

HEA Outcome Analysis Technical Report

COUNTRY :

Nigeria

Date of the analysis: 14 – 17 July 2014

Period covered by the analysis: September 2013 – August 2014

SUMMARY

This report presents the results of an HEA Outcome Analysis carried out by the Nigeria HEA Working Group in July 2014 in Katsina for five rural livelihood zones of Northern Nigeria. The workshop is including participants from Government (Federal Ministry of Agriculture through the Agricultural Development Program, Ministry of Education, National Bureau of Statistics and Department for Food Security), NGOs (Save the Children) and other agencies (Nigeria Red Cross Society, Civil Society Organization and International Fund for Agricultural Development) under the technical lead of Save the Children. This July analysis is an update of the April one. In addition to the three livelihood baselines used to be analyzed for Nigeria (NW Millet & Sesame LZ (MAS), NW Cotton, Groundnuts & mixed Cereals LZ (CGC) and Hadejia Valley Mixed Economy LZ (HVM)), two more livelihood baselines developed in February-March 2014 by Save the Children and its partners in northern Nigeria were included in this analysis: NW Sorghum, Cowpeas and Groundnuts LZ (SCG) and NW Millet, Cowpeas and Groundnuts LZ (MCG).

The period of consumption year covered by the current analysis is **September 2013 –August 2014** for the five livelihood zones. Official monitoring data on crop production and prices was used for the definition of the current year problem. Where official information was not available, assumptions have been made based on a consensus amongst the workshop participants and their field experience.

The analysis shows that no wealth group will likely face any deficit in four of the five livelihood zones (MAS, CGC, SCG & MCG) meaning that households in these four zones will be able to secure sufficient food and income to live above the basic survival and livelihood protection thresholds. In opposite, very poor households in Hadejia Valley Mixed Economy LZ (HVM) will likely face a livelihood protection deficit occurring in September 2013 and August 2014, respectively the beginning and the end months of the current consumption year. The results are summarized in the table below.

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

	MAS	CGC	HVM	SCG	MCG
Very Poor	No deficits	No deficits	LP Deficit	No deficits	No deficits
Poor	No deficits	No deficits	No deficits	No deficits	No deficits
Middle	No deficits	No deficits	No deficits	No deficits	No deficits
Better Off	No deficits	No deficits	No deficits	No deficits	No deficits

I. LIVELIHOOD ZONES DESCRIPTION

The five livelihood zones are primarily agricultural supporting a wide variety of rain-fed crops suited to drylands areas including millet, sorghum, maize, rice, cowpeas, groundnuts, sesame, cotton as well as (increasingly) soybeans. Rain-fed agriculture is carried out during the single rainy season which runs from April/May to October. The peak months of rainfall are June to August. In the dry season, food crops and market vegetables are grown on low lying river flood plains (i.e., *fadama*) either through irrigation or flood retreat agriculture. The main period of harvest is from September to November. The dry-season harvest is March. In all five zones, livestock production supplements agriculture.

The Northwest region accommodates two wide belts of dominant staple cereals, millet and sorghum, that grade into each other via varying mixes. The other common associated cash crops that further distinguish the local economy are cowpeas, which are grown in surplus; groundnuts; cotton; and sesame. The **NW Millet, Cowpeas and Groundnuts LZ (MCG)** and the **NW Sorghum, Cowpeas and Groundnuts LZ (SCG)** are a very general mix of food and cash crops, with associated husbandry of sheep, goats, and cattle. These areas are at the heart of the groundnut cultivation for which northern Nigeria used to be particularly known. The longstanding cash crops of the **NW Cotton, Groundnuts, and Mixed Cereals LZ (CGC)** are groundnuts, cotton and soya beans. Rain-fed crops are sorghum, millet, rice and maize.

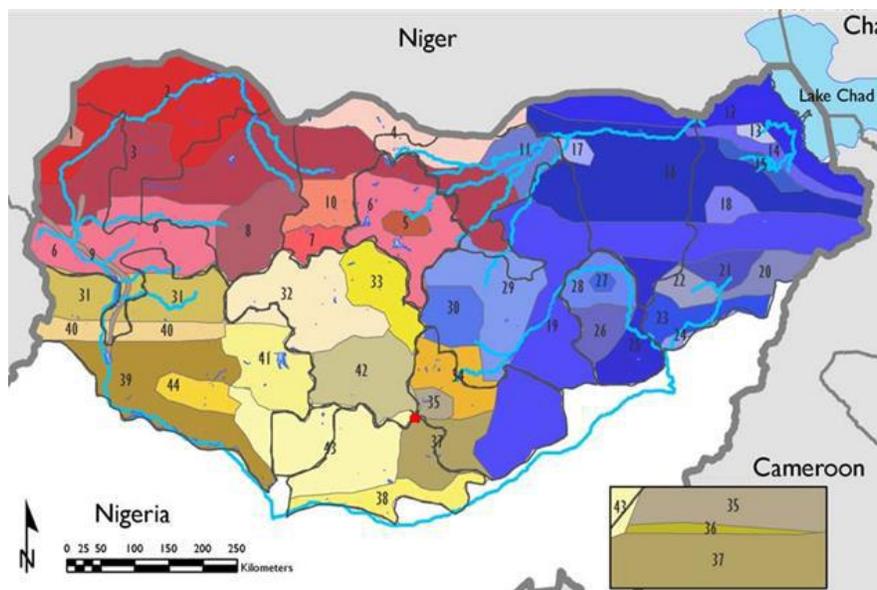
In the **Hadejia Valley Mixed Economy LZ (HVM)** a variety of crops are grown in drylands as well as the irrigated areas. Rainy season cultivation of drylands centers on maize, millet, rice, sorghum, and cowpeas, while irrigation or residual moisture in the dry season allow extended cultivation of crops (rice and maize) and valuable market vegetables (peppers, onions and tomatoes) on low lying river flood plains (i.e., *fadama*). Fishing in the Hadejia Valley is a significant source of cash income.

The far northern zone of **NW Millet & Sesame LZ (MAS)**, in the Sahel savanna ecological belt, generally features good conditions for millet and sorghum, as in the Sudan savanna belt. In this relatively dry ecosystem, yields tend to be lower than further south. Cowpeas are universally important, and sesame is an especially successful cash crop, although many farms cultivate groundnuts more. Unlike many sorghum-based areas, there is very little *fadama* land here, and vegetables are not common cash earners.

The reference year was not the same for the five livelihood baselines as outlined in the table below:

Livelihood Baseline	Reference Year
Millet & Sesame LZ (MAS)	Sept 2009 - August 2010
Cotton, Groundnuts & mixed Cereals LZ (CGC)	Sept 2011 - August 2012
Hadejia Valley Mixed Economy LZ (HVM)	Sept 2010 - August 2011
Sorghum, Cowpeas and Groundnuts LZ (SCG)	Sept 2012 - August 2013
Millet, Cowpeas and Groundnuts LZ (MCG)	Sept 2012 - August 2013

Livelihood Zone Map of Northern Nigeria



II- SCENARIO DEVELOPMENT/ PROBLEM SPECIFICATION

A problem specification is the translation of a shock or other change into economic consequences at household level. It allows one 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 income¹, so that a reduction in access to that one source may have a significant effect on total access. The following table lists all the food and income sources that are found in the three different livelihood zones. Those that are key parameters for a particular zone are shaded grey and marked with an 'x'.

The scenario uses official monitoring data on crop production and prices for the definition of the current year problem specification. Where official data was not available, assumptions have been made based on a consensus amongst the workshop participants and their field experience. As part of the scenario in the five livelihood zones, it has been assumed that the 2014 rainy season will be normal and that agricultural labor opportunities for weeding will be normal for the remaining months of the rainy season. All coping strategies are excluded from the scenario. Each element of the scenario analyzed can be monitored and revised as additional information becomes available. In addition, other scenarios can be analyzed if decision makers would like to understand vulnerability to different types of shock. For more details on the key parameters and their changes since the reference years, see the key parameter problem specification table at the bottom of the report.

¹ 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.

III- PROJECTED FOOD SECURITY PROSPECTS

3.1- Period covered by the analysis

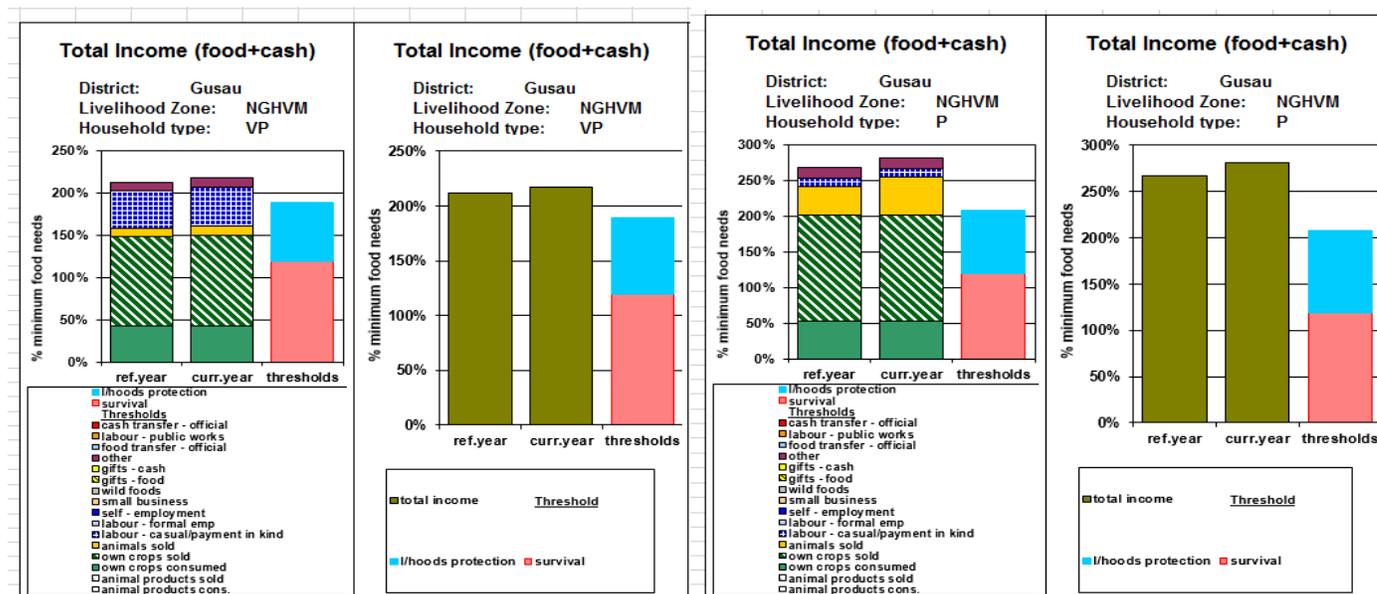
The period covered during the analysis is the current consumption year which is **September 2013 – August 2014** for all the three livelihood zones. For agricultural areas, the consumption year runs for the beginning of one harvest until the start of the following year’s harvest.

3.2 Projected Outcomes by Livelihood Zone and by District

The results of the outcome analysis are presented in this section. These illustrate how scenario development and problem specification are expected to impact upon total income for households in different wealth groups in the five livelihoods zones. The following graphs present the results of the scenario development/problem specifications for very poor and poor households for one district within each livelihood zone, the districts where key parameters were mainly monitored.

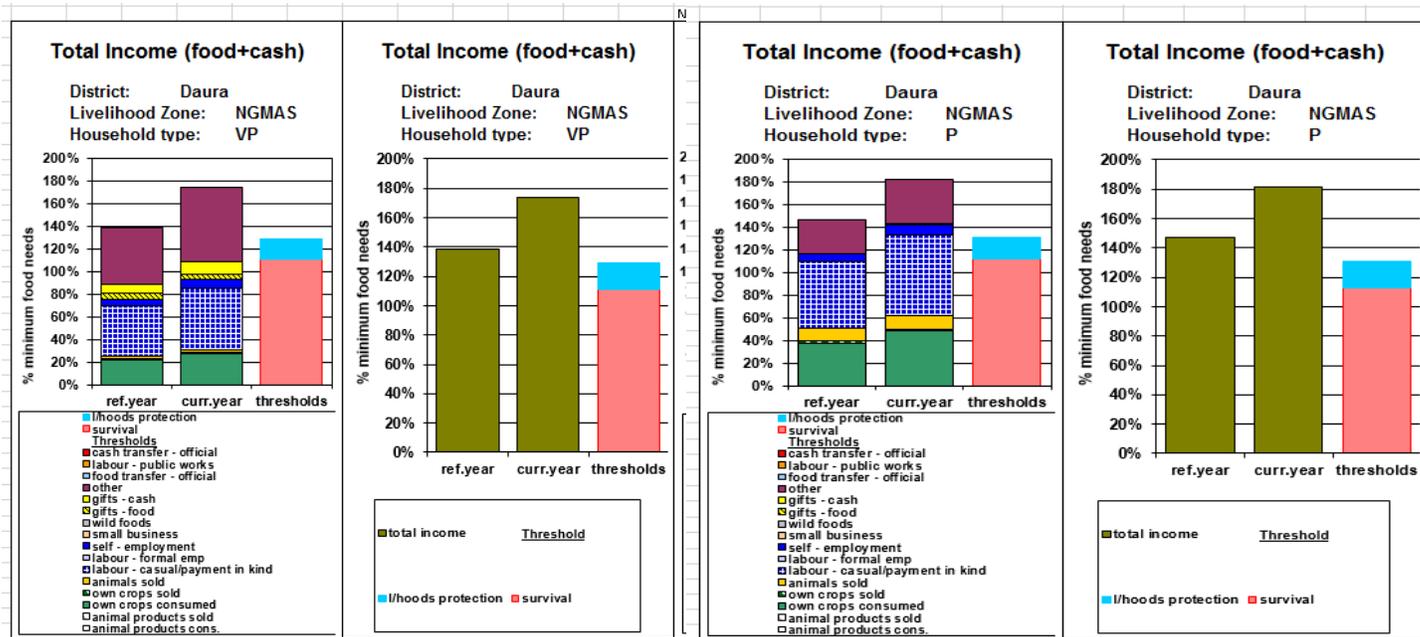
NG08: NW Cotton, Groundnuts and Mixed Cereals Livelihood Zone

The results for the scenario analysis show that there will be no emergency food or livelihood protection deficits. In theory, households could see improved food and income access this year. The significant increase in the staple food price – sorghum - was balanced by similar increase in livestock selling prices and wage rates (agricultural labor, firewood sales, and construction). In addition, both cash and food crops selling prices except groundnuts and soya beans increased more than the inflation rate while overall crop production remained stable. The net effect could be higher total incomes.



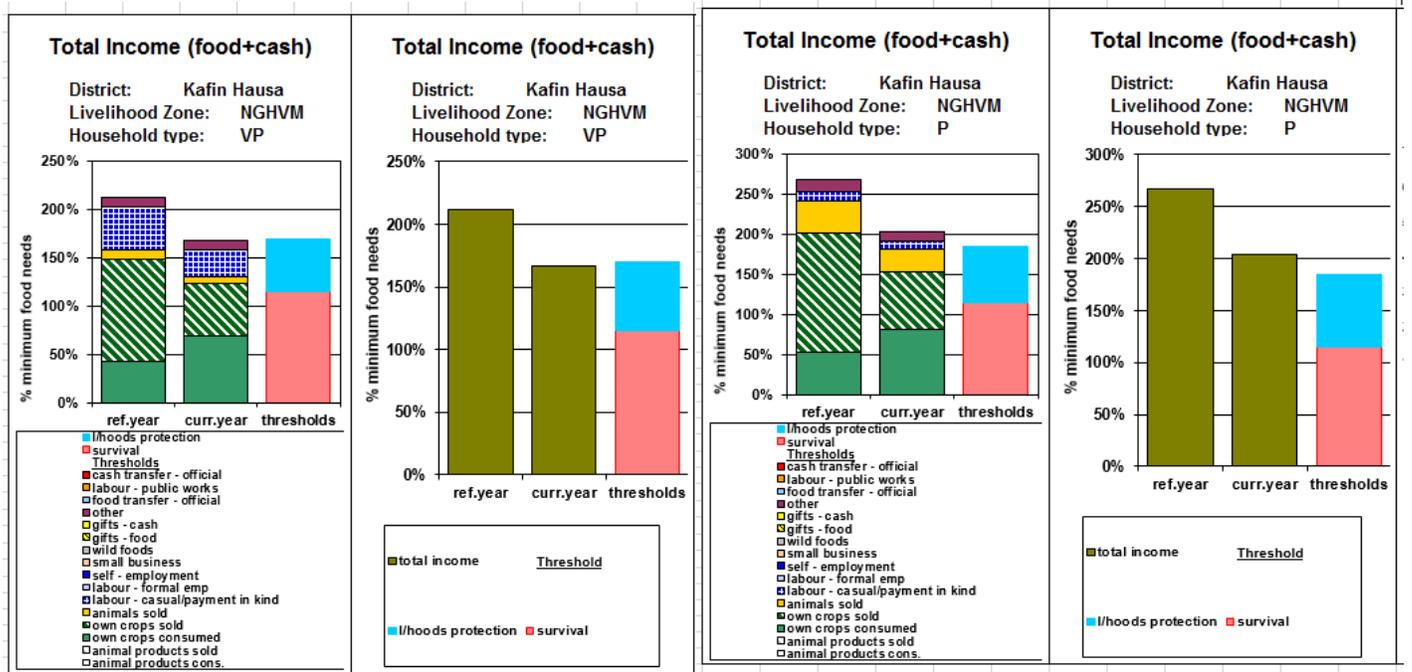
NG04: NW Millet & Sesame Livelihood Zone

The results for the scenario analysis show that households will not require emergency food or livelihood protection aid this year. Overall crop production and selling price of the principal cash crop - sesame - have increased compared to the reference year. In addition, the improvement of wage rates – agricultural labor, firewood sales, self-employment- will allow households to contain the moderate increase of the staple food price – millet - and moreover to have higher total incomes as shown in the graphs below.



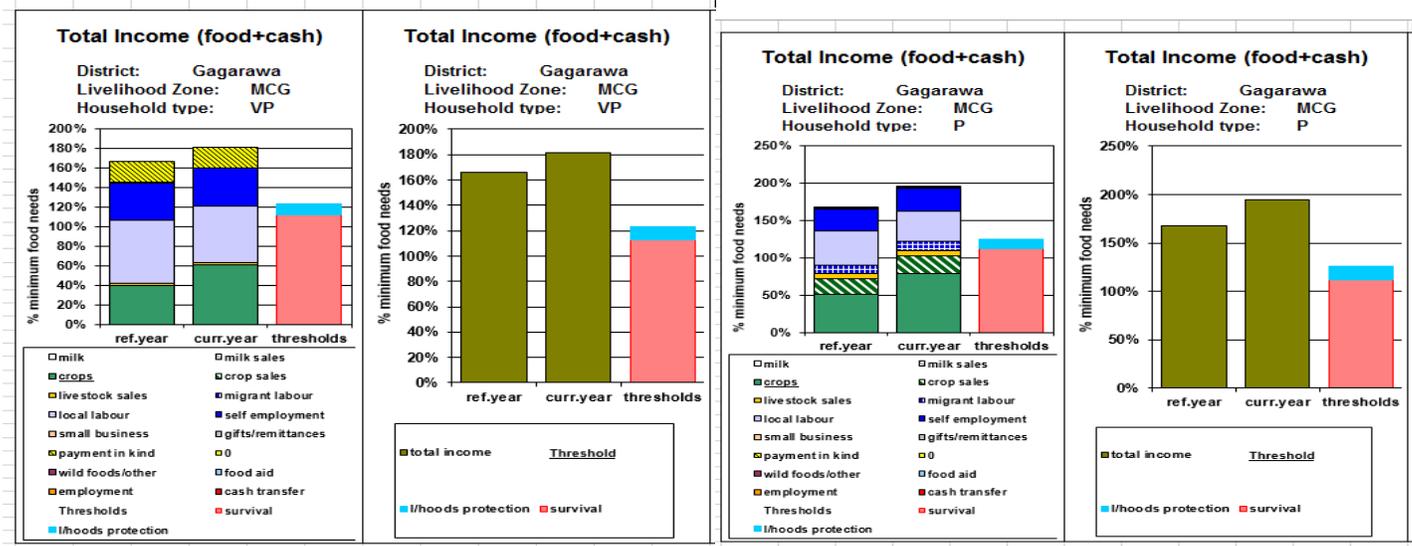
NGI I: Hadejia Valley Mixed Economy Livelihood Zone

The results for the scenario analysis show that only very poor households in the Hadejia Valley Mixed Economy LZ will likely face a deficit: a slight livelihood protection deficit of about 2%. In this LZ, in the reference year, crop sales - mainly market vegetables – and casual labor provided more than a half of total income of very poor households. In the current year, market vegetable production remains stable while prices decreased dramatically for pepper, onions and tomatoes. In addition, agricultural wage decreased. At the same time, the staple food price - maize - increased significantly eroding the purchasing power of the households severely affected by the loss in market vegetables cash income. The net effect of all these changes would be a lesser total income for all wealth groups compared to the reference year.



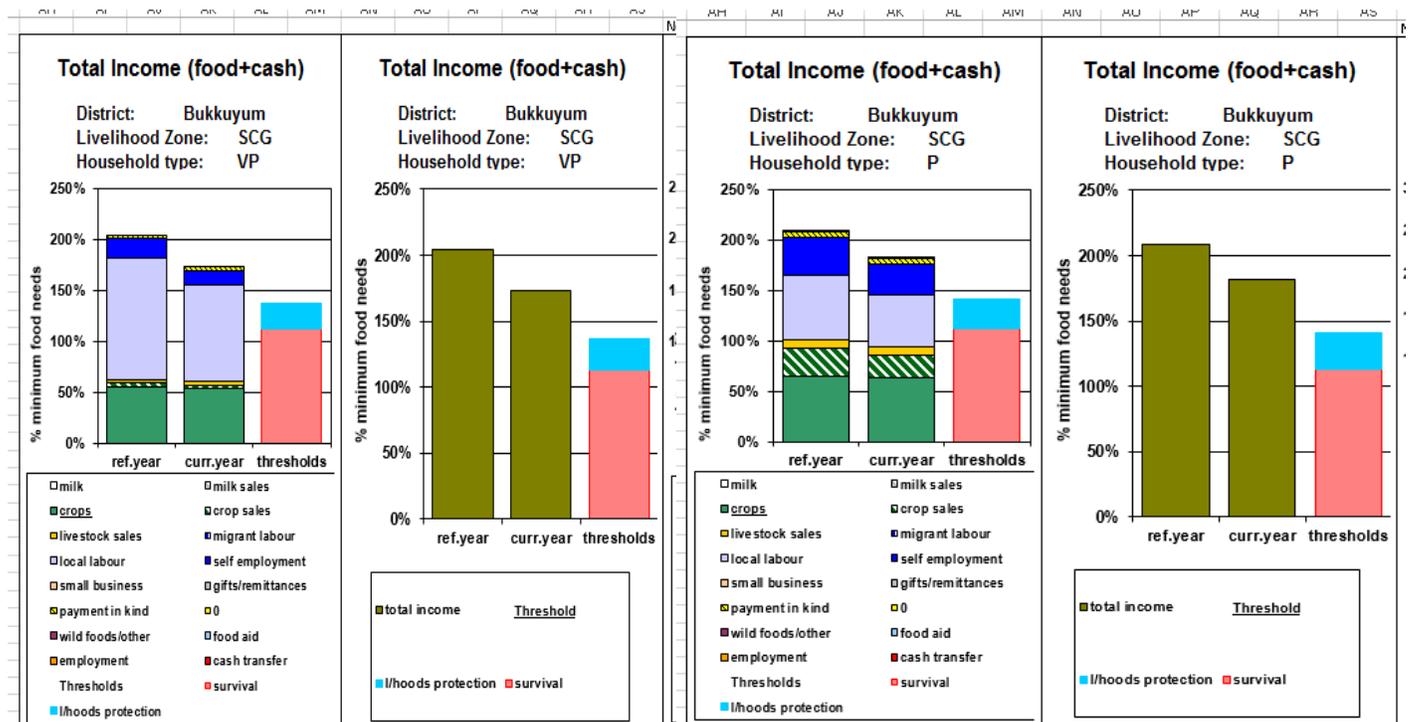
NG03: NW Millet, Cowpeas and Groundnuts Livelihood Zone

The results for the scenario analysis show that there will be no emergency food or livelihood protection deficits for any wealth group. In the reference year, poorer households obtained their income from crops, local labor, self-employment and payment in kind. For crops, the decrease in selling prices was balanced by an improvement of the production leading to an increase of crop total income for the current year. The total income of casual labor and self-employment remained almost stable with. The increase in staple food – millet – price and inflation rate was moderate. The net effect is that all households' wealth groups could see their total food and income access this year improved.



NG06: NW Sorghum, Cowpeas and Groundnuts Livelihood Zone

The results for the scenario analysis show that there will be no emergency food or livelihood protection deficits for any wealth group. However, for all wealth groups, total food and income access will likely be below their level during the reference. In the reference year, poorer households obtained their income from local labor and crops and in a lesser extent from payment in kind. In the current year, staple food price – sorghum – increased more than local labor wage which is very far the first income source of poorer households. The net effect is a decrease in local labor total income. Crop production and prices remained stable. The net effect of these changes is that all households' wealth groups could see their total food and income access this year decrease.



IV- SUMMARY OF THE RESULTS COMPARED WITH THE TWO THRESHOLDS

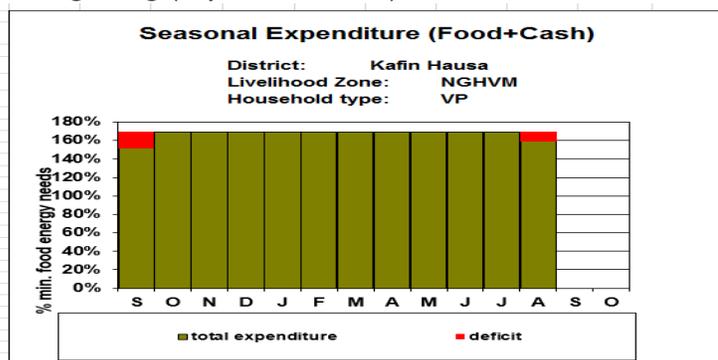
The analysis shows that no wealth group will likely face any deficit in four of the five livelihood zones (MAS, CGC, SCG & MCG) meaning that households in these four zones will be able to secure sufficient food and income to live above the basic survival and livelihood protection thresholds. In opposite, very poor households in Hadejia Valley Mixed Economy LZ (HVM) will likely face a slightly livelihood protection deficit of 2% occurring in September 2013 and August 2014, respectively the beginning and the end months of the current consumption year.

Summary of Outcome Analysis Results: Wealth Groups/Livelihood Zones Facing Deficits					
	MAS	CGC	HVM	SCG	MCG
Very Poor	No deficits	No deficits	LP Deficit (2%)	No deficits	No deficits
Poor	No deficits	No deficits	No deficits	No deficits	No deficits
Middle	No deficits	No deficits	No deficits	No deficits	No deficits
Better Off	No deficits	No deficits	No deficits	No deficits	No deficits

LP Deficit: Livelihood Protection Deficit. 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. In such cases, they often turn to high cost coping strategies leading to the loss of assets and a potential loss of income over time.

V- TIMING OF DEFICITS

By combining information on total income with seasonal calendar data showing when different sources of food and cash become available, it is possible to generate projected pattern of consumption/ expenditure, by month, from **September 2013 to August 2014**. The period when households are unlikely to be able to cover their livelihood protection needs is shown in red. According to the results of the Outcome Analysis described in the previous sections, there will be a slightly livelihood protection deficit for the very poor households of the Hadejia Valley Mixed Economy LZ expected at the end of the consumption year (August 2014) and surprisingly at its beginning (September 2013).



VI- RESPONSE OPTIONS AND RECOMMENDATIONS

Although workshop participants didn't formally discuss about response options for the **Hadejia Valley Mixed Economy LZ**, access to immediate essential needs for the remainder of the current consumption year (**up to August 2014**) should be ensured for very poor households.

In order to improve future Outcome Analysis, the following recommendations agreed upon by the Nigeria HEA Working Group following April analysis still remain valid:

- Monitor all key parameters. This should be kept simple such as setting up linkages with government or non-government agencies who regularly collect production and price data. In circumstances where these data are not regularly available, then there may be need to collect them on the field.
- The unit of measurement (tier, sack, daily rate, bundle and so on) for each key parameter and the particular market (s) to monitor for each livelihood zone must be clearly specified prior any future data collection.
- In order to keep the analysis at LGA levels instead of State level, key parameters should be collected at LGA level at least for crops and livestock prices. In addition, crops and livestock prices must be monitored on a monthly basis to allow for more accurate projections and estimations.
- For the Hadejia Valley Mixed Economy Livelihood Zone (Jigawa), dry season production figures must be collected and production estimates - for all crops and for all seasons- should be released in MT instead of Yield.

CONCLUSION

The analysis shows that no wealth group will likely face any deficit in four of the five livelihood zones (MAS, CGC, SCG & MCG) meaning that households in these four zones will be able to secure sufficient food and income to live above the basic survival and livelihood protection thresholds. In opposite, **very poor households in Hadejia Valley Mixed Economy LZ (HVM) will likely face a slightly livelihood protection deficit of 2%** occurring in September 2013 and August 2014, respectively the beginning and the end months of the current consumption year. This deficit requires external assistance in order to allow access to immediate essential needs for the remainder of the current consumption year (up to August 2014) to affected households.

In the longer term, development efforts should continue to focus on assisting the very poor and the poor to secure more stable sources of income to complement crop and livestock farming.

VII- ANNEX:

7.1- Table summarizing key parameters figures (problem specification)

NG08: NW Cotton, Groundnuts and Mixed Cereals Livelihood Zone

Problem Specification for NW Cotton, Groundnuts and Mixed Cereals Livelihood Zone		
Key parameter	Production Problem	Price Problem
Cattle	95%	163%
Goats	100%	140%
Sheeps	100%	165%
Cow's Milk	100%	
Maize	99%	127%
Millet	92%	123%
Rice	148%	122%
Cowpeas	102%	150%
Soya beans	100%	100%
Sorghum	100%	129%
Groundnuts	90%	97%
Cotton	177%	141%
Agricultural labor	100%	133%
Construction	100%	125%
Fetching water	100%	-----
Firewood sales	100%	150%
Credit	100%	-----
Self-employment	100%	-----
Components of the Livelihood Protection Basket (LPB)		
Fertilizer: Urea		-----
Staple Food (Sorghum)		162%
Inflation		121%

Legend: ---- means that price problem specification for those items was left blank in the LIAS because data were not available during the analysis. In such cases, the spreadsheet will apply automatically the problem specification for inflation (121%) to those items.

NG04: NW Millet & Sesame Livelihood Zone

Problem Specification for NW Millet & Sesame Livelihood Zone		
Key parameter	Production Problem	Price Problem
Cattle	100%	93%
Goats	100%	100%
Sheeps	100%	140%
Cow's Milk	100%	138%
Millet	129%	
Cowpeas	122%	
Sorghum	118%	
Sesame	110%	114%
Agricultural labor	100%	150%
Construction	100%	-----
Firewood sales	100%	-----
Self-employment	100%	-----
Components of the Livelihood Protection Basket (LPB)		
Fertilizer: Urea		
Staple Food (Millet)		112%
Inflation		146%

Legend: ---- means that price problem specification for those items was left blank in the LIAS because data were not available during the analysis. In such cases, the spreadsheet will apply automatically the problem specification for inflation (146%) to those items.

NGI I: Hadejia Valley Mixed Economy Livelihood Zone

Problem Specification for Hadejia Valley Mixed Economy Livelihood Zone		
Key parameter	Production Problem	Price Problem
Cattle	100%	122%
Goats	100%	100%
Sheeps	100%	125%
Cow's Milk	100%	123%
Maize	102%	144%
Millet	286%	129%
Rice	104%	79%
Wheat	88%	129%
Cowpeas	74%	130%
Sorghum	150%	87%
Rice irrigated	100%	117%
Pepper	100%	85%
Onions	98%	60%
Tomatoes	102%	61%
Agricultural labor	100%	94%
Construction	100%	100%
Fish sales	100%	-----
Self-employment	100%	-----
Components of the Livelihood Protection Basket (LPB)		
Fertilizer		-----
Staple Food (Maize)		168%
Inflation		133%

Legend: ---- means that price problem specification for those items was left blank in the LIAS because data were not available during the analysis. In such cases, the spreadsheet will apply automatically the problem specification for inflation (133%) to those items.

NG03: NW Millet, Cowpeas and Groundnuts Livelihood Zone

Problem Specification for NW Millet, Cowpeas and Groundnuts Livelihood Zone		
Key parameter	Production Problem	Price Problem
Cattle	100%	120%
Goats	100%	114%
Sheeps	100%	120%
Cow's Milk	100%	96%
Sorghum	163%	127%
Millet	148%	103%
Rice	104%	61%
Cowpeas	150%	84%
Maize	139%	96%
Groundnuts	100%	----
Pepper	100%	78%
Agricultural labor: pre-harvest	100%	100%
Construction	100%	100%
Firewood & Charcoal sales	100%	----
Trade: livestock & dry goods	100%	----
Components of the Livelihood Protection Basket (LPB)		
Fertilizer		----
Labor		----
Animal drugs		----
Ploughing/Land rental		----
Transport		----
Education		----
Medicine		----
Tax		----
Staple Food (Millet)		111%
Inflation		110%

Legend: ---- means that price problem specification for those items was left blank in the LIAS because data were not available during the analysis. In such cases, the spreadsheet will apply automatically the problem specification for inflation (110%) to those items.

NG06: NW Sorghum, Cowpeas and Groundnuts Livelihood Zone

Problem Specification for NW Sorghum , Cowpeas and Groundnuts Livelihood Zone		
Key parameter	Production Problem	Price Problem
Cattle	95%	120%
Goats	100%	130%
Sheeps	100%	145%
Cow's Milk	100%	118%
Sorghum	100%	130%
Millet	92%	95%
Rice	100%	101%
Cowpeas	100%	100%
Maize	97%	111%
Groundnuts	100%	101%
Pepper	100%	----
Onions	100%	----
Agricultural labor: pre-harvest	100%	100%
Construction	100%	100%
Fetching Water	100%	----
Firewood & Charcoal sales	100%	100%
Trade: livestock & dry goods	100%	----
Components of the Livelihood Protection Basket (LPB)		
Fertilizer		----
Labor		----
Animal drugs		----
Ploughing/Land rental		----
Transport		----
Education		----
Medicine		----
Tax		----
Staple Food (Sorghum)		128%
Inflation		110%

Legend: ---- means that price problem specification for those items was left blank in the LIAS because data were not available during the analysis. In such cases, the spreadsheet will apply automatically the problem specification for inflation (110%) to those items.

7.2 Table summarizing the Outcome Analysis results

Country	LZ Baseline Code	LZ Name	Wealth Group	% Pop	Timing of Deficit	Survival Deficit	Livelihood Protection Deficit (%Kcal)
Nigeria (Northern)	HVM	NG11: Hadejia Valley Mixed Economy	V. Poor	38%	Sep. 2013 & Aug 2014	----	2%
			Poor	20%		----	----
			Middle	23%		----	----
			B/Off	19%		----	----
	CGC	NG08: North West Cotton, Groundnuts & mixed Cereals	V. Poor	26%	----	----	----
			Poor	26%	----	----	
			Middle	26%	----	----	
			B/Off	22%	----	----	
	MAS	NG04: North West Millet & Sesame	V. Poor	34%	----	----	----
			Poor	32%	----	----	
			Middle	19%	----	----	
			B/Off	15%	----	----	
	MCG	North West Millet, Cowpeas, Groundnuts and Cotton	V. Poor	34%	----	----	----
			Poor	21%	----	----	
			Middle	20%	----	----	
			B/Off	26%	----	----	
	SCG	North West Sorghum, Cowpeas and Groundnuts	V. Poor	33%	----	----	----
			Poor	20%	----	----	
			Middle	23%	----	----	
			B/Off	24%	----	----	

Legend: ---- means that there is no deficit

7.3 List of participants

HEA-Outcome Analysis Session , Katsina 14th -17th July 2014				
	First Name	Surname	State	Organization
1	Logams	Paul	Abuja	Civil Society Organization (Data management Department)
2	Halidu	Alhassan	Zamfara	Federal Ministry of Agriculture (ADP)
3	Shehu	Abubakar	Zamfara	Federal Ministry of Agriculture (ADP)
4	Mohammad Hassan	Jikas	Jigawa	Federal Ministry of Agriculture (ADP)
5	Bilkisu	Imam	Katsina	Ministry of Education
6	Sadiya	Murnai	Katsina	IFAD (International Funds for Agricultural Development)
7	Munirah	Aminu	Jigawa	National Bureau of Statistic
8	Benjamin	Morris	Kaduna	Civil Society Organization
9	Najibu	Musa	Zamfara	Nigeria Red Cross Society
10	Binta	Tukur	Katsina	Federal Ministry of Agriculture (ADP)
11	Hauwa	Gambo	Katsina	Federal Ministry of Agriculture (ADP)
12	Dangkwat	Nanle	Abuja	Department for Food Security
13	Ibrahim	Jibrin	Zamfara	Federal Ministry of Agriculture (ADP)
14	Yunusa	Salihu	Zamfara	Federal Ministry of Agriculture (ADP)
15	Bala Haruna	Zango	Katsina	Federal Ministry of Agriculture (ADP)
16	Aminu Rabi	Bakori	Katsina	Federal Ministry of Agriculture (ADP)
17	Nelson	Barde	Abuja	Save the Children
18	Anthony	Chinedu	Katsina	Save the Children