditure on livestock drugs and agricultural labor. Only the better off pay for agricultural labor, while only the middle and better off wealth groups consistently reported expenditure on livestock drugs.

Hazards

The main hazards affecting the Amaro Coffee and Enset Zone are **drought** and/or **inconsistent rains**, which result in crop failure and **increased staple food prices**. Drought used to be an irregular occurrence in this livelihood zone, but has become more common, occurring every other year since 2000. Poor rainfall causes non-drought resistant crops to wither, producing little or no yield. Compounding the problem, erratic rains also promote the spread of **crop pests**, especially army worm and aphids.

Other significant hazards for the livelihood zone are those affecting coffee production and income. If there are significant changes in **coffee prices**, extensive spread of **coffee berry disease**, an outbreak of a disease that dries the coffee leaves and affects production, or extended periods of drought, these can all have a major impact on income for people in the Amaro Coffee and Enset Zone. Though many coffee plantations are irrigated, this is only sufficient to support a reduced harvest in bad years.

Livestock disease is endemic to the region as well, and is a chronic hazard with severe effects on the number of cattle (for milk) and plow oxen (for cultivation). The most serious livestock disease in this livelihood zone is trypanosomiasis. **Malaria** during the rainy season and **water shortages** during the dry season are two other chronic problems that affect health and labor availability at household level.

Response Strategies

Different wealth groups will pursue a variety of strategies when faced with a loss of food or cash income, e.g. due to drought. Expansion of **enset consumption** is common for all wealth groups in bad years. However, such expansion usually involves consumption of immature enset stems, and has a negative effect on enset holdings for future years. The middle and better off can cover most of their food purchase needs in a bad year through a combination of **livestock sales** and a **reduction in non-food purchases**. In addition to cutting back on non-food expenditure, members of poorer households may be involved in **labor migration** (younger people tend to go to Moyale to participate in mining activities or to Hagere Mariam to look for agricultural labor), or may turn to **firewood collection and sale**. It is also common during bad years for the very poor to ask for **food loans and gifts** from relatives living in the highlands. These are typically in the form of enset.

Indicators of Imminent Crisis

The graphic presents the likely sequence of indicators in the lead up to a severe food crisis resulting from drought/irregular rainfall. The timing of some of the hazards, such as pest infestation will vary according to the pattern of rainfall. The observation of farmers sowing later than expected or re-sowing, pest infestations, labor migration, poor conditions of crops and livestock, and high staple food prices are progressive, observable indications of the onset of drought, and are clear indications of developing crisis.

Season	Month	Indicator
Dry Season	Jan	
	Feb	
Belg rains	Mar	Late onset of rains Erratic rainfall and/or shortage of rains; No visible signs of crop growth
	Apr	Farmers re-sowing; Food prices above seasonal average
	May	Army worm infestation; People migrating to find casual employment
Belg harvest	Jun	Continued pest infestation; Wilted or immature crops; Staple food prices high People migrating to find casual employment; Distress sales of livestock
Dry Season	Jul	Consumption of immature crops Staple food prices high and food imported into LZ
	Aug	
Kremt rains	Sep	Late onset of rains and/or shortage of rainfall
	Oct	Erratic rainfall and/or shortage of rains; No visible signs of crop growth Farmers re-sowing; Coffee prices low (Oct-Nov)
Kremt harvest	Nov	Poor condition of crops and livestock
Dry Season	Dec	Poor condition of crops and livestock

Amaro Coffee and Enset Livelihood Zone

PAGE 5: The last page provides information on hazards that affect the livelihood zone, typical responses of households in the zone, and indicators of imminent crisis. These sections attempt to summarize how chronic and periodic hazards affect access to food and income for different wealth groups and how these households cope. Information here also helps provide better monitoring guidance, by suggesting what events precede a food crisis.

Presentations: Principles of good design and delivery

Presentations can be an effective way for you to get your message across to a large group of people. The critical mass required for turning a solitary conviction into a collective response is easiest to achieve in a room full of people. A report delivered on the desk of twice as many people may interest a few, but it is consensus that builds the pressure that leads to action.

However, presentations can backfire, depending on how they are conceived, designed and delivered. According to a survey of over 600 PowerPoint audience members, the most annoying aspects of PowerPoint presentations are[6]:

- The speaker reading the slides to the audience
- Text so small the audience couldn't read it
- Slides that were hard to see because of colour choice
- Full sentences used for text instead of bullet points

Putting together an effective presentation requires a set of skills that are different from writing a technical report. You need to construct a compelling story line and find the shortest possible path for delivering your core messages while at the same time providing enough empirical evidence to be convincing.

The guidance points below are provided to help ensure that in presenting important HEA outcomes you hook your audience, convince them of the quality of your analysis and results, and help translate your information into action.

Content

As with other targeted products, the key to providing information in a way that leads to results is to limit your content to the 'need to know' category. Start by deciding what core messages you want the audience to take away from the presentation. Then reverse your angle to see just what information is required to provide convincing evidence to support that message. Sketch out your presentation based on the logic of these messages and the supporting evidence. Leave out any extraneous details or tangential findings. Cut to the chase. Don't start with the slide on methodology or background, for instance. Consider leaving those types of details in a set of slides that you have available if someone in the audience asks a question on a specific subject. Focus instead on the conclusions and recommendations that came out of your analysis. Build your case, but only after you've made your messages clear.

Content Tips

- Don't pack too much information onto a slide. As a rule, one idea per slide.
- Limit yourself to no more than 6 lines per slide, and 6 words per line.
- Don't put your talking points on the slide.
- Start with an outline of the presentation. If necessary, come back to it occasionally to re-orient the audience.
- Do not count on people to remember details – keep the messages simple and concrete.
- Start with the big picture and narrow down to the details – but only the details you need to make your point.

[6] David Paradi, www.communicateusingtechnology.com

Design

The design of your slide has a lot to do with the ease and effectiveness with which you convey your messages. Three aspects of design are particularly important in presentations: the use of colour, animation, and fonts. Tips related to each of these are provided below.

Colour

- Be smart in your use of colours. Colour can be an effective way to convey information (through colour-coding different pieces of information), but misusing, or overusing colour can cause your audience to tune out or become agitated.
- The background of your slides should be consistent throughout the presentation. If you choose to use a colour for the background, keep in mind that it will constrain your choice of colours in charts and other graphics, since only contrasting colours will show up. Stay away entirely from dark green and reds, as they do not project well.
- Remember: contrasting colours – if your background is dark, make sure to use white or light-coloured text. If your background is light, use dark text colours.

Animation

Animation can help you do two things more effectively:

1. introduce a list of items one by one, so your audience has time to digest each;
2. connect a series of related ideas, or describe the evolution of an event or system

- Do not use animation for its own sake. It can be distracting to the audience, and does not convey the seriousness of tone that the subject matter requires.
- If you plan to print out the presentation, and your animation layers text or graphics on top of each other such that the slide is unreadable, consider an alternative means of animation which can be achieved by inserting a series of duplicate slides that add each piece of information (or remove pieces of information) in sequence. The 'animation', then is achieved by moving from slide to slide.

Fonts

There are three basic categories of fonts: Serif, Sans-Serif and Script.

- Serif fonts have an extra tail on the end of each letter. Times Roman, Bookman, Garamond and Century are examples of Serif fonts. It takes the eye longer to read a serif font, so it can be a good choice for a title font on a slide so that the viewer takes his time to understand the topic of the slide.
- Sans-serif fonts do not have the tails at the end of letters. Examples of sans-serif fonts include Arial, Century Gothic, Helvetica, Lucida Sans, Tahoma and Verdana. These fonts are easier to read, so it is best used for body text on a slide so that the viewer can quickly read the point and return their attention to the speaker.
- A script font is one that tries to emulate handwriting, such as Brush Script, Edwardian Script, Freestyle Script, French Script, Papyrus and Vivaldi. A script font is difficult to read and should not be used on a slide.
- Use a combination of upper and lower case. The combination generally makes it easier to read than all upper case.
- For title fonts, use between 36 and 44 point
- For main body font, use between 28 and 32 point
- For sub-point fonts, use between 24 and 28 point
- The minimum font size on a slide should be 24 point. Any smaller and your audience will have difficulty reading the slide. You should try to use as large a font as possible so that it is easy to read.

Graphics

Graphics can be a particularly effective way to convey HEA information and to support your arguments. It is very important, however, to design your charts and graphics with clarity in mind. Keep them simple, and make sure to explain them to the audience. Don't assume that the audience will be able to immediately digest your charts. Use them as an opportunity to go into some of the detail that is necessary to convince your audience of the empirical nature of the field information, and to support your main messages. Too many graphics, however, can lead to presentation overload. So choose carefully and strategically, making sure to vary your slides, inserting text slides between graphics, and photos between text.

Graphics Tips

- To test if your audience will be able to read the fonts on your chart, stand at least 12 feet from your monitor. If you can still read the chart, keep it. If not, modify it or do not use it.
- Label axes clearly with large fonts.
- Explain your graphics – use them to their full advantage. Take the time to make sure your audience understands the significance of the information contained in the graphic.

Presenting

Make sure to practise your presentation. Stumbling from slide to slide makes you look unprofessional. It is particularly important to know what is coming in the next slide, and to practise the transitions between slides. Memorise key phrases to help you make good segues. Most importantly, NEVER read from your slides. The slides are meant to provide a visual aid for your audience, not a cheat sheet for the presenter.

Public Speaking Tips

- Stand up and keep eye contact with the audience.
- Be aware of any nervous ticks you have (such as constant fidgeting, pacing or rocking) and contain these during the presentation
- Make your movements count. Move to the screen only when you want to emphasize a detail on a slide, otherwise keeping it clear of your presence.
- Keep the lights on. Using a white background will help ensure the slides are visible in a well lit room.

THE PRACTITIONERS' GUIDE TO HEA

Chapter 6: Adaptations of HEA

6 ADAPTATIONS OF HEA

The household economy analytical framework can be used in a wide variety of different settings, making it both a consistent and a flexible tool. In recent years the approach has been used to assess both rural and urban populations, pastoral, agro-pastoral and crop-dependent groups and refugees and the displaced. HEA has also been used in emergency situations (where speed is usually of the essence, and a rapid and highly targeted approach is required) and more formally to strengthen national and sub-national early warning systems (in which case more time can be taken to develop 'full' baselines and to integrate these into regular monitoring and seasonal assessment activities). While the overall objective in each situation remains the same — namely, to analyse the access that different groups have to food and cash income in relation to their basic survival and livelihood needs — the details of the analytical approach vary from one context to another. In this chapter guidance is provided on the use of the approach in three different situations: urban areas, pastoral areas and the rapid assessment of emergencies.

After reading this chapter, practitioners should understand the main differences between undertaking an HEA assessment in an agricultural and urban environment. They should be able to describe the main characteristics of urban livelihoods and explain what specific assessment and monitoring modifications these differences lead to. In addition, practitioners should be familiar with the term herd composition, and be able to explain why it is crucial to know about different livestock herd dynamics before doing a pastoral assessment. Seasonality, and the role it plays in outcome analysis in pastoral areas, is also a critical learning point for practitioners, highlighted in this chapter.

Mark Lawrence wrote the urban and pastoralist sections of this chapter; Michael O'Donnell wrote the section on adapting HEA to make it more rapid

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RELATED CD FILES

The CD that accompanies the **Practitioners' Guide** contains the following files relevant to Chapter 6, found in the Chapter 6 directory:

- **Annex A: Urban Interview Formats**
  - Urban Interview Format 1_Community Level
  - Urban Interview Format 2_HH Representative
  - Urban Assessment Checklist - Harare
  - Urban Assessment Checklist - Hargeisa
- **Annex B: Urban Profile Preparation Form**
  - Guidance Notes for Preparing Urban Profiles
- **Annex C: Pastoralist Interview Formats**
  - Pastoralist Interview Format 1_District
  - Pastoralist Interview Format 2_Market Trader
  - Pastoralist Interview Format 3_Community Representative
  - Pastoralist Interview Format 4_Household Representative
- **Annex D: Pastoralist Profile Preparation Forms**
  - Guidance Notes for Preparing Pastoralist Livelihood Zone Profiles
  - Blank Pastoral Livelihood Zone (2 WGs)
- **Annex E: Rapid Assessment Checklist**
  - Checklists for Rapid Assessments

RELATED TRAINING SESSIONS

The **HEA Training Guide** provides the following module relevant to Chapter 6:

MODULE 6: ADAPTATIONS OF HEA

URBAN AREAS

Background

In recent years, HEA assessments have been conducted in urban areas in a number of countries, including Zimbabwe, Djibouti, Somaliland, Angola, Palestine, Serbia and Kosovo. These assessments have generally been undertaken for one of two reasons. Either there has been an understandable concern to learn more about the burgeoning urban population in many developing countries, and especially the conditions in the poorest areas and shanty towns. Or there has been interest in assessing needs following internal conflict (e,g. Angola, Kosovo) or urban unrest (e.g. Zimbabwe). In most cases the purpose of the work has been two-fold: to judge the level of immediate need, and to set up systems for the on-going monitoring of urban livelihoods. Some of the shocks to which urban households are vulnerable are listed for three cities in **Box 1**. These shocks vary from place to place, but all have in common the potential to affect either the cash income or the expenditure of poorer households. A particular concern in Harare – and presumably in other cities with high rates of HIV infection - is the potential effect of AIDS.

Box 1: Shocks to which urban households are vulnerable

Harare (Zimbabwe)

- Inflation: price increases (rents, electricity, bus fares)
- Formal sector job losses
- Crackdown on 'illegal' businesses in the informal sector (loss of goods, tools, capital)
- Illness or death of (or divorce from) the main income earner (often AIDS-related)
- Unexpected large expenses (e.g. funerals, medicines - again often AIDS-related)

Djibouti

- Changes in Government Policy affecting
  - Salaries
  - Pensions
  - Cost of food items
  - Cost of non-food items (water, electricity, schooling, etc.)
  - Migration into the city
- Variations in activity in the port and construction sectors that affect the availability of casual labour
- Variation in livestock and crop production in the areas supplying Djibouti with sorghum, meat, vegetables and *qat*.

Hargeisa (Somaliland)

- Exchange rate fluctuations that lead to increased imported food costs
- Decline in the construction sector (bans)
- Restrictions on trade with Ethiopia and abroad (e.g. qat)
- Restrictions on or reductions in remittances

Main characteristics of urban livelihoods

The major difference between urban and rural areas is, obviously, the lack of access to own production and the heavy dependence on the market not only for food but also for many non-food items that are either free or can be collected free of charge in rural areas (e.g. accommodation, cooking fuel, water). This means that poor urban populations are highly vulnerable to changes in market conditions and especially to changes in the price of basic food and non-food commodities.

Another difference is the source of cash income. Regular formal employment and business are the most obvious options in an urban setting, but these tend to be the preserve of middle and better-off wealth groups. Very poor and poor households are frequently active in the (often very large) informal or 'grey' economy. At this level, casual labour, petty trade and small-scale business are the main income generating activities (**Table 1**).

Table 1: Types of income generating activity by wealth group, Harare (2001) And Djibouti (2003)

	Harare	*Djibouti*
Very Poor	*1 income source per household:* • Salary - some factory workers, security guards, domestic workers • Petty Trade - e.g. vending	*1 income source per household:* • Petty trade - school snacks, bread, prepared foods, vegetables, tea stalls • Casual labour - dockers, construction workers, market porters
Poor	*2 income sources per household:* • Salary – same activities as very poor • Petty Trade - e.g. vending • Home industries - small tuck shops, carpenters, welders, hair salons	*1 income source per household*: • Salary/Pension - cleaners, taxi drivers • Petty Trade - qat, small kiosks, meat sellers *2 income sources per household:* • Petty Trade + Casual Labour
Middle and Better-off	*1-2 income sources per household:* • Salary – most private and public sector employees • Business – various types, including renting out of rooms.	*1 income source per household:* • Salary/Pension – most private and public sector employees • Business - shops, restaurants, minibuses, qat importers/distributors *2 income sources per household:* • Skilled Casual Labour (electricians, masons) + Petty Trade • Salary + Business

Total income depends not only on the type of income-generating activity, but also the number of income sources per household. The poorest households are typically those with only one source of income. This may either be because there is only one individual able to work (e.g. many female-headed households, or many households affected by HIV/AIDS), or because the household cannot accumulate enough capital to start even the smallest of petty trade or business activities. At the other end of the scale, salaries and business activities often go together, since it is the salary that provides the capital required to start the business (or to sustain the business through a difficult patch). And business activities are often necessary to supplement the relatively low salaries on offer in developing countries, especially in the government sector. Other sources of income that should not be neglected in urban areas are pensions and social welfare payments. Where these exist, they may be the only regular source of cash income that poor households receive.

It is possible that borrowing and debt are more significant factors in an urban than a rural setting. There are two reasons for this. Firstly, there are many fixed costs that cannot easily be avoided (food, rent, water, electricity, school fees, transport etc.), and there may also be unexpected large expenditures, such as medical or funeral expenses. Secondly, there may be more chance of obtaining a loan, both because loan institutions are more active in urban

areas and because urban households can offer a better guarantee of repayment, either because they have a regular salary or because they own property that can be advanced as collateral.

Clearly, in an urban area there are fewer opportunities to grow crops or to keep livestock, but that does not mean that these activities do not exist at all. It may be quite common in some areas for people to grow a little food in a garden, allotment or other plot. Similarly, it is not unusual for a small number of animals to be kept, even if it is only a few chickens or a goat in the back yard. These should not be entirely ignored in a household economy assessment. Opportunities for own production will of course tend to increase the further one is away from the city centre, and may be quite substantial in peri-urban areas where house plot sizes may be larger and settlements may be interspersed with fields or grazing land. In these areas, vegetable production for the urban market may be an especially important source of cash income. If work is to be done in a peri-urban area, a choice will have to be made between the field method for agricultural areas (see Chapter 3) and the urban assessment method described in this chapter, or, alternatively, elements of the two will have to be combined.

Urban households may also have close links to rural relatives, especially if they are themselves relatively recent migrants from a rural area. This may result in several types of mutual assistance. Rural relatives may send food (or urban households may collect it while on visits home), while urban migrants may send gifts in cash or in kind. Or a rural relative may come to work for a better-off household as a domestic servant, or be sent to live with an urban relative while attending secondary school.

Since there are fewer year-to-year and seasonal variations affecting urban areas it may, at first sight, seem that the timeline and seasonal calendar exercises are less important for an urban enquiry. In fact this is not necessarily the case, and both exercises may yield important information on urban livelihoods.

Box 2: Timeline of events affecting the economy of Djibouti (2003)

Year	*Month*	*Event*
1998	May	• Re-routing of Ethiopian trade from Asab to Djibouti, following war between Eritrea and Ethiopia
1999	Oct	• Second phase of structural adjustment initiated (Oct 1999-Jan 2003)
2000	Feb Jun Oct	• Peace accord signed ending internal conflict in north of the country that began in Nov'91 • Agreement signed with Dubai Port Authorities for management of port • Djibouti ratifies trade accord with COMESA, ending tariffs and trade barriers
2001	Apr Oct	• Djibouti closes border with Somaliland (until June 2002) • Return of Djiboutian refugees from internal conflict
2002	Jan Jun Sep Oct	• German and Spanish warships arrive in Djibouti to patrol Red Sea shipping lanes in support of US actions in Afghanistan • Agreement signed with Dubai Port Authorities for management of airport • Approximately 900 US troop arrive to establish base for anti-terrorist activities • Tightening of border controls by Ethiopia (on-going)
2003	Jan Jul Sep	• Multi-party elections • Foreign migrants told to leave Djibouti • 70,000 – 100,000 foreign migrants expelled to Ethiopia, Eritrea and Somalia

Box 2 indicates the main changes affecting Djibouti City (an important Red Sea port and international military base) in the six years before an urban assessment undertaken

in 2003. Both port and military activity had increased, for a number of reasons. At the same time, structural adjustment and the privatisation of the port and airport had had significant effects on levels of formal employment and wages and, finally, the expulsion of foreign migrants in 2003 had a number of impacts (e.g. reducing competition for low-paid work, reducing demand for basic goods and services).

Seasonal variations can also be significant, and a further example from Djibouti is given in **Table 2**. The most difficult time of year in Djibouti is the summer, when maximum temperatures reach 40°C and humidity remains consistently above 50%.

Table 2: Seasonal factors affecting expenditure and income in Djibouti City

Summer (May-Sep):
- Increased electricity consumption (fans and air-conditioners)
- Increased requirement for water
- Seasonal out-migration to cooler areas (reducing opportunities for casual labour and petty trade)
- Increased fire risk in shanty towns (destruction of houses)
- Reduced opportunities for fishermen (late summer, due to unfavourable winds)

Winter (Oct-Apr):
- Schools open (fees, textbook and transport costs)
- Increased production in local vegetable gardens
- Post-harvest season in areas supplying Djibouti city with sorghum

Monitoring urban food security

In rural livelihood zones there is almost always a regular seasonal cycle of production and consumption and therefore a clearly defined consumption year which typically begins immediately after the main harvest. This is the logical timeframe for analysis. The same is not true of an urban area, where seasonal variations are less marked and the timing of hazards affecting urban livelihoods is less predictable. This means that it makes more sense to monitor urban livelihoods on a regular – usually monthly – basis rather than to conduct one-off assessments once or twice a year.

Table 3: Proposals for monitoring urban livelihoods in Djibouti and Harare

Djibouti	
What to monitor?	**How to monitor?**
Cost of a basic expenditure basket of food and non-food items	• Monthly market price surveys
Government policy affecting: • levels of government employment and salaries • the cost of food items • the costs of non-food items (water, kerosene, electricity, schooling, health care etc.) • migration into the city	• Media and Government publications
Activity in the Port and Construction Sectors	• Port statistics • Construction project data
Livestock and crop production in areas supplying Djibouti	Information from early warning projects in neighbouring countries
Harare	
What to monitor?	**How to monitor?**

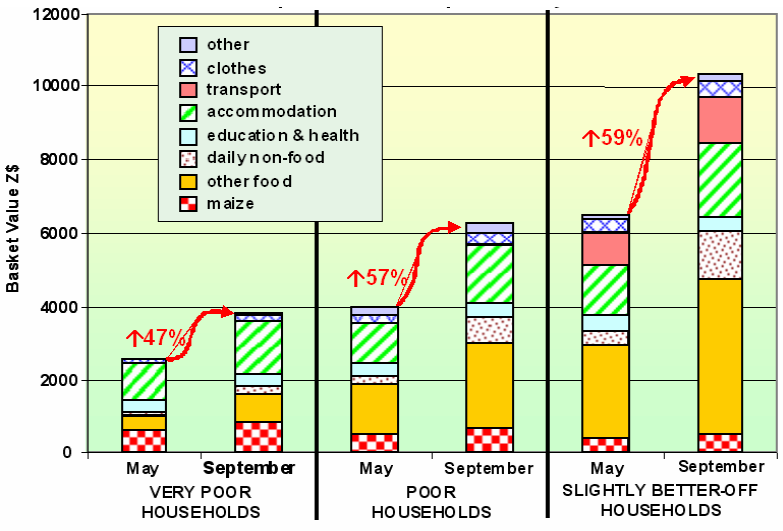
Table 3: Proposals for monitoring urban livelihoods in Djibouti and Harare	
Cost of a basic expenditure basket of food and non-food items	• Monthly market price surveys
Formal sector employment and salaries	• National Employment Councils (NECs) for each industrial sector. • Government gazettes, which are published periodically when new wage agreements are signed by NECs. • The Zimbabwe Congress of Trade Unions (ZCTU) for information on wage agreements and changes in numbers employed. • The Ministry of Labour, which monitors retrenchments and wages. • The Registers of Companies and Financial Institutions, which monitor company openings and closures.
Informal sector incomes	• Monthly survey of incomes/profits in informal businesses
Indicators of 'coping'	• Non-payment of electricity and water and percent being cut off (District Offices) • Non-payment of school fees (Ministry of Education or directly from a sample of schools) • Malnutrition at clinics (Ministry of Health, Food and Nutrition Centre, or directly from a sample of clinics) • Movement into peri-urban areas (e.g. reports from the NGO Inter-country Peoples Aid)

Urban monitoring involves keeping track of changes in both expenditure and cash income. Monitoring expenditure involves defining an expenditure basket, usually for a poor or very

Case Study 1 : Monitoring urban livelihoods in Harare, 2001

In 2001, rampant inflation in Zimbabwe was one of the main threats to urban livelihood security. Regular price monitoring showed substantial increases in the cost of the expenditure basket for all wealth groups. Parallel monitoring of formal sector wages showed an annual increase of 65% in the minimum wage from 2000-2001, i.e. just sufficient to cover 4 months of price inflation (see figure). The picture for the informal sector was mixed, with income from some businesses keeping pace with inflation, while others lagged behind.

The Rising costs of household expenditure baskets September 2001 compared to May 2001



On-going monitoring showed increasing disparities between income and expenditure throughout 2001

poor wealth group, and then keeping track of changes in the cost of this through a system of market price monitoring. This is relatively straightforward. Keeping track of changes in cash income is much more difficult, especially as much of this income may be derived from informal sector activities. Cash income can be tracked in a number of ways. In Harare, where informal trading and business activities are especially important, it was proposed to undertake regular 'mini'-surveys, tracking incomes and profits of a sample of small-scale businesses (**Table 3**). In Djibouti, on the other hand, the proposal was to monitor the cash incomes of the poor indirectly, by tracking the amount of bulk cargo offloaded at the port and by monitoring progress with the various construction projects around the city – these activities together account for a significant proportion of local casual employment.

Case Study 2 : Scenario of the effect of increasing kerosene prices on very poor households in Djibouti

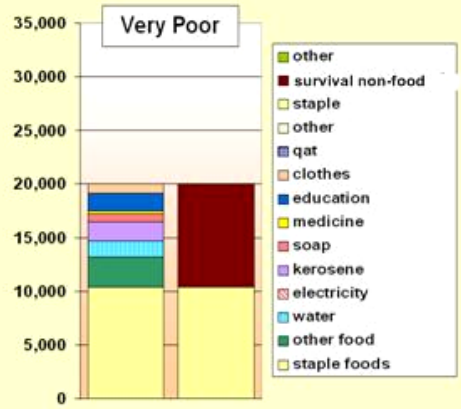
Scenario analysis in an urban setting is carried out in much the same way as for a rural analysis, except that there is greater focus on questions of expenditure. The basic principle is to consider the effect of the hazard on each of the baseline sources of expenditure, cash and food, and to consider ways in which households will try to cope with the problem, i.e.

Outcome = Baseline + Hazard + Response

<u>Step 1</u>: Categorise baseline expenditure as:

- Staple,
- Survival Non-food
- Other.

Expenditure levels by very poor households in Djibouti were so low that all expenditure on non-staple items was included in the 'Survival non-staple' category and none in 'Other'



Note: Unit for y-axis = Djibouti Francs per household per year

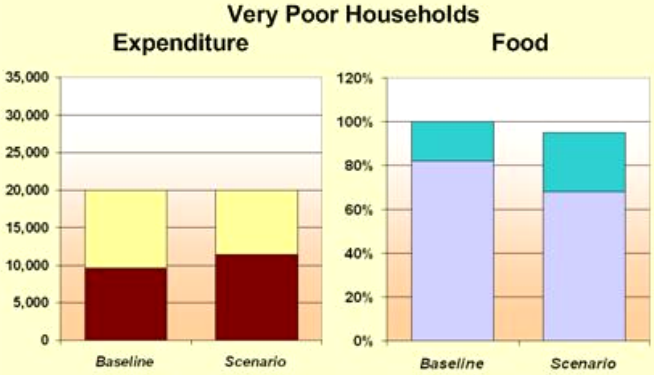
This type of analysis and recommendations by FEWS NET convinced the government to intervene to improve the food security of poor households in Djibouti.

Measures taken included:

- *elimination of the tax on kerosene,*
- *a reduction in the tax on staple foods,*
- *reductions in electricity charges and taxes for local bakers.*

<u>Step 2</u>: Analyse the impact of the hazard, e.g. a 50% increase in the price of kerosene, leading to:

- an increase in the cost of the survival non-food basket,
- a reduction in the cash available to purchase staple food,
- a reduction in food purchases (see 'Food' graphic)
- a probable increased dependence of very poor households on gifts and a food intake deficit of 0-10%



Note: Unit for y-axis = Djibouti Francs per year

Scenario analysis in an urban context

As indicated in **Case Study 2** from Djibouti, a key step in developing an urban scenario is to establish the minimum acceptable level of expenditure on food and non-food items (the minimum expenditure basket)[1]. This represents the level of expenditure (and therefore cash income) below which some kind of intervention is necessary. It is in effect an **intervention threshold**. Clearly, there is an element of subjective judgement in defining this threshold (what really constitutes the 'minimum'?), and different thresholds can be adopted according to the objectives of the assistance programme (support to a minimum level of subsistence, more general income support, asset protection etc.). The objective in the Djibouti example was to support a minimum level of subsistence that included existing expenditure by the very poor and poor on water, education, kerosene, powdered milk etc.

How To Do It

Main differences from an assessment of agricultural livelihoods

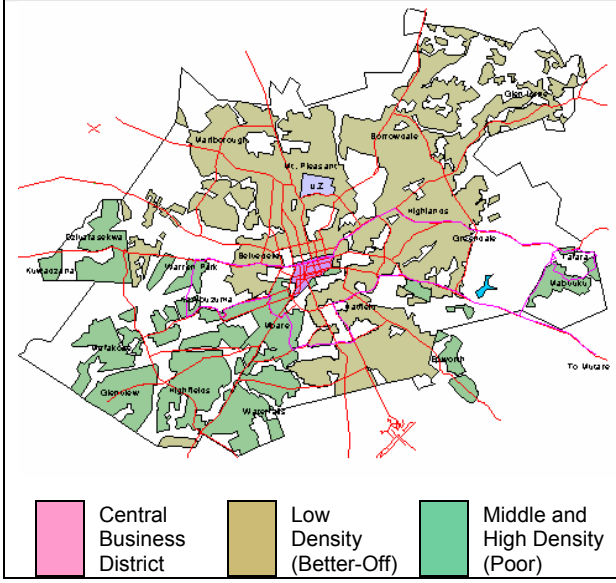
There are a number of differences between an HE assessment in an urban and a rural area.

The livelihood zoning

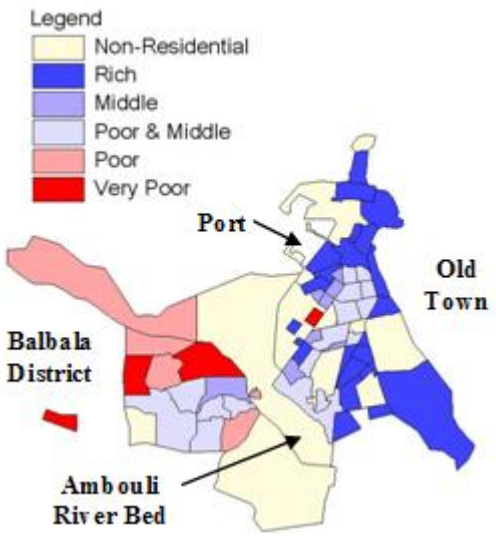
In a rural assessment, the purpose of the livelihood zoning is to distinguish between areas with different production and market characteristics, so that separate baselines can be prepared for each zone. In an urban assessment, the zoning exercise is less about defining different livelihoods than about understanding the layout of the city, developing a sampling frame and planning the fieldwork. In this case, the objective is to divide the town or city into different zones according to the wealth of the area (see **Figure 1**), so that decisions can be made about which parts to visit and which interviews to do there. Having said that, it is also

Figure 1: Urban zoning based upon the wealth of different areas

Harare City and Suburbs



Djibouti City



[1] Case Study 2 is based upon a 3-way split in expenditure (staple, survival non-food and other), which results in the deficit being calculated in food terms (see Food graphic). The same analysis can also be done using a 4-way

important to understand any differences in pattern of livelihood that do exist between one area and another (e.g. the port area, the red light district, the vegetable gardening district, etc.). Another important difference is between urban and peri-urban areas, given likely differences in access to own crop and livestock production, firewood, water, etc. between the two. Where there are major differences in livelihood pattern between these areas, it may be necessary to treat them as separate livelihood zones, as in a rural enquiry.

The enquiry at wealth group level

In a rural setting, it is often most useful to focus on access to food and cash income for different wealth groups. This is because members of a particular wealth group generally share the same pattern of livelihood and a similar limited set of options for obtaining food and cash, pursuing much the same strategies at much the same times of year. The poor, for example, might own between ½ and 1 hectare of land on which they cultivate sorghum and beans, as well as keeping 1-2 milking cows and labouring for between 10-20 days per month on the fields of the better off during the rainy season. The relative homogeneity of rural livelihoods makes enquiry into sources of food and income the most efficient way to generate a rapid understanding of livelihoods in a rural context.

The same homogeneity within wealth groups tends not to be true of an urban setting. Here, one source of food – the market – is usually predominant and so the focus of enquiry generally shifts towards questions of expenditure and cash income. In the town, however, there is often a wider range of income sources for any one wealth group, and earnings are also less regular than in the countryside. One poor household may rely upon petty trading in prepared foods, for example, while another repairs bicycles, and a third porters in the market. Yet all three could belong to the same wealth group. One household may obtain one day of work one week, but four days the next, and so on. Overall, the heterogeneity of urban livelihoods makes it far more difficult to quickly construct an average or typical picture for any given wealth group - that is, if cash incomes are the focus of enquiry.

While cash incomes tend to be heterogeneous in urban settings, patterns of expenditure do not. Poor families tend to spend similar amounts of money on similar things, so that an enquiry into patterns of expenditure is often the most useful approach in an urban setting. There is another very important reason for focusing on expenditure in the town; urban economies are primarily market based, and many of life's essentials, often not paid for in a rural setting (e.g. accommodation, water, firewood, etc.), have to be purchased in the town. It is critical for these non-food elements to be incorporated into the urban analysis.

This is not to say that questions of cash income can be neglected in an urban enquiry. Rather the focus of the enquiry is on determining the typical amount and pattern of expenditure for various groups. Income is used primarily as a crosscheck (i.e. to make sure that it is possible to earn the amount of money said to be spent by the group or household in question).

The consumption year and the reference year

These are key concepts as far as a rural enquiry is concerned, but are of less relevance in an urban setting. Because there are fewer seasonal variations, the concept of a consumption year (lasting 12 months from the start of the main harvest) has little meaning in an urban area, and the analysis can in general be prepared for any defined 12-month period. The next question is then which 12 months to choose for the reference year? The answer for

split (i.e. adding the fourth category of livelihood protection expenditure), in which case both survival and livelihood protection deficits can be calculated.)

most of the urban baselines prepared to date has been the 12 months before the current assessment. This has the advantage of being relatively fresh in people's minds and therefore easiest to remember. Having said that, there may be occasions when it will be appropriate to choose another 12-month period. Suppose, for example, there has been a very significant recent event (e.g. an outbreak of conflict or a sudden major change in economic conditions such as a tripling of fuel prices) then it is probably best to choose the 12 months before this particular shock, so as to avoid the complications of recent acute changes.

Steps in an urban baseline assessment

The preparation of an urban HE baseline involves the following steps:

- A review of secondary sources
- An urban zoning exercise
- Community-level interviews to establish the wealth breakdown
- Household representative interviews to establish expenditure and income patterns at household level for different wealth groups
- Interviews with selected key informants to generate information on relevant related issues, including the status of the macro-economy, provision of services (water, sanitation, education, health, electricity), the prevalence of HIV/AIDS, etc.
- Analysis of field data and compilation of the baseline picture[2]

Practical aspects (sample size and field work duration)

Table 4 provides information on the number of interviews conducted in three different urban assessments. It also estimates the likely duration of fieldwork. The total duration of the exercise will be longer than indicated in the table if there is a need for an initial training workshop (perhaps 3 days) and at least a further day will be required to establish a preliminary zoning before fieldwork can begin. Another 1-2 days will also be needed at the end of the process for a results presentation, if required.

Table 4: No. interviews, no. field teams and duration

	Djibouti	*Hargeisa*	*Harare*
Number of interviews			
Community	29	40	30
Household reps.	75	60	115
Number of field teams and duration of fieldwork			
No. field teams	5	5	n/a
Duration of field work + analysis	17 days	17 days	n/a

The relatively short distances to be travelled makes the organisation of an urban assessment much easier than its rural equivalent. The household representative interviews are also quicker, which means that more interviews can be completed in a day, unless there are other intervening factors (such as the temperature in the middle of the day in the case of Djibouti).

[2]A modified set of guidance notes for completing a livelihoods profile for an urban areas are provided in **Error! Reference source not found.**

The urban zoning exercise

The zoning exercise has to be tailored according to local circumstances. In Harare, for example, the existing zoning into areas of high-, medium- and low-density housing was adopted as it stood, supplemented by further information from key informants in employment and real estate agencies on income levels and rent levels throughout the city. In Djibouti, a combination of a preliminary mapping exercise with assessment participants plus detailed key informant interviews with arrondissement authorities were used to classify different *quartiers* of the city according to their overall level of wealth[3].

Once a preliminary zoning is available, an early decision will be required on the scope of the enquiry and which areas to include and which to exclude. In Djibouti, since the poorer wealth groups were the focus of the enquiry, it was decided to exclude the richest *quartiers*, and to visit a representative sample of the remainder (selected to include the red light district, for example, as well as *quartiers* noted for their proximity to the main markets, their access to gardens along the Ambouli River, the predominance of dock workers, the location of a particular ethnic community, etc.).

The community level interview

Collecting the data

The next step is to identify a point of entry into the community. Possible community-based organisations include church groups, residents' associations or local NGOs. Details of these can usually be obtained from local government offices, and guidance sought on which to contact (which have the closest involvement in community affairs, which are most active, etc.). The basic procedure is the same as in a rural area. A wealth breakdown is completed with a group of representatives from the community-based organisation, who are then asked to arrange interviews with small groups of informants from the different wealth groups. Arranging these follow-up interviews at wealth group level can be more difficult than in a rural setting, especially for the better-off wealth groups, who may be very busy and/or prefer to be interviewed alone. In an urban setting therefore, a mixture of group and individual interviews may have to be conducted.

An example of a community level interview form for an urban area is provided in **Annex A.**

- Timeline – to get a perspective on recent events
- Information on population and origin of residents (e.g. are they mainly recent migrants from rural areas, internally displaced, etc.?)
- Information on service provision to the area (water, sanitation and garbage collection, electricity, health and education)
- Information on types of income generating activities and rates of return on these
- Potential hazards in the coming year
- Links with other areas (rural areas, other urban areas, abroad)
- Community dynamics and gifts – information on systems of mutual support
- Wealth breakdown
- Seasonal calendar

[3] In Djibouti, the city is divided into *arrondisements*, *quartiers* and *secteurs*.

Analysing the results

Deriving an overall wealth breakdown for an urban area can be difficult. This is because different results will be obtained for different areas or 'zones' (since these differ from one another in terms of wealth). **Table 5** provides a practical example (from Hargeisa) of how results from different urban zones can be combined. The basic principle is to 'weight' the results from different areas according to their population.

Table 5: Combining wealth breakdown results from different urban 'zones'

Type of Area	Wealth breakdown (% households) Range and mid-point (in brackets)				% total population
	Very poor	Poor	Middle	Better-off	
'Mixed' areas	0-10% (5%)	20-30% (25%)	50-60% (55%)	10-20% (15%)	85%
'Poor' areas	25-35% (20%)	35-45% (40%)	35-45% (40%)	0%	15%
Whole city	5-10%	25-30%	50-55%	10-15%	100%

Calculation of weighted average for whole city, based on mid-points:
= {(% 'mixed' areas ÷ 100) x (% total popn in mixed areas)}
+ {(% 'poor areas ÷ 100) x (% total popn in poor areas)}
e.g. for Very poor = {(5% ÷ 100) x (85%)} + {(20 ÷ 100) x (15%)} = 7.25% or range of 5-10%

However, this type of calculation is only appropriate if the definition of wealth is the same in each of the zones. This is unlikely to be true, since what is meant by 'poor' or 'better-off' in one zone can easily differ from that in another. In practice, therefore, some re-classification of the results from different 'zones' may be required before the calculations in **Table 5** can be completed. An example of what is meant by re-classification is given in **Table 6**.

Table 6: Procedure for re-classifying household representative interviews in an urban area

Results from the Field	Very Poor	Poor	Middle	Better-off
Interview Set 1 ('Mixed' area)				
Wealth breakdown	5%	25%	55%	15%
Total expenditure/income ('000)	20	30	50	75
Interview Set 2 ('Poor' area)				
Wealth breakdown	0%	20%	40%	40%
Total expenditure/income ('000)	n/a	20	30	50
Interview Set 2 Re-Classified	***Poor becomes very poor, middle becomes poor, etc.***			
Wealth breakdown	20%	40%	40%	←
Total expenditure/income ('000)	20	30	50	←

This shows the results from two 'sets' of interviews (where 1 'set' consists of the wealth breakdown and associated household representative interviews from one location). In the example, it is quite clear from the total expenditure/income results (obtained from the household representative interviews) that 'poor', 'middle' and 'better-off' mean quite different things in the 'poor' compared to the 'mixed' area and that it makes sense to re-classify the results from the 'poor' area, with the 'poor' wealth group becoming 'very poor', 'middle' becoming 'poor' an so on.

The household representative interviews

A sample household representative interview format is provided in **Annex A**, together with sample interview checklists for the Harare and Hargeisa assessments. The procedure for conducting the household representative interview is very similar to that for a rural area, except for the greater emphasis on expenditure, which is the usual starting point for enquires in an urban setting. Because there is not the same clearly defined seasonal pattern in an urban area, the simplest procedure is to ask which food and non-food items are purchased regularly each month, and establish average monthly expenditure on each of these. Once this has been done, enquiries are conducted into the major annual expenditures and when these are made (e.g. schooling, visits to rural areas, etc.). Having established an estimate of total expenditure per month (with annual expenditures included pro rata), the next step is to find out where the money comes from, and roughly how much from each source.

A decision has to be taken about which prices to use for the calculation of expenditure. If the last 12 months are being taken as the reference year, then the choice is between an average price for the year and the current price. If prices have been changing rapidly in the last year, then it may be best to take the current price as being most easily remembered – in which case it has to be borne in mind that estimated total expenditure relates more to the current month than to the year as a whole. This generally doesn't create major problems as most urban monitoring is done on a monthly basis anyway. The same consideration applies in the case of cash income, i.e. should the current rate of return be taken (e.g. current daily labour rate, current profit on petty trade, current salary), or an average for the year as a whole. Clearly, the same approach must be taken for both cash income and expenditure.

The format also includes space to record information on:

- the origin of residents and duration of residency
- Capital and assets (buildings, vehicles, working capital, livestock and land)
- Access to services (water, sanitation and garbage collection, electricity, health and education)
- Seasonality of food access, cash income and expenditure
- The role of borrowing and loans[4]
- Opportunities and constraints for the wealth group
- Community/dynamics and gifts – information on systems of mutual support

Frequently Asked Questions

Q: In an urban area people don't know one another so well, so isn't it difficult to find good key informants to do the wealth breakdown?
A: It is true that people in urban areas can easily live separate lives and live less as a community, but this tends to more the case among the better-off than the poor. Poor urban

[4] When enquiring into borrowing and loans the enquirer needs to bear in mind that there is usually a strict limit to the amount that can be borrowed, and that if one loan is not repaid it is unlikely that further loans will be forthcoming. Therefore loans cannot generally be accepted as the explanation for a large discrepancy between annual cash income and expenditure, especially for the wealth group as a whole. Loans and borrowing are usually used either to a) spread the cost of a significant annual expenditure over several months, or b) to make up a short-term shortfall in cash income, e.g. towards the end of the month in the case of salaried employees. Bear in mind also that some kind of guarantee or collateral may be required in case of non-repayment, and that the better-off may therefore find it easier to borrow. Where loans are allowed to accumulate, this is often between close relatives, and the loan is more in the nature of a gift than a genuine loan.

households often live in very crowded conditions and have as much interaction with their neighbours as in a village – gifts and borrowing may be very common, for example. In practice, therefore, the differences between a poor urban area and a rural area are not that great and, with care, groups of key informants can be found that are capable of preparing a good wealth breakdown, and can readily identify potential participants for the household representative interviews. And since the household representative interviews take less time in an urban area, there is usually time to tack on a quick wealth breakdown at the end of each interview so to get more data for the wealth breakdown analysis.

Q: If households from a particular wealth group have different sources of cash income, how is it possible to do an outcome analysis for a problem of cash income?
A: It is true that this can create problems. However, these may not always be quite as serious as might be expected. While there may be many individual income-generating activities in an urban setting, the poor generally obtain cash income from two main categories of activity; casual labour and small-scale business or petty trade. And income from the one is often related to the other – in poorer areas a good proportion of the cash income from small-scale business/trade may be generated locally from people doing casual labour, so a downturn in casual labour will also affect the incomes of small businesses and traders. However, where this is not the case, then an alternative is to run a 'worst-case' scenario, looking at the effect of the 'problem' on households that depend entirely on the affected source of cash income. While this is less useful than an analysis for the whole wealth group (because the number of people affected may not be known), it can still shed important light on the possible impacts of a particular problem.

Q: Why use rapid appraisal methods rather than a household survey in this setting?
A: Urban household economy assessment is similar in many ways to a conventional household expenditure survey in that the focus is on detailed questions about recent patterns of expenditure. Provided the essential checks on food (adding up to roughly 2100 kcals per person per day) and on cash income (roughly equalling expenditure) can be incorporated there is no reason why the data should not be collected through a survey of individual households. If this can be complemented by a semi-structured enquiry at community level to get 'the story', so much the better. Community-level enquiries into local perceptions of wealth will also help in terms of dividing household survey data into meaningful wealth groups.

Using random sampling techniques to select households for interview will also help to ensure that the sample is truly representative of the population from which it is drawn. Having said that it may not be possible to use standard techniques for drawing the sample, since these require accurate population data and a complete enumeration of households in areas selected for surveying. It is very unlikely these will be available, especially for the poorer areas of a city, where the population may be transient and with many people living in unofficial or unregistered accommodation. In this type of setting more rapid sampling techniques similar to those used in a rapid nutritional survey will usually be more appropriate.

PASTORALISTS

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Background[5]

Main characteristics of pastoral livelihoods

Pastoralism is a livelihood system based primarily on domesticated animal production (meat, milk, blood and hides). Most pastoral groups are found in environments with low and highly seasonal rainfall, where it is impossible to graze animals all year round on the same pasture. Movement and migration are therefore essential survival strategies. Agro-pastoralists rely on a combination of livestock and crop production. They live in areas that are marginal in terms of agriculture and tend to be less mobile than pure pastoralists (because of the requirement to tend their crops). Since their crop production tends to be very unreliable livestock still constitute the essential fallback for years of crop failure.

Movement and migration

Movement allows herders to use a variety of pastures, water points and other resources such as salt licks, and represents a sophisticated adaptation to the challenges of a risky environment. There may be various patterns of movement:

- Wet season migration away from permanent dry season water points, to allow pasture to recover around these points. At this time of year pastoralists may make use of seasonal pans, streams and rivers for water.
- Dry season migration away from the homestead to remote dry season grazing areas (e.g southern Sudan, Tanzania)
- Movements according to the pattern of rainfall (e.g. in North-east Somalia towards the coast for the *heys* rains and towards the interior for *gu*)

In the literature, pastoral systems are classified according to the type and pattern of movement. The main distinction is between pastoralists that are a) transhumant (i.e. undertaking regular seasonal movements between sources of water and pasture, e.g. from lowlands to highlands, or from coast to inland) or b) nomadic (i.e. moving long distances with no fixed pattern). Many pastoralists in the Horn and East Africa are partly transhumant and partly nomadic in that there is a regular seasonal pattern of movement in most years, with longer distance, less regular migration being reserved for very bad years.

The pure nomadic form of pastoralism is now very rare as there are many pressures towards increasing settlement and increasing market participation. Most, if not all, pastoralists now have a permanent or semi-permanent base, usually at a dry season water point, which is often also a trade centre. Even when the animals are moved, it is common in this situation for some at least of the household (usually the women, the children and the elderly) to remain in the home base while the men move with the herds. Among the factors contributing to increased settlement and market participation are the following:

- *An increased dependence on the market for staple foods.* It is very unusual these days for pastoralists to live entirely from their animal production, in the sense that milk, meat and blood very rarely provide more that 30% of dietary energy (and often much less), with the balance coming mainly in the form of grain obtained through purchase or

[5] Ref: The Global Drylands Imperative: Pastoralism and Mobility in the Drylands, UNDP, at www.undp.org/drylands/docs

exchange. There may be many reasons for this, but among the most important are probably human population growth coupled with, in many areas, a progressive loss of livestock (due most often to drought).

- *Greater dependence on the market for cash income.* Poorer herders often have to supplement their income from livestock with other informal sources of cash (e.g. casual urban labour or collection and sale of firewood and charcoal). For this they need to have access usually to an urban market, which implies a more settled existence than previously. Paradoxically, one effect can be to reduce their income from livestock even further, because of over-grazing around settlements and the increased spread of disease among livestock concentrated around settlements and water points.

  Better-off households may also choose to reduce their dependence on livestock, often diversifying into trading and other commercial activities and therefore settling at least part of the household in a trading centre or town[6].

  Sale of milk may also be an important source of cash income for all wealth groups – again this something that usually requires good access to an urban market.

- *Increasing restraints on free movement*, e.g. because of the development of irrigated agricultural schemes or the enclosure of traditional grazing areas (for ranches or to produce fodder for more settled herds). On the other hand, there are also cases of increased mobility. In a recent drought in Somalia, for example, livestock were moved from one area to another by truck – helping to ensure the survival of many animals that might otherwise have died on the journey.

One consequence of mobility is an increased risk of conflict. Tensions often exist between neighbouring pastoral groups, or between pastoralists and settled agriculturalists because of competition for scarce natural resources. In some cases, tensions may also exist because of livestock raiding between groups (e.g. in South Sudan). These tensions can be exacerbated in bad years when pastoralists migrate out of their traditional grazing areas and into other groups' territory. Often these movements are governed by traditional agreements, but sometimes they spill over into overt conflict.

Pastoral herd dynamics

The economic rationality of pastoralists has often been misunderstood. In particular, pastoralists' herd management has been questioned, with many 'experts' claiming pastoralists let herds get too large, causing overgrazing and a failure to maximise the productivity of each individual animal. Instead efforts to build up large herds should be seen as insurance against catastrophic losses (due to disease or drought), and to generate wealth that can be converted into a variety of goods including, in many situations, bride-price.

Part of the reason for trying to build up large herds is that rates of pastoral herd growth – and therefore recovery from catastrophic loss - are relatively slow, as indicated by the data in **Table 7**. Taken as an average over a number of years, cattle and camel herds grow at only about 6% per year, whereas shoat (i.e. sheep and goat) herds grow at about 11% per year. This means that it can take very many years to recover from a severe drought – if recovery is possible at all. The number of years required to replace a 50% herd loss is indicated in the bottom row of **Table 7**. Because of these slow rates of replacement, purchase of animals nowadays represents an important re-stocking strategy for many pastoralists following a catastrophic loss.

[6] Note that pastoralists may be well-placed to engage in trade. They often have have pack animals that can be used to move trade goods and they frequently live in border areas and can participate in cross-border trade, often in contraband items.

The relatively low average rate of increase among shoats is perhaps surprising, since small stock can theoretically give birth twice a year. Such high rates of reproduction are rarely sustained however, and the average number of births per adult female under 'normal' pastoral conditions in East Africa is 1.1 per year for sheep and 1.3 per year for goats.

Table 7. Typical herd dynamics

	Cattle	*Camels*	*Shoats*
Total (start of year)	100	100	100
Breeding females	41	54	55
Births	29	24	66
Sales/slaughter	15	9	30
Deaths	8	8	25
Total (end of year)	106	107	111
Years required to replace a 50% loss	12	10	6-7

Data derived from an analysis of available literature for East African pastoral herds.

One point to note from the table is the relatively high proportion of breeding females in the herd (from 41% to 55% depending upon the type of animal). The objective of the pastoralist is generally to maximise the number of breeding females since these represent the productive core of the herd. In most situations, therefore, relatively few adult males are kept (even where they are prized for cultural reasons, as in South Sudan). Apart from the breeding females, most of the remainder of the herd are young animals so that, taking young and mature animals together, 70%-75% of the herd will be female. Most male animals are sold or exchanged as they approach maturity, with poorer herders tending to sell earlier than the better-off because of their more pressing need for money. There is little economic incentive to keep older male animals (as they do not increase in value beyond maturity) and, where the money is not needed for other items, older males may be sold and females purchased in their place. One consequence is that there tends not to be a large stock or reserve of male animals that can be sold in a bad year, and the appearance of relatively large numbers of female animals on the market can therefore be a relatively early indication of stress in a pastoral setting.

Table 8. Reproductive characteristics of different types of livestock

	Length of pregnancy	*Length of lactation*
Cattle	9 months	9 months
Camels	12 months	12 months
Shoats[1]	5 months	2 months

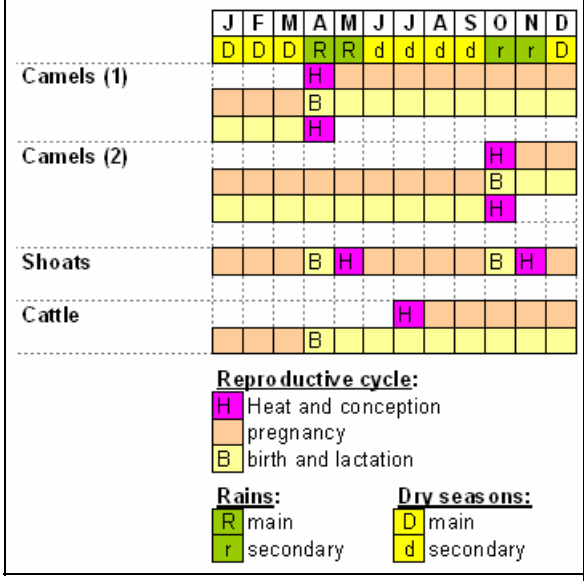
[1] *Sheep and goats*

Livestock production in pastoral areas is usually highly seasonal. The exact pattern depends upon a combination of factors, including the pattern of rainfall, the reproductive characteristics of the animal (i.e. the length of pregnancy and lactation, see **Table 8**) and the extent to which reproduction is managed by the herder.

These relationships can be best understood using a specific example. In the Somali Region of Ethiopia, the main *gu* rains fall in April and May, while the secondary *deyr* rains fall in October and November (**Figure 2**). Animals usually come into heat at the beginning of the rains, when better access to water and pasture leads to an improvement in body condition.

Camels are represented twice in the figure, because it is likely that there will be two cohorts (or groups) of camels, those that come into heat at the beginning of *gu* (cohort 1) and those that come into heat at beginning of *deyr* (cohort 2). The *deyr* cohort will tend to be the smaller of the two because animals born in *deyr* may not survive the harsh conditions of the *jilaal* dry season, in which case the dam will tend to come into heat again at the beginning of the next *gu* (i.e. she will switch from cohort 2 to cohort 1) according to local patterns of livestock management.

Figure 2: Possible seasonal pattern of reproduction in Somali Region, Ethiopia



Note: Actual seasonal patterns will vary

The picture for **shoats** is fairly straightforward. The 6-month interval between the two rainy seasons corresponds neatly with the interval between births, and we can therefore expect that shoats will give birth at the beginning of each rainy season. Unless, that is, pastoralists exercise control over the pattern of reproduction, as Somalis do in the case of sheep, controlling breeding so that births occur once a year at the beginning of *gu*. In other settings, where the interval between rainy seasons is more or less than 6 months, the seasonal pattern of conceptions and births will not be so simple as presented here.

For **cattle** the picture is complicated by the 9-month duration of pregnancy (and the 18 month total for pregnancy plus lactation). This means that animals conceiving in a wet season must give birth in a dry season and vice versa. This is one of the reasons why cattle cannot be kept in especially harsh environments (since they will not conceive during a very dry season, and the chances of survival for calves born in the dry season are low). In semi-arid environments such as those in Somali Region it makes sense for cattle to deliver at the beginning of the *gu* rains, since this maximises the calf's chances of survival. For this to occur, cattle must conceive during the *hagaa* dry season, approximately 6 months after the end of the previous lactation. This requires pastoralists to exercise some control over the timing of conception (so that animals do not conceive during the *gu*).

It is often assumed that good rainfall means good milk production in a pastoral area, but in fact the situation is not quite as simple as this. This is because milk production depends not only upon current conditions (recent rainfall, current pasture and browse condition, availability of water, prevalence of livestock disease, etc.) but also upon conditions in previous seasons (which will affect the number of animals giving birth this season). This is illustrated by the hypothetical example for shoats in the Somali Region of Ethiopia given in **Figure 3.**

The situation is made more complicated by the different lengths of pregnancy of the different types of livestock. While goats may be dry (i.e. may not give any milk) for 6 months after the end of a drought, camels may be dry for at least 12 months. A timeline analysis of patterns of rainfall, conceptions and births (similar to **Figure 3**) is therefore a key tool for monitoring pastoral livelihoods.

Most pastoralists keep more than one type of animal, both to exploit the different options within a particular area and as insurance against drought or disease (since drought- and disease-resistance varies between animals, as do rates of recovery from drought).

Each type of animal is adapted to a particular environmental niche:

- camels in the driest areas,
- goats where shrubs and trees dominate,
- sheep on mountain pastures that are too rugged for cattle,

- and cattle in richer areas where open savanna provides decent grass cover and adequate water.

Figure 3: Timeline illustrating factors influencing milk production of shoats in the Somali Region of Ethiopia

	Year 1		*Year 2*		*Year 3*	
	Gu	***Deyr***	***Gu***	***Deyr***	***Gu***	***Deyr***
Quality of Season[1]	3	3	1	1	5	5
No.of Conceptions	Medium	Medium	None	None	High	High
No.of Births	-	Medium	Medium	None	None	High
Milk output	-	Medium	Poor	None	None	High

Even though the gu rains of year 3 are good, there will be no milk production in this season as no animals conceived in the preceding deyr season.

[1]An overall indicator of how good the season was for livestock production, bearing in mind factors such as rainfall and disease, on a scale of 1 (very poor) to 5 (very good).

In economic terms, small stock provide the 'small change' for everyday transactions while larger stock may be sold to cover larger one-off expenditures (e.g. school fees).

Mutual cooperation and assistance

In pastoral communities there is almost always strong inter-dependence and co-operation between households. One of the reasons for this is that pastoralism is labour intensive. Each type of animal has different requirements in terms of fodder and water. Camels and goats are browsers (i.e. they consume the leaves of bushes and trees), while cattle and sheep are grazers (i.e. they consume grass). Small stock need to be watered every day, cattle every other day, and camels every three days. The requirements of keeping the herd together, managing regular movements between grazing and water as well as twice daily milking means that keeping animals requires a pooling of labour resources between households to manage the different types of stock effectively.

Mutual assistance is also important in terms of each household's survival in an uncertain and risky environment. Households that have lost many animals in a drought usually depend heavily upon assistance from within the group to help them survive and recover. And better-off households are encouraged to provide this help as an insurance strategy in case they themselves need assistance at some point in the future. This spirit of mutual cooperation and assistance operates in both bad and 'normal' years. It is very common, for example, for poorer households to 'oversell' (i.e. to sell more animals than their herd size can sustain) even in 'normal' years, and for the difference to be made up through gifts from better-off relatives. Loan arrangements are also common. For example, a breeding female may be loaned to a poor household that then benefits from the milk and may perhaps keep any offspring. Or an immature male may be loaned, in which case the poorer household may receive a share of the increase in value of the animal once it is sold. This helps spread the risk and the workload and provides poorer households with an additional source of food and/or cash income.

With the trend towards settlement and urbanisation, links to relatives in towns may also be increasingly important, both as a source of remittance income in most years, and as a source of additional gifts and loans in a bad year.

How To Do It

The assessment of pastoral areas poses a number of challenges given the mobility of the population and the difficulty of collecting reliable information on livestock herd size and productivity. Assessments have to be carefully timed to coincide with periods when pastoralists are accessible (i.e. within reach of the assessment teams). Many pastoralists are understandably reluctant to provide detailed and accurate information on herd size. A sensitive approach is therefore required, ideally with as many built-in cross-checks as possible. These cross-checks are only possible if the assessment teams have a good understanding of some of the key issues discussed in the background section above, especially those relating to herd composition and off-take (**Table 7** and **Table 8**) and to the dynamics of milk production (**Figure 3**). This is equally important for seasonal assessment, where teams will need to fit new information into an evolving story.

Differences between pastoralists and agriculturalists and implications for field work

What then are the differences between a pastoral assessment and the assessment of a settled agricultural population? In this section, the main differences between these two groups are summarised and the implications for fieldwork explored. More detail on the practical aspects of the fieldwork and the analysis given in the sections below on baseline field work and outcome analysis.

Table 9. Differences between pastoralists and agriculturalists and implications for field work

1. Greater importance of livestock than crop production
This is the most obvious difference between the two patterns of livelihood. Equally obvious is the implication of a major shift in the enquiry away from crops and towards livestock. Beyond this however, most other aspects of the enquiry remain the same, so that the differences in the formats used are not perhaps as great as might have been expected. This is because many common issues have to pursued in both settings, e.g. questions relating to informal employment and self-employment, questions relating to expenditure on health and education, etc.
2. Start of the consumption year
In a crop-dependent setting it is usual for the consumption year to begin with the start of the main harvest and to end 12 months later at the end of the main hunger season. The same principle applies in the case of pastoralists, except that the main hunger season is usually broken by the onset of main season milk production rather than the harvesting of the first crops. Since milk production tends to increase at the start of the main rains, the consumption year in a pastoral setting usually begins at that time and runs to the end of the main dry season. In the Somali Region of Ethiopia, for example, the consumption year runs from April to March. (**Figure 2**) The seasonal calendar analysis should also provide guidance as to the best time to undertake a seasonal assessment, which should ideally coincide with the peak seasons for births so that direct observations can be made of current production conditions.
3. Changing asset levels over time

In a pastoral setting herd sizes are always changing. Accurately establishing herd sizes for the reference year and keeping track of changes over time are key challenges for the proper assessment and monitoring of pastoral livelihoods.

It is important to be aware that in an HEA enquiry communities may report changes in herd size in one of two ways, either as a change in the holding of each wealth group or as a change in the wealth breakdown (**Table 10**).

Table 10: How communities may report changes in herd size over time

Wealth Group	*Poor*	*Middle*	*Better-off*
Baseline year			
% households	20%	50%	30%
Average shoat holding	25	60	150
Post-drought (Option 1): *Losses reported as a reduction in the livestock holding of each wealth group*			
% households	20%	50%	30%
Average shoat holding	15	35	90
Post-drought (Option 2): *Losses reported as a change in the wealth breakdown*			
% households	50%	40%	10%
Average shoat holding	25	60	150

If losses are reported as a change in the wealth breakdown, this creates problems when undertaking a seasonal outcome analysis, since the aim of this analysis is to track changes in the circumstances of each wealth group, not changes in the wealth breakdown itself. Procedures are suggested to avoid this type of problem in the field in the section on "seasonal assessment and outcome analysis", below.

4. Current production depends on current and past seasons

The relationship between current production and the quality of current and past seasons was explored in **Figure 3**. In a pastoral setting it is always a question of understanding an evolving story rather than obtaining a one-off snapshot. Methods for tracking the dynamics of livestock herds and livestock production are suggested in the section on seasonal assessment and outcome analysis, below.

Because of the complexity of pastoral production, the process in the field should ideally be one of testing a hypothesis rather than starting with a blank sheet of paper. For example, seasonal assessment teams should be provided with the available data on recent patterns of conception and therefore the expected patterns of births. This will encourage them to examine critically what they are being told and to cross-check the actual situation against what they expect to find.

5. Choice of reference year

Given that herd sizes fluctuate and livestock production varies so much from year to year, what are the criteria for selecting the reference year for a pastoral baseline assessment? In general, the same criteria can be applied as in an agricultural area (i.e. ideally choose the most recent complete consumption year, unless it was an especially good or bad year, or was a year in which large amounts of food or cash assistance were provided). The most important thing is to build up a clear picture of the situation in the reference year and especially to derive correct estimates for a number of key variables, including herd sizes, levels of milk production, levels of livestock offtake, and so on. Establishing these is more important than selecting a particular type of year since a key objective is to establish an accurate starting point for subsequent monitoring. However, one set of circumstances should be avoided if at all possible, and this is a year in which milk production was very low or non-existent, either because of current disease or rain failure, or because there were few conceptions in previous seasons[7]. This may include the first year of post-drought recovery.

6. Movement and migration

[7] The reason for avoiding this type of year is technical and relates to the way outcome analyses are carried out. In an outcome analysis, current year access = reference year access x current problem specification (%) ÷ 100 (see Section 0). Clearly, if reference year access equals zero (e.g. no milk production) there is no basis for estimating current year access.

The fact that pastoralists move and migrate complicates the definition of livelihood zones in a pastoral area. However, even purely nomadic pastoralists move within a defined geographical area (albeit large), and this can be considered to form the boundaries of their livelihood zone. The real issue is whether this area is shared with other groups and how best to handle this (*Chapter 2: Livelihood Zoning* in the Practitioner's Guide provides advice on this). In practice however, most pastoralists have a home base or clan territory, within which they have established settlements and trading centres and to which they return regularly at certain times of year. Usually this does not overlap with the home territory of another group, and can be considered as part of a discrete livelihood zone. The fact that some or all of the livestock and/or people may move out of this territory at certain times of year, or only in particularly bad years, does not preclude it being represented as a discrete livelihood zone on the map.

Establishing the nature and pattern of movement in the reference year is an important part of a pastoral baseline assessment since it provides the basis for investigating deviations from 'normal' during a seasonal assessment. During such an assessment one might ask if there have been any abnormal movements recently, and what the implications of this are in terms of livestock production (bearing in mind that movement can give access to better water and grazing than available in the home area, but can equally have negative effects as animals lose condition on the journey or they congregate in crowded grazing areas increasing chances of disease transmission, etc.). It is also important to establish the reasons for any movement (e.g. lack of water, lack of grazing) since this is critical in terms of identifying the most appropriate type of response.

7. Mutual assistance between wealth groups

Field teams must be aware of the importance of this and the need to explore it in full. Assistance may be provided in cash or in kind (e.g. the gift or loan of a milking animal). Another common method of providing assistance is through the 'adoption' by a better-off household of one or more poorer children. This can either be in the long-term (and is one of the reasons why better-off households tend to be larger than poorer household) or short-term, i.e. for the duration of a particular crisis.

In Muslim communities *zakat* (the religious obligation to give 1/40 of livestock or crop production or cash income to poor households) is an important form of assistance that can exist alongside other types of assistance within pastoral communities. With increasing urbanisation, urban-rural transfers are assuming greater importance in many areas.

When it comes to completing an outcome analysis for a pastoral group, an attempt must be made to answer the very difficult question of how much assistance the better-off may provide to the poor. Part of the difficulty arises from the fact that the better-off will also be affected by any hazard, which will in turn affect their ability to give. One possible approach is to estimate the amount of 'surplus' food and/or cash available to better-off households on a case by case basis, and then assume that a certain percentage of this 'surplus' is re-distributed according to need. In most pastoral settings this is an issue that merits more detailed investigation than is generally possible in a rapid baseline assessment.

Baseline fieldwork

Sample formats for a pastoral baseline assessment are included in Chapter 6: Annex C. Where changes have been made to the standard formats for an agricultural area, these changes are highlighted in red. The main changes are also summarised below.

Movement and migration

The following forms have been modified to enable the recording of information on movement and migration: Form 1 (District interview form) and Form 3 (Community interview form). Data are collected on patterns of movement in the reference year and in a recent bad year.

Seasonal patterns of conceptions, births and milk production

In agricultural areas, the main focus of the seasonal inquiry is the amount of milk production. In a pastoral baseline, information should also be collected on seasonal patterns of conceptions and births. This is key information in terms of understanding the dynamics of livestock production in a pastoral area. These seasonal calendar data are collected on Form 1 (*District Interview Form*) and Form 3 (*Community Interview Form*).

The Herd Dynamics Timeline

This is a tool for keeping track of patterns of conception, births and deaths over recent seasons. This is a key exercise for both a baseline and a seasonal assessment since, as has already been pointed out, current livestock production depends not only on conditions in the current season but also on conditions in previous seasons (when animals delivering now will have conceived). In the case of a baseline assessment, the exercise provides a context for understanding production conditions in the reference year. Suppose, for example, that the results of the exercise show that shoats only gave birth in one of two rainy seasons in the reference year, was this because of poor rates of conception the season, or because patterns of conception are managed by the pastoralists in this livelihood zone? For a seasonal assessment, the herd dynamics timeline provides a useful crosscheck on the current situation, and can also be used to predict the expected pattern of births for future assessments. A hypothetical example of such an exercise for Somali Region is presented in **Box 3** below. The exercise is very similar whether implemented during a baseline assessment or a seasonal assessment. This particular example relates to a *gu* seasonal assessment undertaken in 2006.

The first step in the exercise is to collect information on the performance of recent seasons, beginning 12 months before the current assessment (the season in which camels giving birth now will have conceived). Performance is here classified on a scale of 1 to 5, from very poor to very good. This provides the starting point for building up a picture of patterns of conceptions, births and deaths. For example, from the table below it can be seen that few camels conceived in the very poor 2005 *gu* season. It follows that few births can be expected in *gu* 2006, even if the 2006 *gu* rains are good. This then becomes the hypothesis to be tested during the *gu* 2006 assessment. These very poor rains were followed by an average or medium *deyr* which means that we can expect a reasonable number of camels to deliver during the forthcoming 2006 *deyr* season (the hypothesis to be tested at the time of the *deyr* 2006 assessment). And so on for the different types of livestock, bearing in mind the different lengths of pregnancy for each.

Box 3. Example of a Herd Dynamics Timeline

Note: The yellow-shaded section of the herd dynamics timeline is NOT included in the format used in the field. It represents the analysis that should be completed by the teams once they have completed the fieldwork, and ***in preparation for the next seasonal assessment***.

HERD DYNAMICS TIMELINE: CONCEPTIONS, BIRTHS AND DEATHS

			Livestock Type								
			Camels			Cattle			Shoats		
Year	Seasonal performance (1-5*)		Conce-ptions	Births	Deaths	Conce-ptions	Births	Deaths	Conce-ptions	Births	Deaths
2006	Deyr			*Med*						*High*	
2006	Hagaa										

2006	Gu	4	High	Low			Low		High	Med	
2006	Jilaal	3			Low			Low			Low
2005	Deyr	3	Med	Med					Med	Low	
2005	Hagaa	3			High	Low		High			High
2005	Gu	2	Low	Med			Med		Low	Med	

*** Classify each season as follows:**
5 = a very good season for livestock production (e.g. due to good rains, little disease, etc)
4 = a good or above average season for livestock production
3 = an average season in terms of livestock production
2 = a poor or below average season for livestock production
1 = a very poor season for livestock production (e.g. due to drought, livestock disease, etc.)

Indicate levels of conceptions, births and deaths as follows:	**Remember that births occur:**
high	12 months after conception in camels
medium	9 months after conception in cattle
low	5 months after conception in small stock.
none	

Notes:
1) Data need not be collected for the cells shaded in grey, e.g. it is not necessary to collect data on births of camels during the dry season (since births only occur during the wet season). Similarly, it is not necessary to collect data on deaths during the wet season, since mortality tends to be lowest at this time of year.
2) The section of the table dealing with cattle is shaded on the assumption that conceptions and births occur once a year (in *hagaa* and *gu* respectively). If the actual seasonality of conceptions and births differs from this, then the table will need to be modified accordingly.

The livestock profile

This exercise, which is conducted early on in the wealth group interview (see Form 4), is in many ways the central element in a pastoral enquiry at this level. It builds upon the results of the herd dynamics timeline (undertaken at community level) to develop a detailed picture for the wealth group of herd size and composition, and of numbers of births, deaths, sales and slaughters during the reference year. A set of reference profiles is provided in the Field Handbook that can be used to cross-check the data as it is being collected in the field[8]. The reference tables for cattle are reproduced in **Table 11.** Separate profiles are provided for herds with and without plough oxen (since many agro-pastoral groups will keep plough oxen), and for herds of different size, making it easy for the interviewer to compare the results being obtained in the field with the reference profile for a herd of similar size. The exercise also provides the logical starting point for much of the remainder of the interview. Data on the number of births provides a starting point for enquiry into milk production, while the data on the number of animals slaughtered and sold leads naturally on to enquires into meat consumption and cash income from livestock sales.

Patterns of cash expenditure

There is an obvious difference in the types of input that will be purchased by pastoral compared to agricultural households, and the expenditure section of Form 4 (Household representatives interview form) has been modified to reflect this. In particular the interviewer should be aware that expenditure on water and on salt for livestock can be very significant in some areas.

[8] This does not mean that the results obtained in the field must be the same as those in the reference tables. The idea is compare the two sets of results, so that, if the field data differ from the reference table, follow-up questions can be asked to clarify the situation.

Table 11. Livestock profile reference values from the Field Handbook[1]

CATTLE	Herds with Plough Oxen						Herds without Plough Oxen					
Total (start of year)	1	3	5	10	15	25	3	5	10	15	25	50
Oxen	0	0	1	1.5	2.5	4	-	-	-	-	-	-
Breeding females	0.5	1.5	2	3	5	8	1.5	2	4	6	10.5	20.5
Births	0.5	1	1.5	2	3.5	5.5	1	1.5	3	4.5	7.5	14.5
Sales/slaughter	0.5	1	1	1	1.5	2.5	1	1	1.5	2.5	4	8
Deaths	0	0.5	0.5	0.5	1	1.5	0.5	0.5	1	1	2	4
Purchase/gifts	0	0.5	0	0	0	0	0.5	0	0	0	0	0
Total (end of year)	1	3	5	10.5	16	26.5	3	5	10.5	16	26.5	52.5
Offtake (%)[2]	50%	33%	20%	10%	10%	10%	33%	20%	15%	17%	16%	16%

Notes:
1) These profiles are based upon available data in the literature, results obtained from numerous household economy enquiries and a computer-based model of herd growth developed by F.E.G. for different types of livestock.
2) Offtake % equals the sum of sales plus slaughters expressed as a percentage of start-of-year herd size.

Modified report or Livelihood Zone Profile format

A modified livelihood zone profile format is provided in Annex D which includes suggestions for presenting the herd dynamics timeline and livestock profile data. A set of guidance notes for completing the profile are also provided.

Seasonal assessment and outcome analysis

Outcome Analysis is the process by which information on the current hazard is combined with the household economy baseline data to project future access to food and non-food goods and services for different wealth groups. This is fully described in Chapter 4 of the **Practitioner's Guide**.

The analysis requires that the hazard be expressed in quantitative terms, e.g. milk production = 50% of reference, milk price = 120% of reference, and so on, a process known in household economy analysis as 'problem specification'. The general formula for calculating a current problem is:

$$\text{Current problem (\%)} = \frac{\text{Current year value}}{\text{Reference year value}} \times 100$$

The purpose of a seasonal assessment is to collect all the data required to prepare a problem specification for each of the most important sources of food, cash income or expenditure in a particular livelihood zone. In this section the focus is on the collection and analysis of data to define the livestock production problem. The definition of other aspects of the problem (crops, labour, prices etc.) is covered in Chapter 4.

In a pastoral setting, the key parameters of interest are a) the volume of milk production and b) the amount of income that can be generated from the sale of livestock and livestock products. There are two sets of factors to consider: 1. those relating to livestock production

and 2. those relating to market conditions and market prices. On the livestock production side, the most important factors to consider are:

- herd size,
- patterns of reproduction and
- current production conditions (grazing, water, disease, etc.).

The livestock sales problem

As with any source of cash income, the problem specification has both a price and a quantity component (where quantity refers to the number of animals that can be sold). In most cases, given good market access, the number of animals that can be sold varies as a function of herd size and the quantity side of the livestock sales problem can be taken to equal the herd size problem, calculated as follows:

$$\text{Current herd size problem (\%)} = \frac{\text{Herd size this year}}{\text{Herd size in Reference year}} \times 100$$

The milk production problem

Besides herd size, the most important factors determining milk production in the current year (or the current season) are the percentage of animals that are lactating and the average milk output in litres per animal per day[9]. These three variables can then be combined to estimate the overall milk production problem for each season, as follows:

$$\text{Milk production problem} = \frac{\text{herd size prob.}}{100} \times \frac{\text{no.milking animals prob.}}{100} \times \frac{\text{milk output prob.}}{100} \times 100$$

Methods for collecting data to define these three components of the milk production problem are described further below.

The Herd Dynamics Timeline

This exercise is key to understanding current production conditions in pastoral areas. An example of such an exercise is given in **Box 3**.

The Livestock Profile

The monitoring of herd sizes is a key activity for the seasonal assessment of pastoral areas. This is because a change in herd size directly affects the availability of milk at household level and the amount of cash income that can be derived from sale of livestock and livestock products. Accurate data on herd size can be very difficult to collect, however, partly because this can be very sensitive information (i.e. the equivalent of a direct question about cash income in an agricultural or urban setting). One approach is to repeat the wealth breakdown exercise conducted for the baseline assessment (see **Table 10)**, but this is time-consuming and requires a lot of detailed work at community level. A second approach is to use what is

[9] Duration of lactation is the fourth and final factor that could be incorporated into the milk production problem. It is however difficult to measure or predict. Given that there is a correlation between level of milk output and duration of lactation, and provided assessments are conducted at regular intervals (to check whether animals lactating last season are still lactating now), it is probably acceptable to exclude the duration of lactation as a component of the milk production problem, as has been done here.

termed here as the 20-animal (or 50-animal) exercise[10]. Instead of asking about actual livestock holdings for any given household or wealth group, the procedure is to ask about recent trends in holdings given a defined starting point (i.e. 20 or 50 livestock). Questions are then of the type, 'for someone starting the year with 20 animals, on average how many births would there have been in such and such a season?' This type of approach has a number of advantages. Firstly, it depersonalises the question (since no one individual and no one wealth group is being discussed). Secondly, the exercise can be conducted at a number of different levels, e.g. at community level, with groups of herders encountered along the road and with district-level key informants (e.g. veterinarians working for the government or for NGOs). An example of such an exercise is given below, for a *gu* (main) season assessment in Somali Region, Ethiopia.

The objective of the exercise is to collect information on changes in herd size during the past year (to update data on current herd sizes), to estimate the number of lactating animals in the current season and to estimate current milk yield. Several interviews will need to be conducted in each district and each livelihood zone.

The starting point for the exercise is the beginning of the consumption year *before* the current year, (e.g. *Gu* 2005 for an assessment being undertaken in *Gu* 2006). Data are then collected to track changes in herd size during the previous year, given a starting point of 20 animals. In the example in **Table 12**, *gu* 2005 was poor resulting in an increase in mortality compared to 'normal' and a slight reduction in livestock holdings over the year as a whole (so that the number of animals owned at the start of *gu* 2006 is 19.5, compared to the starting point of 20).

Table 12. Example of a 20-animal Livestock Profile from a hypothetical *Gu* season assessment in Somali Region, Ethiopia

April 2005- March 2006	Cattle
No. owned during Gu 2005	20
No. breeding females	9
No. born Gu 2005	4.5
No. born Deyr 2005	0
No. sold during the year	2.5
No. slaughtered	0
No. died during the year	2.5
No. bought during the year	0
April 2006 – June 2006	
No. owned during Gu 2006	19.5
No. born Gu 2006	2.5
No. lactating now	2.5
No. lactating per 100 animals	12.8
Milk yield Gu 2006 (l/day)	2.75
Typical Gu milk yield (l/day)	2.5

Note:
No. owned in Gu 2006
= no. owned in Gu 2005
+ (births Gu + births Deyr + no.bought)
- (sales + slaughtered + died)
= 20 + (4.5 + 0 + 0) – (2.5 + 0 + 2.5) = 19.5

Deyr 2006 projection	
No. births expected Deyr 2006	0
No. lactating Deyr 2006	2.5+0 = 2.5
No. lactating per 100 animals	12.8

The next step is to collect data on the number of animals born this *gu* (2006), the number of animals lactating now and milk yields this season (see lower half of **Table 12)**.

A basic crosscheck is to check the consistency of the results with the herd dynamics timeline (see **Box 3**). In the example, the number of births in *gu* 2006 is low (2.5 compared to an expected value of 6 from the handbook), which is consistent with the low number of conceptions in 2005 (from the timeline in **Box 3**). At the same time, milk output is above the typical value for *gu* (bottom two rows of **Table 12**), which is consistent with the good rains this season.

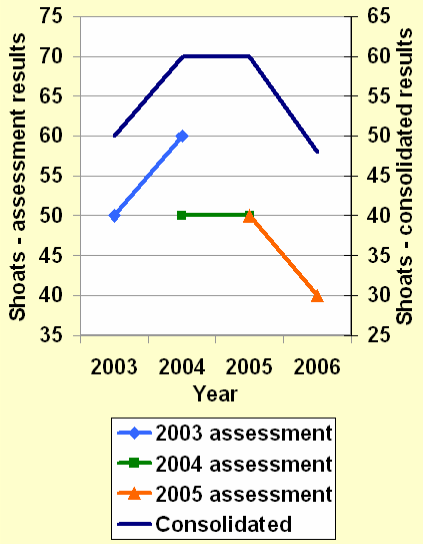
[10] The number of animals can be varied to reflect local conditions. In general terms it is best to select a herd size that is reasonably typical for the middle wealth group, e.g. 20 cattle, 50 shoats, etc. This is generally the wealth group that depends most heavily upon livestock and will be most adversely affected by a production failure (especially if the poor have diversified away from livestock production and into casual employment and self-employment).

Since *gu* is the first of two rainy seasons in Somali Region, the final step is to prepare a projection for the number of births in the second or *deyr* season. This can be done by the teams themselves, based upon information on recent patterns of conception. In our example, cattle only give birth once a year, so no further births are expected and the number of animals lactating in *deyr* will be roughly the same as in *gu*.

Problem specification – herd size

Having collected the above information the next step is to develop the problem specifications for the outcome analysis. The herd size problem will be based upon the results of the 20- or 50- animal profile exercise. This is fairly straightforward in the first year after a new baseline is prepared, but becomes more complicated in second and subsequent years. This is because the results of more than one 20- or 50- animal exercise have to be combined. Probably the simplest thing is to set a starting point of 20 or 50 animals in the reference year and then keep a running total for herd size, as illustrated in **Figure 4Error! Reference source not found.**.

Figure 4. Tracking changes in livestock holding



Note: The figure shows how the results of three repeated '50-animal' exercises can be combined to track trends in herd size over time. In this example herd size increased in 2003, was stable in 2004 and declined in 2005. The results from each individual assessment are indicated by the three separate lines (left-hand axis) below the upper continuous line that indicates the overall or consolidated picture (right-hand axis).

Taking the cattle example from **Table 12**, suppose that, having started with 20 animals in 2003 (the reference year), by *gu* 2005 the running total for cattle has reached 21.

The estimated herd size for *gu* 2006, will then be:

21 x 19.5 (*gu* 2006 holding from 20 animal exercise)
÷ 20 (starting point for the 20 animal exercise)
= 20.5

And the herd size problem specification for *gu* 2006, compared to the reference year, will be:

20.5 ÷ 20 (the starting point in the reference year)
x 100 = 103%

One concern with this approach is that the same problem specification is used for all wealth groups in the LZ. Errors in each assessment will also tend to build up over time, so that a more detailed field exercise to verify the wealth breakdown will be required from time to time, perhaps once every 3 years.

Problem specification – milk output

Continuing with the cattle example from **Table 12**, from the seasonal assessment data an estimated 12.8 animals are lactating per 100 animals in the herd, and current milk output averages 2.75 l/day compared to a typical figure of 2.5 l/day. One other figure is required to complete the problem specification - an estimate of the number of lactating animals per 100 in the reference year. This can be looked up from the results of the baseline assessment. Let us suppose that the reference value is 29 milking animals per 100. The milk production problem specification for *gu* 2006 can then be calculated as follows:

No. milking animals problem (%) = 12.8 ÷ 29 x 100 = 44%

Milk output problem (%) = 2.75 ÷ 2.5 x 100 = 110%

And the consolidated milk production problem

$$= \frac{\text{herd size prob.}}{100} \times \frac{\text{no.milking animals prob.}}{100} \times \frac{\text{milk output prob.}}{100} \times 100$$

$$= \frac{103}{100} \times \frac{44}{100} \times \frac{110}{100} \times 100 = 50\%$$

The final step in the process is to prepare a comparable milk production problem specification for the second or *deyr* rainy season. This is necessary because most outcome analyses cover the whole of one consumption year, and a problem must be specified for each rainy season, even if one of these still lies in the future. Taking our cattle example, an estimate of the number of lactating animals per 100 is available from **Table 12** (12.8) and we can assume, for the moment, that milk output will be normal for the season (i.e. 100%). Taking the herd size problem to be the same as in *gu* gives the following milk production problem for *deyr* 2006:

No. milking animals problem (%) = 12.8 ÷ 29 x 100 = 44%

And the consolidated milk production problem

$$= \frac{103}{100} \times \frac{44}{100} \times \frac{100}{100} \times 100 = 45\%$$

Other components of the problem specification

The process of compiling the problem specification for other components of the problem (crop production in agro-pastoral areas, informal employment and self-employment, market prices, etc.) is the same in a pastoral area as in a settled farming area. However, one component of the problem specification that the investigator should pay particular attention to concerns the pattern of expenditure and the cost of different expenditure items in a bad year. Pastoralists may face considerable increases in expenditure requirements in a crisis if, for example, they have to purchase water for livestock (and especially if the price of water increases) or have to pay for additional drugs to combat disease amongst their stock.

Frequently Asked Questions

Q: How is it possible to define a livelihood zone for a group that moves, frequently into other peoples' territory?
A: Most pastoral groups have a home base or territory that they do not share with other groups. They may move out of this territory on a regular basis (i.e. during certain seasons of the year) or in bad years. The simplest way of mapping livelihood zones in a pastoral setting is to define them on the basis of the home territories occupied by groups that share the same basic pattern of livelihood.

Q: How is it possible to define different wealth groups in a pastoral setting, when there is so much sharing of assets and resources between different types of household?
A: While it is true that there is a great deal of mutual assistance and cooperation between households in pastoral societies, the household remains the basic (or smallest) unit at which assets and resources are managed. Livestock, for example, are generally owned by an individual household head and not by the community. He (or occasionally she) is responsible for managing his/her animals, deciding which animals to sell and when, and whether and how to arrange gifts and loans of livestock. In practice, once the concept of the wealth group is properly explained, pastoralists generally have little difficulty in preparing a wealth breakdown for their community.

Q: Does it make sense to prepare the analysis at household level, given that households often split, the men taking the livestock to far grazing and the women, children and elderly remaining behind at the home base?
A: Even though household do split in this way, this is usually only a temporary (often seasonal) phenomenon. This means that the situation is little different from that in a settled agricultural area from which people migrate for work on a seasonal basis. The fact that they are physically separated from other members of the household does not mean that they are no longer members of the household. Having said that, it is important to be aware that migration may mean that not all members have the same access to the household's resources (i.e. intra-household sharing may not be equal). This can be especially significant if migration separates the women and children from the milking herd.

Q: In many pastoral areas there are two rainy seasons. Doesn't it make more sense to prepare the outcome analysis by season rather than for the year as a whole, since the whole-year analysis often involves making assumptions about the performance of the second season?
A: Yes, in one sense it does make sense to do the analysis by season, and this remains an important area for further development of HEA in the future. However, it is also true that many of the agencies responsible for responding to problems in pastoral areas plan on an annual basis and require estimates of need by year. In order to meet that planning requirement, the current approach is to make a projection for the whole year following the first or main rainy season, and then to update this analysis after the second or subsidiary season.

ADAPTING HEA TO MAKE IT MORE RAPID

Background

Throughout the history of HEA, there have been demands for a more "rapid" version of the approach. In truth, classic HEA assessments are already rapid in relation to most other approaches, and were designed to obtain the information decision makers need in the least amount of time possible. However, it does tend to require a minimum amount of person-time per livelihood zone to build up a confident picture of local livelihoods against which to model potential outcomes. The typical standard per zone is 8 villages, with each village taking at least 2 days, assuming you have two 2-person teams interviewing. Thus, on average, to obtain baseline information for one livelihood zone it takes 16 team days, or 64 person-days.

Understandably, those who need information usually want to get it as quickly and cheaply as possible. Adapting HEA to meet a more rapid timeline has been done on a case by case basis, addressing specific questions and concerns in each case. No single "Rapid HEA" approach currently exists. While it is therefore not possible to produce a step-by-step guide to rapid assessments in this chapter, the accumulated experience of doing more rapid assessments has produced a variety of lessons on this subject which can serve as tips and issues for consideration. The single most important lesson is that the more rapid the HEA-based assessment, the more experienced the assessment leader needs to be.

What is a rapid HEA assessment and when is it done?

There are times when a full HEA assessment may not be possible, and a rapid assessment of the situation is required to inform interventions. Most commonly, this occurs:

- after a rapid-onset disaster when immediate action is required;
- where there is limited access to the focus population (for example in an insecure environment);
- where a provisional assessment is needed to determine whether it is worthwhile carrying out a more detailed assessment; or
- in a slow-onset disaster (e.g. droughts) that has escalated into an emergency in the absence of an adequate response.

Rapid can be distinguished from classic HEA in two key ways:

1. The total number of person-days is fewer than the standard stated above. In practice, it is usually just one (or two) very experienced HEA practitioners who are called on to help answer the key question at issue.
2. In a classic HEA assessment, the procedure is to build the baseline first, then conduct the outcome analysis as a separate exercise; in rapid assessments, it tends to be necessary to combine all the steps into one single assessment process.

The key challenge in carrying out rapid assessments is to find the optimal trade-off between the need for faster results and the requirement to maintain the quality and reliability of the information collected. The general process is one of following the logic of the HEA framework to collect and interpret as much relevant information as possible, by whatever

means is possible in the context. No single prescriptive approach is possible or indeed desirable.

At a global level, rapid HEA assessments have been carried out in recent years after the 1999 drought in Pakistan, the 2004 tsunami in Asia, the 2005 Kashmir earthquake in Pakistan and the 2006 conflict in Lebanon. Within southern Africa, examples include assessing the effects of the floods in Mozambique in 2000, the impact of the land reform programme in Zimbabwe in 2001-02, and the impact of the 2002 drought in Malawi.

What are the objectives of rapid HEA assessments?

Rapid HEA assessments usually have one or both of the following objectives:

(a) To collect the minimum necessary information to determine which population groups are unable to meet their minimum food and essential non-food requirements, what the extent of their emergency needs are, and what the duration of those needs is likely to be.

(b) To determine the capacity of different population groups to return to pre-hazard livelihood patterns, and make recommendations for emergency livelihood recovery programmes.

What are the constraints involved in doing rapid HEA assessments?

The very fact that a rapid assessment approach is required tends to mean that the operational situation is not ideal. It is important for both HEA practitioners and information users to be aware of the implications of the constraints associated with the assessment circumstances. The constraints vary from context to context but can include:

- Limited physical access to the population, e.g. because of damaged transport infrastructure or insecurity
- The effects of trauma on disaster-affected populations, who may be pre-occupied by bereavement or loss of homes or assets, means that interviews are not always possible or may need to be severely curtailed
- A high pressure working environment with the requirement to produce fast results and plans for interventions leaves little time for reflection and analytical precision
- A lack of existing in-country support may mean logistical and administrative gaps if the emergency is in an area where the assessing agency has not worked before

How to do It

The need for experienced HEA practitioners

The most important requirement in a rapid HEA is to use highly competent staff. The more rapid the assessment, the more critical is the role of good judgment and analytical skills on the part of the practitioner. A highly experienced HEA practitioner will be able to bring to the table knowledge and understanding of rural livelihoods from different places, and will be better able to spot inconsistencies and abnormalities in information collected, and to quickly address those. As a rule of thumb, a lead practitioner for a rapid assessment should have completed no fewer than five previous full HEA assessments, including both the baseline and outcome analysis components.

It is usually desirable for at least two interviewers to work together (to allow for the minimum of triangulation between different investigators). When necessary, it is possible for a single highly experienced HEA practitioner to work with high caliber but untrained local staff or partners, and to provide them with some on-the-job coaching in HEA interview skills.

The HEA framework & the methods

The framework for a rapid HEA remains the same as for a full HEA. This means the outcome analysis is still based on an understanding of the baseline situation of different wealth groups in different livelihoods zones, what effect a defined shock or hazard has had, and how people have responded to that hazard. The baseline picture also still refers to asset holdings, sources of food and income, and to some extent, expenditure patterns.

What differs in a context where a rapid assessment is required is (a) the field methods used will often have to be adapted to get as much information as possible in less than ideal circumstances, and (b) the total quantity of information that can be collected will inevitably be less than we would normally collect in a full HEA, and decisions have to be made about strictly prioritising information needs and about how to cope information gaps that cannot be filled.

Using secondary and primary data

In an emergency context, where time is limited, making good use of existing secondary data is more important than ever. Secondary data will almost inevitably refer to the situation before the disaster that prompted the rapid assessment, therefore it will be of most use in giving an overview of the baseline situation. Depending on how soon after the disaster your assessment takes place, there is less likely to be secondary data available on the problem, so primary data collection in the field is likely to focus more on understanding the impact of the disaster.

Primary data collection will be important for verifying the secondary information on the pre-disaster situation, and for understanding how the disaster has affected people. In emergency contexts it is strongly recommended that rural appraisal methods are used for rapid assessments rather than structured questionnaires. This is because time and access constraints typically limit one's ability to prepare an adequate questionnaire, to sample properly, and to interview the large number of households usually needed for a representative sample. Rapid rural appraisal methods are more flexible and suited to an emergency context.

While HEA assessments often use focus group discussions, in some circumstances it will not be feasible to arrange them. For example, immediately after disasters, communities are disrupted and households are often very pre-occupied with dealing with the physical, economic and psychological effects of a disaster, and it is often not appropriate or possible to ask groups of people to take large amounts of time to assist in assessments. In those circumstances, individual household interviews have been undertaken as a substitute for focus group interviews. These are typically shorter than focus group discussions, as there is no need for different households to reach agreement. However it becomes even more important to carry out cross-checks on the information provided in individual interviews, both within and between interviews. Furthermore, one individual household interview does not substitute for one wealth group interview. It is recommended that where individual household interviews are carried out, that 3 individuals from each wealth group are interviewed in each village. Knowledgeable local people can be used to bring you to households matching the criteria for each wealth group provided in the wealth breakdown. The analyst should avoid visiting only one part of a village, and should use their analytical skills to verify whether a

consistent pattern is emerging from interviews. If there are many inconsistencies, then additional household interviews should be carried out to try to reconcile or explain those.

Chapter 6: Annex E provides a checklist of possible sources of secondary information in emergencies, and issues to consider when reviewing secondary data to understand the baseline/ pre-disaster situation. It also provides a checklist of issues for discussion when trying to understand the impact of a disaster on the household economy.

Ways of making fieldwork more rapid

As noted above, the ultimate objective of rapid HEA assessments will be the same, in most cases, as a classic HEA assessment. Making the process faster inevitably means taking some short-cuts in how this objective is met. It is essential that any "short-cuts" in the assessment are made transparent in the report. A few common ways of reducing the time required for collecting baseline information are:

- Focus only on those whose livelihoods have been badly affected by the disaster. From the secondary data review and a basic understanding of baseline livelihoods patterns, it should be possible to deduce which wealth groups and which livelihoods activities are most likely to have been badly affected by the disaster. Whereas in classic HEA we interview all wealth groups (although often prioritising the poor), in rapid assessments field interviews should concentrate heavily on those groups worst affected by the disaster. At the same time, the links between wealth groups should emerge from this discussion, and ways to ensure these links are maintained and strengthened need to be kept in mind.
- Reduce the number of household representative interviews per zone. In extreme cases, there have been examples of rapid assessments in which information was only collected from village-level community elders and knowledgeable people, rather than talking directly to household representatives from each wealth group. The validity of this approach has only been tested informally. For example, a rapid national assessment in Malawi in 2002 used this approach, and results were found to be quite similar to those from a more in-depth survey carried out later. However, there will inevitably be a loss of precision, and there is a risk that decision-makers will not accept the results.
- Leave aside the expenditure questions in every interview. Instead, take the time to put together (with help from key informants) a minimum basket typically required by the poorest households and find out the prices of those items from markets or relevant key informants (e.g. school authorities for education costs). Your focus will then be on comparing current income levels with the cost of the survival food and non-food baskets to see whether an emergency intervention is needed.
- Focus only on the most important sources of food and expenditure. Normally in full HEAs we would try to ask about every single crop produced and every single way of making income. In rapid assessments we may limit ourselves to asking details about only those sources of food and income that contribute, say 75-85% of the total, and then getting more rough estimates of the value of the remaining items, for example via proportional piling and relating smaller sources to the size of bigger sources.

Understanding the hazard in a rapid assessment

The likely impact of the disaster should be gauged for every livelihood activity. If we know the relative importance of each activity, then we will be able to estimate the total impact on that basis. Information for this section usually needs to come from primary data collection. However, with reasonable baseline information and with some livelihoods experience, it may be possible to make an informed guess about the effects of hazards on different population

groups which could inform a very short-term interim intervention while a longer-range assessment is carried out.

Because the sorts of contexts in which rapid assessments are carried out tend to be quite fluid, there is a greater than normal risk that predictions will become out of date quite quickly. Where there are many "unknowns" around how the situation may develop in the short-term (e.g. during a conflict situation, or in the immediate aftermath of a flood where road and market access may quickly improve, or simply where multiple agencies may be responding to needs at speed), it is recommended that analysts provide more scenario-based projections and recommendations. This can either be in the form of estimates of the effects of specific events (e.g. "if conflict resumes, then the extent of needs will increase, but if there is no conflict then the needs should be as reported here), or it may be in the form of best, worst, and most likely case scenarios. The key to useful scenario predictions is to be very clear about what variables are being taken into account in your analysis, and what their different values are under the different conditions envisaged in your scenario. That way, those variables can be monitored over time so that decision-makers can understand which scenario is actually coming to pass.

Time frame

The length of time needed for a HEA is based on the number of zones to be covered and the number of skilled staff available. For a single zone with a single experienced HEA practitioner working with one local partner, we would expect the following approximate timescale:

- Secondary data review: 1-2 days
- High level key informant interviews (national/ district level): 1-2 days
- Village level interviews (@ 1 day per village): 4-6 days
- Report-writing: 2 days
- **Total**: 8 – 12 days (plus travel)

The time required can be reduced by using more experienced staff. The use of more inexperienced staff can increase the time required by adding in training time.

Frequently Asked Questions

Q: Why do a full HEA if you can just do a faster, cheaper rapid assessment?
A. Rapid HEAs should not be a first-choice type of assessment because they require significant compromises in the level of detail collected and almost invariably also require some compromises in the reliability of the data because the reduced data-set and number of interviews means there are fewer opportunities for cross-checking the information. Also, with a standard HEA baseline, you can re-use it year after year and the short term investment in gathering baseline data pays off over the long run. However it is not recommended to re-use the baseline gathered in a rapid assessment, and therefore the return on the investment in a rapid assessment over the long term is not high.

Q: Are rapid assessments the same as emergency assessments?
A. In practice, yes, the vast majority of rapid assessments are carried out in emergencies. At times they are carried out in non-emergencies because of a lack of resources to carry out a full assessment. This is far from ideal however, and the rapid assessment in that situation should be used to try to leverage more funds for a full assessment.

Further reading

Sphere Project, 2004: Humanitarian Charter and Minimum Standards in Disaster Response, Geneva: The Sphere Project

THE PRACTITIONERS' GUIDE TO HEA

Chapter 7: Emerging Links, Issues and Approaches

7 EMERGING LINKS, ISSUES AND APPROACHES

The subject of food security and livelihoods is broad and widely related to a number of issues and approaches. HEA is a particular approach for exploring the relationship between households and how they obtain the things they need to survive. It is not the only approach that aims to achieve this goal. Nor does it fully address the many sector-specific issues and concerns that have particular importance in southern Africa, such as HIV/AIDS. This chapter helps the practitioner explore the links between HEA and other current approaches for looking at livelihoods and vulnerability issues. It also provides guidance on how HEA baseline assessments and outcome analysis can add value to specific sectors or areas of investigation, like nutrition, political economy, and HIV/AIDS, and how, by using some of the thinking and tools from these areas of work, value can be added to HEA. As examples of these sorts of links being made and combinations of tools being used in practice are still rare in a number of the areas discussed, this chapter should be seen as suggesting ideas and possible ways forward, rather than drawing lessons solely from experience.

This chapter was written by Michael O'Donnell, with Laura Hammond (HEA and Power, Conflict & Political Economy) and Arabella Duffield (HEA and Nutrition).

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RELATED CD FILES

The CD that accompanies the **Practitioners' Guide** contains the following files relevant to Chapter 7, found in the Chapter 7 directory:

Annex A: Other VAA Methods

- Guidance Notes for Determining Data Quality in Vulnerability Assessments
- Tanzania HBS Question Form 1
- Tanzania HBS Question Form 2
- Tanzania HBS Question Form 3
- Questionnaire Uganda CFSVA Final
- Malawi IHS 2 HH Questionnaire

Annex B: Checklist of Issues Relating to Power

Annex C: HIV/AIDS

- A Parrot on Your Shoulder: A Guide for People Starting to Work with Orphans and Vulnerable People
- Children's Interview Form

HEA AND THE SUSTAINABLE LIVELIHOODS FRAMEWORK

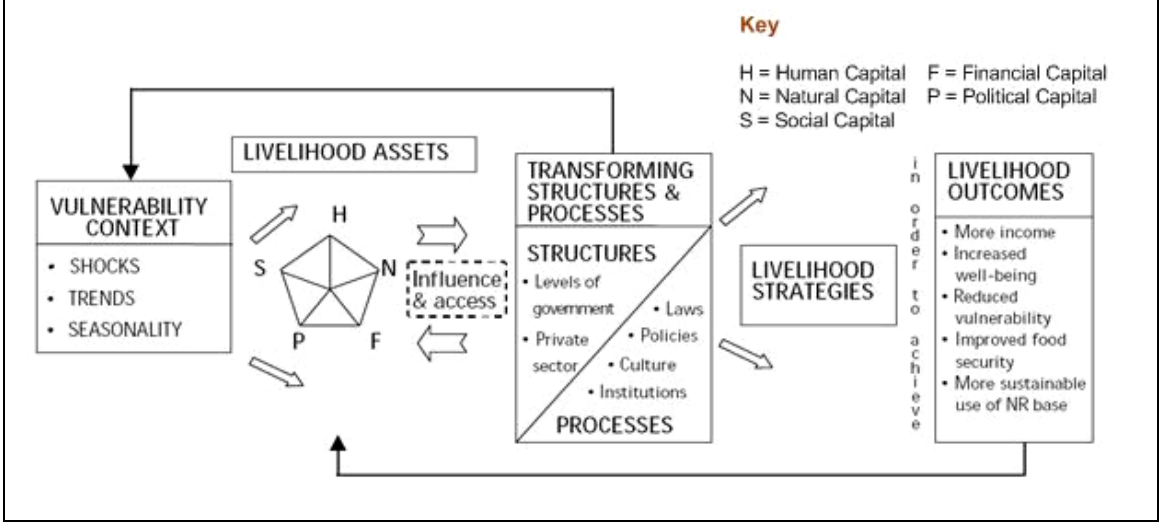
Background

Overview of the Sustainable Livelihoods Framework

The Sustainable Livelihoods Framework (SLF) is a conceptual framework that helps us to understand how assets, institutions and processes combine to enable households to make a living. The Framework, illustrated in **Figure 1**, has 5 broad components:

- *Assets or Capitals:* different assets provide the bases that people draw on to making a living – human, financial, physical, natural, social and – in some variants of the SLF – political.
- *Policies, Institutions and Processes*: these influence and mediate the ways that households can use the assets that are available to them.
- *The Vulnerability Context:* this describes the external environment in which people exist but which they cannot control, and refers to how long-term trends, seasonality and natural and man-made shocks can affect livelihoods.
- *Livelihood Strategies:* based on the interaction of the above 3 sets of factors, households are able to carry out different livelihood strategies, such as farming, employment or trading.
- *Livelihood Outcomes:* these refer to how successful the livelihood strategies have been in ensuring access to food or income or other measures of welfare.

Figure 1: The Sustainable Livelihoods Framework (*source: DFID*)

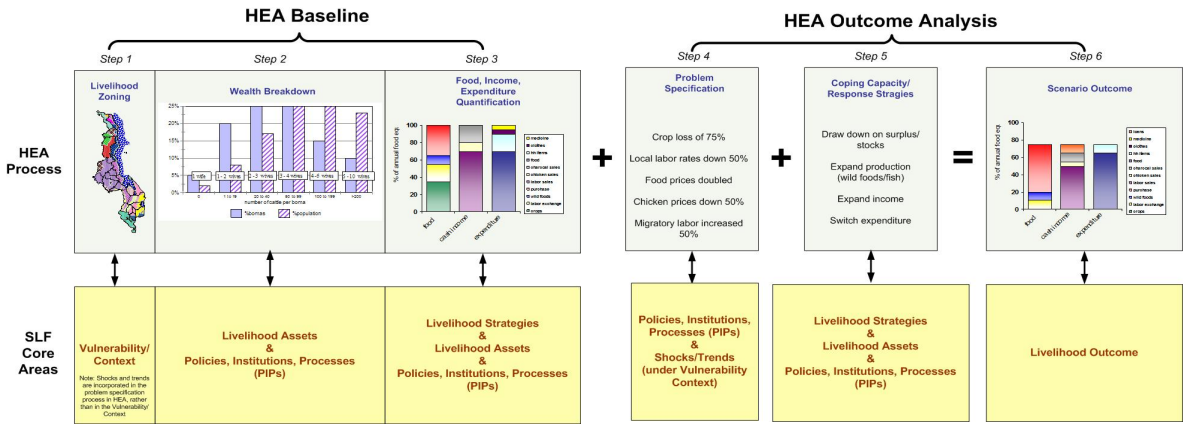


How HEA and SLF are linked

While HEA was developed prior to and independently of the SLF, both share many common elements. HEA most explicitly describes *livelihood strategies* and *livelihood outcomes* through the presentation of sources of food and income, and expenditure patterns. The wealth breakdown in HEA incorporates a particular formulation of the assets available to the households, which can be expressed in terms of the 5 types of assets or capitals in the SLF.

Some aspects of social capital and human capital are not comprehensively addressed in most HEA assessments, however.

Figure 2. Linking Steps in HEA with the Sustainable Livelihoods Framework



Source: *Boudreau & Hammond, 2006*

The *vulnerability context* is also explicitly covered in HEA, either in terms of a problem specification for a current year, or more implicitly in the criteria for distinguishing between livelihood zones. HEA assessments do not usually have an explicit section looking at *policies, institutions and processes*, and this is an area that could be made more consistent and explicit. Currently, it is common within HEA to describe aspects of key policies, institutions and processes where they help explain the wealth breakdown or different aspects of access to food and income or expenditure patterns, or as part of the problem specification if the problem happens to be one of a change in policy or process (e.g. price subsidies, livestock bans market closures, etc).

Given their respective roots, with HEA originally designed as a tool for emergency needs assessment, and the SLF conceived for more development-oriented planning, HEA has focused more on *livelihood strategies* and *outcomes*, while SLF assessments tend to focus more on understanding the factors underlying those strategies and outcomes.

How to Best Exploit the Linkages Between HEA and the SLF

As discussed elsewhere in the guide, it is critical to cater your research approach to a clear set of research questions. In many cases, the set of key questions that leads to an HEA assessment does not require an exhaustive inventory or mapping of the macro-political or economic environment. In cases where this analysis is required, however, there is no methodological reason why greater emphasis could not be placed on understanding all types of capitals and policies, institutions and processes in HEA assessments. Although to date we are not aware of examples of this having been done, it is believed that additional specialised tools could be combined with HEA to

A different focus

HEA focuses on understanding people's *livelihood strategies* and *outcomes*, while SLF assessments aim to understand the causal factors underlying those strategies and outcomes

Figure 3. Example of a Agricultural Zone Wealth Breakdown Using HEA and SLF Terminology

HEA Terminology

	Very Poor	Poor	Middle	Better Off
% of Total Popn.[2]	10-15%	20-30%	30-45%	20-30%
Main Caste	SC & ST	SC & BC	BC	OC
Household Size	4-6 (mostly 5)	4-6 (mostly 5)	4-6 (mostly 5)	4-6 (mostly 5)
Number Working	2-3	2-3	Mostly 2	1-2
Land Owned	0 (landless)	<1 acre	1-3 acres	3+ acres
Main Crops Grown	None	Rice	Rice	Rice Groundnuts Sugar cane (few)
Other Assets	Labour only	Labour only	Own Draught Power/ Hire Tractor	Own Draught Power/ Hire Tractor Few have irrigation
Livestock: **Buffaloes** **Cattle** **Goats** **Poultry**	 0 0 0 Few	 0-1 0 0 Few	 1-3 0-2 0-5 Few	 1-3 0-2 0 Few
Main Income Sources	1. Migratory Labour 2. Agric. Labour 3. Weaving	1. Migratory Labour 2. Agric. Labour 3. Crop Sales	1. Crop Sales 2. Agric. Labour 3. Migratory Labour	1. Crop Sales 2. Agric. Labour 3. Livestock Product Sales
HH Income Range (Rs/ Year)	Rs12,000 – 20,000	Rs15,000 – 20,000	Rs20,000 – 30,000	Rs45,000 – 110,000

SLF Terminology

	Very Poor	Poor	Middle	Better Off
Natural Capital	No land for cultivation or grazing; little access to land for firewood collection. A small number lease land from others	Small amount of land for cultivation (<1 acre), and often poorer quality (upland, little water)	1-3 acres of land for cultivation	>3 acres of land for cultivation
Physical Capital	No boats/ nets	No boats/ nets	Nets and mostly non-motorised boats	Some have boreholes to irrigate land.
Human Capital	2-3 income earners; limited formal education; labouring skills		2 income earners; more educated	1-2 income earners; more education
Financial Capital	Low income; small debts (no collateral to borrow against)	Low income; some debts (limited collateral)	Middle income; little debt (usually borrow for inputs and repay); better access to credit	Higher income; high borrowing related to agric. inputs, but most repaid; access to formal credit
Social Capital (not formally assessed)	From marginalised castes/ tribes	Mix of castes; SC face discrimination	From higher castes; less socially and politically marginalised; receive better facilities	

Source: SC UK India Programme, 2005

ensure adequate coverage of all aspects of livelihoods (e.g. the "social relations framework" for understanding power and social dynamics).

Meanwhile, HEA can add value to SLF assessments by introducing an element of quantification to descriptions of livelihood strategies and outcomes, allowing decision-makers to understand the relative importance of different food and income sources for different groups, and to see absolute levels of food insecurity and poverty. This makes HEA a very useful tool for operationalising the SLF.

Wealth breakdowns and the SLF "Capitals"

Figure 3 gives an example from a Household Economy Assessment in an agricultural zone in Andhra Pradesh, India, where the wealth breakdown was expressed using a standard HEA presentation but also using the 5 capitals of the SLF. The example serves to illustrate the overlap between HEA and SLF. Whether practitioners choose to present their wealth breakdowns in one way or the other will be, in part, determined by the needs of the client who is paying for the assessment.

If a decision maker prefers SLF terminology, it is possible, for example, to describe land ownership within the heading of "natural capital". Similarly, ownership of key tools and productive assets could be indicated under "physical capital". Draught animals or other animals used for productive purposes can also be listed under "physical capital", but total livestock holdings are more commonly captured as "financial capital" given their importance to many households as a "bank on four legs". "Human capital" will refer to labour availability within the household, and – if this information is collected – to the education and skills levels of typical households within each wealth group.

Different relationships between wealth groups can be captured as types of "social capital", for example credit relationships, sharecropping and livestock sharing arrangements and social support relationships. However, overall, in practice social capital is not usually examined comprehensively in HEA assessments. In particular, HEA rarely considers the implications of membership of networks or groups at sub- wealth group level, for example whether membership of a cooperative makes some in the poor group somewhat better off than others. For those wishing to look at social capital in more depth, a useful simple resource is the DFID "key sheet" on the issue, referenced in the "further reading" section.

HEA & policies, institutions and processes

As has been indicated, HEA assessments typically do not have an explicit section referring to *Policies, Institutions and Processes (PIPs)*, which is often a shortcoming in HEA practice. Many of the key PIPs that influence the household economy are considered implicitly in HEA, however. Policies determine agricultural practices, the cost of inputs and farm gate prices, market conditions, and labour practices, among other things. They are part and parcel of the factors included in the expression of distinctions between livelihood zones, and the livelihood strategies that people pursue. How PIPs are mediated through community filters is what ends up being represented in HEA *sources of food*, *sources of income*, and *expenditure patterns*. When there are changes in policies or relevant institutions and processes which have discernable economic effects, these are also implicitly included in the HEA *problem specification*.

Table 1 provides a checklist of some of the PIPs that may be most relevant in HEA assessments, and issues to consider in relation to them.

Other sections of this Guide are intended to help HEA Practitioners redress the lack of focus on PIPs. Markets are arguably the most important institution to consider, and the market

analysis sections in this guide provide more detail on how they should be assessed. In addition, the "Power, Conflict and Political Economy" section later in this chapter provides a useful checklist of issues to be considered that can help explain PIPs.

Table 1: Examples of Policies, Institutions and Processes, and Their Relevance in HEA

Policies, Institutions and Processes	Examples of Issues to Consider	Relevance in HEA
Markets	• Are markets functioning effectively? • Can people trade goods freely within the country? • How are markets regulated (e.g. price controls, existence of parallel/ black markets)?	• (As described in Markets sections elsewhere) • How vulnerable are different groups to changes in the market? • How will markets constrain or facilitate responses to shocks?
Macro-Economic Policies	• Is the foreign exchange rate stable? • Is the inflation rate low?	• Are macro-economic shocks a problem affecting the household economy? • How do these affect wages, incomes and prices, and thus different wealth groups?
Social Protection Policies	• What social protection policies and safety nets are in place? • What sorts of transfers are provided (cash, food, agricultural inputs)? • Who is eligible?	• What contribution do these measures make to baseline food and income in different wealth groups? • Is social protection "expandable" if there is a shock? Will a government response be automatic?
Land Rights	• Who owns the land? Who has rights to own or occupy land? How are those rights conferred? By whom? • How is inheritance of land organised (legally and culturally, if different)?	• How do land rights affect the ownership of land and thus the wealth breakdown? • What implications would inheritance issues have if the shock is a loss of a family member, e.g. due to AIDS? Can the household continue the same activities?
Natural Resource Management Policies	• Are there restrictions on access to or use of forest products (e.g. cutting trees for charcoal or crafts)?	• Can these activities be expanded if there is a shock or not?
Ethnicity, Religion, Political Affiliation	• Is there any form of formal or informal discrimination between different social, cultural or political groups? How does this manifest itself?	• Do these factors cause different groups to be in specific wealth groups? • Do they constrain opportunities to respond to shocks?

Frequently Asked Questions

Q: Doesn't HEA only look at livelihoods from an economic perspective, rather than considering social or political issues, and therefore isn't it less comprehensive than the SLF?

A: HEA is focused primarily on the effect of economic shocks on people's livelihoods which is one of the primary reasons for disaggregating the population by livelihood zone and wealth group. But economic shocks and non-economic factors, such as social and political issues, are highly inter-related. A politically-motivated decision to change a grain subsidy, for instance, will ultimately have economic effects at the household level. Social status within a community provides or restricts access to certain advantageous economic opportunities. HEA focuses its enquiry on the economic side, but fully recognizes the need to understand the political and social context in order to interpret the economic outcome. Having said that, the depth of the investigation into related sectors actually carried out within a HEA assessment depends on the purpose of the assessment, e.g. it might central to long-term development planning, but less crucial for understanding immediate needs in an emergency.

Q: Is the SLF a methodology, or an approach or a checklist…?

A: The SLF is a conceptual framework for understanding how different elements interact to determine livelihoods outcomes. There is no single analytical method for assessments based on the SLF, and a range of tools can be used to collect the information required to do an analysis based on the SLF. In practice, it is also useful as a checklist of issues to consider when assessing livelihoods.

HEA & Other Vulnerability Assessment & Analysis Tools

Background

Why use HEA alongside other vulnerability analysis tools?

Vulnerability assessment tools are constantly evolving. Rather than seeing them as competing, it is useful to think in terms of how different frameworks and methods can either be used together in a complementary way or be used to achieve different research objectives. HEA's evolution since the 1990s has reflected different users' demands, and learning from other frameworks and methods. Within southern Africa, there are a wide variety of surveys and studies available. This section summarises different research methods, and describes how they may be used in combination with HEA.

Throughout this guide, we have attempted to distinguish the HEA framework from the methods used to collect information related to the framework. However, HEA in practice predominantly uses qualitative, rapid appraisal methods. (See Chapter 1, **pg 3,** in the **Practitioners' Guide;** and Session 1 (*Introduction to the Field Process*) in the Training Guide for more on the reasons behind this. Similarly, for the other vulnerability assessment tools described here, we will try to distinguish the analytical framework from the research methods, while acknowledging that in most cases, one method is commonly associated with each framework.

How to do It

Understanding different VAA tools

This section looks at three broad categories of vulnerability assessment tools, which we here call:

(a) "Snapshot" Assessments
(b) "Annual Accounting" Assessments
(c) Qualitative Livelihoods Assessments

"Snapshots" of food security and vulnerability

Depending on the type of information collected, analysis of vulnerability is typically based either on indicators of the situation at a particular point in time (a "snapshot"), such as the last 7 days, or else information on some combination of food consumption, income and spending is collected for a longer recall period – usually a full year – as is done in HEA. Occasionally, the survey instrument used allows both to be done at once. Examples of snapshot indicators are dietary diversity (food groups consumed in the last 24 hours or 7 days), holdings of food stocks in the household and the coping strategies index (variety and intensity of coping strategies used in the last 30 days).

Snapshots potentially provide more accurate information for the period under consideration because people are more likely to recall the recent past. They also provide powerful evidence for decision-makers of severity of the current situation. But they are limited in that they often do not take account of seasonal factors and inter-annual differences, and lack predictive power. For most households, the indicators will vary according to, for example, whether the survey was done immediately after the harvest or at the height of the "hungry season", and whether the year in question was a bumper one, or whether it was the third

bad year in a row. On their own, therefore, this makes such indicators less useful for early warning and making predictions of how things will change. Even if they are collected regularly, they will display trends, but they will not necessarily be a good indicator of how things will change in the future. Given the often long lead times between assessments and response (up to six months for internationally imported food aid, for example), the ability to look into the future is vital in an assessment.

The analytical frameworks behind snapshot assessments are not always clear. At their simplest, they actually try to measure current food insecurity using various proxy indicators which (preferably) have a proven association with levels of food security. For example dietary diversity indices are widely agreed to bear a strong relationship to current food security. At times however, the associations are assumed, and sometimes incorrectly so. For example "duration of household food stocks" is still commonly used. While this may be an appropriate indicator of food security if the household relies **only** on own crop production, many household economies rely on additional cash income and regular purchases of food and food stocks, in this case, are not a valid indicator.

More complex tools use a variety of indicators to complement and cross-check one another. In such cases, however, we must be clear about what the indicators actually indicate, e.g. current consumption (dietary diversity), predicted shortfalls in food production (rainfall or other climatic indicators), levels of existing stress to livelihoods (coping strategies), the outcome of problems in some combination of food insecurity, poor health and a poor caring environment (infant malnutrition).

Proxy indicators have a practical disadvantage in that they only provide a relative measure of food insecurity (i.e. "Household A is less food insecure than Household B"), whereas direct measures of consumption enable absolute statements to be made (i.e. "Household A is accessing 90% of its needs; Household B is accessing 75% of its needs). It may be possible to accurately calibrate proxy indicators against absolute measures, i.e. to be able to say what different dietary diversity scores are equivalent to in terms of total energy consumed. But doing so is complex and requires a lot of data and effort and hence in practice it is rarely done.[1]

Examples of surveys that are more "snapshot" in their nature include WFP "Comprehensive Food Security & Vulnerability Assessments[2]" (CFSVAs) and many national Household Budget Surveys/ Income & Expenditure Surveys (e.g. Tanzania 2000/01 Household Budget Survey).

Annual accounting of food security & vulnerability

Annual accounting refers to those assessments that look not at food security at a single point in time, but try to account for all the food and income that a household accessed in a year and – sometimes – how income was spent. HEA assessments, therefore, use an annual accounting approach. As the HEA framework is well described elsewhere in this guide, for this section we will focus on assessments that use household questionnaires for data collection and quantitative/ statistical methods for analysis, as opposed to the rural appraisal methods more commonly used in HEA.

[1] Diego Rose/ MSU has done this for dietary diversity in Mozambique

[2] However, CFSVAs (also referred to as Comprehensive Vulnerability Assessments (CVAs) vary from assessment to assessment, and with some incorporating elements of "annual accounting" and – at the time of writing - WFP is investigating ways of incorporating qualitative research and elements of the livelihoods framework.

Obtaining information to meet the requirements of annual accounting of food, income and expenditure through a questionnaire is more demanding than getting snapshot information. It can be difficult to recall accurately things that happened many months previously. However, a well designed tool would facilitate recall by including opportunities for cross-checking information, and by asking questions in ways that are easier for respondents to answer. For example, rather than asking "how much did your household earn last year from casual labour", it is preferable to break this down by asking for each household member, which months they worked, how many days per week they worked, what the wage rate was at different times of the year and then calculating the total income from these answers.

Some VAC assessments have used this approach (e.g. Zimbabwe 2003-04), while others use a combination of "snapshot" indicators and more or less comprehensive accounting of the household economy within a single survey (e.g. Mozambique VAC, 2005-06). The Malawi Integrated Household Survey, 2004, is another example of a mixed approach.

Qualitative livelihoods research

Qualitative livelihoods research in this section refers to assessment methods that are based on the SLF described previously in this chapter, but which rely on purely qualitative research methods, without quantification. These include the sorts of livelihoods assessments often carried out by NGOs such as Oxfam [3]and CARE[4], and also Participatory Poverty Appraisals (PPAs) carried out by the World Bank. These types of assessments cover a broad variety of issues relating to livelihoods and vulnerability. The information collected in these studies can be very rich and useful in understanding livelihoods patterns and the root causes of poverty. Because results are not quantified, however, the results can be limited in terms of judging the relative importance of different issues, and the scale of responses required.

Qualitative research is also not meant for applied purposes in an early warning system, which requires a quantified baseline of some sort in order to practically link monitoring data and make quantified predictions.

Box 1. VAAs in Southern Africa

VAC Household Questionnaires

The content of VAC questionnaires tends to vary from country to country, and even from year to year. However, they usually collect information on household composition, education, health (including chronic illness and HIV/AIDS), and sometimes anthropometry. Most VAC surveys combine the use of "snapshot" indicators with more or less complete "annual accounting" of the household economy (e.g. Mozambique in 2006). Others have focused more heavily on the annual accounting style (e.g. Zimbabwe in 2003 and 2004).

WFP Comprehensive Food Security & Vulnerability Assessments (CFSVAs)

CFSVAs have been carried out by WFP in increasing numbers since 2005. They are intended to serve as a baseline for understanding vulnerability in particular countries, and for tracking changes with food security monitoring systems. Their methodology is evolving and varies somewhat from country to country, but broadly can be described as a "snapshot" approach, with partial accounting of the household economy, but including coverage of demography, health, education and anthropometry.

How to choose research methods

Given the range of tools and methods available, how does one go about choosing which to use? The decision about which research tool or combination of tools to use depends upon (a) the research question you are trying to answer, and (b) practical considerations about time and resources available. It is not the case that one research method is inherently "better" than

[3] Although Oxfam is increasingly using HEA in its work.
[4] It should also be noted that CARE often also uses quantitative surveys.

another, but rather that different methods are more or less suited to different needs.

What is your research question?

The research question will determine the type and scope of data that you need to collect, and different research methods are more or less suited to answering different research questions.

- *Snapshot surveys*: these are more suited to answering questions about current levels of food insecurity for different population groups; they are also good for describing (but not necessarily explaining) associations/correlations between levels of food security and other variables such as household demographics, health, education and anthropometry.
- *"Annual accounting" surveys*: these tend to be more suited to national-level surveys looking at levels of food security and associations/ correlations with other variables; they are less suited to detailed causal analysis of food insecurity or poverty.
- *Qualitative livelihoods analysis*: These are very strong at explaining causes of food insecurity, vulnerability or poverty, and explaining links between household, community and macro issues; they are not well suited for estimating or predicting levels of food security.
- *HEA*: This is something of a hybrid, in that it quantifies current levels of food and income security, but also goes some way to understanding the immediate causes of poverty and livelihood security and can be used in conjunction with monitoring data to make predictive analyses of food and income security.

What resources are available?

Practical considerations are also at least as important as technical considerations in the choice of assessment tools. These primarily relate to the time, geographical coverage, money and staff available to carry out the assessment. For staffing, HEA is generally considered to require higher-calibre staff with good analytical skills for the fieldwork compared to household surveys. However, significant expert skills are required to design and analyse household surveys as well, and ideally survey administrators should have the capacity to cross-check and probe questionable responses if data quality is to be assured. HEA is often considered an expensive method compared to surveys, but the cost of either approach is heavily dependent on the amount of external technical expertise that needs to be brought in, and the scope of the exercise. The initial HEA baseline and training exercise may be costly, but the investment in the baseline pays off over time since it can be used year after year for projection work, and a repeat updating or monitoring exercise using trained national staff will be relatively cheap. A snapshot survey, on the other hand, has to be repeated in full each time a new analysis is required.

Mixing Methods: What HEA adds to other surveys and what they add to HEA

Increasingly, there is recognition that it is much more fruitful to look at how different methods can complement one another, rather than arguing about which single method is most useful. Mixing of methods can be done either through simultaneous use of different tools (with each adding different pieces of the puzzle, or serving as a cross-check), or sequentially. For vulnerability analysis, a useful sequence might be:

(a) A qualitative survey or HEA provides an overview that helps in the design of a quantitative survey

(b) The quantitative survey gets more precise descriptive data on levels of vulnerability and associations between vulnerability and different aspects of the livelihoods, health, education, etc.
(c) Further qualitative research explores unexpected or anomalous findings, or just tries to provide further causal analysis of the findings of the quantitative survey

Table 2 suggests how the information from HEA and other tools can complement one another when used simultaneously:

Table 2. How different approaches can complement one another

HEA and…	*What HEA adds*	*What is added to HEA*
"Snapshot" Surveys	• Seasonal and inter-annual context • Usually better at capturing income sources, especially informal sources • Often more comprehensive description of the household economy • Inter-wealth group relationships • Stronger narrative descriptions • Greater ability to link with monitoring data to predict future outcomes • General cross-checking of findings	• More precise info on food security status at a point in time, especially dietary quality • Easier to link food security info with health, education, demographics, anthropometry • Often stronger intra-household information • General cross-checking of findings
"Annual Accounting" Surveys	• Usually better at capturing income sources, especially informal sources • Inter-wealth group relationships • Stronger narrative descriptions • General cross-checking of findings	• Easier to link food security info with health, education, demographics, anthropometry • Often stronger intra-household information • General cross-checking of findings
Qualitative Livelihoods Assessments	• Some quantification of livelihood outcomes and contributions of different livelihood strategies strengthens findings and makes them more useful for decision-making particularly in emergencies • Gives a more complete picture of how different parts of the household economy fit together • Greater ability to link with monitoring data to predict future outcomes	• Usually stronger on explaining root causes of livelihood insecurity, especially non-economic factors • Often better explanation of the interaction between the household and wider policies, institutions • Linked to the above, they can be more suited to developing long-term development programmes
The following two types of surveys are commonly used at a national level in Southern Africa and are therefore shown here for ease of reference. They are predominantly snapshot in nature, but		

sometimes incorporate elements of annual accounting:		
HH Budget Surveys/ Income & Expenditure Surveys	• Seasonal and inter-annual context • Usually better at capturing informal income sources (less standardised, so more flexible) • Inter-wealth group relationships • Stronger narrative descriptions • General cross-checking of findings	• More precise info on food security status at a point in time, especially dietary quality (shorter recall period) • Often stronger intra-household information • General cross-checking of findings
Living Standards Measurement Survey (LSMS)	• Seasonal and inter-annual context • Usually better at capturing income sources, especially informal sources • Inter-wealth group relationships • Stronger narrative descriptions • General cross-checking of findings	• Easier to link food security info with health, education, demographics, anthropometry • Often stronger intra-household information • General cross-checking of findings

Some of the other strengths and weaknesses of different approaches are more subjective and/ or more about the way the method can be applied in practice than about things inherent in the method itself.

For example, some people find the use of livelihood zones and wealth groups in HEA to be very useful in giving a clear explanation of differences in livelihood patterns across geographical areas. Others however feel that administrative areas are more practical units of analysis for various reasons, or that livelihoods zones are not helpful for the sort of analysis they are interested in. Household surveys have the potential to be more flexible in terms of disaggregating data in a variety of different ways (whereas in HEA information can only be disaggregated according to the groups interviewed and the livelihood zones covered). The caveat here, though, is that the sampling framework for a household survey may mean that disaggregating by some unforeseen variables may result in too few records being used for the results to be valid.

Frequently Asked Questions

Q: Which are better, qualitative or quantitative research methods?
One method is not better than another in general. Whether a method is "good" or not is context specific, and depends on (a) whether it is an appropriate tool for getting at the information needed to answer a specific research question, and (b) whether the research is carried out in accordance with good practice. Annex A provides guidance on how to determine the quality of the data in a vulnerability assessment.

Q: If quantitative survey results are statistically valid, doesn't that mean they are more robust?
Not necessarily. Data quality is not so much related to the method itself, but how the method is implemented in practice. There is good and bad practice in every research method. Statistical validity is an appealing concept, and when the data itself is of good quality then tests of statistical validity are important for demonstrating that the results are reliable.

However, it is possible for bad data to be statistically valid, for example if the question was poorly phrased, or if the answers given were subject to some bias. Similarly, good practice in qualitative research can lead to robust data, while poor practice will lead to unreliable information.

Field Materials

The accompanying CD includes examples of survey instruments from different quantitative surveys in Annex A. For detailed guides and reviews of different methodologies, see "Further Reading" at the end of this chapter.

Survey Instruments:

- VAC HH and Community Survey form, Zimbabwe 2004
- WFP CFSVA HH and Community survey instrument, Uganda 2005
- Malawi Integrated Household Survey-2 HH survey instrument, 2004
- Tanzania Household Budget Survey HH survey instrument, 2000/01

HEA & Power, Conflict & Political Economy Analysis

Background

What is conflict and political economy analysis?

A political economy approach in livelihoods assessments involves understanding the political and economic interests of different actors, and how those might, for example, influence them to make use of conflict or positions of power for their own ends. It involves looking not only at the actors themselves, but also the structures within which they operate and which may either facilitate or hinder actors' interests.

The HEA framework and the qualitative research methods typically used in HEA fieldwork lend themselves well to incorporating political economy and conflict analysis. Political economy analysis requires delving further into the livelihood strategies that wealth groups pursue and their assets by asking more about why some groups have control over assets, and how and why the opportunities and relative wealth of different groups have changed over time. It involves considering the possibility, for example, that the reason the "poor" have less land than the "middle", or that people in one livelihood zone have more infrastructure and trading opportunities than in another, is not the result of random external processes, but rather of intentional policies or the pursuit of the interests of one particular group. And it involves considering vulnerability not only in economic terms, but also in social and political terms.

There are a number of examples of HEA assessments that have incorporated elements of conflict and political economy analysis, and many HEA practitioners will recognise the issues here as ones they already consider to some extent without expressly calling it power, conflict or political economy analysis. But there have also been calls to make this more systematic and structured in HEA (e.g.Collinson et al., 2002; Jaspars & Shoham, 2002). This section aims to introduce HEA practitioners to key elements of power, conflict and political economy analysis that can be addressed within HEA assessments, and to the ways that more detailed tools for conflict analysis that are available elsewhere can complement HEA analysis.

Why consider power, conflict and political economy

Understanding power, conflict and political economy can be important for three main reasons:

- *To provide a deeper understanding of the causes of poverty and food insecurity*: It is widely acknowledged that the root causes of poverty and food insecurity are related to deeply embedded social, cultural, economic and political factors. The immediate causes of who is more or less food secure relates to differences in the amount and quality of food or cash that households can access. Underlying causes relate to the different assets households have and the livelihood strategies that they are able to pursue. But root causes explain why some people or communities have more assets than others or why they are better able to make use of those assets than others. Very often, power and political economy considerations will help explain the root causes - especially in situations of conflict - and guide us towards the most appropriate set of measures to help address those causes.

- *To help predict problems that may arise*: Food security analysis and early warning systems are most often focused on predicting the occurrence and effects of natural

shocks. What is the likelihood of the rains failing next season? Which people in which areas would be worst affected by that? Political economy and conflict analysis enables us also to consider the risks of conflict or tension arising in different areas or between different groups, and not only as a result of the hazard but also because of the nature of the response, e.g. one group being favoured for support over another marginalized group. Combined with HEA, this gives us a more sophisticated understanding of which groups may be affected, in what ways and why. For example, the urban HEA carried out in Harare, Zimbabwe in 2002, was explicitly intended to examine how macro-economic and political changes would affect the economic status of different population groups, and how that might in turn affect the potential for civil unrest.

- *To ensure sensitivity to power relationships and conflict in programming interventions*: HEA enables us to understand which groups are (or are likely to be) food insecure and helps suggest interventions to alleviate that. However, interventions that fail to take account of power relationships and conflict risk exacerbating marginalisation and tensions. For example, could support for a livelihood strategy that is associated with one particular ethnic or religious group cause resentment in another group? Or could a particular type of agricultural support programme inadvertently increase tensions over land rights?

To a greater or lesser extent according to the context, some degree of power, conflict and political economy analysis is a matter of good practice in all assessments.

How to do It

It is beyond the scope of this guide to provide detailed guidance on tools for conflict and political economy analysis. Many such tools already exist, and the "further reading" section points interested readers towards those. The purpose of this section is to highlight key aspects of those tools that can usefully be linked to a HEA assessment. Annex B provides a brief checklist of issues relating to power and political economy analysis which can be used in the field to give an overview of key issues on this subject.

How power and conflict fit within the HEA framework and methods

The incorporation of power and conflict analysis is compatible with the HEA framework, but it does require a somewhat different analytical "lens" through which information is interpreted to ensure that an accurate and relevant understanding is acquired.

The same basic set of information is collected for the baseline – assets, sources of food and income, expenditure patterns and coping capacity of different wealth groups. This should then be supplemented by information covered in the checklist in Annex B to provide a deeper understanding of the reasons for differences between and possibly within wealth groups. The inclusion of power and conflict analysis may lead to a decision to sub-divide wealth groups or may influence the delineation of livelihood zones (this is covered in the section below). However in most cases, it is likely to simply provide a deeper layer of understanding of the reasons for poverty and food insecurity and the opportunities open to different people to improve their situation. As such, it may point to opportunities for developing programming or advocacy responses that are aimed at the political, macro-economic, or policy level to influence change.

Applying a power, conflict and political economy lens to the analysis of food security and poverty in HEA requires a subtle contextual interpretation of exposure to shocks and capacity to cope. This applies in five main regards:

(a) To what extent are conflicts predictable? Understanding the dynamics of tensions, and the triggers that are likely to result in their escalation, can help to inform predictions about when a crisis may develop, and thus improve early warning.

(b) Whose interest is served by the conflict or continued tension? Look for individuals and groups who are likely to benefit from instability and unequal power relations as these actors are likely to work to preserve the status quo. (See **Box 2** for an example of this from Sudan.)

(c) Does exposure to conflict-related shocks differ within wealth groups? For example, different social groups may pursue the same livelihood strategies in the baseline period and have the same level of wealth, and thus get classified as a single wealth group. But if a particular conflict or source of tension subsequently affects one social group within the wealth group more than another (e.g. ethnic tension arising in a previously integrated community), then a separate analysis will need to be carried out for each group.

(d) Does the ownership of assets make any group a target in a conflict situation? Typically, more asset ownership would be equated with increased capacity to cope with a shock, and thus wealthier groups would be assumed to be less at risk of food insecurity. But in some situations, those assets may become liabilities by leading such households to be targeted for attack. An understanding of patterns of conflict is thus necessary to determine real vulnerability to different shocks.

(e) Given the political economy context, could the coping capacity of different groups be constrained by non-economic barriers or by the nature of a political context? For instance, are some groups marginalized on the basis of their ethnicity, religion, or gender? And hence does that affect their vulnerability?

Box 2. The Benefits of Famine in Sudan

In a landmark book in 1994, David Keen used a political economy perspective to examine the causes and the process of a famine that developed among the Dinka of Sudan in 1985-89. Over 500,000 people were estimated to have died.

By looking at the famine as an extended economic and political process, rather than as an event characterised by destitution and death, Keen illustrated how a variety of benefits accrued to select groups in the midst of the famine. These included cattle raiding and asset stripping by the Baggara, an ethnic group who were armed and encouraged by the central government to quell the demands of the Dinka for political autonomy; and to provide access to oil and other resources in Dinka areas.

For the Baggara, raiding provided economic resources (mainly cattle) and access to increased farming and grazing land, mitigating their existing economic and political discontent. Powerful traders and business interests also benefited by shaping markets and benefiting from price changes that occurred, i.e. low cattle prices, low wage rates for migrant labour, high grain prices and high transport prices. Finally some groups also benefited from the diversion of relief supplies from those in need.

The methods most widely recommended for collecting the information needed for this type of analysis are secondary literature reviews, and qualitative/ semi-structured interviews with key informants. Depending on the nature of the power and conflict issues to be considered, key informants in this case may include staff from research institutes and universities, human rights organisations and media, but at the community level the key informants are likely to be the same as for standard HEA information. Including this sort of analysis therefore fits well with the methods most commonly used to collect HEA information. What is required is additional time for interviews and secondary data review, plus some additional capacity to analyse the information. For in-depth analysis, it is recommended that additional

input is sought from staff or consultants who may be more experienced in this sort of work. Ideally this should be done concurrently with the HEA baseline or monitoring assessment so that a common analysis is developed, with each part of the research building upon and informing the other. In many cases, the issues covered by power and conflict analysis can be sensitive; thus staff need to be aware of any risks to themselves or their organisation of discussing and publicly reporting on such issues, and means of mitigating those risks should be outlined in a research protocol.

Adapting livelihood zones and wealth groups to account for conflict

In some cases a review of power, conflict and political economy considerations can point to significant differences either between geographical areas or between population groups that may not be captured if an apolitical approach is taken to zoning and wealth breakdowns. This is expected to be relatively rare, as economic differences between zones can often be the outcome of political processes, and thus those political effects are implicitly captured. However there can be exceptions. For example, a geographical area that has the same agro-ecological conditions, market access, infrastructure availability, livelihood patterns, etc. and which normally would be classified as a single livelihood zone, may have to considered as more than one analytical unit under certain conditions of conflict. There are two possible approaches to handling this.

Box 3. Splitting an Urban Livelihood Zone Because of Conflict

SC UK carried out a HEA assessment in Bunia town in the Democratic Republic of Congo in 2003. Bunia had been the scene of violent conflict between the Hema and Lendu ethnic groups. SC UK distinguished two different livelihood zones in the town in the north and south, mainly on the basis of socio-political differences, which in turn resulted in differences in economic opportunities. The differences related to such factors as ethnic composition, levels of physical destruction from the conflict and concentrations of host/ settled, displaced and returned families.

(a) If a conflict is a hazard that is temporarily affecting different parts of a livelihood zone in different ways, construct different problem specifications for different parts of the same zone. For example, the conflict may cut off a key market for only one part of the zone, or may prevent access to natural resources in a localised area. In this case, there will be differences in the vulnerability of populations within different parts of the zone. Dividing the area into separate livelihood zones is not appropriate as the underlying livelihood opportunities and patterns should remain the same.

(b) If, on the other hand, conflict or a prolonged power imbalance is a chronic situation, and has become "normalised" in a way that has led to significant differences in livelihood patterns in an area that was previously relatively homogenous, then re-define the area as separate livelihood zones. For example, trade patterns may have changed, and production activities may have adapted to account for changes in access to land. In this case, splitting an area into two or more zones will be appropriate.

Within the same geographical area, it is possible to find groups whose livelihood patterns vary for social or political reasons, but who may end up with similar levels of wealth. In these instances, typically the livelihood strategies used by different groups will vary, and thus they can be considered as separate wealth groups, as wealth groups are differentiated not solely on the basis of the outcome (amount of food and cash income earned or assets owned), but also very much on the basis of how they get their wealth. Those differences in livelihood strategies are the key to determining the types of hazards that households are vulnerable to, and at least as - if not more – important that overall wealth in that respect.

Box 4. Wealth groups in resettled farms in Zimbabwe

In a HEA assessment in A1 Resettled Farms in Zimbabwe in 2004, it was found that there were two distinct population groups in the same areas: those settlers who had been allocated land, and those who had previously been workers on the former commercial farms and who were now landless but remained on the property. Because the livelihoods of the two groups were closely inter-related, it was not considered appropriate to treat them as two different livelihood zones. And while some of those landless actually had similar levels of food and income access to the poor settlers, they clearly constituted different wealth groups because of their access to land, legal status and differences in political recognition and acceptance, in addition to differences in the types of livelihood strategies that they could pursue. Thus in spite of the name "wealth groups", politically-determined access to resources was a key dimension along which the breakdown between groups was made.

Political economy considerations when making recommendations

It is possible for livelihoods interventions to have negative impacts on power and conflict dynamics if the issues are not thought through properly. Examples include[5]:

- Creating opportunities for greed and fuelling grievances among certain groups
- Reinforcing differences between groups (privileging some over others; widening economic differences) by the choice of intervention or the targeting method
- Fungibility of aid (aid resources being taxed or otherwise feeding a war economy)
- Late disbursement of aid leading to missed opportunities and/ or resentment

HEA practitioners should be sensitive to possible negative impacts of recommended interventions in terms of, for example, increasing the risk of conflict, exacerbating tensions or disparities between different groups. However, unless specialised work has been done on political economy analysis, practitioners should be careful in making recommendations on interventions that try to mitigate the risk of conflict or reduce vulnerability to it. They should highlight broad potential areas for intervention at the same time as flagging possible concerns from a political economy perspective that merit further detailed investigation before an intervention takes place.

Frequently Asked Questions

Q: Can someone who is not an expert do political economy analysis?
It should be within the capacity of all HEA practitioners to carry out a basic amount of political economy analysis. The sections above should indicate that at the heart of this type of analysis is simply an openness to and an awareness of how political and economic interests can interact to affect livelihoods. By reading some of the articles in the "Further Reading" section below, most people should be able to do a basic level of analysis. For very detailed analysis - for example if your research is primarily about the interaction of power and conflict with livelihoods and what might be done to address those issues in order to reduce poverty and food insecurity - it is recommended that someone with greater expertise is used to lead that analysis.

[5] DFID, 2002: p23

Q: How can I analyse and report on political economy and conflict issues and still adhere to the humanitarian principle of neutrality?
Neutrality as a humanitarian principle refers to not taking sides in a conflict, or not being aligned with any particular group or party on political issues. In practice, being seen to be neutral while still understanding and reporting on the impacts of conflict and political issues is like walking a tightrope. The key is to focus in reports on humanitarian outcomes, and show that your primary concern is for those who are unable to meet their essential needs. In accountable societies, constructive suggestions on improving their situation should be welcomed, and those whose responsibility it is to ensure their welfare should be requested to fulfil those responsibilities. The balance is around doing so without being seen to favour one group over another.

Q: Power and political economy issues can be very sensitive. Isn't there a risk that my organisation will get in trouble for reporting on such sensitive issues?
This is similar to the question above. Where the issues are so sensitive that reporting on them puts the communities you seek to serve – or your ability to serve them - at risk, then public reports may not be in the best interests of those communities or of the organisation making the report, and at worst can be dangerous. More private approaches to dealing with the issues raised by political economy analysis should be considered, but ultimately the analysis of the problem does still need to be done.

Q. What if there is not adequate time or access to do both HEA and political economy analysis? What should I do first? How should I prioritize my activities?
Both activities are inter-related, and there is no simple logical sequence to them. A basic amount of political economy analysis should be integrated within all HEA assessments. Most obviously, this should be done as part of the secondary data review prior to fieldwork. For more detailed field-based research in situations where resources are constrained, prioritization should be based on research objectives. If the objective is to estimate immediate food security needs, then the HEA takes priority. However, ignoring political economy in that situation may lead to recommendations for interventions (either in terms of approaches or targeting) that could worsen the situation. If the research objective is to understand and respond to root causes of food insecurity, then an iterative sequence may be most appropriate, i.e. do some political economy analysis to contextualise subsequent HEA analysis, with further political economy analysis used to investigate issues that may have been raised by the HEA.

Field Materials

A checklist of issues to consider in power, conflict and political economy analysis is included as Annex B for use in fieldwork. Useful secondary information sources, which should be consulted to find relevant information for the context being assessed include:

- International Crisis Group: www.crisisgroup.org
- Human Rights Watch: www.hrw.org
- Amnesty International: www.amnesty.org
- US State Department Human Rights Situation Reports: usinfo.state.gov/dhr/human_rights.html
- International Institute of Strategic Studies: www.iiss.org
- Institute for Security Studies (South Africa): www.iss.co.za
- The Economist: www.economist.com
- Local newspapers
- ReliefWeb country pages: www.reliefweb.int
- Academic/ Research Centre reports, e.g. Tufts (fic.tufts.edu), IDS (www.ids.ac.uk), ODI Humanitarian Policy Group (www.odi.org.uk/hpg)

HEA AND NUTRITION

Background

Food security assessments and nutrition assessments are frequently carried out independently of one another, but the information provided by one can be useful to the other. This section looks at the main ways in which HEA assessments can inform understanding of the nutritional situation and nutritional risks of a population and how, as HEA practitioners, we can employ a stronger understanding of nutrition to provide a richer analysis of the information in HEA assessments.

What are we trying to understand?

This section provides some general background on nutrition issues and then proceeds to address three questions:

- What can HEA tell us about dietary quality?
- What can HEA tell us about the causes of malnutrition?
- What can HEA tell us about the risk of malnutrition in the future?

What is malnutrition and what causes it?

Adequate nutrition is the means by which people thrive, maintain growth, resist and recover from diseases, and perform their daily tasks. When nutrition is inadequate, people become malnourished. Acute malnutrition, or wasting, reflects recent weight loss. Chronic malnutrition, or stunting, is measured as a height deficit and develops over the longer term.

Food insecurity is one of three possible underlying causes of malnutrition, the others being poor childcare practices and poor public health environment and access to healthcare.

Figure 4: Conceptual Framework Showing the Causes of Malnutrition (source: Sphere Project, 2004)

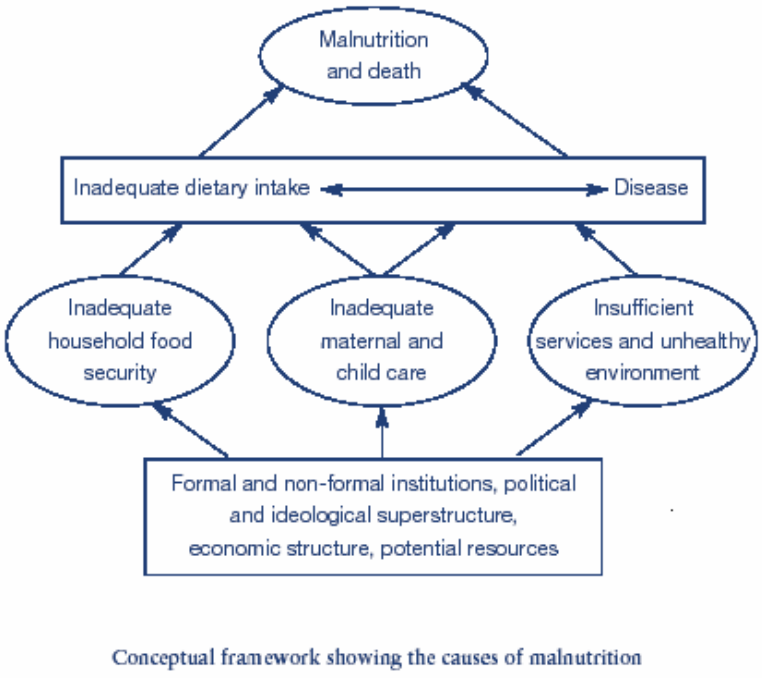


Figure 4 shows UNICEF's widely recognised conceptual framework which highlights the causes of malnutrition. It demonstrates how food insecurity, itself the result of various

structural and institutional factors, can lead to inadequate dietary intake and ultimately malnutrition and death. Inadequate dietary intake refers both to the quantity of food consumed (are people getting enough?), and the quality and diversity of the diet (is it enough of the right types of different foods?).

It is important for HEA practitioners to be aware, therefore, that while being able to access 2,100 kilocalories per day is necessary for ensuring good nutritional status, it is not in itself sufficient. Malnutrition could still arise if the diet did not contain the right balance of foods with adequate micronutrients, or if healthcare or access to clean water was limited.

A note on nutrition assessments

There are two main types of nutrition assessments: rapid emergency nutrition assessments, and a more thorough analysis of the causes of chronic malnutrition. Rapid emergency nutrition assessments typically collect anthropometric data on children under 5 years of age, such as weight, height or mid-upper arm circumference (MUAC) and oedema. These are then used to create indicators of nutritional status:

- Weight-for-height: A measure of wasting/ acute malnutrition
- Height-for-age: A measure of stunting/ chronic malnutrition
- Weight-for-age: "underweight" – a common composite measure, which can be hard to interpret as it does not indicate whether the problem is chronic or acute
- MUAC: A measure of wasting/ acute malnutrition, often used to screen for targeted feeding programmes
- Oedema: An indicator of severe acute malnutrition

The nutritional status of under-5s is important in and of itself, because their risk of mortality and morbidity tends to be higher than the rest of the population and they are often the first group within a population to display signs of malnutrition. Thus their status is seen as a leading or advance indicator of population-wide problems. A limited amount of additional data on causal factors (e.g. recent illnesses) is often collected within an emergency nutrition assessment to try to link observed malnutrition to potential explanations.

If a rapid nutrition assessment is conducted using a random sample of an entire population, this provides a statement on the prevalence of malnutrition in the population. It is important not to confuse prevalence data for the population with information on levels of malnutrition within specific populations, e.g. at sentinel sites or from clinic data, which are used for surveillance. The latter can be biased as children who are ill will be over-represented, and illness itself is a major cause of malnutrition. Both these types of data can be very useful for understanding trends in malnutrition, however. Surveillance data should be examined for trends, while population-wide surveys can be used to report prevalence and – if repeated over time – also for trends.

The more thorough analysis of causes of malnutrition usually focuses on chronic malnutrition in children under 3 years of age. It is important to assess this particular group because (i) stunting is irreversible after this age and (ii) children under 3 have different feeding requirements from the rest of the population. These assessments are generally much more detailed than emergency assessments with a more complete accounting of causal factors.

How to best link HEA and nutritional assessments

What can HEA tell us about dietary quality?

HEA assessments are most frequently used to tell us about whether households are able to access enough of their total food energy requirements, i.e. the minimum number of calories needed to survive. However, there may be cases where we want to go into further depth on the nutritional implications of the state of the household economy. In these instances we can use HEA information to provide details on additional macro-nutrients, but HEA's ability to look at dietary diversity and micro-nutrients is more limited.

Access to macro-nutrients: Macro-nutrients are carbohydrates, fat and protein. These nutrients form the bulk of the diet and supply all the energy (calories) needed. Energy is needed for essential body functions such as breathing, growth and physical activity. Wasting is usually associated with low intakes of energy. Fats and protein provide calories and they also have other important roles. Shortfalls in fat are of particular concern for young children because with their small stomachs they need energy-dense foods such as fats to enable them to get enough calories; other foods may simply be too bulky for them to eat enough of. Fat and protein are also important for the absorption of certain micro-nutrients, and shortfalls in these can lead to micro-nutrient deficiencies. Just as there are reference standards for minimum access to calories (e.g. 2,100 kcal per person per day), there are also standards for minimum fat and protein content of a diet. Reference data on the amount of calories from fat and protein content of foods are also available[6]. Thus it is a relatively simple matter to estimate the adequacy of a diet in terms of fat and protein using HEA information. **Box 5** provides the minimum requirements for macro-nutrients, and how to estimate the contribution of different food sources to those minimum requirements.

Box 5. Sphere minimum standards & calculation for macro-nutrients

Mean Population Requirements (per person per day):		
Energy: 2,100 kcal	**Protein:** 10-12% of total energy (52-63g), but <15%	**Fat:** 17% of total energy (40g)

Example:

Calculate the contribution to monthly food intake of 100 kg of maize grain for a family of 8 people.

Step 1: Calculate monthly household requirements:
8 people x 30 days x (2,100 kcals, 52g protein, 40g fat) =
Energy: 504,000 kcal
Protein: 12,480g
Fat: 9,600g

Step 2: Find the reference values for maize grain: 100g of maize grain provides…
Energy: 363 kcal
Protein: 10g
Fat: 4.5g

Step 3: Calculate total energy, fat and protein in 100kg of Maize Grain (where 100g = 0.1kg):
Energy = 100kg/0.1kg [number of 100g units in 100kg] x 363 kcal [energy per unit] = 363,000

[6] These are available in the "Platt Tables" in the accompanying CD and in the Livelihoods Field Handbook.

Box 5. Sphere minimum standards & calculation for macro-nutrients

kcal
Protein = 100kg/ 0.1kg x 10g = 10,000g
Fat = 100kg/ 0.1kg x 4.5g = 4,500g

Step 4: Calculate macro-nutrients from maize grain as % of minimum monthly household requirements:
Energy: 363,000 kcal / 504,000kcal x 100 = 72%
Protein: 10,000g / 12,480g x 100 = 80%
Fat: 4,500g / 9,600g = 47%

Carrying out this additional analysis can highlight cases where households are obtaining 2,100 kcals, but are falling short of the recommended fat content of the diet. Although previous HEA datasets have not been comprehensively analysed in this way, it is possible to say, on the basis of what evidence exists, that shortfalls in fat are likely to be very common among poor households. It is anticipated that detailed analysis of protein levels may have less added value, as protein and calorie content of diets tend to be more closely correlated.

Access to micro-nutrients: Vitamins and minerals are found in a wide variety of foods, but are particularly common in fruits, vegetables and animal products – including wild foods. Stunting is usually associated with low intakes of micro-nutrients. Inadequate access to specific micro-nutrients can also cause diseases such as anaemia (iron), scurvy (vitamin C) and pellagra (niacin). The problems of micro-nutrient deficiencies are often underemphasised and have been referred to as "hidden hunger". It is much more difficult to estimate whether a household has access to sufficient micro-nutrients using HEA, however, as the quantities required are relatively small and would require a level of detailed recall of food consumption that is not realistic for the typical reference periods used in HEA. In addition, the micro-nutrient content of different foods varies according to preparation and storage methods (e.g. milling leads to the loss of B-vitamins in grains; boiling leafy green vegetables leads to the loss of water-soluble vitamins B and C). Formal analysis of micro-nutrient deficiencies requires examination of clinical symptoms or blood samples.

Although we cannot make statements about the percentage of minimum micro-nutrients requirements a household has access to using HEA, we should be able to make tentative statements about the risk of micro-nutrient deficiencies by considering the presence or absence of certain key foods in the diet. **Table 3** serves as a reference for this purpose by outlining some of the common micro-nutrient deficiencies and the types of food in which these micro-nutrients can be found.

Table 3. Micro-nutrient deficiencies and associated foods

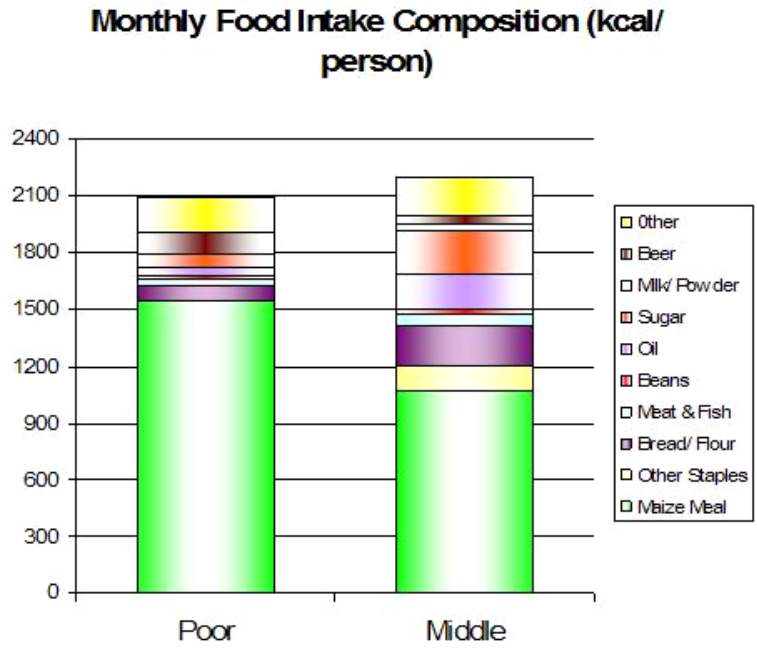
Deficiency	*Risk of deficiency if the diet lacks…*
Anaemia (Iron)	Red meat; eggs; pulses; beans; raisins; dates; prunes; spinach. Animal sources of iron are easiest to absorb. Eating foods with Vitamin C at the same time also aids absorption of iron.
Goitre (Iodine)	Iodised salt (check when asking about salt purchases if salt is typically iodised or not)
Beri-Beri (Thiamine/ Vitamin B1)	Whole grains; pulses; nuts; eggs; leafy green vegetables; citrus fruits. The absence of those additional foods poses a particular risk where the staple food is milled/ polished rice.
Scurvy	Citrus fruits; mango; papaya; green vegetables; potatoes

Table 3. Micro-nutrient deficiencies and associated foods	
(Vitamin C)	
Pellagra (Niacin/ Vitamin B3)	Whole grains; pulses, nuts, offal. The risk of pellagra is elevated where there is a high reliance on milled maize.
Night-Blindness (Vitamin A)	Liver; milk/ dairy products; eggs; dark yellow and orange vegetables (e.g. pumpkins, sweet potatoes, carrots); papayas, mangoes; dark green leafy vegetables (spinach, broccoli, rape; also wild leaves). Also ask whether vitamin A supplements have been provided within the last year.
Riboflavin Deficiency (Vitamin B2)	Whole grains; pulses; nuts
Note: When considering micro-nutrient availability, check whether fortification of cereals, oils or other foods occurs, and whether supplements (e.g. Vitamin A) have been provided.	

Overall dietary diversity is most accurately measured by 24-hour recall surveys of food consumption at the individual household level. These are increasingly included in questionnaire-based assessments by the VACs and WFP, but they have the limitation of referring only to that 24-hour period. Hence, unless they are repeated over time, they cannot take account of seasonal changes and they can not make predictive statements. HEA cannot provide as much detail on dietary diversity as 24-hour recall surveys, but it is still possible to make some broad comparisons between the diversity of the diets of different wealth groups. **Box 6** illustrates this.

Box 6 : Dietary Diversity in Mutorashanga Informal Mining Communities, Zimbabwe

The Mutorashanga Informal Mining Livelihood Zone in northern Zimbabwe is heavily cash-based, and almost all food is purchased (rather than grown). The figure on monthly food intake composition provides an illustration of the kind of differences in dietary diversity between wealth groups that HEA can show. While both the poor and middle groups get the majority of their energy from cereals, the middle group obtains more calories from beans, oil, milk, meat and fish than the poor. This suggests that middle households have a diet that is richer in protein and fat than the poor.



Source: Save the Children UK Zimbabwe Programme, 2001: Mutorashanga Informal Mining Communities HEA

What can HEA tell us about the causes of malnutrition?

Malnutrition rates are a strong driver of humanitarian action, and are also one of the indicators for the first Millenium Development Goal on reducing hunger. Thus, many actors pay close attention to malnutrition rates. However, because malnutrition has multiple causes as indicated in **Figure 4**, above, understanding the reasons for malnutrition in a particular context are a key part of determining how to reduce malnutrition in both the short and long term.

Ideally, to understand the causes of malnutrition, additional questions on all the possible causes would be added to a nutrition survey questionnaire and could be related to the nutritional status of the children in the household. This would be done using statistical techniques which are beyond the scope of this manual to describe. However, in practice, this is done only in a small percentage of nutrition surveys. Furthermore, as has been indicated elsewhere, using a questionnaire to get solid information on food security is particularly difficult and demanding. More typical is the case of a nutrition survey with anthropometric data, and a variety of other different surveys that are done at slightly different times and places, which are referred to in a less formal attempt to untangle the causes of malnutrition.

Because the HEA framework provides an excellent basis for understanding whether households are obtaining sufficient access to food, HEA assessments can help contribute to a discussion about causes of malnutrition by either factoring out or in this key determinant. Where HEA has found that people are unable to obtain their minimum food requirements, and at the same time malnutrition has been observed in the same area, it will be possible to say that food insecurity is at least one of the active causes of malnutrition. Refining this analysis further depends on how comparable the HEA and nutrition survey data are. For instance:

(a) Do the assessments refer to the same time period? HEA baselines cover a reference period of one year, and outcome analysis projects food security usually through a six to nine month period in the future. Nutrition surveys would typically be snapshots of a particular point in time. Consider the seasonality of food security and which season the nutrition survey refers to. Was the nutrition survey done at a time when we would expect some or all of the population to be struggling to access enough food? In an agricultural area, if we see high acute malnutrition rates immediately after harvest time, when food is more available and prices are lower, malnutrition is more likely to be related to health or care than food security, whereas in the "hunger season", food security is more likely to be a cause of malnutrition. (However hunger seasons in agricultural areas often coincide with seasonal peaks in health problems, so the latter should not be ruled out.)

(b) Are the geographical areas consistent? Nutrition surveys typically cover administrative areas (e.g. districts) while HEA assessments typically cover livelihood zones. Take care not to relate the findings of one to the other unless there is very substantial overlap between these two, as otherwise they will refer to different populations. It should be possible to cross reference the locations of the surveys and re-analyse nutrition survey results by livelihood zone, but advice should be sought on a case-by-case basis on whether the sample for the nutrition survey is big enough to do this validly.

(c) Linking nutrition results to wealth groups. Poverty is a major cause both of food security and malnutrition, so we would generally expect to see higher rates of malnutrition in poorer wealth groups. But malnutrition is not limited to the poor. We can get a better sense of whether food security is a major cause of malnutrition if the nutrition survey incorporates indicators of the wealth group of households

interviewed. Two main ways of determining the wealth group of households in a nutrition survey are (1) to ask questions relating to asset holdings that could be compared to the wealth breakdown in the HEA; and (2) ask a knowledgeable key informant to accompany the nutrition survey team and discreetly inform the team which wealth group each household falls into. SC UK has used the latter approach successfully in Ethiopia to show that malnutrition is more common among poor wealth groups.

In addition to indicating whether food security is likely to be a cause of malnutrition, HEA can also suggest avenues for further investigation related to other aspects of the malnutrition causal framework. **Table 4** provides a list of some of these.

Table 4. Additional nutrition indicators available from HEA baselines

Indicator	*Relevance and where collected in HEA*
Expenditure on healthcare	The expenditure patterns included in an HEA baseline provide information on how much is being spent on healthcare by households in each wealth group and to what extent different households can afford this cost. This provides part of the explanation for why poor health may be an underlying cause of malnutrition.
Expenditure on water	Where water must be purchased, this cost is included in the expenditure section of the baseline. Again, this information highlights the extent to which different households can afford sufficient water, providing part of the explanation for why poor health or hygiene may be an underlying cause of malnutrition.
Expenditure on soap	Spending on soap is regularly collected as part of the expenditure data. Limited soap usage can lead to poor hygiene and ultimately malnutrition.
Ability to afford a diverse diet	Dietary diversity is important for preventing micro-nutrient deficiencies. It is possible to compile a set of foodstuffs needed to provide a healthy and diverse diet and then calculate the cost of this set using available price data.[7] This cost can then be compared with the income levels of wealth groups to determine its affordability. However it requires information on prices for a wide range of foodstuffs in different seasons of the year, in more detail than a typical baseline provides. It is certainly possible to collect the necessary data during a HEA, however it should be noted that this is very time-consuming.
Workload of mother	A mother's workload can determine her ability to provide proper care for her infants, especially frequent breastfeeding. Discussing labour roles in the households and getting a daily activity calendar (see "Field Materials" for a template) for women in different seasons will help determine whether a mother has time to provide adequate care.

Chronic malnutrition is usually caused by long-term consumption of a poor quality diet (insufficient micro-nutrients) and repeated illness. HEA assessments can, to a certain extent, help us to see whether or not certain sections of the population are likely to have an inadequate diet in terms of quality. Information on cash available for household expenditure can also help us to predict whether or not a household could ever afford a satisfactory diet or access to good quality healthcare services.

[7] SC UK has developed a software package that allows you to do this kind of analysis.

While seasonality is less likely to influence the rates of chronic malnutrition, seasonal calendars can give important clues as to when diets are likely to be short of specific micro-nutrients. For example, information on when different types of fruit and vegetable or milk is most readily available and consumed should be relatively easy to obtain during discussions around a seasonal calendar. This should assist us in thinking about whether or not specific micro-nutrient supplements should be provided at certain times of the year.

What can HEA tell us about the risk of acute malnutrition?

A key question for decision-makers, especially those interested in early warning, is what impact a shock such as a drought is likely to have on acute malnutrition rates. The risk of malnutrition is not only of interest for its own sake, but also because in practice unfortunately most resources to respond to a predicted crisis are often mobilised only once the malnutrition rate has actually begun to rise, by which time the crisis is already in full swing. With better predictions about likely rises in malnutrition, it is hoped that resources could be mobilised faster.

While HEA has developed tested procedures for predicting food access problems, predicting malnutrition is still an imperfect art. This is because:

(a) as the causal framework indicates, malnutrition is the outcome of the interaction between a diverse and complex set of factors,

(b) even within food security alone, it can be difficult to predict people's actual behaviour under stress: will a family actually sell all their cattle before cutting down food? or will they cut down on some food early on so that they can maintain productive assets for the future?

(c) There may be further shocks or changes that arise that could not have been anticipated at the time the prediction was made.

One of HEA's main strengths is that it is a predictive tool. It does not simply report current food insecurity, but enables us to make predictions about the impacts of shocks and hazards on the food security of different population groups in the future. Where we predict that some population groups will face a food deficit in future, we can usually say with confidence that in the absence of an external intervention, we can expect to see malnutrition increasing. In the future it is expected that work will be done to strengthen the link between food security predictions and malnutrition. Below are some of the areas that will need to be factored into this work.

Box 7: What does the "2,100 kcal" threshold actually mean?

The reference value of 2,100 kcal per person per day was recommended for use in 2000 by WHO. Prior to that, a stricter threshold of 1,900 kcal was used. It refers to the average energy needs of all people of all ages and both genders, for a population with a specific demographic profile, doing only enough activity to maintain productive life, at average ambient temperature, shelter and clothing, and without health problems such as malnutrition or HIV/AIDS. So in reality the requirements vary somewhat from population to population. Hence 2,100 kcal is a useful guide, but we cannot say that any population failing to get precisely that amount will become malnourished.

Coping strategies: As explained in Chapter 4, in HEA we do not include in the projected outcome analysis income earned from harmful coping strategies in our predictions of needs as our objective is to prompt a response before people are forced to resort to those measures. In reality, however, people will often use those strategies if they have to, rather than letting their children become malnourished. If we exclude those strategies and try to predict malnutrition, we may predict more or earlier malnutrition than actually happens, which could give rise to the accusation of "crying wolf". Making a later prediction of malnutrition by including harmful coping strategies

is more realistic. But if that is done, then it is essential to emphasise at the same time the damage that would be done by failing to prevent people from using such strategies and responding only when malnutrition begins to rise. In all cases, it is necessary to be explicit about the basis for determining a deficit in HEA.

Size of the deficit: It is not possible to make a simple correlation between the percentage of minimum food needs met and the rate of malnutrition. However, it is considered reasonable to expect that anything more than a 10% deficit (i.e. roughly less than 1,900 kcal pppd) is likely to start causing a rise in acute malnutrition. Certainly a deficit in the region of 25% or more is cause for major concern. However, further research is needed on this, and hence those figures should not be taken as formal thresholds.

Seasonality and timing of deficit: Precisely what an annual deficit will mean for a household needs to be examined in the context of seasonality, and when that deficit will be felt. A 16% deficit spread over 12 months may not sound so bad, but a 100% deficit for 2 months (which amounts to the same thing over a year) does sound extremely serious. Households do budget their resources to a greater or lesser extent, so we would rarely expect households to simply go from getting enough food to getting no food from one day to the next, but we would certainly expect to see seasonal patterns to any deficits. Thus practitioners should consider how seasonally concentrated any deficit is likely to be, and indicate both the severity and timing of the impact on malnutrition.

In sum, HEA can thus be a useful aid in predicting the risk of acute malnutrition associated with food security. However, because of the multiple causes of malnutrition – a number of which are not covered by HEA assessments - it is recommended that such predictions are made in a collaborative way with other actors who may have information on the other causes of malnutrition. VACs in Southern Africa are a good potential forum for this, while the FSAU in Somalia currently uses this approach within the "Integrated Food Security and Humanitarian Phase Classification" (IPC).

Frequently asked questions

Q: If malnutrition exists, should you always recommend interventions to improve food security?
A: No. It is possible that malnutrition among a particular group may be not be caused by food insecurity, but by other factors such as disease outbreaks (e.g. measles, diarrhoea or malaria), or by poor caring practices (non-exclusive breastfeeding, early weaning of children). Food security interventions may have no impact on malnutrition in such cases. It is therefore necessary to understand the causes of malnutrition before drawing conclusions about appropriate interventions. Furthermore, we should look beyond the immediate causes and even the underlying causes. For example, in many situations, poor caring practices may not be the result of lack of knowledge of good caring by mothers, but rather be caused by wealth-related factors, such as an inability to afford to diverse diet or a lack of time for breastfeeding because of heavy workloads. Alternatively, in some populations malnutrition among younger children may be due to unequal intra-household distribution of the food.

Q: Why not just add some questions to the household nutrition survey about food security to make the links?
A: Such questions, if well chosen, can indeed show statistical relationships between nutritional status of children and household food security. Choosing the right food security indicators, however, can be difficult. Some common indicators are not always used appropriately (e.g. "food stocks in the household" is not an appropriate indicator where the household economy is heavily based on income and food purchases), while others are very difficult to collect accurately in a short questionnaire (e.g. income levels). Questions around

household wealth, probably related to asset holdings, are probably the easiest to include in a nutrition survey. A more qualitative type of HEA would add value by (a) indicating the most relevant questions to include in the survey, and (b) providing more contextual information that would allow statistical relationships between nutrition and food security or wealth to be explained rather than just described.

DISTINGUISHING BETWEEN CHRONIC AND TRANSITORY FOOD INSECURITY

Background

The main factor that distinguishes between chronic and transitory food insecurity is the length of time a household is unable to meet its minimum food requirements. "Chronic food insecurity is a long-term or persistent inability to meet minimum food consumption requirements, while transitory food insecurity is a short-term or temporary food deficit. An intermediate category is cyclical food insecurity, such as seasonality." (Devereux, 2005; p. xi) Given this definition, it is logical to treat chronic food insecurity as a subset of poverty: chronically food insecure households are a category of the poor who regularly do not meet their 2,100 kcal per day requirements.

The duration of food insecurity should be considered separately from its severity. It is possible to have a severe but transitory episode of food insecurity, for example if a household highly reliant on farming loses all their crops in a flood, but then recovers within a few seasons of normal activity. A mild drought, however, might result only in a moderate degree of transitory food insecurity. Moderate chronic food insecurity is more common, for example, among elderly-headed households with no other means of support, or other labour- and asset-poor households who always struggle to meet their needs. Severe chronic food insecurity effectively means destitution, with a high risk of malnutrition and morbidity.

In practice, the chronically food insecure can be a very diverse group. Some may have the capacity to become productive if they had the resources, while others are likely to be permanently reliant on outside support. If the objective of your HEA assessment is to make detailed recommendations to deal with chronic food insecurity, you will probably need to do a more poverty-oriented analysis, using HEA to explore the relevant constraints and opportunities at issue with the particular group or groups under consideration.

Why do we need to make a distinction?

Distinguishing between chronic and transitory food insecurity is important primarily because it helps in choosing the most appropriate means of addressing the problem. Short-term solutions and emergency responses are unlikely to address the causes of chronic food insecurity, or the underlying causes of acute food insecurity. An episode of acute food insecurity can result in chronic food insecurity for a household that is unable to recover from the effects of the shock, so it is also critical to be able to provide appropriate livelihoods support even during a crisis. Households that sell off, for instance, draught animals and other productive assets in order to meet immediate consumption needs, may be unable to recover even if external conditions improve, because they no longer have the means to sustain their livelihood. This would create an additional emergency case load even in years when things had returned to normal. Therefore, while long-term interventions are planned and implemented, the short-term humanitarian needs of anyone who is food insecure cannot be ignored; the two types of intervention should be seen as complementary.

How to use HEA to distinguish between chronic and transitory food insecurity

Using an "average year" HEA baseline to distinguish between chronic and transitory food insecurity

If an HEA baseline has been carried out for a reference year that is considered average, and in which no significant shocks occurred, it is logical to conclude that households unable to meet their minimum food and non-food needs even in the baseline year are chronically food insecure, and no groups are transitorily food insecure.

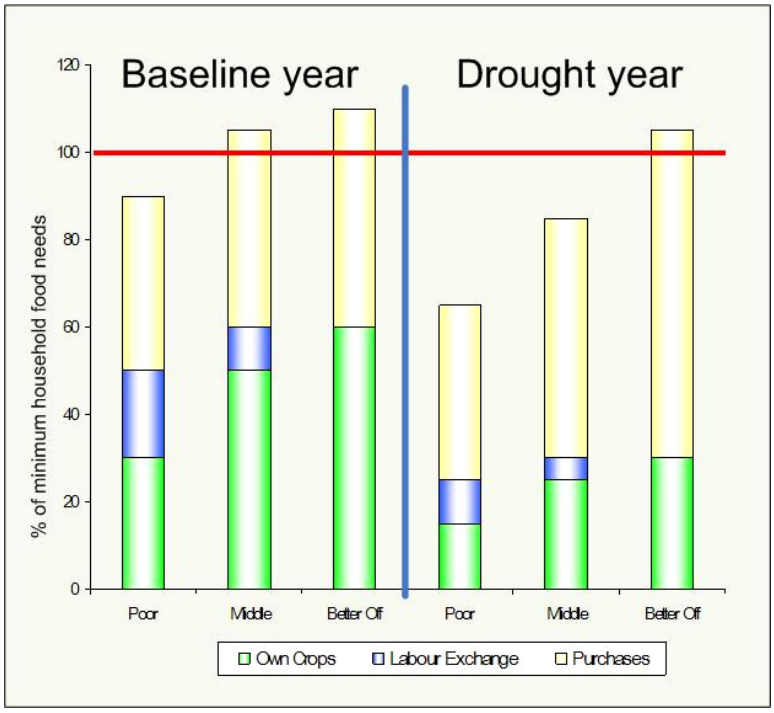
If your outcome analysis then shows that the assessed hazard will cause households in another wealth group to face a deficit, then the additional households can be considered transitorily food insecure. Meanwhile, the chronically food insecure are likely to be even worse off.

Box 8. Using average year baselines to distinguish between chronic and transitory food insecurity

The graph below shows how much of their minimum food needs households in the poor, middle and better off wealth groups have access to in the baseline year and in a drought year, which reduces crop production by 50%. For this exercise, the baseline year is an average one in which there were no shocks.

(a) Which wealth group(s) does the graph suggest is chronically food insecure?

(b) Which wealth group(s) is transitorily food insecure in the problem year?



Answer:

(a) The poor group are considered chronically food insecure. Even in the baseline year when there is no shock, they are only able to access about 90% of their food needs. Both the middle and the better off are able to meet their minimum needs in the baseline year.

(b) In the drought year, the situation of the poor worsens, and the middle households face a food deficit of around 15%. They are now unable to cope without outside support. Because middle households are food insecure only in a year with a shock, they can be considered transitorily food insecure in the problem year. The better off group manage to cope and still have access to enough food.

When the HEA baseline is not "average"

There will be times when it is not possible or appropriate to use an "average" year for your baseline. This may be, for example,

- Because there has been a structural change in the local economy since the last average year (e.g. a mine closure; land reform), and it is therefore not possible to return to that situation
- Because recall of the last average year is too difficult for those interviewed, for example because the year was too far in the past for people, or because the rapid changes in prices and incomes due to hyperinflation makes accurate recall difficult

In these situations, the most recent year is typically used as the reference year, regardless of the fact that it may have been one in which either positive or negative shocks occurred. Distinguishing between chronic and transitory food insecurity in this case is more complicated, but theoretically it should still be possible. The approach suggested involves modelling what an average year might look like; or in other words, modelling the hazard out of the picture. This is the reverse of what is typically done in HEA:

Standard approach: Outcome = Baseline + Hazard + Response

Modelling out the hazard: Baseline = Outcome – Hazard - Response

If you model out the shock and find that any wealth group is unable to meet their needs, then such a group could be considered chronically food insecure. If you find that a group was food insecure in your reference year, but when you model out the shock they are then able to meet their minimum needs, then that group could be considered transitorily food insecure.

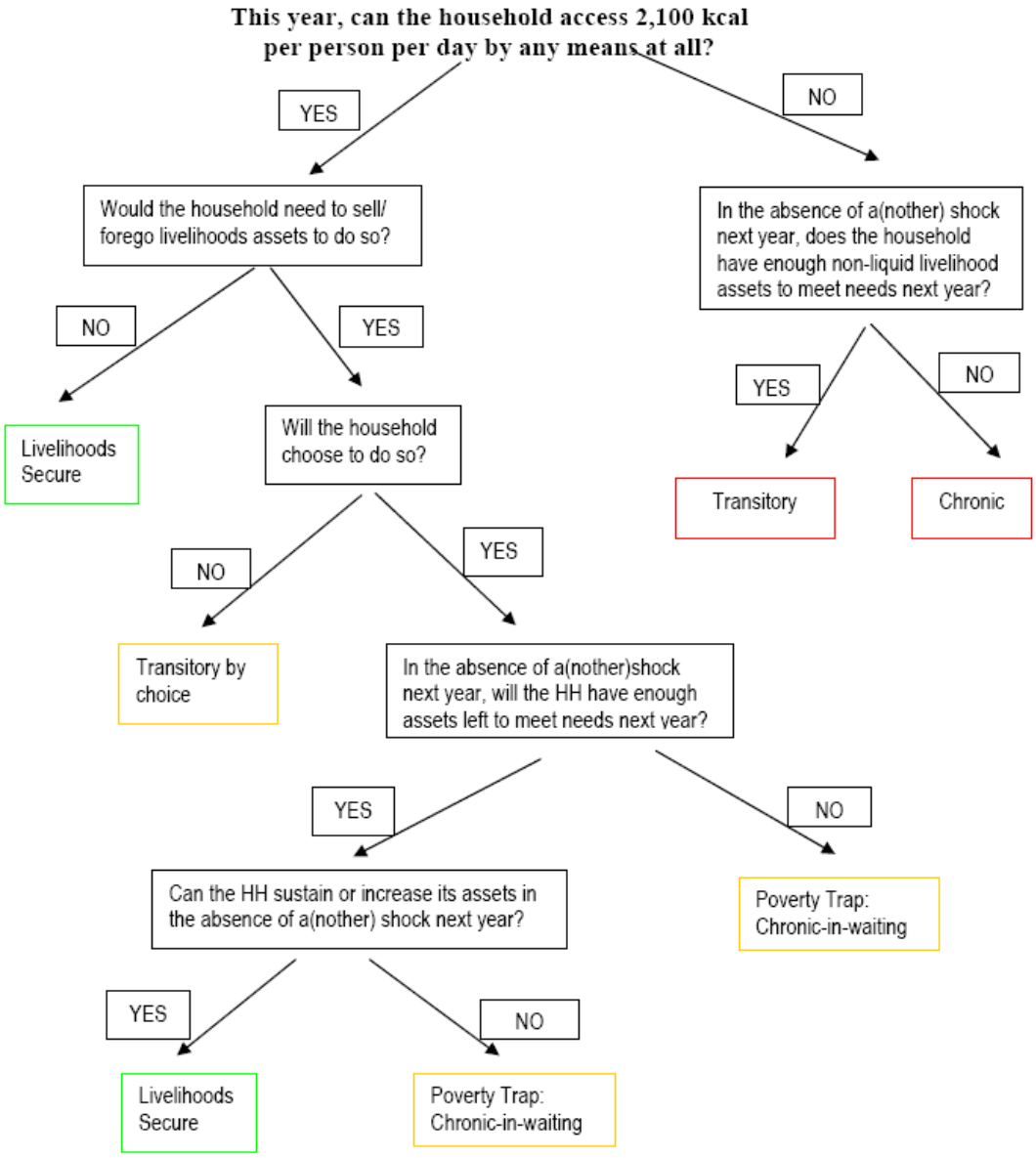
If your HEA survey requires this sort of analysis to be done, then it is necessary to take that into consideration during data collection. Information must be collected that allows you (a) to quantify the effects of the hazard that people are currently dealing with (e.g. "if it wasn't for the drought, we would have produced twice as much maize"), and (b) to quantify the coping strategies that people are currently using (e.g. "we sold four cows this year, but normally we would only sell two").

Note that this sort of analysis is very hypothetical and there are currently no "real life" examples of it having been done in HEA. Therefore its validity must be further investigated.

Projecting a downward spiral into chronic poverty/ chronic food insecurity

Box 8 showed how the middle group became transitorily food insecure as a result of a drought. But it will also be important to consider whether that group will be able to recover. Will they become food secure again the following year? Or will they get stuck in a downward spiral, for example by having sold off important productive assets to meet immediate needs?

HEA's modelling capacity can be used to ask this important question of whether a household faced with a hazard can recover, or whether they are likely to get into a "poverty trap" of divesting assets, eventually leading to chronic food insecurity. This requires looking at the current strategies that people are using to access their food and income, and considering whether those strategies are sustainable. The diagram below illustrates the process of analysis:



The process begins by checking whether, hypothetically, a family could meet its minimum food requirements by any means at all in the year of analysis. This means considering even harmful coping strategies. If they can not, then the question for the following year is whether – in the absence of another shock – they would still have the means to access their food needs next year. The means are described as "non-liquid livelihood assets" to distinguish items that could be sold – such as livestock and tools – from those that cannot be sold, e.g. skills and education. For example, a casual labourer may lose income in the current year because a drought means there is no work available, but if there is no drought the following year, they will still have their labour to do casual labour that year, assuming work is available again. In that case the labourer will be transitorily food insecure. However, another family may be reliant on selling cash crops, and to cope with the current year drought they may have to sell off their draught animals and may lose access to credit by not selling enough crops to repay loans for inputs, so the next year they no longer have the capacity to produce cash crops and potentially become chronically food insecure.

Note that it is considered possible to be transitorily food insecure by choice, in the sense that a household could have the potential to get enough food by selling assets, but may choose to retain those assets and forego consumption instead.

If we pursue the other branch of the tree, and look at families who can access their minimum food needs in the current year, we see that they may well be food insecure in future. The tree shows how that family may sell or use up some of their assets: enough to meet current needs, but not so many that they immediately become destitute. But while a certain level of asset sales can be sustainable (e.g. selling an extra 2 cows when you have a herd of 70), a higher level may be unsustainable and place the family into a downward spiral where they keep having to sell more assets each year just to keep their heads above water (e.g. selling 2 cows when you only have 5, and new births cannot replace those sold). Eventually that can result in chronic food insecurity if there are insufficient assets left to sell to cover basic needs.

Frequently asked questions

Q: For how long do you have to be food insecure for it to be considered chronic?
A: There is no commonly-agreed length of time before food insecurity becomes chronic. Conceptually the chronic/ transitory distinction is about time, but for practical uses, whether you are able to get enough in an average year (as described above) is more useful.

Q: Should you ever recommend food aid or cash as a relief intervention for the chronically food insecure?
Emergency relief will not address the underlying problem of chronic food insecurity. But short-term food deficits cannot be ignored. If short-term relief is required as a life-saving measure, it must be provided; however it must be accompanied by interventions aimed at addressing long-term problems.

HEA & Groups of Special Interest: Examples of HIV/AIDS-Affected Households and Children

Background

A "classic" HEA assessment provides information that is disaggregated by wealth group. The logic for this is discussed in Chapters 1 and 3. However, there will be times when users will need information on specific sub-sections of the population other than wealth groups such as particular demographic groups like children, the elderly or women[8], or other types of social, cultural or economic groups such as those affected by HIV/AIDS, ethnic minorities, or people doing a specific livelihoods activity (e.g. commercial sex workers). When considering such groups, decision-makers are typically interested in:

- What differentiates these individuals or categories from others in terms of their livelihood activities, and their food security or overall wealth?
- What particular needs do they have and/ or what specific interventions would be most suited to their circumstances?

The HEA framework can be used with minor adaptations to field methods to look into these questions. This section illustrates how this can be done using two different groups as examples: (a) the situation of HIV/AIDS-affected households, and (b) the situation of children within families.

How to Do It: HEA & HIV/AIDS-affected households

What are we trying to understand?

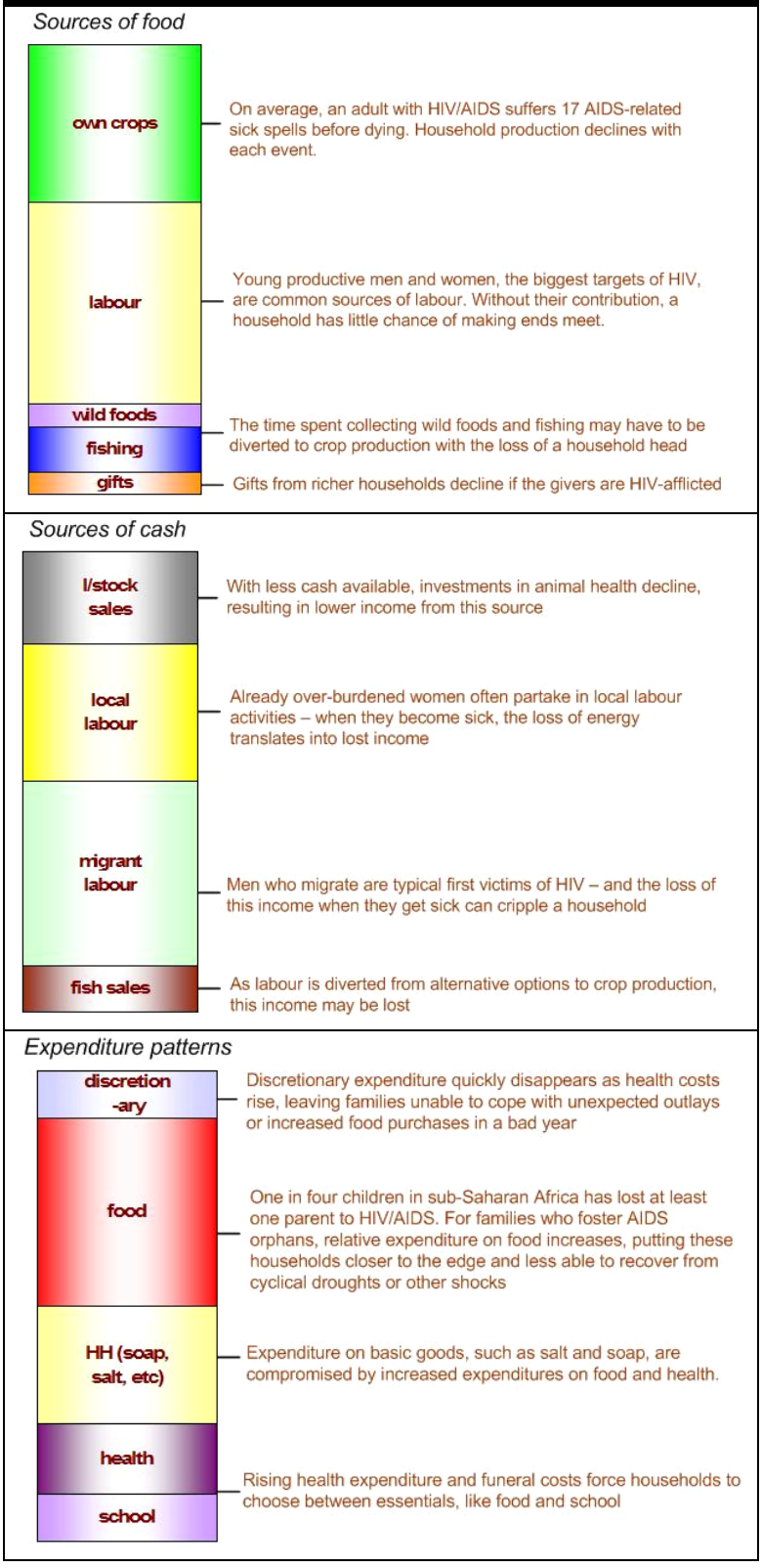
HIV/AIDS is an issue of vital importance in southern Africa in particular. In recent years, the links between HIV/AIDS, food security and livelihoods have been the subject of much research and of many direct interventions. HIV/AIDS is different from other diseases because it is debilitating at first, fatal in the end, and affects adults in the prime of their lives. Its effects are multiple and far-reaching, with knock-on effects at all levels of the micro- and macro-economy. **Figure 5** provides an illustrative example of how all aspects of the household economy are affected by HIV/AIDS. A sick household member means lost labour, production and cash income. Other household members may be required to devote a greater portion of their time to caring for sick relatives. Chronic illness causes healthcare costs to rise. Bereaved women and children can find that they have problems with inheriting land and other assets when the male head of household dies. Families who take in orphaned children must stretch their resources to meet new needs.

When we consider HIV/AIDS and livelihoods, we are usually trying to understand the ways that HIV/AIDS filters through as a series of shocks to households. We are interested in understanding how affected and unaffected families differ, and what the implications are for interventions.

How HEA is used to understand the impacts of HIV/AIDS depends on whether we are (a) trying to understand actual changes over time in the household economy of affected households, or (b) trying to predict how HIV/AIDS might affect households in the future. In

[8] For example, Save the Children and Unicef are particularly concerned about the situation of children, while HelpAge or a government body dealing with Old Age Pensions will want specific information on the elderly.

Figure 5. HIV/AIDS and the household economy



the former case, the process is one of comparing two complete baselines for different time periods, while in the latter case, the various economic shocks resulting from HIV/AIDS are modelled against a baseline in the same process as described in Chapter 4, Outcome Analysis.

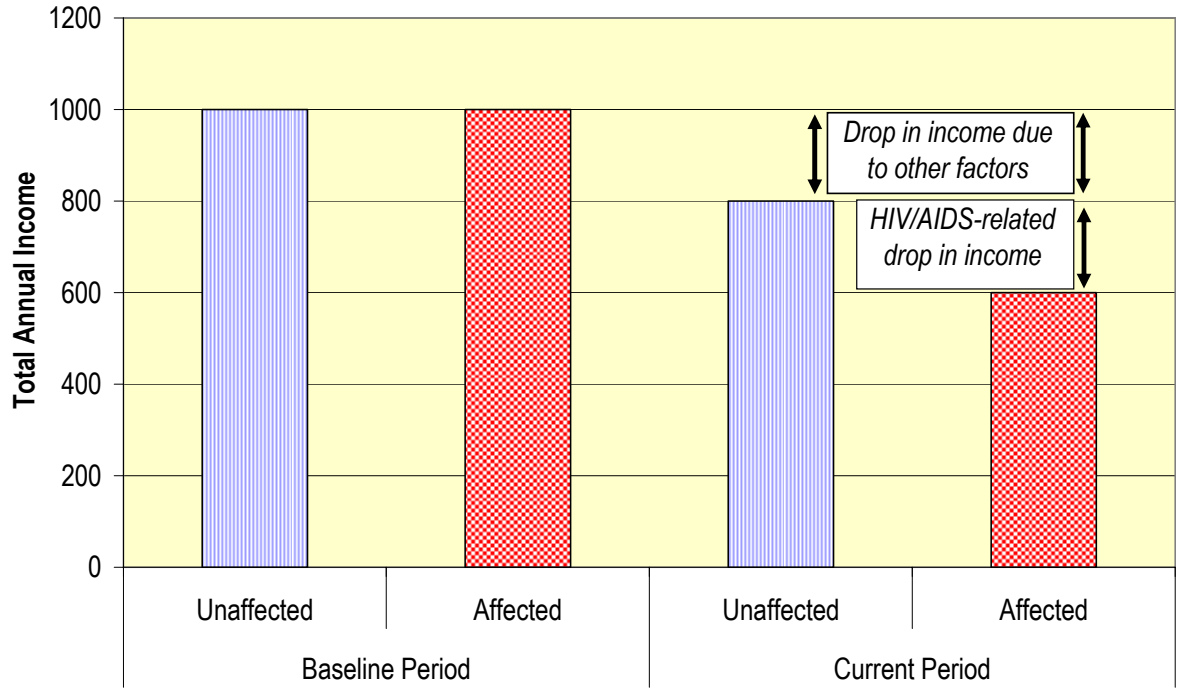
Using HEA to understand previous impacts of HIV/AIDS

If your research question involves looking at changes that have already occurred to the household economy as a result of HIV/AIDS, then the process involves collecting information on the assets, sources of food and income and expenditure patterns for a baseline year before HIV/AIDS began to affect the livelihoods activities of household members, and comparing that to the same information for the current year. Note that the baseline in this case is not the same as the period before infection, because there can be a substantial lead time between infection and the onset of AIDS affecting the ability of those infected to work.

By comparing the two complete pictures of the household economy before and after the impacts of HIV/AIDS are manifested, we can identify such things as changes in asset holdings, changes in total food access and total income, changes in the types of livelihood activities undertaken, and changes in spending priorities.

The two potential drawbacks of this approach are (1) if the baseline period when the household was unaffected by AIDS is a long time ago, then accurate recall may be difficult, and (2) if there are differences between the baseline and current year that are unrelated to HIV/AIDS (e.g. there is a drought or some shock in one year that is not present in the other), then a simple comparison over time is unlikely to be able to distinguish the effects of HIV/AIDS from the other shocks.

Figure 6. HIV/AIDS and changes in the household economy



In this example, we look at the change in the total income between the baseline and current period for one family that is unaffected by HIV/AIDS and another similar family ***from the same wealth group*** that is affected. Between the baseline and the current period, there have been two shocks: HIV/AIDS has impacted on the affected family, but not the unaffected family; and another shock (such as drought) has impacted on both families.

If we had only examined the change from the baseline period to the current period of the affected household, we would have risked mistakenly attributing the entire $400 decline in that family's income to HIV/AIDS, when in fact the drought caused half of the decline.

If we had only compared the affected and unaffected household in the current period without looking at the baseline period, we would have missed the fact that both were also being impacted in the current year by drought.

Thus, a complete understanding of the impacts of HIV/AIDS can only be seen by comparing the change over time between an affected family, and an unaffected family who can act as a form of control group.

Because of these drawbacks, it might be suggested that a simpler method would be to compare the current situation of a HIV/AIDS-affected family with the current situation of an unaffected family that is similar in all other regards, i.e. from the same wealth group in the same livelihood zone, and with a similar demographic composition. While this does solve the problem of recall and does in theory ensure that other shocks do not blur the effects of HIV/AIDS, in practice it can be difficult to accurately pair up households in this way, especially if a large number of households are to be covered.

Ideally, therefore, we should combine these approaches, i.e. look for changes in affected households over time, and also look for differences between those changes and changes in unaffected households. Figure 1 explains this graphically.

Another practical concern is who should be interviewed if we wish to do this sort of research? Should we interview focus groups of HIV/AIDS-affected households, or should we look at individual households?

For this sort of research there is a preference to look at individual households. One reason is because "HIV/AIDS-affected families" are a very diverse group. Three main types of HIV/AIDS-affected families are:

- Those with a member who is currently chronically ill
- Those with a member who has died from HIV/AIDS
- Those who have taken in children orphaned by HIV/AIDS

Even within each of those groups, however, there are differences. In HEA it is assumed we would already disaggregate by wealth, and it is no different for HIV/AIDS as HIV is an illness that is not restricted to any single wealth group. However, even controlling for wealth, there will be differences, for example according to whether the ill person is a male or female adult and thus what their relative contribution to household livelihoods is, or whether the affected household is just recently bereaved or lost an income-earner many years before. It could be difficult – but not impossible - to form sufficiently homogenous focus groups to provide useful information, therefore. If those differences are not recognised and different types of HIV/AIDS-affected households are lumped together in a single focus group, it may prove difficult both to get a "typical" picture for them and more importantly to provide information that decision-makers can usefully translate into interventions.

HEA also helps us to identify households or wealth groups that may be affected indirectly by HIV/AIDS. In Makueni, Kenya, F.E.G. reported on how illness among better off households led to reduced incomes for those households and increased spending on healthcare. The indirect result of this was that their spending on hiring people from the poor wealth group for agricultural labour declined, and because the poor were highly dependent on income from casual labour, they ended up with a significant deficit in their income.

Can we use HEA to predict the impact of HIV/AIDS on livelihoods?

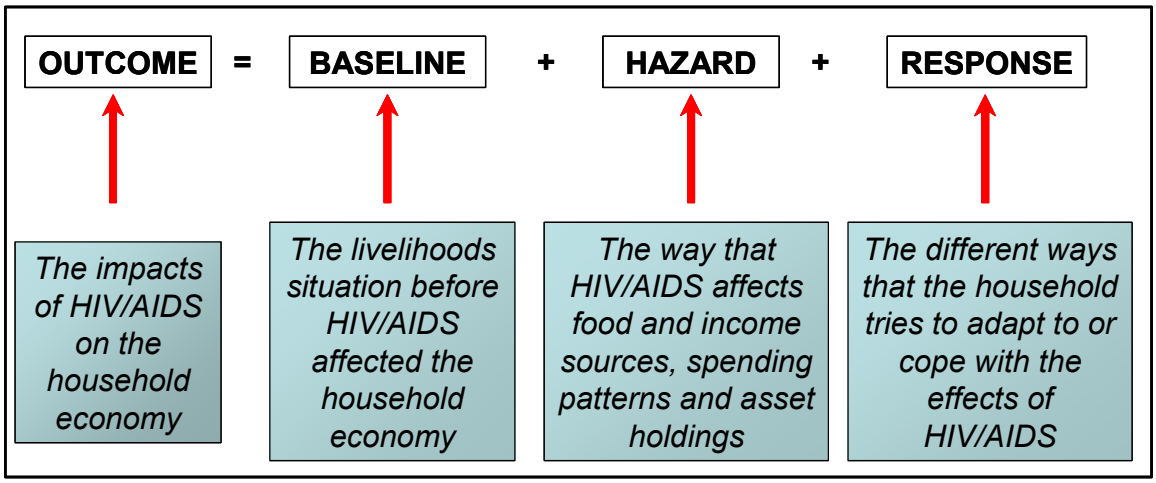
If we wish to use HEA to predict the likely impact of HIV/AIDS on livelihoods, then our question essentially becomes "can we define HIV/AIDS as a hazard and carry out outcome analysis in a similar way to other hazards"? **Figure 7** illustrates how this question would be understood within the HEA framework.

The baseline in this case refers to the situation in a reference year of a household that has not yet been affected by AIDS.

The hazard of HIV/AIDS - like any other hazard in HEA - has to be defined in terms of a quantifiable change in each source of food and income, or the cost of items, or in asset holdings. To begin with, the exact nature of the "shock" of HIV/AIDS has to be specified: are we talking about illness, death, taking in an orphan…? Each one of these is a different shock and would need to be treated as such.

As with any shock, the HEA Practitioner would then need to get a good understanding of the different ways that the specific HIV/AIDS shock might affect livelihoods (most easily through a review of relevant literature, such as Harvey (2003), or O'Donnell (2004)). Next, the scale

Figure 7. HIV/AIDS in the HEA Framework



of likely impact needs to be quantified and expressed as a % change in the baseline levels.

This information could be attained through direct discussions with households themselves, key informants such as Home-Based Care volunteers, clinic staff or agricultural extension workers. The aim to express hazard information such as:

- Agricultural production declines by 40% (because of reduced availability of labour), or
- Agricultural production declines by 100% (for example if land is lost to the family upon the death of the male hea of household)
- Casual labouring declines by 75% (if the ill person contributed that much of the baseline casual labouring income)
- Spending on healthcare increases by 300% (to treat illnesses or purchase anti-retrovirals)
- Spending on food declines by 20% (for example if one member in a household of 5 dies)

Box 9. Household responses to HIV/AIDS in Mozambique

In case studies of households affected by HIV/AIDS in Mozambique, Petty et al. (2004) found some of the following responses that enabled those households to avoid destitution:

- A widow reduced the amount of land cultivated and lost the salaried income of her husband, but focused her attention on petty trading instead. Her total income was reduced by around 60%
- A young widow lost access to food and income from farming, and tried to compensate by selling more vegetables and increasing petty trade
- An orphaned boy who now lives by himself lost access to farmland, but sustains himself by renting out the main house on his parents compound, and by doing small jobs such as carrying water

As illustrated by the Makueni example above, it is also important to bear in mind that because of economic linkages between households (e.g. casual labourers working for other households, sharecropping agreements, credit relationships, etc.), there may be indirect economic effects of HIV/ADS on households that may arise as a result of illness in another household.

The next stage is to provide similar information on the response of the household to this shock, expressed as % changes. It is important to recognise that, as with any shock, people will attempt to cope and adapt (see Box 1 for examples from a study in Mozambique). This is can be the most difficult part of the framework to collect information on. As the case studies in Box 1 illustrate, while some of the responses to HIV/AIDS can be reasonably predictable

(for example intensifying existing activities such as petty trade), other responses can be harder to predict as the options facing any given household will vary significantly according to the types of assets they have, including labour, land and financial assets, and the external environment they face. Experience to date suggests that while HEA can be useful for predicting the immediate impacts of HIV/AIDS, the volume of information required to make an accurate prediction of household responses to those immediate impacts means that only quite localised studies based on individual household interviews are feasible.

Putting the hazard and response together in a similar way to the outcome analysis described in Chapter 4 gives us an overall estimation of the impact on the household economy of different aspects of HIV/AIDS.

How to use HEA to understand the situation of children

What are we trying to understand?

Children typically make up 50% or more of the total population of the areas that we assess. There is a tendency to simply assume that by discussing the household economy with adults, we will get a picture that is adequate for understanding the situation of children. However just as it has long been recognised that gender analysis will provide a deeper understanding of differences in the status and needs of women and men which may be useful for intervention purposes, a better understanding of the situation of children can enable us to design more appropriate responses in support of children within the household context. Taking a long-term view, ensuring that children are adequately supported in terms of nutritional status, access to education and health, and protection from exploitation and abuse is not only necessary in and of itself, but is central to breaking intergenerational cycles of poverty.

When the situation of children is incorporated within HEA assessments, the objectives are twofold:

- To understand how children contribute to the household economy, and
- To understand and highlight how hazards and shocks may impact on children in a broad range of ways.

How to understand children's contribution to the household economy

Children contribute to the household economy in many ways, both directly and indirectly and through productive and domestic work. From an early age, children can be seen looking after infant siblings, herding animals, carrying out domestic chores and assisting in ways that free up parents to spend more time on productive activities. As children grow up, they often become more engaged in productive activities themselves, assisting with farming, petty trading or casual labouring, for example. While discussing children's roles with parents is useful, the best way of understanding their contribution is to discuss it directly with the children themselves.

Because children's roles differ according to age and gender, it is recommended that discussions are held with different groups organised along age and gender lines. Experience suggests that the most significant differences are between groups of children aged around 6-12 and those aged 13 and above, though these are not strict boundaries. It is recommended that focus group discussions are used with children, as the group environment tends to be more suited to encouraging open conversation with children.

Having a local adult present is important for the sake of transparency, though interviewers should be aware that having the adult present may make children less willing to talk. Where sensitive issues are likely to come up (such as transactional sex or other forms of exploitation or abuse of children), the researchers should make arrangements to refer such issues to appropriate people, such as social workers, who can follow up the issues with the children and their community.

Box 10. Children's Activities in Binga and Nyaminyami, Zimbabwe

The table below shows the diverse range of children's productive activities in the Zambezi Valley, broken down by age and gender, as reported by them in a 2003 baseline HEA by Save the Children. In addition to these activities, girls were found to be responsible for many domestic chores, such as cooking, cleaning in and around the house, and fetching water and firewood.

Activity	Gender	Age range
Weeding	Both	10 years+
Planting	Both	10 years+
Going to the Grinding mill	Both	8 years+
Collection of wild foods	Both	5 years +
Selling wild fruits	Both	9 years
Herding cattle	Boys	10 – 16 years
Leading oxen during ploughing	Boys	8 years +
Buying maize	Both	10 years+
Work in other people's fields	Both	
Herding cattle for others	Boys	10-16 years
Fishing	Both	9 years+
Hunting	Boys	11 years+
Brick moulding (collect water)	Both	13 years+
River bank gardening	Girls	13 years+
Harvest Fibre from bush	Boys	12 years+
Basket making	Girls	15 years+
Building huts for others	Boys	16 years+
Work as housemaids for teachers	Girls	15 years+

While talking to children does not necessarily require different staff, it does require a different approach and in some cases additional training. Discussions must be relatively short (less than an hour); the topics must be ones which the children know about or have an opinion on (there is little point asking a child how much income his/her parents typically earn, for example); and it is particularly necessary to take time to make the children feel confident enough to speak openly. The style of interviewing will need to be different, with the phrasing and language of questions such that children are able to understand; the interviewer's bearing and tone should make the children feel at ease. Starting the discussions with ice-breakers in the form of songs or games is useful with younger children.[9]

Discussions are best held in the form of a semi-structured interview, with participatory exercises for the children. An example of a semi-structured interview form used in HEAs by

[9] Further details on working with children can be found in "So You Want to Consult With Children?" (SC Alliance, 2003), and practical resources are available in "A Parrot on Your Shoulder" (International HIV/AIDS Alliance, 2004).

Save the Children is found in Annex C of this chapter. The interview typically focuses on daily activity calendars which are completed by the children, and then discussed to get a full understanding of children's roles and how they change over seasons. **Box 10** provides an example of the activities children reported undertaking in Zimbabwe.

The information on children's roles is important in order to understand issues such as the financial and productive contribution of children to household food and cash income, which types of children attend school and why, and what sort of hazardous or exploitative work children may be undertaking. The application of this information is even more relevant when we look at how shocks and hazards may affect children.

How to understand the effects of shocks on children

Typically, an HEA outcome analysis will examine the impact of a shock not only on the household's access to food, but also on the ability of the household to afford a basket of essential non-food items which can include services like education. Incorporating a more explicit awareness of children and children's rights simply implies elaborating on the impacts of hazards and of households' coping mechanisms as they relate to children.

The most important element of this is for HEA practitioners to be aware of and sensitive to the different issues for children that can arise as a result of livelihoods problems. To this end, Save the Children UK informally uses an adapted version of the standard definition of food security to concentrate the minds of staff on the links between food security and other children's rights:

- "Food security exists when ***all children***, at all times, have physical and economic access to sufficient, safe and nutritious food for a healthy and active life ***in a manner which protects and does not interfere with the fulfillment of other child rights***."

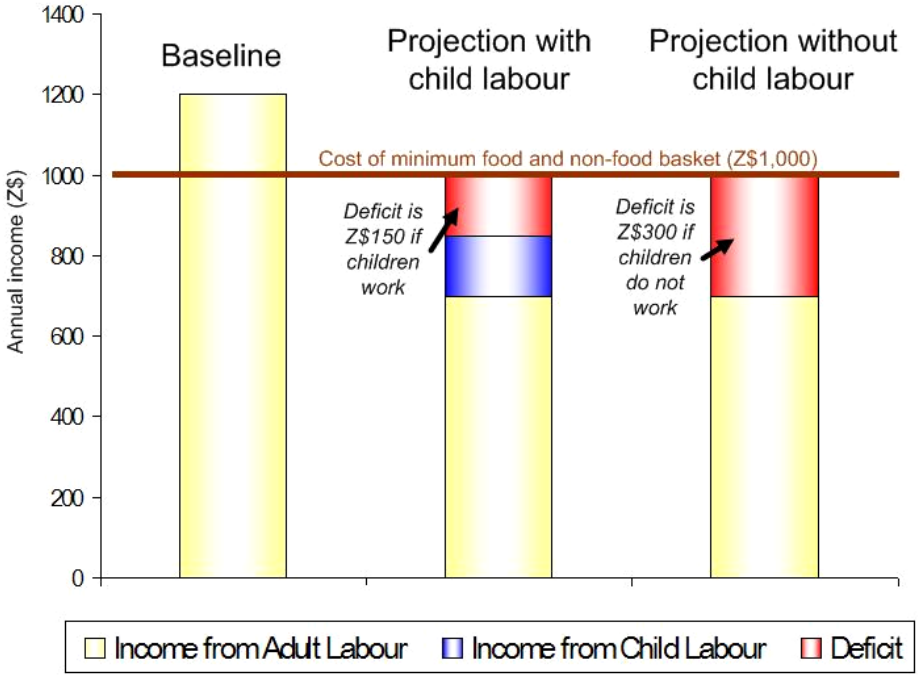
This leads to a stronger focus on three main issues in addition to access to food and non-food items:

- Will households' coping strategies include increasing children's labour? For example, we normally would consider whether increased casual labouring is a coping strategy. But we could ask more about who is likely to do this additional labouring? Will it be older children? Will it indirectly affect children, e.g. if the mother does increased labouring, will girl children have to do more domestic work? The greatest concern is if any additional children's work is harmful for exploitative, or if it is likely to force children to drop out of school.
- Will children's access to education be harmed? Specifically, will the household still be able to afford the direct costs of school (fees, uniforms, books, stationery, etc.), and can they afford the opportunity cost of leaving children in school who could otherwise help access food and cash income?
- Will livelihood stress lead to any child protection concerns? For example, will children be at increased risk of sexual or other exploitation (e.g. girls at secondary school sleeping with older men in exchange for school fees, or – as has been documented in West and Central Africa - children being asked by aid workers for sex in exchange for registration for food or other relief items); might children become separated from their family (e.g. when adults migrate for work, or when children are sent as domestic workers to other households); or might children join armed forces as a way of ensuring access to food and money?

All of these issues can be explored through discussions with children, parents and key informants such as school teachers and social workers. As many of these issues are quite sensitive, it can require a particular effort to uncover them. In Liberia, for example, work on understanding the links between livelihoods and sexual exploitation was carried out as a special study, with a combined team of HEA-trained livelihoods staff and social welfare and protection staff.

Understanding these issues may have implications for HEA outcome analysis and for recommendations. Specifically, we may choose to present a scenario for access to essential food and non-food items that discounts any income earned through harmful child labour or coping strategies that have serious protection risks for children. This would imply making an even stronger case to relevant governments and agencies to intervene early and adequately not only to save lives or even to protect livelihoods, but also to protect other children's rights. **Figure 8** illustrates this point.

Figure 8. Deficits with and without child labour



In this hypothetical example, the income of the household is adequate to meet essential food and non-food needs in the baseline period. When a shock leads to a decline in adult income, one coping mechanism is for children to start working. If child labour is included in our projection, the deficit will be $150. However, if we say that child labour is an unacceptable coping strategy, the deficit is $300, and an intervention to preclude this activity would have to occur would have to be in line with this gap.

In practice, it is often seen that even recommendations for life-saving interventions are not adequately responded to, and therefore it may be felt that recommending an even greater intervention to prevent other types of harm to children is unrealistic. However, one option is to present alternative interventions scenarios (life saving only; life saving + livelihoods protection; life saving + livelihoods protection + full protection of children), and to indicate explicitly what the cost to livelihoods and children's rights would be of choosing not to intervene at each threshold.

Frequently Asked Questions

Q: How do you ensure that ethical research practices are followed when working with children?

Some key steps are:

- Sensitise all staff and partners to children's rights and to protection issues and to good practices in working with children
- Inform parents and other adult "gatekeepers" of the purpose of discussions with children
- Explain the purpose of the research to children and get their agreement to participate in the discussion. For younger children, parent's consent may be required.
- Put in place mechanisms for reporting and following up any protection concerns that arise in discussions with children
- Take measures to ensure that in data collection, storage and reporting, children are not placed at risk because of their participation or of what they have said

See "So You Want to Consult With Children" (SC Alliance, 2003) for further guidance on this issue.

Q: Given the negative impacts of HIV/AIDS on livelihoods, can we assume that all HIV/AIDS-affected families are food insecure and in need of support?

No, HIV/AIDS affects households across the entire wealth spectrum, and at any given point in time many affected households will be able to meet their basic needs without outside support. However, it is important to recognise that AIDS can set affected households on a downwards spiral towards food insecurity and therefore while AIDS-affected households should not automatically be targeted for emergency support, they may be an appropriate target group for longer-term support to prevent them from becoming chronically poor over time.

Q: Does a finding that children are vulnerable in wide range of ways to livelihoods shocks imply that we need to target children with livelihoods responses?

The implication is that the impacts of interventions need to *reach* children, but that does not mean that they need to be directly targeted at children. In most cases the best way of reaching children is through the family. What is important, however, is to consider those children who may not be reached in that way, e.g. child-headed households, or in some cases orphans who are discriminated against within host families. These children may need to be targeted more directly or with additional interventions.

Field Materials

Sample of a "Children's Interview Format" from a HEA assessment in Pakistan

Examples of participatory exercises and practical resources for working with children can be taken from "A Parrot On Your Shoulder".

FURTHER READING…

…on the Sustainable Livelihoods Framework and HEA

DFID: Sustainable Livelihoods Guidance Sheets
http://www.livelihoods.org/info/info_guidancesheets.html

DFID: Social Capital Keysheet
http://www.keysheets.org/red_3_social_capital.html

Hammond, Laura & Tanya Boudreau, 2006: Quantifying Needs and Understanding Processes: Combining the Benefits of the Sustainable Livelihoods Framework and Household Economy Approach, draft paper for Oxfam GB

TANGO International, 2002: Household Livelihood Security Assessments: A Toolkit for Practitioners, Georgia: CARE USA

Young, Helen et al, 2001: Food Security Assessments in Emergencies: A Livelihoods Approach, HPN Network Paper 36, London: ODI

… on Power, Conflict & Political Economy Analysis

Anderson, Mary, 1999: *Do No Harm: How Aid Can Support Peace – Or War*. London & Boulder: Lynne Reiner Publishers West Hartford, CT: Kumarian Press

Boudreau, Tanya & Philippa Coutts, 2002: Food Economy in Situations of Chronic Political Instability, Working Paper 188, London: ODI

Collinson et al., 2002: Politically Informed Humanitarian Programming: Using A Political Economy Approach, HPN Network Paper 41, London: ODI

DFID, 2002: Conducting Conflict Assessments: Guidance Notes, London: DFID

Hammond, Laura, et al., 2005: Livelihoods & Conflict: A Toolkit for Intervention, Washington: USAID

Jaspars, Susanne & Jeremy Shoham, 2002: A Critical Review of Approaches to Assessing and Monitoring Livelihoods in Situations of Chronic Conflict and Political Instability

Keen, David, 1994: The Benefits of Famine: A Political Economy of Famine and Relief in Southwestern Sudan, 1983-1989. Princeton: Princeton University Press
Pain, Adam & Sue Lautze, 2002: Addressing Livelihoods in Afghanistan, Kabul: Afghanistan Research & Evaluation Unit

…on Other Vulnerability and Assessment Tools

Barrett, Christopher B., 2004: "Mixing Qualitative and Quantitative Methods of Analyzing Poverty Dynamics"; paper presented at KIPPRA-Cornell SAGA Workshop on "Qualitative and Quantitative Methods for Poverty Analysis", Nairobi, March 2004

http://www.saga.cornell.edu/saga/q-qconf/cbbws.pdf

Development Information Services International, 2006: Comprehensive Food Security and Vulnerability Analysis (CFSVA): An Internal Review, Rome: WFP SENAC Project
http://documents.wfp.org/stellent/groups/public/documents/ena/wfp103646.pdf

Frankenberger, T., et al.: Vulnerability Assessment Methodology Review Synthesis, Gabarone: SADC FANR Regional VAC
http://www.sahims.net/doclibrary/Sahims_Documents/141105_RVAC_VAC_review.pdf

Kanbur, Ravi, et al., 2005: Q-Squared: Qualitative and Quantitative Poverty Appraisal: Complementarities, Tensions and the Way Forward, Toronto: University of Toronto
http://www.q-squared.ca/pdf/Q2_WP1_Kanbur.pdf

Scott, Kinnon, 2003: "Generating Relevant Household Level Data: Multi-Topic Household Surveys", in Bourgignon, F. & Luiz A. Pereira da Silva [eds], The Impact of Economic Policies on Poverty and Income Distribution: Evaluation Techniques and Tools, Washington DC: The World Bank
http://povlibrary.worldbank.org/files/12931_chapter7.pdf

Tango International Inc. July 2002. *Household Livelihoods Security Assessments- A Toolkit for Practitioners.* Atlanta: CARE USA
http://www.kcenter.com/phls/HLSA%20Toolkit_Final.PDF

Young, Helen et al., 2001: Food Security Assessments in Emergencies: A Livelihoods Approach, HPN Network Paper 36, London: Overseas Development Institute
http://www.oxfam.org.uk/what_we_do/emergencies/how_we_work/downloads/Food-security-and-livelihoods.pdf

…on Nutrition and HEA

Save the Children UK, 2004: Emergency Nutrition Assessment Guidelines for Field Workers

Sphere Project , 2004: Minimum Standards in Food Security, Nutrition and Food Aid, chapter 3 of "Humanitarian Charter and Minimum Standards in Disaster Response" [2nd ed.]
http://www.sphereproject.org/component/option,com_docman/task,cat_view/gid,17/Itemid,203/lang,English/

WFP, 2000 Food and Nutrition Handbook. Rome: WFP Nutrition Unit

WFP, 2005: "Analyzing Food Utilization and the Nutrition Situation", Chapter 6 of the Emergency Food Security Assessment Handbook, Rome: WFP

Young, Helen & Susanne Jaspars, 2006: The Meaning and Measurement of Acute Malnutrition in Emergencies: A Primer for Decision-Makers, HPN Network Paper 56, London: Overseas Development Institute
http://www.odihpn.org/documents/networkpaper056.pdf

…on Chronic and Transitory Food Insecurity

Devereux, Stephen, 2006: "Desk Review: Distinguishing Between Chronic and Transitory Food Insecurity in Emergency Needs Assessments", Rome: WFP Emergency Needs Assessment Branch
http://documents.wfp.org/stellent/groups/public/documents/ena/wfp085331.pdf

O'Donnell, Michael, 2005: "Using Livelihoods Assessments to Diagnose & Predict Chronic and Transitory Food Insecurity", *Discussion Note*, London: Save the Children UK

…on Special Interest Groups (examples of HIV-affected and children)

Harvey, Paul, 2003: HIV/AIDS and Humanitarian Action, London: Overseas Development Institute
www.odi.org.uk/HPG/papers/hpgreport16.pdf

International HIV/AIDS Alliance, 2004: A Parrot On Your Shoulder: A Guide for People Starting to Work with Orphans and Vulnerable Children, Brighton: International HIV/AIDS Alliance
www.aidsalliance.org/sw7467.asp

O'Donnell, Michael, 2004: Food Security, Livelihoods and HIV/AIDS: A Guide to the Linkages, Measurement and Programming Implications, London: Save the Children UK
www.synergyaids.com/documents/HIV_FoodSecurity.pdf

O'Donnell, Michael, 2005: Children & Livelihoods: Understanding the Linkages, London: Save the Children UK
www.savethechildren.org.uk/hunger/linkages.pdf

Petty, Celia, et al., 2004: Mozambique Assessment: The Impact of HIV/AIDS on Household Economy, London: Save the Children UK
www.savethechildren.org.uk/foodsecurity/documentation/swa/HIVAIDSMozambique.htm

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THE PRACTITIONERS' GUIDE TO HEA

Market Assessment Supplement

MARKET ASSESSMENT SUPPLEMENT

Market assessment is integral to all aspects of HEA. Each chapter of the Practitioner's Guide has included the components of market assessment most relevant to that chapter. The explicit focus on market assessment in this manual reflects the desire to clarify and strengthen this element of HEA assessments, and to draw on and adapt market assessment tools from other, related sectors in order to add value to our understanding of risk and vulnerability.

In the past, market analysis within HEA has been concerned with understanding how and to what extent households interact with markets, and how different shocks affect market prices for key items such as food, livestock and labour. This has been important for early warning and needs assessment work. However market analysis has been carried out in a somewhat informal manner and has not necessarily provided direct information about market infrastructure or integration beyond what was necessary for achieving an understanding of how shocks affect key prices. In recent years, with the growing popularity of cash-based interventions and the increasing need to consider the likely impacts on markets of cash, in-kind or market support, the need to understand how markets function has increased.

While previous chapters of this Guide have covered the 6 steps in the HEA framework, this section introduces step 7 – response analysis – and describes how market analysis is used to determine appropriate food security responses. The aim here is to help teams identify and focus on the *minimum* set of market information required in HEA assessments, and to provide guidance on tools to collect that information.

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RELATED CD FILES

The CD that accompanies the **Practitioners' Guide** contains the following files relevant to the Market Assessment Supplement, found in the Market Assessment Supplement directory:

- **Annex A: Basic Market Concepts and Definitions**

BACKGROUND

In recent years there has been increasing demand from decision makers for assessments to provide not just information on needs within a population, but also to suggest guidance on which choice of intervention is most likely to be appropriate to local conditions. This has been prompted at least partly by a concern that the food security sector has been using too narrow a range of tools to address needs.[1] Cash-based responses and other in-kind distributions are increasingly used as an alternative to food aid to meet emergency requirements, while a wide range of safety net interventions are being promoted as part of social protection and disaster risk reduction activities. Choosing the appropriate intervention means understanding which intervention is likely to have the maximum benefit for the affected population, with the minimum harm to unaffected actors, such as producers, traders and unaffected consumers. A particular kind of market analysis is central to this kind of calculation.

In one sense, market analysis in HEA has never been part of a separate study. It is an integral component of understanding the household economy, and in gauging how changes in the wider economy translate into effects at the household level. Many of the market activities included in this set of HEA resources are useful at a number of steps in the HEA process; particular tools may be more relevant at a particular step in the framework. Mapping supply and demand, market integration and competitiveness, for instance, is most important when designing interventions. But we still need information related to these areas when we put together the baseline picture because they determine the value of income generating activities, the costs of inputs and food and the change in prices from year to year and season to season.

HEA takes up and adapts market analysis tools as necessary given the circumstances. For instance, if it seems from household information that markets are strong and people get good prices in both good and bad years then we might be satisfied with understanding only the flow of commodities into and out of an area. However, if we find out that crop prices are extremely low in good production years, and this seems to be a major factor in keeping people poor then it becomes necessary to investigate where, in the marketing chain, the biggest bottlenecks are so that recommended interventions result in improved access to markets and lower prices for food and inputs.

However, what is new with this supplement is the focus on the market as a separate entity; and understanding how it may function in different circumstances: with an infusion of new cash (in the case of a cash-transfer), for instance; or with non-food in-kind distributions of needed commodities, such as soap, or salt; or with subsidization of essential goods, such as kerosene. While a complete understanding of this subject will require resources beyond what is normally provided to the HEA practitioner, it is nevertheless important for the practitioner to understand the kinds of issues that need to be investigated in order to arrive at logical conclusions in this area of study. This supplement is devoted to the task of providing an introduction to these issues and some initial tools for conducting this work.

[1] See for example Darcy & Hoffman, 2003, "According to Need?", and Levine & Chastre, 2004, "Missing the Point".

HOW TO USE MARKET ASSESSMENT TO HELP DETERMINE AN APPROPRIATE RESPONSE TO ACUTE FOOD INSECURITY

Background

The six steps of the HEA framework described throughout this guide end with Scenario Outcome Analysis, which provides an estimate of the size of any deficit that different wealth groups might experience after a hazard. (See Chapter 1. Introduction to the HEA Framework). The 'seventh' step is response analysis. As discussed in Chapter 5, HEA practitioners do not carry out research for research's sake, but aim to inform decision-makers with useful analysis and recommendations that will lead to action. There is often a grey area between assessing a situation and beginning a response, which involves choosing the most appropriate way of responding to the situation. Some decision-makers would like to see assessments which have clear actionable recommendations on the best response. But assessing the feasibility of response options often goes beyond the remit – and at times the expertise – of those doing assessments. Feasibility analysis usually requires technical specialisation, for example in agricultural development or small business development, or simply in the operational management of programmes. It is sometimes also argued that to preserve the neutrality and objectivity of assessment staff, they should not make recommendations about the relative merits of different intervention options.

However, in emergency responses, with the increased use of cash- and market-based responses in recent years, it has become imperative that our analysis of needs goes beyond estimating the size of the deficit to provide guidance to decision-makers on the most appropriate way to fill that deficit – whether through food aid, cash relief, or a combination of these and other market-based alternatives. Market analysis is at the heart of this requirement.

Market assessments are necessary because we need to make sure we intervene in the most efficient and effective manner. This section reviews the main options open to decision-makers to respond to a deficit and provides guidance on linking market information gathered during a HEA assessment to a decision-making framework developed by Oxfam to assist in determining appropriate responses.

Setting the Context

Before we go into detail on information that we need to collect to determine the best response, we will first consider the different interests and priorities of stakeholders that have to be taken into consideration when choosing interventions, and then review the features of the different intervention options that are open to us in theory.

Maximising Benefits and Minimising Harm: Stakeholder Interests

The various options for addressing acute food insecurity may be viewed differently by different people. **Table 1** indicates the key concerns of different stakeholders which may be affected when outside agencies intervene, and the advantages and disadvantages that they may see of different types of intervention.

Table 1. Stakeholders' interests	
The Affected	In any disaster response our priority should be on ensuring that *all*

Population	the local population's food (and non-food) needs are met in a timely and appropriate manner for the duration required. The "humanitarian imperative" to save lives first and foremost remains the priority; but insofar as is possible, doing so should not harm future food security prospects.
Producers	Producers will be concerned with making sure that assistance not result in the reduction of producer prices (e.g. by providing imported food aid to a community where local producers currently provide adequate supplies).
Consumers	Consumers may have been affected by food insecurity or not depending on the hazard, and may be receiving assistance or not. For those not receiving assistance, their main concern is that assistance should not result in unacceptably high price increases of basic commodities such that they cannot afford to purchase these commodities in the same quantities. (E.g. a cash or local food aid purchase project in an area of limited food supply might drive up food prices.)
Traders	Assistance should not displace traders; traders are essential to a population's way of life. A well-functioning market should be supported, and efforts should be made to improve a poorly-functioning market (e.g. supporting traders with cash for recovery after a disaster, or supporting improved transport and communication infrastructure). At the same time, assistance should not weaken the functioning of markets, e.g. agencies' procurement practices resulting in an increase in market share of large traders.
The Government	The government is an important stakeholder, and it will want any intervention to be in line with its national economic and food security policies. Interventions should be coordinated with the government, and lessons learned should be shared to help improve policy if applicable.
The Implementing Agency	Implementing agencies need to consider their own capacity to implement what is required. Agencies collectively should seek to carry out the best responses, but should also understand that second best - as long as it is not harmful - may be necessary in the short term when capacity is lacking.

In our needs assessments, our primary goal will be to identify those options that can address the needs of the affected population in a timely and effective manner. In so doing, a vital secondary consideration is to not significantly harm any other population group or to harm long-term livelihoods potential. The third consideration is then to try to maximise any indirect benefits that the intervention might bring, either to the affected population themselves or to other groups such as traders or producers.

For decision-makers, a host of practical and operational considerations – linked for example to cost, resource availability, technical capacity and security - will greatly affect the final decision on how to intervene. It is important therefore for needs assessment staff and decision-makers to interact and strike the best possible balance between the ideal and the feasible.

What are the options?

The starting point is an assumption that our assessment has identified that food insecurity is or will be a problem for some groups. To choose the best response option, it is necessary to be aware of the range of responses from which a choice can be made, the circumstances in which each is most appropriate, and then to begin narrowing them down according to the prevailing situation. The most important options[2] are considered below.

Cash transfers – cash provided to food insecure populations: Transfers of cash directly into the hands (or bank accounts) of food insecure households are intended to enable them to purchase food by themselves, or to purchase non-food items and services that are necessary for livelihood protection. This section will focus on cash as a means of purchasing food, but the same analysis will apply if the intention is to enable people to access non-food items. Cash transfers are most appropriate when there is sufficient local supply of food and the chief problem is lack of effective demand due to an income deficit. Cash does not automatically increase the supply of food into an area, but under certain market conditions cash can encourage traders to supply more food. Cash transfers carry many benefits, including flexibility to purchase preferred foods, stimulation of the local economy and promoting recovery among traders. This form of assistance supports traders of all sizes as people are free to shop where they wish. Inflation is often cited as a risk with this type of intervention, and understanding the risk of inflation is a key question for market analysis.

Voucher provision to food insecure populations for exchange through traders– contracts based on fixed price agreements: A voucher system involves targeted food insecure households being given vouchers to access food from local traders, with the implementing agency reimbursing traders for the vouchers they accept. When there is or could be sufficient local or regional supply a voucher system addresses both the demand problem and the supply problem at the same time, enabling households to bridge their food deficit while also supporting producer prices and involving traders in the supply chain. Vouchers may be limited to a specific range of food commodities and/ or may only be redeemed at certain shops. They can be denominated in kind (e.g. one sack of maize) or in a cash value, usually with prices being fixed at an agreed level between traders and the implementing agency. Vouchers can provide the incentive for traders to supply areas they would not otherwise supply (due to effective lack of demand). Voucher programmes require pro-active engagement with the market by implementing agencies and can support the local economy. Arguably, a narrower range of market actors may benefit from vouchers than from cash transfers. Vouchers increase the likelihood of food being purchased by recipients: this may be good if there was a real risk of cash being misused (e.g. spent on non-essential items), but could also be bad if there was a greater prevailing need for non-food items. The choice between vouchers and cash on the one hand, or vouchers and food aid on the other, is more about operational considerations than market conditions.

Local purchase of food commodities and distribution by the aid agency to food deficit populations: This option is most appropriate when there is sufficient surplus within the country but the market is not functioning well (i.e. when an increase in effective demand via a cash injection or vouchers would not cause an equivalent increase in supply, either because the infrastructure is inadequate, or because traders are not trading and cannot be encouraged to trade. Supply for local purchase usually comes from surplus production areas outside the affected area. This option tends to favour large traders as the bidding process requires traders to agree to supply relatively large quantities of grain and small traders

[2] These options are all unconditional transfers or other forms of support – i.e. cash and food for work is excluded as for the purposes of food market assessment the issues are similar for free food and cash transfers. Where market assessment differs for food and cash for work is in the need to analyse the labour market.

usually have neither the transport, credit nor systems to commit to deliver large quantities. There is a risk of food price inflation with this activity as well.

Imported food aid: Importing food aid is critical if there is insufficient supply in the country, if the government has insufficient resources to import commercially and no donors offer cash funds to enable the government to import from neighbouring countries. Well targeted and properly timed food aid addresses the problem of lack of effective demand and can help to keep inflation at bay. But it is criticised for failing to take the opportunity to support traders, and at worst actually displaces small and large grain traders from a market chain in which they usually participate. Imported food aid provides the least amount of benefit to the local economy, and if provided in inappropriate circumstances the effects can be negative if it brings down the price of locally harvested grain and thus harms producers. The risk of this happening is reduced by effective targeting, supplying no more than the quantity required, timing the delivery to end before the new harvest, and avoiding competition with local producers, e.g. by supplying a less preferred food commodity than is produced locally.

Market Support: Market support refers to a variety of measures that can be taken to ensure that the market functions well in matching supplies of food to local demand. Whereas providing food aid can be an appropriate intervention to compensate for poorly-functioning markets, market support can be an alternative that indirectly supports the food insecure population by addressing an underlying cause of the problem. When a demand failure accompanies a market failure, a combination of market support and cash or vouchers can be a strong intervention package. Most hazards affect traders as well as the rest of the population. See **Table 2** for examples of how different disasters can affect markets and **Box 1** for more detail on how traders may be hampered in times of famine.

Traders at the start of the supply chain are likely to have been affected by disasters such as floods, earthquake or conflict, and may need help in order to resume trading (in the same way that farmers are assisted in getting back on their feet because of a crop deficit). Providing credit or grants to traders to re-establish business, rehabilitating infrastructure, providing subsidies to lower the cost of transport (for fuel, truck hire), or offering contracts to smaller businesses to encourage competition are all useful ways of helping traders recover and potentially participate in the assistance intervention.

Outside of a disaster context, market support can include lobbying government to change policies that may restrict the effective functioning of markets, such as limits on the movement of grain or the monopolies of specific traders or semi-state bodies. These market interventions can increase the supply of food into a deficit area thereby addressing supply problems, and also reducing the price of grain to make it more affordable, thus easing – though rarely solving – demand problems.

Box 1. Factors that influence traders' response in times of famine

Logistical constraints
- Transport costs
- Costs of re-directing distribution channels
- Accessibility of famine-affected villages
- Small surpluses available for merchants to purchase for resale

Limited rewards
- Small size of famine markets
- Short duration of famine markets
- Opportunity cost of losing regular customers elsewhere
- Limited monetary value of assets offered by peasants in exchange for food

Risk and uncertainty
- Risk of being undercut by other traders
- Uncertainty caused by limited information about famine markets

(Source: Devereux 1988, quoted in Harvey 2005)

Table 2. Impact of three hazards on food availability and markets	
Volcanic eruption	
Food availability and markets	Localized reduction of crop production due to lava cover and pollution of soil. Possible short-term, localized disruption of markets and transport.
Household food access	Loss of employment in damaged businesses. Temporary work in rebuilding. Localized loss of household productive assets. Reduction in local social network transfers.
Drought	
Food availability and markets	Reduced food production. No impact on markets other than reduced purchasing power.
Household food access	Reduced crop and livestock production. Reduced income from crops, livestock and agricultural labour. Increased debts. Distress sales of productive assets if conditions are severe and assistance delayed.
Economic crisis	
Food availability and markets	Reduced incentive for traders to supply markets due to reduced purchasing power.
Household food access	Reduced income from employment. Reduced income from trading (due to reduced demand). Increased debts. Distress sales of productive assets if conditions are severe and assistance delayed.

Choosing the Right Option for the Context

Having looked at the different actors for whom we are trying to maximise benefits and minimise harm, and having considered the different broad types of response options that exist, we now move on to how to choose which option – or combination of options - is appropriate for any given context. The recommended starting point for this analysis is the framework developed by Oxfam in their guidelines on "Cash Transfer Programming in Emergencies", and adapted slightly here. The framework is based on 6 key questions, and guidance is provided on how to use the primary and secondary information collected during a HEA – especially that related to markets – to answer those questions.

1. Determine whether the "problem" is a supply problem, a demand problem, or a combination of the two

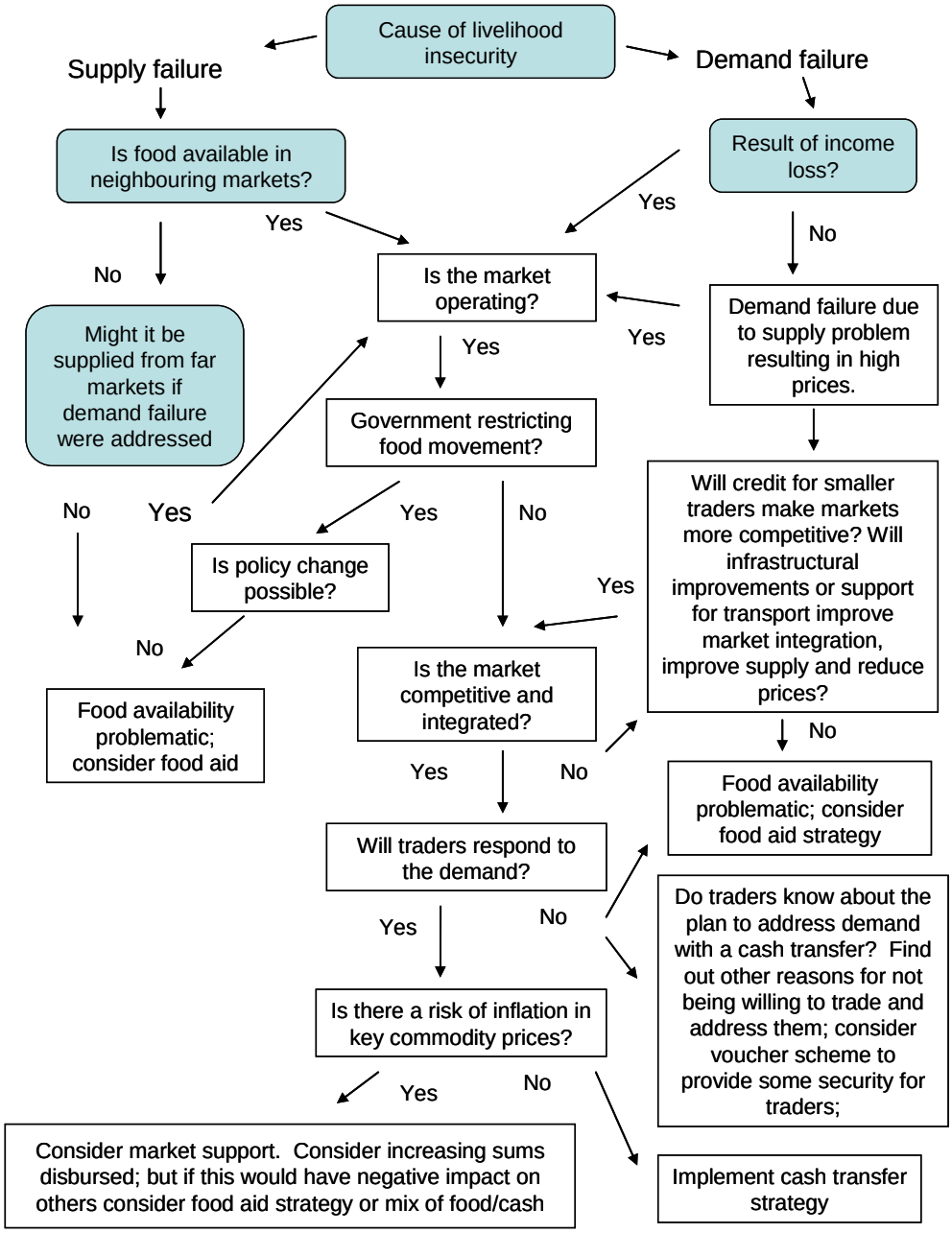
A supply failure, or lack of availability of food, could be the result of inadequate production or imports of food, or of a market failure that prevents available food from reaching the food insecure population. Interventions either to increase food supply (such as food aid) or interventions to address market problems are more appropriate to supply failures. A demand failure refers to when the food insecure population lacks the means to get available food, and cash or voucher problems are likely to be more suitable in those situations than food aid, as the latter could displace trade.

Supply

- Food balance sheet data tells us whether national production is surplus to consumption needs, and we should check whether regional production (from neighbouring countries in the region) is also surplus to needs. If the answer to both

questions is yes, then there is scope for an intervention which encourages the market to move the grain from surplus areas to deficit areas.

Figure 1. Market assessment and response algorithm



Adapted from Creti & Jaspars (2005), pg 22

- HEA (steps 4 to 6: hazard analysis, coping and outcome scenarios) will have already identified the extent to which local production has reduced supply to the local market, but it doesn't tell us about whether the supply from outside is a problem. Food balance sheet analysis and mapping supply routes from surplus to demand areas is the best way of assessing overall change in supply.

Demand

- HEA (again, steps 4 to 6) has also indicated whether effective demand has been reduced by the shock (how much incomes have gone down, despite people's efforts to make up deficits through coping).

2. Determine if the market is operating

- Mapping markets to determine which ones are still operating, and which have been affected by the disaster is the next step. Maps of market locations can be easily adapted from existing maps, or they can be drawn up in group meetings. The key issue is not just the location of the markets, but access to the markets (mark on the map any barriers – physical, political as well as roads and other infrastructure which enable access). See Guide 6 in Chapter 3, Annex C. The map should be the starting point for identifying supply routes for staple food needed by the population. Interventions such as cash, vouchers and local purchase of food aid require markets to be functioning to be successful.

3. Determine if government is restricting movement

Our concern here lies in the presence of government policies which prevent free flow of goods (staple foods); conversely the government may have intentions of intervening in the market – and your enquiry should therefore look at the implications of government policies for the market chain. Similar to question 2 above, government policies that affect markets will likely also affect potential aid agency interventions such as cash, vouchers or local purchase of food aid. One solution would be to see if these policies may be adjusted in light of the disasters, or they may have been introduced because of intended beneficial effects on the disaster affected population. Identify the market channels through which grain reaches consumers.

- Guide 5 in Annex C of Chapter 3 provides advice on drawing up market structure diagrams – which can explain the influence on government policies in terms of restricting movement of staple food.
- Trader interviews should also establish important information about market regulation (see Interview Form 2, found in Annex A of Chapter 3, and the specialized versions of the same form found in Annex B of Chapter 3.)

4. Determine if markets are competitive and integrated

While questions 2 and 3 can tell us whether food can flow into a deficit area, this part of the analysis will help us know if there are any factors in the way the market is structured or any economic factors which may either reduce the chances of staple food being supplied at all, or which could lead to it being supplied at very high prices. The market structure diagram that we mentioned in step 3 is useful in identifying whether markets are competitive. This issue relates to the number of traders who compete in the market and their market share. If there are only a few then the market is likely to be uncompetitive due to their dominance and power to dictate terms. In an uncompetitive market, the risk is that powerful traders could use their power to force up the price of food, which could devalue a cash transfer programme, or make local purchase of food aid very expensive, and in both cases harm any non-beneficiaries who currently purchase food.

Market integration refers to how changes in prices in one market get transmitted to neighbouring markets. In an integrated market, if the price in Market A is higher than that in market B (taking transport costs into consideration), that should lead to an influx of goods

into market A as traders seek to benefit from the higher prices. Market integration may be hampered by factors such as lack of information on prices in different markets, physical barriers to movement or policy measures such as tariffs or controls on the movement of goods.

Market integration is determined by looking at the vertical links in the supply chain, and the price increment at each link in the chain. We can also find out about market integration by looking at the price trends in different markets and seeing whether the price trends follow a similar trajectory, or whether they appear to be responding to different signals. Finally the most basic element in market integration is to determine whether markets are physically linked – and market mapping helps us to know this.

- Guide 1 in **Annex C** of Chapter 3 explains how to map market chains and then to investigate the price differential at each link in the chain. Investigate blocks at each link in the chain, i.e. what is preventing more people from trading?
- Guide 2 in **Annex C** of Chapter 3 provides direction on plotting, graphing and interpreting of historical price trend data, and Guide 7 (market integration) covers interpretation of market integration using time series graphs.
- Mapping is covered in Guide 6.
- Interview Form 2, found in **Annex A** of Chapter 3 is for use in trader interviews – questions cover change in supply and demand and other constraints to trading in the current year.

5. Find out if traders will respond to demand

This question is critical: even if a market is operational, integrated and competitive, traders may simply decide that it is not worth their while to supply a deficit area. The key question for a trader is whether the prices in different markets make it profitable and worthwhile for traders to bring food into the deficit area for sale. The logistical constraints, limited rewards and risks for traders indicated in **Box 1**, above, are particularly relevant here. The intention of an outside agency to intervene may affect this determination on the part of traders: a cash intervention could ensure that there will be demand if they supply the market; cash, vouchers and local purchase could also help boost the prices for food and thus make it more attractive for traders to supply the area. Thus it is vital that traders are consulted and informed about agencies' intervention plans. CARE in Aceh came up with an effective community-based tool for assessing the willingness of traders to participate in its cash and voucher scheme. After discussing terms and conditions, and the incentive for them to participate (a 5% commission) a number of traders signed up. However, some didn't because they were unable to get credit for the first round of stock. Providing credit for the first round may have helped even small traders to participate.

In southern Niger, much of the population relies on purchasing food imported from northern Nigeria at some times of the year. In 2005, one of the reasons suggested for the severe food crisis in Niger was that there were also food shortages in northern Nigeria that drove up the price of food there, such that traders preferred to sell grain in Nigeria rather than importing it as usual to Niger. This highlights the importance of understanding how different markets are linked.

- Interview Form 2C in Annex B of Chapter 3 is the format used by CARE to assess the various factors influencing their decision in each community. It can be adapted for use with wholesalers to determine whether they are willing and able to supply larger areas with food, if purchasing power were addressed.
- Interview Form 2E in Annex B of Chapter 3 is a post-disaster trader assessment that contains questions about all the changes that have affected current trade; at the end

of this interview you can find out about the theoretical ability and willingness of the trader to supply the food required.

6. Determine if there is a risk of inflation in key commodity prices

The final stage is to consider whether, given all the above considerations, there may still be a price increase in the cost of staple food. There are a number of elements to this issue. If the market has been depressed by a demand shock and supply has not been affected, such that food prices have fallen below normal, an intervention that leads to prices returning to normal levels should not be considered to have harmful inflationary effects. A harmful intervention will be one that causes prices to rise significantly above normal levels. The implications for targeted and non-targeted beneficiaries have to be considered. In a cash programme where inflation occurs, beneficiaries in theory can be provided with a higher cash value (though this may in turn simply drive prices up further); but non-beneficiaries will be just left with less money after buying what they need. The risks of this occurring are greatest where the problem is one of supply, and markets are not functioning well. In that situation, providing cash or vouchers, or trying to purchase food aid locally, can simply drive up the price of the little food that is available on the market. Imported food aid may be more appropriate in those conditions. Conversely, deflation could be a problem if food aid is supplied into an area where lack of demand is the problem, rather than lack of supply. The beneficiaries of the programme will be able to access food, but indirect effects may be felt by traders and local food producers.

Detailed price analysis needed for this would include market chain analysis and analysis of marketing margins, review of the food balance sheet calculations that were covered at the start of the process, and review of the market structure diagram to see where markets could be made more competitive. Detailed market chain analysis and analysis of price margins is usually beyond the scope of HEA assessments, and thus a judgement is often made based on a combination of an understanding of market structure and direct questioning of traders about historical patterns and their intentions and projections for the coming year.

7. Recommendations for intervention and contingency

The analysis that determined which is the most appropriate response or combination of responses from the market perspective should be clearly explained. It should consider the repercussions and severity of potential impact on markets for each option, and the risks and benefits for the different stakeholders listed in **Table 1**. HEA Practitioners should be in a position to make recommendations from a technical perspective about the interventions that may be appropriate in a particular context. Further feasibility analysis on the part of implementing agencies themselves – covering issues such as cost-effectiveness, resource availability and capacity – will usually be needed to make a final determination of the best feasible intervention option.

Information you need to provide

Make clear the information on which your analysis is based. In addition to providing sufficient and clear justification for the transfer option recommended, you should also consider whether the appropriate response may change if the conditions in the food insecure area change over time. This is where response analysis must be linked to the type of contingency planning described in Chapter 5. It is useful in particular to try to specify expected and extreme market prices for consumers and producers, and to consider whether that will not only affect the scale of intervention required, but also the type.

It is important also to clearly explain the prevailing market conditions at the time of the analysis and upon which intervention recommendations were made. In some contexts,

monitoring not only of prices, but of changes in certain market conditions – such as government policy or changes in physical access to markets – will be necessary, and such changes can profoundly alter the appropriateness of planned or ongoing interventions.

Additional Market Guidance

The guidance provided in this section is a relatively simplified approach to understanding markets, and for some purposes more detailed market analysis will be required, and/ or further information on choosing between response options may be required. The Further Reading" section provides references for interested readers, while WFP (2005) provides a useful table which considers the contexts in which a range of interventions are most appropriate. This table – reproduced in part in Guide 8, in **Annex C** of Chapter 3 considers each type of intervention and asks whether it is a good or bad idea from a markets perspective, and indicates the information needed to inform the decision. This work has been strengthened by Michigan State University with the recommendation to include additional analysis of implications for the market and the population "for options chosen in spite of 'bad idea' conditions", and Guide 8 also includes part of this guidance.

For readers with limited knowledge of economic concepts, the annex to this supplement on "Basic Market Concepts and Definition" provides a very short introduction to key concepts used in this chapter and in the market analysis sections of other chapters of this Guide. However such readers are strongly advised to consult introductory chapters of a textbook on microeconomics (such as Krugman & Wells, 2005) to get a more thorough grounding in this area.

FREQUENTLY ASKED QUESTIONS

Q: When doing a current year analysis I find that prices for some commodities have increased disproportionately to others. What should I do to make sure I put in the correct "problem specification"?

In the spreadsheet for the problem specification you can enter different problem specifications for different commodity prices. Different constituents of the household food and non-food basket can also be given different price problems.

Q2: How is market analysis useful in monitoring impacts of projects? What do we mean?

This answer is best given with reference to specific examples:

Intervention and objective	How price monitoring might be used to monitor impact
(1) food aid is provided to targeted households and a secondary objective is to bring down food prices	▪ price monitoring is needed to check consumer prices over time – are they brought down to within normal (or affordable levels)? ▪ Price monitoring is also needed of farm-gate prices to check that the food aid has had no negative impact on producers. ▪ The project should have defined the prices which are desirable, acceptable, excessive
(2) A cash transfer might be organized to address food insecurity without an adverse effect on market prices	▪ Price monitoring is needed to check that prices remain within the acceptable range – to ensure that non-targeted households maintain access to food and that the cash transfer was sufficient for households to purchase what they needed.
(3) An agricultural project might try to increase incomes by increasing the amount a farmer is producing	▪ the problem with some projects which try to increase production without looking at the market is that higher production in a context of weak markets will result in a price decrease – therefore the net value for farmers (change in income) may be only marginal. ▪ This is particularly true for irrigation projects – while there may be a net increase in cropping terms, has the increase in output resulted in income greater than the expenditure on inputs (considering the possible decrease in the farm gate price for the crop for the reason given above).

Q 3: How do traders determine their prices? This is needed when we make scenarios of likely future prices.

Traders need to calculate the marketing margin and add this to the price at which they buy from suppliers. The marketing margin includes transport, storage, processing (if necessary). In terms of fixing their prices to rig the market – this is done through verbal agreements between members who make up a *cartel*. However, for the purposes of HEA we do not go into these sorts of calculations, but rather rely on a combination of historical data and primary information from key informants.

Q4: Are high prices for grain necessarily a bad thing? How do we make sure our focus on vulnerable consumers does not ignore the needs for producers to get good prices for what they produce?

A: If the prices of locally produced traded goods are lower than the international price for those goods (taking into account differences related to transport costs, storage, etc.), then there is an economic efficiency argument for saying that the price should indeed be higher, and would be higher if there were fewer constraints to trade. Higher prices would benefit net producers but not net consumers. In most of the countries where HEA studies are done, the poorest households are net consumers of grain and thus would be harmed by higher grain prices. Thus while higher grain prices in those specific contexts may be considered more "efficient" in economic terms, our primary concern is with the welfare of the poor and we would not recommend anything that would result in higher grain prices without also protecting the poor. "Safety nets" are becoming increasingly seen as an efficient system to protect the poor while supporting producers. Safety nets are transfers (usually cash) targeted to poor households to enable them to purchase the minimum commodities they need. Thus, a combination of policies – which together result in increased production, higher producer prices and at the same time effectively protect the poor – is arguably the most efficient and effective option for development.

FURTHER READING

Adams L. and Harvey P. (2006) Cash Transfer Issue Papers: Market assessment .
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Krugman, P. and Wells R. (2004) *Microeconomics,* New York: Worth Publishers

Levine S. and Chastre C. (2004) "Missing the Point: an analysis of food security interventions in the Great Lakes" HPN Network Paper No. 47 July 2004
http://www.odihpn.org/documents%5Cnetworkpaper047.pdf

Meyer J (2005)*"Why can't CARE just give us money so we can buy what we want?"*: The story in pictures and words of CARE's Market-Based Food Assistance Pilot Project in Banda Aceh, Indonesia, December 2005. Power Point Presentation summarizing CARE's pilot project in Aceh. http://www.odi.org.uk/hpg/meetings/CARE_Slide_Show.pdf

Mukeere B, Dradri S (2006) Food Aid, Food Production and Food Markets in Lesotho: An analytical review. WFP Rome/Lusaka January 2006.

WFP (2005a) *Desk Review: Emergency Needs Assessments and the Impact of Food Aid on Local Markets.* SENAC/ODAN/Michigan State University
http://documents.wfp.org/stellent/groups/public/documents/ena/wfp086537.pdf

WFP (2006a) *Market profiles and Emergency Needs assessments: a summary of methodological challenges*. SENAC/ODAN/Michigan State University
http://documents.wfp.org/stellent/groups/public/documents/ena/wfp095655.pdf

WFP (2005e) EFSA handbook (sections 1 and 2)
http://www.wfp.org/operations/Emergency_needs/index.asp?section=5&sub_section=6#guidelines

THE PRACTITIONERS' GUIDE TO HEA

Team Leaders' Supplement

TEAM LEADERS' SUPPLEMENT

This chapter is designed for HEA team leaders. The material here is technically advanced, designed to provide detailed guidance on two processes and tools that the team leaders need to become skilled at: the Baseline Storage Spreadsheet; and Outcome Analysis (using the Single Zone Spreadsheet and the Integrated Spreadsheet). A basic introduction to these tools is provided in **Chapters 3** and **4**, however, this chapter contains the information required to actually utilise and become adept at them.

After reading this chapter team leaders should be fully familiar with the layout of the Baseline Storage Spreadsheet; be able to enter baseline data into the Baseline Storage Sheet; know how to protect and lock cells in the spreadsheet; and use the Sheet for analysis and cross-checking.

In addition, he/she will learn the basic steps in the process of outcome analysis starting from pencil and paper example and then using the Single Zone Spreadsheet, and finally the Integrated Spreadsheet. After working his/her way through the calculations and examples provided here, the team leader should be able to easily make his/her way around the Single Zone Spreadsheet and the Integrated Spreadsheet, capable of generating an accurate outcome analysis with either tool, and calculating assistance requirements.

This chapter was written by Mark Lawrence.

List of Boxes

List of Tables

RELATED CD FILES

The CD that accompanies the **Practitioners' Guide** contains the following files relevant to the Team Leaders' Supplement, found in the Team Leaders' Supplement directory:

- **Annex A: Expandability – Calculations and Storage**
- **Annex B: The Baseline Storage Sheet**
  - Guidance on the Baseline Storage Sheet File**s**
- **Annex C: The Integrated Spreadsheet**
  - **Guidance on the Integrated Spreadsheet Files**
  - Som_ex
  - IS-ex

RELATED TRAINING MODULES & SESSIONS

The **HEA Training Guide** provides the following modules and sessions relevant to the Team Leaders' Supplement:

MODULE 2: BASELINE ASSESSMENT

- *Session 16: Storing Baseline Information*

MODULE 3: OUTCOME ANALYSIS

- *Session 1: Introduction to Outcome Analysis*
- *Session 2:Problem Specification and Coping Capacity*
- *Session 3: Introduction to the Single Zone Spreadsheet*
- *Session 4: Assessment of Non-food Needs*
- *Session 5: Linking Outcome Analysis to Response Analysis*
- *Session 6: Response Strategies – Switching Expenditure*
- *Session 7: Response Strategies – Expandability of Food and Cash Income*
- *Session 8: Problem Specification - Key Parameters*
- *Session 9: Problem Specification – Defining an Example Problem*
- *Session 10: The Single Zone Spreadsheet - Running the Example Problem*
- *Session 11: Planning the Response*
- *Session 12: The Integrated Spreadsheet*

MODULE 8: TEAM LEADER TRAINING

INTRODUCTION

The team leader is a critical (perhaps the most critical) person in an HEA baseline assessment. He/she plays a central role in keeping the assessment on track, resolving questions and debates, leading the analysis, and is ultimately responsible for ensuring the quality of the information. In particular, the team leader is responsible for the following tasks:

- Setting the schedule
- Deciding on the team composition
- Reviewing secondary information
- Leading training sessions
- Arranging the initial meetings at district and community level
- Making sure the selection of districts and villages meets the assessment's objectives
- Helping resolve technical questions and debates as they arise
- Helping sort out logistical issues
- Ensuring an appropriate reference year is selected
- Making sure interview forms are customised to take account of local variations
- Reviewing completed interview forms to weed out inconsistencies
- Inputting interview data into the Baseline Storage Sheet
- Leading analysis sessions
- Leading the outcome analysis
- Writing the report

The Team Leaders' Supplement does not aim to address all of the above tasks, many of which will be learned over time and with experience. It does set forth to describe a standard approach for using the Baseline Storage Sheet and for tackling the core steps and calculations involved in the Outcome Analysis, and the Integrated Spreadsheet. These are essential tools for the Team Leaders, and require special training, which is contained in the HEA Trainers Guide, Module 3 (*Outcome Analysis*) and Module 8 (*Team Leaders Training*). This chapter is meant to provide background reading for that training, and to provide a refresher course and reference material for trained Team Leaders.

It has been found that using an example has been the most effective way to train new practitioners in conducting Outcome Analysis. The example used in this chapter comes from work conducted in Somalia, with the Food Security Analysis Unit, using some of the household economy baseline data that has been collected there in recent years and the household economy spreadsheet tools developed for Somalia in September 2005. While the specifics of the baseline data in Somalia may not be fully applicable in southern Africa, the steps in the analysis will be the same regardless of setting.

PART ONE: THE BASELINE STORAGE SHEET

THE BASELINE STORAGE SPREADSHEET

The Baseline Storage Spreadsheet is used to document and cross-check each interview and to facilitate post-field work analysis. It is a simple Excel spreadsheet that enables field teams to enter, check and analyse individual interview data in the field. It is also the basic tool that field teams use to analyse and summarise field data during the interim and final data analysis sessions. It has space to record the results from two levels of interview; those undertaken at community level, and those undertaken at wealth group level.

Individual interview data are processed as follows: The field interviewer completes his/her own calculations of the results by pencil and paper. This is done very rapidly at the time of the interview itself (so that interviewers can keep track of progress during the interview) and in more detail in the evening after the interview. This encourages the interviewer to re-examine the results and to identify any questions for clarification and follow-up the next day. The calculations also form the basis of a cross-check at the next stage – data entry. Data entry is the responsibility of the team leader, who enters the detailed data from that day's interviews each evening. The Baseline Storage Sheet automatically completes the calculation of the results (i.e. total food access, total cash income, total expenditure) for immediate comparison with the pencil-and-paper calculations of the interviewer. This checks both the calculations of the interviewer and the data entry of the team leader.

The Baseline Storage Sheet can help increase the accuracy and integrity of the field information by performing a number of calculations that form the basis of key household economy cross-checks:

- calculation of total food access. If this is very much below 100% of minimum food energy needs, and people clearly did not starve in the reference year, then more questions need to be asked and clarification obtained.
- calculation and comparison of total cash income and expenditure. If these are very different, then further follow-up is required to resolve the apparent inconsistency.
- calculation of rates of off-take for each type of livestock (i.e. the percentage of the herd sold and slaughtered in the reference year). This can be compared with a set of reference values; again any major deviation signals the need for further follow-up in the field.
- a cross-check on labour payments, which determines whether the amount of money reportedly earned by poorer wealth groups roughly balances with the amount that the better-off report paying for labour.
- a cross-check on agricultural productivity. This compares the production per unit area obtained by different wealth groups, to check that trends are consistent across wealth groups and are consistent with reported rates of input use, etc.

The first three of these checks are useful at the level of the individual interview (and when summarising the overall results for each wealth group). The last two are used during the interim and final analyses to check the consistency of results across wealth groups and for the livelihood zone as a whole.

The first step in using the Baseline Storage Sheet is to enter the data from the individual interviews. Once this is done, the next step is to summarise the results for each wealth group. This is done within the Baseline Storage Sheet, the layout of which facilitates two types of comparison; a) a comparison of individual interview results within each wealth group and b) an analysis of trends across wealth groups. In each case the spreadsheet facilitates the process of identifying outlying results and identifying the central value to be taken as representative of the wealth group as a whole.

Box 1: Data storage and quality control in the field

The baseline storage spreadsheet is a key tool in terms of storing data in the field and maintaining data quality. It:

- encourages active checking and cross-checking of data by the field teams themselves;
- facilitates rapid on-the-spot analysis, so that any inconsistencies or questions can be resolved by the field teams before they leave the survey area;
- minimizes data entry errors, while at the same time speeding up the processing of basic field data,
- provides a permanent record of individual interview results and the analyses completed by the field teams, so that these can be checked by a supervisor at a later date.

The last step in the analysis is a final cross-check of the results by an experienced supervisor who was not a member of the field team. This can be done either in the field (by a roving supervisor) or at a centralized post-field work analysis session.

The Layout of the Baseline Storage Sheet

The Baseline Storage Sheet contains two sheets that you will use in the analysis of individual interview data. These are:

a) the sheet labelled **'WB'**: for the analysis of wealth breakdown data (from Interview Form 3 and the first page of Interview Form 4)
b) the sheet labelled **'Data'**: for the analysis of the wealth group interview results (Interview Form 4)

There are also between one and four additional sheets, depending upon the version of the baseline storage sheet in use. Further details of these sheets are given in **Table 1**.

How the Remainder of this Chapter is Organised

The next section of this chapter deals with 'Protecting the Spreadsheet and Locking Cells' to prevent the deletion of any of the spreadsheet formulae in error.

After this there are two further sections, one dealing with sheet 'WB' and the next with the 'Data' sheet. In these sections, the layout of the sheet and data entry into the sheet are described.

This is followed by a section on data analysis, including various cross-checks on the data. This covers the analysis of data in both the 'WB' and 'Data' sheets, since the same principles apply to the analysis of both sets of data.

Table 1. Baseline Storage Sheet contents	
Guide	Contains hyperlinks to different sections of the spreadsheet. Can be used to 'tour' the spreadsheet.
WB	Space to enter and analyse data for the wealth breakdown (% households in each wealth group, household size, landholding, livestock holding etc.). Both the results from the community interview and from **page 1** of the wealth group interview format are entered here. Analysing these data is the first step in the analysis process.
Data	Space to enter and analysis individual interview data on food, cash income and expenditure for different wealth groups
Summ	Space to finalise and summarise data from the 'Data' sheet. This sheet is used to prepare the baseline data for entry into the single zone and integrated spreadsheets (see Chapter 4 on Outcome Analysis). THIS SHEET IS NOT USED DURING THE FIELDWORK OR POST-FIELDWORK ANALYSIS AND SHOULD BE PASSWORD-PROTECTED.
Exp factors	Contains factors used by the 'Summ' sheet to calculate expandability. THIS SHEET IS NOT USED DURING THE FIELDWORK OR POST-FIELDWORK ANALYSIS AND SHOULD BE PASSWORD-PROTECTED.
Methods	Space to enter information on the composition of the field team, dates of fieldwork, details of the reference year, etc.
Note: If the baseline storage sheet you are using includes the sheet 'Exp factors', then – each time you open the sheet - you will be told that the worksheet contains links to another spreadsheet and you will be asked if you want to update these links. You should answer no to this question. These links exist because the data in the 'Exp factors' sheet are read from a separate file called 'expandability factors.xls'.	

Protecting the Spreadsheet and Locking Cells

The Baseline Storage Sheet contains many formulae, and the cells containing these should be locked during routine use to prevent the formulae being deleted or changed by accident. For this reason, you should **ALWAYS WORK WITH THE SHEET PROTECTED** (see **Box 2** for how to protect and unprotect a worksheet). From time to time you may need to unprotect one of the worksheets. For example, you may need to unprotect the sheet:

1) To hide a set of rows that is not relevant, e.g. data on camels in a highland area.
2) To change the format of a cell or set of cells (e.g. to change the number of decimal points displayed, or to change from number to percentage format).

IF YOU UNPROTECT THE WORKSHEET FOR ANY REASON, REMEMBER TO RE-PROTECT IT AGAIN IMMEDIATELY AFTERWARDS. If you do not re-protect the sheet, there is a danger you will delete some of the formulae in the spreadsheet and it will stop working properly.

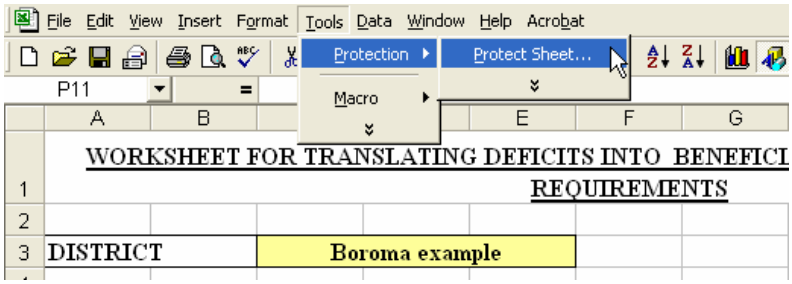
Box 2: How to protect and unprotect a worksheet

How to Protect the Worksheet:

- Select Tools from the menu bar
- Select Protection
- Select Protect Sheet[1]

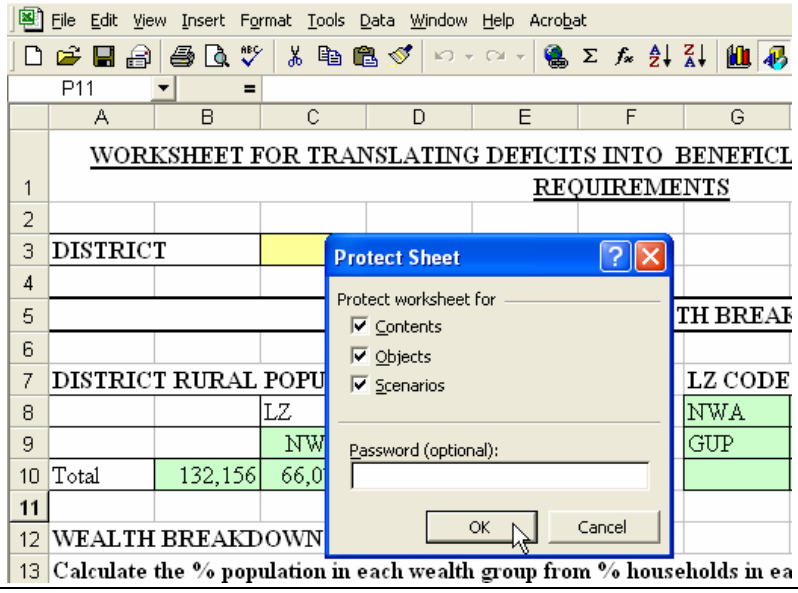
The Protect Sheet dialogue box will appear.

- Click OK to protect the sheet.



How to Unprotect the Worksheet:

- Select Tools from the menu bar
- Select Protection
- Select Unprotect sheet[1]



Note:
[1] If the sheet is unprotected, the Protect Sheet option is displayed, otherwise the Unprotect Sheet option is displayed.

The Wealth Breakdown Sheet (WB)

Layout of Sheet 'WB'

Note: When working through this section of the guide, it is best to have a copy of the Baseline Storage Sheet open on the computer in front of you. This will help in terms of understanding the detailed explanations given here. You will find a blank copy of the Spreadsheet on the CD, in the **Team Leaders' Supplement** directory, in **Annex B**. Also, when reference to an 'Interview Form' is made, this is always to one of the Baseline Assessment Interview Formats found in the Chapter 3, Annex A directory.

The wealth breakdown sheet has a simple tabular format, with the variables to be entered listed one per row on the left. There is then one column for the data from each interview.

Table 2. Wealth Breakdown Sheet contents

Columns	*What the columns contain*
A to B	Titles describing the variable to be entered and for which wealth group
C to J	Wealth breakdown results from the community level interviews (Interview

Table 2. Wealth Breakdown Sheet contents		
Columns	*What the columns contain*	
	Form 3)	
K to R	Data on wealth group characteristics for the very poor, from the wealth group interviews (i.e. the data from **page 1** of Interview Form 4)	
S to Z	As above, for the poor	
AA to AH	As above, for the middle	
AI to AP	As above, for the better-off	
AR	The summary result (or mid-point) for the variable	
AS to AT	The range around the summary result (or mid-point)	
AU	A set of calculations used to cross-check the livestock data (see **page 20**)	
AV	The results of a quick calculation of the summary value (an average of all results *excluding* the lowest and the highest)	
AW	The number of results or observations (including zeros).	
AX	Space for comments or explanations of the analysis	
AZ to BF	This is an area in which additional calculations (e.g. additional cross-checks) can be done.	
Columns	*Shading*	*What the shading means*
A	Light green	These cells are unlocked, so that the titles can be changed to include other wealth characteristics not already included in the list.
C to AP	Grey	These cells are locked to prevent data entry. Only the cells where you should enter data are unlocked.
AR to AU	Light yellow	These cells contain calculations used to cross-check the livestock profile results. These calculations are explained further on **page 20** onwards.

Data entry into sheet 'WB'

The sheet is divided into three sections. On the left (columns C to J) is space to enter data from the wealth breakdown at community level (Interview Form 3). You can enter results for up to 4 wealth groups here (very poor, poor, middle and better-off).

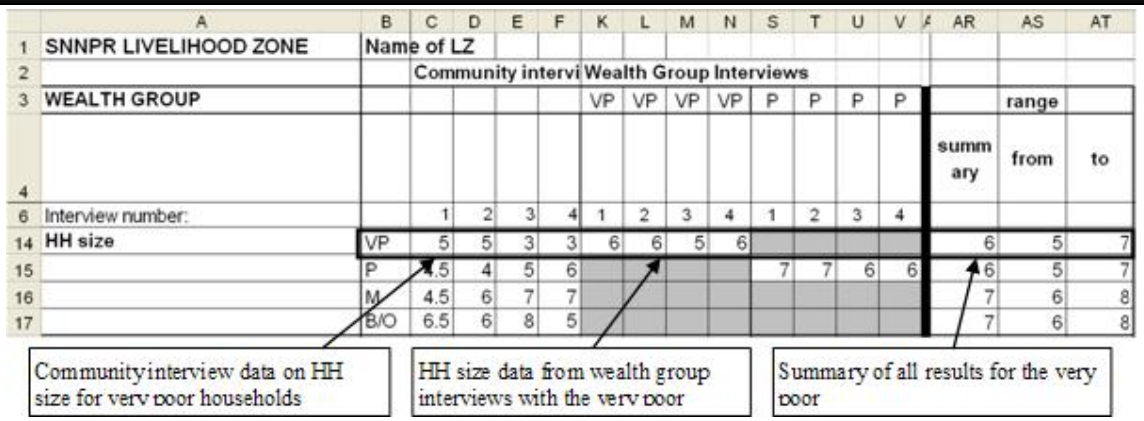
In the middle (columns K to AP) is space to enter data on wealth group characteristics from the wealth group interviews (**page 1** of Interview Form 4). In this case, you will only have data from one wealth group (i.e. very poor, poor, middle or better-off), and you should enter the data in the row that corresponds to that wealth group. This is why many of the cells are shaded grey in this section of the spreadsheet. These are the cells that you should leave empty for that particular wealth group.

Box 3: Dealing with zeros and missing values

- If a value is missing (i.e. no answer recorded on the format) then leave the data entry cell on the spreadsheet blank. Do not enter zeros for missing results.
- Only enter a zero if zero is a valid and genuine result. Zero would be a valid result for sheep ownership, number of milking cows, etc. Zero is not a valid result for household size or for any price.

This applies to data entered into sheet 'Data' as well as sheet 'WB'.

Box 4: Entering and summarising wealth breakdown data on Sheet 'WB'



	A	B	C	D	E	F	K	L	M	N	S	T	U	V	AR	AS	AT
1	SNNPR LIVELIHOOD ZONE	Name of LZ															
2			Community intervi				Wealth Group Interviews										
3	WEALTH GROUP						VP	VP	VP	VP	P	P	P	P		range	
4															summary	from	to
6	Interview number:		1	2	3	4	1	2	3	4	1	2	3	4			
14	HH size	VP	5	5	3	3	6	6	5	6					6	5	7
15		P	4.5	4	5	6					7	7	6	6	6	5	7
16		M	4.5	6	7	7									7	6	8
17		B/O	6.5	6	8	5									7	6	8

Note: In the above diagram a number of columns have been hidden (i.e. interviews 5 to 8 for the community, very poor and poor interviews, and all data for the middle and better-off groups)

In this way, you will find that all data corresponding to a particular wealth group will be entered in a single row, e.g.:

HH size for the very poor will be entered in row 14 (see **Box 4**)

poor	15
middle	16
better-off	17

To the right (columns AR to AT) is space to enter the summary result and range for each wealth group.

Automatic calculations to help summarise the data are carried out in columns AV and AW. The results in the 'calculated' column are average values for each wealth group, excluding the lowest and highest individual results. The number of data values for each wealth group is given in the 'count' column. This should help in deciding whether a particular item is typical or not, e.g. if there are 8 observations for number of sheep owned, then owning sheep can be considered typical for

Box 5: Hiding rows and columns that are not currently in use

- Depending upon the characteristics of the particular livelihood zone, many of the rows in the spreadsheet may not be needed either for data entry or for analysis. In this case, it makes sense to hide the rows that are not being used.
- For example, in a highland farming area, there may be no camels. In this case, the rows dealing with camels, on both sheets 'WB' (rows 34 to 65) and 'Data' (rows 59 to 85), can be hidden.
- For example, in a pastoral area, where no crops are grown, the whole of the crop production section of the spreadsheet (rows 221 to 440 on the 'Data' sheet) can be hidden.
- Note that rows should be hidden, not deleted. Deleting rows will mean that many of the calculations in the spreadsheet will no longer work.
- Columns not currently in use can also be hidden. This is most likely to be useful during data analysis. For example, the results from the middle and better-off can be hidden, while the team completes the analysis of the very poor and poor. Or the comments column can be hidden to make more space on the screen for the actual results.
- Hiding (and unhiding) rows and columns requires that the sheet be unprotected. For instructions on how to hide and unhide rows and columns, see **Box 6**.

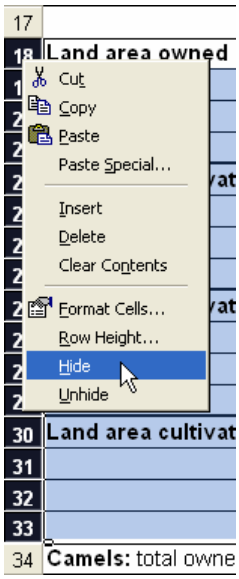
the wealth group. See **Box 7** for further information on the quick calculations. A number of calculations are performed using the summary data in column AR. These are shaded in light yellow. Most of these calculations convert the various livestock variables (e.g. no. births) to a value per 100 animals. This is to facilitate checking of the results against the herd dynamics reference values in the Livelihoods Baseline Field Handbook, see **page 20** onwards).

Box 6: How to hide columns and rows

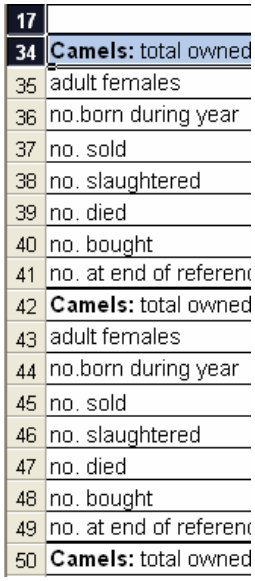
This example illustrates how to hide rows relating to land area on Sheet 'WB'. The teams may want to hide these rows in the case of a pastoral livelihood zone where no crops are grown. The same basic procedure can be followed to hide columns.

Remember that the spreadsheet must be unprotected before columns and rows can be hidden (see **Box 2**).

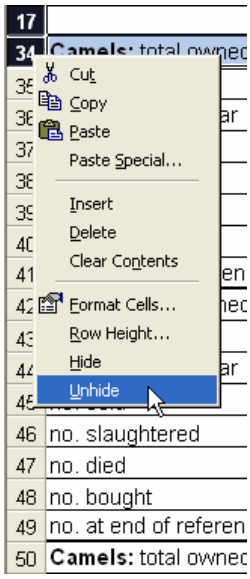
1) Highlight the rows (or columns) to be hidden. In the example, place the cursor over the number indicating row 18, and drag the cursor down to row 33).



2) Right click the mouse button and select hide from the menu. This will hide rows 18 to 33.



3) To unhide the rows again, highlight the area of the sheet containing the hidden rows (rows 17 to 34 in the example).



4) Right click the mouse button and select unhide from the menu. This will unhide rows 18 to 33.

Box 7: Notes on the quick calculations (columns AQ to AX)

- The results in the 'calculated' columns (BB to BE) are average values for each wealth group, excluding the lowest and highest individual results.
- Zeros are included in the average. Therefore be careful to check that zeros are valid.
- Zero is a valid result for no. milking cows, but it is not a valid data point for milk production per day or for the price of maize – in this case, leave the cell blank when entering the data for the individual interview.
- Likewise, for missing data (i.e. no result recorded on the interview form – meaning the question was not asked), leave the cell blank when entering the data for the individual interview.
- The number of data values for each wealth group is given in the 'count' column. This should help in deciding whether a particular item of food, cash income or expenditure is typical for the group as a whole.
- These calculations are intended as an aid to analysis. They are not meant to replace the process of visual screening and evaluation of the individual interview data.

The Food, Income and Expenditure Data Sheet (Data)

Layout of the 'Data' Sheet

The 'Data' sheet contains space to enter data from individual wealth group interviews (columns B to AJ). The variables to be entered are listed in column A, and there is one column for the data from each interview. Summary results for each wealth group are entered at the analysis stage in columns AL to AO.

Table 3. Layout and Contents of the Food, Income and Expenditure Data Sheet

Columns	*What the columns contain*
A	Titles describing the variable to be entered. This includes assets, sources of food, cash income and expenditure
B to I	Results from the interviews with the Very Poor
K to R	Results for the Poor
T to AA	Results for the Middle
AC to AJ	Results for the Better-off
AL to AO	Space to enter summary results for the four wealth groups
AP	Space for comments or explanations of the analysis
AQ to AT	The results of a quick calculation of the summary value for each wealth group (an average of all results *excluding* lowest and highest)
AU to AY	The number of results or observations (including zeros) for each wealth group
AZ to BF	This is an area in which additional calculations (e.g. additional cross-checks) can be done.

Columns	*Shading*	*What the shading means*
A	Light green	These cells are unlocked, so that the titles can be changed to include other variables not already included in the list (see **Table 4**)
B to AO	Light yellow	Calculations of food, income and expenditure, or data read from sheet WB. These cells are locked to prevent accidental erasure of the formulae they contain.
B to AO	Orange	Cross-checks, e.g. of total food access, livestock offtake etc.

Rows	*What the Rows Contain*	
General Results Summary		
10-16	Source of Food and %kcals from each	
17 to 24	Cash income, by category	
25 to 37	Expenditure, by category	
Detailed data on Food, Income and Expenditure		
Rows	Corresponding Section of Data Entry Format (Interview Form 4)	Page no.
38 to 57	Wealth group characteristics (household size, land holding, livestock profile, other assets (carried over from sheet WB)	Page 1
58 to 177	Livestock production (milk, butter, meat)	Page 2
178 to 220	Other income from livestock (sale of livestock, donkey rental, sale of skins etc.)	Page 2
221 to 440	Food and cash from Crop Production	Page 3
441 to 533	Purchase and exchange	Page 4
534 to 555	Payment in kind (Labour exchange)	Page 4
556 to 572	Relief, gifts, loans, targeted feeding	Page 5
573 to 582	Wild food, fish, game & other food sources (e.g. stocks)	Page 5
583 to 608	Casual labour, employment and remittances in cash	Page 6
609 to 635	Self-employment, small business and trade	Page 6
636 to 645	Other cash income (gifts, loans)	Page 7
646 to 680	Expenditure	Page 8
Detailed Results Summary		
688 to 750	Food summary	
752 to 830	Income summary	
832 to 844	Expenditure summary	
Cross-checks		
848 to 855	Labour payments	
857 to 864	Crop production per unit area cultivated	

Data entry into the 'Data' sheet

The sheet is divided into two sections. On the left (columns B to AJ) is space to enter data from each of the individual wealth group interviews. To the right (columns AL to AO) is space to enter the summary result for each wealth group (i.e. the result from the final data analysis).

The sheet is set-up to match the structure of Interview Form 4. This simplifies the process of data entry. Data from the first page of Form 4 (wealth characteristics) are entered into sheet 'WB' (see above), and data required for the analysis of food, income and expenditure are carried over from there to the 'Data' sheet (rows 40 to 57).

Data on livestock production are entered first (**page 2** of Interview Form 4) then data on crop production (**page 3**) and so on (see **Table 3**).

The spreadsheet uses the basic data entered to calculate the amount of food and cash income obtained from each source in the reference year (see **Box 8**). Data entered by the user are recorded in the un-shaded cells of the spreadsheet, while calculations are performed in the shaded cells. Light yellow shading indicates a calculation of either food or cash income. Orange shading indicates a cross-check on the data. All shaded cells are locked to prevent accidental erasure of the formulae they contain. (Note that the 'locking' only works if the sheet is protected. If the sheet is unprotected, then there is a risk that some of the formulae in these cells may be deleted in error.)

Box 8: Examples of individual data entry into the 'Data' Sheet

These examples show individual data from two interviews with groups of poor households. The examples show how data are entered for crop production, for purchase and for a source of cash income (weeding).

3	**WEALTH GROUP**	Poor	Poor
4	District	H/Wajirat	H/Wajirat
5	Village/settlement	Ara Aseged	Dejen
6	Interview number	1	2
221	**CROP PRODUCTION:**		
231	**Barley - Meher: kg produced**	400	500
232	kcals per kg	3390	3390
233	sold/exchanged (kg)	50	100
234	price (cash)	1.6	1.87
235	income (cash)	80	187
236	other use (kg)		50
237	kcals (%)	22%	22%

Crop Production:

For food crops, there is space to enter the number of kcals per kg of the crop (row 232 in the example), which is used to calculate % kcals (row 237).

There is also space to enter the amount sold (row 233), and price (row 234), the product of which gives cash income from sale of the crop (row 235).

Other use (e.g. seed) is recorded in row 236.

441	**FOOD PURCHASE:**		
442	**Barley/millet:** name of meas.	kg	kg
443	wt of measure	1	1
444	no. meas per month	60	80
445	no. months	8	5
446	kg	480	400
447	kcals/kg	3390	3390
448	kcals (%)	30%	25%
449	price (per kg)	2.25	3
450	expenditure	1080	1200

Food Purchase:

Amounts purchased are entered (rows 442 to 445 in the example), along with the kcal content of the food (row 447) to calculate percentage kcals (row 448). Price paid is also entered (row 449), for the calculation of expenditure (row 450).

583	**OTHER CASH INCOME:**		
584	**Labour:** Weeding		
585	no. people per HH	1	3
586	no. times per month	8	12
587	no. months	2	1
588	price per unit	7	6
589	income	112	216

Cash Income:

For sources of cash income, there is space to record the amount of the item sold, and the price obtained.

In this example (weeding), the number of days worked is calculated as the product of no. people per household x no. times per month x no.months. This is multiplied by the daily labour rate (row 588) to obtain total income from weeding (row 589).

Many of the titles in column A are not locked (e.g. chicken sales – row 209, egg sales – row 212, most titles for crops, most titles for items purchased, etc.). These unlocked cells are shaded light green. The team leader can change these during the fieldwork so as to adapt the sheet to the local situation and to add food or income sources that are not included in the spreadsheet at the moment. e.g. you could change

other cereal: kg produced (row 280)	to	*sorghum - belg: kg produced*
other cashcrop: kg produced (row 409)	to	*tea: kg sold*

but remember that if you change the title of a food, you must also change the kcals/kg to the new value (see **Box 8**).

Although changes can be made, there are a number of rules that must be followed in terms of changing titles. This is because certain rows are reserved for certain types of data. These rules are set out in **Table 4**.

Table 4. Rules for changing green-shaded titles in Column A

Rows requiring particular care and attention are shaded orange below

Item	*Row*	*Reserved for the following type of data*	*Titles currently*
Livestock production	209 212 215 218	Any source of income from livestock not included elsewhere in the spreadsheet. *The title of the income source can be changed (e.g. to Camel hiring).*	Chicken sales Egg sales Skins Donkey hiring
Crops	222 225	Consumption of green crops. *The name of the season can be changed (e.g. to Green cons – gu) or a particular crop specified (e.g. to Green cons – maize)*	Green cons – Belg Green cons – Meher
	228	Sale of any green crop. *The name of the crop can be changed (e.g. to Green haricot beans sold)*	Green maize sold
	231 238	The main staple food crops grown in the LZ. *The title of the crop can be changed (e.g. to sorghum).*	Barley – Meher Wheat - Meher
	245 252	High value cereal crops (e.g. teff, wheat, etc.), for which the proportion sold in a bad year will increase. *The name of the crop can be changed (e.g. to Teff - Belg)*	Teff – Meher High value cereal - Meher
	259 266	Main pulses grown. *The name of the crop can be changed (e.g. to Cowpeas – Meher)*	Lentils Vetch
	273 280 287	Other cereal crops. *The name of the crop can be changed (e.g. to Sorghum – Belg)*	Sorghum – Meher Other cereal Other cereal
	294	Any reserve crop stored where it is grown, and the harvesting of which increases in a bad year, e.g. enset or cassava. *The name of the crop can be changed (e.g. to Cassava)*	Enset/cassava
	304 314 … 386	Any other type of crop grown in the LZ. *The name of the crop can be changed (e.g. to Sesame, Taro, etc.)*	Other crop
	396	Honey. *If bees are kept, then honey should be entered here. However, the title can be changed to any other crop if there is no space for additional crops elsewhere on the format.*	Honey

Table 4. Rules for changing green-shaded titles in Column A			
Rows requiring particular care and attention are shaded orange below			
Item	*Row*	*Reserved for the following type of data*	*Titles currently*
	406 409 … 437	Any type of crop grown for cash in the LZ. *The name of the crop can be changed (e.g. to Coffee, Ginger, etc.)*	Main cashcrop Other cashcrop
Food Purchase	442	This should be the main staple cereal purchased. *The name of the staple cereal can be changed (e.g. to Maize)*	Barley/millet
	451 460 469	Other basic staples purchased. Can include staple root or other crops (e.g. enset). *The name of the staple can be changed (e.g. to Maize)*	Wheat Teff Other Staple
	478	Main pulse purchased. *The name of the main pulse can be changed (e.g. to Cowpeas)*	Vetch
	487	Second pulse purchased. *The name of this item can be changed (e.g. to Cowpeas)*	Other pulse
	520 527	Other items purchased. *This includes items besides the main staples, pulses, sugar, meat, oil and milk, all of which are included elsewhere in the spreadsheet. The names of these items can be changed (e.g. to fish)*	Other purchase: Veg. Other purchase
Payment in Kind	535 541 547	Any payment in kind. *These titles can be changed to reflect the type of labour being paid for in kind (e.g. to Labour – harvesting). The titles can also be changed to reflect different types of exchange (e.g. exchange for milk).*	Labour: type Labour: type Labour: type
Other Food	573 578	Other sources of food. *The title can be changed to reflect the type of food (e.g. wild food, stocks, etc.).*	Other food: type Other food: type
Other Cash Income	584 590 596	Labour payments in cash. *The title can be changed to reflect the type of labour (e.g. labour – weeding, labour – urban).*	Labour: Weeding Labour: Harvesting Labour: Construction
	609 614 619 625	Various types of self-employment and petty trade. *The titles can be changed to reflect the type of self-employment (e.g. to handicrafts, to petty trade).*	Firewood Charcoal Other self-employment Other self-employment
	631	Safety net payments (in cash).	Safety net
	641	Other income. *Can be changed to any other type of cash income not included elsewhere in the spreadsheet (e.g. to loans).*	Credit

Box 9: Other notes on data entry into the 'Data' Sheet

- None of the kilocalorie calculations will work unless HH size has been carried over from sheet 'WB' into row 40
- Seasons for milk production. Data may be entered for up to 2 seasons or periods of lactation (labelled seasons 1 and 2 in the spreadsheet). Depending upon local circumstances, these two seasons could be wet and dry seasons. On the other hand, data can also be entered by stage of lactation (early lactation and late lactation).
- Space to record the type of milk sold (rows 94 and 102 for cattle). These provide space to enter the type of milk being sold, skimmed or whole. If it is skimmed milk that is being sold, then enter 0 in rows 94 and 102. For whole milk, enter 1.
- 'Other use' category for each type of milk. Two rows are included for each type of milk to take account of 'other' use besides sale (e.g. gifts). For cows' milk, these two rows are row 95 (season 1) and row 103 (season 2).
- 'ghee/butter (other use)'. One row has been included for each type of milking animal to take account of other use of ghee/butter, e.g. use to dress hair or payments for loaned animals. For cattle ghee/butter this is row 106. Enter the amount of ghee/butter going to other use as a positive number. In the case of payment for loaned animals, you may also want to add the amount received by the middle/better-off to the amount they consume. In this case, enter the amount of ghee/butter received by the better-off as a *negative* number (this ensures that the amount is added to own production rather than subtracted from it). Suppose that butter production by the poor equals 5 kg (this is calculated in row 105 in the case of cattle), and that all of this is given to the better off. Suppose also that each better off household receives butter from 2 poor households, then enter the payment as follows:

  ghee/butter (payment for loaned animals):
  poor: 5
  better-off: -10 (5 kg per poor household x 2 poor households = 10 kg)
- Specifying different numbers of milking animals by season. This is an option for goats and sheep, reflecting the fact that different numbers of animals may give birth in different seasons. (Note: If no data are entered for the second season, the default is to assume the same number of animals lactating in the 2nd as the 1st season.)
- Suppose you only have a total amount for a food source. In many cases the spreadsheet is set up to calculate the no. of kg from the number of local measures. In these cases, if you have the weight in kg, then enter the data as follows:

e.g.	Enset: no local measures	200
	name of measure	kg
	wt of measure	1
	kg	200

- Suppose you only have a total amount for an income source. In many cases the spreadsheet is set up to calculate the total income from a number of variables (e.g. firewood: no.people per HH x no.times per month x no.months x price per unit). It is best to collect all of these details in the field if possible, but if you only have the total amount of income, then enter the data as follows:

e.g.	firewood: no.people per HH	1
	no.times per month	1
	no.months	1
	price per unit	200
	income	200

Data analysis

Once data entry for each individual interview has been completed, the next step is to summarise the data by wealth group. The process of analysing the data on the two sheets ('WB' and 'Data') is very similar. It involves reviewing the individual results for each wealth group, deciding upon a figure that best represents the group as a whole, and then entering this result into the summary section of the spreadsheet (column AR in sheet 'WB'; columns AL to AO in the 'Data' sheet).

The logical point to start the analysis is with the wealth breakdown (sheet 'WB'). This is because it is important to finalise variables such as household size and livestock holding by wealth group before proceeding with the analysis of the food, cash income and expenditure data on the 'Data' sheet[1].

General points

Check the individual data for results set to zero. Are these valid and genuine results? E.g. If the number of oxen owned by the middle group is reported as {1, 2, 3, 'missing', 2, 2, 0, 1} then is the zero a valid result? If, based upon their findings in the field, the team feels that it is unrealistic for the middle to own no oxen, then the zero should be deleted and that data entry cell left blank.

Check the individual data for blank or 'missing' results. If only a few results are reported, what do the blank or 'missing' values mean? Should they be left blank or set to zero? E.g. suppose that the results for amount of a crop sold are {50, 100, 'missing', 'missing', 100, 150, 'missing', 'missing'}, do the 'missing' values really mean the question was not asked, or is the answer really zero (i.e. not everybody in the wealth group sells the crop)? If the latter, then the 'missing' results should be set to zero, so that the series becomes {50, 100, 0, 0, 100, 150, 0, 0}

Check the number of observations (count) to decide whether an item is typical for the wealth group (see **Box 10**).

Box 10: How to decide whether a particular item is typical for a wealth group

No. pf observations > zero (out of 8)	*Action (Summary Value):*
0-2	Not typical for the wealth group. Set to zero.
3-5	Not typical, but still significant. Enter a value equal to half the average of the non-zero results. E.g., if the results for sheep ownership are {0, 0, 1, 2, 3, 0, 2, 0}, the average of the non-zero results is 2, the range of ownership is 0-2 and mid-point or summary value is 1 (half the average of the non-zero results).
6-8	Can be considered typical for the wealth group. Calculate the summary value in the usual way (as set out in **Table 1**).

Check the individual results visually to decide if there are outliers or other results that should be excluded because they are atypical. This will require discussion among the team members of their findings and impressions from the field. If the team is happy that the quick

[1] In fact, the results for these basic parameters are carried over automatically from sheet 'WB' to the 'Data' sheet.

calculation provides a reasonable summary result, then they should transfer that value (either rounded up or down) to the summary column. Otherwise, the team should take an average of the results they do consider reasonable and enter that in the summary column. (Note: the quick calculation is an average of results excluding the highest and lowest values. It is meant as an aid to analysis, not to replace the process of visual screening and evaluation of the individual interview data).

Box 11: Summary section of the Baseline Storage Sheet

		SUMMARY			
3	WEALTH GROUP	BASELINE			
4		Very Poor	Poor	Middle	B/Off
10	Food Summary: total (%)	92%	93%	93%	109%
11	crops	36%	55%	73%	91%
12	livestock products	0%	0%	2%	6%
13	payment in kind	0%	0%	0%	0%
14	purchase	51%	38%	18%	12%
15	food aid	5%	0%	0%	0%
16	gifts, other	0%	0%	0%	0%
17	Income Summary: total (birr) pa)	3230	3643	3980	3968
18	crop sales	118	390	560	1147
19	livestock product sales	162	293	450	751
20	livestock sales	91	540	1220	2070
21	employment (e.g. labour) + remittances	515	370	0	0
22	self-employment (e.g. firewood)	294	0	0	0
23	safety nets	750	750	0	0
24	other	1300	1300	1750	0
25	Expenditure Summary: total (birr pa)	3213	3429	3932	3936
26	Survival food	1429	1048	528	215
27	Survival non-food	92	132	211	452

Make full use of the comments columns (col AX in 'WB'; col AP in 'Data') to explain which results were excluded and why, or to comment on a particular feature of the livelihood zone (e.g. that the very poor rent out most of their land to the middle and better-off).

Specific points: Wealth Breakdown Data (Sheet 'WB')

Compare the results obtained from the community and wealth group interviews. If there seems to be a difference between the two sets of results, does the team feel that one set is more reliable than the other? If so, more weight should be given to the more reliable set of results.

Check that the wealth breakdown has a 'bell' shape (i.e. ideally the largest number of households in the middle wealth group) and is not highly skewed (i.e. with the largest number of households in the very poor or poor groups).

Specific points: Food, Income and Expenditure Data ('Data' Sheet)

If no data are available for a particular wealth group (e.g. the very poor), then leave the corresponding column in the summary blank (col AL for the very poor).

Cross-checks

A number of cross-checks are built into the baseline storage sheet, and there is also space for additional cross-checks in the extra calculations areas of sheets 'WB' and 'Data'.

Cross-checks of total food, cash income and expenditure

The two most basic cross-checks in HEA are as follows:

a) Total food access compared to 100%.	The guiding principle in HE field work is to try as best one can to account for fully 100% of minimum food needs. This is not always possible however, since it is not unusual for average total food intake (for the poor especially) to fall below 100% in the reference year. Anything less than an average of 90% is unusual, however, and indicates that one or more sources of food may have been missed or under-estimated. At the level of the individual interview, a total of less than 85% can be taken as indicating an unsatisfactory interview.
b) Comparison of total cash income and expenditure	It is self-evident that total cash income and expenditure must balance[2]. A difference between the two of more than 10% indicates the need for further follow-up, both during the interview and at the stage of analysing the data.

These two cross-checks are used at various stages in the analysis: first of all, during the interview itself, when the purpose of the rapid calculations is to complete these two cross-checks. The same cross-checks are repeated as the individual data are entered into the baseline storage sheet, and again at the stage of summarising the results by wealth group. Total food, cash income and expenditure are given, for both individual interviews and for the wealth group as a whole, in rows 10, 17 and 25 of the Baseline Storage Sheet (see **Box 11**).

Trends across wealth groups

A second type of cross-check is used during the final analysis. This is to check for consistent trends across wealth groups (from poor to better-off). This type of check is carried out for data in both the 'WB' and 'Data' sheets.

Sheet 'WB':

a) Change in household size	Household size may either increase or decrease with increasing wealth, or may indeed remain relatively constant. An increase can occur for a number of reasons. Often, wealthier households will take in one or more poorer relatives (as a means of providing assistance to a poorer household – and gaining the labour of the poorer household member in return). Or wealthier households may tend to be longer established, having had more time to accumulate assets such as livestock, and – of course – more time to have children and to increase household size than poorer households. The most likely reason for a decrease in household size with increasing wealth is more effective birth control.

[2] Unless there are either loans or savings. In household economy, however, loans are counted as a source of cash income, while savings are included in expenditure. The saving of cash is, however, relatively unusual in poor rural areas; if there is surplus cash this will most likely be invested in livestock or some other asset rather than being kept as cash.

b) increase in area cultivated c) increase in livestock holdings d) increase in other asset holdings	An increase in asset holdings is expected – obviously – as wealth increases.

Sheet 'Data':

a) increase in crop production	Food and cash income from crop production will generally increase with increasing wealth (see **Box 11**, rows 11 and 18). A possible exception could be an agro-pastoral livelihood, where it may be the poorer groups, with insufficient livestock holdings, that resort to cultivating crops to achieve self-sufficiency.
b) similar duration of lactation c) similar milk output per animal per day	In general, these two basic parameters of milk production are likely to be similar for all wealth groups. This will not always be the case, however. Where livestock are fed on crops residues, for example, both duration of lactation and daily milk output may be higher for the better-off wealth groups that produce more of these residues.
d) similar prices for milk/ghee/butter sold e) decrease in %milk/ghee/butter sold	Prices obtained for milk/ghee/butter should be relatively independent of wealth, unless there is a difference in the type of quality of product sold (e.g. skimmed vs. whole milk). Poorer groups will generally sell a higher percentage of their milk products than the better-off – because of the relatively high value of these items.
f) increase in number of animals slaughtered g) increase in number of livestock sold h) decrease in %off-take	While the number of animals sold and slaughtered will generally increase with wealth (as livestock holding increases), the percentage of the herd disposed of in these ways (i.e. the off-take) will generally decrease. This is because better-off households can generally afford to retain a larger number of animals in order to 'grow' the herd.
i) similar price for livestock j) similar price for crops sold	Prices obtained for these items will tend to be similar across wealth groups, unless there is a marked difference in either the quality of product sold (e.g. the better-off selling older, larger animals) or the timing of sales (e.g. the poor selling crops post-harvest, the better-off waiting until prices rise later in the year).
k) decrease in amount of survival food purchase and increase in sugar and oil purchase l) increase in expenditure on survival non-food items m) similar price for purchased	In most cases, the amount of staple food purchase will decrease with increasing wealth (in line with the increase in own production). On the other hand, purchase of non-staple and 'luxury' food items, and of non-food items, is likely to increase with wealth. Prices paid for purchased food items may not vary much by wealth group, unless there is a marked difference in the quality of item

items, e.g. maize, sugar, etc.	purchased.

Cross-check on area of land rented in/out

A number of other cross-checks can be done to check the consistency of results across wealth groups. In a livelihood zone where land is rented in/out, for example, the area of land rented in by the middle and better-off wealth groups should roughly equal the area of land rented out by the very poor and poor.

This type of cross-check makes use of what is known as a '100 households exercise'. For this type of exercise, calculations are performed across 100 households. E.g. in the case of renting in/out:

Land rented out by the very poor = % very poor households x average area rented out
…which in the example below
= 15 x 3 = 45

Land rented in by the middle = % middle households x average area rented in
…which in the example below
= 35 x 1 = 35

…and so on for the other two wealth groups.

Total landed rented out per 100 households is then totalled up (80 hectares in the example below) and compared with total land rented in (also 80 hectares).

Table 5. Example of a cross-check on land rented in/out – good agreement

Wealth breakdown		rented out		rented in	
		per HH	*total/100* HHs	*per HH*	*total/100* HHs
VP	15.0%	3	45		
P	35.0%	1	35		
M	35.0%			1	35
R	15.0%			3	45
total	100.0%		80		80

Where good agreement is obtained in this type of cross-check, it builds confidence in the results for area of land rented in/out and in the wealth breakdown results.

Where the agreement is poor (as in the example below), possible explanations include a) under-/over-estimation of area of land rented in/out by one or other wealth group or b) an incorrect wealth breakdown. In the example below, the poor agreement results from an over-estimation of the percentage of households in the very poor wealth group (25% of households compared to 15% in the example with good agreement).

Table 6. Example of a cross-check on land rented in/out – poor agreement					
Wealth breakdown		rented out		rented in	
		per HH	*total/100 HHs*	*per HH*	*total/100 HHs*
VP	25.0%	3	75		
P	35.0%	1	35		
M	25.0%			1	25
R	15.0%			3	45
total	100.0%		110		70

This type of cross-check can be done in the 'Extra Calculations Area' of sheet WB (cols AZ to BF).

Cross-checks on livestock herd dynamics

A set of reference values for herd composition and herd dynamics is given below for the 3 main types of livestock (cattle, camels and shoats). All the results are expressed per 100 animals at the start of the year. Different figures are given for different wealth groups, on the basis that rates of off-take (i.e. sale and slaughter) tend to be higher among the poor compared to the better-off (since the better-off can usually afford to retain a larger number of animals than the poor, and in this way to increase their herd size over time).

It is important to cross-check the field results against these reference values. This is not to say that the results from the field have to turn out the same as reference, but if there are differences between the two, an explanation has to be found. Suppose, for example, that the percentage of breeding females in the herd is relatively high. This could perhaps be because of many deaths among younger animals the previous year, e.g. due to drought or disease. Or suppose that the number of births among goats is higher than in the reference table. This could be because animals gave birth twice in the year (i.e. it was a good year) rather than just over once, which is the average in the longer term (and the average included in the reference table).

Table 7. Herd dynamics – reference values (per 100 animals at start of year)						
CATTLE	*Herds with Plough Oxen*			*Herds without Plough Oxen*		
Wealth Group	**P**	**M**	**R**	**P**	**M**	**R**
Total (start of year)	100	100	100	100	100	100
Oxen	0	19	16	0	0	0
Breeding females	47	38	32	41	41	41
Births	33	27	23	33	29	29
Sales/slaughter	31	32	11	31	16	16
Deaths	9	8	7	9	8	8
Purchase/gifts	7	13	0	7	0	0
Total (end of year)	100	100	105	100	105	105
Offtake (%)	31%	32%	11%	31%	16%	16%

	CAMELS			*SHOATS*		
Wealth group	**P**	**M**	**R**	**P**	**M**	**R**
Total (start of year)	100	100	100	100	100	100
Breeding females	62	54	54	55	55	55
Births	27	24	24	66	66	66
Sales/slaughter	23	11	11	63	31	31
Deaths	9	8	8	24	24	24
Purchase/gifts	5	0	0	22	0	0
Total (end of year)	100	105	105	100	110	110
Offtake (%)	23%	11%	11%	63%	31%	31%

These cross-checks on the livestock data are carried out on sheet 'WB'. Two examples are given on the next two pages. Both of these are for the better-off wealth group. It is usually a good idea to start with this wealth group, as they tend to own the largest number of animals and the results per 100 animals are therefore easier to interpret[3]. Once the basic picture for the better-off has been established, this can also help in terms of interpreting the results from other wealth groups with smaller numbers of animals.

Once the livestock profile exercise has been completed, transfer the following results for the four wealth groups from the summary section of sheet 'WB' to the summary section of sheet 'Data':

No. births - transfer to number of milking animals
No. sold - transfer to camel, cattle or shoat sales
No. slaughtered - transfer to camel, cow or shoat meat

Box 12: Additional points to consider when analysing livestock data

- Does total herd size include calves as well as older animals? This will depend upon how the question was asked in the field, and how local people themselves think about their herds – they may ignore relatively young animals when counting their herd.
- Are oxen included in the total?
- If both goats and sheep are owned, might it be simpler to consider the total of goats and sheep together (i.e. the number of shoats). If there are very few of one type of animal, it can make more sense to add the two types together.

Note: These are issues the team leaders should resolve in the field.

[3] This is because with very small herd sizes, quite a small difference in absolute numbers can result in a big change per 100 animals. If only 4 animals are owned, for example, 1 animal sold per year corresponds to 25 animals per 100, while only one more animal (i.e. a total of 2) changes this figure to 50 animals per 100. This is something to bear in mind when comparing the field results for very small herds with the reference values.

Case Example 1. Herd dynamics cross-check for cattle

	A	B	C	D	E	F	G	H	I	J	AI	AJ	AK	AL	AM	AN	AO	AP	AR	AS	AT	AU	AV	AW
2			Community interviews								Wealth Group Interviews									range				
3	**WEALTH GROUP**										B/O	B/O	B/O	B/O	B/O	B/O	B/O	B/O	**summ**	**from**	**to**			
94	**Cattle:** total owned at start of year	B/O	10	6	8	6	10	15	6.5	6	3	4	3	5	9	4	3	4	6	3	9	per 100	6.0	16
95	adult females	B/O	4.5	2	2.5	2	4	11	3.5	2	2	2	1	2	3	6	1	2	3	1	5	50	2.8	16
96	no.born during year	B/O									2	1	1	1	3	3	1	2	2	1	3	33	1.7	8
97	no. sold	B/O									2	1	0	1	0	2	1	1	1	0	2	17	1.0	8
98	no. slaughtered	B/O									0	0	0	0	0	0	0	0	0	0	0	0	0.0	8
99	no. died	B/O									1	0	0	0	0	3	0	0	0.25	0	0.5	4	0.2	8
100	no. bought	B/O									1	0	0	1	0	0	1	0	0	0	0	0	0.3	8
101	no. at end of reference year	B/O									3	4	4	5	9	4	4	5	6.75	4	9	113	4.3	8

The above figure shows a set of results obtained for cattle for the better-off wealth group. The figures given in the yellow shaded cells are calculated from the summary figures in col AR, but expressed per 100 animals owned at the start of the year. It is these numbers that are compared with the data in the reference tables above. The following were noted in this example:

Total owned and adult females: The quick calculation suggests total ownership (excluding oxen) of 6, of which 3 are adult females. This fits reasonably well with the reference data (41% of a herd without oxen expected to be adult females).

No. born during the year: 29 births are expected per 100. The individual data in cols AI to AP suggest between 1-3 births per year, with a mid-point of 2 (rounded up from 1.7), giving 33 births per 100 animals in the herd.

No. sold and slaughtered: 0-2 animals were sold and none slaughtered, corresponding to 17 animals per 100. This is very close to the reference figure of 16.

No. died: There were relatively few reports of deaths among cattle. The quick calculation suggests 0.2 deaths, which was rounded up to 0.25 for the summary, or 4 per 100 animals. The corresponding reference figure is 8 per 100 animals, i.e. deaths rates do seem to be quite low in the example, but not so low as to give cause for concern about the quality of the data.

No. bought: There were some purchases, but the team decided that zero was the typical value for purchase.

No. at end of reference year: This is calculated in the yellow-shaded cell as follows:

= no. at start of year
+ (births + purchases)
– (deaths + sales + slaughters)

The results suggest that the cattle herd may have grown 13% in the year, which is a little higher than the 5% in the reference table. The main difference is in the higher number of births and lower number of deaths compared to the reference data.

Case Example 2. Herd dynamics cross-check for goats

	A	B	C	D	E	F	G	H	I	J	AI	AJ	AK	AL	AM	AN	AO	AP	AR	AS	AT	AU	AV	AW
2			Community interviews								Wealth Group Interviews									range				
3	**WEALTH GROUP**										B/O	B/O	B/O	B/O	B/O	B/O	B/O	B/O	**summ**	**from**	**to**			
126	**Goats:** total owned at start of year	B/O	15	10	20		15	15	15	10	11	5	15	4	18	10	15	12	11	7	15	per 100	12.8	15
127	adult females	B/O	13	7	15		8	14	8	7	8	4	7	2	10	9	8	8	7	4	10	64	8.5	15
128	no.born during year	B/O									16	8	7	4	20	18	16	16	12	8	16	109	13.5	8
129	no. sold	B/O									8	4	4	2	7	5	5	5	5	2	8	45	5.0	8
130	no. slaughtered	B/O									0	0	1	0	1	1	0	0	0.5	0	1	5	0.3	8
131	no. died	B/O									4	0	1	0	4	3	4	8	2.5	2	3	23	2.7	8
132	no. bought	B/O									1	1	0	0	3	0	0	5	1	0	2	9	0.8	8
133	no. at end of reference year	B/O									18	8	16	6	23	19	22	20	16	12	26	145	17.2	8

The above figure shows a set of results obtained for goats for the better-off wealth group. The figures given in the yellow shaded cells are calculated from the summary figures in col AR, but expressed per 100 animals owned at the start of the year. It is these numbers that are compared with the data in the reference tables above. The following were noted in this example:

Total owned and adult females: The quick calculation suggests total ownership of 13, of which 8-9 are adult females. Slightly higher results were obtained in the community than the wealth group interviews. The team preferred to give more weight to the latter, setting total owned to 11 and no. adult females to 7. This gives a figure of 64 adult females per 100, a little higher than the reference figure of 55.

No. born during the year: The individual data in cols AI to AP suggest 2 births per adult female per year in most but not all cases. This is close to the theoretical maximum. The team decided to take 12 births as a representative figure (i.e. just under 2 per adult female).

This gives a rate per 100 animals of 109, which is high, but not impossibly so, compared to the reference table (a long-term average of 66 per 100 animals).

No. sold and slaughtered: The quick calculations in col AV suggests a total of 5 sold and 0.5 slaughtered, making a total offtake of 50 per 100 animals (sales plus slaughters together). This is high compared to the reference value of 31, but is not impossible given the relatively high number of births per 100 animals.

No. died: The team accepted the results of the quick calculation, equivalent to 23 deaths per 100 animals, very close to the reference value of 24.

No. bought: An average of 1 animal was bought.

No. at end of reference year: The calculated end of year figure is 16, which corresponds to 145 animals per 100 at the start of the year. This is high compared to reference (110), reflecting mainly the relatively high number of births in the year.

Cross-check on cash income from local labour

This is another example of a cross-check of the consistency of results across wealth groups. In this case the cross-check is to compare cash income received from local labour (by the poor) with expenditure on local labour (by the middle and better-off). This cross-check is built into rows 848-855 of the 'Data' sheet (see **Box 13**).

The cross-check is another '100 households exercise' similar to the check on land rented in/out (**page 19**). The first step is to calculate total income from local labour (per 100 households). This is done in rows 851 and 852.

Box 13: Cross-check on cash income from local labour

	A	AL	AM	AN	AO
3	**WEALTH GROUP**	**BASELINE**			
4		**Very Poor**	**Poor**	**Midd-le**	**B/Off**
847	**Cross-checks**				
848	**(1) Labour payments**				
849	% households	20%	30%	35%	15%
850	income from local labour	240	205	0	0
851	income per 100 HHs, by wealth group	4800	6150	0	0
852	total income per 100 HHs	10950			
853	expenditure on local labour	0	0	150	250
854	expenditure per 100 HHs, by wealth group	0	0	5250	3750
855	total expenditure per 100 HHs	9000			

In row 851, the calculation is done for each wealth group separately. In the above example, income from local labour for the very poor = % very poor households x total income from local labour (kwacha per household per year) = 20 x 240 = 4800.

In row 852, total income per 100 HHs is summed up across wealth groups.

The next step is to calculate total expenditure on local labour (again per 100 households). This is done in rows 854 and 855.

In row 854, the calculation is done for each wealth group individually. In the above example, expenditure on local labour by the middle = % middle households x expenditure on local labour (kwacha per household per year) = 35 x 150 = 5250.

In row 855, total expenditure per 100 HHs is summed up across wealth groups. This can then be compared with total income. The check, obviously, is that total income from local labour should roughly equal total expenditure. This is roughly true in the example (an expenditure or 9000 kwacha per 100 households vs. an income of 10,950).

Where there is a big difference between the two figures, there is usually a need to re-examine the individual interview data a little more carefully. The most likely reasons for income exceeding expenditure are a) over-estimation of the percentage of households in the poorer wealth groups and b) over-estimation of cash income from labour (i.e. an over-estimation of the number of people engaged per household, or the number of days worked per month, etc.).

One possible problem with the cross-check is the inclusion of cash income from labour that is not performed locally. The formulas in row 850 calculate the total cash income from labour entered into rows 584 to 601 (and carried down to the cash income summary in rows 814 to816). If this includes labour that is not paid for by better-off households locally (e.g. urban labour), then the formula in row 850 has to be modified to reflect this. Suppose, for example that the three sources of labour are local weeding (summary row 814), local harvesting (summary row 815) and urban labour (summary row 816), then the formula in cell AL850

has to be changed from 'SUM(AL814:AL816) to 'SUM(AL814:AL815)', and similar changes have to be made to cells AM850, AN850 and AO850.

Cross-check on crop production per unit area cultivated

The second cross-check built into the 'Data' sheet looks at crop production per unit area cultivated (rows 857 to 864, see **Box 14**). The idea here is to compare the yields obtained per unit area across the different wealth groups. This calculation is a little complicated, but works as follows:

Box 14: Cross-check on crop production per unit area cultivated

	A	AL	AM	AN	AO
3	**WEALTH GROUP**	**BASELINE**			
4		**Very Poor**	**Poor**	**Midd-le**	**B/Off**
847	**Cross-checks**				
857	**(2) Crop production per unit area cultivated**				
858	% kcals from crop production	36%	55%	73%	91%
859	cash income from crop sales	118	390	560	1147
860	cost of 100% kcals	2713	2713	3165	3165
861	% kcals purch with crop income	4%	14%	18%	36%
862	total kcal production	40%	69%	91%	128%
863	total kcal production (adj to HH size 6)	40%	69%	106%	149%
864	total kcal production (HH size 6) per unit area	20%	20%	19%	24%

1) Carry down the %kcals obtained from crop production (row 858)
2) Carry down the cash income from crop sales (row 859)
3) Convert cash income from crop sales into an equivalent %kcals (row 861), where the equivalent %kcals is equal to the amount of staple kcals that could be purchased with the cash obtained from crop sales. This is done in two steps:
   a) Calculate how much it would cost to purchase 100% of kcals, based upon the price of the main staple purchased (row 860)
   b) Divide crop sales income by the cost of purchasing 100% of kcals (row 861).
4) Sum up rows 858 and 861 to get total production in kcal terms (row 862)
5) Adjust total production in kcal terms for the different household size of each wealth group. This is necessary because the results in row 862 are not directly comparable, as household size may vary from one wealth group to another. In row 863 total kcal production is adjusted to a standard household size of 6. In effect the question becomes, what percentage of annual food needs for a household of 6 could be covered by production from each wealth group. The answer to this question is given in row 863.
6) Divide total production in kcal terms by area cultivated to derive an estimate of production per unit area (i.e. yield).

In general terms, yield is expected to increase as wealth increases, e.g. because of more effective and timely land preparation and weeding, greater use of inputs, etc. This is not always the case, however, as in the example above. Sometimes, the kcal yield obtained by poorer wealth groups can be relatively high because they cultivate a greater proportion of crops with a relatively high food energy yield, such as cassava or sweet potatoes. This is not the explanation in the case of **Box 14**, however. Here the similar yields of each wealth group are explained by the fact that the poorer groups rent out quite a lot of land to the middle and better-off in return for a share of the harvest. One effect of this is that they are able to some extent to share in the higher yields obtained by the better-off.

Additional cross-checks to consider

The list of cross-checks suggested above is not exhaustive. There will certainly be other cross-checks that can be done depending upon the conditions prevailing in each livelihood zone. Other possible cross-checks to consider include:

- Gifts received by the poor compared to gifts given by the better-off. This would be a '100 households exercise' similar to the local labour income/expenditure cross-check. Cross-checks can be done for different types of gifts, e.g. gifts of money, crops, milk, etc.
- A check on the number of livestock bought compared to expenditure on livestock investment.
- A rough check on labour availability within the household and whether this is adequate to cover the cumulative labour input into different types of employment and self-employment. This involves considering the number of people capable of working within the household, when different types of activity are carried out (by examining the seasonal calendar), and, therefore, whether there are enough people available at different times of year to complete all the activities being undertaken

PART TWO: OUTCOME ANALYSIS

HOW TO RUN AN OUTCOME ANALYSIS: THE SOMALIA EXAMPLE

Part two of this chapter provides step-by-step instructions on how to run an outcome analysis, using an example supplied by the Food Security Analysis Unit in Somalia. For this part of the chapter you will need to use the files located on the accompanying CD. Please read **Annex B: The Spreadsheets** for further instructions on how to manage the files on the CD before proceeding with the exercises below.

Components of the Somalia Example Baseline

The examples used throughout this part of the chapter refer to two livelihood zones in Boroma District, northern Somalia. Details for these two zones are given in the table below:

Table 8. Details of the two case study baselines used in remainder of the chapter

Livelihood Zone	*Type of Livelihood*	*Reference Year*	*LZ Code*	*Baseline filename*
North-West agro-pastoral	Agro-Pastoral	Aug'01 – Jul'02	NWA	NWA.xls
Golis-Guban pastoral	Pastoral	Dec'96 – Nov'97	GUP	GUP.xls

Box 15. Example scenario used in this chapter

The example used throughout the rest of this chapter is a hypothetical scenario looking at the impact of a protracted drought affecting Boroma District in northern Somalia. The scenario is as follows:

- A 50% reduction in crop production
- A roughly 50% reduction in livestock holdings
- A significant reduction in milk production among surviving animals
- A significant decline in livestock prices
- A significant increase in staple food prices

Boroma includes two livelihood zones, one of which is agro-pastoral (the North-west Agro-pastoral LZ) and one pastoral (the Guban pastoral LZ). The rest of this chapter takes the reader through the analysis for these two very different livelihood zones, and for households living at different levels of wealth within each. It explains how the output from a Household Economy analysis can be used to estimate the amounts of food and/or non-food assistance required and the number of beneficiaries at livelihood zone and district levels.

The reference year for the North-West agro-pastoral LZ begins in August, with the harvesting of main season green maize. The reference year for most pastoral zones in Somalia begins in June, the first month of the main *gu* rainy season. The Golis Guban pastoral LZ is an exception, since it benefits from coastal or *heys* rains which begin in December. Milk production therefore improves from December onwards, marking the beginning of the new consumption year.

This detailed field information for the example LZs is stored in two baseline storage sheets found in the Team Leaders Supplement directory in Annex B in the *Som_Ex sub*-directory.

The sheets are labelled: *NWA.xls* and *GUP.xls* for Northwest Agropastoral and Golis-Guban Pastoral, respectively.

Reference Year Crop Production and Market Price Data

The Food Security Analysis Unit in Somalia is mainly responsible for the collection of baseline information and monitoring key indicators throughout the year. It collects two main types of monitoring data for Somalia: crop production by district; and market prices by district market. These data have been analysed to generate reference year estimates of crop production and of market prices. The reference years and seasons for the example livelihood zones are given in the following table:

Table 9. Reference years and seasons for example livelihood zones

Livelihood Zone	*LZ Code*	*Type*	*Reference Year*	*Ref. Seasons for crops*	*Ref. Seasons for prices*	
					Post-harvest	*Pre-harvest*
North-West agro-pastoral	NWA	AP	Aug'01 – Jul'02	Gu-01, Dy-01	Nov'01-Jan'02	Feb'02-Jul'02
Golis-Guban pastoral	GUP	P	Dec'96 – Nov'97	N/A	N/A	N/A
Note: AP = agro-pastoral, P = pastoral, Dy=Deyr season						

In Somalia, market price data are aggregated to the level of the 'market region' for the purposes of analysis. Aggregated data for the North-West market region (in which both example LZs fall) have been used to calculate reference year prices.

For the North-west agro-pastoral LZ, post-harvest prices are required for the calculation of the crop sales price problem, and the post-harvest months for the livelihood zone are given in the table above. For staple foods, a purchase price is also required. For the Guban pastoral LZ, this has been calculated as the average price for the whole of the reference year (since purchases may be made at any time of year). For the North-West agro-pastoral LZ, however, the reference year purchase price has been taken as the average price for the pre-harvest months (i.e the 'hunger' period before the next harvest when most purchases are made), again as outlined in the table above.

The Problem Specification and Key Parameter Analysis

The process of problem specification is one of critically examining the effects of the hazard on each source of food, income and expenditure. This topic was introduced in Chapter 4 of the **Practitioners' Guide**, and is further elaborated in Session 8 (*Problem Specification and Key Parameter Analysis*) of Module 3 (*Outcome Analysis*) in the **Training Guide**. There can be quite a large number of these sources, not all of which are equally important, and it is therefore useful to identify the key sources – or key parameters - for each wealth group and each livelihood zone. A key parameter is here defined as **one that contributes significantly to total food or cash income, so that a reduction in access to that one source may have a significant effect on total access**.

What to monitor

A 'key parameter' is a source of food, income or expenditure that contributes significantly to total food or cash income such that a reduction in access to that one source would have a significant effect on total access.

An analysis of key parameters is incorporated into each of the baseline storage sheets. This is described in **Box 16**.

Box 16. The key parameter analysis section of the Baseline Storage Sheet

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
931	**Key parameters analysis**													
932	**cut-off for significance (% kcals)**		5%											
933			**VP**	**P**	**M**	**B/O**		**VP**	**P**	**M**	**B/O**			
934	cost of 100% kcals		0	972	1134	1457								
935													**key parameter?**	
936	**CROPS:**												**quant.**	**price**
937	maize - gu			16%	17%	16%							**yes**	
938	maize - deyr			0%	0%	0%								
939	sorghum - gu			39%	53%	82%			7%	12%	26%		**yes**	**yes**
940	sorghum - deyr			0%	0%	0%			0%	0%	0%			
941	other cashcrop			0%	33%	48%							**yes**	**yes**
942	**LIVESTOCK PRODUCTION::**												**quant.**	**price**
943	cows' milk - gu-ha			25%	52%	85%							**yes**	
944	cows' milk sales - Gu-Ha								22%	44%	65%			**yes**

Note: VP = very poor, P = poor, M = middle, B/O = Better-off

The above figure shows part of the key parameter analysis for the North-West agro-pastoral LZ. The analysis can be found beginning at row 931 in each of the baseline storage sheets. Sources of food or cash that contribute significantly to total income (food and/or cash) are identified by the word 'yes' in column M. This means that it is important to monitor the ***amount*** of that income source in the current compared to the reference year. If it is also important to monitor the ***price*** of the item (i.e. it is an important source of cash as opposed to food income), then this is additionally indicated by the word 'yes' in column N.

The results from the example above indicate that *gu* season maize is an important source of food but not of cash (indicated by 'yes' in column M and the absence of 'yes' in column N). In other words, it is important to monitor the amount of maize produced, but not its sales price. *Gu* season sorghum is, on the other hand, an important source of both food and cash income (as indicated by 'yes' in both columns M and N), and in this case it is important to monitor both quantity and price. Likewise, it is important to monitor both the quantity and price of *gu* season cows' milk, and so on.

In terms of the calculations, the first thing is to define a cut-off for significance. This is set as a percentage of annual food needs (%kcals), and is set to 5% in the example (cell C932). The next step is to calculate the total amount of income from each source for each wealth group, where total means the total from food and from cash added together, including any expandability. For the purposes of this calculation, cash is converted to food equivalents by dividing the amount of cash by the cost of 100% of kcals (i.e. the cost of purchasing 100% of food energy needs for a typical household for the whole year, cells C934 to F934). From the example above, you can see that *gu* sorghum (food + cash income together) provides the equivalent of 39%, 53% and 82% respectively for poor, middle and better-off households (cells D939 to F939). Considering cash income only (i.e. the amount of money derived from the sale of *gu* sorghum), this is equivalent to 7%, 12% and 26% of annual food needs for the three wealth groups (cells I939 to K939).

In mathematical terms a key parameter is then defined as a source of income that:

a) provides more than the cut-off level of income for at least two wealth groups
OR
b) provides more than twice the cut-off level of income for one wealth group.

In the example, *gu* sorghum is a key parameter in terms of both quantity and price because it passes this test for total income (food + cash, i.e. quantity) and for cash income alone (i.e. price).

The table below summarises the main sources of food and cash income for Somalia, based upon key parameter analyses for all 15 livelihood zones for which baseline data are available. It also indicates (with an 'X') which specific items are significant for the two livelihood zones used as examples throughout this guide, the North-West agro-pastoral LZ (NWA) and the Guban pastoral LZ (GUP).

Key parameters for Somalia

	NWA		GUP	
	Food	**Cash**	**Food**	**Cash**
Livestock production				
camels milk – *gu* & *deyr*			X	X
cows' milk – *gu* & *deyr*	X	X		
shoats' milk – *gu* & *deyr*	X	X	X	
Sale of camels – export & local				
Sale of cattle – export & local		Local		
Sale of shoats – export & local		Local		Local
Crop production				
maize – *gu* & *deyr*	Gu only			
sorghum – *gu* & *deyr*	Gu only	Gu only		
cowpeas – *gu* & *deyr*				
other crops		X		
Other income sources				
gifts/social support	X		X	X
ag.labour – *gu* & *deyr*		X		
lab.migration				
Remittances		X		X
Firewood				
Charcoal		X		
petty trade				
Other income sources				

Note: Grey shading indicates an insignificant source for Somalia as a whole, e.g. sales of camels provide a source of cash but not of food.

Key parameter and problem specification sheets

The integrated spreadsheet (see page 58) contains relevant reference data for all of the above key parameters. If, however, an analysis is to be run either by hand or using the single zone analysis sheets, then the user will need to complete one or more *key parameter and problem specification sheets*. These worksheets list the key parameters for a particular LZ, and set out the procedure for calculating a problem specification for each key parameter. Two examples are described below for the example scenario, a protracted drought affecting Borama District in northern Somalia. Borama contains two livelihood zones, the North-West agro-pastoral and the Guban pastoral LZs, and soft copies of the example problem specification sheets for these can be found on the accompanying CD, in the Team Leaders' Supplement directory, Annex B in the *\Som_ex* sub-directory.

Example 1 – Borama District, North-West Agro-Pastoral LZ

The first thing for the user to do is to complete the header information at the top of the form (District, Livelihood Zone, Reference year and Current year).

Problem Specification – Quantity

The first section of the sheet deals with the crop production problem. The key parameters for crop production in this livelihood zone are *gu* season maize, *gu* season sorghum and 'other cashcrops' (a combination *khat*, tomatoes and fodder). In this section of the form, the user enters reference and current year data on production for the particular district (Boroma in this case) and then calculates the problem specification – current as a percentage of reference production – in the right-hand column. (Note that the problem specification for crops is based in this case upon district-level data, not upon data for the specific livelihood zone. As there is only one crop-producing LZ in Borama, this is not an issue in this case.)

The Crop Production Problem

KEY PARAMETERS AND PROBLEM SPECIFICATION SHEET

District	Borama	**Reference year**	Aug 01-Oct 01
Livelihood Zone	North-West Agro-Pastoral	**Current year**	Example Analysis

PROBLEM SPECIFICATION - QUANTITY

CROPS	Reference year quantity	Current year quantity	Current quantity as %of reference quantity
Maize – Gu	300 MT	150 MT	50%
Sorghum – Gu	1320 MT	660 MT	50%
Other cashcrops[1]	N/A	N/A	50%

[1] Khat, vegetables and fodder crops

For those crops for which there are no reference data (such as the 'other cashcrops' in the current example), the user can decide to set the problem for production at reference year levels (problem spec. = 100%) or may estimate the problem specification this year. In this example, the problem spec. for 'other cashcrops' has been set at the same level as for maize and sorghum (i.e. 50%).

The Livestock Production Problem

LIVESTOCK	*POOR HHs*			*MIDDLE HHs*		
HERD SIZE	Ref. year	Curr. year	Curr/Ref % [1]	Ref. year	Curr. Year	Curr/Ref % [1]
Camels			a)			d)
Cattle	4	2	b) 50%	8	4	e) 50%
Shoats	8	4	c) 50%	30	15	f) 50%

[1] Use these results as the current problem for number of animals sold

Calculating the problem specification for livestock production is more complicated than for crop production. In Somalia (as in most pastoral or agro-pastoral settings) the key parameters of interest are a) the volume of milk production and b) the number of animals that can be sold, both of which are determined by a wide range of factors of which the most important are herd size, herd composition and current production conditions.

Herd size is a key factor, and it is essential to determine whether herd sizes have changed significantly since the reference year. It is suggested that data on average herd size for the current and reference years should be collected for at least two wealth groups (the poor and the middle, since these are the largest groups), and the results recorded as set out in the

table above[4]. The herd size 'problem' can then be calculated by dividing current by reference year holding and multiplying by 100. This figure is then used in the calculation of both the milk production problem and the livestock sales income problem. Data collection efforts should focus on those types of animals that are significant in terms of local livelihoods. In the North-West agro-pastoral LZ, cattle and shoats are significant, but camels are not (since neither camel milk production nor camel sales are key parameters for this LZ).

The most important factors determining milk production in the current year (or the current season) are the number of animals giving birth (and therefore the number of milking animals per 100 adult females) and the milk output in litres per animal per day. It is suggested that information on these parameters should be collected for the current and reference years and a problem specification calculated for each variable as set out in the table below[5].

MILK PRODUCTION	No.milking animals per 100 adult females			Milk output (l/hd/day)		
	Ref. year	Curr. year	Curr/Ref %	Ref. year	Curr. year	Curr/Ref %
Camels - Heys/Gu			g)			h)
- Deyr			i)			j)
Cattle - Heys/Gu	45	35	k) 78%	2.75	1.75	l) 64%
- Deyr	45	35	m) 78%	2.25	1.5	n) 67%
Shoats - Heys/Gu	45	35	o) 78%	0.4	0.25	p) 63%
- Deyr	45	35	q) 78%	0.4	0.25	r) 63%

Note: In the North-West agro-pastoral LZ the two main seasons for milk production are *gu* and *deyr*. In the Guban pastoral LZ, coastal or Heys rains are important, and the main milk production season is *heys/gu*.

This information can then be combined with the herd size problem specification to estimate the overall problem for milk production in each of the seasons, where:

$$\text{Milk production problem} = \frac{\text{herd size prob.}}{100} \times \frac{\text{no.milking animals prob.}}{100} \times \frac{\text{milk output prob.}}{100} \times 100$$

Taking the example of cows' milk production for poor households in the *heys/gu* season:

a) herd sizes have fallen by 50%; herd size problem = 50%,
b) the number of animals giving birth has fallen from 45 per 100 adult females to 35 per 100 adult females; No. of milking animals problem = 78%
c) milk output has fallen from 2.75 litres per head per day to 1.75 litres; Milk output problem = 64%,

$$\text{and the consolidated or overall problem} = \frac{50}{100} \times \frac{78}{100} \times \frac{64}{100} \times 100 = 25\%$$

In other words, these three factors combined will have the effect of reducing milk production to 25% or one quarter of what it was in the reference year[6].

[4] Data on average herd size by wealth group in the reference year may be obtained from the baseline storage sheet.
[5] Reference year figures presented here for the number of milking animals per 100 adult females are based upon an analysis of the current Somalia baseline data and a comparison of these results with reference data for East African pastoral herds. Reference year milk outputs by season are averages of the available Somalia baseline data.
[6] Other factors that could be taken into account when calculating the overall milk production problem are a) a change in herd composition (i.e. an increase or decrease in percentage adult females in the herd) and/or b) a

The various calculations for the North-West agro-pastoral example are set out in the table below.

MILK PRODUCTION (continued)	POOR HHs			MIDDLE HHs		
	Formula		Result [2]	Formula		Result [2]
Camels - Heys/Gu	a) x g) x h)			d) x g) x h)		
- Deyr	a) x i) x j)			d) x i) x j)		
Cattle - Heys/Gu	b) x k) x l)	50%x78%x64%	25%	e) x k) x l)	50%x78%x64%	25%
- Deyr	b) x m) x n)	50%x78%x67%	26%	e) x m) x n)	50%x78%x67%	26%
Shoats - Heys/Gu	c) x o) x p)	50%x78%x63%	25%	f) x o) x p)	50%x78%x63%	25%
- Deyr	c) x q) x r)	50%x78%x63%	25%	f) x q) x r)	50%x78%x63%	25%

[2] Use these results as the current problem for quantity of milk production

Other sources of food and cash

The next step is to complete the specification of the 'quantity problem' for any other sources of food and/or cash identified as significant in the key parameters analysis. For the North-West agro-pastoral LZ, these are gifts (a source of food) and agricultural labour, remittances and charcoal (sources of cash). Detailed and quantified monitoring data are rarely available for these other sources of food and cash, which means there may be no data to enter in the 'reference year quantity' and 'current year quantity' columns. In this case the user can either assume constant access (problem spec. = 100%, as in the example for gifts, remittances and charcoal below) or may estimate a problem specification for this year.

Where there are potential sources of quantitative data that can use used to estimate a problem specification, it is important that these are followed up. In the case of remittances, for example, it may be possible to collect information on the amounts of money remitted via international transfer agents. In the case of charcoal, there may be information on amounts exported from the main ports, and so on.

OTHER SOURCES OF FOOD	Reference year quantity	Current year quantity	Current quantity as %of reference quantity
Gifts			100%

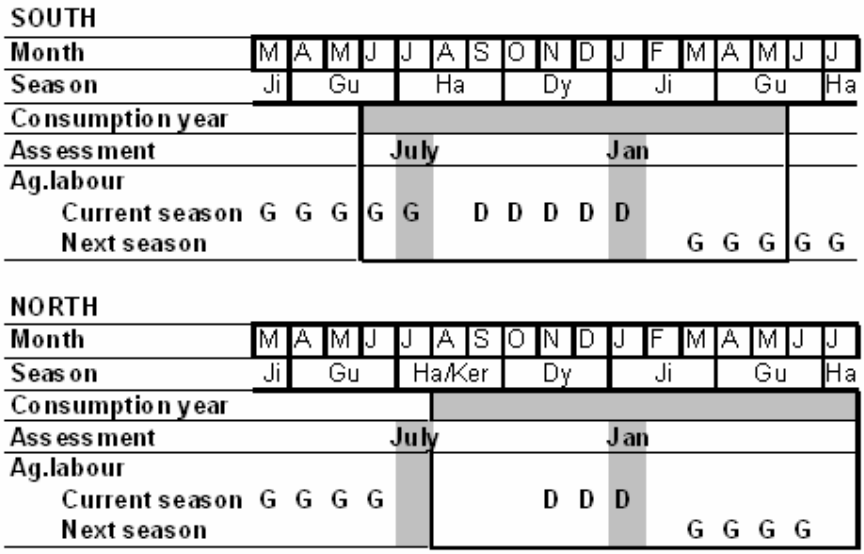
OTHER SOURCES OF CASH	Reference year quantity	Current year quantity	Current quantity as %of reference quantity
Ag.labour - Gu			75%
Remittances			100%
Charcoal			100%

Access to agricultural labour is a special case, since this may be related to the current year's level of agricultural production, for which there is data. However, the situation is complicated by the fact that the period for which the projection is being prepared relates to the future, and some of the labour performed in the projection relates to future rather than current harvests. This issue is explored in **Box 17** and
Box 18 below, which set out suggestions for specifying the agricultural labour problem in the south and the north of Somalia for assessments undertaken in July (i.e. post-*gu*) and January (post-*deyr*).

change in the duration of lactation. There is however a practical limit to the number of factors that can be assessed in the field – hence the proposal to limit the number of factors to the three most important.

The consumption year for agro-pastoral LZs in the south of Somalia runs from June to May and the main *gu* season harvests are gathered in June and July, at the start of the projection period (i.e. the consumption year for which the projection is being prepared). This means that most of the agricultural labour for the current year *gu* harvest is carried out BEFORE the start of the projection period, and most of the labour carried out during the projection period relates to future agricultural seasons, the outcome of which will not be known until later in the year. Where labour has still to be carried out it is usual to assume the same level of agricultural activity as in the reference year (problem specification = 100%). The situation in the north is similar, except that the consumption year starts slightly later (in August) and agricultural activities on the current year *gu* crops continue into the *deyr* season (long cycle *gu* crops being harvested during the *deyr* season).

Box 17. Consumption year in relation to labour period



Note: Ji-Jilaal, Ha=Hagaa, Dy=Deyr, Ker=Keren, G = Gu season labour, D=Deyr season labour

Box 18. Recommendations for specifying the agricultural labour problem

	Gu season assessment (July)	*Deyr season assessment (Jan)*
South	Current *gu* season labour is almost complete. The projection covers the next 12 months and includes labour during the next *deyr* season (set to 100%) and the next *gu* season (set to 100%)	Labour for the *deyr* season will have been completed by this stage. Set *deyr* season labour proportional to *deyr* season harvests and *gu* season labour to 100%.
North	The situation is a little more complicated in the north because there is little *deyr* season production and the main labour activity in the *deyr* is harvesting of long cycle crops planted in the *gu*. Production of these crops is partly dependent upon *deyr* (or *keren*) rains, and it is probably best to set *deyr* season labour to normal unless it is already known that there will be little or no harvest in Nov/Dec.	Labour for the *deyr* season (mainly harvesting of crops planted in the *gu*) will have been completed by this stage. Set *deyr* season labour proportional to *gu* season harvests and *gu* season labour to 100%.

Returning now to the North-West Agro-pastoral example, let us suppose that we are preparing a problem specification for an assessment in January. The recommendation in this case is to set *deyr* season labour proportional to *gu* season harvests (i.e. 50% of reference) and *gu* season labour to 100%. Unfortunately, the North-West agro-pastoral baseline includes only one single category for agricultural labour, with no split between *gu* and *deyr* seasons. In this case the simplest thing to do is to assume that half the labour is carried out in the *gu* season and half in the *deyr* season and to set the problem spec. for agricultural labour to 75% (i.e. half way between 50% and 100%). This is what has been done in the example.

Problem specification – prices

In the North-West agro-pastoral LZ, significant amounts of cash income are obtained from the sale of *gu* season sorghum and from 'other cash crops'. The production or quantity problem has already been calculated and it remains to consider the price problem. Most sorghum is sold immediately post-harvest (between November and January) and this is therefore the period for which reference and current year prices are required. For an assessment carried out in January (as in the example), both sets of prices may be obtained directly from the available monitoring data, and the price problem specification calculated as set out in the table below. In this example, which deals with a year in which sorghum harvests have failed, the scenario is for sorghum prices to remain relatively high post-harvest - 50% higher than in the reference year. Multiplying the price problem (150%) by the quantity problem (50%) gives the overall or consolidated problem (75% in the example).

The Crop Sales Problem

PROBLEM SPECIFICATION - PRICES

CROP SALES	Months sold	Ref. year	Curr. year	Curr/Ref % (Price)	Curr/Ref % (Quantity)	Curr/Ref % (Pr.x Qu.)
Sorghum – Gu	Nov-Jan	1200 SS/kg	1800 SS/kg	150%	50%	75%
Other cashcrops	N/A	N/A	N/A	150%	50%	75%

Note: The consolidated or overall problem for income is the product of the price problem x the quantity problem, e.g. for Sorghum – Gu sales = 150% (price) x 50% (quantity) = 75% (cons. problem)

There are no data on the prices for 'other cash crops', and an assumption has therefore to be made concerning the price problem for these crops. In the example a 50% increase in price has been assumed (given the reduction in production).

The problem specification form continues with the calculation of the price problem for the sale of milk and milk products, and for the sale of live animals. This section of the format is reproduced below for the North-West agro-pastoral example.

The Livestock Sales Problem

MILK/GHEE/BUTTER SALES	Months sold	Ref. year	Curr. year	Curr/Ref % (Price)	Curr/Ref % (Quantity)	Curr/Ref % (Pr.x Qu.)
Cows' milk - Heys/Gu[3]	All year[4]	2426 SS/l	3750 SS/l	155%	25%	39%
- Deyr				155%	26%	40%
Sheeps' ghee/butter				155%	25%	39%

[3] Price data only available for camels' milk , so this is used to set the price problem for all milk products
[4] Insufficient information in the baseline on months when milk sold, so average 12-month price taken

LIVESTOCK SALES	Months sold	Ref. year	Curr. year	Curr/Ref % (Price)	Curr/Ref % (Quantity)	Curr/Ref % (Pr.x Qu.)
Camels						
Cattle	All year	416021 SS	200000 SS	48%	50%	24%
Shoats	All year	63078 SS	30000 SS	48%	50%	24%

In this case all current year prices are estimates, since they relate to the average price for the whole year (i.e. they relate in part to the future). These estimates can be derived from an analysis of existing monitoring data and possible trends in these and/or from the results of interviews with traders in these various commodities.

As far as the example is concerned, prices of milk, ghee and butter are expected to be higher in the current than the reference year (in line with the reduction in milk production), while livestock prices are expected to fall due to a combination of factors (mainly the poorer condition of animals and a larger number of animals offered for sale).

As in the case of crop sales, the overall or consolidated problem is calculated as the product of the price and quantity problems. For livestock sales, the quantity problem is taken as equal to the herd size problem (i.e. it is assumed that the number of animals that can be sold is proportional to the size of the herd). Since both livestock prices and herd sizes are lower, the overall effect is a significant reduction in income from livestock sales in the current compared to the reference year.

Other sources of cash

It remains to specify the price problem for other sources of cash (agricultural labour, remittances and charcoal in the example). For remittances, the question of price is not relevant (since there is no price for remittances, and it is only the amount of money, i.e. the quantity, that can change). For other items, where price data are available from the monitoring system these can be used to develop a price problem specification as for other sources of cash income. Often, however, price data are not available for these items and the price problem has to be estimated. In the example, we have assumed no change in the price of agricultural labour or charcoal.

Other Sources of Cash

OTHER SOURCES OF CASH	Months sold	Ref. year	Curr. year	Curr/Ref % (Price)	Curr/Ref % (Quantity)	Curr/Ref % (Pr.x Qu.)
Ag.labour				100%	75%	75%
Remittances				N/A	100%	100%
Charcoal				100%	100%	100%

There is an additional consideration to be borne in mind for certain sources of cash, which relates to the assumption that has been made regarding expandability. In Chapter 4 of the **Practitioners' Guide**, in the section on 'expandability', it was explained that no expandability should be assumed for either local labour or self-employment (see **Table 4** in Chapter 4), which includes sale of charcoal. This is because any increase in the amount of these items sold is likely to be counteracted by a reduction in their price, so that total income from these sources is likely to remain relatively constant. It follows that in this situation, where no expandability is assumed, there should be a balancing assumption of no change in price. In other words, for items such as local casual labour, the price problem should be set to 100% even if a reduction in prices is anticipated or actually occurs.

Expenditure items

The final step is to specify the price problem for three categories of expenditure; survival food, survival non-food and livelihoods protection. In the North-West agro-pastoral LZ, the staple food is sorghum, and most purchases are made in the period February-July. Since the example deals with an assessment being carried out in January, i.e. before the main months of staple purchase, it follows that the average purchase price for the current year will have to be estimated (see example of this in Chapter 4, **Box 3**). In the Somalia example, the current year price has been estimated at 2800 SlSh per kg, which is almost exactly twice the price in the reference year (see table below).

Expenditure Items	Months purchased	Ref. year	Current year	Current/ref % (Price)
Staple Food (Sorghum)	Feb-Jul	1408 SS/kg	2800 SS/kg	199%
Survival Non-food Basket				100%
Livelihoods Protection Basket				100%

It is possible to specify a problem specification for the livelihoods protection expenditure basket if necessary; similar calculations can be done for the cost of the survival non-food basket. For the North-West agro-pastoral example, however, no change in the prices of these baskets has been assumed (price problem = 100%).

Example 2 – Borama District, Guban Pastoral LZ

Borama District includes parts of two livelihood zones, the North-West agro-pastoral (dealt with above) and the Guban pastoral LZs. **Box 19** deals with the preparation of a problem specification for the Guban pastoral LZ, given very similar conditions to those specified for the North-West agro-pastoral LZ. There is no crop production in the LZ, so there is no problem of crop production to specify. The other major difference is that camels and shoats are kept in the Guban pastoral LZ, rather than cattle and shoats. As in the North-West agro-pastoral LZ, herd sizes have fallen compared to the reference year, fewer animals are milking and milk outputs are much reduced[7].

[7] Note that different changes in herd size have been specified for the two livelihood zones, but that the same problem has been specified for the no. milking animals and for milk output as in the North-West agro-pastoral example. This models an assessment in which herd sizes are assessed by livelihood zone, but changes in milk production are assessed at district level.

Box 19. Borama District, Guban Pastoral LZ problem specification

KEY PARAMETERS AND PROBLEM SPECIFICATION SHEET

District	Borama	**Reference year**	Dec'96 – Nov'97
Livelihood Zone	Guban Pastoral	**Current year**	Example Analysis

PROBLEM SPECIFICATION - QUANTITY

CROPS	Reference year quantity	Current year quantity	Current quantity as % of reference quantity
None			

LIVESTOCK	*POOR HHs*			*MIDDLE HHs*		
HERD SIZE	Ref. year	Curr. year	Curr/Ref % [1]	Ref. year	Curr. Year	Curr/Ref % [1]
Camels	1	0.5	a) 50%	11	5.5	d) 50%
Cattle			b)			e)
Shoats	37	15	c) 41%	135	55	f) 41%

[1] Use these results as the current problem for number of animals sold

MILK PRODUCTION	No. milking animals per 100 adult females			Milk output (l/hd/day)		
	Ref. year	Curr. year	Curr/Ref %	Ref. year	Curr. year	Curr/Ref %
Camels - Heys/Gu	40	30	g) 75%	3.5	2.5	h) 71%
- Deyr	40	30	i) 75%	3	2	j) 67%
Cattle - Heys/Gu			k)			l)
- Deyr			m)			n)
Shoats - Heys/Gu	45	35	o) 78%	0.4	0.25	p) 63%
- Deyr	45	35	q) 78%	0.4	0.25	r) 63%

MILK PRODUCTION (continued)	*POOR HHs*			*MIDDLE HHs*		
	Formula		Result [2]	Formula		Result [2]
Camels - Heys/Gu	a) x g) x h)	50x75%x71%	27%	d) x g) x h)	50x75%x71%	27%
- Deyr	a) x i) x j)	50x75%x67%	25%	d) x i) x j)	50x75%x67%	25%
Cattle - Heys/Gu	b) x k) x l)			e) x k) x l)		
- Deyr	b) x m) x n)			e) x m) x n)		
Shoats - Heys/Gu	c) x o) x p)	41%x78%x63%	20%	f) x o) x p)	41%x78%x63%	20%
- Deyr	c) x q) x r)	41%x78%x63%	20%	f) x o) x p)	41%x78%x63%	20%

[2] Use these results as the current problem for quantity of milk production

OTHER SOURCES OF FOOD	Reference year quantity	Current year quantity	Current quantity as % of reference quantity
Gifts (rice)			100%

OTHER SOURCES OF CASH	Reference year quantity	Current year quantity	Current quantity as % of reference quantity
Remittances			100%
Gifts (goats to sell)			100%

On the prices side, the same changes in milk and livestock prices have been incorporated into the problem specifications as in the North-West agro-pastoral LZ (since the two LZs share the same markets). The main staple cereal in the Guban pastoral LZ is rice. The problem specified for rice assumes some increase in the price of rice given the very large increases in sorghum prices in the example (so that the current year price of rice – 2900 SISh per kg – still exceeds that of sorghum – 2800 SS/kg).

PROBLEM SPECIFICATION - PRICES

CROP SALES	Months sold	Ref. year	Curr. year	Curr/Ref % (Price)	Curr/Ref % (Quantity)	Curr/Ref % (Pr.x Qu.)
None						

MILK/GHEE/BUTTER SALES	Months sold	Ref. year	Curr. year	Curr/Ref % (Price)	Curr/Ref % (Quantity)	Curr/Ref % (Pr.x Qu.)
Camels' milk - Heys/Gu	All year[3]	2426 SS/l	3750 SS/l	155%	27%	42%
- Deyr				155%	25%	39%
Goats' milk - Heys/Gu[4]				155%	20%	31%
- Deyr				155%	20%	31%

[3] Insufficient information in the baseline on months when milk sold, so average 12-month price taken
[4] Price data only available for camels' milk , so this is used to set the price problem for all milk products

LIVESTOCK SALES	Months sold	Ref. Year	Curr. year	Curr/Ref % (Price)	Curr/Ref % (Quantity)	Curr/Ref % (Pr.x Qu.)
Camels	All year					
Cattle	All year					
Shoats	All year	63078 SS	30000 SS	48%	41%	20%

OTHER SOURCES OF CASH	Months sold	Ref. Year	Curr. year	Curr/Ref % (Price)	Curr/Ref % (Quantity)	Curr/Ref % (Pr.x Qu.)
Remittances				N/A	100%	100%
Gifts (goats to sell)				100%	100%	100%

EXPENDITURE ITEMS	Months purchased	Ref. year	Curr. year	Curr/Ref % (Price)
Survival food	All year	1955 SS/kg	2900 SS/kg	148%
Survival non-food				100%
Livelihoods Protection				100%

Additional notes on problem specification

Why not use current year prices directly?

In order to complete the outcome analysis we need information on the current prices for the main items bought and sold by different wealth groups. Since in many cases it is possible to obtain this directly from the market price monitoring system (e.g. the average price of a goat, or a kg of sorghum) why it is necessary to go through the process of calculating a price problem specification using current and reference year data? The explanation lies in a possible difference between the price recorded in the market (the monitoring data) and the price collected in the field at the time the baseline was prepared.

Take the price of goats as an example. According to the baseline storage sheet for the Guban pastoral LZ (GUP.xls), the average price for goats in the reference year was 80,000 SlSh. This compares with an average price from the monitoring data of 63,078 SlSh. There may be a number of reasons for this type of difference. It may be that the monitoring data

covers an area that includes more than one livelihood zone, and that prices differ between livelihood zones (and goat prices are in fact lower in the North-West agro-pastoral LZ than in the Guban pastoral – presumably reflecting a difference in the size and quality of animals sold). Or it may be that the quality and size of animal selected for monitoring is not quite the same as that usually sold by pastoralists or agro-pastoralists. Or that the price in the baseline represents a 'farm gate' price and not the selling price in the market. Whatever the explanation, it is clear that using a price directly from the monitoring system may not give the correct price at household level. On the other hand, it is reasonable to assume that prices will tend to change in proportion to one another, so that the best estimate of the current price at household level is obtained by multiplying the price in the baseline by the ratio of the current to the reference price from the monitoring data (i.e. by the price problem).

Taking inflation into account

Inflation significantly complicates the analysis of market prices and the derivation of the price problem. The effect of inflation is to increase prices generally, above and beyond any local effects of hazard. The problem is not so much with prices which are monitored and for which a problem specification is developed (as set out above), since the current problem will include any effect of inflation. The bigger problem is for prices for which no monitoring data are available (in which case it may be incorrectly assumed in the outcome analysis that no change in prices has occurred). The solution to this problem is to develop an inflation 'problem' and to make this the default problem in the absence of any monitoring data. In the North-West agro-pastoral zone, for example, the inflation problem could be applied to the price of agricultural labour, remittances and charcoal, and to the cost of the survival non-food and livelihoods protection expenditure baskets.

In order to calculate an inflation problem, we need an indicator of inflation. In Somalia, fluctuations in the value of the Somali Shilling (or Somaliland Shilling) compared to the US dollar are the main factor driving changes in local prices, and the simplest index of inflation is therefore the exchange rate itself. The inflation problem is then calculated as follows:

$$\text{Inflation problem} = \frac{\text{Current year exchange rate}}{\text{Reference year exchange rate}} \times 100$$

Reference year exchange rates have been calculated for each of the baselines, and these are recorded in the baseline storage sheets. The average reference year exchange rate for the North-West agro-pastoral LZ was 6725 SlSh per USD (August 2001 – July 2002). If the current exchange rate were 7500 SlSh, then the inflation problem would be 7500 ÷ 6725 x 100 = 112%, and so on.

The examples presented here and in subsequent chapters do not include any correction for inflation. The question of inflation and its effects is dealt with in greater detail later when dealing with the integrated spreadsheet.

Calculating a localised crop production problem

Many districts cover more than one livelihood zone, but there is only one set of crop production per district. A reasonable starting point for the analysis is to apply the same crop production problem to all livelihood zones within a district, i.e. to assume that if maize production is reduced by half at district level, then it will be reduced by half in each of the livelihood zones. Where there is evidence of localised failure, however, it is important to disaggregate crop production data to below district level. A example of how this was done for an analysis in Malawi is presented in **Box 20**.

Box 20. Calculating a localised production problem – an example from Karonga District in Malawi

In 2003, the maize production failure in Karonga district was localised to Central Karonga LZ, which consists of a single EPA, Central Karonga EPA. Data for this EPA were obtained by phone, and a sub-district problem specification calculated as shown in the table.

Example of Central Karonga – 2003

Maize Production (MT)			
	Reference year	*2003*	*2003 Problem Spec (% of reference)*
Karonga District	19,471	17,370	89%
Central Karonga EPA	7,449	4,651	62%
Remainder of district	12,022	12,719	106%

Note: Remainder of district calculated as Karonga District minus Central Karonga EPA.

Keeping a Record of Assumptions

It is inevitable that during an analysis of this type, many assumptions will be made. It is important that the analyst keep track of these, so that steps can be taken to follow them up when necessary. The Key Parameters and Problem Specification Sheets have space in which to do this. A record of the assumptions made in developing the example problem specification for the North-West agro-pastoral LZ is reproduced below.

ASSUMPTIONS

Component of Problem Specification	Source of Data	Assumptions	Confidence e.g. Good – no action required Poor – requires verification
Crop production: Maize – Gu Sorghum – Gu	FSAU post-harvest crop assessment	Data correct. Production failure across the whole of Borama district, affecting all parts of the district to a similar degree.	Good
Crop production: Other cashcrops (khat, tomatoes, fodder)	No information	That the same factors affecting maize and sorghum will have had similar effects on other cashcrops. This may not be the case for fodder (a failed crop may be a good source of fodder) or for khat and tomatoes where production of these crops is irrigated.	Poor – requires verification
Crop sales prices	FSAU price monitoring system	Data correct.	Good
Livestock production: Cattle and shoat herd size No.milking animals /100 adult females Milk outpts	FSAU field assessment	Data correct.	Good

OUTCOME ANALYSIS – PEN AND PAPER

There are a number of ways of undertaking the outcome analysis, of which the simplest is to use pencil and paper. A standard format for pencil and paper calculations was described in Chapter 4 (see **Box 5**) and a set of these formats containing the baseline data for the Somalia examples may be found in the file *\Pencil and paper analysis sheets - example.xls* in the *\Som_ex* sub-directory in the Team Leaders' Supplement Directory, Annex B. In common with the other analysis spreadsheets in this directory, there are links between this file and the baseline storage sheets, *NWA.xls* and *GUP.xls*. Care should be taken not to break these links (see instructions in **Annex A**.)

SCENARIO ANALYSIS SUMMARY

Livelihood Zone	Northwest Agro-Pastoral		Wealth Group		Poor
Baseline year/type	Aug-01 to Jul-02		HH Size		6
Current year/type	Example		% community HHs		40%
Table 1: Food	Baseline	Expandability	Baseline + Expandability	Current Problem	Final Picture
maize - gu	16%		16%	50%	8%
maize - deyr					
sorghum - gu	31%	8%	39%	50%	20%
sorghum - deyr					
cows' milk - gu-ha	3%		3%	25%	1%
cows' milk - de-ji	1%		1%	26%	0%
sheeps' milk - gu-ha	1%		1%	25%	0%
sheeps' milk - de-ji	1%		1%	25%	0%
goats' milk - gu-ha	0%		0%	25%	0%
goats' milk - de-ji	0%		0%	25%	0%
own meat					
gifts	12%	6%	17%	100%	17%
food stocks					
non-staple purchase	20%	-10%	10%	100%	10%
staple purchase	15%				44%
Total	99%				100%
Deficit					0%

Table 2: Income (cash)	Baseline	Expandability	Baseline + Expandability	Current Problem	Final Picture
sorghum sales - gu	70	-70		75%	0
sorghum sales - deyr					
other cashcrop				75%	
cows' milk sales - Gu-Ha	215		215	39%	84
cows' milk sales - De-Ji	84		84	40%	34
cows' ghee/butter sales					
sheep's ghee/butter sales					
cattle sales - export					
cattle sales - local	150	150	300	24%	72
goat sales - export					
goat sales - local	100	50	150	24%	36
ag.labour - gu	600		600	75%	450
ag.labour - deyr					
remittances	150	75	225	100%	225
charcoal	448		448	100%	448
gifts/social support					
loans					
Total	1,817				1349

Note: The unit for cash is thousands of Somaliland Shillings.

The file contains one sheet for each wealth group and each livelihood zone. Three columns of the format are already filled in. These are 'Baseline', 'Expandability' and 'Baseline + Expandability'. So all the user needs to do is to enter the current problem and to calculate the final picture. Two examples are presented here. These are for the Boroma district example – the North-West agro-pastoral and Guban pastoral livelihood zones.

Both examples are for poor households from these livelihood zones, and analyse the outcome resulting from the problem specification prepared above. The steps to complete the analysis are as follows:

1. Transfer the problem specification for each source of food and cash income from the key parameter and problem specification sheet to the 'current problem' column of the calculation format. Set the current problem to 100% for any source of food or cash income not included on the key parameter sheet. This includes non-food purchase.

Table 3: Expenditure (cash)	Baseline		Current Problem	Final Picture
Survival non-food	148		100%	148
Livelihoods protection	952		100%	350
Survival food	145			851
Other	571			0
Total	1,817			1349
Deficit				602

	Cost of 100% kcals				
Table 4: Staple Purchase	baseline cost	Price problem	current cost	cash available	%kcals
sorghum	972	199%	1934	1201	62%

2. Multiply the figures in 'Baseline + Expandability' by the corresponding 'Current problem'% and enter the result in the 'Final picture' column. Do this for all sources of food and cash income, except purchase.

3. Calculate total income (1349 and 915 SS in the two examples) and carry this down from Table 2 to the bottom right-hand cell of Table 3 (i.e. total expenditure).

4. Specify any change in the cost of the survival non-food and livelihoods protection baskets in the 'Current problem' column of Table 3.

5. Multiply baseline survival non-food expenditure by the 'Current problem' % and enter the result in the 'Final Picture' column.

6. Calculate the amount of money available for staple food purchase (= total expenditure – survival non-food expenditure), and carry this down to

SCENARIO ANALYSIS SUMMARY

Livelihood Zone	Guban Pastoral		Wealth Group		Poor
Baseline year/type	Dec'96 to Nov'97		HH Size		6
Current year/type	Example		% community HHs		25%
Table 1: Food	Baseline	Expandability	Baseline + Expandability	Current Problem	Final Picture
camels' milk - gu-ha	5%		5%	27%	1%
camels' milk - de-ji	2%		2%	25%	0.01
sheeps' milk - gu-ha	1%		1%	20%	0%
sheeps' milk - de-ji					
goats' milk - gu-ha	1%		1%	20%	0%
goats' milk - de-ji	1%		1%	20%	0%
own meat	3%		3%	100%	3%
gifts	15%	8%	23%	100%	23%
Survival non-food purchase	35%	-18%	18%	100%	18%
Survival food purchase	40%				37%
Total	103%				83%
Deficit					17%

Table 2: Income (cash)	Baseline	Expandability	Baseline + Expandability	Current Problem	Final Picture
camels' milk sales - Gu-Ha	156		156	42%	66
camels' milk sales - De-Ji	96		96	39%	37
goats' milk sales - Gu-Ha	120		120	31%	37
goats' milk sales - De-Ji	60		60	31%	19
skins	12		12	100%	12
goat sales - export					
goat sales - local	80		80	20%	16
sheep sales - export					
sheep sales - local	640		640	20%	128
remittances					
gifts: goats to sell	400	200	600	100%	600
loans					
Total	1,564				915

Table 4 (cash available).

Table 3: Expenditure (cash)	Baseline		Current Problem	Final Picture
Survival non-food	50		100%	50
Livelihoods protection	490		100%	0
Survival food	624			865
Other	400			0
Total	1,564			915
Deficit				490

Table 4: Survival food purchase	Cost of 100% kcals				
	baseline cost	Price problem	current cost	cash available	%kcals
rice	1559	148%	2307	865	37%

7. Enter the current staple food price problem into Table 4 (price problem) and multiply the baseline cost of 100% of kcals by the price problem to get the current cost of 100% kcals. Divide the amount of cash available for survival food purchase by the current cost of 100% kcals to calculate the % kcals that can be purchased in the current year.

8. Carry the % kcals that can be purchased up to the 'final picture'/purchase row of Table 1 and calculate total food access.

If total food access is less than 100% (as in the Guban pastoral example), then calculate the survival deficit (Table 1). To complete the expenditure analysis, enter the amount of cash available for survival food purchase into Table 3 (under survival food), and enter zero for expenditure on 'livelihoods protection' and 'other' (since it follows that if there is a survival deficit, then there will be no spare cash for either 'livelihoods protection' or 'other' expenditure). Finally, multiply livelihoods protection expenditure in the baseline by the current problem for livelihoods protection expenditure and enter the result under 'deficit' in the 'final picture' column of Table 3 (this is the livelihoods protection deficit).

If total food access is equal to or greater than 100% (as in the North-West agro-pastoral example), then calculate the %kcals that has to be purchased to bring total food up to 100% (44% in the example), and enter this for final picture/survival food purchase. Now multiply this figure by the current cost of 100% kcals in order to estimate current expenditure on survival food and enter this into Table 3 ('final picture'/survival food = 44% x 1934 = 851 in the North-West Agro-pastoral example).

Continuing with Table 3, multiply baseline livelihoods protection expenditure by the current problem for livelihoods protection expenditure and note the result. Now calculate the amount of cash currently available for livelihoods protection expenditure (= total expenditure – survival non-food – survival food). If this is greater than (or equal to) the current cost of the livelihoods protection expenditure basket (just noted), enter the latter figure into 'final picture'/livelihoods protection expenditure. If it is less, then enter the amount of cash available for livelihoods protection expenditure into 'final picture'/livelihoods protection expenditure and enter the difference between the two figures (current cost – cash available) as the 'final picture'/livelihoods protection deficit.

Taking the North-West agro-pastoral example, the amount of cash available for livelihoods protection expenditure is 1349 – 148 – 851 = 350, and the livelihoods protection deficit is 952 x 100% = 952 – 350 = 602.

Finally, calculate expenditure on 'other' as total expenditure –survival non-food – survival food– livelihoods protection .

Summarizing the results:

Poor Households	*Survival deficit*	*Livelihoods protection deficit ('000 SlSh)*
North-West agro-pastoral LZ	0%	602
Guban pastoral LZ	17%	490

In other words, given the current problems specified for Borama district, the conclusion is:

> *Poor households in the North-West agro-pastoral LZ would face a livelihoods protection deficit but no survival deficit, while poor households from the Guban pastoral LZ would face both a livelihoods protection deficit and a survival deficit.*

What these deficits mean in terms of numbers of beneficiaries and amounts of assistance is discussed further in the next section, which deals with the single zone spreadsheet.

OUTCOME ANALYSIS – SINGLE ZONE SPREADSHEET[8]

Running the Outcome Analysis

The single zone spreadsheet is essentially a way of automating the pencil and paper analyses described in the last section. Besides speeding up the calculations, it has two additional advantages:

1) once the problem specification has been entered, the calculations are performed simultaneously for all three wealth groups in the livelihood zone and
2) a set of graphical outputs are automatically generated within the spreadsheet.

Copies of the two example spreadsheets (NWA analysis – example.xls and GUP analysis – example.xls) containing the example problem specifications can be found in the \S*om_ex* directory.

There are links between the single zone spreadsheets and the individual baseline storage sheets. Care should be taken not to break these links (see instructions in Error! Reference source not found.).

Each spreadsheet contains seven pages. Four of these contain the baseline data and perform the calculations, while three are graphics pages. The seven pages are as follows:

Page 1. Poor: The problem is specified on this sheet and the results calculated for poor households.

Page 2. Middle: The problem specified on the poor page is carried over to this page, where the results for middle households are calculated.

Page 3. Rich: The results for better-off or rich middle households are calculated on this sheet, again using the problem specified on the poor page.

Page 4. Very Poor: The results for very poor households are calculated on this sheet, again using the problem specified on the poor page[9].

Page 5. Food: This page contains 4 graphs illustrating food access for very poor, poor, middle and rich households in the reference (or baseline) year and the current year.

Page 6. Income: A similar set of graphics illustrating differences in income between the baseline and current years.

Page 7. Expenditure: A third set of graphics showing patterns of expenditure in the baseline and current years.

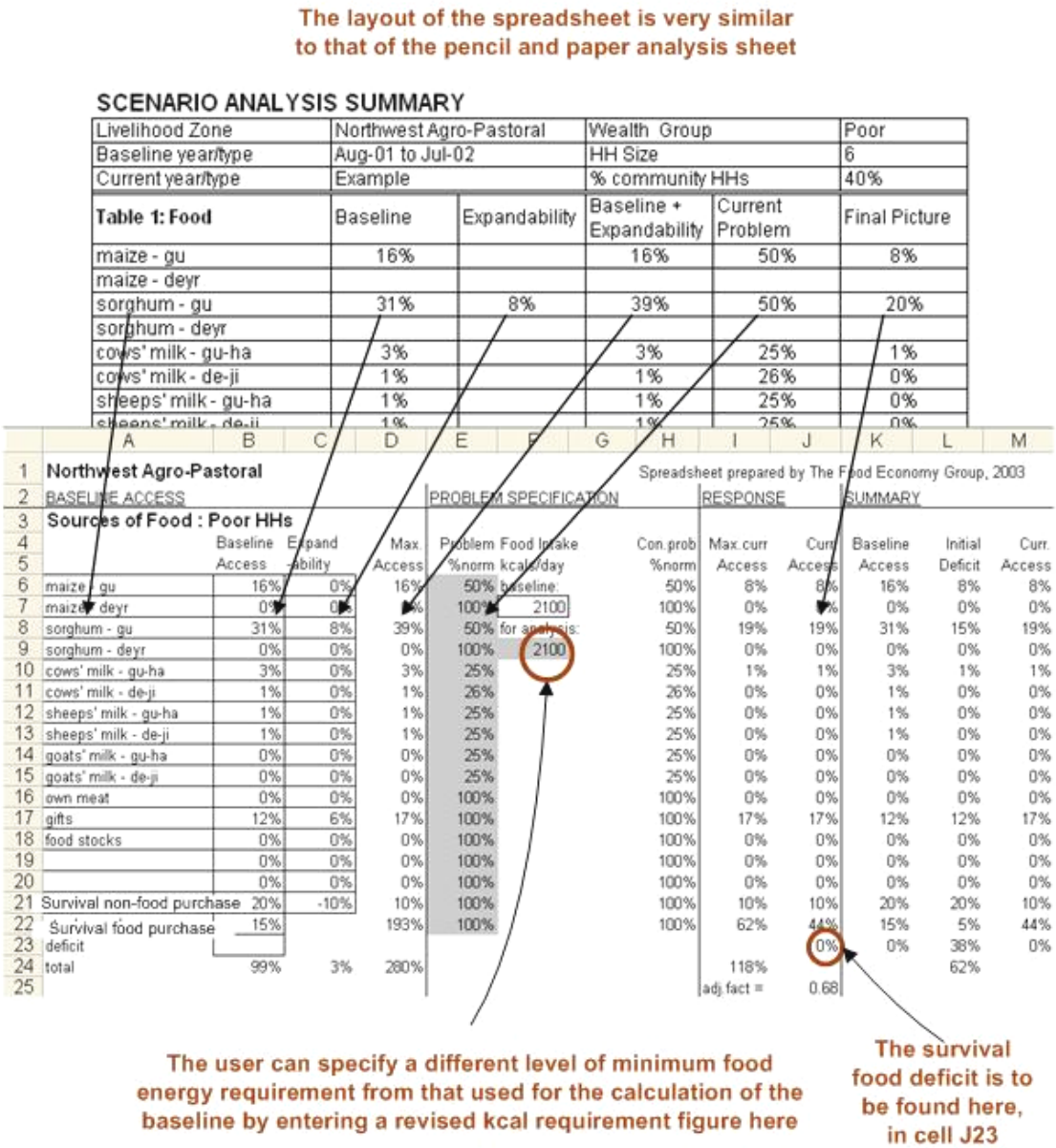
The layout of the first four pages is very similar to the pencil and paper layout described in the previous section. The two examples presented in the last section are re-analysed here using the single zone spreadsheets, so that the layout and results can be compared[10].

[8] For a more comprehensive introduction to the single zone spreadsheet, see 'The Food Economy Spreadsheet – a Training Manual', available from F.E.G

[9] Note: the sheet for the very poor is set as sheet 4 rather than sheet 1 because a very poor group may not be defined for all livelihood zones. There is, on the other hand, a poor group in all livelihood zones.

The single zone spreadsheet is divided horizontally into three sections; from top to bottom: **sources of food**, **income** and **expenditure**; and vertically into four sections, from left to right: **baseline access**, **problem specification**, **response** and **summary**. The response section is equivalent to the 'final picture' column of the pencil and paper analysis. The summary section groups together data on baseline access, the initial deficit (defined below) and current access.

The food section of the spreadsheet



[10] There are minor differences between the results of the pencil and paper and single zone spreadsheet analyses. These are due to the rounding of results in the pencil and paper analysis.

The cash income and expenditure sections of the spreadsheet

Table 2: Income (cash)	Baseline	Expandability	Baseline + Expandability	Current Problem	Final Picture
sorghum sales - gu	70	-70		75%	0
sorghum sales - deyr					
other cashcrop				75%	
cows' milk sales - Gu-Ha	215		215	39%	84
cows' milk sales - De-Ji	84		84	40%	34
cows' ghee/butter sales					

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Northwest Agro-Pastoral									Spreadsheet prepared by The Food Economy Group, 2003			
2	BASELINE ACCESS				PROBLEM SPECIFICATION				RESPONSE		SUMMARY		
27		Baseline	Expand	Max.	Problem	Comm.	Staple	Con.prob	Max.curr	Curr.	Baseline	Initial	Curr.
28	Cash	Access	-ability	Access	%norm	Price	Price	%norm	Access	Access	Access	Deficit	Access
29	sorghum sales - gu	70	-70	0	50%	150%	199%	75%	0	0	4%	3%	0%
30	sorghum sales - deyr	0	0	0	100%	100%	199%	100%	0	0	0%	0%	0%
31	other cashcrop	0	0	0	50%	150%	199%	75%	0	0	0%	0%	0%
32	cows' milk sales - Gu-Ha	215	0	215	25%	155%	199%	39%	83	83	12%	5%	5%
33	cows' milk sales - De-Ji	84	0	84	26%	155%	199%	40%	34	34	5%	2%	2%
34	cows' ghee/butter sales	0	0	0	25%	155%	199%	39%	0	0	0%	0%	0%
35	sheep's ghee/butter sales	0	0	0	25%	155%	199%	39%	0	0	0%	0%	0%
36	cattle sales - export	0	0	0	100%	100%	199%	100%	0	0	0%	0%	0%
37	cattle sales - local	150	150	300	50%	48%	199%	24%	72	72	8%	2%	4%
38	goat sales - export	0	0	0	100%	100%	199%	100%	0	0	0%	0%	0%
39	goat sales - local	100	50	150	50%	48%	199%	24%	36	36	6%	1%	2%
40	ag.labour - gu	600	0	600	75%	100%	199%	75%	450	450	33%	25%	25%
41	ag.labour - deyr	0	0	0	100%	100%	199%	100%	0	0	0%	0%	0%
42	remittances	150	75	225	100%	100%	199%	100%	225	225	8%	8%	12%
43	charcoal	448	0	448	100%	100%	199%	100%	448	448	25%	25%	25%
44	gifts/social support	0	0	0	100%	100%	199%	100%	0	0	0%	0%	0%
45	loans	0	0	0	100%	100%	199%	100%	0	0	0%	0%	0%
46		0	0	0	100%	100%	199%	100%	0	0	0%	0%	0%
47		0	0	0	100%	100%	199%	100%	0	0	0%	0%	0%
48		0	0	0	100%	100%	199%	100%	0	0	0%	0%	0%
49		0	0	0	100%	100%	199%	100%	0	0	0%	0%	0%
50		0	0	0	100%	100%	199%	100%	0	0	0%	0%	0%
51		0	0	0	100%	100%	199%	100%	0	0	0%	0%	0%
52	total:	1,817	205	2,022					1,348	1,348	100%	70%	74%
53													
54	Expenditure : Poor HHs										% of baseline expenditure		
55		Baseline			Problem	Comm.		Con.prob	Max.curr	Curr.	Baseline	Initial	Curr.
56	Cash	Expend			%norm	Price		%norm	Expend	Expend	Expend	Deficit	Expend
57	Survival non-food	148			100%	100%		100%	148	148	8%	8%	8%
58	l/hood. prot.	952			100%	100%		100%	0	352	52%	35%	19%
59	Survival food	145							1,200	848	8%	5%	47%
60	other	571								0	31%	21%	0%
61	total:	1,817							1,348	1,348	100%	70%	74%
62	l/h. prot. deficit								952	600		-17%	-33%
63	Cost of staple												
64	name of staple	sorghum											
65	kg pppd	0.59											
66	HH size	6											
67	cost per kg	0.75											
68	cost of staple	972						199%	1,934				

The livelihoods protection deficit is to be found here, in cell J62

Table 3: Expenditure (cash)	Baseline		Current Problem	Final Picture
Survival non-food	148		100%	148
Livelihoods protection	952		100%	350
Survival food	145			851
Other	571			0
Total	1,817			1349
Deficit				602

Table 4:	Survival food purchase	Cost of 100% kcals			cash available	%kcals
		baseline cost	Price problem	current cost		
sorghum		972	199%	1934	1201	62%

Data on baseline access and expandability are entered into columns B and C of the spreadsheet (the cells with a single black outline). These data are read automatically from the corresponding baseline storage sheets. The problem specification is entered into the shaded cells (columns E, F and G).

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	**Northwest Agro-Pastoral**							Spreadsheet prepared by The Food Economy Group, 2003					
2	BASELINE ACCESS				PROBLEM SPECIFICATION				RESPONSE		SUMMARY		
3	**Sources of Food : Poor HHs**												
4		Baseline	Expand	Max.	Problem	Food Intake		Con.prob	Max.curr	Curr.	Baseline	Initial	Curr.
5		Access	-ability	Access	%norm	kcals/day		%norm	Access	Access	Access	Deficit	Access
6	maize - gu	16%	0%	16%	50%	baseline:		50%	8%	8%	16%	8%	8%
7	maize - deyr	0%	0%	0%	100%	2100		100%	0%	0%	0%	0%	0%

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	**Northwest Agro-Pastoral**							Spreadsheet prepared by The Food Economy Group, 2003					
2	BASELINE ACCESS				PROBLEM SPECIFICATION				RESPONSE		SUMMARY		
26	**Income : Poor HHs**										% of baseline income		
27		Baseline	Expand	Max.	Problem	Comm.	Staple	Con.prob	Max.curr	Curr.	Baseline	Initial	Curr.
28	Cash	Access	-ability	Access	%norm	Price	Price	%norm	Access	Access	Access	Deficit	Access
29	sorghum sales - gu	70	-70	0	50%	150%	199%	75%	0	0	4%	3%	0%
30	sorghum sales - deyr	0	0	0	100%	100%	199%	100%	0	0	0%	0%	0%
31	other cashcrop	0	0	0	50%	150%	199%	75%	0	0	0%	0%	0%

The two components of the income problem (quantity and price) are entered separately in columns E and F, and the price problem for staple food purchase is entered into the one shaded cell in column G.

All except the grey-shaded cells are locked on the single zone spreadsheets, so as to prevent accidental erasure of a cell formula or any of the cell contents. The information in these grey-shaded cells can easily be changed to look at various scenarios (e.g. different levels of crop production or different levels of price change).

The various columns in the spreadsheet contain the following information:

(B) Baseline Access: Food, cash income and expenditure in the reference year, derived from the baseline assessment. Food is expressed as a percentage of total household food needs (based on a per capita requirement of 2,100 kcals/day). Cash income and expenditure are expressed in thousands of Somaliland shillings per year.

(C) Expandability: The extent to which each food or cash income source can be expanded, expressed either in food or cash terms.

(D) Maximum Access: The sum of Baseline Access + Expandability.

(E) Problem (%normal):Access to each source of food or cash income in the current year, expressed as a % of baseline access (the quantity problem).

(F) Commodity Price: The % of the reference price at which the product (livestock, labour etc.) is sold in the current year (the price problem).

(G) Staple Price: The % of the reference price at which staple food is purchased in the current year (the staple price problem). (This is the same as 'survival food'.)

(H) Consolidated Problem (%normal): The final problem specification, calculated for cash income as the product of the quantity and price problems. Also takes into account any change in the survival food requirement specified in cell F9.

(I) Maximum Current Access: The product of Maximum Access x Consolidated Problem

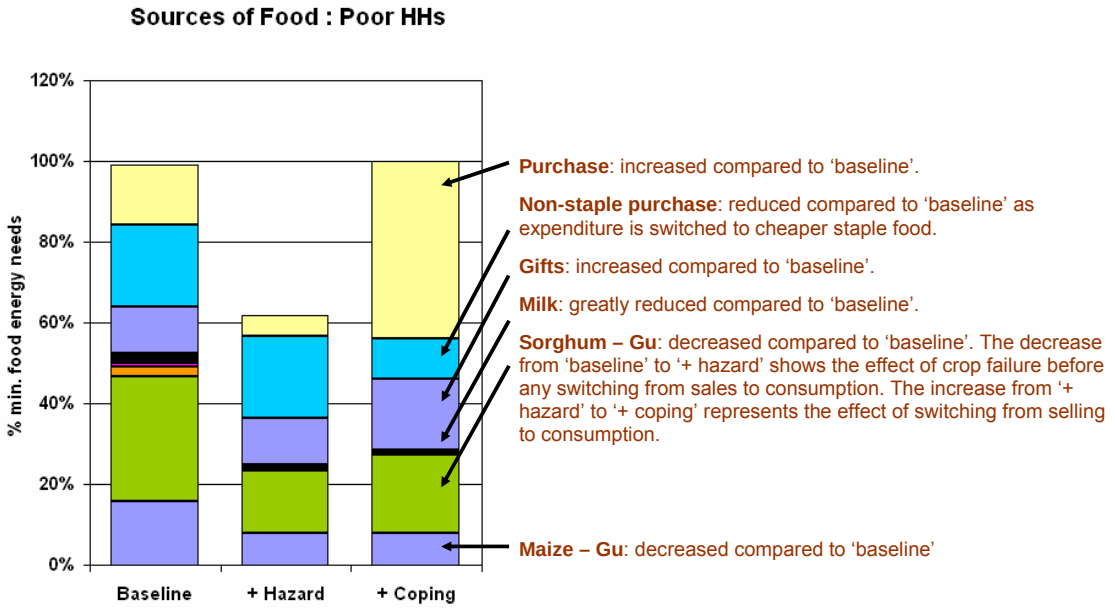
(J) Current Access: The final result, after taking into consideration the expansion of different sources of food and cash income. Where totalling maximum current *food* access gives a figure of less than 100%, current access is equal to maximum current access. Where totalling maximum *food* current access gives a figure of more than 100%, the assumption is made, for the purposes of calculating current food access, that households will not consume more than 100% of food needs, and the expansion of the various food and cash income sources is scaled down accordingly.

(L) Initial Deficit: This indicates the effect of the current problem on Baseline Access, before the expansion of any food or income source. It is calculated as the product of Baseline Access x Consolidated Problem.

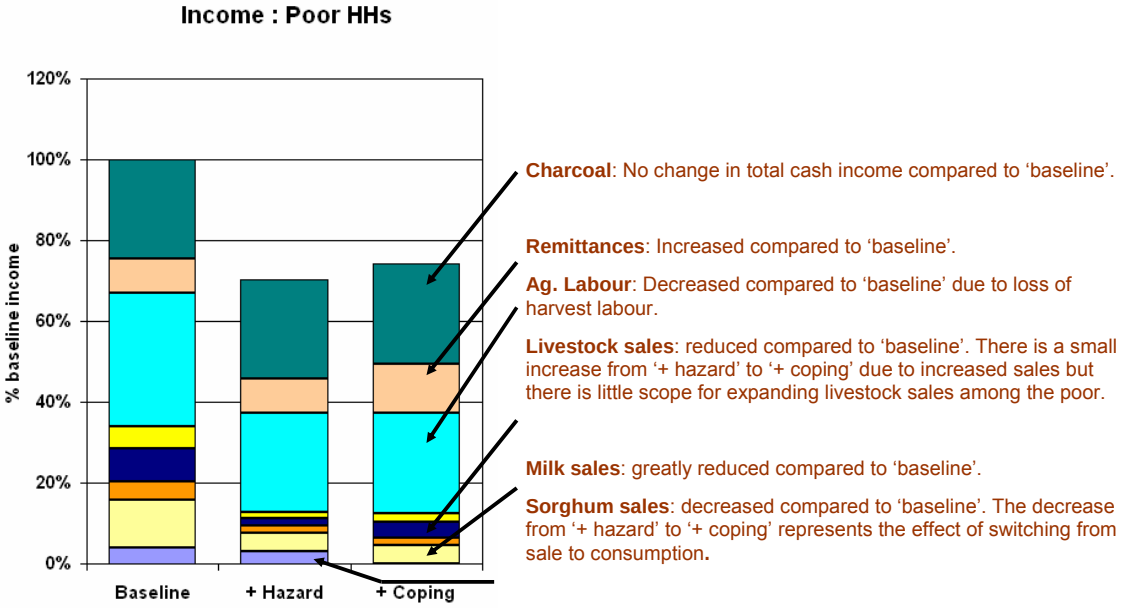
The graphics pages

There are three graphics pages, one each for food, income and expenditure. The graphs on these pages allow the user to easily and rapidly follow the steps in the analysis, beginning with the baseline year, plus the hazard, plus coping. The three graphs presented here show the results for poor households from the North-West agro-pastoral example.

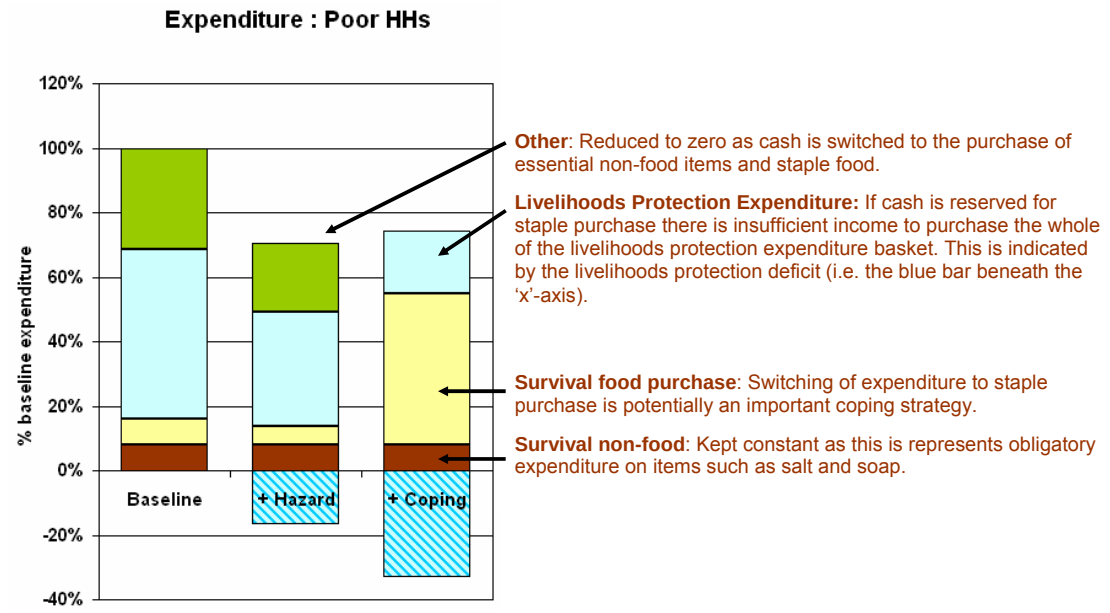
Food: The graphic shows the importance of own sorghum and maize production, purchase and gifts for poor households in the baseline year. By comparing the 'baseline' and '+ Hazrd' graphs the user can see the effects of the hazard before any of the coping strategies begin to take effect. The main effects of the hazard are to reduce access to food from own crops and to greatly reduce staple food purchasing power (due to the reduction in cash income and the increase in staple prices – see below). By comparing the '+ Hazard' and '+ Coping' graphs the user can see the effects of the various coping strategies (i.e. the effect of expandability). The main strategy is to increase staple food purchase (as cash income is expanded and expenditure is switched from other items towards staple food – see below). Other responses include an increase in gifts and a switch from selling to consuming sorghum.



Income: The three most important sources of cash income for poor households from the North-West agro-pastoral LZ are agricultural labour, sale of charcoal and sale of cows' milk. The effect of the hazard is to reduce cash income from agricultural labour (due to crop failure and the loss of harvest labour) and from the sale of milk (due to reduced production). The poor have relatively little ability to expand cash income – there is some increase in remittances and some increase in livestock sales, but these are relatively minor.



Expenditure: In the baseline year, expenditure is divided between four categories; minimum non-food, staple, livelihoods protection and other. In the current year, total expenditure falls in line with total income, and – provided cash is switched to staple purchase – there is a significant livelihoods protection deficit.



The Guban Pastoral Example

This is reproduced below, for comparison with the pencil and paper analysis presented in the last section. The figures in the 'maximum current access' column are very similar to those in the 'final picture' column of the pencil and paper analysis.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	**Guban Pastoral**								Spreadsheet prepared by The Food Economy Group, 2003				
2	BASELINE ACCESS				PROBLEM SPECIFICATION				RESPONSE		SUMMARY		
3	**Sources of Food : Poor HHs**												
4		Baseline	Expand	Max.	Problem	Food Intake		Con.prob	Max.curr	Curr.	Baseline	Initial	Curr.
5		Access	-ability	Access	%norm	kcals/day		%norm	Access	Access	Access	Deficit	Access
6	camels' milk - gu-ha	5%	0%	5%	27%	baseline:		27%	1%	1%	5%	1%	1%
7	camels' milk - de-ji	2%	0%	2%	25%	2100		25%	1%	1%	2%	1%	1%
8	sheeps' milk - gu-ha	1%	0%	1%	20%	for analysis:		20%	0%	0%	1%	0%	0%
9	sheeps' milk - de-ji	0%	0%	0%	20%	2100		20%	0%	0%	0%	0%	0%
10	goats' milk - gu-ha	1%	0%	1%	20%			20%	0%	0%	1%	0%	0%
11	goats' milk - de-ji	1%	0%	1%	20%			20%	0%	0%	1%	0%	0%
12	own meat	3%	0%	3%	100%			100%	3%	3%	3%	3%	3%
13	gifts	15%	8%	23%	100%			100%	23%	23%	15%	15%	23%
14		0%	0%	0%	100%			100%	0%	0%	0%	0%	0%
15		0%	0%	0%	100%			100%	0%	0%	0%	0%	0%
16		0%	0%	0%	100%			100%	0%	0%	0%	0%	0%
17		0%	0%	0%	100%			100%	0%	0%	0%	0%	0%
18		0%	0%	0%	100%			100%	0%	0%	0%	0%	0%
19		0%	0%	0%	100%			100%	0%	0%	0%	0%	0%
20		0%	0%	0%	100%			100%	0%	0%	0%	0%	0%
21	non-staple purchase	35%	-18%	18%	100%			100%	18%	18%	35%	35%	18%
22	staple purchase	40%		110%	100%			100%	37%	37%	40%	12%	37%
23	deficit									17%	0%	33%	17%
24	total	103%	-10%	163%					83%			67%	
25									adj.fact =	2.09			
26	**Income : Poor HHs**										% of baseline income		
27		Baseline	Expand	Max.	Problem	Comm.	Staple	Con.prob	Max.curr	Curr.	Baseline	Initial	Curr.
28	Cash	Access	-ability	Access	%norm	Price	Price	%norm	Access	Access	Access	Deficit	Access
29	camels' milk sales - Gu-Ha	156	0	156	27%	155%	148%	42%	65	65	10%	4%	4%
30	camels' milk sales - De-Ji	96	0	96	25%	155%	148%	39%	37	37	6%	2%	2%
31	goats' milk sales - Gu-Ha	120	0	120	20%	155%	148%	31%	37	37	8%	2%	2%
32	goats' milk sales - De-Ji	60	0	60	20%	155%	148%	31%	19	19	4%	1%	1%
33	skins	12	0	12	100%	100%	148%	100%	12	12	1%	1%	1%
34	goat sales - export	0	0	0	41%	48%	148%	20%	0	0	0%	0%	0%
35	goat sales - local	80	0	80	41%	48%	148%	20%	16	16	5%	1%	1%
36	sheep sales - export	0	0	0	41%	48%	148%	20%	0	0	0%	0%	0%
37	sheep sales - local	640	0	640	41%	48%	148%	20%	126	126	41%	8%	8%
38	remittances	0	0	0	100%	100%	148%	100%	0	0	0%	0%	0%
39	gifts: goats to sell	400	200	600	100%	100%	148%	100%	600	600	26%	26%	38%
40	loans	0	0	0	100%	100%	148%	100%	0	0	0%	0%	0%
41		0	0	0	100%	100%	148%	100%	0	0	0%	0%	0%
42		0	0	0	100%	100%	148%	100%	0	0	0%	0%	0%
43		0	0	0	100%	100%	148%	100%	0	0	0%	0%	0%
44		0	0	0	100%	100%	148%	100%	0	0	0%	0%	0%
45		0	0	0	100%	100%	148%	100%	0	0	0%	0%	0%
46		0	0	0	100%	100%	148%	100%	0	0	0%	0%	0%
47		0	0	0	100%	100%	148%	100%	0	0	0%	0%	0%
48		0	0	0	100%	100%	148%	100%	0	0	0%	0%	0%
49		0	0	0	100%	100%	148%	100%	0	0	0%	0%	0%
50		0	0	0	100%	100%	148%	100%	0	0	0%	0%	0%
51		0	0	0	100%	100%	148%	100%	0	0	0%	0%	0%
52	total:	1,564	200	1,764					912	912	100%	46%	58%
53													

54	**Expenditure : Poor HHs**								% of baseline expenditure		
55		Baseline	Problem	Comm.		Con.prob	Max.curr	Curr.	Baseline	Initial	Curr.
56	Cash	Expend	%norm	Price		%norm	Expend	Expend	Expend	Deficit	Expend
57	min.non-food	50	100%	100%		100%	50	50	3%	3%	3%
58	l/hood. prot.	490	100%	100%		100%	0	0	31%	14%	0%
59	staple	624					862	862	40%	17%	55%
60	other	400						0	26%	11%	0%
61	total:	1,564					912	912	100%	46%	58%
62	l/h. prot. deficit						490	490		-18%	-31%
63	Cost of staple										
64	name of staple	rice									
65	kg pppd	0.59									
66	HH size	6									
67	cost per kg	1.20									
68	cost of staple	1,559				148%	2,313				
69											
70	Exchange rate ($1 = amount of local currency)										
71											
72											

Calculating Assistance Requirements

The outputs from the single zone spreadsheet are estimates of the survival and livelihoods protection deficits faced by each wealth group in each livelihood zone. The results for the Borama district example are summarised below.

Box 21. Summary results for Borama District

	North-West agro-pastoral LZ		*Guban pastoral LZ*	
Wealth group	**Survival deficit (%kcals)**	**Livelihoods protection deficit ('000 SlSh per household)**	**Survival deficit (%kcals)**	**Livelihoods protection deficit ('000 SlSh per household)**
Poor	0%	600	17%	490
Middle	0%	1290	36%	728
Rich	0%	0	9%	898

The next step is to translate these deficits into meaningful numbers of beneficiaries and amounts of assistance at district level. This is done using a further spreadsheet, the assistance calculation sheet. A completed copy containing the example results may be found in the *\Som_ex* directory (assistance calculation sheet.xls). This is reproduced below and the various steps in the calculation explained.

The sheet is set up to generate results for a single district containing up to three livelihood zones. The data entry cells in the spreadsheet are shaded either green or yellow. Data need be entered into the green cells once only, when the assistance calculation sheet is first set up for a new district. These cells contain data on population, household size and the wealth breakdown. Results from the current analysis (i.e. the food and livelihoods protection deficits, and a title for the current analysis) are entered into the yellow cells for each new analysis. Protecting the sheet (see notes on protection at the end of this section) prevents data entry into all except the yellow cells.

	A	B	C	D	E	F	G	H	I	J	K
1	**WORKSHEET FOR TRANSLATING DEFICITS INTO BENEFICIARY NUMBERS AND FOOD/CASH REQUIREMENTS**										
2											
3	**DISTRICT**		**Boroma example**								
4											
5	**POPULATION AND WEALTH BREAKDOWN**										
6											
7	**DISTRICT RURAL POPULATION BY LZ**						**LZ CODES AND NAMES**				
8			LZ				NWA	North-West Agro-Pastoral			
9			NWA	GUP			GUP	Guban Pastoral			
10	Total	132,156	66,078	66,078							
11											
12	**WEALTH BREAKDOWN BY LZ**										
13	**Calculate the % population in each wealth group from % households in each wealth group**										
14			LZ								
15			NWA			GUP					
16	**% Households**		a: %HHs	b:HH size	c: a) x b)	a: %HHs	b:HH size	c: a) x b)	a: %HHs	b:HH size	c: a) x b)
17	V.Poor	p:			0			0			0
18	Poor	q:	40%	6	240	25%	6	150			0
19	Middle	r:	35%	7	245	55%	8	440			0
20	Rich	s:	25%	9	225	20%	11	220			0
21	Total		100%		710	100%		810	0%		0
22	Multiply %HHs x HH size and enter result in col c. Use figures in col c to calculate % population.										
23	%popn in very poor group = p ÷ total x 100					%popn in middle group = r ÷ total x 100					
24	%popn in poor group = q ÷ total x 100					%popn in better-off group = s ÷ total x 100					

Data on district population by LZ, and wealth breakdown and household size data for each LZ are entered into this first section of the spreadsheet. Since the wealth breakdown is expressed in terms of percentage of households in each wealth group, a calculation is required to convert these results into percentage of the population. The details of the calculation are explained in rows 22 to 24 of the spreadsheet. The %population figures are then used to prepare a breakdown of the district population by LZ and wealth group.

	A	B	C	D	E	F
25						
26			LZ			
27	**% Population**		NWA	GUP	0	
28	V.Poor		0%	0%	0%	
29	Poor		34%	19%	0%	
30	Middle		35%	54%	0%	
31	Rich		32%	27%	0%	
32	Total		100%	100%	0%	
33						
34	**DISTRICT RURAL POPULATION BY LZ**					
35	**Calculate the district rural population by wealth group**					
36			LZ			
37			NWA	GUP	0	
38	V.Poor		0	0	0	
39	Poor		22,336	12,237	0	
40	Middle		22,802	35,894	0	
41	Rich		20,940	17,947	0	
42	Total		66,078	66,078	0	
43	Enter LZ popn in the total row, and calculate the popn of each wealth group as total x %popn in WG ÷ 100					

The remaining calculations are performed in a series of steps that are explained within the spreadsheet.

Steps 1 and 2 deal with the number of people facing a deficit (i.e. the number of beneficiaries).

SURVIVAL DEFICIT

Step 1: Enter results from outcome analysis

A. ESTIMATED SURVIVAL DEFICIT BY WEALTH GROUP

% Food Needs	LZ		
	NWA	GUP	0
V.Poor			
Poor	0%	17%	
Middle	0%	36%	
Rich	0%	9%	

Step 2: Calculate the popn facing a deficit (= no. people in each wealth group facing a deficit)

B. ESTIMATED RURAL POPULATION FACING A SURVIVAL DEFICIT, BY LZ

	LZ		
	NWA	GUP	0
V.Poor	0	0	0
Poor	0	12,237	0
Middle	0	35,894	0
Rich	0	17,947	0
Total	0	66,078	0
District total	**66,078**	**beneficiaries**	

LIVELIHOODS PROTECTION DEFICIT

E. ESTIMATED LIVELIHOODS PROTECTION DEFICIT BY WEALTH GROUP

'000 SS per household	LZ		
	NWA	GUP	0
V.Poor			
Poor	600	490	
Middle	1,290	728	
Rich	0	898	

F. ESTIMATED RURAL POPULATION FACING A LIVELIHOODS PROTECTION DEFICIT, BY LZ

	LZ		
	NWA	GUP	0
V.Poor	0	0	0
Poor	22,336	12,237	0
Middle	22,802	35,894	0
Rich	0	17,947	0
Total	45,138	66,078	0
District total	**111,216**	**beneficiaries**	

Step 3 deals with the amount of food required to fill the survival deficit and the amount of cash to fill the livelihoods protection deficit.

Step 3a: Calculate the food required to fill the survival deficit

= % deficit ÷ 100 (Table A)
x population facing a deficit (Table B)
x ration level (Table C) x 365 days
÷ 1000 (to convert to MT)

C. TONS REQUIRED TO FILL SURVIVAL DEFICIT IN TABLE B

ration level (kg grain pppd) = 0.58

	LZ		
	NWA	GUP	0
V.Poor	0	0	0
Poor	0	440	0
Middle	0	2,736	0
Rich	0	342	0
Total	0	3,518	0
District total	**3,518**	**MT grain**	

Step 3b: Calculate the cash required to fill the livelihoods protection deficit

= deficit per household (Table E)
x population facing a deficit (Table F)
÷ no.people per household (Table G)
÷ 1000 (to convert to '000,000 SS)

G. HOUSEHOLD SIZE, BY LZ AND WEALTH

	LZ		
	NWA	GUP	0
V.Poor	0	0	0
Poor	6	6	0
Middle	7	8	0
Rich	9	11	0

H. CASH OR CASH EQUIVALENT REQUIRED TO FILL LIVELIHOODS PROTECTION DEFICIT IN TABLE B, in '000,000s

	LZ		
	NWA	GUP	0
V.Poor	0	0	0
Poor	2,234	999	0
Middle	4,202	3,266	0
Rich	0	1,465	0
Total	6,436	5,731	0
District total	**12,166**	**SS ('000,000)**	

Since cash is also a potential means of filling a survival deficit (and food can be used to fill a livelihoods protection deficit), two further calculations are completed at **Step 4,** to estimate the amount of cash required to fill the survival deficit, and the amount of food to fill the livelihoods protection deficit.

	A	B	C	D	E	F	G	H	I	J	K
93	**Step 4a: Calculate the cash required ('000,000 SS) to fill the survival deficit**						**Step 4b: Calculate the food required to fill the livelihoods protection deficit**				
94	= tons food (Table C) x 1000 (to convert to kg)						= cash required (Table H) x 1,000,000				
95	x price per kg (Table D)						÷ price per kg (Table I) ÷ 1000 (to convert MT)				
96	÷ 1,000,000 (to convert to '000,000 SS)										
97	(Note: Look up the current year price of staple in the outcome analysis spreadsheet)										
98											
99	**D. CASH OR CASH EQUIVALENT REQUIRED TO FILL SURVIVAL DEFICIT IN TABLE C, in '000s**						**LIVELIHOODS PROTECTION DEFICIT IN TABLE G**				
100			LZ						LZ		
101	est. cost of staple,		NWA	GUP	0		est. cost of staple,		NWA	GUP	0
102	SS ('000)/kg (curr.yea		2800	2800	2800		SS ('000)/kg (curr.yea		2800	2800	2800
103		V.Poor	0	0	0			V.Poor	0	0	0
104		Poor	0	1,233	0			Poor	798	357	0
105		Middle	0	7,660	0			Middle	1,501	1,167	0
106		Rich	0	957	0			Rich	0	523	0
107	Total		0	9,850	0		Total		2,298	2,047	0
108	**District total**		**9,850**	**SS ('000,000)**			**District total**		**4,345**	**MT grain**	
109											

A summary of district results is provided at the bottom of the sheet, together with a set of notes on types of intervention, reproduced below.

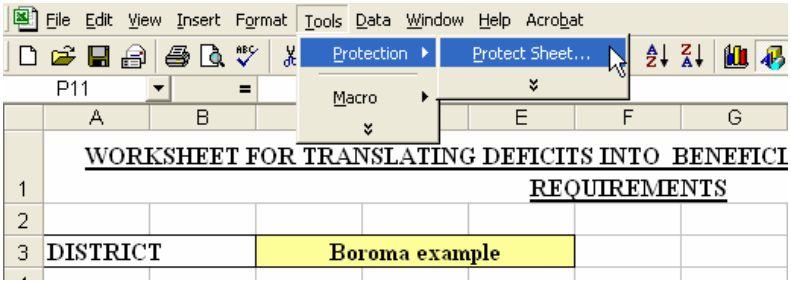
110	**DISTRICT SUMMARY**							
111		Survival deficit		Livelihoods protection deficit		Total		
112	**No. Beneficiaries**		66,078		111,216		111,216	
113	**Assistance Requirements**							
114	**Food** required to fill deficit (MT)	MT	3,518	MT	4,345	MT	7,863	
115	**OR Cash required to fill deficit ('000,000 SS)**	OR SS	9,850	OR SS	12,166	OR SS	22,017	
116	Note:							
117	A survival deficit can be filled by either food or cash (provided the distribution of cash will not cause local inflation and will encourage the import of food into the district at reasonable prices).							
118	A survival deficit could also be filled by a market intervention that reduces market prices.							
119	A cash deficit can be filled with cash or by the distribution of items that will release money for essential non-food expenditures. These items could include inputs such as fertilizer, contributions to the cost of health care and/or education. Food distribution can also be used to fill a livelihoods protection deficit, since this will reduce households' need to purchase staple food, releasing money to be spent on non-food items.							
120	Beneficiaries with a survival deficit also face a livelihoods protection deficit, so the total number of beneficiaries is equal to the number facing a livelihoods protection deficit							
121								
122	Format Design: USAID FEWS NET Project, 2005							

How to protect the worksheet:

- Select Tools from the menu bar
- Select Protection[1]
- Select Protect Sheet

The Protect Sheet dialogue box will appear.

- Click OK to protect the sheet.

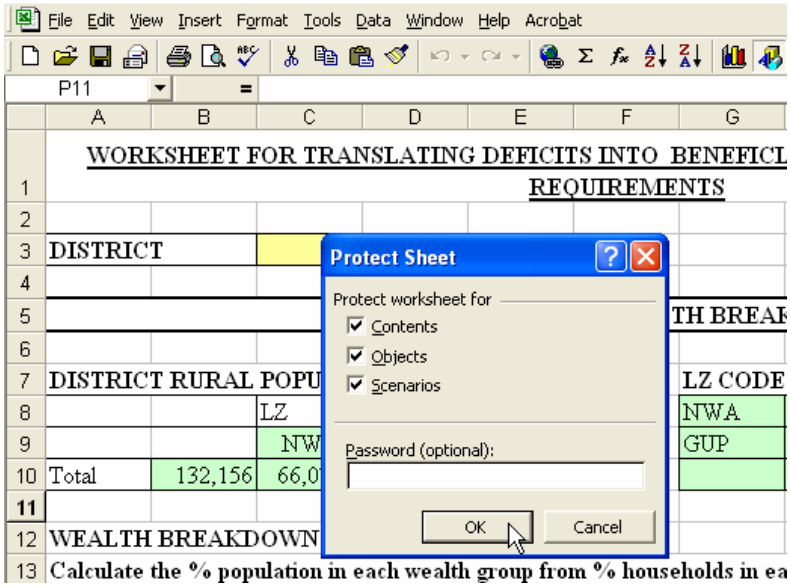


How to unprotect the worksheet:

- Select Tools from the menu bar
- Select Protection[1]
- Select Unprotect sheet

Note:

[1] If the sheet is unprotected, the Protect Sheet option is displayed, otherwise the Unprotect Sheet option is displayed.



OUTCOME ANALYSIS – INTEGRATED SPREADSHEET

Introduction

The single zone spreadsheets are designed for the analysis of a single district or livelihood zone. They are therefore most useful when analysing a localised problem affecting a small number of districts/zones. However, the analysis becomes unmanageable if an attempt is made to scale up to sub-national or national level using the single zone spreadsheets and the integrated spreadsheet has been developed for this purpose.

The integrated spreadsheet has a number of significant advantages over the single zone spreadsheet, detailed below. Most importantly, it provides a user-friendly link between existing monitoring data, gathered by administrative unit, and baseline information, which applies to livelihood zone boundaries. This makes it possible for in-country analysts to use the livelihood baselines on a regular basis for outcome analysis. Specifically, the integrated spreadsheet enables the following:

- Sub-national or national level analysis can be undertaken within a single spreadsheet
- The integrated spreadsheet accepts basic data on district level crop production and market prices and uses these data to calculate the 'problem'. This is in contrast to the single zone spreadsheet, where the user has to calculate the problem before entering it into the spreadsheet.
- The integrated spreadsheet accepts data by district (or by market in the case of market prices), and generates output by district.
- The integrated spreadsheet generates estimates of the number of people facing a deficit, by district, and the overall assistance requirements, again by district. These are the primary outputs required by decision-makers.

Scaling up HEA

The integrated spreadsheet links – in a user-friendly way - existing monitoring data, gathered by district, to baseline information, gathered by livelihood zone.

The basic **input** into the integrated spreadsheet consists of data that help define current access to food and non-food goods and services, such as data on crop production (entered by district) and prices of key commodities (entered by market). This is the type of data that most government monitoring systems already gather (or are supposed to gather) and very little additional training is required to input this information into the integrated spreadsheet.

The primary **outputs** are estimates of the numbers of beneficiaries facing food and livelihoods protection deficits, by district and livelihood zone, and of the amounts of food and cash assistance required to address these deficits – given current crop production levels, market prices, etc, and taking into account underlying livelihood patterns. These data can be used in a number of ways:

- to indicate the areas of greatest need;
- to calculate the number of people requiring assistance in each district and livelihood zone;
- to calculate the total food or expenditure gap and therefore food aid or cash needs, or;
- to identify areas where further follow-up and field work are required.

Two versions of the integrated spreadsheet (IS) are available, one for agricultural areas and one for agro-pastoral and pastoral areas. This section describes the agro-pastoral/pastoral IS. The structure of the two integrated spreadsheets is very similar, the only differences

being a) that the agricultural spreadsheet has more space for crops and b) the agro-pastoral/pastoral sheet has more space for livestock (i.e. it can accommodate more types of livestock and more livestock products).

The integrated spreadsheet (IS) has a maximum capacity of up to 20 districts and 12 livelihood zones. There are 8 separate sheets:

Table 10. Integrated Spreadsheet contents

Sheet	*Contents*
B (baselines)	The baseline data
	The calculations of maximum current access (i.e. it does the job of the single zone spreadsheet but for up to 20 districts X 12 LZs
P (population)	data on population by LZ and district
	wealth breakdown and household size information by LZ and district
	An exchange rate table (only required if more than one currency is used within the area covered by the IS)
C (crops)	This is where the user enters data on current crop production. The sheet contains the reference year data required to specify the current crop production problem, and performs the calculations.
L (livestock)	This is where the user enters data on current livestock production. The sheet contains the reference year data required to specify the current livestock production problem, and performs the calculations.
M (markets)	This is where the user enters data on current market prices. The sheet contains the reference year data required to specify current year market price problems, and performs the required calculations.
O (other)	space to specify a problem of access to other sources of food and income (e.g. quantity of gifts, labour etc.)
	space to enter other basic parameters for the analysis (e.g. to exclude certain types of coping strategy from the analysis)
R (results)	Contains a summary of results, by district and livelihood zone.
G (graphics)	Allows the user to plot graphs for selected districts, livelihood zones and wealth groups.

An example integrated spreadsheet containing data for two neighbouring districts, Boroma and Baki, is provided in the *\Som_ex* directory of the CD. This spreadsheet is described in further detail below.

Running a 'Problem'

This section of the guide takes the user through the procedure for running a 'problem', using the same example as elsewhere in this guide. The only difference is the addition of a second district, Baki, which also contains the two example livelihood zones, NWA and GUP. The problem entered for Baki is the same as that for Boroma. The sheets that are used to 'run' the problem are listed in the table to the right. These sheets will now be described in detail. The contents of the remaining sheets (the baselines and populations pages) are described later in this section.

Shading of the cells in the spreadsheet

Cells in the spreadsheet are shaded yellow, green or blue, or are left unshaded. Yellow and green cells are the cells into which the user enters data. Blue shading signals a cross-check for the user to examine. Un-shaded cells contain text, formulae or are blank.

Sheets Used to Run a 'Problem'

To run a 'problem' the user enters data to define the problem into the following sheets:	The results of the analysis can be found in:
Sheet C – Crops	**Sheet R – Results tables**
Sheet L – Livestock	**Sheet G – Graphics**
Sheet M – Markets	
Sheet O – Other	

Data for the current problem (e.g. current crop production, current prices) are entered into the yellow-shaded cells. These are the only cells that the user needs to fill when running a current problem. If a yellow cell is left blank, the default for problem specification is always 100%.

The green shaded cells need to be filled once only, when the spreadsheet is first set up. These cells contain the reference year monitoring data used to calculate the current problem, and also basic data such as the names of districts and livelihood zones included in the spreadsheet, the population by district and livelihood zone, etc. Once data have been entered into these cells, the spreadsheet should be protected (i.e. locked) to prevent any of the data in these cells being accidentally erased (see page 57 for how to protect a spreadsheet). Once the spreadsheet has been protected, the only cells into which the user can enter data are the yellow cells.

Entering the crop production problem (Sheet C)

The agro-pastoral/pastoral IS has space to enter 10 crops, arranged one below the other on sheet C. For each crop there are three tables:

a) A table in which to enter current year crop production (cols A to F)
b) A table showing the problem specification by district and LZ (cols H to S)
c) A table containing crop production data for the reference year (cols U to AI).

Crops included in the Somalia IS:
1. maize - gu
2. maize - de
3. sorghum - gu
4. sorghum - de
5. cowpeas - gu
6. cowpeas - de
7. sesame
8. groundnuts
9. fruit/veg - gu
10. fruit/veg - de

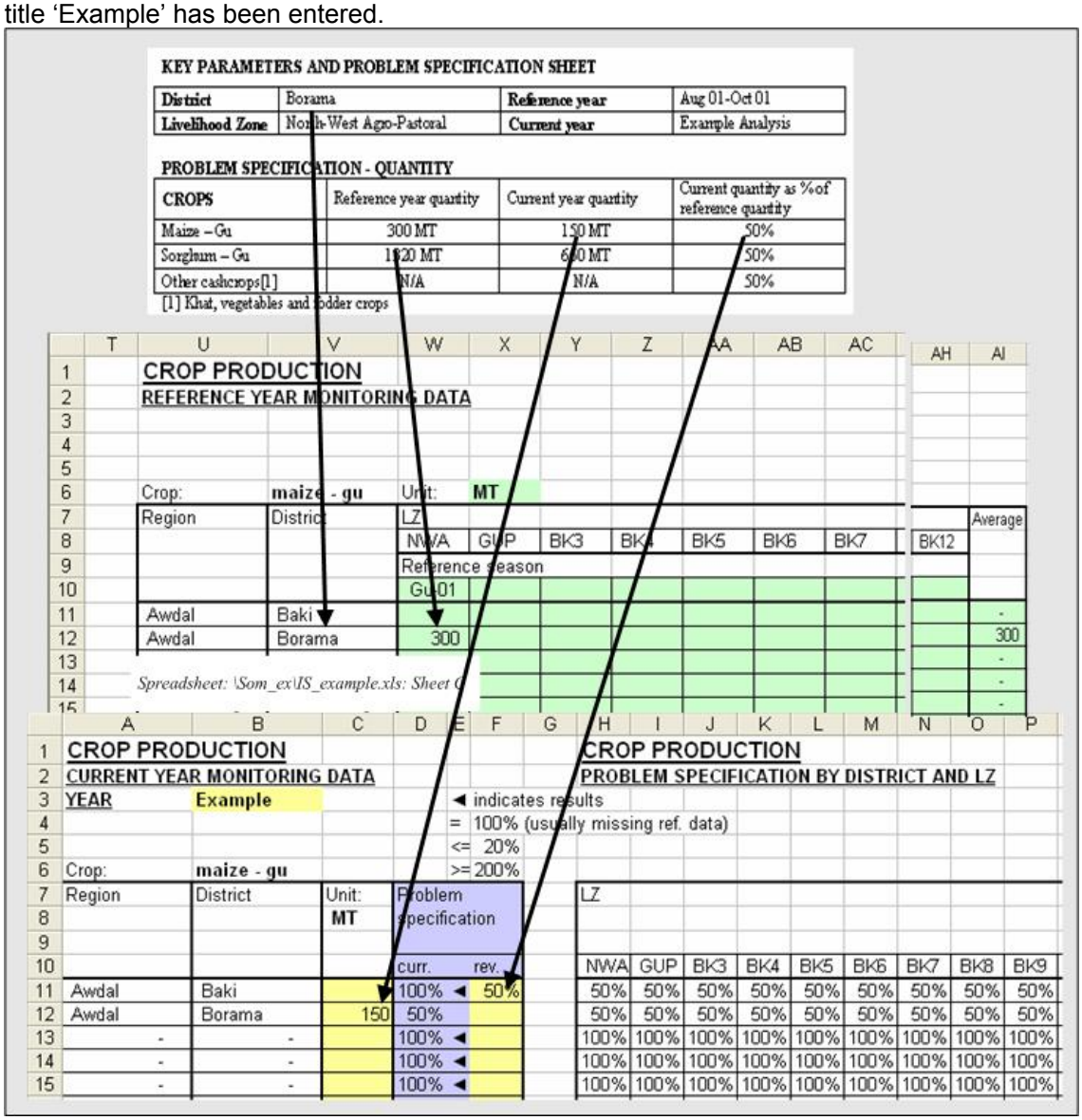
These three tables are reproduced below for the first of the crops in the example IS – *gu* season maize - together with part of the corresponding key parameter and problem specification sheet, showing the relationship between the two.

Beginning with the reference year production table, the following information is to be found within the green-shaded cells:

1. the unit of measurement (MT in the example)
2. the title of the reference season for each livelihood zone (Gu-01 for NWA)
3. district crop production in the reference season (300 MT for Boroma in Gu-01)

There is also a column for average production for the district (col AI), which in the example is set to reference year production for NWA, i.e. 300 MT[11].

Returning now to the top left-hand corner of sheet C, the first of the yellow cells to fill is B3, the title for the current analysis. Usually this will be a year (e.g. 2005-06), but in this case the title 'Example' has been entered.



The next step is to enter data on current year production into column C (150 MT for Boroma). The spreadsheet then calculates current production as a percentage of reference, returning a result for each district in the blue-shaded cells of column D[12]. This gives the user the chance to review the problem specifications, and, if necessary, override a figure that is

[11] The reference production table is designed so that production can be specified separately for each LZ. This is necessary because the reference year may differ from one baseline to another. The default for calculating 'average' production for the district (col AI) is to take the average of all the reference year data entered into the table for a particular district. However, if any of the reference years are poor, it may be better to enter a long-term average for production into this column.

[12] The figure in the blue-shaded cell is calculated as current production ÷ average production (from col AI). Note however that the problem specification actually used in the outcome analysis is always specific to the LZ and is calculated as current production ÷ reference production for the LZ.

unrealistically high or low[13]. If the user chooses to override the calculated result, this can be done by entering a revised percentage into the second yellow shaded column, col F.

This column can also be used to enter an estimated problem for a district for which there is no data, e.g. Baki in the example (Baki is not included in the annual crop assessment for Somalia, but borders Boroma, and can be assumed to have the same crop production problem as Boroma). This is also the standard method for entering problem specifications for entire crops for which no reference year data are available (e.g. other cashcrops for NWA, which are included under gu season fruit/veg in the IS).

The remaining table (cols H to S) gives the problem specification for each combination of district and livelihood zone. Note that a problem is specified for all livelihood zones and districts, even for combinations of livelihood zone and district that do not exist[14].
Having completed data entry for the first crop, the user simply repeats the procedure for all other crops.

Entering the livestock problem (Sheet L)

The data entry tables in this section of the spreadsheet follow the format for specifying the livestock production problem set out from page 30 onwards, and the reader is advised to review these before proceeding further. At the top of the sheet are three tables that allow livestock holdings to be updated, by district and LZ. There is one table for camels, one for cattle and one for shoats.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1			LIVESTOCK PRODUCTION															
2			CURRENT YEAR MONITORING DATA															
3			YEAR	Example														
4			HERD SIZE BY DISTRICT AND LIVELIHOOD ZONE															
5			1. The table gives reference year herd sizes by district and livelihood zone															
6			2. Enter rev ised herd size in the yellow cells, or leave blank to retain existing herd sizes.															
7			3. Changes in herd size are used to calculate changes in the number of livestock sold and in the number of mature fem															
8			4. Data for poor will be applied to very poor and for middle will be applied to b/off.															
9			Camels															
10			Region	District	Livelihood Zone													
11					NWA				GUP				BK3				BK4	
12					P		M		P		M		P		M		P	
13			Awdal	Baki	0		0		1	0.5	11	5.5						
14			Awdal	Borama	0		0		1	0.5	11	5.5						
15			-	-														
16			-	-														
17			-	-														

Spreadsheet: \Som_ex\IS_example.xls: Sheet L

Part of the table for camels is reproduced above. The average number of camels owned by the poor and middle wealth groups in each livelihood zone is presented in the unshaded (i.e. white) columns, and the user can enter a revised figure (if necessary) into the correponding

[13] Figures that may require checking are indicated by the symbol ◄ in col E. The meaning of this symbol is given at the top of col E. It indicates a result that either a) equals exactly 100% (usually returned if there is no reference data), b) is less than 20% of average or c) greater than 200% of average.

[14] Further notes:

a) if no problem is specified (i.e. cols C and F left blank), the default is to set the problem specification to 100%, i.e. to set access to the same as the reference year.

b) a livelihood-zone specific problem is calculated where possible (=current ÷ reference year production). If no figure is given for reference year production, the problem for that LZ is calculated as current year ÷ average production.

c) If a revised estimate for the problem is entered into col F, the revision is carried across to the calculation for each district/LZ combination, as follows:
revised% / original% x current year prodn / ref year prodn

yellow-shaded cell. Taking our example of middle households in GUP, the reference year figure for camel ownership is 11 and the current year figure is 5.5 for both Baki and Boroma[15].

The corresponding tables for cattle and shoats are reproduced below.

Cattle

Region	District	Livelihood Zone											
		NWA				GUP				BK3			BK4
		P		M		P		M		P		M	P
Awdal	Baki	4	2	8	4	0		0					
Awdal	Borama	4	2	8	4	0		0					
-	-												
-	-												
-	-												

Shoats

Region	District	Livelihood Zone											
		NWA	-			GUP	-			BK3	-		BK4
		P		M		P		M		P		M	P
Awdal	Baki	8	4	30	15	37	15	135	55				
Awdal	Borama	8	4	30	15	37	15	135	55				
-	-												
-	-												
-	-												

The data entered into these tables is used to calculate the herd size 'problem' for each combination of district and livelihood zone. These problem specification tables can be found in columns BB to BZ, and part of the table relating to camel ownership by poor households (signified by P in row 12) is reproduced to the right. This shows a herd size problem of 50% for GUP for the first two districts (i.e. Baki and Boroma), corresponding to the reduction in herd size from 1 to 0.5, (see table above). For all other district-livelihood zone combinations the problem has been set to the default of 100%.

LIVESTOCK PRODUCTION

PROBLEM SPECIFICATION BY DISTRICT AND LZ

HERD SIZE

Camels

Livelihood Zone									
NWA	GUP	BK3	BK4	BK5	BK6	BK7	BK8	BK9
P	P	P	P	P	P	P	P	P
100%	50%	100%	100%	100%	100%	100%	100%	100%
100%	50%	100%	100%	100%	100%	100%	100%	100%
100%	100%	100%	100%	100%	100%	100%	100%	100%
100%	100%	100%	100%	100%	100%	100%	100%	100%
100%	100%	100%	100%	100%	100%	100%	100%	100%

The milk production problem is specified for each type of livestock - see the tables reproduced below. Again, these follow the format set out from page 30 onwards.

MILK PRODUCTION BY DISTRICT

Camels

Region	District	1st season Heys-Gu					2nd season Deyr				
		(A)	(B)	(C)	(D)	prob.	(A)	(B)	(C)	(D)	prob.
Awdal	Baki	40	30	3.5	2.5	54%	40	30	3	2	50%
Awdal	Borama	40	30	3.5	2.5	54%	40	30	3	2	50%
-	-					100%					100%
-	-					100%					100%
-	-					100%					100%

[15] Note that figures for herd size are only given for relevant combinations of district and livelihood zone. E.g. if a third district were included in the IS that did not contain any GUP, then the cells for GUP for that district would be left blank.

113		Cattle														
114		Region	District	1st season Heys-Gu					2nd season Deyr				
115																
116				(A)	(B)	(C)	(D)	prob.	(A)	(B)	(C)	(D)	prob.
117		Awdal	Baki	45	35	2.75	1.75	49%	45	35	2.25	1.5	52%
118		Awdal	Borama	45	35	2.75	1.75	49%	45	35	2.25	1.5	52%
119		-	-					100%					100%
120		-	-					100%					100%
121		-	-					100%					100%

138		Shoats														
139		Region	District	1st season Heys-Gu					2nd season Deyr				
140																
141				(A)	(B)	(C)	(D)	prob.	(A)	(B)	(C)	(D)	prob.
142		Awdal	Baki	45	35	0.4	0.25	49%	45	35	0.4	0.25	49%
143		Awdal	Borama	45	35	0.4	0.25	49%	45	35	0.4	0.25	49%
144		-	-					100%					100%
145		-	-					100%					100%
146		-	-					100%					100%

The milk production problem is calculated as follows, for each district and each season:

Milk production problem = (B ÷ A) x (D ÷ C) x 100, where:

(A) Typical number of milking animals per 100 mature females in the season
(B) Actual number of milking animals per 100 mature females this season
(C) Typical milk yield in the season (litres per day)
(D) Actual milk yield this season

The results are presented in the blue shaded cells of the milk production tables. In the example, the Heys-Gu season camels' milk production problem is 30÷40 x 2.5÷3.5 x 100 = 54%.

	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM
85													
86		MILK PRODUCTION BY LZ AND DISTRICT											
87													
88		Camels	Heys-Gu										
89		Livelihood Zone											
90		NWA	GUP	BK3	BK4	BK5	BK6	BK7	BK8	BK9	BK10	BK11	BK12
91		P	P	P	P	P	P	P	P	P	P	P	P
92		54%	27%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%
93		54%	27%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%
94		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
95		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
96		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

For GUP, the overall problem = 54% (milk problem) x 50% (herd size problem) = 27%

For other LZs, the overall problem = 54% (milk problem) x 100% (i.e. no herd size problem specified) = 54%

These results are then multiplied by the herd size 'problem' to calculate the overall milk production problem for each combination of district and livelihood zone[16]. The overall problem specification tables can be found in columns BB to DA, and part of the table relating to Heys-Gu season camels' milk for poor households (signified by P in row 91) is reproduced to the right.

[16] It is assumed for the purposes of these calculations that the same 'problem' with respect to number of milking animals and milk output per animal can be applied to all livelihood zones within a single district. This may not be true if very different current conditions apply in the different LZs, or if the baselines were prepared for very different types of year. The alternative would be to update the two main milk production parameters (no. of milking animals and milk yield per day) for each wealth group, each season and each district-LZ combination. This was abandoned as impractical as it would add 4 more tables to the IS of the size of the herd size table. It is also difficult to see how the required volume of data could practically be collected in the field. If very detailed local analyses are required, then these can always be done using the single zone spreadsheets.

Entering the market prices problem (Sheet M)

The market price sheet contains space to enter a total of 28 prices, divided into 7 categories (see **Table 11**). The layout of the sheet is very similar to that for crop production, i.e. for each item there are 3 tables:

a) A table in which to enter current price (cols A to G)
b) A table showing the problem specification by district and LZ (cols I to T)
c) A table containing price data for the reference year (cols V to AK).

Table 11. Prices included in the Somalia Integrated Spreadsheet

A: Staple foods:	***C: Livestock sold:***	***E: Other income sources:***
1. sorghum	14. camels – export	22. ag.labour – gu
2. maize	15. camels – local	23. ag.labour – deyr
3. rice	16. cattle – export	24. wood/charcoal
B: Crops sold:	17. cattle – local	***F: Components of the livelihoods protection Basket:***
4. maize - gu	18. shoats – export	
5. maize - de	19. shoats – local	
6. sorghum - gu	***D: Milk prices***	25. sugar
7. sorghum - de	20. camels' milk – heys-gu	26. water
8. cowpeas – gu	21. camels' milk deyr	27. inputs
9. cowpeas - de		***G:Inflation***
10. sesame		28. exchange rate
11. groundnuts		
12. fruit/veg - gu		
13. fruit/veg - de		

These three tables are reproduced below for the first of the prices in the Somalia example IS – purchased sorghum.

	U	V	W	X	Y	Z	AA	AB	AC	AJ	AK
1		MARKET PRICES									
2		REFERENCE YEAR MONITORING DATA									
3											
4											
5											
6		Item:	sorghum		Unit:	SISh	per	kg			
7		Region	District	Market	LZ						Average
8					NWA	GUP	BK3	BK4	BK5	BK12	
9					Reference year/season						
10					0202-0702						
11		Awdal	Baki	North-west	1,408						1,408
12		Awdal	Borama		1,408						1,408
13		-	-								-
14		-	-								-
15		-	-								-

Spreadsheet: \Som_ex\IS_example.xls: Sheet M

Beginning with the reference year price table, the following information is to be found within the green-shaded cells:

1. the name of the item (sorghum in the example)
2. the unit of measurement (SISh per kg in the example)
3. the title of the reference season for each livelihood zone (0202-0702 for NWA, indicating the period February-July 2002)

4. the name of the market or group of markets from which the monitoring data are derived. For Somalia, prices are analysed by market region, and the problem specification for Baki and Boroma is derived from the average for north-west markets.
5. average price in the reference season (1408 SISh per kg in the example)

There is also a column for average price for the district (col AK), which in the example is set to the reference season price for NWA, i.e. 1408 SISh per kg[17].

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	**MARKET PRICES**								**MARKET PRICES**					
2	**CURRENT YEAR MONITORING DATA**								**PROBLEM SPECIFICATION BY DISTRI**					
3	**YEAR**	**Example**				◄ indicates results								
4						=	100% (usually missing ref. data)							
5	**A: STAPLE FOOD**					<=	20%							
6	Item:	**sorghum**				>=	200%							
7	Region	District	Market	Unit:	Problem				LZ					
8				SISh	specification									
9				per										
10				kg	curr.		rev.		NWA	GUP	BK3	BK4	BK5	BK6
11	Awdal	Baki	North-west	2,800	199%				199%	199%	199%	199%	199%	199%
12	Awdal	Borama	-	2,800	199%				199%	199%	199%	199%	199%	199%
13	-	-	-		100%	◄			100%	100%	100%	100%	100%	100%
14	-	-	-		100%	◄			100%	100%	100%	100%	100%	100%
15	-	-	-		100%	◄			100%	100%	100%	100%	100%	100%

As for crops, the next step is for the user to enter the current price for each district, 2800 SISh per kg in the example. The resulting problem specification (199%) is returned in column E (shaded blue) and, as in the case of crops, the user has the option to override this calculated value with another value (which can be entered in column G).

The remaining table (cols I to T) gives the problem specification for each combination of district and livelihood zone.

	A	B	C	D	E	F	G
330	Crop:	**other crops**					
331	Region	District	Market	Unit:	Problem specification		
332				-			
333				per			
334				-	curr.		rev.
335	Awdal	Baki	North-west		100%	◄	150%
336	Awdal	Borama	-		100%	◄	150%
337	-	-	-		100%	◄	

Having entered current prices for purchased sorghum, the user continues to enter data for the remaining items included in the price sheet. The tables to the right provide two further data entry tables from the example spreadsheet; other cashcrops (included in other crops in the spreadsheet) and local cattle.

As with crops, column G (the revised or 'rev.' column) can be used to enter an estimated price problem for items for which price data are not available, e.g. other cashcrops in the example.

[17] The points made in footnote 11 for crops apply here to prices as well.

Adjusting prices for inflation (Sheet M)

The bottom set of tables on the market price sheet provides space for the user to enter data for an indicator of inflation. In Somalia, the exchange rate probably provides the best indicator of inflation, and exchange rate data have therefore been entered into this section of the spreadsheet.

	W	X	Y	Z	AA	AB	AC
733							
734							
735	**exchange rate**		Unit:	**SS**	per	**USD**	
736	District	Market	LZ				
737			NWA	GUP	BK3	BK4	BK5
738			Reference year/season				
739							
740	Baki	North-west	6,725				
741	Borama	-	6,725				
742	-	-					

The table to the right shows how reference year exchange rate data have been entered into the example integrated spreadsheet for the North-west agro-pastoral LZ (NWA). This next table shows what happens when a current year exchange rate is entered into column D. (Note that a change in the exchange rate is NOT part of the example presented in this guide, and that no figures for current exchange rate will be found in the example IS).

	B	C	D	E	F	G	H	I	J
735	**exchange rate**								
736	District	Market	Unit:	Problem				LZ	
737			SS	specification					
738			per						
739			USD					NWA	GUP
740	Baki	North-west	7,000	104%				104%	104%
741	Borama	-	7,000	104%				104%	104%
742	-	-		100% ◄				100%	100%

The spreadsheet calculates the current exchange rate as a percentage of reference (104% in this case). This figure is then taken as the best estimate of inflation since the reference year, and is used as the default price problem for any item where columns D (current price) and G (estimated problem specification) have been left blank. In other words, the inflation rate specified here is a default value that is applied where no other estimate of price change has been supplied by the user. It goes without saying that it is better for the user to enter an actual or estimated price directly into the spreadsheet, rather than relying upon this fairly crude inflation adjustment.

An example will perhaps best demonstrate how this inflation adjustment is applied. The table to the right shows how the figure of 104% is applied for wood/charcoal. Since no price problem has been specified for this product (columns D and G blank), the spreadsheet takes the default problem of 104% as the price problem for both districts (columns I and J). Where a current price problem is specified, however, then the inflation correction is ignored.

	B	C	D	E	F	G	H	I	J
627	**wood/charcoal**								
628	District	Market	Unit:	Problem				LZ	
629			-	specification					
630			per						
631			-	curr.		rev.		NWA	GUP
632	Baki	North-west		100% ◄				104%	104%
633	Borama	-		100% ◄				104%	104%
634	-	-		100% ◄				100%	100%

Entering other aspects of the problem (Sheet O)

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	OTHER FOOD AND INCOME SOURCES												
2													
3	YEAR	Example											
4													
5			Estimated % of baseline access (I.e. quantity)										
6			Source:										
7	Region	District	gifts	food stocks	-	ag.labour - gu	ag.labour - deyr	lab.migration	remittances	wood/charcoal	gums/resins	other labour	loans
8													
9													
10													
11													
12													
13													
14													
15													
16	Awdal	Baki				75%							
17	Awdal	Borama				75%							
18	-	-											
19	-	-											
20	-	-											

Spreadsheet: \Som_ex\IS_example.xls: Sheet O

The table on sheet O allows the user to specify a problem of access to a range of 'other' food and income sources besides crops and livestock. For these items the problem is entered directly in terms of % access compared to the reference year. Only one 'problem' can be entered per district (so the same problem will be applied to all livelihood zones within each district[18].

The first three columns in the table (columns C, D and E) refer to other sources of food. In Somalia only two 'other' food sources are specified (gifts and food stocks) and the third option (column E) has been left blank. For these items the problem should be expressed in terms of the % of food available from these sources in the current compared to the reference year.

The remaining 8 columns in the table (columns F to M) refer to other sources of cash income. In Somalia these 'other' sources range from *gu* season agricultural labour to loans. As in the case of other food, the problem specification for these items should be in terms of the quantity that can be sold in the current compared to the reference year. The table below has been completed for the Boroma and Baki example, with access to *gu* season agricultural labour set to 75% of reference.

In addition to the 'quantity' problem, a 'price' problem is also applied to other sources of cash income. For three sources (agricultural labour – *gu*, agricultural labour – *deyr* and wood/charcoal) the price problem is derived from data entered into the market price sheet (sheet M). For the other 5 sources of cash income, the price problem is set as equal to inflation.

[18] This creates a potential problem where baselines have been prepared for different types of year, e.g. for a bad year in one LZ and an average year in another LZ within the same district.

	A	B	C	D	E	F	G	H	I	J
38	**OTHER ANALYSIS PARAMETERS**									
39										
40	**'COPING' STRATEGIES/EXPANDABILITY TO INCLUDE IN THE ANALYSIS**									
41	Specify the level of inclusion of different strategies/expandabilities below									
42	0% = exclude altogether									
43	100% = include full amount specified in baseline analysis									
44	50% = include half amount specified in baseline analysis									
45	etc.									
46	**Food**		**%included**	**Notes**						
47										
48	camels milk - gu		100%	changing pattern of milk/ghee sales						
49	camels milk - de		100%							
50	cows' milk - gu		100%							
51	cows' milk - de		100%							
52	shoats' milk - gu		100%							
53	shoats' milk - de		100%							
54	maize - gu		100%	changing pattern of crop sales						
55	maize - de		100%							
56	sorghum - gu		100%							
57	sorghum - de		100%							
58	cowpeas - gu		100%							
59	cowpeas - de		100%							
60	sesame		100%							
61	groundnuts		100%							
62	fruit/veg - gu		100%							
63	fruit/veg - de		100%							
64	lab.migration		100%	changes in labour migration (usually increase)						
65	gifts		100%	changes in gifts						
66	food stocks		100%							
67	-		100%							
68	other		100%							
69										
70	**Income**		**%included**							
71										
72	camels milk - gu		100%							
73	camels milk - de		100%							
74	cows' milk - gu		100%							
75	cows' milk - de		100%							
76	shoats' milk - gu		100%							
77	shoats' milk - de		100%							
78	camels - export		100%	changes in livestock sales (usually increase)						
79	camels - local		100%							
80	cattle - export		100%							
81	cattle - local		100%							
82	shoats - export		100%							
83	shoats - local		100%							

Spreadsheet: \Som_ex\IS_example.xls: Sheet O

The 'other' or 'O' sheet also allows the user to vary the extent to which different coping strategies are included in the analysis. The relevant section of the spreadsheet is reproduced above. Here the user can exclude a particular strategy (by setting the figure in the corresponding yellow-shaded cell to zero) or include it fully (by setting the yellow-shaded cell to 100%). An increase in livestock sales can for example be excluded from the analysis by setting cells C78 to C83 to 0%, and so on. For the purposes of the Boroma example, all the various coping strategies have been fully included (all yellow-shaded cells set to 100%).

The results page (Sheet R)

Once the problem specification data have been entered into sheets C, L, M and O, no other data entry or data manipulation is required. All the user need do is turn to the results and graphic sheets (sheets R and G) to view the output.

The results sheet is divided into several sections, each of which is headed by a title in bold within a dark grey-shaded box. The first three sections are as follows:

District Summary (rows 30 to 58) – provides a summary of assistance requirements (number of beneficiaries, amounts of food and/or cash), by district

Survival Deficit Analysis (rows 61 to 249, cols B to P) – A detailed breakdown of assistance requirements to fill any survival deficits, by district and livelihood zone.

Livelihoods Protection Deficit Analysis (rows 61 to 249, cols S to AE) – A detailed breakdown of assistance requirements to fill any livelihoods protection deficits, by district and livelihood zone.

The district summary

DISTRICT SUMMARY

Example

			SURVIVAL DEFICIT			L/HOODS PROT. DEFICIT		
Ad.Zone	District	Benefic-iaries	Either MT	OR Cash	Benefic-iaries	Either MT	OR Cash
Awdal	Baki	14,300	781	2,190	24,500	960	2,703
Awdal	Borama	66,100	3,620	10,140	111,200	4,360	12,193
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

The district summary table is in three sections, from left to right in the spreadsheet; survival deficit, livelihoods protection deficit and total. Sections 1 and 2 from the example spreadsheet are reproduced above and section 3 to the right.

		TOTAL		
Ad.Zone	District	Benefic-iaries	Either MT	OR Cash
Awdal	Baki	24,500	1,741	4,893
Awdal	Borama	111,200	7,980	22,333
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
TOTALS		135,700	9,721	27,226
Further details in Table:		**B**	**G**	**H**

Within each section results are given for the number of beneficiaries and the assistance requirement (expressed as either food or cash).

For each set of results within the district summary, the user can find further details in one of tables A to H, described below. For example, for further details on the total number of beneficiaries, the user is referred to table B.

Table 12 compares the results for Boroma derived from the single zone spreadsheet analysis with those from the integrated spreadsheet.

Table 12. Comparison between Single Zone and Integrated Spreadsheet results

Total requirements:	*Single Zone spreadsheet*	*Integrated spreadsheet*
No. beneficiaries	111,216	111,200
Either MT food	7863	7980
Or '000,000 SS cash	22017	22333

There are minor differences in the results from the two sets of analyses, but these are due to the rounding of results up or down in the single zone spreadsheet analysis. The main point here is that the calculations performed by the integrated spreadsheet are exactly those set out in earlier chapters of this guide, any of which is relatively easy to reproduce using pencil and paper.

The survival deficit analysis

More detailed results for the survival deficit can be found in tables A, C and E.

Table A: Estimated Rural Population Facing a Survival deficit

This table, reproduced below, summarises the estimated rural population facing a survival deficit, by district/LZ, and by district (note that the district result is rounded to the nearest 100).

	A	B	C	D	E	F	G	H	I	J	K
60											
61		SURVIVAL DEFICIT ANALYSIS									
62											
63		A. ESTIMATED RURAL POPULATION FACING A SURVIVAL DEFICIT									
64		Region	District	Total	LZ						
65					NWA	GUP	BK3	BK4	BK5	BK6	BK7
66		Awdal	Baki	14,300	0	14,250	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX
67		Awdal	Borama	66,100	0	66,078	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX
68		-	-	-	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX
69		-	-	-	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX
70		-	-	-	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX

Table C: Tons Food Required to Fill Survival deficit

This table, reproduced above, summarises the amount of food required to fill any survival deficit, by district/LZ, and by district.

	A	B	C	D	E	F	G	H	I	J	K
88											
89		C. TONS FOOD REQUIRED TO FILL SURVIVAL DEFICIT								Unit:	MT grain
90		Region	District		LZ	ration level (kg grain pppd) =			0.58		
91				Total	NWA	GUP	BK3	BK4	BK5	BK6	BK7
92		Awdal	Baki	781	0	781	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX
93		Awdal	Borama	3,620	0	3,620	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX
94		-	-	-	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX
95		-	-	-	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX
96		-	-	-	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX	XXXXXXX

Table E: Cash Required to Fill Survival deficit

This table, not reproduced here, but with the same layout as table C, summarises the amount of cash required to fill any survival deficit, by district/LZ, and by district.

Table I: Wealth Groups Facing a Survival deficit

This table, reproduced in part below, indicates which wealth groups are likely to face a survival deficit, by District/LZ. It shows that in the example, all three wealth groups in GUP face a survival deficit.

	A	B	C	D	E	F	G	H	I	J	K
166											
167		I. WEALTH GROUPS FACING A SURVIVAL DEFICIT									
168		Region	District		LZ						
169					NWA	GUP	BK3	BK4	BK5	BK6	BK7
170		Awdal	Baki				XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX
171						Poor	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX
172						Middle	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX
173						B/Off	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX
174		Awdal	Borama				XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX
175						Poor	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX
176						Middle	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX
177						B/Off	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX
178		-	-		XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX
179					XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX
180					XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX
181					XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX

The livelihoods protection deficit analysis

A similar set of tables provide further details of the livelihoods protection deficit results.

These are:

Table B: Estimated Rural Population Facing a Livelihoods Protection Deficit
Table D: Cash Required to Fill Livelihoods Protection Deficit
Table F: Tons Food Required to Fill Livelihoods Protection Deficit
Table J: Wealth Groups Facing a Livelihoods Protection Deficit
Two other tables complete the set:
Table G: Total Food Requirement to Fill Survival and Livelihoods Protection Deficits
i.e. the sum of results from tables C and F.
Table H: Total Cash Requirement to Fill Survival and Livelihoods Protection Deficits
i.e. the sum of results from tables D and E.

There are also a number of additional tables on the results sheet (rows 253 onwards) that contain intermediate results in the various calculations.

The graphics page (Sheet G)

This provides the user with an opportunity to view selected results graphically.

The first step is for the user to select the district, livelihood zone and wealth group to be graphed.

	A	B	C	D	E	F	G
1							
2							
3		1. SELECT DISTRICT TO GRAPH					
4							
5		Select (X)		Ad.Zone	District		
6			1	Awdal	Baki		
7		x	2	Awdal	Borama		
8			3	-	-		
9			4	-	-		
10			5	-	-		

This is done using three data-entry tables in the top-left section of sheet G (reproduced here). To make a selection, the user enters the letter x in the yellow-shaded column against the required item.

In the example presented here, the following selection has been made:

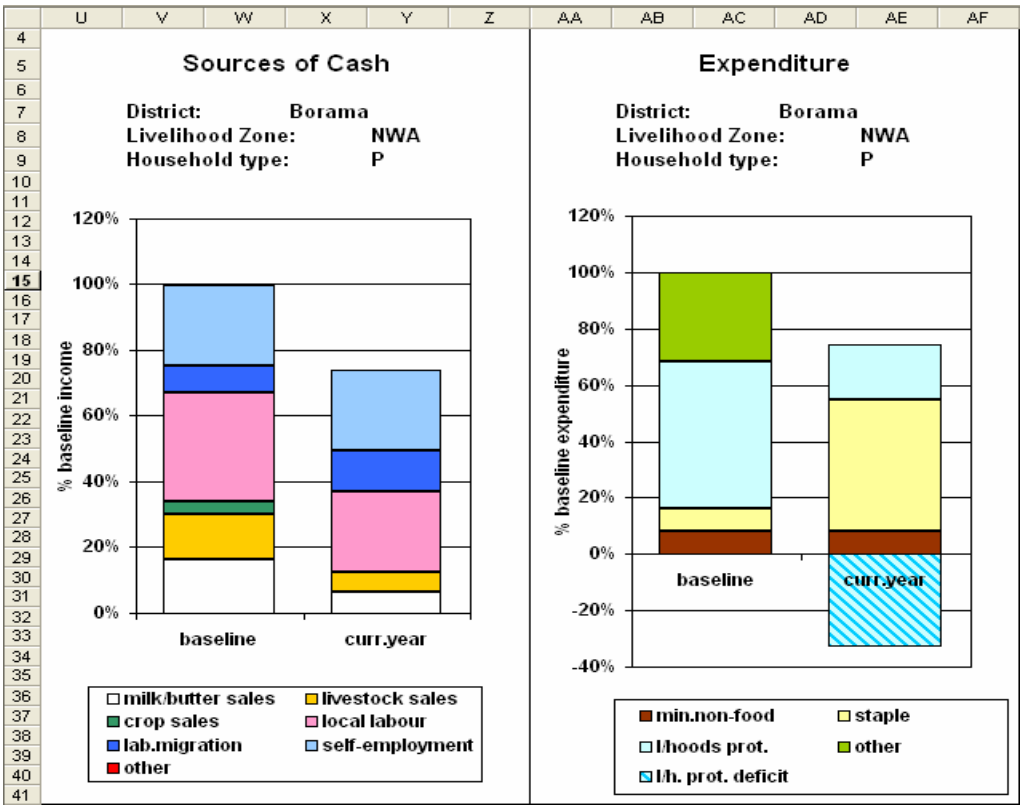
District: Boroma
LZ: NWA
Wealth group: Poor

Note: In order to change the selection, the user deletes the previous 'x' to remove the selection and enters a new 'x' in another row.
The graphs themselves can be found in columns M to AF.

There are three graphs; for food, cash income and expenditure.

The cash income and expenditure graphs are very similar to those in the single zone sheet, except that there are two bars (baseline and current year) rather than three (i.e. the '+ hazard' bar has not been included).

	H	I	J	K	L
1					
2					
3		2. SELECT LZ TO GRAPH			
4					
5		Select (X)	LZ		
6		x	NWA	1	
7			GUP	2	
8			BK3	3	
9			BK4	4	
10			BK5	5	
11			BK6	6	
12			BK7	7	
13			BK8	8	
14			BK9	9	
15			BK10	10	
16			BK11	11	
17			BK12	12	
18					
19		2. SELECT WEALTH GROUP TO GRAPH			
20					
21		Select (X)	WG		
22			VP		
23		x	P	1	
24			M	2	
25			R	3	



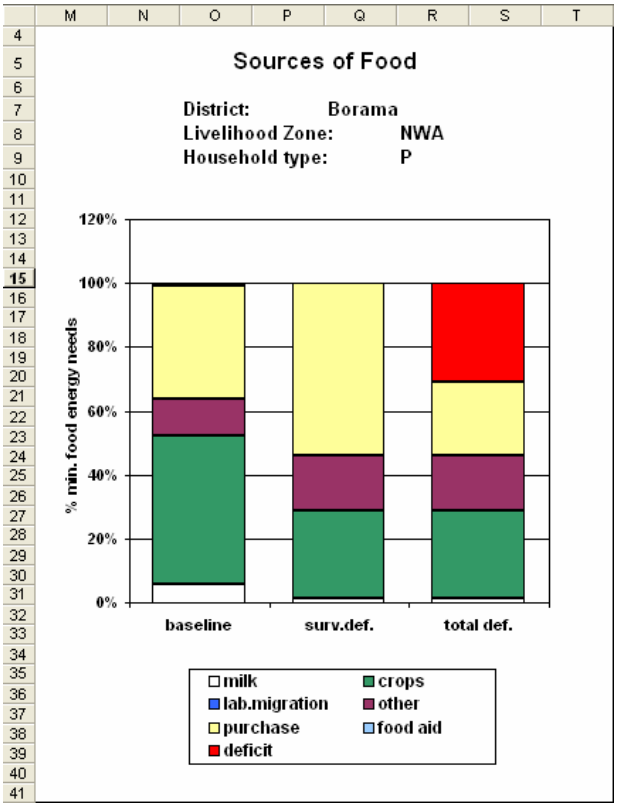
The 'sources of food' graph has three bars:

Baseline: food sources in the reference year

Surv. def: Food sources and food access, including any survival deficit.

Total def.: Food sources and food access, but showing the total deficit (i.e. the sum of the survival and livelihoods protection deficits) expressed in food terms.

In the Boroma example, presented here, poor households in NWA face a livelihoods protection deficit but not a survival deficit (so there is no deficit shown for 'surv.def.'). The 'total def.'bar chart shows that if the livelihoods protection deficit is expressed in food terms it is equivalent to roughly 30% of annual food needs.



Further down the graphics page is a table containing the food, income and expenditure data that are summarised in the graphic. Part of that table is reproduced below. Also included is the problem specification applied to each source of food and cash. This can be useful when checking the results for a particular combination of district, livelihood zone and wealth group.

	D	E	F	G	H	I	J	K
28								
29	DISTRICT	**Borama**						
30	LIVELIHOOD ZONE	**NWA**						
31	WEALTH GROUP	**P**						
32								
33								
34		3	Source of Food			6	10	
35		prob%				baseline	surv.def.	total.def.
36			camels milk - gu			0%	0%	0%
37			camels milk - de			0%	0%	0%
38		25%	cows' milk - gu			3%	1%	1%
39		26%	cows' milk - de			1%	0%	0%
40		24%	shoats' milk - gu			1%	0%	0%

The Baselines and Population Pages

These are the two remaining pages not reviewed so far. These are pages that the user need not refer to when running a current problem or scenario.

The baselines page (Sheet B)

The baselines page contains summaries of the baseline data for each of the livelihood zones included in the integrated spreadsheet. These summaries are read in from the various baseline storage sheets (NWA.xls, GUP.xls, etc.). It also includes all the detailed calculations of outcome for each combination of district and livelihood zone. The baselines page takes the problem specification for each source of food and income from the problem specification pages (sheets C, L, M and O) and generates a result for each wealth group (using the same calculations as for the pencil and paper analysis). The results are then fed into the calculations of assistance requirements which are summarised on the Results page (sheet R).

	C	D	E	F	G	H	I	J	K	L	M
1		**Livelihoods Baseline 1**			**Code:**						
2		**Northwest Agro-Pastora**			NWA						
3	**Food**	**V.Poor**			**Poor**			**Middle**			**B/Off**
4		B/line	Exp.	Total	B/line	Exp.	Total	B/line	Exp.	Total	B/line
5	camels milk - gu	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
6	camels milk - de	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
7	cows' milk - gu	0%	0%	0%	3%	0%	3%	8%	0%	8%	5%
8	cows' milk - de	0%	0%	0%	1%	0%	1%	1%	0%	1%	1%
9	shoats' milk - gu	0%	0%	0%	1%	0%	1%	3%	0%	3%	2%
10	shoats' milk - de	0%	0%	0%	1%	0%	1%	3%	0%	3%	4%

Baseline data for each of the livelihood zones included in the IS are tabulated in rows 1 to 84. Data for up to 12 livelihood zones are presented from left to right across the page.

The above example shows some of the baseline data for the North-west agro-pastoral LZ. Food sources are listed, together with the %kcals derived from each in the baseline or reference year, for each of four wealth groups[19]. Data on expandability and total access (=baseline+expandability) are also given. Data on cash income and expenditure are also included in this section of the IS.

	C	D	E	F	G	H	I	J	K	L	M
86	**CURRENT YEAR ACCESS**	**Baki**									
87		**NWA**									
88	**Food**	**Problem Spec.**		**Current Access - 'coping'**				**Current Access + 'coping'**			
89		VP+P	M+B/O	V.Poor	P	M	B/Off	V.Poor	P	M	B/Off
90	camels milk - gu	54%	54%	0%	0%	0%	0%	0%	0%	0%	0%
91	camels milk - de	50%	50%	0%	0%	0%	0%	0%	0%	0%	0%
92	cows' milk - gu	25%	25%	0%	1%	2%	1%	0%	1%	2%	1%
93	cows' milk - de	26%	26%	0%	0%	0%	0%	0%	0%	0%	0%
94	shoats' milk - gu	24%	24%	0%	0%	1%	1%	0%	0%	1%	1%
95	shoats' milk - de	24%	24%	0%	0%	1%	1%	0%	0%	1%	1%

Below this baselines section of sheet B (from row 86 onwards) may be found the 'current year access' section of the sheet. This contains all the detailed calculations of outcome for each district and each livelihood zone. Part of the calculations for the North-west agro-pastoral zone of Baki district are shown above. For each source of food, a consolidated problem specification is carried over from sheets C, L, M and O. For NWA these problem specifications are listed in columns D and E. There are two sets of problems for variables related to livestock, one for very poor and poor households (VP+P) and one for middle and better-off households (M+B/O). Two different estimates of current access are then given for

[19] If data are missing for one or more wealth groups, all sources of food are set to zero, as in the case of the very poor in the NWA example.

each wealth group. The first of these (columns F to I above) relates to access without 'coping' (- 'coping'), i.e. without expansion of any of the sources of food and/or cash income. The second set of estimates (columns J to M) relates to access with 'coping' (+ 'coping'), i.e. including such expansion.[20]

Other sections of the 'current year access' section of sheet B contain similar calculations for cash income and expenditure, and the resulting deficits.

The population page (Sheet P)

The population page contains four tables of reference data that are used to calculate the number of beneficiaries (see calculating assistance requirements, page 53):

a) A breakdown of population by district and LZ (entered directly into the spreadsheet).
b) A wealth breakdown by LZ (read from the baseline storage files).
c) A table of household size by LZ (read from the baseline storage files).
d) A table giving the % population by livelihood zone (derived from tables (b) and (c))

These four tables from the example spreadsheet are reproduced (in part) below.

	A	B	C	D	E	F	G	H	I	J
1										
2		**POPULATION AND WEALTH BREAKDOWN**								
3										
4		RURAL POPULATION BY DISTRICT & LZ								
5		Region	District	Total	LZ					
6					NWA	GUP	BK3	BK4	BK5	BK6
7	1	Awdal	Baki	29,250	15000	14250				
8	2	Awdal	Borama	132,156	66078	66078				
9	3			-						
10	4			-						
11	5			-						

Sheet 'P' also contains a table labelled 'Exchange Rates'. This has been set up to deal with a relatively rare situation, i.e. an integrated spreadsheet that contains baselines with cash incomes expressed in difference currencies. Typically, of course, the same national currency will be used in all the livelihood zones included in any one spreadsheet. But this is not always the case, and north-western Somalia provides an example. While the Somaliland shilling is the predominant currency in the area, the Somali shilling is used in the east of the region. The exchange rate table from the integrated spreadsheet for the north-west of Somalia is reproduced below (note that this is different from the example IS). For LZs using the second or minor currency, reference year exchange rates for the two currencies are entered, both compared to the USD. In the case of the Nugal Valley LZ (NUG), for example, one US dollar could in the reference year be exchanged for 3888 Somaliland shillings or 11487 Somali shillings. Dividing 3888 by 11487 then gives a correction factor (0.33857) that can be used to convert any livelihoods protection deficit for NUG (which is calculated in the currency of the baseline, i.e. the Somali shilling) into the predominant currency (the Somaliland shilling).

[20]Estimates of beneficiary numbers and assistance requirements are always based upon the result with-coping. Note that sheet 'O' provides the user with the option of changing the extent to which individual coping strategies are included in the with-coping calculations. Any change made to sheet 'O' will change the deficit calculated 'with coping', which will in turn affect the total assistance requirements. For example, setting one or more coping strategies to zero in sheet 'O' will have the effect of increasing the calculated deficits (and therefore the amount of assistance required).

	A	B	C	D	E	F	G	H	I	J
28										
29		**WEALTH BREAKDOWN BY LZ**								
30		% households			LZ					
31					NWA	GUP	BK3	BK4	BK5	BK6
32		V .Poor			0%	0%	18%	18%	18%	18%
33		Poor			40%	25%	38%	38%	38%	38%
34		Middle			35%	55%	30%	30%	30%	30%
35		B/Off			25%	20%	15%	15%	15%	15%
36		Total			100%	100%	100%	100%	100%	100%
37										
38		**HOUSEHOLD SIZE BY LZ**								
39					LZ					
40					NWA	GUP	BK3	BK4	BK5	BK6
41		V .Poor			-	-	-	-	-	-
42		Poor			6	6	-	-	-	-
43		Middle			7	8	-	-	-	-
44		B/Off			9	11	-	-	-	-
45		Average			7.1	8.1	0.0	0.0	0.0	0.0
46										
47		**% POPULATION, BY LZ**								
48					LZ					
49					-	-	-	-	-	-
50		V .Poor			0%	0%	0%	0%	0%	0%
51		Poor			34%	19%	0%	0%	0%	0%
52		Middle			35%	54%	0%	0%	0%	0%
53		B/Off			32%	27%	0%	0%	0%	0%
54		Total			100%	100%	0%	0%	0%	0%

	A	B	C	D	E	F	G	H	I	J
56		**EXCHANGE RATES**								
57										
58		In this area, the predominant currency is the						Somaliland shilling (SISh)		
59					LZ					
60					HSP	NWA	GUP	NUG	TGA	FIS
61		currency			SISh	SISh	SISh	SoSh	SoSh	SISh
62					Reference year exchange rates (local currency per USD)					
63		exchange rate for predominant currency						3888	6454	
64		source (e.g. NW mkts)						NW mkts	NW mkts	
65		ex. rate for 2nd currency						11487	20791	
66		source (e.g. NE mkts)						NE mkts	NE mkts	
67					Exchange rate factor (I.e. figure by which to multiply cash to obtain					
68		Ex.rate			1	1	1	0.33847	0.310423	1