

Mali Scenario Analysis 2011-12

Six Rural Livelihood Zones

Assessed Using the Household Economy Approach (HEA)
February 2012

Bamako scenario workshop organised by:
Oxfam GB

Funded by:
ECHO

Report Prepared by:
Alexandra King, Food Economy Group (FEG)

Report Prepared for:
Save the Children UK

SCENARIO WORKSHOP PARTICIPANTS

FACILITATORS: Adama Thera (Système d'Alerte Précoce), Abdoulaye Samoura (Oxfam GB), Madeleine Evrard Diakite (Oxfam GB), Yacouba Bachir (Save the Children UK), Alexandra King (FEG)

PARTICIPANTS: Samba DOLLO (Commissariat à la Sécurité Alimentaire), Abdoulaye TRAORE (Direction Nationale de l'Agriculture), Boureima ONGOIBA (Institut d'Economie Rurale ECOFIL), Ichiaka BENGALY (Système d'Alerte Précoce), Sidiki DIARRA (Save the Children), Katié SOGOBA (Save the Children), Mohamed MAIGA (Welthungerhilfe), Aly T. MANA (Consultant SAN), Moussa FOFANA (CARE), Marc CHAPON (Vétérinaires Sans Frontière), Abdelkader IBRAHIM (Oxfam GB)

CONTENTS

| | | |
|----------|--|------------|
| 1 | SUMMARY | 1 |
| 2 | INTRODUCTION..... | 3 |
| 3 | THE HEA METHODOLOGY AND THE MALI LIVELIHOODS BASELINES | 3 |
| 3.1 | THE LIVELIHOODS BASELINES (THE CONTEXT)..... | 3 |
| 3.2 | DEVELOPING PROBLEM SPECIFICATIONS FROM MONITORING DATA (THE CHANGES).... | 6 |
| 3.3 | ANALYSIS OF PROJECTED SITUATION (THE OUTCOME ANALYSIS) | 8 |
| 4 | SCENARIOS (PROBLEM SPECIFICATIONS)..... | 10 |
| 5 | PROJECTED FOOD SECURITY PROSPECTS FOR 2011-12 | 144 |
| 5.1 | THE PERIOD COVERED BY THE CURRENT ANALYSIS | 14 |
| 5.2 | OUTCOME FOR SIX LIVELIHOOD ZONES..... | 14 |
| 5.3 | TIMING OF DEFICITS | 22 |
| 5.4 | SENSITIVITY TO STAPLE FOOD PRICE SCENARIO..... | 23 |
| 6 | FINAL COMMENTS..... | 24 |
| 7 | APPENDIX – THE HEA FRAMEWORK | 25 |

1 SUMMARY

This report presents the results of a scenario analysis exercise carried out in Bamako in the period 23-26 January for six livelihood zones in Mali. This was carried out as part of the ECHO-funded project 'Strengthening Sahelian food security stakeholders in Household Economy Approach in view of crises mitigation 2012.' Oxfam GB organised the workshop, which included participants from Oxfam GB, Système d'Alerte Précoce, Direction Nationale de l'Agriculture, Institut d'Economie Rurale ECOFIL, Commissariat à la Sécurité Alimentaire, Save the Children, CARE, Welthungerhilfe and Vétérinaires Sans Frontière.

The exercise used HEA (household economy analysis) baselines carried out by Save the Children and Oxfam, and their partners, in six livelihood zones in Mali since 2009. In relation to the 2009 FEWS NET livelihood zone map, the baselines and the scenarios analysed cover parts of the following zones (LZ):

- LZ 2 Nomadic & Transhumant Pastoralism (Bourem Cercle)
- LZ 3 Fluvial Rice & Transhumant Livestock Rearing (Bourem Cercle)
- LZ 5 Dogon Plateau (Bandiagara Cercle)
- LZ 7 'Office du Niger' – Irrigated Rice (Niono Cercle)
- LZ 10 Sorghum, Millet & Cotton (Yorosso Cercle)
- LZ 12 Southwest Maize, Sorghum, & Fruits (Kolondieba Cercle).

The period of consumption year covered by the current analysis is October 2011 – September 2012 for the agricultural and agropastoral livelihood zones, and July 2011 – June 2012 for the pastoral zone. The analysis is for one cercle (or district) per livelihood zone, the cercle where the original HEA baseline was carried out.

As much as possible, official monitoring data on crop production and prices has been used for the definition of the current year problem. Some of the crop production data is subject to revision by the Ministry of Agriculture (as of late January 2012). Where official information was not available, information gathered in the field has been used. As a last resort, in the absence of any other information sources, assumptions have been made based on a consensus amongst the workshop participants. Each element of the scenarios analysed is clearly outlined in the report below and can be monitored and revised in future as additional information becomes available. The current plan is to formally review and revise these scenarios in late March 2012.

The performance of last year's agricultural season has been largely poor in the six cercles analysed, with the exception of Kolondieba. Staple food prices are high throughout the country in relation to the reference years for which baseline information was gathered. Increases in staple food prices have consistently outstripped increases in the prices of items from which very poor and poor households derive an income (labour, livestock, cash crops) across all six livelihood zones.

The following table summarises the results of the 2011-12 scenario analysis. The zones where very poor and poor households are likely to face the worst problems (both survival and livelihood protection deficits) are LZs 2 and 3 (Bourem Cercle) in Gao Region. The next

worst situation is found in LZs 10 (Yorosso) and 5 (Bandiagara), where households face livelihood protection deficits. Very poor households are above, but very close to, the livelihood protection threshold in LZ 7 (Niono), while households in all wealth groups are well above the threshold in LZ 12 (Kolondieba). Middle and better off households do not face survival or livelihood protection deficits in any livelihood zone under the scenario analysed.

| Summary of Scenario Analysis Results: Wealth Groups/Livelihood Zones Facing Deficits | | | | | | |
|---|------------------------------------|------------------------------------|-----------------------|-----------------------|-------------|--------------|
| | LZ 2 | LZ 3 | LZ 10 | LZ 5 | LZ 7 | LZ 12 |
| Very poor | Survival and livelihood protection | Survival and livelihood protection | Livelihood protection | Livelihood protection | No deficits | No deficits |
| Poor | Survival and livelihood protection | Livelihood protection | Livelihood protection | No deficits | No deficits | No deficits |
| Middle | No deficits | No deficits | No deficits | No deficits | No deficits | No deficits |
| Better off | No deficits | No deficits | No deficits | No deficits | No deficits | No deficits |

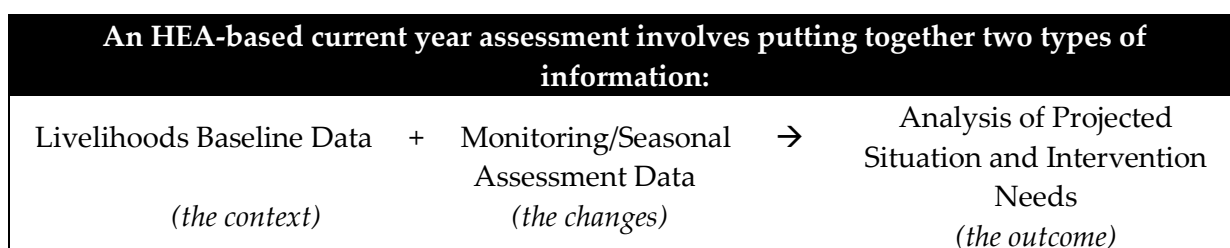
In this analysis, a livelihood protection deficit represents an emergency situation whereby households cannot afford many basic things that they spent money on in the reference year, including education, health, inputs for agricultural and livestock production, and small quantities of clothes and non-staple foods. Faced with this situation, they may make a choice to purchase items in the livelihood protection basket in preference to staple food, thereby going hungry. A survival deficit indicates that, in addition to not being able to afford items in the livelihood protection basket, households cannot obtain adequate kilocalories.

2 INTRODUCTION

Save the Children UK has received ECHO funding to implement a capacity building project called 'Strengthening Sahelian food security stakeholders in Household Economy Approach in view of crises mitigation 2012'. The project aims to provide quality information for national early warning systems and for NGOs and donors to prevent the food and nutrition situation worsening in households most at risk in 2012 in three countries (Burkina Faso, Mali and Mauritania). This report presents the results of a scenario analysis workshop held in Bamako as part of this project in the period 23-26 January for six livelihood zones in Mali. Oxfam GB organised the workshop, which included participants from Oxfam GB, Système d'Alerte Précoce (SAP), Direction Nationale de l'Agriculture, Institut d'Economie Rurale ECOFIL, Commissariat à la Sécurité Alimentaire, Save the Children, CARE, Welthungerhilfe and Vétérinaires Sans Frontière.

3 THE HEA METHODOLOGY AND THE MALI LIVELIHOODS BASELINES

The method used to determine which areas will face deficits in the coming months and the magnitude and timing of these deficits is known as Household Economy Analysis (HEA). This is described briefly in this section, and in more detail in Section 7.

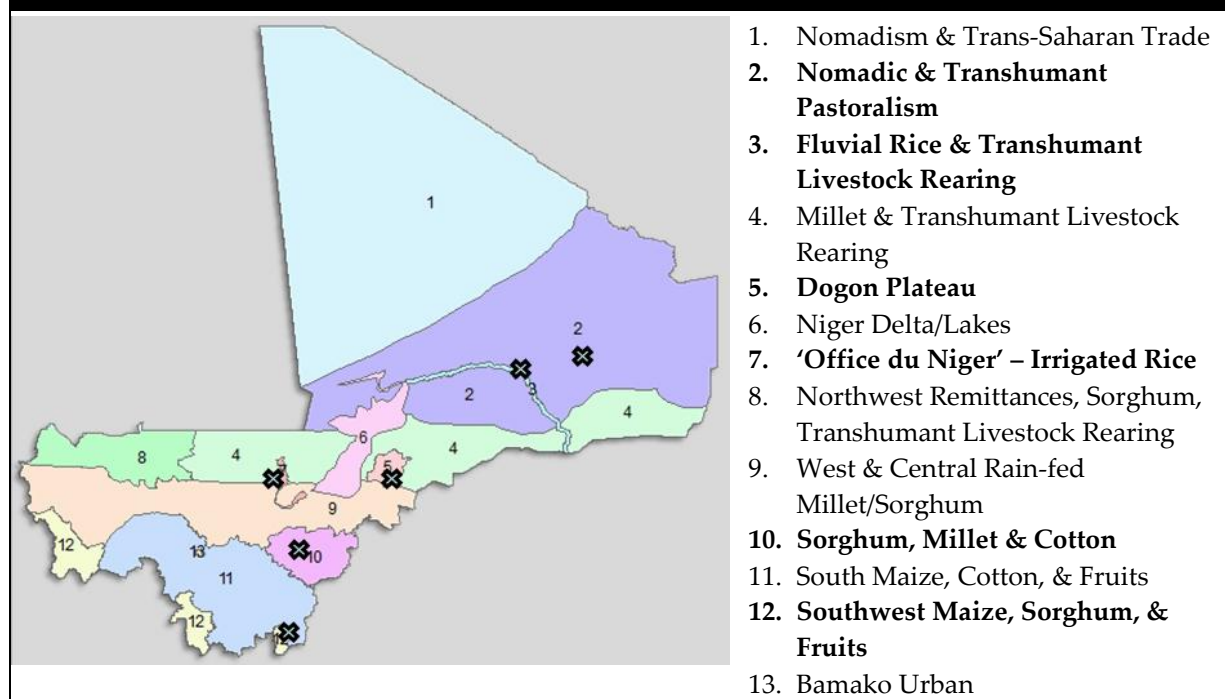


3.1 THE LIVELIHOODS BASELINES (THE CONTEXT)

There are three steps to preparing an HEA livelihoods baseline. The first is the preparation of a livelihood zone map. In 2009, FEWS NET conducted a livelihood re-zoning in Mali, which produced twelve rural and one urban livelihood zone (Figure 1). Since 2009, SCUK and Oxfam, with funding from ECHO, have completed livelihoods baselines in six of the rural livelihood zones (Zones 2, 3, 5, 7, 10 and 12, marked with Xs in Figure 1)¹. These baselines form a key input into this analysis, providing the context against which to evaluate the effects of changes in production and prices.

¹ ACF conducted a rapid HEA baseline in a seventh livelihood zone in 2008 (Kita Cercle in Kayes Region), but the data spreadsheets for this zone were received too late to be included in the scenario analysis. Additionally, the fieldwork was conducted in too few villages to be considered fully representative.

Figure 1: Livelihood Zones of Mali



The second step in an HEA baseline assessment is the preparation of a wealth breakdown, by livelihood zone. The wealth breakdowns (percent of population) for the six livelihood zones fall into the following ranges: 10-30% very poor, 15-35% poor, 25-45% middle and 15-35% better off. Wealth breakdowns group people together using local definitions of wealth and quantify their livelihood assets (including land and livestock holdings, household size and composition, skills, etc.).

The third step is the quantification of all sources of food, income and expenditure – for each wealth group in each livelihood zone – for a defined 'reference' year. The reference year differs by livelihood zone because of the extended period over which the baseline assessments were carried out.

Table 1: Reference years

| | |
|-----------------|-------------------------------|
| LZ 2 (pastoral) | July 2007 – June 2008 |
| LZ 3 | October 2007 – September 2008 |
| LZ 5 & 7 | October 2009 – September 2010 |
| LZ 10 & 12 | October 2008 – September 2009 |

The following tables provide a brief summary of the characteristics of each livelihood zone.

| LZ 2 Nomadic & Transhumant Pastoralism (Bourem Cercle) | | |
|---|---|---|
| Livestock | Camels, sheep, goats, cattle | This pastoralist livelihood zone is situated in Gao Region in the northeast of Mali. With average rainfall of just 100-150 mm per year, this is an arid zone. Cattle numbers decrease the further north in the zone one travels. Livelihoods are quite undiversified in the zone, relying on livestock, labour related to livestock (herding), and trade. The zone is situated on important trade routes, which enables middle and better off households to engage in trading activities. Very poor and poor households have relatively small livestock herds and rely on labour-related activities for most of their income (including herding, construction and domestic work). All four wealth groups obtain most of their food from market purchases. Very poor and poor households spent 60-70% of their income on food in the reference year (2007-08). |
| Income Sources | Livestock sales, labour sales, petty trade, self-employment | |

| LZ 3 Fluvial Rice & Transhumant Livestock Rearing (Bourem Cercle) | | |
|--|--|--|
| Crops | Rice, cowpeas, vegetables, tobacco, fodder | This agro-pastoralist livelihood zone is situated on the Niger River in Gao Region in the northeast of Mali. The population is largely sedentary and population density is low. Average rainfall of 150-200 mm per year is insufficient for rainfed rice production, but the Niger River permits production of rice and vegetables. Fertilizer and pesticides are not used. Very poor and poor households have quite diversified livelihoods, depending on rice crop production, small livestock rearing, vegetable production, fishing and labour migration. Although they consume some of their own crop production, most of their food is obtained through market purchases or labour exchange. Middle and better off households, in contrast, produce the majority of their food needs, supplemented by purchases. Very poor and poor households spent 50-60% of their income on food in the reference year (2007-08). |
| Income Sources | Livestock sales, crop sales, labour sales, self-employment | |
| Livestock | Cattle, goats, sheep | |

| LZ 5 Dogon Plateau (Bandiagara Cercle) | | |
|---|---|---|
| Crops | Millet, sorghum, shallots | The main crops produced in this agricultural livelihood zone are millet, sorghum, shallots, cowpeas, and groundnuts. Shallots are the main cash crop. Self-employment includes handicrafts, the production of which is oriented towards tourists. Households in all four wealth groups supplement their staple food production with market purchases. Very poor and poor households spent 50-60% of their income on food in the reference year (2009-10). |
| Income Sources | Crop sales, livestock sales, labour sales, petty trade, self-employment | |
| Livestock | Cattle, goats, sheep | |

| LZ 7 'Office du Niger' – Irrigated Rice (Niono Cercle) | | |
|---|--|--|
| Crops | Rice, millet, sorghum, vegetables | This productive agricultural livelihood zone is located in the 'Office du Niger', an irrigation scheme geared towards rice production in Segou Region. Vegetables are produced on the same land as rice, but in the off-season (February to June). Average rainfall is 425 mm per year, with great variation from one year to the next. The terrain is flat. Very poor and poor households spent 30-40% of their income on food in the reference year (2009-10). |
| Income Sources | Crop sales, livestock sales, labour sales, petty trade | |
| Livestock | Cattle, sheep | |

| LZ 10 Sorghum, Millet & Cotton (Yorosso Cercle) | | |
|--|--|---|
| Crops | Sorghum, maize, millet, cotton, tobacco, chilli | The main food crops produced in this agricultural livelihood zone are sorghum, maize, millet, cowpeas and groundnuts. Cash crops include cotton, tobacco and chilli. Rainfall is not uniform, varying from 600-750 mm per year in the north to 900-1200 mm per year in the south. The soils are poor and require the use of fertilizer or manure. Cattle, goats and sheep are reared. Very poor and poor households spent 30-40% of their income on food in the reference year (2008-09). |
| Income Sources | Crop sales, livestock sales, labour sales, self-employment | |
| Livestock | Cattle, goats, sheep | |

| LZ 12 Southwest Maize, Sorghum, & Fruits (Kolondieba Cercle) | | |
|---|--|--|
| Crops | Maize, sorghum, millet, rice, groundnuts, cowpeas, sweet potatoes, mangoes, cotton | This agricultural livelihood zone in the south of Mali receives more rainfall on average than the other livelihood zones included in this report, with an average of 1250 mm per year. However, the irregularity of rainfall remains one of the main constraints to agricultural production. The main economic activities are agricultural production, livestock rearing, the exploitation of forest products (such as wild food and honey collection) and gold mining. Land is plentiful and the main constraint to areas planted is labour availability. The main food crops are maize, sorghum, millet, rice, cowpeas and sweet potatoes. Cash crops include cotton, mangoes, groundnuts and sesame. Households obtain the majority of their food needs from own production, but nevertheless very poor and poor households spent 30-50% of their income on food in the reference year (2008-09). |
| Income Sources | Crop sales, livestock sales, labour sales, self-employment | |
| Livestock | Cattle, goats, sheep, donkeys, poultry | |

3.2 DEVELOPING PROBLEM SPECIFICATIONS FROM MONITORING DATA (THE CHANGES)

A problem specification is the translation of a shock or other change into economic consequences at household level. They allow you to mathematically link the change (positive or negative) to each relevant livelihood strategy. The process of developing problem specifications is one of critically examining the effects of each type of change on each source of food, income and expenditure. 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 for each wealth group and each livelihood zone. A key source (or key parameter) is here defined as one that contributes significantly to total food or cash income², so that a reduction in access to that one source may have a significant effect on total access. Table 2 summarises the key parameters for the six livelihood zones in Mali, based on their food and income sources in the reference year.

² A key parameter is here defined as a source of food or income that contributes at least 10% of one wealth group's total food or income or at least 5% for each of two wealth groups' total food or income.

Table 2: Key parameters

| Livelihood zone → | LZ2 | LZ3 | LZ5 | LZ7 | LZ10 | LZ12 |
|--|------------|------------|------------|------------|-------------|-------------|
| Key parameters: | | | | | | |
| Camel milk production | x | | | | | |
| Camel milk prices | | | | | | |
| Sheep milk production | x | | | | | |
| Sheep milk prices | x | | | | | |
| Goat milk production | x | | | | | |
| Goat milk prices | | | | | | |
| Cow milk production | | x | | | | |
| Cow milk prices | | x | | | | |
| Camel sales (herd size and prices) | x | | | | | |
| Cattle sales (herd size and prices) | x | x | x | x | x | x |
| Goat sales (herd size and prices) | x | x | x | | x | x |
| Sheep sales (herd size and prices) | x | x | x | | x | |
| Skin sales (quantity and price) | | | | | x | |
| Fish (catch and prices) | | x | | | | |
| Millet production / prices | | | x | x | x | x |
| Sorghum production / prices | | | x | | x | x |
| Maize production / prices | | | | | x | x |
| Rice production / prices | | x | | x | | x |
| Cowpeas production / prices | | x | | | | |
| Groundnuts production / prices | | | | | | x |
| Vegetables production / prices | | x | | x | | |
| Echalotte/onion production / prices | | | x | x | | |
| Cotton production / prices | | | | | x | x |
| Soya production / prices | | | | | x | |
| Cantine scolaire | | | | | | |
| Casual labour - herding | x | | | | | |
| Casual labour - agricultural | | x | | x | x | x |
| Casual labour - construction | x | | x | | x | |
| Casual labour - domestic | x | | | | | |
| Employment | | | | | | |
| Self-employment | x | x | x | | x | x |
| Petty trade | x | | x | x | x | x |
| Credit | | | | x | x | x |
| Labour migration | x | x | | x | | x |
| Remittances | | x | x | | | |
| Gifts | | | | | | |
| Staple food prices (cereals, sugar, oil) | x | x | x | x | x | x |
| Livelihood protection basket prices | x | x | x | x | x | x |

In an ideal situation, all of the key parameters are being monitored regularly and problem specifications can easily be developed. The reality is that this is rarely the case.

3.3 ANALYSIS OF PROJECTED SITUATION (THE OUTCOME ANALYSIS)

Outcome analysis is the term used to describe the process of taking information on the current situation (the monitoring data) and combining it with information on the reference year (the baseline) to project total income for the current year. Three types of data are combined: data on baseline access, data on hazard (i.e. factors affecting access to food and cash this year, such as crop production or market prices) and data on coping strategies (i.e. the sources of food and income that people turn to when exposed to a hazard)³. The approach can be summarised as follows:

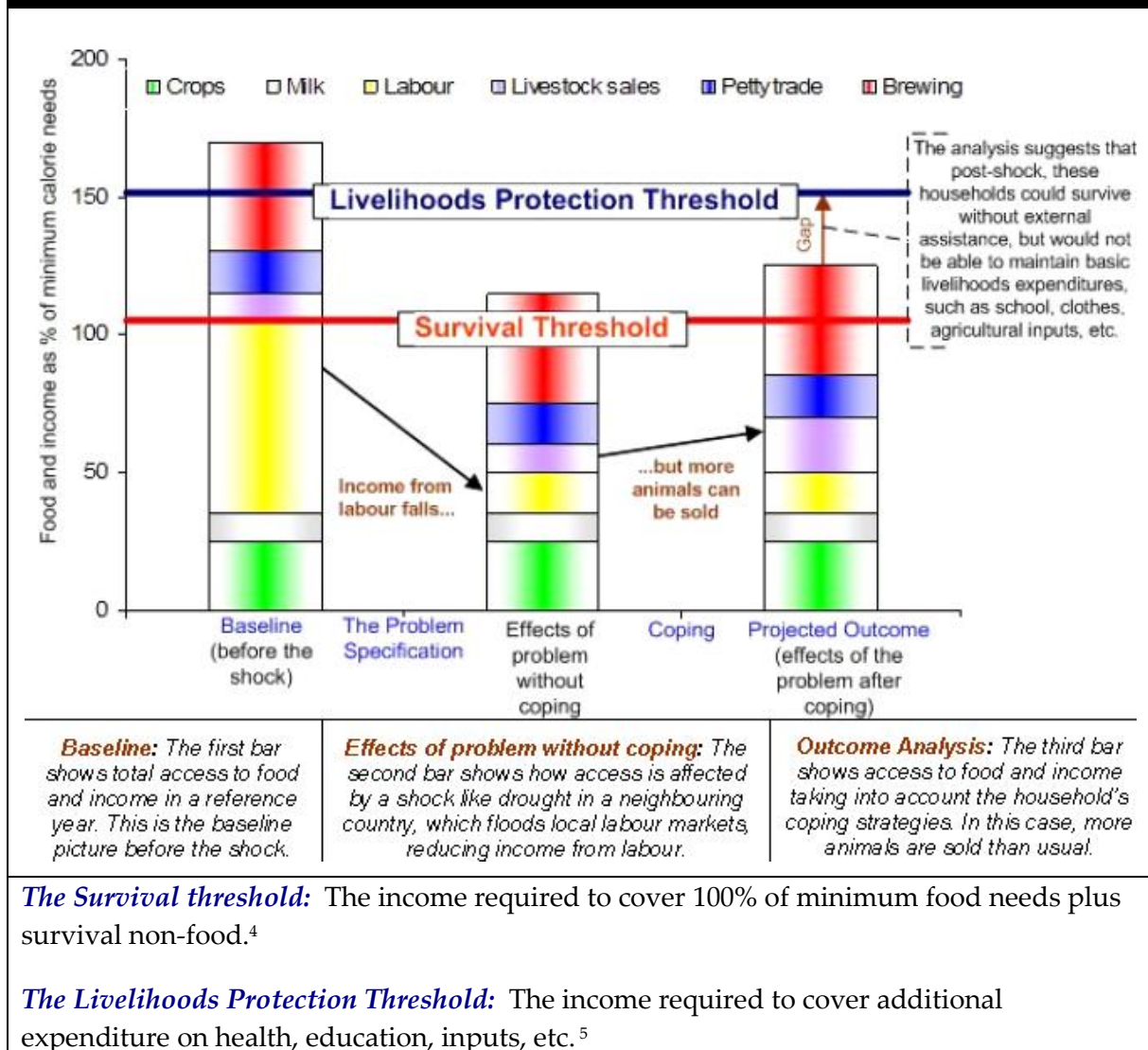
$$\textit{Baseline} + \textit{Hazard} + \textit{Coping} = \textit{Outcome}$$

In this context, the purpose of this analysis is to utilise available information on current hazards and their likely effects on baseline sources of food and cash income. The output from an outcome analysis is an estimate of total food and cash income for the current year, once the effects of current hazards and income generated from coping strategies have been taken into account. No negative or damaging coping strategies are included in the analysis.

The next step is to compare projected total income against two clearly defined thresholds to determine whether an intervention of some kind is required. This is explained further in **Error! Reference source not found.** below. Total food income in the reference year is shown in the left-hand bar, while total food income in the analysis year after the inclusion of coping strategies is shown in the right-hand bar. This is then compared against two thresholds.

³ Information on coping strategies is collected as part of the baseline assessment.

Figure 2: The Household Economy Analytical framework: a simplified illustration



Where total income falls below the livelihoods protection threshold an emergency intervention is required to sustain livelihoods in the short and medium terms (so that people can continue to pay for health, education, productive inputs, etc.). Where total income falls below the survival threshold, intervention is required to maintain food intake at a minimum acceptable level (2100 kcals per person per day) in addition to sustaining livelihoods. Given the current emphasis on preserving livelihoods in addition to saving lives, deficits – and therefore intervention needs – are usually calculated in relation to the livelihoods protection threshold, not the survival threshold.

⁴ The survival threshold is set at slightly above 100% of minimum food needs to allow for expenditure on survival non-food items. These are items associated with food preparation (e.g. salt, soap, cooking fuel) and water for human consumption, where these were paid for in the reference year.

⁵ The 'livelihood protection basket' includes 100% of expenditure by each wealth group on productive inputs for crop and livestock production, health and education costs. Other items (related to standard of living) have been included at 25-100% of the level of poor household expenditure (e.g. clothes, non-staple food items, basic non-food items etc).

4 SCENARIOS

As much as possible, official monitoring data on crop production and prices has been used for the definition of the current year problem. Some of the crop production data is subject to revision by the Ministry of Agriculture (as of late January 2012). Where official information was not available, information gathered in the field has been used. As a last resort, in the absence of any other information sources, assumptions have been made based on a consensus amongst the workshop participants. Each element of the scenarios analysed is clearly outlined below and can be monitored and revised in future as additional information becomes available. The current plan is to formally review and revise these scenarios in late March 2012.

The analysis is for one cercle (or district) per livelihood zone, the cercle where the original HEA baseline was carried out. In sum, the performance of last year's agricultural season has been largely poor in the six cercles analysed, with the exception of Kolondieba. Staple food prices are high throughout the country in relation to the reference years for which baseline information was gathered. Increases in staple food prices have consistently outstripped increases in the prices of items from which very poor and poor households derive an income (labour, livestock, cash crops) across all six livelihood zones.

The following table summarises the periods analysed in the current year and the month through which the scenarios apply. In the agricultural zones, the current year continues to September 2012, while in the pastoral zone it continues to June 2012.

| Table 3: Current years | | |
|-------------------------------|-------------------------------|-------------------------------|
| Livelihood zone | Reference year | Current year |
| LZ 2 (pastoral) | July 2007 – June 2008 | June 2011 – June 2012 |
| LZ 3 | October 2007 – September 2008 | October 2011 – September 2012 |
| LZ 5 & 7 | October 2009 – September 2010 | October 2011 – September 2012 |
| LZ 10 & 12 | October 2008 – September 2009 | October 2011 – September 2012 |

As part of the scenario in the agricultural livelihood zones, it has been assumed that the 2012 rainy season will be normal and that agricultural labour opportunities for land preparation and weeding will be normal in the coming months.

Price data for the current year is currently available up to January 2012. In the absence of a reliable means of projecting forward, the same months from the current year and reference year are compared in the following scenarios for each zone (Table 4). The change in price is indicated (e.g. +81%% indicates an 81% increase in price in the current year compared to the reference year). In some cases, the comparison was between average prices in October-December of each year, but where available November-January prices were compared.

Table 4: Price scenario and Inflation⁶

| | LZ 2 (Tarkhint) | LZ 3 (Temera) | LZ 5 (Bandiagara) | LZ 7 (Niono) | LZ 10 (Yorosso) | LZ 12 (Kolondieba) |
|------------------------------|--------------------|------------------|----------------------|-----------------|--------------------|-----------------------|
| Millet ⁷ | +81% | +81% | +54% | +92% | +100% | +88% |
| Sorghum | | | | +73% | +84% | +25% |
| Rice | | +39% | | +8% | | +2% |
| Maize | | | | | +84% | -8% |
| Cowpeas | | | +36% | | | |
| Groundnuts | | | | | | +67% |
| Tomatoes | | +44% | | | | |
| Onions | | | +50% | -11% | | |
| Fodder | | +43% | | | | |
| Soya | | | | | +50% | +50% |
| Cotton | | | | | +50% | |
| Cattle | -12% | +58% | +35% | +/-0% | +/-0% | +99% |
| Camels | +/-0% | | | | | |
| Goats | +13% | +9% | +/-0% | -27% | +25% | +45% |
| Sheep | -22% | +3% | -17% | +15% | -2% | +28% |
| Fish | | +67% | | | | |
| Firewood | +/-0% | | | | | |
| Wage rates – general | | +50% | +33% | +/-0% | +50% | +/-0% |
| Wage rates – construction | +50% | | | | | |
| Wage rates – herding | +/-0% | | | | | |
| Wage rates – domestic | +/-0% | | | | | |
| Inflation ⁸ | +25% | +25% | +7% | +7% | +17% | +17% |

Inflation has been used to represent the price change for non-food items in the survival and livelihood protection expenditure baskets.

Crop production data for the relevant reference years and for the current year are compared in the following table. The change in production is indicated (e.g. -78% indicates a 78% reduction in production in the current year compared to the reference year).

⁶ An empty box indicates that the item is not a key parameter in the livelihood zone.

⁷ The main staple food purchased in the zone is in red. Most of these scenarios compare November 2011 – January 2012 with the same months in the relevant reference year.

⁸ Inflation has been used to represent the price change for non-food items in the survival and livelihood protection expenditure baskets.

Table 5: Crop production scenario⁹

| | LZ 2 (Tarkhint) | LZ 3 (Temera) | LZ 5 (Bandiagara) | LZ 7 (Niono) | LZ 10 (Yorosso) | LZ 12 (Kolondieba) |
|------------|--------------------|------------------|----------------------|-----------------|--------------------|-----------------------|
| Millet | | | -28% | -72% | -67% | +27% |
| Sorghum | | | -95% | | -83% | +29% |
| Rice | -78% | | | +15% | | -33% |
| Maize | | | | | -64% | +137% |
| Cowpeas | -100% | | -75% | | | |
| Groundnuts | | | | | | |
| Tomatoes | -60% | | | +/-0% | | |
| Onions | | | -25% | +/-0% | | |
| Fodder | -48% | | | | | |
| Soya | | | | | -40% | |
| Tobacco | -100% | | | | | |
| Cotton | | | | | -15% | +174% |

Monitoring data on herd size changes and milk yields is not available. The following table summarises the problem specifications that have been used in the analysis, largely developed through participant consensus. Any of these assumptions can be changed if better information becomes available or if decision makers would like to see the results of a different scenario.

Table 6: Livestock production scenario

| | LZ 2 (Tarkhint) | LZ 3 (Temera) | LZ 5 (Bandiagara) | LZ 7 (Niono) | LZ 10 (Yorosso) | LZ 12 (Kolondieba) |
|--|--------------------|------------------|----------------------|-----------------|--------------------|-----------------------|
| Cattle herd size ¹⁰ | -10% | +/-0% | +/-0% | +6% | +6% | +/-0% |
| Goat herd size | -5% | +/-0% | +/-0% | +34% | +12% | +/-0% |
| Sheep herd size | -5% | +/-0% | +/-0% | +34% | +12% | +/-0% |
| Camel herd size | -6% | | | | | |
| Excess deaths in current year – camels | +/-0% | | | | | |
| Excess deaths – cattle | -5% | +/-0% | +/-0% | +/-0% | +/-0% | +/-0% |
| Excess deaths – shoats | -15% | +/-0% | +/-0% | +/-0% | +/-0% | +/-0% |
| Milk production | -30% | -67% | +/-0% | +/-0% | +/-0% | +/-0% |

⁹ An empty box indicates that the item is not a key parameter in the livelihood zone.

¹⁰ This is the change in herd size at the start of the current year in relation to herd size at the start of the reference year.

For other elements of the scenario related to casual labour, self-employment and labour migration, the following problem specifications were used.

Table 7: Scenario for other sources of food and income

| | LZ 2 (Tarkhint) | LZ 3 (Temera) | LZ 5 (Bandiagara) | LZ 7 (Niono) | LZ 10 (Yorosso) | LZ 12 (Kolondieba) |
|--|----------------------------|--------------------------|------------------------------|-------------------------|----------------------------|-------------------------------|
| Casual labour - harvesting | | -78% | -25% | +/-0% | -40% | +/-0% |
| Casual labour - land preparation/ weeding | | +/-0% | +/-0% | +/-0% | +/-0% | +/-0% |
| Casual labour - herding | +/-0% | | | | | |
| Casual labour - construction | -50% | -20% | | | -30% | +25% |
| Casual labour - domestic | +/-0% | | | | | |
| Remittances | -70% | -50% | +30% | +/-0% | | +/-0% |
| Gifts | -50% | | | | | |
| Fish (quantity) | | -55% | -50% | | | |
| Labour migration | | +50% | | +/-0% | | +/-0% |
| Self- employment | | +/-0% | -50% | | +/-0% | +25% |
| Petty trade | | -15% | -20% | +/-0% | +/-0% | +25% |
| Firewood sales | -28% | | | | | |
| Handicraft sales | +18% | | | | | |

5 PROJECTED FOOD SECURITY PROSPECTS FOR 2011-12

The results of the outcome analyses are presented in this section. These illustrate how the changes outlined in section 4 are expected to impact upon total income for households in different wealth groups in the cercles/districts analysed in the six livelihood zones. This is followed by a summary of likely duration of any resulting livelihood protection and survival deficits.

5.1 THE PERIOD COVERED BY THE CURRENT ANALYSIS

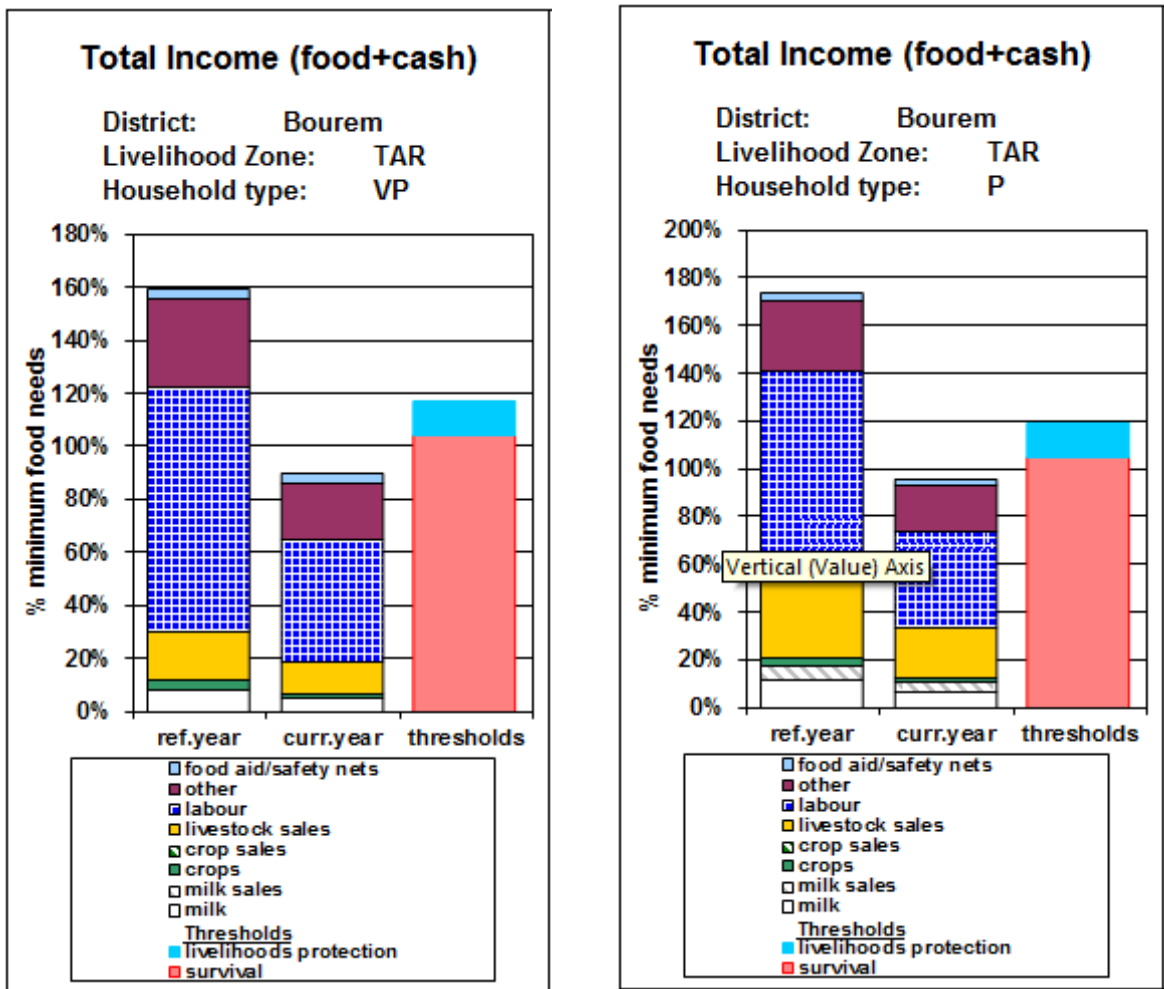
Table 1 outlined the period or consumption year covered by the current analysis, which was October 2011 – September 2012 for the agricultural and agropastoral zones and July 2011 – June 2012 for the pastoral zone. For agricultural areas, the consumption year runs from the beginning of one harvest until the start of the following year's harvest. In pastoral areas, the consumption year runs from the beginning of one rainy season (when milk output start to increase) until the start of the next year's rains.

5.2 OUTCOME FOR SIX LIVELIHOOD ZONES

The following figures present the results of the outlined scenario for very poor and poor households in each livelihood zone. Middle and better off households do not face survival or livelihood protection deficits in any livelihood zone under any of the scenarios.

Figure 3a: Outcome Analysis for Very Poor Households, LZ 2 (Pastoral, Tarkhint)

Figure 3b: Outcome Analysis for Poor Households, LZ 2 (Pastoral, Tarkhint)



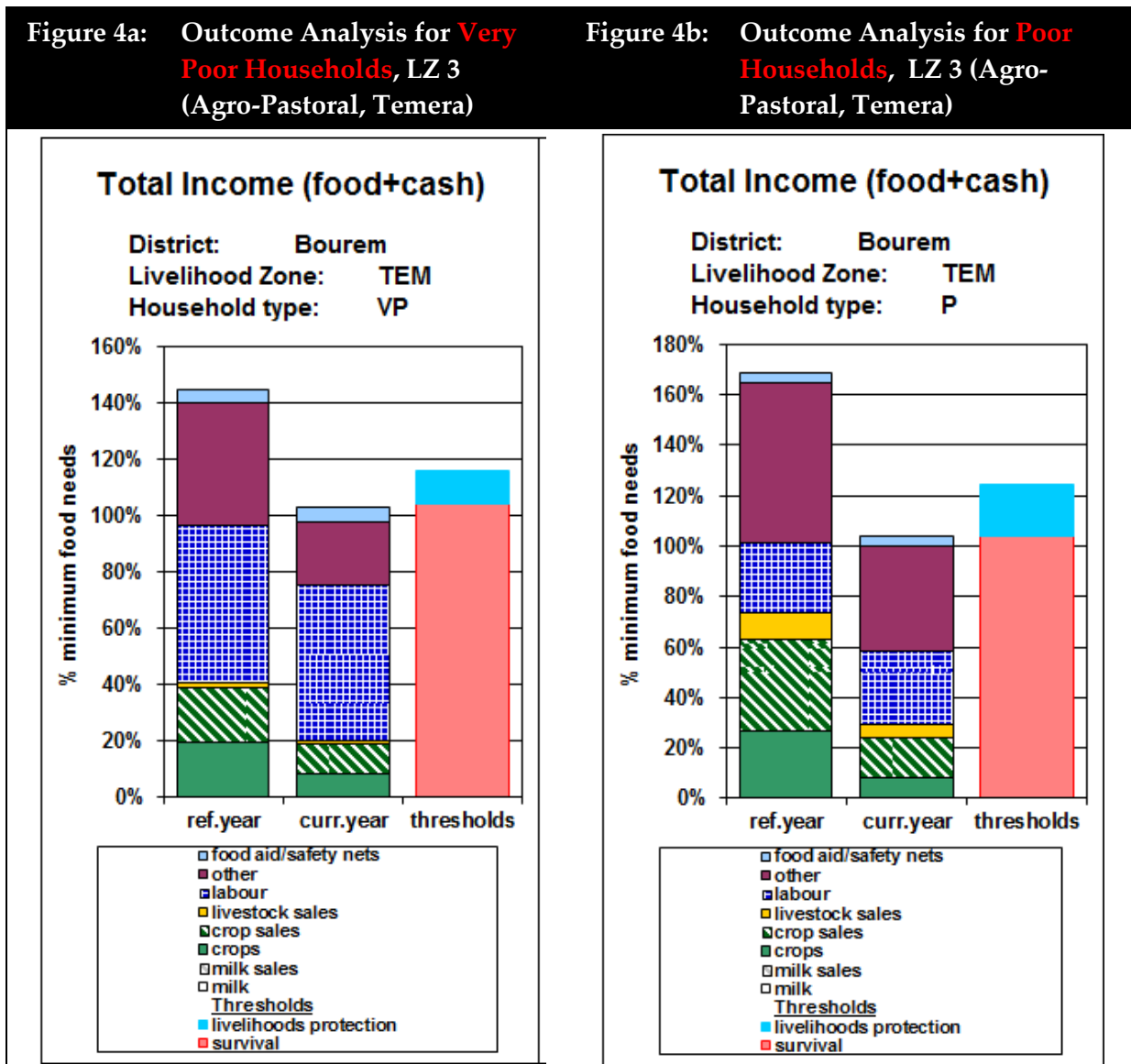
Note: The charts show estimates of total income (food plus cash) for the current and reference years. These may be compared with the intervention thresholds (in the right-hand bar) to determine whether there is a deficit this year. The pink section represents the survival threshold, while the pale blue section represents the livelihoods protection threshold. The scale is different in the two charts.

LZ 2 Nomadic & Transhumant Pastoralism (Tarkhint Commune, Bourem Cercle): The main source of income for very poor and poor households in the reference year (2007-08) was labour sales (for herding, domestic work and construction), supplemented by self-employment and livestock sales. For both wealth groups, projected total income for 2011-12 is expected to be almost half that in the reference year (in terms of its food equivalent), and below the thresholds for intervention (the livelihoods protection and survival thresholds), indicating problems in the current year.

Figure 3a on the left presents the outcome analysis for very poor households. Food and cash income is combined into one bar and compared to the two thresholds. For the scenario outlined in Section 4, very poor households (15-20% of the population) in LZ 2 will most likely face both a livelihood protection deficit and a survival deficit. A full livelihood protection deficit suggests that very poor HHs will not be able to afford any of the items in

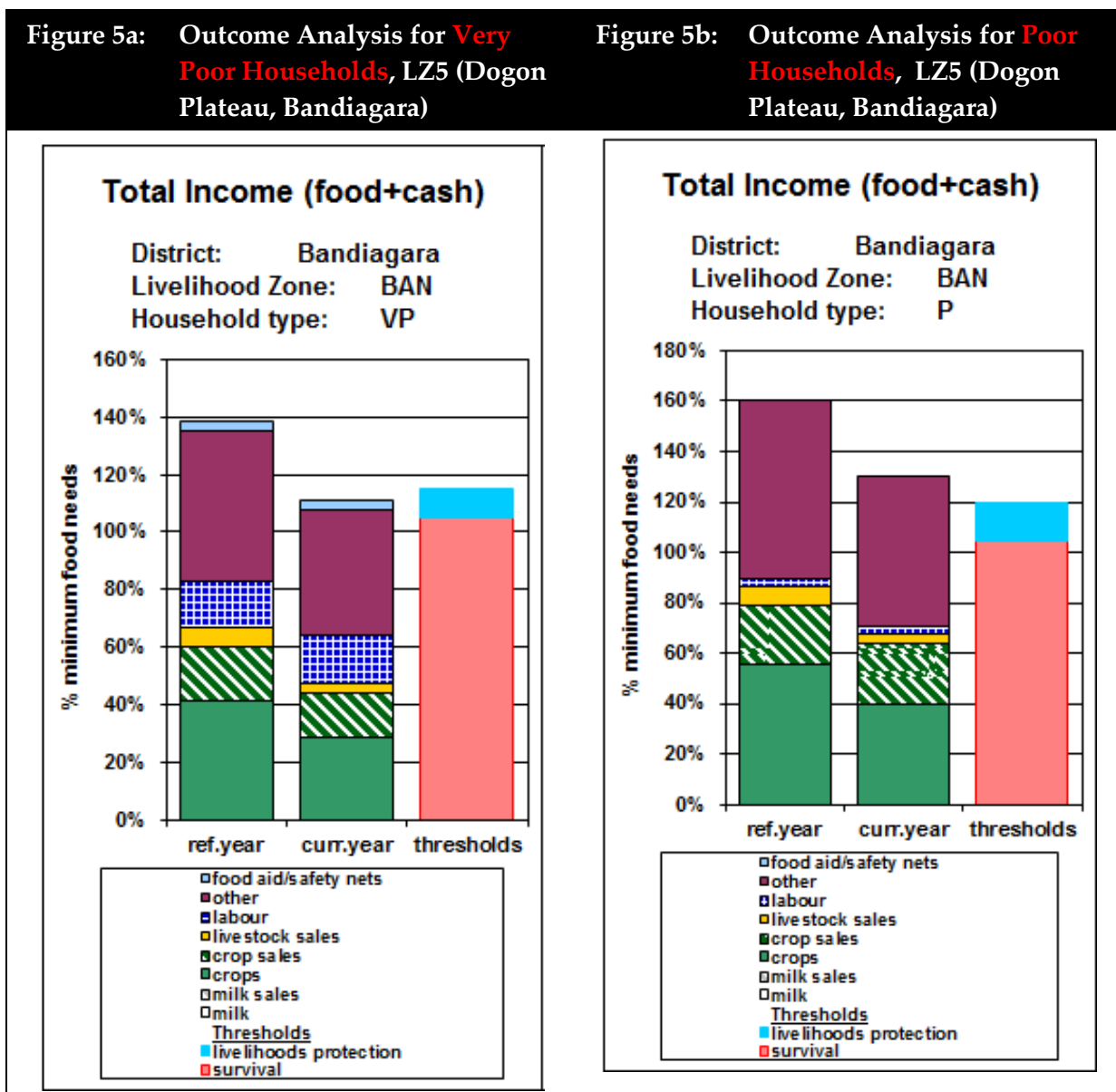
this basket: health care, education costs, inputs for livestock, and small amounts of clothing, non-staple items like oil and sugar and basic household items like kerosene. A survival deficit indicates that, in addition to not being able to afford items in the livelihood protection basket, very poor households won't be able to fully afford adequate food.

Figure 3b presents the same outcome analysis for poor households (20-25% of the population). They are likely to face a livelihood protection deficit and a smaller survival deficit than the very poor.



LZ 3 Fluvial Rice & Transhumant Livestock Rearing (Bourem Cercle): The main source of income for very poor and poor households in the reference year (2007-08) was local and migratory casual labour. Projected total income for 2011-12 is expected to be below that in the reference year (in terms of its food equivalent). Figure 4a on the left presents the outcome analysis for very poor households (15-25% of the population). They are likely to face a full livelihood protection deficit and a very small survival deficit. Figure 4b on the

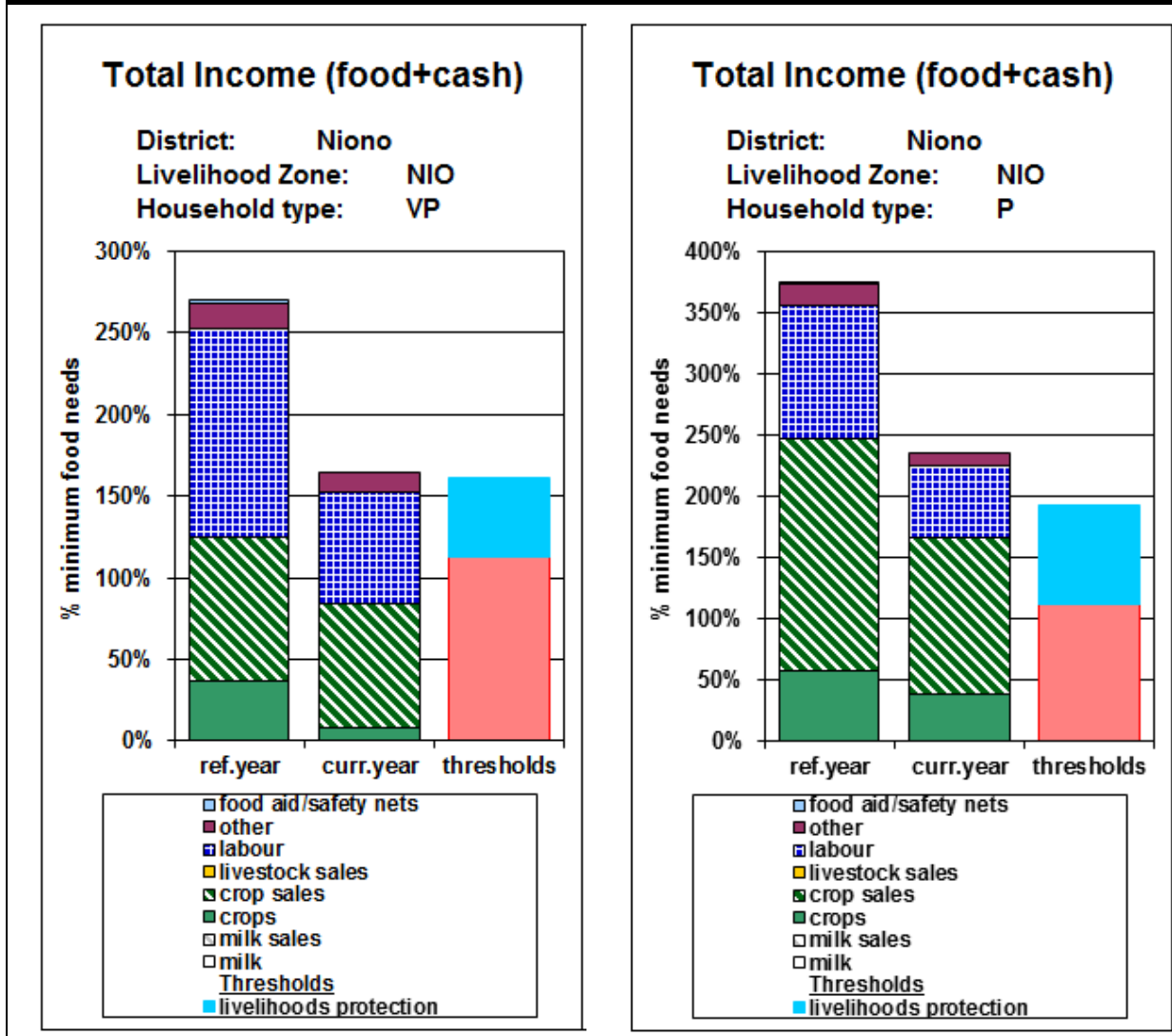
right presents the same outcome analysis for poor households (25-30% of the population). They are likely to face a large livelihood protection deficit, but no survival deficit.



LZ 5 Dogon Plateau (Bandiagara Cercle): Figure 5a on the left is for the very poor in Dogon Plateau livelihood zone (Bandiagara Cercle), who make up 25-30% of the population according to the HEA baseline. Given the scenario described in Section 4, these households are expected to face a livelihood protection deficit in the current year. Figure 5b on the right is for the poor, who make up 20-30% of the population. They should not face a deficit in the current year under the specified scenario.

Figure 6a: Outcome Analysis for Very Poor Households, LZ 7 (Irrigated Rice, Niono)

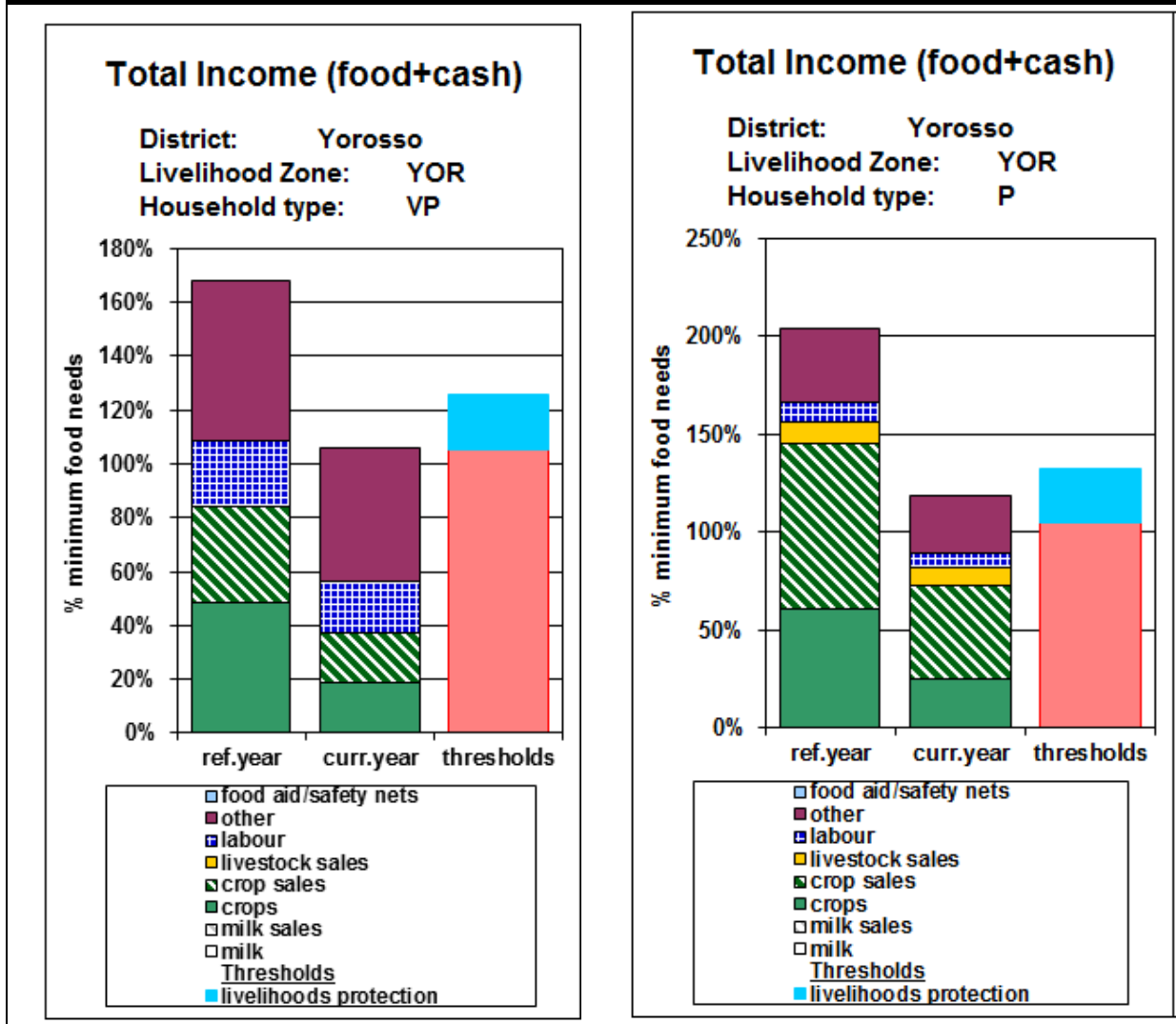
Figure 6b: Outcome Analysis for Poor Households, LZ 7 (Irrigated Rice, Niono)



LZ 7 'Office du Niger' – Irrigated Rice (Niono Cercle): Figure 6a on the left is for the very poor in the irrigated rice livelihood zone (Niono Cercle), who make up 5-15 % of the population. They do not face a deficit under the specified scenario, but they are very close to the threshold. This is because of a decline in crop production this year, a decline in harvesting work linked to this, and a decline in self-employment income due to the general decline in tourism. Should staple food prices rise more than anticipated in this analysis, they will face a deficit. Figure 6b on the right is for the poor, who make up 25-35% of the population. They are unlikely to face a deficit under the specified scenario.

Figure 7a: Outcome Analysis for Very Poor Households, LZ 10 (Cereal & Cotton, Yorosso)

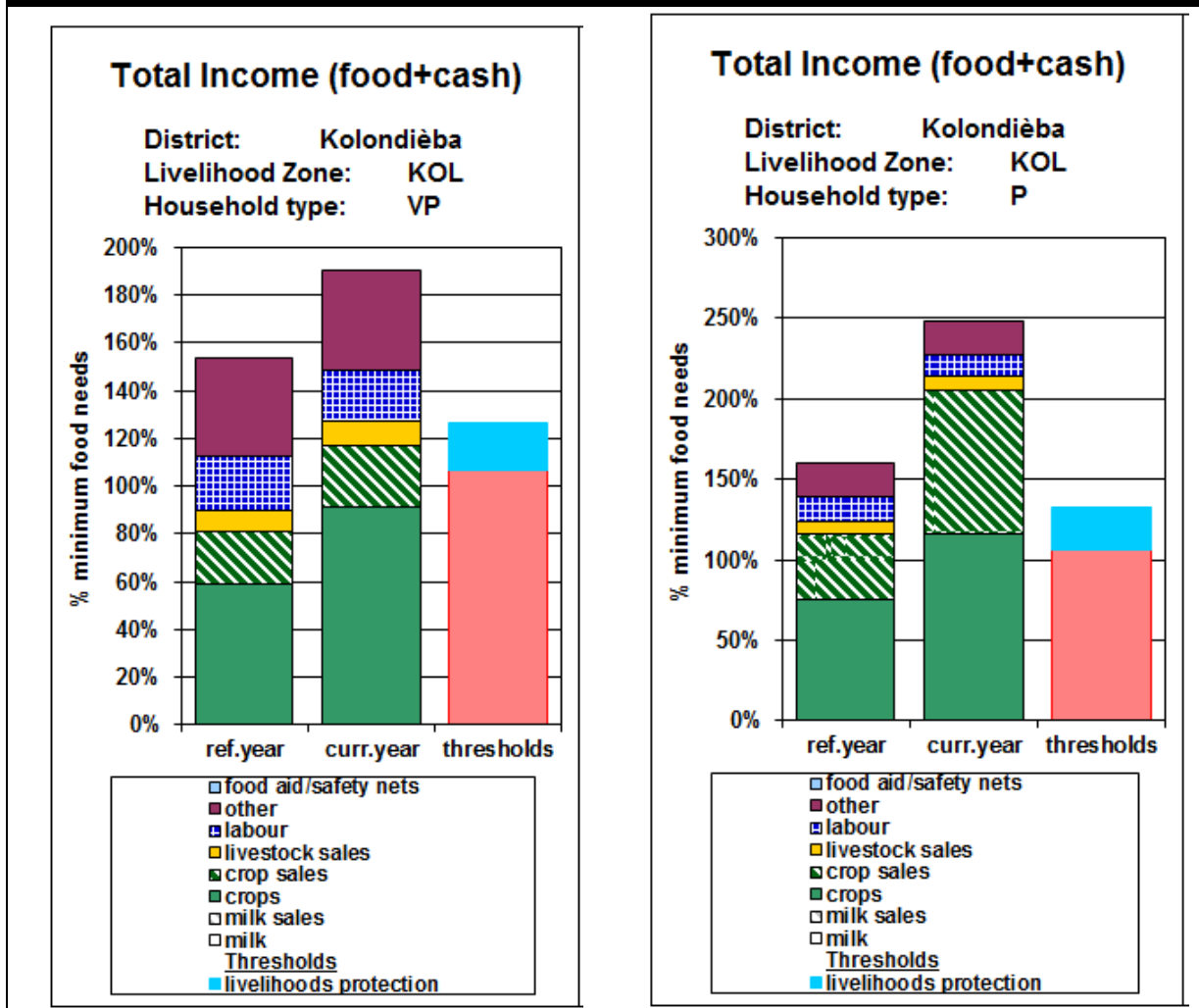
Figure 7b: Outcome Analysis for Poor Households, LZ 10 (Cereal & Cotton, Yorosso)



LZ 10 Sorghum, Millet & Cotton (Yorosso Cercle): Figure 7a on the left is for very poor households, who make up 15-25% of the population. Given the scenario described in Section 4 (including large decreases in crop production and large increases in staple food prices), these households are likely to face a large livelihood protection deficit in the current year. They do not face a survival deficit under the specified scenario, but they are very close to the threshold. Should staple food prices rise more than anticipated in this analysis, they are likely to also face a survival deficit. Figure 7b on the right is for the poor, who make up another 15-25% of the population. A similar outcome applies to them, although the size of their livelihood protection deficit is smaller.

Figure 8a: Outcome Analysis for Very Poor Households, LZ 12 (Southwest Zone, Kolondieba)

Figure 8b: Outcome Analysis for Poor Households, LZ 12 (Southwest, Kolondieba)



LZ 12 Southwest Maize, Sorghum, & Fruits (Kolondieba Cercle)

Figure 8a on the left is for the very poor in the southwest livelihood zone Kolondieba Cercle), who make up 5-15% of the population according to the HEA baseline. Given the scenario described in Section 4 (with increases in production of several key crops and a smaller increase in staple food prices than in other livelihood zones), these households should not face a deficit in the current year. Figure 8b on the right is for the poor, who make up 25-30% of the population. They also should not face a deficit in the current year under the specified scenario.

Table 8 below summarises the results of the 2011-12 scenario analysis. The zones where very poor and poor households are likely to face the worst problems (both survival and livelihood protection deficits) are LZs 2 and 3 (Bourem Cercle) in Gao Region. The next worst situation is found in LZs 10 (Yorosso) and 5 (Bandiagara), where households face livelihood protection deficits. Very poor households are above, but very close to, the livelihood protection threshold in LZ 7 (Niono), while households in all wealth groups are well above both thresholds in LZ 12 (Kolondieba).

Table 8: Summary of Outcome Analysis Results: Wealth Groups/Livelihood Zones Facing Deficits

| | LZ 2 | LZ 3 | LZ 10 | LZ 5 | LZ 7 | LZ 12 |
|-------------------|---|---|------------------------------|------------------------------|-------------|-------------|
| Very poor | Survival and livelihood protection | Survival and livelihood protection | Livelihood protection | Livelihood protection | No deficits | No deficits |
| Poor | Survival and livelihood protection | Livelihood protection | Livelihood protection | No deficits | No deficits | No deficits |
| Middle | No deficits | No deficits | No deficits | No deficits | No deficits | No deficits |
| Better off | No deficits | No deficits | No deficits | No deficits | No deficits | No deficits |

Table 9 below summarises the level of deficits by wealth group and livelihood zone. The percentage deficits are expressed in terms of food needs (as a percentage of 2100 kcals per person per day). The livelihood protection deficits (LPD) are also expressed as the cash requirement per household in the current year (using current year projected staple food prices to convert the food needs). Note that the size of the livelihood protection basket increases with wealth because of the cost of productive inputs.

Table 9: Level of Deficits* by Wealth Group / Livelihood Zone

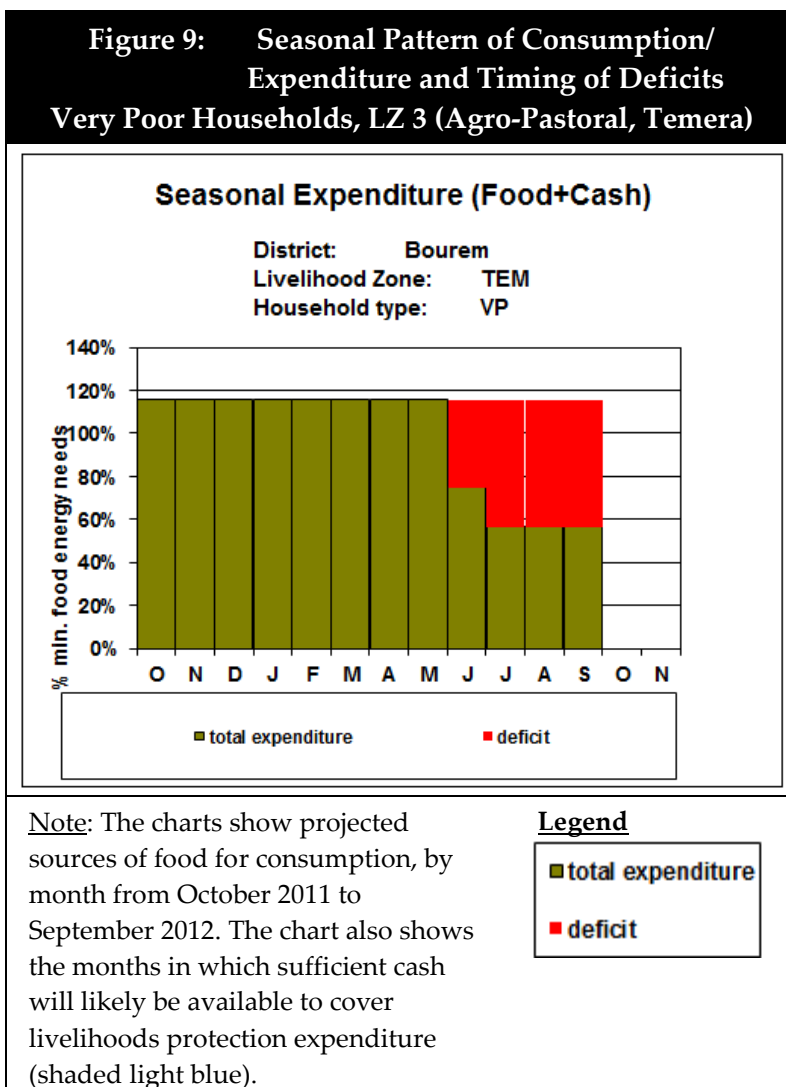
| | LZ 2 | LZ 3 | LZ 10 | LZ 5 |
|------------------|--|---|---|--------------------------------------|
| Very poor | SD: 15% LPD: 12% (or ~50,000 XOF per HH per year) | SD: 1% LPD: 12% (or ~55,000 XOF per HH per year) | LPD: 20% (or ~83,000 XOF per HH per year) | LPD: 8% (or ~30,000 per HH per year) |
| Poor | SD: 9% LPD: 15% (or ~78,000 XOF per HH per year) | LPD: 20% (or ~121,000 XOF per HH per year) | LPD: 14% (or ~72,000 XOF per HH per year) | No deficits |

*SD = survival deficit, LPD = livelihood protection deficit

To repeat, a livelihood protection deficit represents an emergency situation whereby households cannot afford many basic things that they spent money on in the reference year, including education, health, inputs, clothes and non-staple foods. Faced with this situation, they may make a choice to purchase some items in the livelihood protection basket in preference to staple food, thus also going hungry.

5.3 TIMING OF DEFICITS

The seasonal consumption/ expenditure analyses in Figure 9 have been generated by combining information on total income with seasonal calendar data showing when different sources of food and cash become available. The results in Figure 9 suggest that deficits for the very poor in the agro-pastoral livelihood zone (LZ 3, Temera) are likely to occur mainly from June through September 2012. This type of analysis is available by livelihood zone, with the worst deficits in each zone occurring during an extended hunger season at the end of the consumption year.



5.4 SENSITIVITY TO STAPLE FOOD PRICE SCENARIO

The results of this analysis are very sensitive to the scenario specified for staple food prices in the coming months.

The results in Figure 10a suggest that deficits for the very poor in the Dogon Plateau livelihood zone (LZ 5, Bandiagara Cercle) are likely to occur in August – September 2012 given the scenario outlined in Section 4. Under that scenario, staple food prices increase by on average 54% in the current year in relation to staple food prices in the reference year. Should staple food prices increase by on average 92% in relation to staple food prices in the reference year (as in Niono Cercle in LZ7, which has the same reference year as Bandiagara LZ5), the picture deteriorates, as shown in Figure 10b.

This suggests that very careful monitoring of cereal prices in relation to the evolution of income sources is critical to understanding the situation this year.

Figure 10a: Seasonal Pattern of Consumption/ Expenditure and Timing of Deficits Very Poor Households, LZ 5 (Bandiagara Cercle)

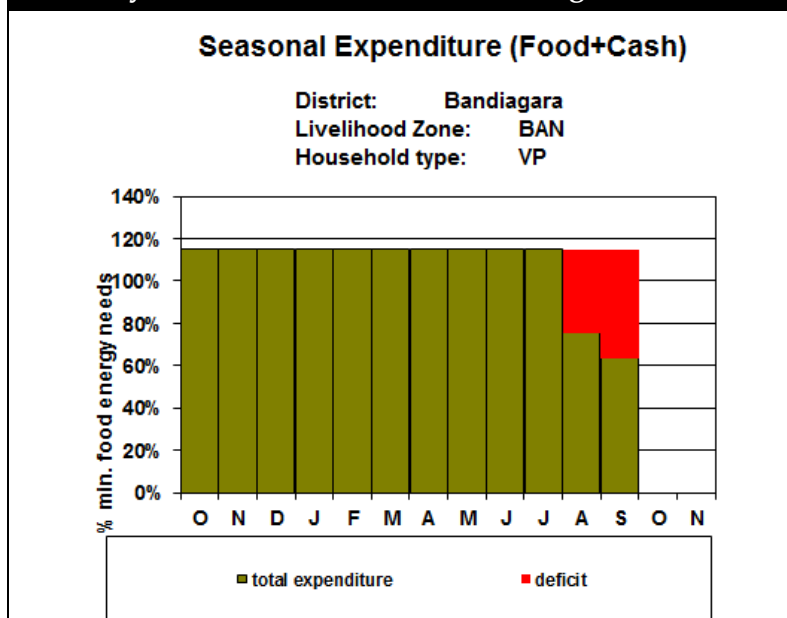
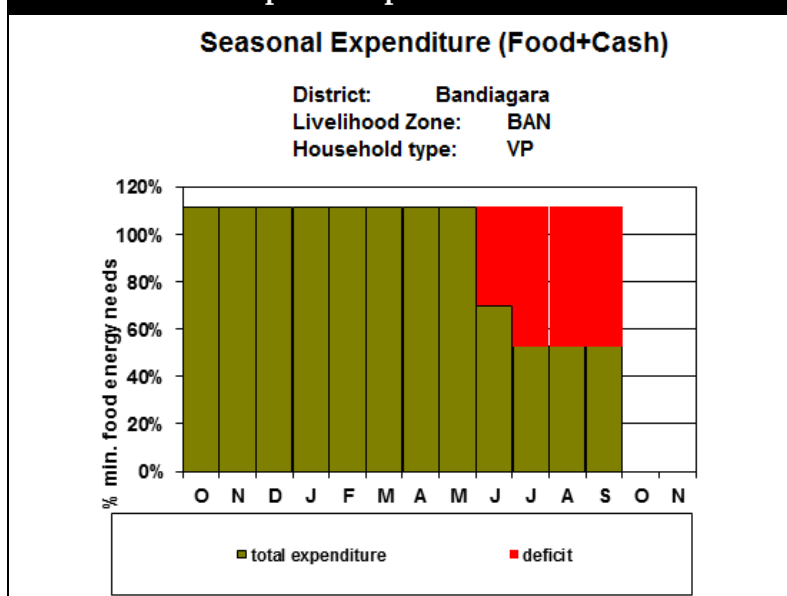


Figure 10b: With a scenario of even greater staple food price increases



6 FINAL COMMENTS

The results of this analysis were presented at a one-day workshop on 27 January, where response options were discussed and proposed by livelihood zone. The conclusions from this workshop are presented in a separate report.

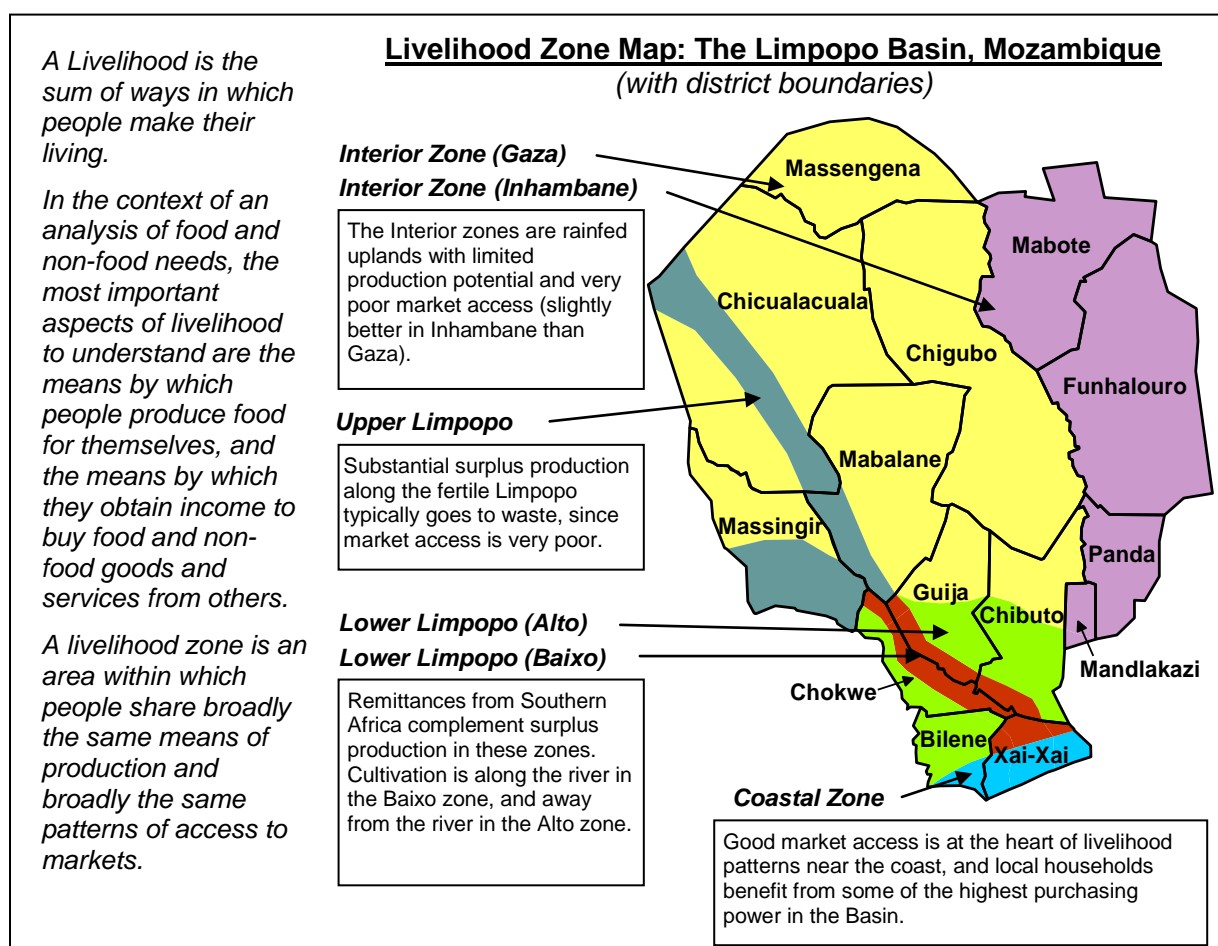
The results of this analysis are very sensitive to the scenario specified for staple food prices in the coming months. Careful monitoring of cereal prices in relation to the evolution of income sources is critical to understanding the situation this year.

Some of the crop production data included in this analysis is subject to revision by the Ministry of Agriculture (as of late January 2012). The current plan is to formally review and revise these scenarios in late March 2012.

7 APPENDIX – THE HEA FRAMEWORK

7.1 THE HOUSEHOLD ECONOMY BASELINE

The Household Economy Approach (HEA) to analysing livelihoods and assessing food security has been used widely in Africa and elsewhere over the past decade. 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 year¹¹. 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).

7.2 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

¹¹ 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.

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:

$$\text{Baseline} + \text{Hazard} + \text{Coping} = \text{Outcome}$$

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.

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.

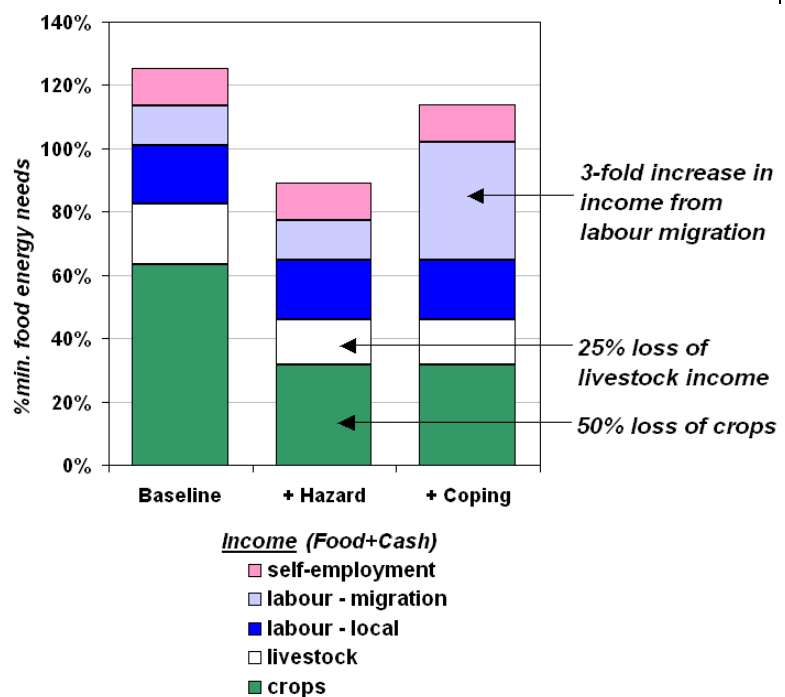
First of all, the effects of the hazard on baseline sources of food and cash income are calculated (middle bar in the chart).

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 2).



The two thresholds – the *Livelihoods Protection Threshold* and the *Survival Threshold* – are described in the figure below. 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. Minimum 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 minimum non-food basket. The point to bear in mind here is that the items included in the minimum 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

Figure 2: Comparison of Projected Income against Two Clearly Defined Thresholds

Projected total income (including income from coping) is compared against two thresholds defined on the basis of local patterns of expenditure.

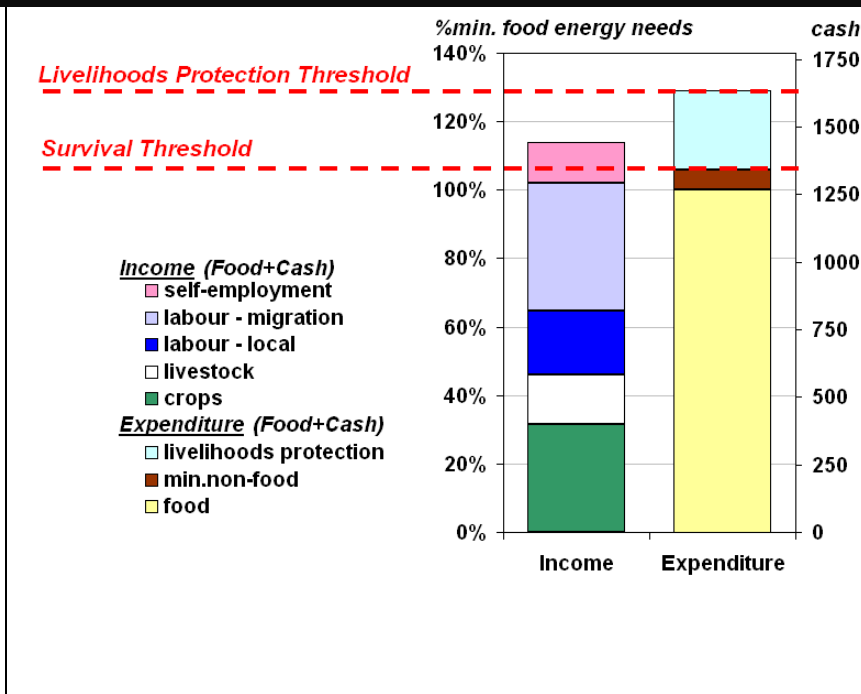
The Survival Threshold represents the total income required to cover:

- 100% of minimum food energy needs (2100 kcals per person), plus
- the costs associated with food preparation and consumption (i.e. salt, soap, kerosene and/or firewood for cooking and basic lighting), plus

- any expenditure on water for human consumption.

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

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



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 year (since the Livelihoods Protection Threshold is set at a level that assumes additional income can be generated from 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).

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)?

7.3 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 under-estimating the need for assistance as measured by the deficit¹³. 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

| Type of Coping Strategy ¹² |
|--|
| Low Cost (<i>included in outcome analysis</i>) |
| <ul style="list-style-type: none"> 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 (<i>included in outcome analysis</i>) |
| <ul style="list-style-type: none"> 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 (<i>excluded from outcome analysis</i>) |
| <ul style="list-style-type: none"> 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 Reduced expenditure on productive inputs (fertilizer, livestock drugs etc.) Reduced expenditure on health and education Reduced expenditure on water Decreased food intake |

¹² 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'.

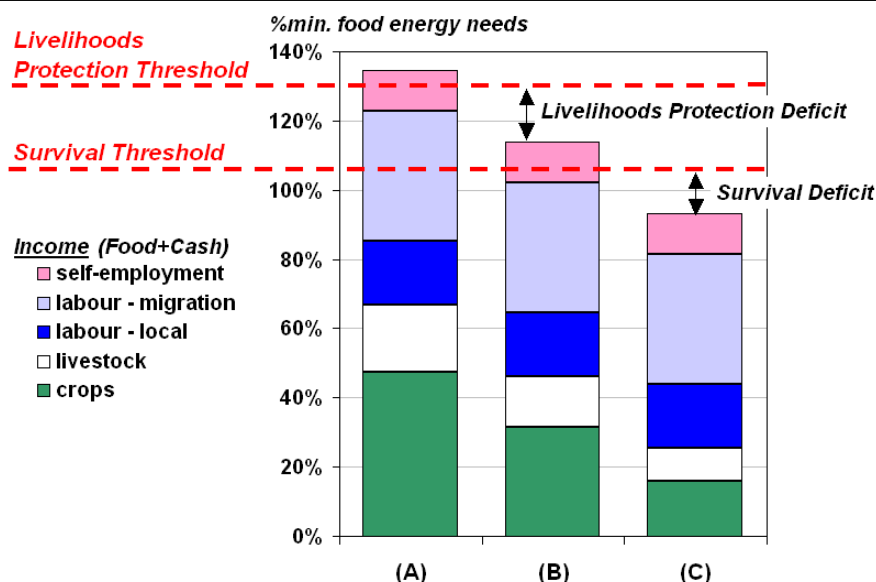
¹³ This is because the inclusion of a strategy in the outcome analysis has the effect of reducing the deficit, effectively delaying any intervention until that strategy has been fully utilised. It would not, for example, make sense to include the sale of *all* livestock in the outcome analysis, as this 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.

of the effect on livelihood assets, 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).

What it Means if Total Income Falls below One or Other Threshold

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 therefore 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 level¹, 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 **Error! Reference source not found.** for a description of these). The primary objective of intervention at this level is to protect health and life in the short-term.

¹Although 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.

7.4 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* 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. 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 *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, as outlined below.

| How HEA Helps Address Core Decision Maker Questions | |
|---|---|
| Core question | How HEA helps answer the question |
| WHO | <i>Wealth breakdowns</i> help group the population in a way that shows who will be most affected by different shocks. |
| WHAT | <i>Livelihood strategy identification, description and quantification</i> (Food, income, expenditure) shows what can be done to support existing livelihoods, and, just as important, what might harm them. |
| HOW MUCH | <i>Outcome analysis</i> 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 | <i>Livelihood zoning</i> helps group people in a way that allows you to see where affected populations will be. |
| WHEN and FOR HOW LONG | <i>Outcome analysis</i> , combined with careful use of seasonal calendars, provides a basis for determining when different types of assistance are needed and for how long. |