Mauritania Scenario Analysis 2011-12
Five Livelihood Zones

Assessed Using the Household Economy Approach (HEA)
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CONTENTS

1 SUMMARY

This report presents the results of a scenario analysis exercise carried out in Nouakchott in the period 19-23 February for five livelihood zones in Mauritania. 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.' ACF-E organised the workshop, which included participants from CSA, FEWS NET, ONS, Direction de l'Agriculture, Oxfam, AMED, ADIG, ANED, Au Secours, Ecodev, GRDR, and Actions.

The exercise used HEA (household economy analysis) baselines carried out by Save the Children UK in five livelihood zones in Mauritania since 2009. In relation to the 2005 FEWS NET livelihood zone map, the baselines and the scenarios analysed cover the following zones (LZ):

- LZ 1 Pastoral Nomads Livelihood Zone
- LZ5 Agro-Pastoral Livelihood Zone
- LZ6 Rainfed Cultivation Livelihood Zone
- LZ7 Senegal River Valley Livelihood Zone
- Nouakchott Peri-Urban Livelihood Zone

The period or consumption year covered by the current analysis is October 2011 – September 2012 for the agricultural and agropastoral livelihood zones, June 2011 – May 2012 for the pastoral zone, and April 2011 – March 2012 for the peri-urban zone. The analysis is for all of the *wilayas* (regions) in each livelihood zone.

As much as possible, official monitoring data on crop production and prices was 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 February 2012). Where official information was not available, assumptions have been made based on a consensus amongst the workshop participants and their field experience. 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. In addition, other scenarios can be analysed if decision makers would like to understand vulnerability to different types of shock.

The performance of last year's agricultural season was poor. Staple food prices are high throughout the country in relation to the reference years for which baseline information was gathered, with the exception of the pastoral livelihood zone.

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 LZ 6 (rainfed cultivation) and LZ 7 (Senegal river valley). The next worst situation is found in LZ 5 (agro-pastoral), where households face livelihood protection deficits. Households in all wealth groups are above the livelihood protection threshold in LZ 1 (pastoral) and the Nouakchott peri-urban livelihood zone.

Summary of Outcome Analysis Results: Wealth Groups/Livelihood Zones Facing Deficits					
	LZ 1 (pastoral)	**LZ 5 (agro-pastoral)**	**LZ 6 (rainfed cultivation)**	**LZ 7 (Senegal river valley)**	**Nouakchott peri-urban**
Very poor	No deficits	**Livelihood protection** **Survival (one *wilaya*)**	**Survival and livelihood protection**	**Survival and livelihood protection**	No deficits
Poor	No deficits	No deficit	**Survival and livelihood protection**	**Survival and livelihood protection**	No deficits
Middle	No deficits	No deficit	**Survival and livelihood protection**	No deficit	No deficits
Better off	No deficits	No deficit	No deficit	No deficit	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 Nouakchott as part of this project in the period 19-23 February for five livelihood zones in Mauritania. ACF-E organised the workshop, which included participants from CSA, FEWS NET, ONS, Direction de l'Agriculture, Oxfam, AMED, ADIG, ANED, Au Secours, Ecodev, GRDR, and Actions.

3 THE HEA METHODOLOGY AND THE MAURITANIA LIVELIHOODS BASELINES

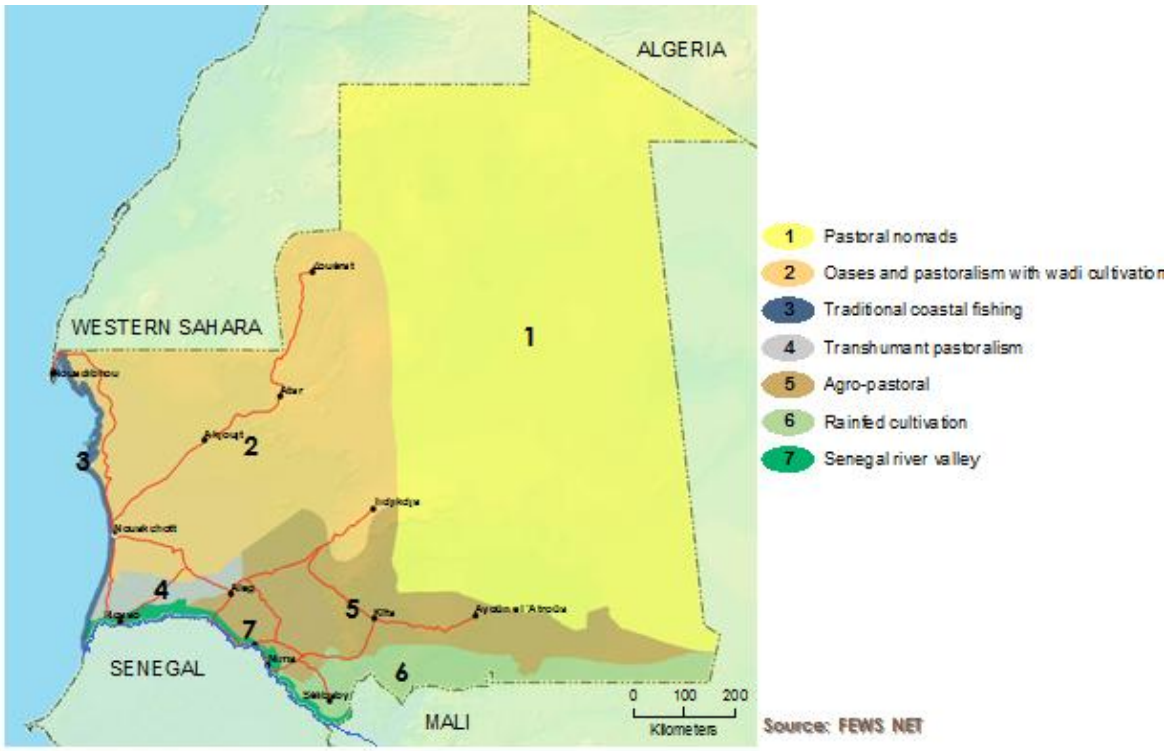
The method used to determine which areas will face deficits in the coming months and the magnitude and timing of these deficits is known as Household Economy Analysis (HEA). This is described briefly in this section, and in more detail in Section 7.

An HEA-based current year assessment involves putting together two types of information:				
Livelihoods Baseline Data *(the context)*	+	Monitoring/Seasonal Assessment Data *(the changes)*	→	Analysis of Projected Situation and Intervention Needs *(the outcome)*

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 2005, FEWS NET conducted a livelihood zoning in Mauritania, which produced seven rural livelihood zones (Figure 1). SCUK, with funding from ECHO, has completed livelihoods baselines for four of the rural livelihood zones (Zones 1, 5, 6 and 7 in Figure 1) and one peri-urban livelihood zone (in Nouakchott) over the last few years. These baselines form a key input into this analysis, providing the context against which to evaluate the effects of changes.

Livelihood Zones of Mauritania



FEWS NET has divided the population of each *wilaya* (region) into livelihood zones. The following table outlines the estimated population at the time of the 2000 census in the livelihood zones that are included in this analysis.

Table 1: Estimated *wilaya* population by livelihood zone (2000 census)

Wilaya	LZ1	LZ5	LZ6	LZ7	Urban
Hodh El Charghy	38882	162053	80665	0	0
Guidimakha	987	11200	145419	20101	0
Assaba	0	111234	57907	0	0
Hodh Gharby	20345	95782	96029	0	0
Gorgol	0	126371	24968	91373	0
Nouakchott	0	0	0	0	558195
Brakna	0	138429	0	96140	0
Trarza	0	0	0	97018	0
Adrar	6152	0	0	0	0
Nouadhibou	0	0	0	0	72337
Tagant	4627	35099	0	0	0
Tiris Zemmour	2761	0	0	0	0
TOTAL	**73753**	**680168**	**404988**	**304632**	**630532**

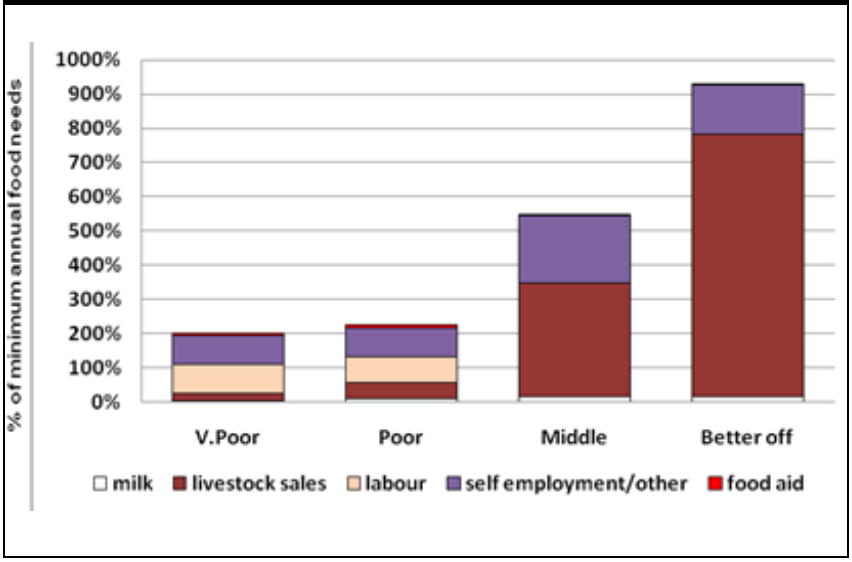
Within the urban population in Table 1, SCUK estimated the Nouakchott peri-urban population at 143,150 (in 2000). With an official growth rate of 2.2% per year, the population of all livelihood zones has increased by approximately 27% since 2000.

The second step in an HEA baseline assessment is the preparation of a wealth breakdown, by livelihood zone. The wealth breakdowns for the five livelihood zones all fall into the following ranges: 35-50% very poor, 20-30% poor, 15-25% middle and 10-15% better off.

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 2: Reference years	
Pastoral nomads	June 2008 – May 2009
Agro-pastoral	October 2008 – September 2009
Rainfed cultivation	October 2007 – September 2008
Senegal river valley	October 2007 – September 2008
Peri-urban	April 2009 – March 2010

Figure 1: Total Income (Food+Cash) by Wealth Group, Pastoral Livelihood Zone (LZ1), Reference year (2008-09)



Total income for the four wealth groups in the pastoral livelihood zone (2008-09) is shown in Figure . For this graphic, total income has been calculated by adding together income from food and income from cash[1]. Not surprisingly, total income increases with increasing wealth. The pattern of income generation also changes, with the middle and better off primarily dependent upon livestock sales, while the very poor and poor (with the lowest livestock holdings) depend significantly more upon labour and self-employment. Market purchase was by far the main source of food for all wealth groups in the reference year, followed by livestock products (milk) and food aid (including school feeding).

[1] Food income represents the total of food production that is consumed (crops, milk, meat, etc.) plus food payments in kind plus any wild foods that are collected and consumed. Cash income – in food terms – is the total of all sources of cash (e.g. crop sales, livestock sales, casual labour) converted into its equivalent in food, based upon the prevailing price of staple food. Put another way, cash income is expressed in terms of the amount of staple food that could be purchased, if all available cash were used to purchase staple.

This type of information is available for all of the rural livelihood zones and for peri-urban areas of Nouakchott.

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 income[2], so that a reduction in access to that one source may have a significant effect on total access. Table 3 below summarises the key parameters for the five livelihood zones in Mauritania, 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 3: Key parameters

Livelihood zone → Key parameters:	Pastoral nomads	Agro-pastoral	Rainfed cultivation	Senegal river valley	Peri-urban
Cow milk production	X	X		X	
Cow milk prices				X	
Camel sales (herd size and prices)	X				
Cattle sales (herd size and prices)	X	X	X	X	
Goat sales (herd size and prices)	X	X	X	X	
Sheep sales (herd size and prices)	X	X	X	X	
Sorghum production		X	X	X	
Maize production			X	X	
Rice production				X	
Cowpeas production				X	
Cassava production				X	
Cantine scholaire			X	X	
Casual labour	X	X	X		X
Employment					X
Self-employment	X	X	X	X	X
Petty trade	X	X	X	X	X
Credit	X	X			
Labour migration		X	X	X	
Remittances		X		X	
Gifts					X
Staple food prices (cereals, sugar, oil)	X	X	X	X	X
Livelihood protection basket prices	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. In reality, 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:

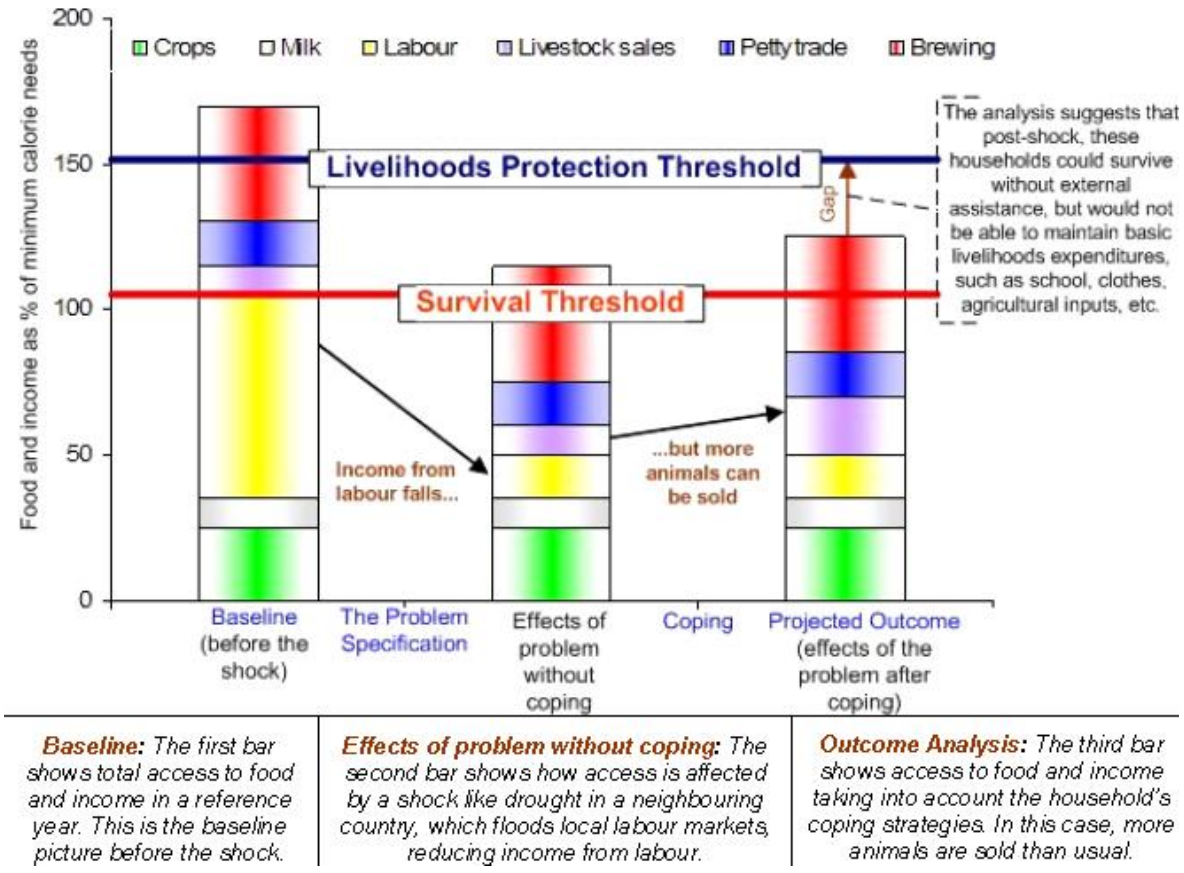
Baseline + Hazard + Coping = Outcome

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

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.

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



The Survival threshold: The income required to cover 100% of minimum food needs plus survival non-food.[4]

The Livelihoods Protection Threshold: The income required to cover additional expenditure on health, education, inputs, etc.[5]

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 February 2012). Where official information was not available, assumptions have been made based on a consensus amongst the workshop participants and their field experience. Each element of the scenarios analysed is clearly outlined below and can be monitored and revised in future as additional information becomes available. In addition, other scenarios can be analysed if decision makers would like to understand vulnerability to different types of shock.

The analysis is for all of the *wilayas* (regions) in each livelihood zone. In sum, the performance of last year's agricultural season was poor. Staple food prices are high throughout the country in relation to the reference years for which baseline information was gathered, with the exception of the pastoral livelihood zone. Little price data was available for markets outside Nouakchott for the zones with the reference year 2007-08.

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 May 2012.

Table 4: Current years

Livelihood zone	Reference year	Current year
LZ 1 (pastoral)	June 2008 – May 2009	June 2011 – May 2012
LZ 6 (rainfed) LZ 7 (river valley)	October 2007 – September 2008	October 2011 – September 2012
LZ 5 (agro-pastoral)	October 2008 – September 2009	October 2011 – September 2012
Peri-urban	April 2009 – March 2010	April 2011 – March 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 February 2012 for some markets. 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 5). The change in price is indicated (e.g. +50%% indicates a 50% 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 February prices were compared. Little price data was available for markets outside Nouakchott for the zones with the reference year 2007-08 (LZ 6 and LZ 7). Most of the price problem specifications for these zones have been estimated.

Table 5: Price scenario and Inflation[6]					
	LZ1 (pastoral)	**LZ5 (agro-pastoral)**	**LZ6 (rainfed cultivation)**	**LZ7 (river valley)**	**Nouakchott peri-urban**
Sorghum[7]		**+66-80%**[8]	**+50%**	**+50%**	
Rice	**+7%**				
Staple food basket					**+29%**
Sugar	+96%				+42%
Vegetable oil					+27%
Cattle	-40%	+3%	-20%	+25%	
Camels	-5%				
Goats	-25%	+3%	-15%	+25%	
Sheep	-25%	-7%	-15%	+25%	
Handicrafts / self-employment	-50%	-50%	-50%	-50%	+/-0%
Wage rates – general	+50%	+50%	+50%	+50%	+30-60%
Livestock inputs	+50%				
Inflation[9]	+15%	+15%	+23%	+23%	+12%

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

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. -50% indicates a 50% reduction in production in the current year compared to the reference year; -100% indicates a total failure).

Table 6: Crop production scenario[10]					
	LZ1 (pastoral)	**LZ5 (agro-pastoral)**	**LZ6 (rainfed cultivation)**	**LZ7 (river valley)**	**Nouakchott peri-urban**
Sorghum		-50-97%[11]	-60-94%	-58-99%	
Rice				-10% (est)	
Maize		-100%	-100%	-13-100%	
Cowpeas				-20-100% (est)	

[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. Where possible, these scenarios compare February 2012 with the same month in the relevant reference year.
[8] Where numbers appear in a range, this is because there were different problem specifications for different markets in different *wilayas*.
[9] Inflation has been used to represent the price change for non-food items in the survival and livelihood protection expenditure baskets.
[10] An empty box indicates that the item is not a key parameter in the livelihood zone.
[11] Where numbers appear in a range, this is because there were different problem specifications in different *wilayas*.

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 7: Livestock production scenario

	LZ1 (pastoral)	LZ5 (agro-pastoral)	LZ6 (rainfed cultivation)	LZ7 (river valley)	Nouakchott peri-urban
Herd sizes[12]	+/-0%	+/-0%	+/-0%	+/-0%	+/-0%
Excess deaths in current year – camels	2%				
Excess deaths – cattle	7%	5%	5%	+/-0%	
Excess deaths – shoats	6%	4%	4%	+/-0%	
Milk production (next rainy season)	-40%	-40%	-40%	-10%	

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

Table 8: Scenario for other sources of food and income

	LZ1 (pastoral)	LZ5 (agro-pastoral)	LZ6 (rainfed cultivation)	LZ7 (river valley)	Nouakchott peri-urban
Agricultural labour		+/-0%	+/-0%	+/-0%	
Casual labour - herding	+/-0%				
Casual labour – construction		-50%	-50%	-50%	
Casual labour – general					-5%
Remittances		+/-0%	+/-0%	+/-0%	
Gifts					
Labour migration		+50%	+50%	+50%	
Employment					+/-0%
Self-employment	+20-40%	+20-40%	+20-40%	+20-40%	+/-0%
Petty trade		+/-0%	+/-0%	+/-0%	+/-0%

[12] 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.

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 *wilayas* (regions) analysed in the five 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, June 2011 – May 2012 for the pastoral zone, and April 2011 – March 2012 for the peri-urban 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 starts to increase) until the start of the next year's rains.

5.2 OUTCOME FOR FIVE LIVELIHOOD ZONES

The following figures present the results of the outlined scenario for very poor and poor households in one *wilaya* in each livelihood zone. The results for all *wilaya* are presented at the end of the section. Better off households do not face survival or livelihood protection deficits in any livelihood zone under any of the scenarios. Middle households face deficits only the LZ 6 (rainfed cultivation).

5.2a LZ1 Pastoral Nomad Livelihood Zone

Figure 3a: Outcome Analysis for Very Poor Households, LZ 1

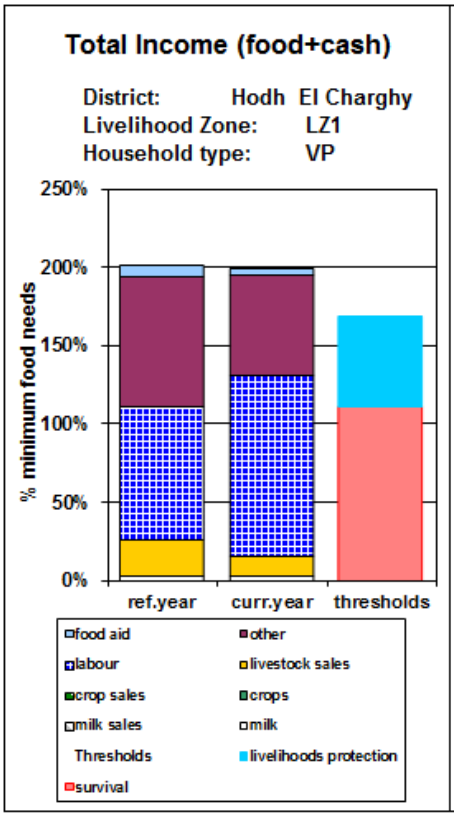
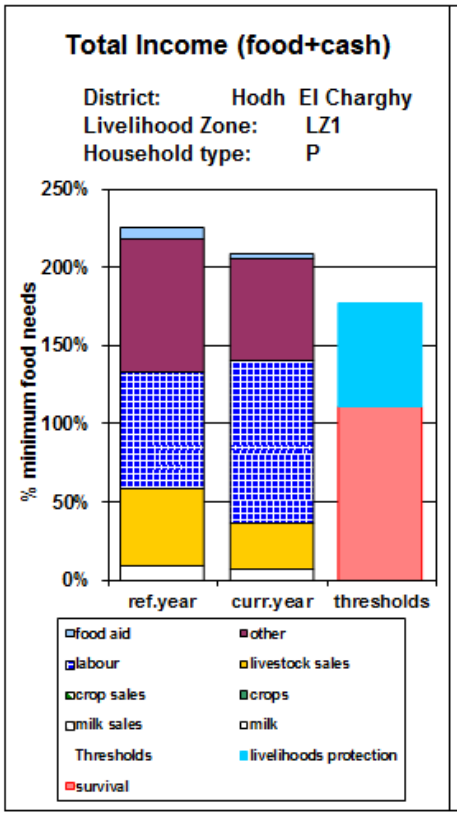


Figure 3b: Outcome Analysis for Poor Households, LZ 1



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.

The main source of income for very poor and poor households in the reference year (2008-09) was casual labour (mostly herding for better off households) and self-employment (which is labelled 'other' in the graphics and includes handicrafts and firewood sales). With increased wage rates in the current year, projected total income for 2011-12 is expected to be fairly similar to that in the reference year (in terms of its food equivalent) and above the thresholds for intervention (the livelihoods protection and survival thresholds).

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 (35-45% of the population) in LZ 1 will most likely not face livelihood protection or survival deficits. Figure 3b presents the same outcome analysis for poor households (20-30% of the population). They are also not likely to face deficits. Due to lack of price data for the main markets in this livelihood zone, one problem specification has been developed and this applies to all *wilayas* in the zone.

5.2b LZ5 Agro-Pastoral Livelihood Zone

Figure 4a: Outcome Analysis for Very Poor Households, LZ 5

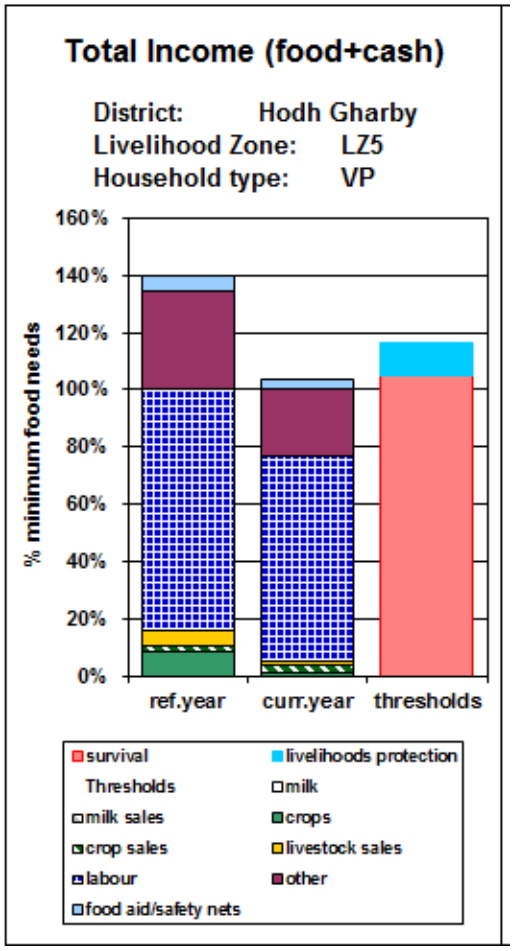
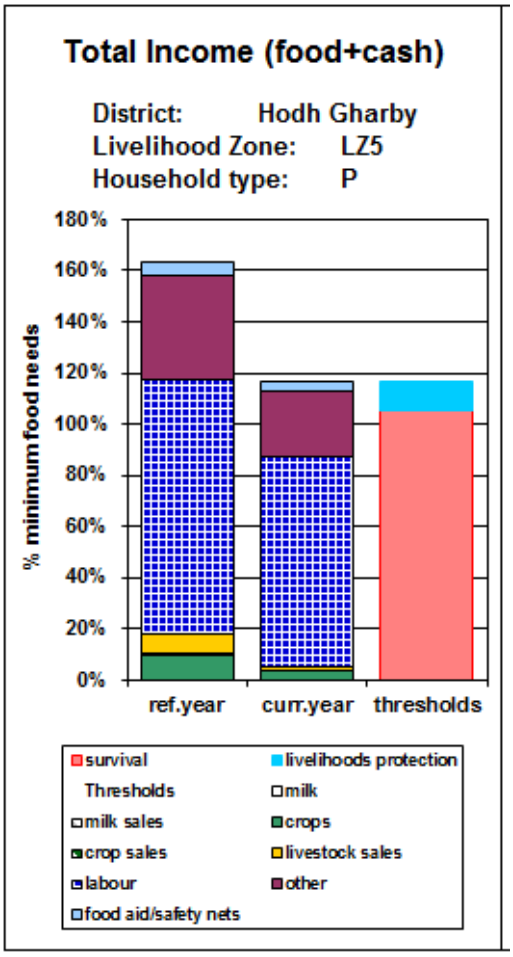


Figure 4b: Outcome Analysis for Poor Households, LZ 5



The main source of income for very poor and poor households in the reference year (2008-09) was casual labour and labour migration. 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 (35-50% 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 (20-30% of the population). They do not face a deficit under the specified scenario, but they are very close to the livelihood protection threshold.

The part of the agro-pastoral livelihood zone in the *wilaya* presented in the graphics above (Hodh Gharby) has a worse situation compared to other *wilayas*. This is because the decrease in crop production is the most severe in Hodh Gharby compared to the other *wilayas* and, as of February 2012, the staple food price rise is the largest. Very poor households in the other *wilayas* face livelihood protection deficits, but not survival deficits. The following table summarises the estimated number of people facing deficits in the parts of the eight *wilayas* that fall in the agro-pastoral livelihood zone, plus the quantity of food or the amount of cash that would fill the deficits.

Table 9: Population facing survival and livelihood protection deficits in agro-pastoral livelihood zone (LZ5)

					Unit for Cash:	MRO				x1000
		SURVIVAL DEFICIT			L/HOODS PROT. DEFICIT			TOTAL		
Ad.Zone	District	Population facing deficit	Either MT	OR Cash	Population facing deficit	Either MT	OR Cash	Population facing deficit	Either MT	OR Cash
Mauritani	Hodh El Charghy	-	-	-	88,025	2,062	583,369	88,025	2,062	583,369
-	Guidimakha	-	-	-	6,083	99	25,742	6,083	99	25,742
-	Assaba	-	-	-	60,421	1,260	328,862	60,421	1,260	328,862
-	Hodh Gharby	52,028	174	49,192	80,932	1,289	364,673	80,932	1,463	413,865
-	Gorgol	-	-	-	68,643	1,188	310,015	68,643	1,188	310,015
-	Brakna	-	-	-	75,193	1,306	340,993	75,193	1,306	340,993
-	Tagant	-	-	-	19,066	392	102,401	19,066	392	102,401
TOTALS		52,028	174	49,192	398,364	7,596	2,056,054	398,364	7,770	2,105,245
Further details in Table:		A	C	E	B	F	D	B	G	H

5.2c LZ6 Rainfed Cultivation Livelihood Zone

Figure 5a: Outcome Analysis for Very Poor Households, LZ6

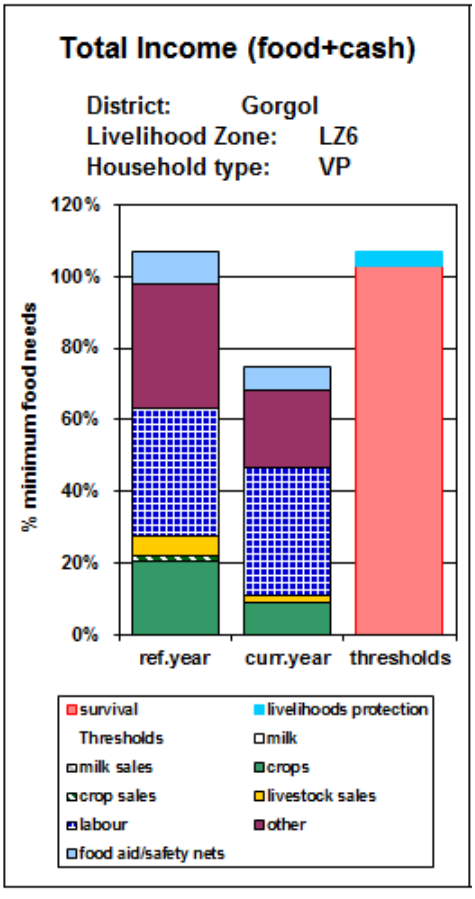
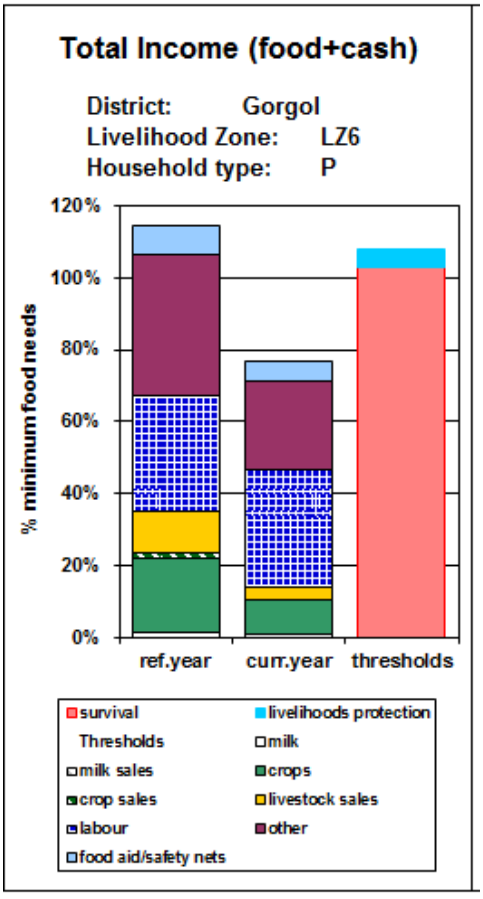


Figure 5b: Outcome Analysis for Poor Households, LZ6



The main sources of income for very poor and poor households in the reference year (2007-08) were casual labour, labour migration and self-employment ('other' in the graphic, including handicraft, firewood and gum arabic sales). Projected total income for 2011-12 is expected to be below that in the reference year (in terms of its food equivalent).

Figure 5a on the left is for very poor households in the rainfed cultivation livelihood zone (Gorgol *Wilaya*), who make up 25-40% 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 and a large survival deficit in the current year. Figure 5b on the right is for the poor, who make up 15-30% of the population. They should face similar levels of deficit in the current year under the specified scenario. In this zone, even middle households face livelihood protection and small survival deficits, under the scenario outlined in Section 4. This is true in all of the *wilayas* in the livelihood zone.

The following table summarises the population facing deficits in the parts of the five *wilayas* that fall in the rainfed cultivation livelihood zone, plus the quantity of food or the amount of cash that would fill the deficits.

Table 10: Population facing survival and livelihood protection deficits in the rainfed cultivation livelihood zone (LZ6)

					Unit for Cash:	MRO				x1000
		SURVIVAL DEFICIT			L/HOODS PROT. DEFICIT			TOTAL		
Ad.Zone	District	Population facing deficit	Either MT	OR Cash	Population facing deficit	Either MT	OR Cash	Population facing deficit	Either MT	OR Cash
Mauritani	Hodh El Charghy	81,308	3,554	932,158	81,308	1,074	281,595	81,308	4,628	1,213,752
-	Guidimakha	146,577	6,103	1,600,649	146,577	1,936	507,646	146,577	8,039	2,108,295
-	Assaba	58,368	2,871	752,953	58,368	771	202,148	58,368	3,642	955,101
-	Hodh Gharby	96,794	5,302	1,390,544	96,794	1,278	335,230	96,794	6,581	1,725,774
-	Gorgol	25,166	1,069	280,428	25,166	332	87,160	25,166	1,402	367,588
TOTALS		408,214	18,901	4,956,732	408,214	5,391	1,413,779	408,214	24,291	6,370,511
Further details in Table:		A	C	E	B	F	D	B	G	H

5.2d LZ7 Senegal River Valley Livelihood Zone

Figure 6a: Outcome Analysis for Very Poor Households, LZ 7

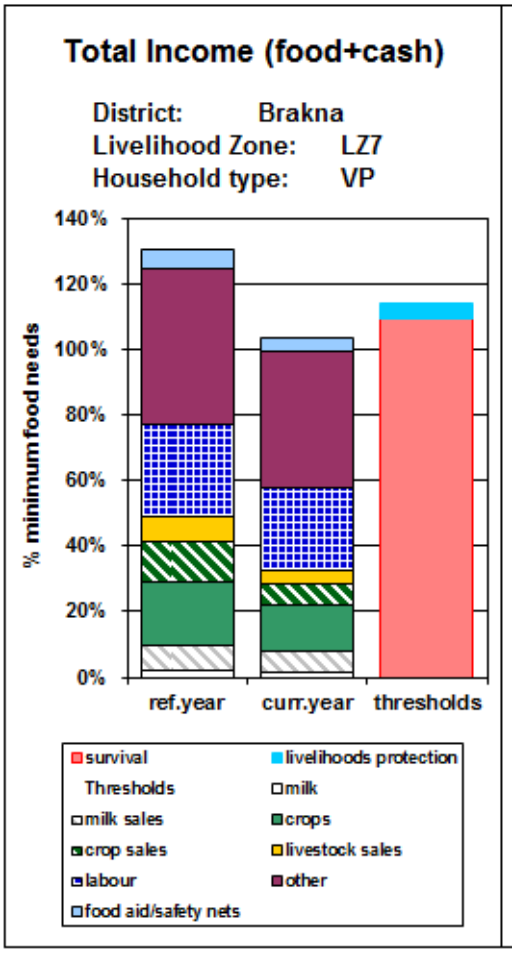
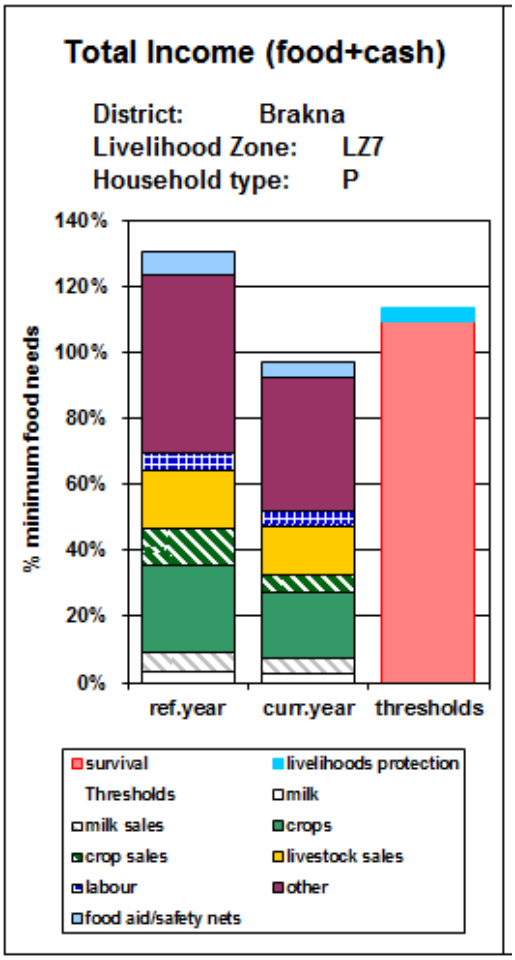


Figure 6b: Outcome Analysis for Poor Households, LZ 7



The largest source of income for very poor and poor households in the reference year (2007-08) was self-employment ('other' in the graphic, including petty trade and handicraft and firewood sales). Projected total income for 2011-12 is expected to be below that in the reference year (in terms of its food equivalent).

Figure 6a on the left is for the very poor in the Senegal river valley livelihood zone (Brakna *Wilaya*), who make up 25-40% of the population. Given the scenario described in Section 4, these households are expected to face a livelihood protection deficit and a survival deficit in the current year. Figure 6b on the right is for the poor, who make up 20-30% of the population. They should face similar levels of deficit in the current year under the specified scenario. Middle and better off households in this zone do not face deficits under the scenario defined in Section 4.

The following table summarises the population facing deficits in the parts of the four *wilayas* that fall in the Senegal river valley livelihood zone, plus the quantity of food or the amount of cash that would fill the deficits.

Table 11: Population facing survival and livelihood protection deficits in the Senegal river valley livelihood zone (LZ7)

					Unit for Cash:		MRO			x1000
		SURVIVAL DEFICIT			L/HOODS PROT. DEFICIT			TOTAL		
Ad.Zone	District	Population facing deficit	Either MT	OR Cash	Population facing deficit	Either MT	OR Cash	Population facing deficit	Either MT	OR Cash
-	Guidimakha	6,212	71	20,951	14,329	117	34,583	14,329	188	55,534
-	Gorgol	65,133	1,020	300,488	65,133	590	173,716	65,133	1,610	474,203
-	Brakna	68,532	1,363	401,436	68,532	620	182,780	68,532	1,983	584,216
-	Trarza	69,157	1,828	538,443	69,157	626	184,447	69,157	2,454	722,891
TOTALS		209,034	4,281	1,261,318	217,151	1,954	575,526	217,151	6,235	1,836,844
Further details in Table:		A	C	E	B	F	D	B	G	H

5.2e Nouakchott Peri-Urban Livelihood Zone

Figure 7a: Outcome Analysis for Very Poor Households, Nouakchott Peri-Urban

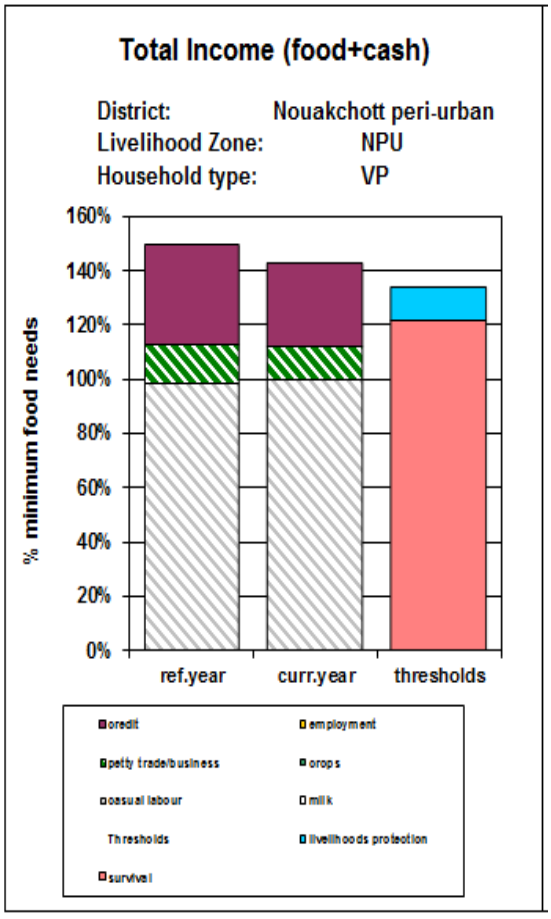


Figure 7b: Outcome Analysis for Poor Households, Nouakchott Peri-Urban

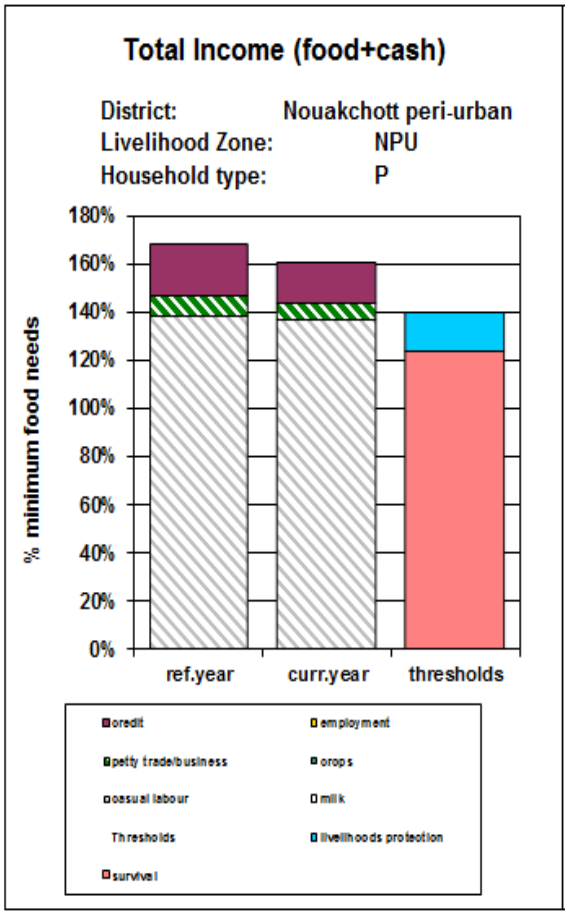


Figure 7a on the left is for very poor households, who make up 35-45% of the population. Given the scenario described in Section 4, these households are unlikely to face deficits in the current year (which runs up to March 2012). Should staple food prices rise more than specified in the scenario, this analysis should be reviewed. Figure 7b on the right is for the poor, who make up 25-35% of the population. A similar outcome applies to them.

5.2f Summary of results

Tables 12 below summarises the results of the 2011-12 scenario analysis for all five livelihood zones. The zones where very poor and poor households are likely to face the worst problems (both survival and livelihood protection deficits) are LZs 6 and 7. The next worst situation is found in LZ 5, where households face livelihood protection deficits. Households in all wealth groups are above the livelihood protection threshold in LZ 1 and the Nouakchott peri-urban livelihood zone.

Table 12: Summary of Outcome Analysis Results: Wealth Groups/Livelihood Zones Facing Deficits

	LZ 1	LZ 5	LZ 6	LZ 7	Peri-urban
Very poor	No deficits	**Livelihood protection** **Survival (one *wilaya*)**	**Survival and livelihood protection**	**Survival and livelihood protection**	No deficits
Poor	No deficits	No deficit	**Survival and livelihood protection**	**Survival and livelihood protection**	No deficits
Middle	No deficits	No deficit	**Survival and livelihood protection**	No deficit	No deficits
Better off	No deficits	No deficit	No deficit	No deficit	No deficits

Tables 13, 14 and 15 below present the level of livelihood protection and survival deficits by wealth group and *wilaya* for each livelihood zone. The level of deficit differs slightly within each livelihood zone in each *wilaya* because the crop production problem specification is different by *wilaya*. Each figure in these tables is the mid-point of a range.

Table 13: Level of Deficits* by Wealth Group and *Wilaya* in LZ 5

LZ5	Hodh El Charghy	Guidimakha	Assaba	Hodh Gharby	Gorgol	Brakna	Tagant
Very poor	**LDP**: 11% (~1½ months food or ~53000 MRO per HH pa)	**LPD**: 8% (~1 month food or ~34000 MRO per HH pa)	**LPD**: 10% (~1½ months food or ~44000 MRO per HH pa)	**SD**: 2% (~½ month food) **LPD**: 12% (~1½ months food or ~56000 MRO per HH pa)	**LPD**: 8% (~1 month food or ~36000 MRO per HH pa)	**LPD**: 8% (~1 month food or ~36000 MRO per HH pa)	**LPD**: 10% (~1½ months food or ~43000 MRO per HH pa)

* SD = survival deficit, LPD = livelihood protection deficit, pa = per year.
** A one-month deficit is 8%.

Table 14: Level of Deficits* by Wealth Group and *Wilaya* in LZ 6					
LZ6	Hodh El Charghy	Guidimakha	Assaba	Hodh Gharby	Gorgol
Very poor	**SD**: 27% (~3 months food) **LPD**: 4% (~½ month food or 14000 MRO per HH pa)	**SD**: 26%(~3 months food) **LPD**: 4% (~½ month food or 14000 MRO per HH pa)	**SD**: 29% (~3½ months food) **LPD**: 4% (~½ month food or 14000 MRO per HH pa)	**SD**: 31% (~3½ months food) **LPD**: 4% (~½ month food or 14000 MRO per HH pa)	**SD**: 27% (~3 months food) **LPD**: 4% (~½ month food or 14000 MRO per HH pa)
Poor	**SD**: 25% (~3 months food) **LPD**: 5% (~½ month food or 19000 MRO per HH pa)	**SD**: 24% (~3 months food) **LPD**: 5% (~½ month food or 19000 MRO per HH pa)	**SD**: 27% (~3 months food) **LPD**: 5% (~½ month food or 19000 MRO per HH pa)	**SD**: 29% (~3½ months food) **LPD**: 5% (~½ month food or 19000 MRO per HH pa)	**SD**: 25% (~3 months food) **LPD**: 5% (~½ month food or 19000 MRO per HH pa)
Middle	**SD**: 7% (~1 month food) **LPD**: 11% (~1½ months food or ~49000 MRO per HH pa)	**SD**: 6% (~1 month food) **LPD**: 11% (~1½ months food or ~49000 MRO per HH pa)	**SD**: 12% (~1½ month food) **LPD**: 11% (~1½ months food or ~49000 MRO per HH pa)	**SD**: 16% (~2 months food) **LPD**: 11% (~1½ months food or ~49000 MRO per HH pa)	**SD**: 6% (~1 month food) **LPD**: 11% (~1½ months food or ~49000 MRO per HH pa)

Table 15: Level of Deficits* by Wealth Group and *Wilaya* in LZ 7				
LZ7	Guidimakha	Gorgol	Brakna	Trarza
Very poor	**LPD**: 4% (~ ½ month food or ~17000 MRO per HH pa)	**SD**: 5% (~½ month food) **LPD**: 4% (~½ month food or 17000 MRO per HH pa)	**SD**: 7% (~1 month food) **LPD**: 4% (~½ month food or 17000 MRO per HH pa)	**SD**: 9% (~1 month food) **LPD**: 4% (~½ month food or 17000 MRO per HH pa)
Poor	**SD**: 5%(~½ month food) **LPD**: 4% (~½ month food or ~23000 MRO per HH pa)	**SD**: 11% (~1½ months food) **LPD**: 4% (~½ month food or ~23000 MRO per HH pa)	**SD**: 13% (~1½ months food) **LPD**: 4% (~½ month food or ~23000 MRO per HH pa)	**SD**: 16% (~2 months food) **LPD**: 4% (~½ month food or ~23000 MRO per HH pa)

* SD = survival deficit, LPD = livelihood protection deficit, pa = per year.

Table 16 summarises the total population facing deficits in each wilaya, plus the quantity of food or the amount of cash that would fill the deficits outlined in Tables 13 – 15 above. Each figure is the mid-point of a range.

Table 16: Summary of Outcome Analysis Results: Quantification of food and/or cash assistance needs by *wilaya*

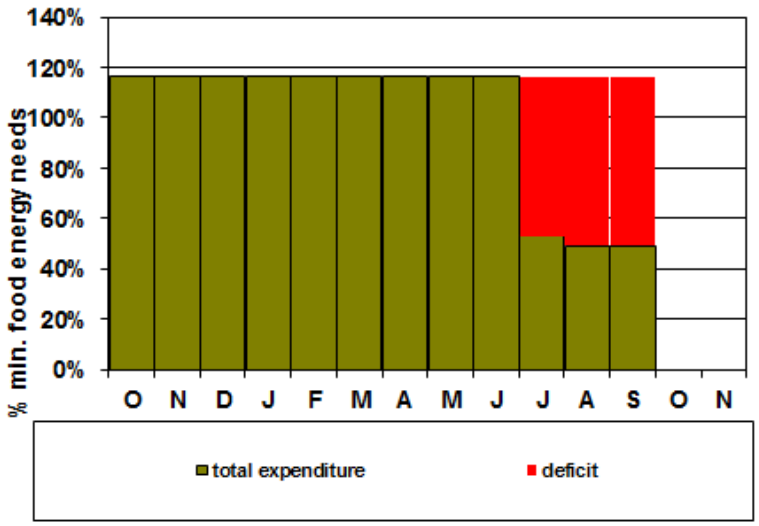
				Unit for Cash:	MRO				x1000
	SURVIVAL DEFICIT			L/HOODS PROT. DEFICIT			TOTAL		
Wilaya	Population facing deficit	Either MT	OR Cash	Population facing deficit	Either MT	OR Cash	Population facing deficit	Either MT	OR Cash
Hodh El Charghy	81308	3554	932158	169333	3136	864964	169333	6690	1797121
Guidimakha	152789	6175	1621600	166990	2152	567971	166990	8326	2189571
Assaba	58368	2871	752953	118789	2031	531010	118789	4902	1283963
Hodh Gharby	148822	5476	1439736	177726	2567	699903	177726	8043	2139639
Gorgol	90300	2089	580916	158943	2110	570890	158943	4199	1151806
Brakna	68532	1363	401436	143725	1926	523772	143725	3289	925208
Trarza	69157	1828	538443	69157	626	184447	69157	2454	722891
Tagant	0	0	0	19066	392	102401	19066	392	102401
TOTALS	587968	19801	5335084	854395	11805	3180395	854395	31606	10875450

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 8 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 8 suggest that deficits for the very poor in the agro-pastoral livelihood zone (LZ 5, Hodh Gharby *Wilaya*) are likely to occur mainly from July 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.

Figure 8: Seasonal Pattern of Consumption/ Expenditure and Timing of Deficits Very Poor Households, LZ 5 (Agro-Pastoral)



Note: The charts show projected pattern of consumption/ expenditure, by month, from October 2011 to September 2012. The period when households are unlikely to be able to cover their livelihood protection and survival needs is shown in red.

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 9a suggest that deficits for middle households in the rainfed plateau livelihood zone (LZ 6, Gorgol W*ilaya*) are likely to occur in June – September 2012 given the scenario outlined in Section 4. Under that scenario, staple food prices increase by on average 50% in the current year in relation to staple food prices in the reference year. But data on staple food prices is unavailable for the reference year in the government, FEWS, WFP and NGO price monitoring systems and this price scenario is an assumption. Should staple food prices not increase (Figure 9b) or double (Figure 9c) on average in relation to staple food prices in the reference year, the picture is quite different.

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 9a: Seasonal Pattern of Consumption/ Expenditure and Timing of Deficits Middle Households, LZ 6 (Gorgol *Wilaya*) for the scenario outlined in section 4

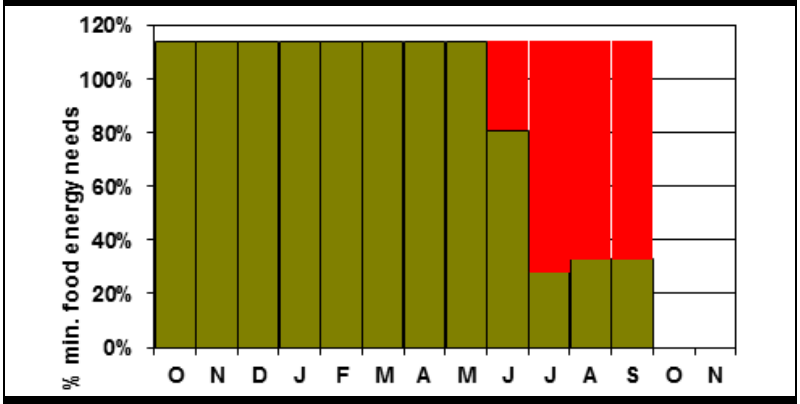


Figure 9b: With a scenario of smaller staple food price increases (+/-0%) in relation to the reference year

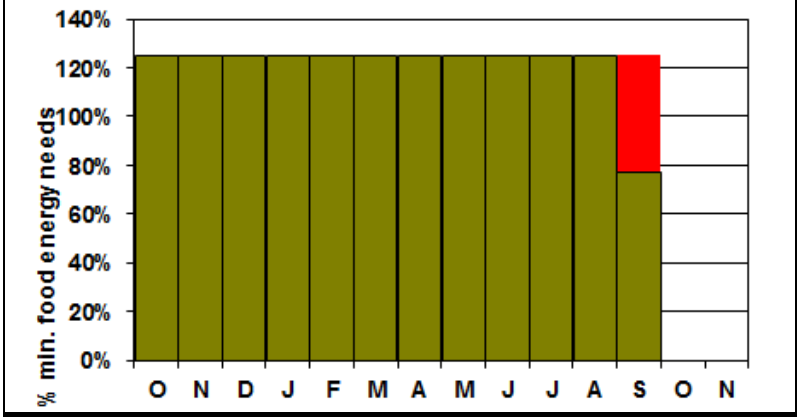
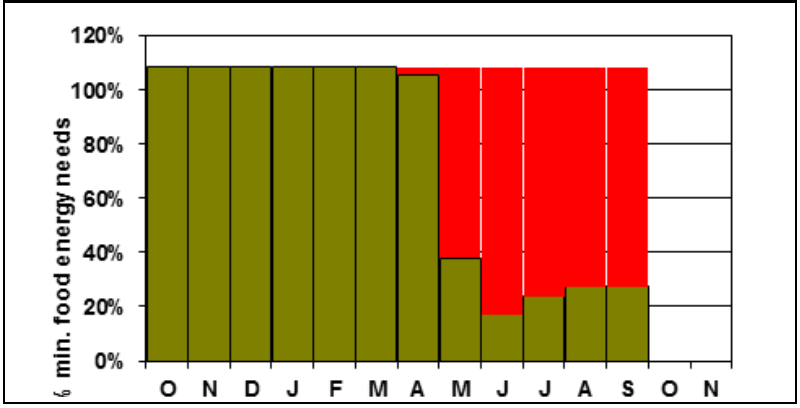


Figure 9c: With a scenario of larger staple food price increases (+100%) in relation to the reference year



6 FINAL COMMENTS

The results of this analysis were presented at a one-day workshop on 23 February, 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 February 2012). When the final figures are available, this analysis can be revised.

Other scenarios can be analysed as additional information becomes available or if decision makers would like to understand vulnerability to different types of shock.

7 APPENDIX – THE HEA FRAMEWORK

7.1 THE HOUSEHOLD ECONOMY BASELINE

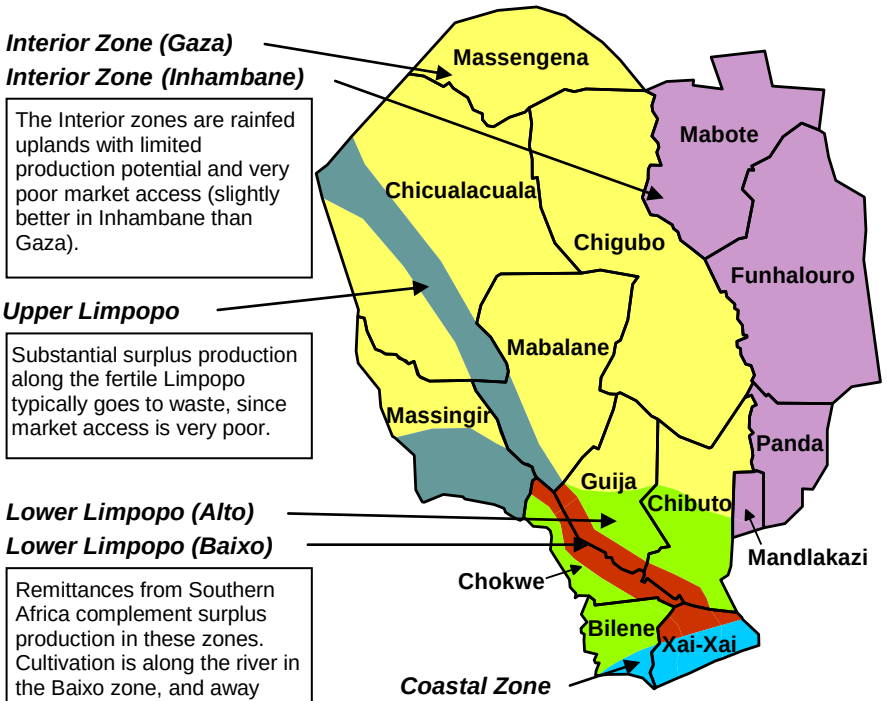
The Household Economy Approach (HEA) to analysing livelihoods and assessing food security has been used widely in Africa and elsewhere over the past decade. The basic principle underlying the approach is that an analysis of local livelihoods is essential for a proper understanding of the impact– at household 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.

A Livelihood is the sum of ways in which people make their living.

In the context of an analysis of food and non-food needs, the most important aspects of livelihood to understand are the means by which people produce food for themselves, and the means by which they obtain income to buy food and non-food goods and services from others.

A livelihood zone is an area within which people share broadly the same means of production and broadly the same patterns of access to markets.

Livelihood Zone Map: The Limpopo Basin, Mozambique
(with district boundaries)



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[13]. 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

[13] 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.

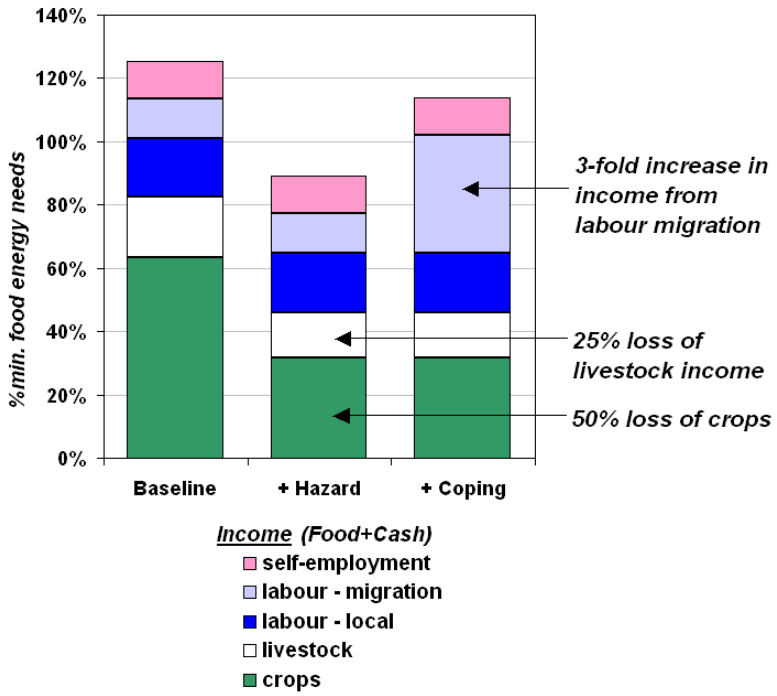
implement. The rationale behind the approach is that a good understanding of how people have survived in the past provides a sound basis for projecting into the future. Three types of information are combined for the analysis; information on baseline access, information on hazard (i.e. factors affecting 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:

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.

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 1****).*



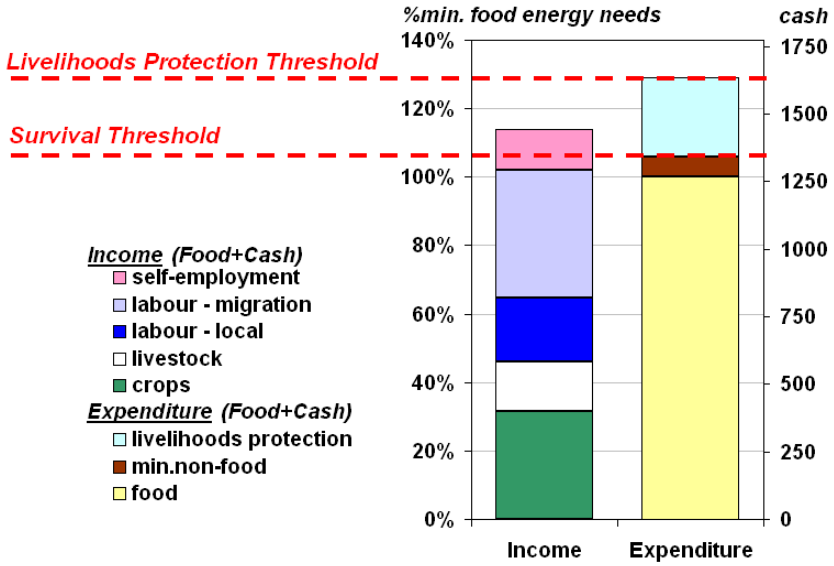
The two thresholds – the ***Livelihoods Protection Threshold*** and the ***Survival Threshold*** – are described in the figure below. The *Survival Threshold* is the amount of food and cash income required to ensure survival in the short-term, i.e. to cover minimum food and non-food needs. Minimum non-food 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 1: 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 deficit[15]. 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[14]
Low Cost *(included in outcome analysis)*
Reduced expenditure on non-essential items (beer, cigarettes, ceremonies, festivals, expensive clothing, meat, sugar, more expensive staples, etc.)
Harvesting of reserve crops (e.g. cassava, enset)
Consumption rather than sale of any crop surplus
Medium Cost *(included in outcome analysis)*
Increased sale/slaughter of livestock (sustainable)
Intensification of local labour activities
Short-term/seasonal labour migration
Intensification of self-employment activities (firewood, charcoal, building poles, etc.)
Increased remittance income
Increased social support/gifts
Borrowing of food/cash
Sale of non-productive assets (jewellery, clothing, etc.)
Collection of wild foods
High Cost *(excluded from outcome analysis)*
Unsustainable sale/slaughter of livestock
Long-term/permanent migration (including distress migration of whole households)
Excessive sale of firewood/charcoal (e.g. because of its effect on the environment)
Sale/mortgaging of productive assets (land, tools, seeds, etc.)
Prostitution
Reduced expenditure on productive inputs (fertilizer, livestock drugs etc.)
Reduced expenditure on health and education
Reduced expenditure on water
Decreased food intake

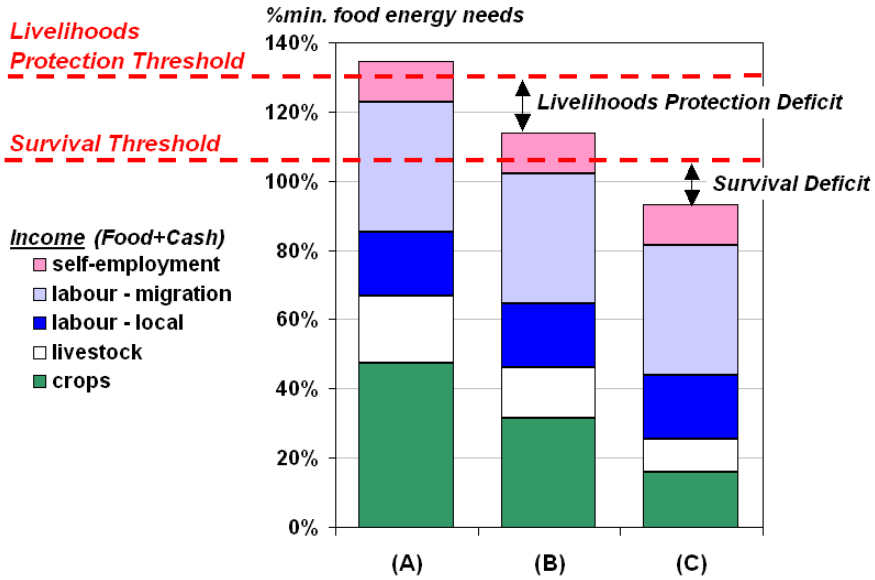
[14] Note that some strategies usually included in lists of coping strategies are not included here, e.g. strategies that maintain primary production in the face of a hazard (e.g. re-planting of crops, replacement of long-cycle by short-cycle crops, long distance grazing of livestock). This is because 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'.

[15] 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 level[1], although they will have to resort to other high-cost strategies including a reduction in expenditure on productive inputs, on health and on education. The primary objective of intervention at this level is to protect livelihoods, both in the current year and for the future.

(C) – Survival Deficit: At this level, total income is insufficient to cover the cost of survival, even if full use is made of all the available low- and medium-cost coping strategies, and all the money usually used to protect livelihoods is switched to the purchase of staple foods. It is very probable that people facing this type of deficit will go hungry, unless they resort to other undesirable high-cost coping strategies (see **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.

[1]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.

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	***Wealth breakdowns*** help group the population in a way that shows who will be most affected by different shocks.
WHAT	***Livelihood strategy identification, description and quantification*** (Food, income, expenditure) shows what can be done to support existing livelihoods, and, just as important, what might harm them.
HOW MUCH	***Outcome analysis*** determines what kinds of gaps will be left in the event of a shock or multiple shocks. This leads directly to an analysis of how much help is needed.
WHERE	***Livelihood zoning*** helps group people in a way that allows you to see where affected populations will be.
WHEN and FOR HOW LONG	***Outcome analysis***, combined with careful use of seasonal calendars, provides a basis for determining when different types of assistance are needed and for how long.