The HEA Dashboard for Household Economy Outcome Analysis

Guidance for Users

Prepared by:
Mark Lawrence, FEG
mlawrence@foodeconomy.com
22 December 2014
# CONTENTS

1  THE DASHBOARD .......................................................................................................................... 3

2  INTRODUCTION .......................................................................................................................... 3
   2.1  HOUSEHOLD ECONOMY ANALYSIS ..................................................................................... 3
   2.2  DASHBOARD FEATURES ..................................................................................................... 4

3  HOW TO USE THE DASHBOARD ............................................................................................... 5
   3.1  QUICK START GUIDE ............................................................................................................... 5
   3.2  PREPARING TO USE THE DASHBOARD ............................................................................. 6
   3.3  DATA ENTRY SHEET ............................................................................................................. 7
      3.3.1  Selecting the Area for Analysis ...................................................................................... 7
      3.3.2  Setting Up Other Aspects of the Analysis ..................................................................... 9
      3.3.3  Using the ‘Cost-of-Diet’ Thresholds ............................................................................. 10
      3.3.4  Entering the Problem Specification .............................................................................. 11
      3.3.5  Entering Data on an Intervention ................................................................................. 15
   3.4  RESULTS SHEET ................................................................................................................... 17
      3.4.1  Whole Year Analysis ..................................................................................................... 17
      3.4.2  Selecting Other Periods for Analysis .......................................................................... 19
   3.5  GRAPH SHEETS ................................................................................................................... 21
      3.5.1  Graphs - Annual ............................................................................................................ 21
      3.5.2  Graphs - Seasonal ........................................................................................................ 22

4  APPENDIX ..................................................................................................................................... 23
   4.1  INTRODUCTION TO HOUSEHOLD ECONOMY ANALYSIS .................................................. 23
      4.1.1  The Household Economy Baseline .............................................................................. 23
      4.1.2  Predicting Future Access to Food and Non-Food Goods and Services ................. 24
      4.1.3  Analysing Coping Strategies ...................................................................................... 27
      4.1.4  How HEA Helps Address Core Decision Maker Questions ................................... 28

# Glossary

HEA  Household Economy Analysis
IPC  Integrated Phase Classification
LIAS  Livelihoods Impact Analysis Spreadsheet
LPT  Livelihoods Protection Threshold
LZ  Livelihood zone
1 THE DASHBOARD

The Dashboard is an initiative of Save the Children UK, Concern Wordwide and Oxfam. The aim is to develop a user-friendly tool for storing household economy baseline data and running household economy outcome analyses. It allows the analyst to carry out complex livelihoods-based analysis simply and quickly, making the best use of available hazard data, and generating information that feeds directly into early warning and needs assessment at livelihood zone, district and/or regional levels.

The standard tool for running these analyses currently is the LIAS (Livelihoods Impact Analysis Spreadsheet). The Dashboard is a simplified version of the LIAS, but with all of the existing functions of the LIAS.

2 INTRODUCTION

2.1 HOUSEHOLD ECONOMY ANALYSIS

Household Economy Analysis is a method for assessing the impact of hazards (or positive changes) on household livelihoods. It allows for an understanding and appreciation of elements which are crucial for a properly rounded view of food security but which are mostly invisible in official statistics. The HEA analytical approach is comprised of two main components:

1) **Baseline analysis** – the analysis of how people get by year to year and the connections with other people and places that enable them to do so, and

2) **Outcome analysis** - 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 programme input or beneficial price policy.

Outcome analysis consists of three steps designed to produce a rational and defensible statement about the predicted effects of a hazard or positive change 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). These steps are:

1) **Problem specification** - 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),

2) **Coping analysis** - the assessment of the capacity of households in different wealth groups to cope themselves with the hazard, and

3) **Projected outcome** - 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 - to determine whether there is a gap or deficit.

One of the key concepts in HEA is that the baseline analysis relates to a specific reference year (e.g. 2010-11). For agricultural areas (livelihood zones) the reference year usually starts with one harvest and ends 12 months later. For example, if crops are harvested in October, then the reference year might run from Oct’10-Sep’11. Generally, but not always, the reference year will be a year that was neither especially good nor especially bad, but somewhere in the middle. The most important point about the reference year is not that it should be an average year, but that it should provide a good starting point for understanding how livelihoods will vary from one year to the next in relation to changes in factors such as crop production and market prices.
A more detailed introduction to HEA is given in Appendix 4.1.

2.2 DASHBOARD FEATURES

The Dashboard has the following features:

1) Access to many individual livelihoods impact analysis spreadsheets (LIASs) within a single tool.
2) Step-by-step instructions included in the tool
3) Once a LIAS has been selected, the analysis can be run for the whole LIAS, or for selected districts or livelihood zones within that LIAS
4) Data entry on a single data entry sheet (rather than the multiple data entry sheets of the LIAS), making it much easier to navigate around the tool
5) Clear identification of key parameters for each analysis, and a prioritization of key parameters (most important, less important)
6) Guidance for the user on how to specify a problem for five major types of hazard:
   a) Rain failure
   b) Flood
   c) Cyclone
   d) Conflict
   e) Food price shock
3 HOW TO USE THE DASHBOARD

3.1 QUICK START GUIDE

This quick start guide is designed for users who are familiar with HEA outcome analysis and with the livelihoods impact analysis spreadsheet (LIAS).

Open the Dashboard (DBoard_22Dec14.xls or a later version, indicated by a later date than 22Dec14). The Dashboard should open on the 'Data Entry' sheet, the first of four sheets in the spreadsheet. These sheets are as follows:

<table>
<thead>
<tr>
<th>Figure 1: Component Sheets of the Dashboard</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Data Entry Sheet</strong></td>
</tr>
<tr>
<td><img src="image1.png" alt="Data Entry Sheet" /></td>
</tr>
<tr>
<td><strong>Results Sheet</strong></td>
</tr>
<tr>
<td><img src="image2.png" alt="Results Sheet" /></td>
</tr>
<tr>
<td><strong>Graphs - Annual Sheet</strong></td>
</tr>
<tr>
<td><img src="image3.png" alt="Graphs - Annual Sheet" /></td>
</tr>
<tr>
<td><strong>Graphs – Seasonal Sheet</strong></td>
</tr>
<tr>
<td><img src="image4.png" alt="Graphs – Seasonal Sheet" /></td>
</tr>
</tbody>
</table>

‘Data Entry’: it is on this sheet that the analysis is set up and the problem specifications entered. Step-by-step instructions for doing this are given on the sheet.

‘Results’: The results table, including the number of people facing a deficit, the amounts of food/cash required to fill any deficits plus the IPC phase corresponding to the HEA outcome analysis results.

Graphs of food, cash and expenditure presented for a selected livelihood zone and wealth group.

A seasonal analysis of food/cash income to complement the annual analysis on Sheet G.

‘Data Entry’ is the main data entry sheet for the dashboard, and includes step-by-step instructions for setting up and running the analysis. Steps 1-6 deal with setting up the analysis (selecting the area and setting general parameters for analysis) while steps 7-9 deal with problem specification and step 10 provides the opportunity to add data on any planned or actual interventions. Start at the top left-hand corner of the sheet with Step 1, working down to Step 6, then return to the top of the sheet for Step 7, working down again to complete Steps 8-10. Once the data entry process is complete, go to the ‘Results’ sheet to view the results tables, and to the ‘Graphs – annual’ and ‘Graphs – seasonal’ sheets to graph the results (the graphs sheets have the same layout as in the LIAS).
3.2 PREPARING TO USE THE DASHBOARD

Before running an outcome analysis with the Dashboard, it is important to compile the available monitoring data. This section provides some basic guidance on how to do that.

1) **Sketch out a simple calendar** showing the reference year (start and end months) together with the rains, cultivation season and harvest that ‘start’ the consumption year. Add the timing of the hunger season (see example to the right).

2) Now plot the same data for the current year, adding in a marker to show when the current analysis is being undertaken (Sept’10 in the example to the right).

This calendar will help in determining:

a) which crop production data correspond to the reference and current years (note that crop production data may be reported by cultivation or harvest season, not by consumption year – see Figure 2 for an example of this).

b) how to set up the price analysis so that you can compare the correct periods (e.g. the two hunger seasons in the case of staple purchase), and

c) which activities have already been undertaken (e.g. harvest labour in the above example), and which will be undertaken in the future (in which case you may want to set the problem specification to 100%).

3) Find the **crop production data** corresponding to the reference and current years, so that these can be entered into the Dashboard. Do this for all the districts you are including in the analysis.

4) Find and analyse the **market price data** corresponding to the reference and current years, so that these can be entered into the Dashboard.

5) Find data on the annual rate of **inflation** since the reference year (ideally non-food inflation). Calculate the cumulative rate of inflation between the reference and current years (see Box 1).

6) Find data on the annual rate of **increase in population** since the reference year. Calculate the cumulative increase in population between the reference and current years (using the same method as for inflation, see Box 1).
3.3 DATA ENTRY SHEET

3.3.1 Selecting the Area for Analysis

The steps to be followed in running the analysis are set out in order, beginning with Step 1 at the top-right of the sheet. It is at this step that the area for analysis is selected. There are five sub-steps:

Step 1a: Select the Country for analysis. Click on the down arrow (▼) and click on the country for analysis (in this case, Niger).

Step 1b: Select the area within the country for analysis. The areas available for analysis correspond to the different LIASs that have been set up for each country. For Niger, there is a choice of 4 LIASs.

Step 1c: Select the Region/Province (within the LIAS). Not all LIASs contain data on more than one Region/Province, but where there is more than one, a selection can be made at this step. (Note: the example here is from Ethiopia.)

For each area within the country (each LIAS) there is a population table (hidden from view) which gives the number of people broken down by region/province, district and livelihood zone (see example for Borena and Guji in Ethiopia below). By selecting ‘Borena’ at Step 1c, you are narrowing down the analysis to districts and livelihood zones in Borena (outlined in red below).
**Step 1d:** The next step is to select an individual district for analysis, if you want to run the analysis to that level. (The alternative is to select 'All' in which case the analysis will be run for all districts within the selected region/province, i.e. Borena in this example). In the example to the right, Melka Soda has been selected (outlined in blue in the figure above).

The figure to the right shows the effect of selecting 'Borena' and 'Melka Soda'. A list of livelihood zones is displayed, together with - for the selected region/province and district - the population in each of these. (Compare the population data to the right with the population data for Melka Soda in the table above.)

**Step 1e:** The final step is to select the livelihood zone(s) for analysis. This is done by entering a '1' in the yellow-shaded cells alongside the list of LZ codes. In the above example, one LZ (BGP) in Melka Soda has been selected, and the analysis will be run for just the 17,434 people in this LZ in this district.
The alternative to selecting a single LZ in a single district is to select all the Lzs in one district, or to select the whole of a region/province, or the whole of a LIAS. The figure to the right shows the effect of selecting the whole of the LIAS (by selecting ‘All’ at steps 1c and 1d, and selecting all the Lzs at step 1e). In this case the analysis will be run for the 389,813 people in BGP, plus the 77,805 in MCB, and so on. (Compare the population included in this table with the total population in the green-shaded population table above).

Note: Underneath the LZ selection table there is a list of livelihood zone codes and names, to help in identifying the various livelihood zones.

### 3.3.2 Setting Up Other Aspects of the Analysis

Steps 2 to 5 deal with other aspects of setting up the analysis.

**Step 2:** The dashboard contains population data tables which refer to a specific year for each LIAS (see table presented in Step 1e above). In this example, the population data is for 2007. At Step 2, enter the percentage change in population compared to this year (e.g. in the example a figure of 112% would mean a 12% increase in population since 2007).

**Step 3:** Select the type of hazard for analysis. The dashboard includes guidance on how to specify the ‘problem’ for five different types of hazard. Select the hazard by entering the number corresponding to the hazard in the yellow-shaded cell, B52.

**Step 4:** At this step, the user can vary the types of coping strategy that are included in the outcome analysis. This is done by entering a number between 1 and 4 into cell D61. The default option is to include all strategies (option 4), but there may be circumstances where selecting a different sub-set of strategies might be appropriate.

---

1 This will usually be the reference year for the HEA baselines, but not always. For example, where a LIAS contains baselines with different reference years, then the population data will refer to one specific year only.
For example, it could be argued that any increase in firewood and charcoal sales should be excluded because of the potentially damaging effect on the environment (in which case select option 3). It has also been argued in other situations that no additional coping should be included at all, because baseline livelihoods were already stressed and people were already coping as much as they should (in which case select option 1).

**Step 5:** Select the level of food intake for survival. This relates to the setting of the survival threshold. In general, food intake is set to 2100 kcals per person per day, but this can be varied by entering a revised intake into cell D71. This option is rarely used.

### 3.3.3 Using the ‘Cost-of-Diet’ Thresholds

**Step 6:** Select the thresholds that will be used for the outcome analysis. In most cases analysts will opt to use the HEA thresholds (i.e. the thresholds set up using the HEA baseline data). However, a second set of thresholds may be available where a Cost-of-Diet (CoD) study has been carried out alongside the HEA baseline. This type of study measures the cost of purchasing a nutritionally complete diet for the population being assessed. If the CoD thresholds are selected, then the CoD data are used as follows:

a) The HEA survival threshold is based upon the energy only diet. This represents the cost of purchasing 100% of energy requirements.

b) The HEA livelihoods protection threshold is based upon the food habits diet. This represents the cost of purchasing 100% of all major macro- and micro-nutrients in the form of locally available foods.

It is only the food items included in the thresholds that vary according to the type of threshold selected. The same levels of expenditure on non-food goods and services are included in both.

Where Cost-of-Diet data are available, the user will be prompted to select the type of threshold to use at Step 6 (see diagram to the right). Any additional notes on the CoD thresholds are also presented here. In this case (from Turkana in NW Kenya), there are two notes, as follows:

a) CoD thresholds prepared for TCP only; these will be applied to TBP as well. This indicates that CoD data are only available for one of the LZs in the LIAS, but the same dietary data will be applied to all LZs in the LIAS.

b) CoD-LPT for TCP covers 80% of calcium requirements. This type of comment describes any limitation on the CoD diet. In this case, the food habits used to define the livelihoods protection threshold provides 80% (rather than the target 100%) of calcium requirements.

Where no CoD data are available, the message to the right is displayed. In this case, entering either ‘1’ or ‘2’ at Step 6 has no effect – the HEA thresholds will be used in both cases.
The effect of selecting either the HEA or CoD thresholds on the results is illustrated in Box 2 below:

### Box 2: Effect of Using CoD Thresholds in Place of HEA Thresholds

**Yangon City, Myanmar**

<table>
<thead>
<tr>
<th>Legend:</th>
<th>HEA Thresholds</th>
<th>Cost-of-Diet Thresholds</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Livelihood Zone: HTZ</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Household type: P</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ref.year</td>
<td>curr.year</td>
</tr>
<tr>
<td></td>
<td>current</td>
<td>thresholds</td>
</tr>
<tr>
<td></td>
<td>% minimum food needs</td>
<td>% minimum food needs</td>
</tr>
<tr>
<td></td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>200%</td>
<td>200%</td>
</tr>
<tr>
<td></td>
<td>300%</td>
<td>300%</td>
</tr>
<tr>
<td></td>
<td>400%</td>
<td>400%</td>
</tr>
<tr>
<td></td>
<td>500%</td>
<td>500%</td>
</tr>
<tr>
<td></td>
<td>600%</td>
<td>600%</td>
</tr>
<tr>
<td></td>
<td>700%</td>
<td>700%</td>
</tr>
<tr>
<td></td>
<td>800%</td>
<td>800%</td>
</tr>
<tr>
<td></td>
<td>900%</td>
<td>900%</td>
</tr>
<tr>
<td></td>
<td>1000%</td>
<td>1000%</td>
</tr>
<tr>
<td></td>
<td>ref.year</td>
<td>curr.year</td>
</tr>
<tr>
<td></td>
<td>current</td>
<td>thresholds</td>
</tr>
<tr>
<td></td>
<td>% minimum food needs</td>
<td>% minimum food needs</td>
</tr>
<tr>
<td></td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>200%</td>
<td>200%</td>
</tr>
<tr>
<td></td>
<td>300%</td>
<td>300%</td>
</tr>
<tr>
<td></td>
<td>400%</td>
<td>400%</td>
</tr>
<tr>
<td></td>
<td>500%</td>
<td>500%</td>
</tr>
<tr>
<td></td>
<td>600%</td>
<td>600%</td>
</tr>
<tr>
<td></td>
<td>700%</td>
<td>700%</td>
</tr>
<tr>
<td></td>
<td>800%</td>
<td>800%</td>
</tr>
<tr>
<td></td>
<td>900%</td>
<td>900%</td>
</tr>
<tr>
<td></td>
<td>1000%</td>
<td>1000%</td>
</tr>
</tbody>
</table>

**Legend:**

- Employment
- Local labour
- Thresholds
- Households protection
- Survival

These two outcome analyses show the effect of a 25% reduction in employment and labour income when measured against the two types of threshold.

The very high LP threshold in the CoD analysis reflects the high cost of purchasing a nutritious diet in this livelihood zone.

**Note:** Differences in total income in the reference year are a reflection of differences in the cost of the survival food basket. The basket based upon the energy-only diet (CoD analysis) cost less than that based upon the HEA results, resulting in a higher total income in food terms (650% of food needs compared to 510% of food needs using the HEA thresholds).

### 3.3.4 Entering the Problem Specification

The problem specification is set as follows:

**Step 7:** Set Production/Access to Food and Cash Income (the Quantity Problem)

**Step 8:** Set the Prices Obtained for Items Sold (the Price Problem)

**Step 9:** Set the Prices Paid for Items Purchased (the Price Problem)

The Dashboard has the following two features:

- Lists the variables for which a problem should be specified - the key parameters (see list in Col G in the figure to the right).

- Within the list of key parameters, highlights the most important (see key parameters highlighted in orange in Col G).
The list of key parameters in Col G is livelihood zone specific, and will vary according to the livelihood zones selected. In the above figure, only one LZ (WSG) is selected. This is a pastoral zone, so no crops are listed. Adding a second agropastoral LZ (NEA) means that the list is revised to include the crops that are key parameters in this LZ (right-hand figure).

Another feature of the Dashboard is that guidance is provided on how to specify the problem. This varies according to the hazard selected at Step 3. The guidance is displayed in Col I.

Guidance for a specific variable can be obtained by clicking within the circle next to that item in Col H (see diagram to the right).

An example of a possible hazard-specific problem specification for each variable is given in Col J. The figure for the selected variable is highlighted in grey. Note: these problems are presented as possible examples for the selected hazard, they are not incorporated into the analysis in any way.

This diagram shows how different guidance is obtained by clicking on different variables, in this case ‘camels’ milk – deyr’ rather than ‘maize – deyr’, as above.

Note: the guidance is general rather than specific to each individual crop or type of milk. Clicking on ‘maize – deyr’ and ‘maize – gu’ therefore generates the same guidance.
The actual problem specification is entered in Columns K to S.

These initial examples deal with a situation where the selected livelihood zones have the same reference year.

There are two methods of specifying a problem:

- By entering monitoring data from the current and reference years (Cols K and L), see example to the right.

  Note: In this figure cols H to J are hidden.

- By entering a problem directly in percentage terms into Col S, see example to the right.

  Note: the problem specification calculated from current and reference year data is shown in the blue-shaded column, Col Q.

There are two ways in which Col S can be used:

- To enter a problem where there is no monitoring data. The example above shows how to enter a problem for deyr season maize, where there is only data for sorghum (and assuming that the maize and sorghum would have roughly the same problem).

- To override a problem calculated from the monitoring data, if that result seems unreasonable and needs adjustment. Note: any number entered into Col S replaces that in Col Q in the outcome analysis.

The process of problem specification becomes more complicated when there is more than one reference year.

In this example, there are two reference years (Oct'06-Sep'07 and Oct'11-Sep'12), and two columns in the reference data table (Cols L and M) are therefore highlighted in light green.

In this case, two problem specifications are calculated, as follows:

1) Oct'06-Sep'07: 2,500 / 4,500 x 100 = 56%
2) Oct'11-Sep'12: 2,500 / 3,250 x 100 = 77%

Note: the problem specification in Col Q is based upon the average reference year production (i.e. an average of 3,250 and 4,500).

Note: the maximum number of reference years supported by the analysis is three (with the 3rd reference year in Col N).
Production data will generally be available for crops, but rarely for other sources of food/cash.

For these other items a different colour scheme is used (see figure above). In this case, the simplest thing is to enter a general (estimated) problem directly into Col S, but this will introduce errors if there are large differences between the different reference years. The other way to approach this problem is to enter nominal figures into columns K, L and M.

The example above is as follows: Milk output in Oct’06-Sep’07 is set to a nominal 100. Milk output in Oct’11-Sep’12 Oct is thought to have been about 20% higher, and is therefore set to 120. Milk output this year is thought to be 30% of that in Oct’06-Sep’07, and is therefore set to 30.

Where data are not available to specify a quantity problem, either leave the problem at 100%, or enter a reasonable estimate of the problem (see Box 3 for some suggestions on how to estimate the problem for one item from that of another).

**Box 3: Suggestions for Estimating One Problem Spec from Another**

- Crop production levels → Harvest labour
- Area planted for next harvest → Ploughing / weeding labour
- Crop production levels in areas to which people migrate → Migration labour (if most work is harvesting)
- Coffee production (if most work is harvesting) → Coffee labour
- Milk production levels → Gifts of milk

At **Step 8**, the price problem for items sold is specified (see example to the right).

At **Step 9**, the price problem for items purchased is specified (see example to the right).

Care needs to be taken to correctly specify the problem for inflation, especially if there is more than one reference year.

In principle, figures from the consumer price index (ideally for non-food items) can be entered directly into Columns K, L and M. The example above shows how to enter data where the consumer price index was 125 in July’07, 152 in July’12 and 164 in July of the current year.
3.3.5 Entering Data on an Intervention

At Step 10, a series of data entry tables is provided to receive data on food, income and expenditure associated with a project being implemented in the current year. For most emergency assessments, these tables will be left blank, and the deficits given on the ‘Results’ sheet will be used to calculate emergency needs (usually in the form of food aid or a cash transfer).

Step 10 provides the opportunity to evaluate the impacts of a specific project on the deficit in the current year. This could be a development project (e.g. a vegetable gardening project), or an already-planned emergency intervention (in which case the outcome analysis can be used to measure the effectiveness of the intervention in covering any deficit).

Note: Data entered at Step 10 must correspond to the amounts of food, cash and expenditure derived from the intervention under current year conditions. For example, if the problem specified at steps 7, 8 and 9 corresponds to a drought, then the data entered at Step 10 must be the amounts of food, cash and expenditure derived from the project under drought conditions.

The project data entry tables are as follows:

<table>
<thead>
<tr>
<th>Type of data entered</th>
<th>Data entered</th>
<th>Result Calculated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Income</td>
<td>All sources of food derived from the intervention (e.g. crop or milk production that is consumed)</td>
<td>%kcals consumed – this contributes to total project income</td>
</tr>
<tr>
<td>Cash income</td>
<td>All sources of cash income derived from the intervention (e.g. income from any product sold)</td>
<td>Project cash income, which is added to project food income to calculate total project income</td>
</tr>
<tr>
<td>Cash expenditure</td>
<td>All sources of cash expenditure resulting from the project (e.g. expenditure on assets or inputs)</td>
<td>These expenditures are added to the livelihoods protection threshold</td>
</tr>
<tr>
<td>Opportunity costs</td>
<td>Any source of existing income that is reduced because there is not time to undertake this activity as well as any new project activities (e.g. reduced ag.labour).</td>
<td>Any lost income is subtracted from total income</td>
</tr>
<tr>
<td>Credit</td>
<td>Enter any credit received or credit repaid</td>
<td>Credit received is added to project income; credit repayments are added to the livelihoods protection threshold.</td>
</tr>
</tbody>
</table>

For each section of the data entry table, guidance is provided together with some examples of the type of data to be entered (see the grey-shaded cells in the example for cash income below).
The figure to the right shows how the data on project income and expenditure are incorporated into the total income analysis, and the graphs presented on the ‘Graphs – annual’ sheet. (For more details of the ‘Graphs – annual’ sheet see section 3.5.1 below).

Project income is added to current year income (the yellow-shaded portion of the ‘curr.year’ bar in the figure to the right). Project expenditure is added to the livelihoods protection threshold (the light blue top section of the ‘thresholds’ bar).

Data on the number of people facing a deficit, and the amounts of food/cash required are presented on the ‘Results’ sheet. These correspond to the number of people and quantities of assistance after taking the effects of the intervention into account. (For more details of the ‘Results’ sheet see section 3.4 below).
3.4 RESULTS SHEET

3.4.1 Whole Year Analysis

Results can be presented for the whole consumption year, or for some other period or combination of periods (e.g. 1st and 2nd six months of the consumption year). Further details of these other periods are given in section 3.4.2. The remainder of this section deals with the whole year analysis.

At the top-left of the ‘Results’ sheet is a table indicating the area selected for analysis on the ‘Data Entry’ sheet.

The user can then choose to view the results by individual LZ, or the total for all LZs together (select ‘All: …’ from the drop-down menu).

The table to the right shows the results table for a single livelihood zone. Results are given for the number of people and number of households facing a deficit, and the amounts of food/cash required to fill any deficits.

Results are given by wealth group, and are then totalled across wealth groups in Col I. Note that if a deficit is calculated for any one wealth group, then the assumption is that all the people in that wealth group face a deficit, and the whole wealth group is included in the total.

Where a set of results are highlighted in orange, this indicates that the deficit for that wealth group is relatively small (equivalent to less than one month of food consumption). In this case, the user may want to consider excluding this wealth group from the total, since the needs for this group will be relatively small.

The results table also includes a calculation of the IPC (Integrated Phase Classification) phase for acute food insecurity that corresponds to the HEA outcome analysis results. Further details of how the IPC phase is calculated are given in Box 4.
Deficits are calculated in relation to two thresholds, the survival threshold (survival deficit) and the livelihoods protection threshold (total deficit). More information on these two thresholds can be found in section 4.1.2.

Note that the total deficit is equal to the total of the survival and livelihoods protection deficits.

Recommendations for using the results from these two thresholds are given in Box 5.
3.4.2 Selecting Other Periods for Analysis

The user can also choose to calculate the deficits for periods other than the whole of the consumption year. This can be very useful in terms of planning the timing of any assistance required.

The period for analysis is selected in the box at the top-right of the ‘Results’ sheet (see figure to the right).

The user selects one of four options by entering a number between 1 and 4 into cell K4. The options and the results displayed in the left- and right-hand tables on the ‘Results’ sheet are given in the table below:

<table>
<thead>
<tr>
<th>Option</th>
<th>Left-hand Results Table</th>
<th>Right-hand Results Table</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Whole consumption year</td>
<td>Whole year: survival deficit</td>
<td>Whole year: total deficit</td>
</tr>
<tr>
<td>2: 1st and 2nd six months</td>
<td>Total deficit: 1st six months of consumption year</td>
<td>Total deficit: 2nd six months of consumption year</td>
</tr>
<tr>
<td>3: 1st and 2nd seasons</td>
<td>Total deficit: 1st season, as defined by the HEA baseline assessment</td>
<td>Total deficit: 2nd season, as defined by the HEA baseline assessment</td>
</tr>
<tr>
<td>4: Use-defined period</td>
<td>Any part of the consumption year, as defined by the user.</td>
<td>Blank</td>
</tr>
</tbody>
</table>

Note: If option 4 (user-defined period) is selected, the user must define the period by entering a start and an end month into cells M9 and M10. The selection is made from a drop-down list associated with each cell.

The survival deficit results should only be used as follows:

- to help determine how much emergency assistance should be provided in the form of food and how much as cash, especially where food markets are poorly integrated or not functioning normally.
- to help target limited resources most effectively, especially to those areas where people’s survival is threatened as well as their livelihoods.
Analysis by 1st and 2nd Season: This can be especially useful where there are two seasons of crop or livestock production in the year, as is the case in north-east Kenya (see example to the right). In this case, it can be very useful to summarise the results for the first season (from the start of the 1st harvest until the month before the 2nd harvest – Jan-Jun) separately from those of the 2nd season (Jul-Dec).
3.5 **GRAPH SHEETS**

### 3.5.1 Graphs - Annual

The first step is to select the Livelihood Zone for graphing. This is done by entering an ‘x’ next to the LZ code in the table to the right.

Then select the wealth group for graphing, by entering an ‘x’ in the table to the right.

A range of graphs is then displayed. These provide a detailed analysis of changes in total income between the reference and the current year.

The example to the right shows an analysis of total income (i.e. food plus cash) for poor households from DKA (Dakoro Katsina Agropastoral LZ) in Niger. These households face a livelihoods protection deficit, i.e. their total income is currently below the livelihoods protection threshold (in light blue), but not below the survival threshold (in pink).

What the graphs show is that the main reason for this is not a failure of crop production (shaded green), but a loss of milk production and milk sales and of purchasing power, with large reductions noted in total income from livestock sales, from labour and from other sources.

The importance of the graphs is therefore that they provide the story behind the statistics.
If you want to examine the results in greater detail, then there is also a table of results on Sheet G, beginning at cell E34 (see figure to the right). This gives the problem specification for each food/cash source, plus data on baseline and current access.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
</tr>
</thead>
<tbody>
<tr>
<td>33</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>3</td>
<td>prob%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td></td>
<td>camels' milk - jul-dec</td>
<td></td>
<td></td>
<td>0%</td>
</tr>
<tr>
<td>36</td>
<td></td>
<td>camels' milk -</td>
<td></td>
<td></td>
<td>0%</td>
</tr>
<tr>
<td>37</td>
<td></td>
<td>cows' milk - jul-dec</td>
<td></td>
<td></td>
<td>1%</td>
</tr>
<tr>
<td>38</td>
<td></td>
<td>cows' milk -</td>
<td></td>
<td></td>
<td>0%</td>
</tr>
<tr>
<td>39</td>
<td></td>
<td>sheep's milk - jul-dec</td>
<td></td>
<td></td>
<td>0%</td>
</tr>
<tr>
<td>40</td>
<td></td>
<td>sheep's milk -</td>
<td></td>
<td></td>
<td>0%</td>
</tr>
<tr>
<td>41</td>
<td>100%</td>
<td>millet</td>
<td></td>
<td></td>
<td>25%</td>
</tr>
<tr>
<td>42</td>
<td>77%</td>
<td>sorghum</td>
<td></td>
<td></td>
<td>3%</td>
</tr>
<tr>
<td>43</td>
<td>100%</td>
<td>pitt mi</td>
<td></td>
<td></td>
<td>1%</td>
</tr>
</tbody>
</table>

### 3.5.2 Graphs - Seasonal

The final sheet of the Dashboard provides a seasonal analysis of deficits, showing when deficits are likely to occur. This is obviously important in terms of helping decide when it is best to intervene.

The analysis on Sheet S is presented for the livelihood zone and wealth group selected on Sheet G.

---

**Annual Analysis**

- **Total Income (food+cash)**
- **District:**
- **Livelihood Zone:**
- **RWH:**
- **Household Type:**

---

**Seasonal Analysis**

- **Annual Deficit**
- **Seasonal Deficits April-May & Aug-Sep**

---

**A seasonal analysis shows when deficits are likely to occur**

**This is important for deciding when to intervene**
4 APPENDIX

4.1 INTRODUCTION TO HOUSEHOLD ECONOMY ANALYSIS

4.1.1 The Household Economy Baseline

The household economy approach to analysing livelihoods and assessing food security has been used widely in Africa and elsewhere over the past fifteen years. The basic principle underlying the approach is 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, while another group may be able to cope because they have alternative food and income sources that can make up the production shortfall (e.g. they may have livestock to sell or relatives living elsewhere that can provide assistance). The idea of the household economy baseline is to capture this essential information on local livelihoods and coping strategies, making it available for the analysis of hazard impacts.

Patterns of livelihood clearly vary from one area to another, according to local factors such as climate, soil, access to markets etc. The first step in a household economy analysis is therefore to prepare a livelihood zone map, i.e. a map delineating geographical areas within which people share basically the same patterns of access to food (i.e. they grow the same crops, keep the same types of livestock, etc.) and have the same access to markets.
and to sources of cash income. An example of a livelihood zone map based on information gathered from southern Mozambique is presented above.

In nearly all developing countries, the household is the basic unit of economic operation in rural areas in terms of the ownership of land and livestock and equipment, of stocking and consuming food, and of sharing cash income. The household is therefore taken as the basic unit of reference in household economy analysis.

Where a household lives is one factor determining its options for obtaining food and generating income. Another is wealth, since this is the major factor determining the ability of a household to exploit the available options within a given zone. It is obvious, for example, that better-off households owning larger farms will in general produce more crops and be more food secure than their poorer neighbours. Land is just one aspect of wealth, however, and wealth groups are typically defined in terms of their land holdings, livestock holdings, capital, education, skills, labour availability and/or social capital. Defining the different wealth groups in each zone is the second step in a household economy analysis, the output from which is a wealth breakdown.

Having grouped households according to where they live and their wealth, the next step is to generate household economy baseline information for typical households in each group for a defined reference or baseline year. Access to food and to non-food goods and services is determined by investigating the sum of ways households obtain food and cash — what food they grow, gather or receive as gifts, how much food they buy, how much cash income is earned in a year, and how other essential needs are met with income earned.

Once this baseline is established, an analysis can be made of the likely impact of a shock or hazard in a bad year. This is done by assessing how access to food and cash income will be affected by the shock, what other food and cash sources can be added or expanded to make up initial shortages, and what final deficits emerge.

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 5 and 10 years. What varies is the prevailing level of access to food and non-food goods and services, 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).

4.1.2 Predicting Future Access to Food and Non-Food Goods and Services

One objective of HEA is to investigate the effects of hazards on future access to food and income, so that decisions can be taken about the most appropriate types of intervention to implement. The rationale behind the approach is that a good understanding of how people have survived in the past provides a sound basis for projecting into the future. Three types of information are combined for the analysis; information on baseline access, information on hazard (i.e. factors affecting access to food/income, such as crop production or market prices) and information on coping strategies (i.e. the sources of food and income that people turn to when exposed to a hazard). The approach can be summarised as follows (see Figure 3):

---

2 The baseline or reference year can be the last 12 months or a ‘normal’ or typical year. In terms of data collection and 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 (beginning at the start of the harvest for agricultural communities), provided there wasn’t an unusually large amount of food aid or other assistance distributed and provided it wasn’t a very good year. If any of these situations applies then it can be very difficult to understand coping strategies and it makes sense to choose an earlier year.
Baseline + Hazard + Coping = Outcome

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 coping strategies have been taken into account. The next step is to compare projected total income against two clearly defined thresholds to determine whether an intervention of some kind is required.

Figure 3: 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 4).

The two thresholds – the Livelihoods Protection Threshold and the Survival Threshold – are described in Figure 4. The Survival Threshold is the amount of food and cash income required to ensure survival in the short-term, i.e. to cover survival food and non-food needs. Survival non-food needs will generally include the costs of preparing and consuming food plus any cash expenditure on water for human consumption. 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 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 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 nor 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
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 minimum 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.)

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 antimalarials in lowland but not highland areas).
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)?

### 4.1.3 Analysing Coping Strategies

It is not usual to include every possible coping strategy in the calculation of outcome. This would have the effect of minimising and almost certainly underestimating the need for assistance as measured by the deficit. Instead, 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 a pastoral setting, for example, it is usual to increase livestock sales in a bad year. This is an appropriate response to economic stress - provided the increase in sales is not excessive.

Similarly, in many agricultural areas, 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 also be considered an appropriate response to stress. In HEA, therefore, the most important characteristic of a coping strategy is its cost, where cost is measured in terms of the effect on livelihood assets.

---

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

4 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.
on future production by the household, and on the health and welfare of individual household members. The table presents a basic categorisation of coping strategies according to 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 above).

4.1.4 How HEA Helps Address Core Decision Maker Questions

If total income falls below one or other threshold, this implies the existence of a deficit and the need for an intervention of some kind. HEA helps to distinguish clearly between situations according to their severity and urgency. The existence of a Livelihoods Protection Deficit (see Figure 5) indicates the need for interventions to protect livelihoods, while a Survival Deficit indicates the need for an intervention to ensure survival in the short term.

There is a range of options that can be used to fill a deficit, from food and cash transfers, through non-food interventions to market price interventions (see Figure 6). Information on patterns of local livelihood (collected during the household economy fieldwork) will help to identify the most appropriate intervention in any particular situation. The only point to bear in mind in relation to the

---

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

The output from a Household Economy analysis is quantitative. That is HEA provides quantitative estimates of how many people will face a deficit, how big that deficit is, and therefore the scale of intervention required to address the problem. Besides answering the critical question of how much?, HEA also generates answers to the other core questions posed by decision-makers in relation to emergency interventions (see **Box 7**).

<table>
<thead>
<tr>
<th>Box 7. How HEA Helps Address Core Decision Maker Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Core question</strong></td>
</tr>
<tr>
<td>WHO</td>
</tr>
<tr>
<td>WHAT</td>
</tr>
<tr>
<td>HOW MUCH</td>
</tr>
<tr>
<td>WHERE</td>
</tr>
<tr>
<td>WHEN and FOR HOW LONG</td>
</tr>
</tbody>
</table>
Figure 6: How HEA Helps Identify a Broad Range of Interventions

**Deficits may be Addressed via a Range of Interventions**

The basic measure of outcome in a household economy analysis is the deficit. If there is a deficit then an intervention of some kind is required. As this figure shows a range of interventions can help ‘fill’ the deficit, protecting food security and livelihoods at household level.

<table>
<thead>
<tr>
<th>The Outcome Analysis – The Starting Point for Identifying Appropriate Interventions</th>
<th>A Food Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>The left-hand bar illustrates food access, as a percentage of minimum annual food energy needs.</td>
<td>Free food or food-for-work is one option for filling the deficit, but there are others…</td>
</tr>
<tr>
<td>The right-hand bar shows the pattern of cash expenditure, expressed as a percentage of baseline. (Note: staple = staple food, min.n.s = minimum non-staple expenditure, or the sum of expenditure on survival-non food items plus livelihoods protection.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A Cash income intervention</th>
<th>A Non-food intervention</th>
<th>A Market price intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>If cash income is increased, the deficit can be filled through increased purchase. The intervention may be direct (i.e. in the form of cash) or indirect (i.e. through support to one or more income generating activities).</td>
<td>In a crisis, households must purchase more than just food. They also need to pay for items such as water, seeds and inputs for the next production season, school fees, etc. Provision of these items can free up cash to increase food purchase.</td>
<td>Increasing prices often cause reductions in food access in a crisis. Measures to stabilise food prices (e.g. the release of food from government grain reserves) can help to increase household food purchasing power, thus filling the deficit.</td>
</tr>
</tbody>
</table>